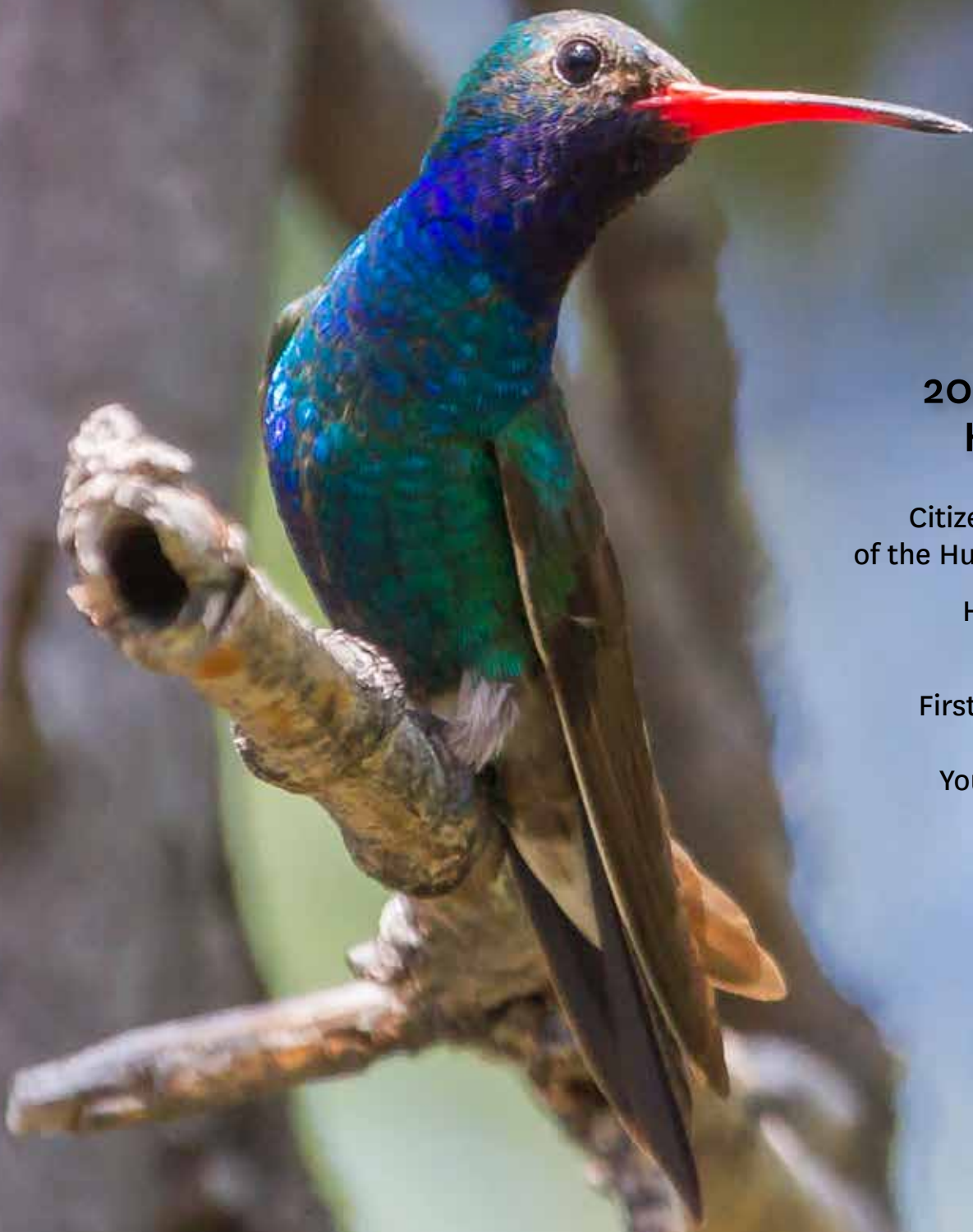


Vermilion

FLYCATCHER

January–March 2017 | Volume 62, Number 1



2017 Year of the Hummingbird

Citizen Science, the Year of the Hummingbird and You

Hummingbird Plants for Your Garden

First Your Hummingbird Hotspot, Then Your Habitat at Home!



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
Agua Caliente Park, 12325 E Roger Rd 520-760-7881
Hours: 10 AM–1:30 PM, Thu–Sat Please call to confirm hours.
Shop opens earlier and closes later during certain months.
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

FEATURES

- 7 Ambassadors of Arizona's IBAs
- 11 Expecting the Unexpected
- 12 2017 Year of the Hummingbird
- 13 Citizen Science, the Year of the Hummingbird and You
- 14 First Your Hummingbird Hotspot, Then Your Habitat at Home!
- 15 Hummingbird Plants for Your Garden
- 16 Powerful Protection

DEPARTMENTS

- 2 Field Trips
- 4 Events and Classes
- 4 Events Calendar
- 5 Living With Nature
- 6 News Roundup
- 8 Paton Center for Hummingbirds
- 15 Wildlife Garden Plant Profile
- 18 Birds & Business Alliance
- 18 Birding Travel from Our Business Partners
- 19 Conservation and Education News
- 24 Tucson Audubon Nature Shops
- 25 Book Review



FRONT COVER: Broad-billed Hummingbird by Jeremy Hayes. See more of his work at flickr.com/photos/jhayesw

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

**DON'T MISS MONSOON BIRDING
IN SOUTHEAST ARIZONA.
IT'S THE BEST FOR BIRDS!**

Registration opens February 1st, 2017.

Join us August 10–13, 2017 on a search for Broad-billed Hummingbird, Elegant Trogon, Harris's Hawk, Montezuma Quail and over 200 more species!

TUCSONAUDUBON.ORG/FESTIVAL



Uplands along lower San Pedro, Matt Griffiths; Broad-billed Hummingbird, Lois Manowitz

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Southeast Arizona
BIRDING FESTIVAL





The Year of the Hummingbird

Karen Fogas, Executive Director

The Year of the Hummingbird campaign Tucson Audubon is launching for 2017 has been in process long before the election. But the results of the election have underscored its importance.

Like many of you, I am alarmed by the potential of the incoming administration to irrevocably damage our natural resources for short-term gains. Denying climate change, proposing to divest public lands and stripping away environmental protections, if allowed, will drastically change the world we enjoy today and rob the legacy we will pass to future generations. Current protections to air, water, endangered species, habitat and human health were a result of hard fought battles and almost always put in place only after major damage had occurred.

For decades, however, there have been efforts to weaken these laws. This administration and congress, with its promise to deregulate industry and open lands to development, ushers in the potential to erase literally decades of environmental progress and propel

us backward in time. So how can we—Tucson Audubon—affect this juggernaut?

We have a long history of sharing our passion by creating ways for people to experience birds, educating them about birds, and advocating for birds and their habitat—all based upon what Audubon is known for: solid reasoning and good science.

But we need to expand our audience. The average American, who values clean water, clean air, watchable wildlife and wild places, does not fully appreciate what deregulation and opening up lands for development actually means in terms of these values. We need to help them understand, using common language. We need to ease them into the conversation and then let them know what is at stake, using the Audubon advantage of birds (after all, who does not like birds?), good science and well-reasoned actions.

In 2017 Tucson Audubon is launching the Year of the Hummingbird to do just that—build

community love and understanding for birds through their smallest ambassador, the hummingbird. This positive, accessible, community-wide outreach campaign, built around an irresistible little bird, is intended to begin the process of helping more people than ever understand the value of birds, bird habitat and wildlife. If we do not broaden understanding of the intrinsic, and all too often scientifically-based, value of birds and their natural world, we will never be able to rest assured that future generations will enjoy what we have been blessed to know. We intend to get people excited this year about all things hummingbird.

Perhaps we can't change national politics, but we can help people at home—through this delightful, accessible portal—hummingbirds—that we will feature in fun and engaging ways, to understand the connectivity between human actions, policies, the natural world and our long-term obligation to future generations.



Yellow Warbler, Tom Ryan



30
YEARS

TUCSON AUDUBON
BIRDATHON 2017
BIRDING *for the BIRDS*

APRIL 7–MAY 7

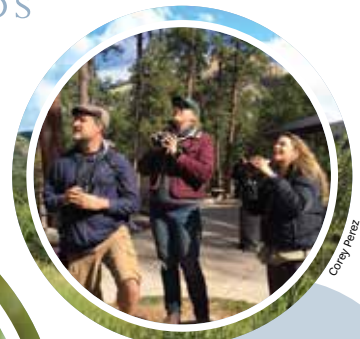
Sporting birders spotting birds in support of Tucson Audubon... that's the essence of **Birdathon**, a southeast Arizona tradition since 1987!

What is Birdathon and how do I participate?

- Like a walk-a-thon, but instead of walking, go birding and gather pledges per species seen!
- Fun for everyone—kids, adults, beginners, and experts!
- Hold your Birdathon any time from April 7–May 7; your day can last from 1 hour to 24
- Join a team or lead one! Gather a group of friends and go find birds for a fun, different activity
- Prizes are awarded for a variety of categories including: a grand prize, most species seen, most funds raised, and youngest birder
- Stay tuned for details and fundraising tips in our weekly emails and on our website: tucsonaudubon.org/birdathon



Anna's Hummingbird, Diane Poleyquiva



Cory Perez

**OUR LARGEST
FUNRAISER
OF THE YEAR!**

TUCSON
AUDUBON
SOCIETY

TUCSON AUDUBON EVENTS AND CLASSES

FIELD TRIPS: THE JOY OF BIRDING TOGETHER

Luke Safford, Field Trip Coordinator

It may sound strange, but when I think of “birding” my brain does not necessarily go straight to the birds or the solitude of being out in nature, instead it makes me think of people. For many of us birding becomes our social network, a bridge to new friendships, and a reminder that there is a vital connection between people and nature. For this reason our field trip program not only facilitates opportunities to see new birds, but also to meet new people. Our weekly walks tend to form community as much as they teach us about identifying birds and exploring new areas. Bridging people to each other and nature is not a side effect of our field trips; rather it is the purpose!

Another benefit of taking part in our field trip program and meeting people is that you learn. As naturalists and birders we should all strive to be life-long learners and many times we can grow through our conversations with fellow participants. We can learn from our field trip leaders, newbie birdwatchers, retired teachers, and even the youngest students of nature. Our field trip leaders can open your eyes to the intricacies of feather molt, while the new birder asks questions that “shouldn’t be asked” but actually bring much needed clarity to identification practices. Field trips, such as these listed below, give you opportunities to grow as a birder and naturalist, not just because of the new birds you will see, but because of the new people you will meet!



Ferruginous Hawk, Muriel Neddermeyer



Bob Bowers

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

Friday February 10, Florence Farmlands—We’ll drive Arizona Farms Road for likely Burrowing Owls and possible Ferruginous Hawks. The farmlands can seem an unlikely area for birding, but can be quite productive, including sparrows, raptors, and more.

Saturday February 11, Big Thrasher Day—A long trip but well worth it as we seek out thrashers in various locations (including LeConte’s) along with Bell’s and Sagebrush Sparrows. We’ll drive back through Santa Cruz Flats for more goodies!

