

THE QUARTERLY NEWS MAGAZINE OF TUCSON AUDUBON SOCIETY | TUCSONAUDUBON.ORG

Vermilion

FLYCATCHER

April–June 2013 | Volume 58, Number 2

Our Rivers

Tucson Meet Your River Birds

Bridge to Everywhere

Lost Mesquite Forest



It's Not a Christmas Boat Trip,
But It Is the Santa Cruz

What's in a Name?
Scaled Quail

San Rafael Longspurs

Plus 2012 Annual Report Enclosed



Tucson Audubon Society is dedicated to improving the quality of the environment by providing education, conservation, and recreation programs, environmental leadership, and information. Tucson Audubon is a non-profit volunteer organization of people with a common interest in birding and natural history. Tucson Audubon maintains offices, a library, and nature shops in Tucson, the proceeds of which benefit all of its programs.

Tucson Audubon Society

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

All phone numbers are area code 520 unless otherwise stated.

www.tucsonaudubon.org

Board Officers & Directors

President Cynthia Pruett
Vice President Sandy Elers
Secretary Ruth Russell
Treasurer Richard Carlson

Directors at Large Matt Bailey, Ardeth Barnhart, Gavin Bieber, Jennie Duberstein, Dave Dunford, Debra Finch, Bob Hembrode, Linda Greene, John Kennedy, Linda Stitzer, Claire Zucker

Board Committees *Conservation Chair* Chris McVie, *Development* Sandy Elers, *Education* Jennie Duberstein, *Finance* Richard Carlson, *Outreach* Vacant, *Nominating* Linda Greene, *Personnel* Cynthia Pruett

Programs & Activities

Field Trips *Matt Griffiths*

Library 629-0510
Membership Meetings *Jean Barchman* 629-0510
Rare Bird Alert *Andrew Core* | Report Rare Birds 629-0510

Staff (unless otherwise stated, dial 629-0510 plus extension)

Executive Director *Paul Green* ext 7001
Accountant *Michelle Bourgeois* ext 7003
Finance ext 7014
Membership Coordinator *Jean Barchman* ext 7002
Development Manager *Erin Olmstead* ext 7009

Volunteer and Development Coordinator *Kara Kaczmarzyk* ext 7011
Environmental Education Coordinator *Bété Jones* ext 7012
IBA Conservation Biologist *Jennie MacFarland* ext 7004
Habitats Program Manager *Kendall Kroesen* ext 7006
Restoration Biologist *Jonathan Horst* 971-6238
Field Supervisor *Rodd Lancaster* 256-6909

Communications / Habitat Restoration *Matthew Griffiths* 971-7924
Operations and Retail Manager *Sara Pike* ext 7008
Operations and Retail Coordinator *Kelly DiGiacomo* ext 7007

Tucson Audubon Nature Shops

300 E University Blvd #120 ext 7015
623-3476 fax / 629-0510 Shop Manager
Hours: 10 AM–4 PM, Monday–Saturday
Agua Caliente Park, 12325 E Roger Rd 760-7881
Hours: APRIL–JUNE Wednesday 10 AM–1 PM,
Thursday 9 AM–2:30 PM, Friday–Saturday, 10 AM–2:30 PM

Vermilion Flycatcher is published quarterly. For address changes or subscription problems call 629-0510, or write to Membership Coordinator, Tucson Audubon, 300 E. University Blvd, #120, Tucson, AZ 85705. Submissions are due the 1st of the month, two months before the date of the issue. Please send submissions as Microsoft Word or RTF documents, or plain text files, to Matt Griffiths at mgriffiths@tucsonaudubon.org.

Coordinator *Matt Griffiths* 971-7924

Proofreaders *Tucson Audubon staff and volunteers*

Design / Layout *Eng-Li Green*

© 2013 Tucson Audubon Society

Features

- 12 A Bridge to Everywhere: The Luis Gutiérrez Bridge on the Santa Cruz River
- 13 Tucson Meet Your Birds
- 16 It's Not a Christmas Boat Trip, But It Is the Santa Cruz
- 17 Charting Wetland Health of the Lower Santa Cruz River
- 18 The Great Mesquite Forest: A Permanent Loss in Avifauna Along the Santa Cruz River in the Tucson Basin
- 20 What's in a Name: Scaled Quail

Departments

- 3 Commentary
- 4 Events and Classes
- 5 Events Calendar
- 6 Living With Nature Lecture Series
- 7 News Roundup
- 21 Conservation and Education News
- 25 Field Trips
- 26 Birding Travel from our Business Partners
- 27 Birds & Business Alliance
- 27 Classified Ads

The Heritage of the Santa Cruz River

A guest commentary by Vanessa Bechtol, Executive Director, Santa Cruz Valley Heritage Alliance

The Santa Cruz River Valley, with its long and complex cultural past, is blessed with a rich historic legacy in a unique natural environment. Important historic and cultural places are strategically located along this desert river that flows through a culturally and environmentally diverse region. Here in the Santa Cruz Valley, Native American, Spanish Colonial, Mexican, and American Territorial heritages and traditions intersect with the natural landscape in ways unique to the American story. These traditions remain a source of the identity and vitality of the region.

The Santa Cruz River and its tributaries are the ribbons of life that have supported humans and wildlife in the desert for thousands of years. It is also a natural treasure for three nations: United States, Tohono O'odham, and Mexico. The Santa Cruz River is nationally unique in that it originates in the United States, crosses into Mexico, and returns to the United States. Rising in southern Arizona's San Rafael Valley, it crosses south into Sonora, Mexico, then turns north to re-enter the United States east of Nogales, Arizona. It continues north by Tumacacori National Historical Park to cross a 10-mile stretch of the San Xavier District of the Tohono O'odham Nation, through Tucson, and




FRONT COVER: Spotted Sandpiper © Jim & Deva Burns, Scottsdale, AZ. To see more of their work visit their website, www.jimburnsphotos.com and follow Jim's birding blog at www.jimburnsphotos.com/pages/columns.html.

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



then north-northwest to the Gila River west of Phoenix.