Saturday February 18, Patagonia/Sonoita Creek Preserve—We will scour through the riparian habitat of the preserve for a good list of birds and finish up at the Paton Center.

Tuesday February 21, Reid Park Ramble—An easy stroll through the park looking for wintering waterfowl, raptors, and woodpeckers.

Saturday, March 4 & Saturday, April 1, Sabino Canyon—Enjoy birding the Sonoran Desert uplands and riparian habitats along Sabino Creek with Sabino Canyon Volunteer Naturalists.

Sunday, March 5 & Thursday, March 16, Tubac Hawk Watch—Join raptor specialist, Stephen Vaughan, as the annual hawk migration heats up.

Saturday, March 11, Tubac De Anza Trail—A walk along the trail to look for early migrants and raptors. For those who can’t sit still at the Hawk Watch!

Friday March 31, Aravaipa Road—Past trips have showcased Gray and Common Black Hawks, orioles, flycatchers and tanagers. An Aravaipa Road resident is planning to join the group for possible behind-the-scenes visits to neighbors’ yards with feeders.

Tuesday April 18, Puerto Spring—This is an “underbirded” area that deserves exploration during spring migration that could hold myriad of migrants!

Sunday April 23, Santa Catalina Mountains—Warblers and summer birds are coming back into the area so it’s time to meet them again!

Tuesday May 16, Rock Corral Canyon—West of Tumacacori, another hotspot that flies under the radar in birding circles. Breeding season has just begun and there is the opportunity for Black-capped Gnatcatcher.

Saturday May 20, Birds & Reptiles at Sabino—An avian/herp combo trip led by field trip coordinator, Luke Safford, and co-founder of Advocates for Snake Protection, Melissa Amarello.

TUCSON MEET YOUR BIRDS

SATURDAY, FEBRUARY 18, 2017, 7 AM-1 PM

COME AND MEET YOUR BIRDS at Sweetwater Wetlands where 303 bird species have been seen!

2617 W Sweetwater Dr, Tucson, Arizona 85705

We'll make it easy for you! Stroll 20 acres of tree-lined paths and ponds with experts pointing out the birds for you.
Come learn what Tucson Audubon can do for you and the birds!

Presented by



tucsonaudubon.org/TucsonMeetYourBirds

#TucsonMeetYourBirds #SweetwaterWetlands

FREE!



Common Yellowthroat, Jeremy Hayes; RIGHT: Mary Zalokar; Joanna Strohn; Mary Zalokar; Sweetwater Wetlands, Jim Hefner; Sara Pike



- No binoculars needed to participate!
- Guided walks from 8--11 AM
- Kids and family birding activities
- Live birds and reptiles
- Food trucks
- Fun partner vendors

Make it more fun!

- Bring a child, friend or neighbor who's new to birding
- Bring someone who has never been to Sweetwater or doesn't know about Tucson Audubon

UPCOMING CLASSES

ORNITHOLOGY 101 Taught by Carol Vleck

Tuesdays from 12:00 to 1:30, from January 17 through January 31, 2017

Green Valley Recreation Center, Santa Rita Springs Location, 921 W. Rio Fuerte

Cost: \$125 members for the three-class series, \$160 non-members

Have you ever wondered why there are so many species of hummingbirds in Arizona and so few in Florida, or why Costa Rica, the size of West Virginia, has over 900 species of birds? Who decided to lump red-shafted and yellow-shafted flickers and split the western scrub jays and why? How did feathers (and birds!) evolve? Bird songs and calls are a boon to birders but why do birds sing?

Ornithology 101 will cover: bird evolution and diversity, feathers and flight, survival in harsh environments, behavior and communication. This class will make you a savvier birder and enhance your appreciation of birds. Taught by long-time avian biologist, Carol Vleck, Professor Emeritus of Biology at Iowa State University, now residing in the Tucson area. Register through Green Valley Recreation at bit.ly/gvrecreation.

BACKYARD BIRDING AND BEYOND Taught by Lynn Hassler

Saturdays, February 4, 11, 18, 25; March 11, 2017 (no class March 4)

Classroom: 10:00 a.m.–12:00 p.m.; Field trip times TBD

Cost: \$150 members, \$185 non-members

Learn why southeastern Arizona is such a great place for birds and why bird watching is so much fun! Taught by Lynn Hassler, this course is designed for beginners and will address how to separate birds by habitat, seasonal occurrence and behavior. Learn about field marks and vocalizations and get the lowdown on binoculars and field guides, birding vocabulary and etiquette in the field. Participants will also learn how to identify local birds and discover some of their interesting characteristics and charms. Course includes two 2-hour classroom sessions and three field trips.

ORNITHOLOGY 102 Taught by Carol Vleck

Tuesdays from 12:00 to 1:30, from February 14 through February 28, 2017

Green Valley Recreation Center, Santa Rita Springs Location, 921 W. Rio Fuerte

Cost: \$125 members for the three-class series, \$160 non-members

Many of our local birds are only here in the summer to breed, and others are only here in the winter and away from their nesting grounds. What cues do birds use to recognize the seasons and navigate during migration? Parental care of eggs and hatchlings varies from none to extensive, and can involve just female parents, just males, both or neither. How did all this diversity in social and parental behavior evolve? Plus, birds are now informing us about global climate change. But what will global climate change do to birds?

Ornithology 102 will cover: bird orientation and navigation, breeding biology and mating systems, and the many connections between the study of bird and human biology. Register through Green Valley Recreation at bit.ly/gvrecreation.

BIRDING BY HABITAT Taught by Lynn Hassler

Field trips: Saturday, April 8, 2017 – Catalina State Park, 7:00–11:00 a.m.

Saturday, April 15, 2017 – San Pedro River, 7:00 a.m.–3:00 p.m.

Saturday, April 22, 2017 – Mt. Lemmon, 7:00 a.m.–3:00 p.m.

Cost: \$175 members, \$210 non-members, Maximum 12

Southeast Arizona offers such excellent birding opportunities in part because of its variety of habitats. Experience the fun of birding in three different natural environments—Sonoran desert, riparian, and sky island—with Lynn Hassler, long-time birder, educator, and noted author.

FIND DETAILS AND REGISTER ONLINE AT TUCSONAUDUBON.ORG/EDUCATION

- January 7:** Living With Nature (Green Valley)
- January 18:** Looking for Birds in Tucson (REI)
- January 21:** Living With Nature (Oro Valley)
- January 23:** Living With Nature (Tucson)
- February 1:** Southeast Arizona Birding Festival registration opens
- February 4:** Backyard Birding and Beyond Class
- February 4:** Living With Nature (Green Valley)
- February 13:** Living With Nature (Tucson)
- February 15:** Birding 101 (REI)
- February 18:** Tucson Meet Your Birds
- February 18:** Hummingbird Blitz
- March 2:** Sonora, Mexico Trip
- March 4:** Living With Nature (Green Valley)
- March 18:** Living With Nature (Oro Valley)
- March 20:** Living With Nature (Tucson)
- April 7:** 30th Annual Birdathon starts



Western Bluebird, John Hoffman



Costa's Hummingbird, Bruce Taubert

Living with Nature Monthly Program

Our continuing season of free programs that seek to educate and entertain! Experts in their fields present on a variety of topics related to bird biology and ecology; global and regional birding hot spots; and conservation issues that affect birds, other wildlife and their habitats. This season will feature several speakers in honor of the Year of the Hummingbird! We have three program locations: Tucson, Green Valley and Oro Valley. Go to tucsonaudubon.org/lwn for updated talk details and speaker bios.

TUCSON

Mondays at 6:00 pm
Pima Community College Downtown
Amethyst Room, 1255 N. Stone Ave.

January 23

A Love Affair with Hummingbirds! *with Karen Krebs*

Conservation Biologist Karen Krebs has been studying hummingbirds for 30 years and will share her knowledge on hummingbird identification, entertaining behavior, nesting biology, and ways to attract these tiny jewels to your garden and home.

February 13

Raptor Migration in Central and Southeastern Arizona *with Laura McHugh*

Laura will discuss the drivers behind migration and why raptors use certain flyways, share her research and findings from monitoring the mountain ranges and rivers in central and southeastern Arizona, and discuss the conservation implications wind farms have on migrating raptors.



Lois Manowitz

March 20

Hummingbirds in a Changing World *with Susan Wethington*

In this presentation, Dr. Wethington will present information about hummingbirds, some recent research results that suggest how hummingbirds may respond to changing land use patterns, habitat loss, and climate changes, and offer suggestions on how each of us can help hummingbirds thrive.

GREEN VALLEY

Saturdays at 10:00 am
Desert Hills Social Center
2980 S. Camino Del Sol

January 7

Holistic Hummingbird Hosting *with Sheri Williamson*

A bottle of sugar water is all you need to attract hummingbirds to your porch or patio, but these fast birds need more than "fast food" to survive. A few simple tweaks to your feeders and garden can help promote the health of both your hummingbird visitors and the native ecosystems on which their survival depends.



Broad-winged Hawks in migration, Ned Harris

February 4

Raptor Migration in Central and Southeastern Arizona *with Laura McHugh* See February 13 Tucson talk.

March 4

Identifying Birds of Prey *with Steve Vaughan*
Learn some simple characteristics to help you identify raptors. Steve Vaughan is a professional photographer and ornithologist who has put together some formulas to guide you through this process. This program will be followed with field trips to the Tubac Hawk watch on Sunday, March 5 and Thursday, March 16.

ORO VALLEY

Saturdays at 12:00 pm
Western National Parks Association
12880 N. Vistoso Village Dr.

January 21

Where does your water come from? *with Kristine Uhlman*

Beginning with the tectonic forces that have built the basin to the ancient climate that filled the Tucson aquifer, this presentation is an introduction to understanding where your water comes from. Research from the University of Arizona and the US Geological Survey is compiled into graphics that depict the hydrologic cycle, from groundwater recharge to well water extraction.

March 18

Recent Seasonal Distribution and Status Arizona Birds *with Troy Corman*

Troy's presentation will highlight the steady (and sometimes rapid) changes in the distribution and seasonal status of Arizona birds during the past decade or so. Topics will include not only recent range shifts of certain species of birds, but shifts in timing of migration and nesting, and new species which now winter regularly in the state.



Rufous-capped Warbler, Jeremy Hayes

TUCSON AUDUBON SOCIETY'S
NINTH ANNUAL GALA



An Evening Celebration of Arizona's Birds and the Arts

SAVE THE DATE: Friday, November 10, 2017

For its 2017 Gala, Tucson Audubon is celebrating the community's rich array of artists who take birds and nature as their inspiration, as well as their message. From the visual to the performing arts, this year we are inviting in all of the beauty and interpretation that naturally flow from the astonishing appearance and behavior of wild birds.

Fly! An Evening Celebration of Birds and the Arts will weave together a tapestry of artists' responses to the things we care about most: birds, their habitats, and their protection. This exciting event will include a silent auction filled with a wealth of avian art, a program of short performing arts presentations, an elegant dinner, and an array of live birds. As an important part of Tucson Audubon's financial support, this Gala will also be an opportunity to communicate in a different way about birds. This evening will be remembered by bird and wildlife lovers for years to come. We really hope to see you there, at the Kiva Ballroom of Loews Ventana Canyon on Friday, November 10, 2017.