The riparian areas along the banks of the Santa Cruz and its perennial tributaries are home to special plants and animals, and are corridors for wildlife movements and migrations. These oases are habitats and migration stopovers for many bird species, contributing to Southern Arizona's reputation as a birding haven.

The Santa Cruz River is the spine of the proposed Santa Cruz Valley National Heritage, which encompasses the Santa Cruz River watershed in Pima and Santa Cruz counties. The Santa Cruz Valley Heritage Area tells the nationally distinctive stories of the region, which include the uniqueness of streams in the desert as well as the rich birding habitat and migration routes. The theme of Streams in the Desert is distinctive among the existing 49 National Heritage Areas across the U.S. For more information visit www.santacruzheritage.org 

Vanessa Bechtol has a Bachelor of Arts in Latin American Studies and Master of Science in Planning, and is the Executive Director of the non-profit Santa Cruz Valley Heritage Alliance.

COMMENTARY

PAUL GREEN | EXECUTIVE DIRECTOR

A River Runs Beneath Us

This issue of the *Vermilion Flycatcher* focuses on rivers, habitats, and the birds they support. From our local washes through to the mighty Colorado, all have great importance for birds.

We pull water from the Colorado River, as well as from beneath us, resulting in significant habitat degradation both close to home and as far away as the Colorado River Delta. Groundwater pumping lowers water levels and breaks the connection to surface water flow, while direct diversion of water from rivers leaves less water for our natural environment. Although Tucsonans use less water per capita than the state's other large cities the fact is we can use less, including for agriculture which accounts for roughly 70 percent of water consumption in Arizona.

Damming and diversions of the Colorado River have significantly altered important habitats for birds and other wildlife in the Delta, from the southern border between the U.S. and Mexico to the Sea of Cortez. The estuary's circulation has reversed, salinity has increased, productivity has decreased, species composition has changed, trophic pathways have altered, and early growth rates in endangered and commercially important fish have decreased.

At our Living with Nature lecture, at 7.00 PM on April 8, at the Pima Community College Downtown Campus, Karl Flessa, Director of the School of Earth & Environmental Sciences at the University of Arizona, will tell us about the Colorado River Delta and the prospects for its restoration. Karl will show us how the Delta's habitats have been altered and tell us about collaborative and creative efforts to restore them.

On page 23, Francisco Zamora and Karen Schlatter of the Sonoran Institute discuss plans to purchase water rights and apply them to riparian habitat restoration projects to divert water back to the Delta which, less than 100 years ago, supported more than 3000 square miles of riparian habitat. There is a clear opportunity here, if we had adequate funding, for Tucson Audubon to support bird monitoring projects in

these restoration areas: what do the changing bird populations tell us about the restoration work?

Prior to the Water Resources Research Center's annual conference in January 2012, over 80 individuals gathered to discuss questions of important uses for scarce water resources. Using keypad polling, participants voted for the five issues they considered top priorities. Top of the list was water for the natural environment, and how groundwater supports and is connected to stream flow.

Several of the articles in this issue highlight our Santa Cruz River. Michael Logan's book *The Lessening Stream* gives an enlightening longer term perspective as he answers some simple questions: when and why did the Santa Cruz dry up? The answer takes 250 pages. The Santa Cruz provided water for residents along its banks for thousands of years but in the early years of the last century surface flows reduced due to groundwater pumping and the severe groundwater level declines obliged Tucson to look beyond its basin for our water. *The Arizona Water Atlas* reminds us that, prior to development, the Santa Cruz River was locally perennial in its southernmost reach from its headwaters in the San Rafael Valley to near Tubac, forming a series of cienegas (marshes). North of Tubac, a few relatively short perennial sections existed including reaches near the mission of San Xavier del Bac south of Tucson and at "A" Mountain near downtown Tucson. From the Nine-Mile water hole north of the confluence of the Santa Cruz River and the Rillito River in Tucson, to its confluence with the Gila River, the Santa Cruz River was historically dry except during floods.*

On pages 18–19, the Great Mesquite Forest or San Xavier Bosque reminds us of the regionally important riparian ecosystem that persisted into the 1930s and hosted species including Anhinga and Scarlet Ibis. Tree cutting took its toll but then, in the 1940s, the bosque was killed as "groundwater literally dropped away from the tree roots" as the result

of ground water pumping. The upcoming 2014 book *Requiem for a River* by R Roy Johnson, Robert H Webb, Julio Betancourt and Ray Turner will make for salutary reading.

The loss of the San Xavier Bosque, together with the loss of cottonwoods that once graced Tucson, makes us think of the countless birds that lost their ability to survive and the species since extirpated from our state. The richness we see today is but a remnant of the richness of past times.

Closer to home are our neighborhood washes, all of which ultimately lead to the rivers that lead to the Colorado River. Western rivers form a skeleton from which many of our birds derive support and cling to for life. The derivation of the word skeleton is from the Greek *skeletos*, meaning dried up, withered, parched, just as most of our rivers appear for much of the year.

Perhaps your most personal link is to a wash that you cherish for its quiet, peace and solitude, its unique vegetation, and the privileged glimpses of wildlife you experience there. Kendall reminds us on page 24 how we can adopt a wash and keep it free from trash.

Lastly, if you stand on the *Bridge to Everywhere* across the Santa Cruz—see Ken Lamberton's article on page 12—you might contemplate our future water supply as climate scientists predict decreased rainfall with increased intensity of precipitation events, with less infiltration and more runoff, and decreased snowpack in the watershed of the over-allocated Colorado River. We must consider how we address threats to our health from groundwater pollution from the proposed Rosemont Copper mine and other polluted plumes spreading northward. We ignore these at our peril.