Tucson Meet Your Birds (and Volunteers!)

There is something special about introducing people to birds for the first time and we want to thank the 36 volunteers who helped make this a reality during Tucson Meet Your Birds at Sweetwater Wetlands. Our volunteers counted 363 visitors who passed over the bridge into the wetlands with more participants sticking around and learning from the 12 booths representing Tucson Audubon and Tucson environmental community members. We had a wide representation of volunteers from first-timers to board members, which shows the value of this important community outreach program.



Wanda Wynne and Deb Vath at Tucson Meet Your Birds; Mary Zalokar

We will have another Tucson Meet Your Birds in 2017—we hope you can join these volunteers in sharing the excitement of seeing our community introduced to their colorful avian friends and the importance of conservation.

TUCSON MEET YOUR BIRDS VOLUNTEERS

- | | |
|---------------------|-----------------|
| Susan Atkisson | Kim Martin |
| Richard Carlson | Linda Matson |
| Marianne Checkovich | Marcia OBara |
| Dorothy Copps | Kathy Olmstead |
| Cynthia Elton | Bruce Prior |
| Doris Evans | Julia Rowe |
| Amy Gaiennie | Margaret Snyder |
| Francie Galbraith | Joanna Strohn |
| Danny Gin | Deb Vath |
| Paula Hartgraves | Stephen Vaughan |
| Kathleen Heitzmann | Cynthia VerDuin |
| Ken Kingsley | Lynn Waltke |
| Lynda Klasky | Jim Watts |
| Kathy Kuyper | Rosie Watts |
| Andrew Larson | Michael Welch |
| Joe LaTourrette | Wanda Wynne |
| Craig Marken | Mary Zalokar |
| Lisa Marshall | John Yerger |
| Kerry Martin | |

Volunteering and the New Year

Every year is filled with new challenges and opportunities that surprise us and I suspect that 2017 will be no different. The potential for you to make an impact as an advocate for the living things around you has never been higher. We could become fearful over potential environmental changes or we could become angry and disruptive, but these are not helpful responses at this time. The healthy response is to work together, be hopeful, and support the systems and structures set in place to conserve, protect, educate, and enjoy the environment that we all depend on. **Now is your opportunity to engage and make a difference by volunteering.** Never volunteered with Tucson Audubon before? It's easy to start the process. Don't have much time? Even an hour or two can make a tremendous difference. Don't know much about birds? Not a problem! Here are some steps to help you move forward as a volunteer:

- Start the process by emailing Luke that you want to volunteer
- Read and respond to monthly volunteer emails. (Not receiving them? Notify Luke)
- Attend a quarterly volunteer orientation (designed for new and continuing volunteers)
- Join a Volunteer Team (Habitat at Home, Living with Nature, IBA, Mail Crew, etc.)
- Learn how to, and record, your volunteer hours online. This helps us receive new grants!
- Regularly check the Tucson Audubon volunteer page: tucsonaudubon.org/volunteer

Wondering what Tucson Audubon's volunteer needs are for this winter season? Here are some opportunities:

- Paton Center Team ("Ambassadors"; Feeder Filler Crew; Garden/Meadow Crew)
- Johnson Grass Removal at Paton Center
- Tucson Festival of Books tabling event
- Living with Nature Program Teams for Tucson, Green Valley, or Oro Valley
- Mail Crew Team
- Field Trip Leaders
- Membership Ambassadors
- Conservation Advocacy

This is just the beginning; watch for updates in your email and on the website for new volunteer roles and teams. Email Luke at lsafford@tucsonaudubon.org or call him at 520-209-1811 to get on board with volunteering!



Kathy Kuyper at Tucson Meet Your Birds; Sara Pike

Ambassadors of Arizona's IBAs

Jennie MacFarland, Bird Conservation Biologist

When speaking about the Important Bird Areas program I emphasize that the B in IBA stands for bird and not birding. The larger point I am trying to make with this statement is that some of the designated IBAs in Arizona are not necessarily great places to go birding but instead are a vital or unique habitat for native birds. That being said, conservation is a human institution and the driving force of the IBA program. How the IBA program goes about achieving its conservation goals is mainly through outreach and one of the best ways to get people to care about these areas is to encourage them to visit these sites and experience their beauty and ecological richness first hand. The birds themselves can also be wonderful ambassadors for conservation and one of the groups that have the widest appeal is hummingbirds. These tiny birds are popular with both the general population and birders and their incredible diversity in southeast Arizona highlights how special this area is for birding.

There are several IBAs that are excellent places to find and see hummingbirds this time of year.

The Boyce Thompson Arboretum and Queen Creeks IBA is a popular birding destination for Phoenix residents but often overlooked by Tucson birders. The richness of this area is enhanced by the lush mixture of trees and plants from all over the world along a natural drainage. There are many native birds to be found here and many rarities have been spotted over the years. During the late winter months both Anna's and Costa's Hummingbirds are abundant and practicing their courtship dives. Listen for the distinctive pop made by male Anna's and the whirring missile sound that Costa's produce when trying to impress females. During March this is an excellent place to see migrating Broad-tailed and Rufous Hummingbirds as the abundant nectar resources make this a great place for them to rest and refuel before pushing on further north.



Costa's Hummingbird, Mick Thompson

A new IBA is in the works closer to Tucson that has excellent habitat for many hummingbird species. The Tucson Sky Islands and Sonoran Uplands proposed IBA encompasses the Santa Catalina Mountains, Rincon Mountains, parts of the Tortolita Mountains and the eastern portion of Saguaro National Park. One of the best features of this proposed IBA is the numerous opportunities for the public to access and interact with this land. Saguaro National Park East has a great visitor's center and both a driving loop and hiking trails. This desert habitat is wonderful for Costa's and Broad-billed Hummingbirds as well as migrants in March. The Tortolita Mountains are gorgeous Sonoran desert uplands habitat which attracts Costa's and Anna's Hummingbirds. There are several excellent trails that start from the parking lot of the Ritz-Carlton Dove Mountain Resort which has been planting lots of natives plants to create a garden with nectar rich flowers that will attract many hummingbirds in all seasons.

This featured IBA and proposed IBA are both excellent examples of how an area can be vital habitat for birds of conservation need and places where we can visit and appreciate how important these areas are to our own lives. This connection is the heart of conservation. ■



Boyce Thompson Arboretum and Arnett-Queen Creeks, Garry Wilmore



Tortolita Mountains at Dove Mountain, John Hunnicutt II

From Barrier Islands to the Sky Islands— Welcome, Jonathan Lutz

Jonathan Lutz is the new Paton Center Coordinator, representing Tucson Audubon Society in Patagonia. Most recently Jonathan was the Director of the Montana Audubon Center in Billings. His professional experience includes 7 ½ years as the Executive Director of the Michigan Audubon Society. Jonathan credits his parents for encouraging a life-long interest in natural history and the outdoors. His interest in birds grew as a resident of coastal South Carolina—Jonathan's home for six years after earning a BS in environmental policy at the University of Michigan, Ann Arbor.

“I'm deeply appreciative of the opportunity to join the staff of the Tucson Audubon Society, an organization I've admired from afar for several years. My new role at the Paton Center is reminiscent of my tenure as the resident Environmental Program Director for a small, ferry-accessed barrier island community near Charleston, South Carolina. My introduction to the site occurred in September when, as a casual visitor, I enjoyed looks at my first-ever Blue Grosbeak in the Richard Grand Memorial Meadow. I'm looking forward to waking up each morning and sharing the world of birds with visitors in my backyard—an homage to Wally and Marion Paton.”

Jonathan and his dog, Jonesy, began their residence at the Paton Center on November 14, 2016. He can be contacted by phone, (520) 415-6447, or via email, jlutz@tucsonaudubon.org.



Jonathan Lutz

Winter Update from the Paton Center

Jonathan Lutz, Paton Center Coordinator



Gambel's Quail, Troupial

I'm writing on the eve of the 2016 Thanksgiving holiday. It's only noon and the property has been visited by birders from California, Michigan, and British Columbia (as well as a few locals). A Wilson's Warbler is a notable bird for the morning, and Gambel's Quail are active throughout the yard. The male Anna's Hummingbird is captivating a pair of novice birders sitting beneath Paton's iconic backyard canopy.

Remaining in the moment is a daily challenge as I begin my tenure as Paton Center Coordinator. Two months ago I was visiting the property for the first time, recording life birds such as the Violet-crowned Hummingbird; today I am completing my second week in residence at the Paton's internationally-known backyard for birds. My birding mind is inevitably racing towards spring migration, which I know will bring a rush of new species, as well as binocular and camera carrying guests.

The New Year will also bring significant changes to the property, which you will read about elsewhere in this issue. I'm excited to be helping Tucson Audubon Society and its members in honoring the legacy of the Patons, while strengthening the value of the site for birds and people alike. Many changes have already been made—the planting of the Richard Grand Memorial Meadow, the completion of a connector trail to Patagonia-Sonoita Creek Preserve, the installation of a new water feature, the addition of hundreds of native plants, new seating and bird viewing stations, and much more.



Wilson's Warbler, Martin Molina

While I didn't have the pleasure of meeting Wally and Marion, several of my close birding friends did. I owe it to these friends and the thousands of birders who visit each year to approach each day with the same warm, welcoming enthusiasm as the Patons. As the site coordinator my job entails wearing many hats—feeder-filler, volunteer coordinator, marketer, guest relations manager, and Tucson Audubon Society ambassador. I'm looking forward to meeting many of you in the coming months and sharing stories from my time on the birding trail. I hope you will oblige me by helping keep the yard list up to date, volunteering to keep the feeders full, and continuing your support for positive change at the Paton Center for Hummingbirds. ■

TUCSON AUDUBON SOCIETY'S
PATON CENTER *for* HUMMINGBIRDS
2017 CAPITAL CAMPAIGN



A HOMEPLACE FOR HUMMINGBIRDS

Preserving a Backyard Legacy for the World



From early 2014, when Tucson Audubon began to steward the **Paton Center for Hummingbirds** in Patagonia, we knew that the home was in very poor condition and would need serious attention soon. While we visit the Paton Center to watch hummingbirds and other southeast Arizona specialties, the Paton home itself anchors this sanctuary in important ways. To preserve the legacy of intimate backyard birding and the modeling of dense habitat gardening on a home-sized lot, a home with a caretaker is an essential part of the Paton experience.

Throughout 2016, Tucson Audubon analyzed our options, conducted a professional feasibility study, and conferred with a wide variety of stakeholders. In December of 2016, our Board of Directors recommended bringing down the house entirely and building a new home as much in the spirit of the original Paton home as possible—but with important energy-efficient upgrades and an interior remodel for optimum functionality. Repairing and remodeling the existing home was seriously considered, but its position directly in the floodway would have required lifting the entire structure nearly a foot so that it would comply with FEMA regulations—and the price of that maneuver was extremely high! It simply makes more sense to rebuild, as carefully as possible.