*Tellman, B., R. Yarde and M. Wallace, 1997, *Arizona's changing rivers: How people have affected rivers*. Water Resources Research Center, University of Arizona, Tucson, AZ. ■



COLORADO RIVER, REALBRVHRT

TUCSON AUDUBON EVENTS AND CLASSES

Take Your Family Camping With Tucson Audubon Riparian Family Institute

April 20–21, 2013 | TNC Preserve Lower San Pedro River



RIPARIAN PARTICIPANTS, PHILLIP FORTNAM



This weekend outdoor program for the entire family focuses on kid-friendly exploration of the rich plant and animal life found along the beautiful San Pedro River. Activities include river walking, birding (including

looking for owls at dusk), black lighting for insects, live mammal trapping, and a campfire! Families will also get to participate in an ongoing conservation project on the Preserve and will be treated to a barbeque with ranchers

from the Double Check Ranch. While your children are being led on an exploration at dusk, parents will be treated to a **kid-free** presentation on holistic ranching practices that are revolutionizing the production of grass-fed beef in a manner that is sustainable and preserves biodiversity of native plants and animals.

Date: April 20–21, 2013

Cost: \$65 per person including all meals. All children under the age of 18 must be accompanied by an adult.

Location: Nature Conservancy's Lower San Pedro Preserve near Dudleyville, AZ

Register online today!

Participants will camp onsite and are responsible for bringing their own camping gear. Meals are provided from lunch on Saturday to lunch on Sunday. This program is hosted in cooperation with The Nature Conservancy.

Register online today! Visit tucsonaudubon.org/education. Contact for all education activities: Bété Jones at bjones@tucsonaudubon.org, 520-209-1812. All non-member prices include a year's membership with Friends of Tucson Audubon.

The Perfect Learning Getaway Immerse Yourself in Arizona's Grasslands Institute of Grassland Ecology

October 3–6, 2013 | Appleton-Whittell Research Ranch, Elgin, Arizona

Join Tucson Audubon as we partner with the Appleton-Whittell Research Ranch in Elgin, AZ to offer the Institute of Grassland Ecology. The institute will be held at the Research Ranch and topics will cover the important ecological role the grasslands of southeast Arizona play within our region, how its unique plant and animal communities differ from those around it, and conservation threats and management strategies that are used to safeguard this ecosystem. Expert faculty will impart their knowledge, the event will be fully catered, and participants will camp onsite for the duration. Adults ages 18 and over are welcome.

The enthusiastic and inspired teaching of our own local experts, the spectacular backdrop of the golden,

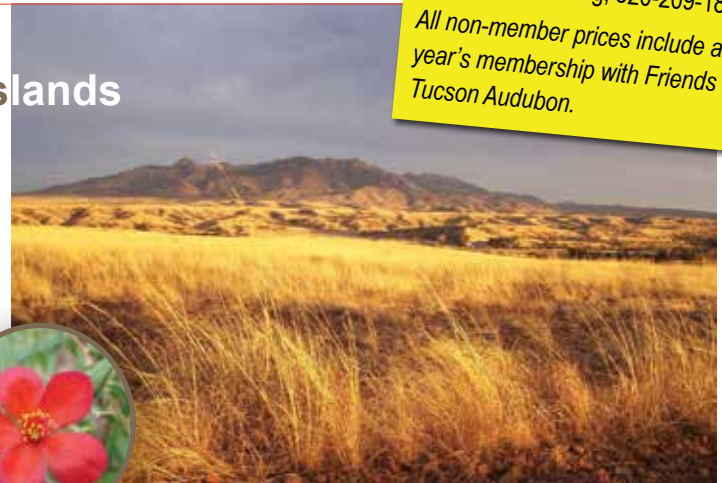
rolling, grasslands, the catered meals, and the camaraderie of all those involved combine to produce four days that participants have described in past institutes as "life changing" and "an experience that will not be forgotten."

The registration fee of \$525 for Friends of Tucson Audubon members and \$560 for non-members includes four days of expert instruction, and all meals from dinner on Wednesday, October 2nd to lunch on Sunday, October 6. A \$10/night camping fee must be paid separately.

Contact Institute Director, Bete Jones, with any questions at 520-209-1812 or bjones@tucsonaudubon.org. Register online today.

Limited to 50 participants.

www.tucsonaudubon.org/ige



GRASSLANDS AND FLOWER, LINDA KENNEDY



MONTEZUMA QUAIL, JOHN HOFFMAN

2013 Specialty Workshops

See our website for more detailed descriptions. Taught by Homer Hansen.

Warblers: August 8 & 10

Flycatchers: September 5 & 7

For advanced beginner to intermediate birders.

Register online today!

FOR MORE INFORMATION ON OUR SUITE OF EDUCATION CLASSES AND TO REGISTER ONLINE, PLEASE VISIT WWW.TUCSONAUDUBON.ORG/EDUCATION

Tucson Audubon's eNews Delivered to Your Inbox

Stay informed. Tucson Audubon sends out a weekly email of news updates to a list of around 2,500 people. In addition, we send our supplemental emails to this list, for example for urgent conservation action or special invitations. You can sign up for this list in a number of ways. The easiest

is to go to tucsonaudubon.org and click on the link that says Sign-Up E-newsletter. Otherwise send an email to pgreen@tucsonaudubon.org with your first and last name, or call Jean Barchman on 520-209-1802 and she will take your details.



COSTAS HUMMINGBIRD, DAVID QUANRUD

Appleton-Whittell Research Ranch



LINDA KENNEDY

What? A Ranch With No Cows?

To someone like me, who grew up in the 50s and 60s, immersed in the mystique of the "Old West" of popular movies and television shows, a ranch had to have cows and horses! Guess what?! The Appleton-Whittell Research Ranch of the National Audubon Society doesn't produce livestock; it produces information to protect thousands of acres of grassland and related ecosystems.

Frank and Ariel Appleton were the inspiration and driving force behind this new concept of a ranch. After several years of cattle ranching near Sonoita, Arizona, they learned that cattle are an exotic influence in the grasslands of the Southwest. Most grassland ecosystems in the Midwest co-evolved with bison, but in the absence of bison, Southwestern grasslands did not develop defense mechanisms against herds of half-ton herbivores. In 1968, the Appletons converted their "Elgin Hereford Cattle Ranch" into the "Research Ranch" by removing livestock and starting a non-profit organization. They opened the Research Ranch to scientists interested in studying the changes that occurred in grazed vs. ungrazed grassland ecosystems and

making recommendations to cattle ranch operators to help them better manage their property.