Tucson Audubon's Board voted to approve a \$450,000 Capital Campaign for rebuilding the house. The campaign begins in January 2017 and will run for one year. Construction cannot begin until we have raised the funds. A launch to celebrate the campaign will be held at the Paton Center, April 28–30, 2017. Tucson Audubon has already raised 33% of the goal.



Wally and Marion Paton could not have known that their simple act of kindness—opening up their backyard to thousands of curious birders—would lead to their home-site becoming a sanctuary for birds and people alike. Now the time has come to insure that their legacy—and *this homeplace for hummingbirds*—is preserved for future generations of hummingbirds, and birders, and everyone open to discovering the wonder of southeast Arizona's wild birds.

Watch our website, tucsonaudubon.org/paton, and e-mail announcements for updates on our **Homeplace for Hummingbirds** Capital Campaign.

WELCOME NEW MEMBERS

Inayat Almandhary & Conrad McCarthy, Kathe Anderson, Cheryl & Ted Bahn, Lyn Ballam, Brian Barbaris, Chris Stidley & Ed Bedrick, Sharon & Ed Belcher, April Sue Billings, Blaise Bisailon, Trish Blute, Gillian Boss, Carol & Bill Bresnahan, Kathy Brown, Sheri & Don Butler, Candace Camamo, Diane Caruso, Robin Groose & Patricia Casey, Marilyn & Alfred Cass, David Confer, Stacie Connors & Paul Wineberg, Dora Corpe, Louise Courtemanche, Allan Cox, Herbert Day, Elva De La Torre, Nancy Deucker, Robin & Peter Downey, Carlene Dundas, J. Eighengrun, Eric Einhouse, Sandra Fabritius, Darlene Fesner, Stacy & Craig Fletcher, Jaqueline Foss, Nicholas DiLorenzo, Bridget Barry, Patricia Barry, & Bella Furr, Katie Iverson & John Gentile, Ann & Joe Gerald, Marissa Andaloro & Chad Groenhof, Catherine Hagen, Gail Hanisch, Kevin Haran, Roxanna & Art Harvey, Aubry Hemingway, Mary & Vernon Herrick, Dennis Hester, John Hoganson, Marilyn Houck, Inez Huerta, JoAnne & Bob Hungate, Linda & Dave Hydukovich, Nancy Jackson & Mustafa Alahwel, Marea & Doug Jenness, Harold Jensen, Bernadette Jilka, Sally Johnsen, Susan Jutras, Dan Kimball, Susan Kimsey, David Klinkner, David Kreidler, Lorena & Mark Krenitsky, Howard La Pierre, Jennifer Gross & Jerry LeFerre, Marshall Lehman, Deborah Locke, Melissa Loesch, Beverly Lynch, Ronnie & Kris Maestas-Condos, Thor Manson, Helene & Peter Marchant, Sandra Marshall, Catherine Martin & Jeff Hoff, Ann Martin, Jamie Massey, Karen Matsushino, Alice McCreary & David Epler, Bridget McHale, Jared McKinley, Cait McPherson, Mark Menefee, Susan & Gary Miller, Jazelle Mondeau, Malcolm Morris, Elizabeth O' Brien, Loretta Peters, Diane Poleyquiva, Linda & Gilles Rainville, Paula Redinger, Craig Register, Caroline Reilly, Diana Rhoades, Janis & Robert Richert, Suzanne Riley, Gary Romig, Dale Sakahara, John Savala, Tom Sawyer, Janet Shannon, Pam Shavarian, Herbert Sheathelm, Shane Smith, Patricia Smith, Geraldine Smith, Karen Smith, Mary Snyder, Linda Sogge, Richard Springer, Zita Ingham & Ron Steffens, Phyllis & Bruce Storey, Suzanne Strauss, Jon Stravers, Sharon Szczesney, Mary Ellen, Julie & Grady Taylor, Rita Thelen, Butch Ukura, Charlie Van Dusen, Roger Van Gelder, Nancy Warshawer, Keith Weeks, Alexa White, Sandy Whitehouse, Natalie & Brad Whitman, Maria & Steve Williams, Edith & Lawrence Wippman, Elissa Wise, John Wittenberg, Denise Ybarra, Kathleen Young, Lori & Tom Zitzmann

THANK YOU TO OUR FREQUENT FLYERS

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

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. For more information, visit tucsonaudubon.org/give.

GIFTS IN HONOR/MEMORY

In honor of Kathy Altman from Kathy Altman & Ivy Schwartz
 In memory of James Snow from Eve Austin, Sherri Hale, Jackie Naegle, and Stacy Tran
 In memory of Pearl Parnigoni from Tammy Bose
 In honor of Lydia Breunig from Karen Enyedy & Robert Breunig
 In honor of Jonathan Horst from Carianne Campbell
 In honor of Canny Clark from Susan Clark
 In honor of Joan Donnelly from Joan Donnelly & David Taylor
 In honor of Charles MacCabe from Melissa Halpern & Charles MacCabe
 In honor of Bonnie Poulos & Jim Brooker from Molly McKasson Morgan
 In honor of Todd Olmstead from Todd Olmstead
 In honor of Sherry Sass from Sherry Sass
 In memory of Herb Trossman from Pat Trossman

Mexican Birds & Culture Beckon

SPECIAL BIRDING FIELD TRIP TO SOUTHERN SONORA

This extraordinary trip is timed to experience the Ash Wednesday ceremonies of the Mayo and Yaqui Indians in the Mayo village of Júpare, near Navajoa. After birding mangrove estuaries, the tour will ascend the Sierra Madre, arriving in the historic town of Alamos. Here we will spend time birding the tropical deciduous forest and immerse ourselves in rich Mexican culture.

In addition to birding opportunities and ancient rituals, this seven-day trip provides gourmet adventures, musical performances, visits with expats, hacienda tours, and more.

Our leaders are Jesús Garcia, Lynn Hassler, Stephen Bernier of South of the Border Tours and Alamos resident Stephanie Meyer.

The trip begins in Tucson and we travel via bus, leaving March 2 and returning March 8. Cost for the trip (all-inclusive) is \$2150 for Tucson Audubon members; \$2200 for non-members. Single supplement is \$500.

See tucsonaudubon.org/alamos for a complete itinerary of this unique and rich experience and to sign up.



Social Flycatcher, Patty McGann

Expecting the Unexpected

Chris Benesh



Couch's Kingbird, Ashley Tubbs



Black-throated Blue Warbler, Oregon State University



Lesser Black-backed Gull, Themadbirdlady

Arizona is well known to be one of the worst of the United States for gull watching, and our lack of practice can leave many of us unprepared when faced with the prospect of identifying an immature gull we might happen upon. As fall turns to winter, a small number of large immature gulls wander through Arizona seeking out suitable habitat, of which there is very little. Conventional wisdom is that Herring Gull is the expected large species. And in fact, this is indeed the case. Increasingly, however, other large species are finding their way out West and birders should be careful not to overlook these rarer species. Lesser Black-backed Gull numbers have increased dramatically in the past decade, and over the past few years, Lesser Black-backed Gull has occurred several times in the state. In the couple of instances, these were initially identified as young Herring Gulls before being correctly identified. As this species becomes more common in North America, we can expect that more will show up here. Thayer's Gull is another species that occurs from time to time, with late fall and early winter being the mostly likely time to encounter them. Looking like paler, more delicately built Herring Gulls, some are undoubtedly overlooked. And as the arctic sea ice shrinks it has altered gull movements up north, increasing the potential for more Siberian based Slaty-backed Gulls to find their way to the lower 48. At some point, one will be discovered in Arizona, and the prepared eye will be the one to pick it out. At some point, I suspect Black-tailed Gull will make it here too, as it has occurred both in California and New Mexico. Smaller gulls are worth scrutinizing too. The familiar Ring-billed Gull (aka Arizona Gull) can attract other species, such as the similar looking Mew Gull. So bear all of this in mind when that medium to large, immature gull presents itself at Willcox, Benson, Whitewater Draw, or the Amado Ponds.

Fall is the season that most of our flycatchers depart for warmer climes, leaving behind a few hardy species. Our hardest *Empidonax* are Hammond's, Dusky, and Gray flycatchers, which all winter locally. The similar looking Least Flycatcher seems to be underreported in

the State, no doubt due to its similarity to Dusky and Hammond's. A small number of Pacific-slope Flycatchers linger into December and January, but it is worth remembering that Yellow-bellied Flycatcher once overwintered in Patagonia, and should also be considered when faced with a yellowish *Empidonax*. Any *Myiarchus* is worth a second glance after October. The expected Ash-throated Flycatcher is a scarce winter visitor, while a handful of more colorful Dusky-capped and Nutting's flycatchers have occurred. Cassin's Kingbird is the expected yellow-bellied kingbird in winter, but Couch's Kingbird, common in much of southern Texas, has occurred twice in winter in Arizona.

While sorting Yellow-rumped Warblers into Audubon's and Myrtle this winter (in anticipation of a likely near-future split), pay close attention to other members of the flock. Nearly 40 species of warblers have been detected in December and January over the years, no doubt due in part to our mild winters.

I chose examples from three families of birds, each with a set of assumptions we make use of when we begin the process of identifying them. While they get us to the right conclusion most of the time, there are times when we will come face to face with the unexpected. Broadening our expectations can help us prepare for those occasions. Let's get out there this winter and see what there is to be discovered. ■

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.

2017 YEAR OF THE HUMMINGBIRD



Nothing says **Tucson Magic** quite like our **Hummingbirds!** What other American city of our size can claim such a wealth of hummingbird species—and in such high numbers? They zip and whirr through our desert backyards, our parks and our gardens. They dazzle us with color and aeronautic tricks. 2017 is our year to celebrate, support, and explore them together.

Find out about **Hummingbird Hotspots, Citizen Science Hummingbird Blitzes, the HummerGo Passport, a Year of Hummer Fun** and so much more!

HUMMINGBIRD HOTSPOTS

It's easy to make your own hotspot or visit a public one!

Q: What is a Hummingbird Hotspot?

A: A Hummingbird Hotspot is an area that provides food for hummingbirds. It can be a small space or large and provides either nectar producing plants or a hummingbird feeder. If you like you can set up both feeders and plants for the hummingbirds to enjoy.

Q: How do I make my own Hummingbird Hotspot?

A: Your hotspot can be as small or large, as simple or complex as you like. Hummingbirds love nectar producing flowers and some of their favorites are those with red or pink tubular flowers (see our list on page 15). Penstemons can be grown from seed (plant them in fall or winter) and they bloom in early spring. Chuparosa is a huge favorite with hummingbirds and this shrub with bright red flowers is easy to maintain. Desert Honeysuckle and Autumn Sage are also great nectar rich plants and will look beautiful in your hummingbird hotspot. Between these different plants there will be blooms for the birds to feed from nearly year round.

By creating a Hummingbird Hotspot, you meet the criteria for the Hummingbird Level of our Habitat at Home program (see page 14)!



\$ HOTSPOT COSTS \$

1 Feeder:	\$8–\$22.00
1 Nectar Plant:	\$8.00
5lb White Sugar:	\$2.50
Total:	\$18.50
1 full feeder =	~500 meals
1 bag sugar =	35 feeder fillups

Your hotspot with 1 bag sugar and good upkeep provides 17,500 hummingbird meals. **That's 10 meals for every PENNY.** The longer you keep your hotspot, the price just keeps dropping!