In 1980, Audubon took over management of the 13 square-mile facility and currently works in collaboration with other land-owning partners: Bureau of Land Management, U.S. Forest Service, Swift Current Land & Cattle Company, The Nature Conservancy, and The Research Ranch Foundation. Conservation practices, research/monitoring efforts, and an active outreach program are linked to learn how to manage grasslands and share that information with those who wish to protect grassland ecosystems.

Researchers from academic institutions, non-governmental organizations, and agencies apply to study on the Ranch, and are granted permission if they and their projects meet rigorous conditions. In any given year there are 30–40 different ongoing projects. The results of this work are shared in many ways, including through the Ranch's "Living Gently on the Land" education program, geared towards (but not restricted to) rural residents. On June 8th of 2013, the fifth annual Science

meeting of the Sonoita Valley Planning Partnership, will again be held at the Ranch. This symposium is a showcase for regionally important projects relevant to scientists, land managers, and interested lay persons. **From October 3–6, 2013, the first ever "Institute of Grassland Ecology" will be held in partnership with Tucson Audubon Society. The Institute will provide a concentrated introduction to grasslands, with special focus on the Southwest.**

The known biodiversity of the Research Ranch is rich, with over 200 species of birds, nearly 600 species of vascular plants, more than 50 reptiles and amphibians, and we're still trying to compile the known species of invertebrates. This diversity makes the Ranch an attractive place for visitors. More information about the Research Ranch, including contact information to schedule a visit, is available at www.researchranch.audubon.org.

So yes, it is possible to have a ranch without cows!

*Linda Kennedy, Ph.D., Director
Appleton-Whittell Research Ranch of
the National Audubon Society*

- April 6.** Living with Nature lecture (Green Valley): *An Armchair Tour of Arizona's Important Bird Areas* with Jennie MacFarland (see p 6)
- April 8.** Living with Nature lecture (Tucson): *A Delta Once More?* with Karl Flessa (see p 6)
- April 6–May 4.** Birding by Habitat Course
- April 13.** San Pedro Eco Fest
- April 15–May 15.** Tucson Bird Count (see p 8)
- April 18.** Birdathon Birds & Beer Pregame (see p 7)
- April 18 & 20.** Birding by Ear Specialty Workshop
- April 19–28.** Birdathon Big Week (see p 7)
- April 20.** Atturbury Wash work day
- April 20.** Birdathon Scavenger Hunt at Mason Center (see p 7)
- April 20.** Phenology Day
- April 20–21.** Riparian Family Institute (see p 4)
- April 21.** Birdathon Big Week with Bieber's Bluebirds, Wrenegades (see p 7)
- April 22.** Earth Day eBird blitz of the Catalinas, Rincons and Saguaro National Park (see p 9)
- April 24.** IBA Spring Migration Survey (see p 9)
- April 25.** Birdathon Big Week with IBA All the Way; Wake up with the Birds Bird Walk (see p 7)
- April 26–28.** IBA Bendire's Thrasher Expedition (see p 9)
- April 27.** Birdathon Big Week with Scott's Orioles (see p 7)
- April 27.** Birdathon Mason Center Bird Walk (see p 7)
- April 28.** Birdathon Big Week with Birds of Fray; Birdathon Big Week ends (see p 7)
- May 3.** Deadline to turn in Birdathon pledges for prizes (see p 7)
- May 10.** IBA Spring Migration Survey (see p 9)
- May 11.** Birdy BBQ Celebration (see p 7)
- May 13.** Living with Nature lecture (Tucson): *Migration Stopovers in Southeastern Arizona* with Charles van Riper III (see p 6)
- May 15.** IBA Spring Migration Survey (see p 9)
- May 22.** IBA Nocturnal Survey (see p 9)
- June 1–2 and 8–9.** IBA Elegant Trogon Surveys (see p 9)
- June 19.** IBA Nocturnal Survey (see p 9)
- June 28.** IBA Yellow-billed Cuckoo Callback Survey (see p 9)
- July 12.** IBA Yellow-billed Cuckoo Callback Survey (see p 9)
- July 22.** IBA Nocturnal Survey (see p 9)
- July 26.** IBA Yellow-billed Cuckoo Callback Survey (see p 9)
- August 8 & 10.** Warblers Specialty Workshop
- September 5 & 7.** Flycatchers Specialty Workshop
- August 14–18.** Tucson Bird & Wildlife Festival
- October 3–6.** Institute of Grassland Ecology (see p 4)

Tucson Audubon's Living with Nature Lecture Series

TUCSON Living with Nature Lecture Series and Member Meetings

NOTE NEW VENUE! Pima Community College Downtown Campus, Amethyst Room. Located on campus at 1255 N. Stone Ave. See tucsonaudubon.org/lwn for map.



PINALENO MTS IBA, JENNIE MACFARLAND



AMERICAN WHITE PELICAN, JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM



WILSON'S WARBLER, JOHN HOFFMAN

The program begins at **7 PM, SECOND MONDAY** of each month **October through May**. Please check our website for details on topics and speakers.

GREEN VALLEY Living with Nature Lecture Series Joyner-Green Valley Library, 601 N. La Canada Dr. 594-5295. The Green Valley talks will now be at **10 AM** on the **FIRST SATURDAY** of the month, **November through April**.

For more information, contact Bété Jones, 520-209-1812 or bjones@tucsonaudubon.org, or visit tucsonaudubon.org.

April 6 • Green Valley

AN ARMCHAIR TOUR OF ARIZONA'S IMPORTANT BIRD AREAS *An Encore Presentation: With Jennie MacFarland, Important Bird Areas Program Coordinator, Tucson Audubon Society*
The Arizona Important Bird Areas (IBA) Program is an exciting, field-oriented program rooted in science

and focused on the conservation of Arizona's imperiled, native bird populations and their most critical habitats. Arizona has 43 designated IBAs, eight of which have Global Status, and cover 3.38 million acres of habitat. Join Jennie MacFarland, co-coordinator of the program and staff at Tucson Audubon, as she takes you on a photographic tour of these IBAs and highlights the different bird populations that depend on them for survival.

April 8 • Tucson

A DELTA ONCE MORE? PROSPECTS FOR RESTORING THE COLORADO RIVER DELTA *With Karl Flessa, Director of the School of Earth & Environmental Sciences at the University of Arizona*
The damming of the Colorado River significantly altered important habitats for birds and other wildlife in the Delta that crosses the border between the U.S. and Mexico. Since upstream dams and diversions, the estuary's circulation has reversed,

salinity has increased, productivity has decreased, species composition has changed, trophic pathways have altered, and early growth rates in endangered and commercially important fish have decreased. Stable isotopes in mollusk shells and fish otoliths indicate that approximately 10% of the river's virgin flow is needed to restore critical estuarine habitats. The response of riparian vegetation to rare flood events suggests that 2 to 5% percent of the river's flow is needed to sustain the existing riparian corridor, therefore providing critical habitat for birds. Dr. Flessa will illustrate how these habitats have been altered and present collaborative and creative efforts to restore them. **See Page 23 for an introduction to this exciting topic!**

May 13 • Tucson

MIGRATION STOPOVERS IN SOUTHEASTERN ARIZONA *With Charles van Riper III, USGS Research Scientist and Professor,*

USGS Southwest Biological Science Center Sonoran Desert, University of Arizona

Populations of Neotropical migratory birds are declining throughout much of North America and continue to be at risk because they depend on a diversity of habitats spread over huge geographic and political areas. While extensive effort has focused on summer productivity and over winter survival, little attention has been paid to the role of migration in the population dynamics of Neotropical migrants. Only recently have conservation biologists begun to understand the importance of migration pathways, stopover behaviors, and stopover habitat quality in the long-term viability of migrant populations. Dr. van Riper III will speak to the challenges that birds face during their migration and how steps are being taken to increase our understanding of Western Neotropical Migration so we can better protect these species.

Get Your Pods Ready Now for the Harvest Festival and Mesquite Milling

by Kendall Kroesen, Habitats Program Manager

It is time to start getting ready for Tucson Audubon's Harvest Festival and Mesquite Milling at the Mason Center. The festival is not until November (tentatively, November 16), but before the next *Vermilion Flycatcher* comes out it will be time to harvest your mesquite pods.

Mesquite pods generally dry out and turn brown in June. Pick the dry pods off the tree before they fall to minimize the chance that mold will grow on them.

To dry them faster and avoid growth of mold or bruchid beetles, you can toast them in the oven for a while. The beetles are not harmful, but they eat part of the pod's interior, reducing the amount of flour they produce when ground. Some people also store their dried pods in a freezer until autumn. But take them out a few days prior to milling.

Full recommendations on how to harvest and prepare mesquite pods are available at www.desertharvesters.org

(click on "mesquite" on the menu, then scroll down to "native mesquite harvesting basics"). I highly recommend reading this.

The festival's theme is abundance in the Sonoran Desert: the natural foods and products it produces and the opportunities it provides for living sustainably. There will be talks, activities, exhibits and shopping opportunities—fun for the whole family!



BOTH PHOTOS KENDALL KROESEN

Tucson Audubon's **Nature Shops** have everything you need for a great Birdathon.

Sunday Afternoons
Adventure Hat
\$38.00.



Royal Robbins
Expedition Lt.
Men's Shirt
\$70.00



75c

Vortex
Diamondback
8x42 \$217.79
Member Price



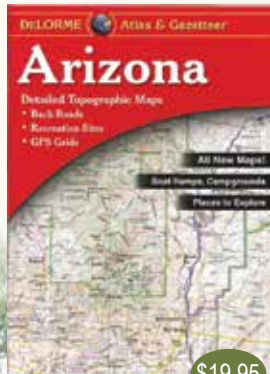
\$24.95



\$19.95



\$29.95



\$19.95



Celebrate migration during Birdathon, Because you love birds!

April 2
to
May 11

Birdathon poses the question: how many species can you spot in a day? You are in luck because Birdathon is a great time to enjoy spring migration and you're in Southern Arizona, where over 400 species can be spotted each year! **Sign up online, collect pledges, go birding!**

Birdathon Preview Trips

Birdathon links the fun of birding with habitat conservation. To see this link in action, go birding with Tucson Audubon staff in one of the following morning trips. Suggested donation \$25

Tuesday, April 2: Birding around Atturbury Wash and Agua Caliente Park with tips on landscaping for wildlife and sustainability, with Kendall Kroesen, Habitats Program Manager

Thursday, April 11: Simpson Farm raptors, sparrows, and restoration work with Jonathan Horst, Restoration Biologist

Tuesday, April 16: Birdathon How-to features desert birds and shade-grown coffee at the Mason Center with Erin Olmstead, Development Manager

Who will sponsor you? The Birdathon website makes it easy to "share" your Birdathon fever with others on Facebook, Twitter, LinkedIn, or by email!

Expert Led Big Days

Let professional guides lead you on an unforgettable Big Day. Whatever style you are looking for, one of these trips will fill your desires! Estimated 75-150 species and suggested fundraising effort \$200.

Sunday, April 21: Bieber's Bluebirds with Gavin Bieber of WINGS. This workshop-style trip focuses on field techniques while birding Sweetwater and Mount Lemmon.

Sunday, April 21: Wrenegades with Jennie MacFarland of Tucson Audubon Society. During this dawn-to-dusk extravaganza, the Wrenegades will hit all the hot spots.

Thursday, April 25: IBA All the Way with Jennie MacFarland of Tucson Audubon Society. Visit as many IBAs as possible during this half-day trip, featuring the DeAnza Trail, Montosa Canyon, and Tanque Verde Wash.

Saturday, April 27: Scott's Orioles with Scott Olmstead of Tropical Birding. Take a Sky Islands tour of the Catalina Mountains to view bird species in each life zone.

Sunday, April 28: Birds of Fray with Richard Fray of Fun Birding Tours. This will be a fun, fun, fun trip, visiting Madera Canyon, Sweetwater, Rio Rico, and Patagonia.