HUMMINGBIRD FEEDERS

There are many styles of feeders available but it is important that what you choose is easy to take apart and clean. Find a shady area to hang your feeder(s); the edge of your roof or from a gardening hook are good options. Fill your feeder with nectar that you can make yourself. The recommended sugar water mix is 1 part refined white table sugar dissolved in 4 parts clean hot water; let it cool before adding to the feeder. Please **DO NOT add red dye**, it is unnecessary! Nectar can be premade and stored in a bottle in your refrigerator. It is important to take down your feeder every few days, take it apart and clean it thoroughly, and fill it back up with fresh nectar. In the summer change the feeder every other day—the more frequently you do this the more hummingbirds will visit your Hotspot.

Q: What do I do once I have made my Hummingbird Hotspot?

A: Map it! Visit tucsonaudubon.org/hotspots and add your hotspot to our interactive map. This will help inspire others to make their own and you can see how many people are participating. You can also find out about public Hummingbird Hotspots that you can visit. You can map your spot as a private yard or a public entry location.

Q: This is fun! What else can I do?

A: Your Hummingbird Hotspot will attract hummingbirds for you to enjoy and also provide an area for the hummingbirds to spend time eating and resting. If you are lucky you may even have a female build a nest nearby. To make your Hotspot attractive to hummingbird mothers you need to make sure there are small insects present for her to use as protein-rich snacks for the babies and spider webs for her to build her nest. It is also great to have bushes and trees for hummingbirds to perch and hide.

Truly anyone can do this. Planting and maintaining two nectar-producing plants creates nearly year-round food for hummingbirds. ■

CITIZEN SCIENCE, THE YEAR OF THE HUMMINGBIRD AND YOU

The Year of the Hummingbird not only offers you the chance to create and register your own Hummingbird Hotspots, it gives you the chance to contribute critical information to understanding hummingbird distribution and behaviors in our region. You can participate in multiple ways, all designed to help us understand how best to support hummingbirds in Tucson and southeast Arizona.

5-MINUTE HOTSPOT-WATCH

So you've created a hotspot of habitat in your yard, or you find yourself in an area with lots of hummingbirds flitting about. Now what? First, please take a moment to stop and appreciate these fierce, dainty birds. As a way to slow down and enjoy the experience, consider taking the time to do a Hotspot-Watch; five minutes to engage your senses watching, listening, and trying to keep track of all the hummers you identify zipping about. Keep track on a notepad, or for the really easy experience, use the free eBird app on your mobile. Specific instructions and a printable data sheet are provided at tucsonaudubon.org/hummingbirds.

Why Hotspot-Watch? The information gained will inform our knowledge of urban population sizes and territory overlap of each type of hummingbird.


HUMMINGBIRD BLITZ DATES:

February 18 (during Tucson Meet your Birds), April 29, May 13, August 12 (during the Southeast Arizona Birding Festival) and November 28

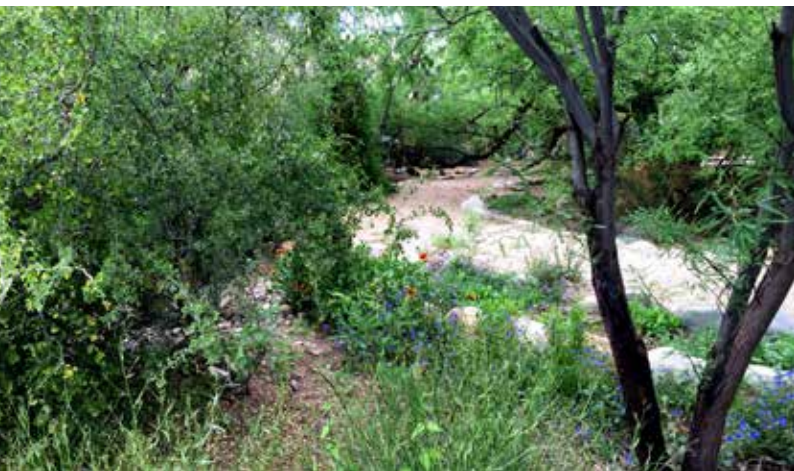
HUMMINGBIRD BLITZ

On five days in 2017, Tucson Audubon calls on all willing participants to help us understand where the hummingbirds are. Which ones live in the urban core? Are there any specialists on exurban areas? How about near washes or the foothills of local Sky Islands?

Participation is easy: 1) See a hummingbird and identify it; 2) Pin it on our Hummingbird Distribution Map (see the map and the results at tucsonaudubon.org/hummingbirds). Each species will be available for you to pin, and you can note unidentified hummers. You can access the map from any mobile phone or computer connected to the internet, so everyone can participate. Make a mark for each type of hummingbird you see at any spots you visit—there's no limit to the number of contributions you can make. And, it's a live feed—you can leave the map open and watch as other people populate it with their sightings throughout the region.

The maps made from each Blitz will augment our ongoing Tucson Bird Count data so that we know the specific regional distribution of each type of hummingbird. 





Lush desert landscaping in a Tucson neighborhood, Kendall Kroesen



Calliope Hummingbird, Lois Manowitz

FIRST YOUR HUMMINGBIRD HOTSPOT, THEN YOUR HABITAT AT HOME!

One of the Sonoran Desert’s attributes that draws many of us to Tucson is its incredible variety of plants that attract and support a stunning array of birds and wildlife. Many of these plants and creatures can also thrive in the heart of the city. Tucson Audubon is building upon the natural features of our desert and offering the **Year of the Hummingbird** as a way of encouraging people to fall in love with the irascible, accessible, magical hummingbird—an ambassador not only to the world of birds, but also a messenger sharing news about what they need to survive and thrive.

Inviting hummingbirds as regular visitors to one’s yard is as easy as setting out a single feeder or a couple of native plants. This simple setup creates a “hummingbird hotspot” that, through our campaign, opens the door to a year of learning more about the hummingbirds of our region, engaging in easy but important citizen science on behalf of hummingbirds, and participating in other fun activities.

It also provides an excellent entry to Tucson Audubon’s **Habitat at Home** program, which recognizes a hummingbird hotspot as one of the first steps toward creating important yard, school, church and business habitat for birds and wildlife throughout our beautiful desert city.

HABITAT AT HOME

As human activity draws resources—like water—from the desert, cities become important islands of habitat for birds and other creatures; Habitat at Home recognizes this and encourages people to respond by creating many levels of habitat that will provide increasingly important sources of life for birds. The Habitat at Home program is designed to assist any and all who would like to help create a new urban habitat supporting birds, whether that is a simple feeder and patio plants or a whole landscape featuring many ‘stories’ of plants that offer food, nesting opportunities and cover.



Tucson Audubon is making it easy to create a Habitat at Home that is perfect for each individual situation. We offer a thorough listing of native plants and their attributes on our website for the do-it-yourselfer; for those who are looking for assistance with a master plan they can work on over time, we will visit your site and provide consulting. We even offer classes on how to get started! The important thing is that Habitat at Home is flexible enough for any situation—big or small, urban or

suburban—in which you wish to be a part of helping birds in our area. So let’s get started creating Habitat at Home! And school, and church and business, too!

tucsonaudubon.org/habitatathome



Hummingbirds will find food and other resources in this yard, Kendall Kroesen

HUMMINGBIRD PLANTS FOR YOUR GARDEN

Lynn Hassler, Garden Volunteer Captain; photos by Lynn Hassler

In general, hummingbirds prefer long, slender tubular flowers in the red-orange range. Thin tubular flowers generally have more nectar at the base, which is difficult for bees and other insects to reach. These types of flowers and the long bills and tongues of tiny hummingbirds have evolved together over time. And as hummingbirds flit from flower to flower, carrying pollen and nectar, they also play an important role as pollinators.

Hummingbirds will certainly visit flowers of other colors—purple is popular—and other shapes as well. Plants with staminate flowers turn out to be quite enticing.

Autumn Sage: An All-Star Hummingbird Plant

Scientific name: *Salvia greggii*

Family: Lamiaceae (Mint)

Native range: Western Texas south through-out much of north-central Mexico, 4000–10,000 feet

Wildlife value: Flowers attract hummingbirds, quail, lizards, and sulphur butterflies

This small, sprawling, evergreen shrub grows 2-3 feet high and wide, and is well used in patios and around pools in southwestern landscapes. One-inch long, pinkish red flowers appear on 6–10 inch spikes on and off throughout the year but especially in spring and fall. There are other color forms—purple, white, orange, yellow—but the magenta are my favorite.

Autumn sage is a moderately fast grower and moderate water user (it looks better in summer with weekly supplemental water). Plant these hardy (to 5 degrees F) shrubs from one gallon containers in fall or spring. Morning sun or light shade is the best orientation in Tucson; full sun is appropriate at higher elevations. Good drainage is essential since plants have a tendency to rot out. Dismiss any pruning phobias because autumn sage invariably becomes woody over time and needs to be cut back hard in early spring in order to regenerate new growth.



Lois Manowitz

The nectar-filled tubular flowers are irresistible to hummingbirds and also attract sulphur butterflies. Gambel's quail enjoy picking off the blooms and feasting on them, as do desert spiny lizards.

The genus is from the Latin *salvus* ("safe," "unharméd") referring to certain salvia species with medicinal virtues. The species name is after Josiah Gregg (1806–1850), plant collector who explored and wrote about the Southwest.

This series profiles plants that grow in the Tucson Audubon Wildlife Garden at University Boulevard and 5th Avenue.



MORE GREAT HUMMINGBIRD PLANTS



***Penstemon parryi*, Parry penstemon**

The best penstemon for planting in the Tucson Basin, and it's a show stopper. Captivating pink flower displays are a sign of early spring. Plant en masse for optimal visual effect and for visiting hummers.



***Fouquieria splendens*, ocotillo**

With its distinctive shape, ocotillo makes a bold focal point in the landscape. Tall, arching branches reach high to the sky and provide ideal spots for perching birds. Flame-colored blooms in spring attract hummingbirds as well as Verdins and orioles.



***Calliandra eriophylla*, fairy duster**

Beautiful flowers, with sprays of stamens resembling tiny dusters, are sweetly attractive to hummingbirds. And you just might get tickled by seeds that fling out from exploding seedpods following the blooms.



***Justicia californica*, chuparosa**

Chuparosa literally means "hummingbird" in Spanish. Plant this red-flowering shrub with its green photosynthesizing stems next to a south-facing wall for nearly continuous bloom. There is also a yellow-flowering form, but the hummers don't seem to find that hue quite as attractive.

BIRDS BENEFIT BUSINESS ALLIANCE MEMBER PROFILE



Owl nest being removed from a dangerous spot. All photos courtesy of Tucson Electric Power



Owl nest moved into the platform basket.

POWERFUL PROTECTION



Harris's Hawk family utilizing a pole that's been made safe.