All registered Birdathoners who raise at least \$50 earn a limited-edition Birdathon t-shirt featuring the artwork of L. Wren Walraven.

Kids, meet your birds with a scavenger hunt at the Mason Center.

Prizes for most species, most funds raised, and more!

Celebrate your accomplishments! Birdathoners and supporters are invited to the Birdy BBQ.

To register, visit www.tucsonaudubon.org/birdathon. Paper registration available at downtown Nature Shop. All Birdathoners must register.

Donations are tax-deductible and support Tucson Audubon's conservation and education programs.

Thanks to our Birdathon 2013 Sponsors.



Birdathon Big Week of Events

Thursday, April 18: Birds & Beer Pregame

Friday, April 19: Birdathon Big Week begins!

Saturday, April 20: Scavenger Hunt at Sweetwater

Sunday, April 21: Bieber's Bluebirds, the Wrenegades

Thursday, April 25: IBA All the Way, Wake up with the Birds Bird Walk

Saturday, April 27: Scott's Orioles

Saturday, April 27: Mason Center Bird Walk

Sunday, April 28: Birds of Fray; Birdathon Big Week ends

Friday, May 3: Deadline to turn in pledges for prizes

Saturday, May 11: Birdy BBQ Celebration



www.tucsonaudubon.org/birdathon

A Livable Desert Habitat Restoration for the Birds

Jonathan Horst, Restoration Biologist



MATT GRIFFITHS

Above L to R: Santa Cruz River and a lush field at the Simpson Farm restoration site in Avra Valley. Below: Tucson Audubon's restoration crew at work digging basins.

Humans have long altered landscapes to their needs and whims. Some areas, through long use or misuse, have become degraded to the point where natural ecological systems will neither return to their previous condition, nor re-establish habitat that is valuable for birds and wildlife. This is especially true in the desert where extreme aridity leads to rapid soil erosion, both to wind and water, whenever the surrounding vegetation is removed. Wide expanses of degraded deserts do not have the capacity to heal themselves in a human timeframe.

Once again, humans have the capacity to intervene—this time seeking to restore some of what was lost. Tucson Audubon Society is the regional sponsor for in-lieu mitigation projects required by the Army Corps of Engineers when waterways of the U.S. are affected by development or human use. The current restoration site, the Simpson Farm in Avra Valley, straddles the lower Santa Cruz River and is primarily flood plain formerly used for agriculture. Since beginning our work there, over 1500 trees, shrubs, grasses, and cactus have been planted on site.

Recently Tucson Audubon's Restoration department has taken a scientific/experimental approach to our ongoing mitigation work. One set of current experiments seeks

to determine the most efficient and ecologically appropriate means for removal and eradication of invasive grasses (Bermuda and Johnson) and tumbleweed, plants which overwhelm and exclude the native vegetation and provide lower-quality habitat for wildlife. Another set of experiments, to be implemented during the summer monsoon season, will compare the long-term cost effectiveness and growth performance of mesquite and palo verde trees propagated in varying nursery and natural conditions.

This winter the Restoration Crew performed a series of paired bird surveys designed to concretely state the benefits to birds that restoration at the Simpson Farm has accomplished. Each month two surveys, done at the exact same time on land with similar base conditions, were conducted—one in an area that has been restored and the other in area that has been



KENDALL KROESEN

QUICK STATS

SIMPSON FARM

Pre-2012

- Since 2000, Tucson Audubon has planted 113 acres
- More than 15,000 trees and shrubs have been planted
- 148 acres seeded

In 2012

- 16 acres planted
- More than 1700 trees, shrubs, cactus planted
- 2 invasive species control experiments started

2013

- 16 acres planned for monsoon planting
- 24 acres seeded in January
- avian use of restored habitat analysis begun, results forthcoming
- 2 invasive species control experiments started, 1 more planned
- 3 propagation experiments started

Visit
Simpson Farm
for Birdathon,
4/11 (see p 7)

naturally regenerating. We'll share the results with you this summer.

The Restoration Crew at Tucson Audubon aims to restore ecosystem functioning and jumpstart the capacity of the desert to spread and mature. Tucson Audubon's passion is birds; we're trying to give them a home.

Tucson Bird Count

This year marks the 13th annual Tucson Bird Count! Between April 15 and May 15 volunteers will conduct point counts in over 800 locations all over greater Tucson area and in Saguaro National Park. Over the years these volunteers have tabulated over half a million individual birds from 248 different species! The goal of this long term count is to determine how habitat within urban areas can be enhanced to benefit as many species as possible. This idea, Reconciliation Ecology, endeavors to mitigate habitat loss due to urbanization by providing as much urban habitat for wildlife as possible. You can help! For more information on this collaborative effort between the University of Arizona and Tucson Audubon visit www.tucsonbirds.org



NORTHERN CARDINAL, DORIS EVANS



Board of Directors Slate

The following names have been submitted by the Nominating Committee for election at the Annual Meeting of the Tucson Audubon Society on Monday April 8, 2013, at 7.00 PM at the Amethyst Room, Pima Community College, 1255 North Stone Ave, Tucson, Arizona 85709. All current Friends of Tucson Audubon are entitled to vote.

For bios of prospective board members, visit tucsonaudubon.org. Nominees for a first three-year term:

- Les Corey
- Nancy Young Wright

Our grateful thanks go to two retiring board members, Linda H Greene and Sandy Elers, who have each completed two three-year terms as Directors of Tucson Audubon.

Exciting Survey Season for Arizona IBA

Jennie MacFarland, IBA Conservation Biologist

Visit
Local IBAs for
Birdathon, 4/25
(see p 7)



Left and above: Lower San Pedro; Inset: Nocturnal survey



JENNIE MACFARLAND

The Arizona Important Bird Area Program is pleased to announce the designation of a new IBA: The Pinaleno Mountains! Best known for its highest peak, Mount Graham, this sky island is an excellent addition to the now 43 IBAs in Arizona. The creation of this new IBA was made possible through the efforts of volunteers who helped with a two-day survey last year. We have some very similar and exciting volunteer

opportunities this year, both to gather information on potential new IBAs and to monitor existing IBAs. This is a great chance to put your birding skills to use for conservation while having fun!