Tucson's raptors love power poles. What better place to gain a birds-eye view of your next meal as it scurries below? And talk about a great nest site—raising your chicks high above the urban hubbub. Power poles, unfortunately, don't always return the love. For our Harris's Hawks, Red-tailed Hawks, and Great Horned Owls, electrocution and even collision with power lines are a too frequent cause of death. No one knows the dangers better than **Tucson Electric Power's (TEP) Raptor Protection Team**—Larry Weigel, Jim Bennett, and their **University of Arizona (UA)** colleagues, Starlight Noel-Armenta and Bill Mannan. The quartet lives intimately with the tears and triumph of caring for wild birds in the midst of our modern world.

Larry has a great photo of a fuzzy bunch of Great Horned Owl chicks, nestled in amongst the metal coils and sprawling wires of an energized capacitor bank. Jim recalls the tension of having to wait until the chicks fledged before they could do anything to

improve the situation. "Sending a bucket truck with a lineman in to try and reduce the danger would certainly send the chicks flapping and increase the chance of electrocution. All we could do was wait," Jim says. Once the chicks fledged, the team moved in with solutions—not only insulating the hardware, but also installing a wooden platform (complete with a safety railing) in place of the capacitor bank. Maybe mama and papa owl would recognize a better home site when they saw one?

As the following breeding season rolled around, the owls indeed returned to the nest to raise their brood on the safe and spacious platform provided by the team—a conservation success, and a meaningful collaboration across species lines!

TEP goes far beyond the national regulatory requirement for protecting birds. Jim explains that they feel it's their responsibility to be responsible stewards and to coexist peacefully with all the wildlife in their service area.

HELP PROTECT TUCSON'S RAPTORS

Members of the public are asked to report raptor nest sites and injured or dead animals located near TEP equipment to the company's Customer Care team at (520) 623-7711, or Arizona Game and Fish at (520) 628-5376.



Owls in nest before relocation



Owls returned to the relocated nest.

Tucson Electric Power's Raptor Protection Program: Partnering with University of Arizona to Watch Out for Our Wild Birds

MEET THE TEAM

Larry Weigel is a Supervisor in the Outside Services Department and has worked at TEP for 30 years. He manages the utility's construction contractors and line construction. Larry leapt at the opportunity to help manage the raptor protection efforts and spends many hours outside his regular work week attending to the program. Even his family gets involved. Larry used his own money to pay his 9-year-old grandson Austin to monitor a Red-tailed Hawk nest on a power pole. He notes that ravens, falcons, and even bobcats benefit as well. "After seeing the positive impact our work has on wildlife, this has become my favorite activity."

Jim Bennett is in charge of Vegetation Management for TEP, ensuring safe and reliable service for customers by preventing trees and other vegetation from making contact with power lines and other electrical equipment. He has been with TEP for 11 years. Jim gladly works evenings and on the weekend for the program. Like Larry, he was chosen for the job because of his strong interest in the outdoors. "My skills in bird identification have really grown along with my knowledge of and interest in birds."

Starlight Noel-Armenta is a biological consultant employed by UA's Department of Natural Resources and the Environment. She works 20 hours a week on the Raptor Protection Program. "I've always had a strong interest in wildlife," Starlight explains. "I worked as a trainer for the Desert Museum's Raptor Free Flight program and this is where I developed a strong interest in Tucson's native raptors." Starlight really enjoys the way the job puts her in touch with neighborhood residents all over Tucson. They often help her locate nests and she notices "a real sense of ownership and responsibility in regard to urban wildlife."

TEP'S SEVEN STEPS TOWARD RAPTOR PROTECTION:

1. Active raptor nests and areas of high raptor activity are reported by concerned citizens and linemen, or actively identified by members of the team. TEP encourages its customers to report raptor activity by calling (520) 623-7711.
2. Starlight studies each situation and recommends solutions: any pole within 300 meters of a nest site will typically be protected through a variety of insulators. (UA research in 2003 determined that 300 meters is the standard natal activity area for the Harris's Hawk.)
3. Jim and Larry analyze each site, pole by pole, to determine exactly which equipment will need to be protected.
4. TEP linemen on construction crews install the protective equipment.
5. At the end of the calendar year, the UA surveys each site to insure the nests were properly protected.
6. At sites where a raptor injury or death has occurred, TEP takes immediate steps to install protective equipment. A response to incidents is mandated by the Migratory Bird Treaty Act.
7. Today's TEP construction standards require raptor protection devices to be installed on every new power pole. A year-end effectiveness report comparing annual results is submitted to TEP, Arizona Game and Fish Department, and the U.S. Fish and Wildlife Service.



BIRDS BENEFIT BUSINESS *Alliance*

Tucson Audubon thanks our **Birds Benefit Business Alliance** Members, who have shown their support for bird conservation through annual contributions and in-kind donations. **Please show you appreciate their support for us by supporting them.** Visit tucsonaudubon.org/alliance for more information, including links to member websites.

LEADING

Carl Zeiss Sports Optics
Circle Z Ranch
Crown Community Development—Arizona
Farmers Investment Co (FICO)
GeoInnovation LLC
Riverpark Inn
Tucson Electric Power
Western National Parks Association

SUSTAINING

Celestron
Leica Sport Optics
Rockjumper BirdingTours
Swarovski Optik

SUPPORTING

Heartstone Ranch/La Cocina
Kimberlyn Drew, Realtor

CONTRIBUTING

Affinity Wealth Management
Arizona Birder Casitas
Candlewood Suites
Chuparosa Inn
Diet of Hope Institute
Financial Architects
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SOLIPASO TOURS solipaso.com

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Leader: David MacKay

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YECORA-ALAMOS

Tour Dates: April 20–28, 2017

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Leader: David MacKay

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Included are three home-cooked meals per day, one horseback ride (optional), a morning nature walk and evening astronomy program with naturalist Vince Pinto. There will be ample time to relax and enjoy the halcyon environment.

Your leaders are Lynn Hassler, author and naturalist and Keith Ashley, birder and Tucson Audubon’s Resource Development Director.

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Circle Z Ranch
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CONSERVATION AND EDUCATION NEWS

Christina McVie, Conservation Chair

Can we revive our dying river system? Updates on Regional Aquifer Recharge and Riparian Restoration Efforts

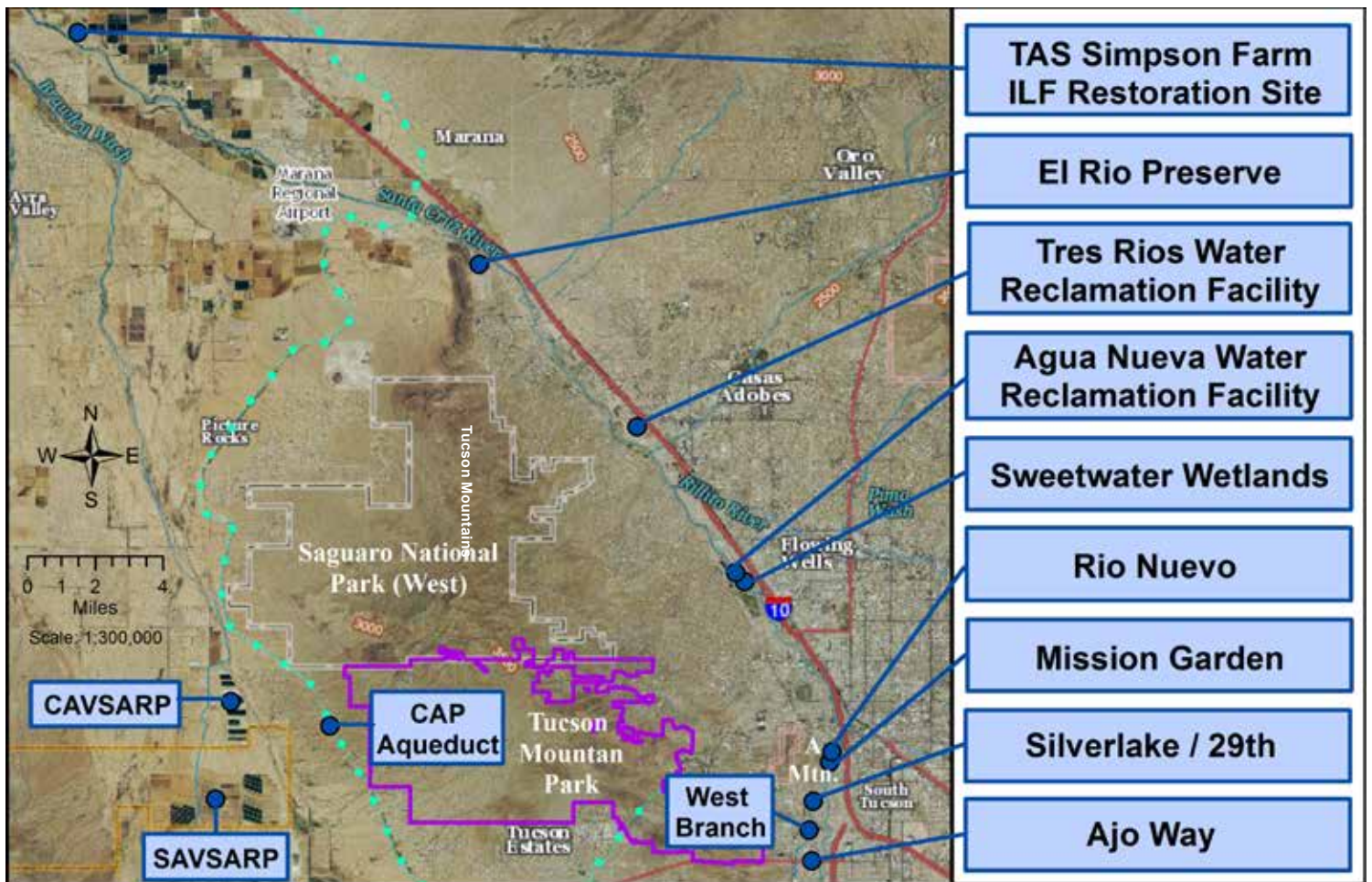
The Pima Association of Governments (PAG) Environmental Planning Advisory Committee (EPAC) passed the **Heritage Desert Waters Resolution** (bit.ly/2gCzLgk) on November 4, 2016. The draft Resolution recognizes the value of preserving and reviving the unique benefits of our desert riparian areas and establishes further goals to build resilience in vulnerable areas. It affirms that desert waters, including aquatic, ephemeral, intermittent, and perennial water resources supported by surface water (including treated effluent) and shallow groundwater, critically sustain societal, economic and ecological well-being. The draft Resolution highlights numerous benefits, including but not limited to our natural and cultural heritage, public health and safety, use of the Conservation Effluent Pool (CEP) for the environment, regional coordination and integrated planning. It will be forwarded to the Management Committee for their review and approval prior to being considered by the PAG Regional Council.

Aquifer Recharge Background

The needed legal framework for groundwater recharge in Arizona was initiated with the passage of two state laws: The Groundwater Management Act of 1980 (GMA), and the Groundwater Recharge and Underground Storage and Recovery Act of 1986. These laws guarantee the ownership of water purposely stored in the aquifer and define and regulate all aspects of Managed Aquifer Recharge (MAR).

The GMA established Active Management Areas (AMAs) and addressed management of groundwater resources. Since 1980, the focus of the safe-yield AMAs has been achieving/maintaining safe-yield by the statutory deadline of 2025. ARS 45-462 (bit.ly/2gaDrts) states: "The management goal of the Tucson, Phoenix and Prescott active management areas is safe-yield by January 1, 2025, or such earlier date as may be determined by the director."

In order to address renewable sources of water (Central Arizona Project or CAP and treated effluent), Arizona passed the Underground Water Storage, Savings and Replenishment Act of 1994 (bit.ly/2h6e6OB) which states, at §45-801.01, "Protect the general economy and



Cartography by: Matt Clark. Data Sources: USGS Imagery Topo base map service from *The National Map*. CAP Canal Centerline, Central Arizona Project. Both the CAP shapefile as well as the USGS background map are made available/sourced via "ArcGIS Online"

welfare of this state by encouraging the use of renewable water supplies, particularly this state's entitlement to Colorado river water, instead of groundwater through a flexible and effective regulatory program for the underground storage, savings and replenishment of water.”

Tucson Water has two large water basin recharge projects developed in abandoned agriculture fields in Avra Valley with a total capacity of 150,000 acre-feet (AF) per year (Southern Avra Valley Storage and Recovery Project, tucsonaz.gov/water/savsarp and Central Avra Valley Storage and Recovery Project, tucsonaz.gov/water/cavsarp-overview). For the last two years, Tucson Water has also stored 25,000 AF per year of water at the Pima Mine Road Recharge Project, near the Santa Cruz River. Underground Storage Facilities (USFs) are infiltration basins using only water delivered via the CAP Aqueduct.

Tucson Water also has the Sweetwater Wetlands Recharge Project, tucsonaz.gov/water/sweetwater-wetlands, a 13,000 AF per year reclaimed water recharge and underground storage operation. Direct surface recharge of reclaimed water is limited by law to municipal effluent that has undergone at least an advanced secondary treatment.

Indirect recharge, also referred to as in lieu recharge, is the process of using renewable surface water supplies instead of groundwater to irrigate farmland. The reduction in groundwater pumping allows groundwater to remain in the aquifer and is referred to as a Groundwater Savings Facility (GSF).

The other type of USF is called a Managed USF where water is discharged into a streambed and allowed to flow naturally down the channel without the assistance of any construction. Water infiltrates (percolates) into the aquifer below the stream channel.

Constructed USFs (infiltration basins or injection wells) receive 100% recharge credit. Managed USFs using treated effluent receive 50% credit. In general, regulations ensure water reaches the aquifer, provide for an accounting of water recharged, and enable evaluation of long-term consequences.



The dry Santa Cruz river near downtown Tucson, Jim Hefner

The Community Water Coalition

In 2010, Tucson Audubon was a founding member of the Community Water Coalition (CWC, communitywatercoalition.org). The CWC envisions southern Arizona as a model community for sustainable use of water resources, understanding that the long-term health and prosperity of human populations is dependent upon healthy watersheds and ecosystems. The CWC mission is to provide leadership and guidance toward water policy that sustains healthy ecosystems and quality of life in the Tucson area and lower Santa Cruz River watershed. In recent CWC discussions with Tucson Water, the Town of Marana, Metro Water and Pima County, concern has been expressed regarding clarifying whether or not some low impact development (LID) construction techniques might qualify for 75-100% recharge credit, specifically as it might apply to effluent. Arizona Municipal Water Users Association (AMWUA) has expressed some interest in this matter on behalf of other municipalities in our state.

A Regional Integrated River Restoration & Management Plan

Tucson Audubon supports exploring the concept of a multi-jurisdictional, multi-partner Regional Integrated River Restoration and Management Plan that simultaneously addresses public health and safety issues and assures recharge credits for water for our environment in perpetuity. In 2015, the effluent allocation formula designated the fixed amount of 28,200 AF per year for the Bureau of Reclamation; 29,840 AF were accorded to the City of Tucson and other water providers, while Pima County retained 3,316 AF. The City and County have jointly dedicated 10,000 AF per year for the environment (CEP).

Regional coordination and integrated planning provide an opportunity to strategically deploy effluent water resources higher in the urbanizing portion of the Santa Cruz River watershed while promoting



Effluent-fed Santa Cruz River at Tucson Audubon's Simpson Farm ILF Restoration Site, Matt Griffiths

increased quality of life for residents and visitors. This cooperative approach would contribute to reviving the many unique benefits of our desert riparian areas, including natural and economic, by improving climate resilience, leveraging local investments in excess of one billion dollars, enhancing regional critical wildlife corridors, recreation areas such as the Loop, and other economic benefits, while building resilience in vulnerable areas. Such coordination would go a long way toward achieving the goals and objectives of **PAG's** draft **Heritage Desert Waters Resolution**. Developing a regional plan to keep our treated effluent resources in the Santa Cruz River meets multiple community goals, including recharge storage, a more vibrant economy, and environmental restoration.

Tucson Audubon and other members of the CWC recently met with a variety of governmental entities and water providers to discuss opportunities for collaboration. Some potential pieces of the regional puzzle are explored in the project highlights below:

The City of Tucson's Agua Dulce Santa Cruz River Heritage Project

Tucson Water is studying a conceptual plan to use a portion of their reclaimed water to create multiple long-term benefits by deploying a permanent flow of treated effluent in the Santa Cruz River south of 22nd Street. Water would flow to the north, downstream (bit.ly/2hjoCxZ). Inspired by Plan Tucson, the Urban Land Institute's 2013 Downtown Study and the Tucson Water 2020 Strategic Plan, their vision is to provide more efficient water management via recharge that would support urban riparian restoration and spark economic development on the west bank of the Santa Cruz River in the downtown Rio Nuevo area. Projects could include public-private investments to promote commercial uses, housing development, ecotourism and recreation. Construction of one or more off-channel water features is being discussed with potential collaborators and could include a lined channel walk south of Cushing Street.

Collaborators could include historic and cultural community projects such as the Friends of Tucson's Birthplace's Tucson Origins Heritage Park and Mission Garden, as defined in Tucson's Proposition 400, which passed in 1999. The Mission Garden is located in a shallow groundwater area at the base of Sentinel Peak, south of the Menlo Park Neighborhood (bit.ly/2h34L9V).

An additional potential use for reclaimed water could include enhancing upper terrace restoration along the Pima County Regional Flood Control District's (PCRFCD) Paseo de las Iglesias Phase I bank stabilization and riparian restoration project (bit.ly/2h6eFrA) between Ajo Way and Silverlake Road/29th Street.

Another option is restoring tributary in-channel flows along the historic West Branch of the Santa Cruz River (bit.ly/2gaGkdy). The West Branch contains relict riparian habitat and populations of species of conservation concern, including birds, lizards, frogs and toads

that previously existed throughout the Santa Cruz River system. Landowners along the West Branch have created small pond refugia and participated in riparian habitat restoration (bit.ly/2gU2KiE) in conjunction with the Arizona Land and Water Trust, Tucson Audubon, US Fish & Wildlife Service Partners for Fish & Wildlife Program, University of Arizona, PCRFCD, Arizona Game & Fish Department, and others (bit.ly/2h6qYGT).

More studies, research, planning and collaboration will be necessary to flesh out the details of this concept. Tucson Audubon and other members of the CWC are engaged and excited for the possibilities.

PCRFCD's Rillito and Santa Cruz Rivers Sediment Removal & Maintenance

On page 19 of the October–December 2016 issue of the *Vermilion Flycatcher* (bit.ly/2h6tJYJ), we described the destruction of the Columbus/Rillito Weed Patch as part of a plan to reduce sediment accumulation between Swan Road and Alvernon Way along the Rillito River (bit.ly/2gaCU11). The Patch was known for producing birding rarities such as Clay-colored Sparrow, Indigo Bunting, Cassin's Sparrow, Sage Thrasher, and Dickcissel, and supported a very high diversity of lizards and snakes, including possibly the best side-blotched lizard population in the Tucson Basin (bit.ly/2h6k1Df). We have been working with PCRFCD on planning some of the revegetation of the Patch, providing some native mesquite trees and including many more native grasses and hummingbird/bird friendly plants than were there before.



The Weed Patch after being buried, October 2016, Kendall Kroesen

Recently, we and other members of the CWC met with PCRFCD to discuss their plans for protecting property (especially bridges), public health and safety by increasing flood flow carrying capacity through downtown Tucson where mature riparian vegetation has re-established since the flood of 1983. PCRFCD is evaluating 2015 LIDAR (Light Imaging, Detection, And Ranging) mapping technology to create high-resolution digital elevation models (DEMs) or digital

terrain models (DTMs) that can reveal micro-topography that is otherwise hidden. Detailed terrain modeling allows scientists to see slope changes and landform breaks which indicate patterns in soil spatial relationships. LIDAR-derived products can be easily integrated into a Geographic Information System (GIS) for analysis and interpretation.

In this instance, PCRFC is looking for the thalwegs, especially abandoned thalwegs, or lines connecting the lowest points of elevation of successive cross-sections along the course of the river bed, which indicate previous flow channels otherwise obscured by sedimentation or vegetation. This may allow PCRFC to more selectively excavate sediment and improve capacity for flood flows, while restoring underlying inter-braided wash flow channels and avoiding mass blading of the entire river channel and its mature, established riparian habitat.

Tucson Audubon and the CWC look forward to the County’s analysis and to facilitating future conversations with a variety of stakeholders to determine how we can collaborate and identify win-win scenarios for the region and all involved.

The Town of Marana’s El Rio Open Space Preserve Project

By Janine Spencer, Biologist, Marana Environmental Projects Manager

Riparian enhancement of the El Rio Open Space Preserve (aka Coachline Gravel Pit) is getting a foot up this fall. This site has over 220 bird species recorded on the eBird website (ebird.org/ebird/hotspot/L350281), making it an important birding site in the Tucson area. Bird sightings have included a flock of Canada Geese, a Greater White-fronted Goose, American Avocet, Least Tern, Peregrine Falcon, Zone-tailed Hawk, Barn Owl, gulls, Blue Grosbeak, a White Pelican that stayed for months, many waterfowl and shorebirds in the winter and many warblers in the summer.

El Rio was described in the October/November 2015 edition of the Vermilion Flycatcher. Since that time, Marana has budgeted

\$400,000 toward riparian restoration at El Rio, and was awarded a \$35,000 grant from the Water Infrastructure Finance Authority for planning and design of riparian restoration.

Marana has contracted for cultural surveys and a preliminary jurisdictional delineation, to comply with the Historic Preservation Act and Clean Water Act, before work begins.

Marana recently submitted a proposal to PCRFC to construct a berm that can withstand 25-year flood events and would enable riparian work to be completed without frequent flooding and sedimentation from the Santa Cruz River. A berm would also reduce mosquito problems, trash accumulation, and invasive weed seeds that flow in. PCRFC will announce if the project will be approved, and the timeline for work, in the Spring of 2017.