The survey schedule for 2013 for Arizona IBA

April 22 is Earth Day and what better way to celebrate than by helping with an **eBird blitz of the Catalinas, Rincons and Saguaro National Park**. This informal survey is open to all birders. Just sign up for an area or trail, go birding, and then enter your sightings into eBird. It's simple and fun! The Lower San Pedro River is a

Global level IBA and we will be monitoring this imperiled habitat near San Manuel again this year.

We will have three **Spring Migration Surveys** on **April 24, May 10 and May 15** with a focus on capturing what species use the San Pedro River on their journey north. These early morning surveys are made a bit easier with a provided motel room in San Manuel the night before. We will also be conducting nocturnal surveys again along the San Pedro River with an emphasis on nightjars. These surveys are most effective when there is a bright moon so we will have these **Nocturnal Surveys** on **May 22, June 19, and July 22**. We surveyed for Yellow-billed Cuckoos for the first time in the San Pedro last summer with great success and are going to repeat and expand those surveys this summer. These **Yellow-billed Cuckoo Callback Surveys** are scheduled for **June 28, July 12 and July 26** and also have

a complimentary motel stay the night before in San Manuel. There are two back-country survey opportunities this season that are new for the program. The first, a joint effort of Arizona IBA and Arizona Field Ornithologists, is the **April 26–28 Bendire's Thrasher Expedition** near Wikieup. This survey will involve camping and conducting playback point counts for this elusive species in an attempt to create a species-specific IBA. Our goal is 10 pairs (this would qualify the area as a Global IBA) and with enough help we should reach that goal! For the first time we will have an **Elegant Trogon Survey June 8–9** in the Patagonia Mountains and Santa Rita Mountains. This will be in partnership with Rick Taylor's annual trogon survey in the Chiricahua and Huachaca Mountains on **June 1–2**. Both of these surveys are open to any interested birder. To find out more information about any of these surveys or to sign up, email Jennie at jmacfarland@tucsonaudubon.org. It is going to be a fun and exciting season! Be sure to sign up as soon as you can before these trips fill up.

San Rafael IBA Survey a Great Success!

Jennie MacFarland, IBA Conservation Biologist

Friday February 8th dawned cold and clear over the San Rafael Valley as a caravan of cars came over the crest and into the valley. The Arizona Important Bird Area crew of 19 surveyors arrived in the San Rafael Valley IBA just as the sky was beginning to lighten. Many of these intrepid volunteers had arisen as early as 3:30 AM to be here at this fleeting time of day in this beautiful spot. Just at the entrance of the valley, the crew stopped to enjoy the magnificent view for a moment and snap a group photo. We scanned the valley for Short-eared Owls soaring low over the grass and one did briefly appear and for a moment was silhouetted against the rising sun. Wow, what

a sight! Then the crew split into five teams and drove to their appointed start points in the valley. The objective of the day was to record all birds seen but especially all of the Chestnut-collared Longspurs we could find. This species has had such a dramatic decline in population that its presence in high enough numbers elevates a site to a Global IBA. The baseline for this species is 240 individuals and for three years in a row now we have counted well over this number and we expect this area to soon be officially designated as a Global IBA. Besides the 556 Chestnut-collared Longspurs counted, surveyors also recorded Golden Eagle, White-tailed Kite, Prairie Falcon, Ferruginous Hawk,



Above and right: Surveyors at work; Inset: Chestnut-collared Longspur



Merlin, Rough-legged Hawk, Baird's Sparrow, Grasshopper Sparrow, and many Savannah and Vesper Sparrows.

It was such a treat to visit the beautiful San Rafael Grasslands again this winter and we will continue to monitor this IBA. Intact grassland habitat made up of native grass species has become very rare. The few that remain need to be treasured and protected. Another area of native

grassland in southern Arizona is the Appleton-Whittell Research Ranch near Elgin which is also an IBA. This October the Institute of Grassland Ecology (see p 4) will be held in this beautiful area. You can learn all about the geology, plants, mammals, reptiles, insects and of course birds that create the grassland ecological community. For more information and to register please visit: www.tucsonaudubon.org.

Visit tucsonaudubon.org for updates and more.

ALL PHOTOS BY KATE REYNOLDS

A River of Birds: Our Fifth Annual Gala



A grand time was had by all at Tucson Audubon's Fifth Annual Gala on January 31 at the Hilton El Conquistador. *Top row, L to R:* Tucson Audubon staffers Jonathan Horst and Jennie MacFarland greet guests (MATT GRIFFITHS); Tamara Prime, Council Member Karin Uhlich, Chris McVie, Mayor Jonathan Rothschild, Council Member Regina Romero, and Karen Rothschild (MATT GRIFFITHS); Conservation Chair Chris McVie presents Brad Lancaster with Tucson Audubon's David Yetman Award for Conservation (ANGELA PRITCHARD); Honorary Chair Nan Stockholm Walden welcomes a great group of conservation supporters (ANGELA PRITCHARD); *Bottom row, L to R:* Gala Chair Sandy Elers participates in the raptor free-flight with a Eurasian Eagle Owl (ANGELA PRITCHARD); Becky Aparicio (inset) raffles a beautiful bird quilt made by Tucson Audubon volunteers (MATT GRIFFITHS); 200 conservation supporters enjoyed an elegant celebration of wildlife featuring live music by Charles King, good conversation, silent auction, raptor free-flight, and keynote talk (MATT BROOKS). Many will return next year. We hope you will join this fun tradition! More pics online at tucsonaudubon.org/gala.



THANK YOU TO OUR DONORS

Bequest: Peter Sincox Trust

Birthday Fund: We thank Roger Barthelson, Mary Louise Sasse and Michael Hall for their generous donations to the birthday fund.