The El Rio Open Space Preserve is an important piece of the Tucson Mountains-Tortolita Mountains Regional Wildlife Linkage, described in the Missing Linkages report (Paul Beier et al. NAU 2006) and in the Pima County Wildlife Connectivity Assessment (Arizona Game & Fish Department 2012). Pima County, Tucson Audubon, the Coalition for Sonoran Desert Protection and Marana have worked with developers in the area to maintain this critical regional wildlife linkage.

El Rio will be another link in the Santa Cruz River riparian preserves, along with Pima County’s Cortaro Mesquite Bosque (bit.ly/2gUe7q1), Marana’s native plantings mitigation site near Twin Peaks Bridge (bit.ly/2h6CtXV), Tucson’s Sweetwater Wetlands and the County’s Kino Environmental Restoration Project (bit.ly/2h37YWR). These protected riparian areas will become increasingly important as drought continues and if water is diverted from the Santa Cruz River for off-channel recharge projects or other purposes. Migratory birds and other pollinators need both safe havens and surface water, which are becoming scarce due to development and climate change.

Marana contracted with a Landscape Architecture graduate student from the University of Arizona to create a concept plan for the site, which was refined with feedback from the Task Force. Marana plans to maintain the natural character of El Rio: removing some of the invasive species, planting more native vegetation, creating storm-



Broad-billed Hummingbird, El Rio, Andrew Core



Hooded Oriole, El Rio, Andrew Core



Birders at El Rio, Andrew Core

water harvesting features, creating aerated ponds lined with a natural material, adding bird and bat boxes, installing interpretive signs and a few benches, and creating an Americans with Disabilities Act-accessible path along the south side and a natural-surface path through the site. Marana has identified three alternative water sources for supplemental irrigation and to keep the ponds wet. Work will be phased as additional funding is available. The Loop Multi-use Trail is being extended within the next few months, and will run adjacent to El Rio.

Tucson Audubon Society has long been involved at the El Rio site (bit.ly/2h3eY6g): planting native plant species in 2012 before the area flooded in September 2014, spreading the word about the subsequent birding opportunities and, more recently, by providing input at Task Force meetings (bit.ly/2h6nIAA).

Directions: Take the Twin Peaks Road exit west of I-10, to the west bank of the Santa Cruz River, and go north on Coachline Boulevard. Follow Coachline until you are past the houses and see a pump station with a blue roof on the north side of the road. Turn right at the new Pima County parking lot driveway just after the pump station and park by the berm. 📍



Migrating Sandhill Cranes photographed at Marana's El Rio Open Space Preserve November 24, 2016 by Craig Thayer

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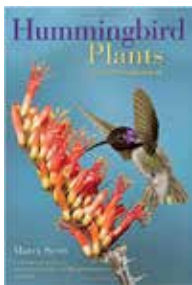
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All the Birds of the World, At a Click

A review by Rick Wright

Handbook of the Birds of the World—Alive

J. del Hoyo et al., eds. Barcelona: Lynx Edicions

On line at hbw.com

Basic subscription 29.95€/year, supporting subscription 49.95€/year

It wasn't really all that long ago that almost every bird book was global, its subject not the birds of a country or continent but the entire avifauna of the world. Soon, though, beginning in the eighteenth century, as the number of known species exploded and more and more was learned about each, authors came to recognize the limits of their own knowledge, and the global approach was applied only to lists, while identification guides and natural histories focused ever more closely on regional avifaunas, typically treating in detail 800 or so of what is now well more than 10,000 species recognized worldwide.

In the 1980s, the Catalan ornithologist and physician Josep del Hoyo conceived a new, almost impossibly ambitious project to systematically publish authoritative and up-to-date information about all the world's birds. The first volume of the *Handbook of the Birds of the World* appeared in 1992, with succinct but informative accounts written for the most part by scientists who had been studying the species for years. The last of the sixteen volumes in the regular series, covering the families from the tanagers to the icterids, was published in 2011; an index and supplement, with accounts for species described after the publication of the respective volumes, appeared in 2012.

HBW was rightly praised from the beginning for the extremely high quality of most of the species accounts and for the appealing and accurate paintings illustrating every single species, not a few for the first time. Good libraries and well-heeled bibliophiles and birders placed standing orders for the volumes as they trickled into print. For the rest of us, though, there was a problem. The books were expensive, prohibitively so for the likes of me, and even now, with the full set available at a 10% discount from the publisher, the purchase relieves one's bank account of more than \$3,000. Plus shipping. Plus a new bookcase to hold them all.



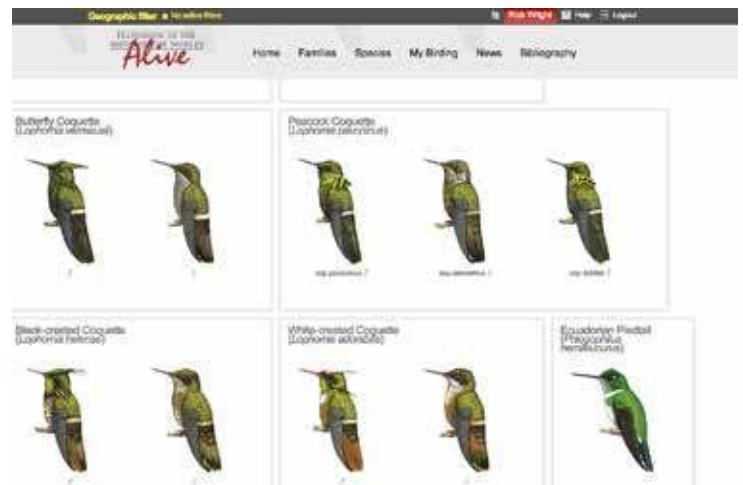
And even after biting the bitter bullet, there remains the not niggling concern that every bird book is instantly and automatically out of date on the day of its publication: research is continuous, change relentless, and the cutting edge inevitably dulls.

The solution was to move the content of *HBW*, all of it!, to a new medium. *Handbook of the Birds of the World—Alive* makes all of the texts and all of the illustrations of the printed volumes available on your computer screen. All of that information, eternally frozen on the paper page, is now continually e-updated, with taxonomic changes, new biological discoveries, and recent publications incorporated almost as they occur. All of the accounts are “searchable,” making it easy to find discussions of a species of interest in other species accounts—or simply and frivolously to discover how many bird species are named for their thighs (many) or regularly dine on mole crickets (not as many). The accounts are now linked directly to Lynx's Internet Bird Collection, making additional photographs and sound recordings available at a click. More cumbersome and still rather disappointing is the feature promising comparison of similar species on a single screen; a series of clicks and look-ups simply rearranges the accounts as parallel columns. This and a few other features will doubtless grow more sophisticated and more helpful over time.

In addition to its obvious reference value, *Alive* is also an increasingly useful resource for keeping up with ornithological developments around the world. Under the home page's News tab, the reader learns about taxonomic innovations, first country reports, and conservation efforts. Lynx also offers newsletters summarizing much of this, but the News tab at *Alive* has become one of my first digital stops each morning.

At a bit more than \$30 a year, *Handbook of the Birds of the World—Alive* isn't exactly cheap. (The “supporting” plan gives subscribers access to what seems essentially a listing program.) But it's well worth it for those of us whose interest extends beyond the birds in our local field guides. ■

Rick Wright leads Birds and Art tours for Victor Emanuel Nature Tours. His most recent publications include the ABA Field Guide to Birds of Arizona.





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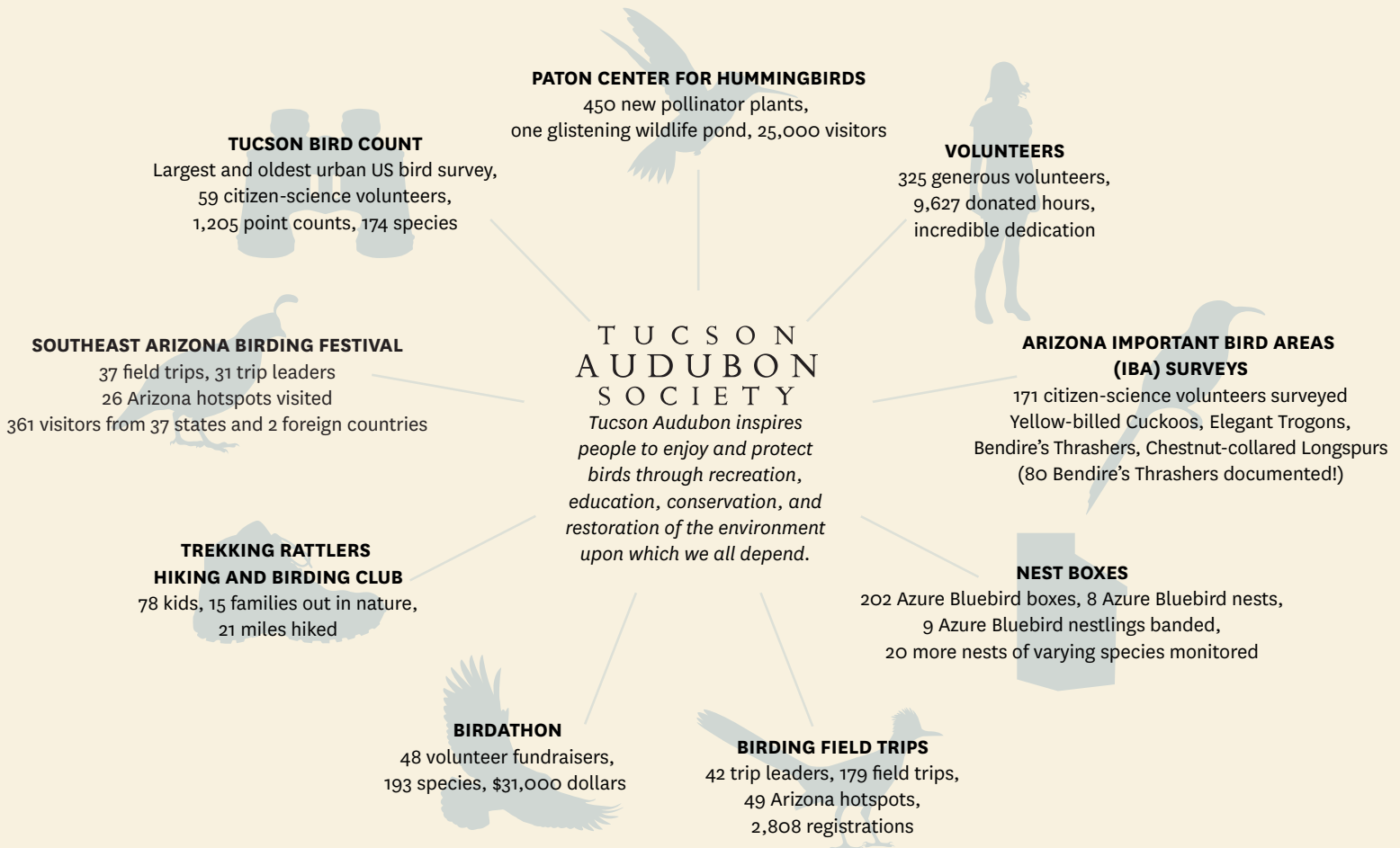
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