Business Philanthropy: Albertsons

Gift in Honor/Memory: We thank these donors for their special gifts:

- In memory of Shani Lamb Friedman from Romaine Ahlstrom and Daniel Strehl
- In memory of Liz Edwards from Pamela Birkeland
- In memory of Liz Edwards from Beverly and Robert Shirk
- In memory of Nikki McCarthy from Patty Mourant
- In honor of Andrew and Bev Robertson from Yijing Robertson
- In honor of Dick and Jenny Lazeres from Loretta and Kenneth Wilson
- In memory of Dick Else from JoAnne and Bill Peacock
- In memory of Dick Else from Patricia Catalano

Employer Match: Freeport-McMoran Copper & Gold Foundation

Workplace Giving: Environmental Fund for Arizona, ECAP-County



CHUPAROSA, KENDALL KROESEN

WELCOME NEW FRIENDS OF TUCSON AUDUBON

Cindy and Bill Albert, Nancy and Mark Albright, Barbara Allen, Raymond Anderson, Jane Austin, Gilda Ballester and Roy Marie Ballister, Albert Bammann, Jeffrey Banfield, Tom Barnwell, Tom Beauregard and Nan Carle, Dick Bierman, Agnes and Murray Bolesta, Jennifer and Kenneth Bosman, Sara Boyd, Charles Bradford, Robert Brandt and Anne Townsend, Debi and Jack Breese, Anne Britt, Sanford Brunswick, Kathryn Burgess, Sandra Cannizzo, Bill Carter, Carla and Robert Casler, Eng-Wei Chong, Elizabeth Churchill, Jody Costan, Kate Coyle, Vera Cragin, Uel Crosby, Diana Davis, Di and Dave Dawkins, Locana de Sonza, America and Andrew Deeb, Jim Dewey and Selena Billington, Ann and Dennis Diers, Dr Rose Dill, Katrina Dlugosch, Jacqueline Dow, Wendy Dunham, Barbara Dunn, Steven Dyson, Colleen Eichenberger, Kirk Emerson, Dallas and Ron Eneyart, Laurence Fahrney, Jim Farley, Teresa Ferriero Wood, Christopher Foltz, Peggy Ford, Rowan Frost, Jane Gellman, Peggy Gerber, Cheryl S. Gerken, Margaret

Gilbertson, Barbara Goldberg, Debra Golden-Davis and Avery Davis, Linda and Berry Grant, Julia Grover & family, Nancy and John Gwilliam, Seth Hadley, Larry Hemken, Brent Hendricks and Kate Bernheimer, Mike Henry and family, Evan Hersh, Adora-Marie Higgins and Allan Honda, Barbara Hill, Kenneth Hinkle and Winifred Williams, Helen Holliday, Zoe Holmes, Beverly Howell, Virginia Hudson, Edith Iwan, Debb and Bud Johnson, Lorraine Keary, Carol Keck, Rebecca and Patrick Keenan, Sheryl Kelly, Steven Kessel, Renate Kloppinger and Rainer Kuerzel, Robert Kolpin, Diane and Ray Kostuk, Susan Kuehlthau, Malvina Kupinski, Don Ladig, Annie Lawrence, Dr Kevin and Barbara Leehey, Rosa Lepker, Deb and Jay Liggett, Mary Anne and Jerome Linser, Eleanor Livingstone, Chris Lord, Judah Mac Cabee, Susan Magnuson, Don Marier, Dorothy Masters, Jacqueline and Richard Mattner, Doris McGinley, Micahel McWilliams, Kayri Mealy, Paul Miller, Wendy and Christopher Miller, Marla Morrissey, Jeanette Nadeau, Joseph Orr, John Pestle, Jesse and Michael

Petersen, Richard Peterson, Yar Petryszyn, Mary Pierre, Michele Poirier and Donna Poirier, Jane and Don Powers, Marilyn and Charles Pratt, Tamara Prime, Alan Pullman, Sarah Ramsey Sharman, Leo Rankin, Linda and Eric Reinhard, Kelly Rishor, Carol Rollins, Kimlisa Salazar, Tricia and William Salisbury, Karim Sallam, Susie Salmon, Diana Sammataro, David Schaller, Kerry Schwartz and Melanie Morrison, Linda Shorridge, Mark Siner, Linda Slagter, Ricardo Small, Ilissa Staadeker, Roberta Stabel, Joseph Stilwell, Jean Takekawa, Barb and Craig Thayer, Kathryn Thomas, Freda Thompson, Terri and Ned Thorson, Marjorie and Richard Tipton, Geoff Tyler, Marilyn and Tony Vitale, Carolyn Webb, Miriam Weber, Jeff Williams, Kathy Williams, R.A. Willingham, Loretta and Kenneth Wilson, Lance Wilson, Jean Windmiller, Barbara Witthaus, Dorothy Young

Welcome Salmon, Lewis & Weldon, PLC as a new *Birds & Business Alliance* Copper Level Member.

Jean Barchman,
Membership Coordinator

Volunteer News Roundup

Kara Kaczmarzyk, Volunteer & Development Coordinator

Welcome New Volunteers

Toby Byrum, Lindsey Chadwick, Ray Deeney, Nandi Devan, Sue Feyrer, Jill Kelleman, Sheryl Kelly, Kathryn Lance, Leslie Matthaei, Angela Pritchard, Nancy Rivera, Mary Sedwick, Keith Shellcross, Paul Suchanek, Jeff & Judy Webster.

Your April–June 2013 Volunteer Season

As the warmer weather of spring settles in, there are many ways to get outdoors and volunteer.

April is here in full force! Volunteers will be critical to new events, such as at our booth during the Earth Day **Water Festival at Reid Park** or in welcoming the new **San Pedro EcoFest** in Arivaica.

Celebrating birds and conservation in **April is Birdathon!** Ways to help in this birdwatching and fundraising extravaganza extend all through April and into May, and include event planning, sponsor solicitation, setup, and coordination.

You can be part of **River Pathways** and help high school students learn riparian monitoring techniques in this program that partners with the Bureau of Land



MATT GRIFFITHS

Management and Audubon Arizona. We welcome you to join us for an outing or to get trained for a full season, spring or fall.

While attending a free field trip, have you ever thought “I could lead a trip like this?” If you have any interest in **leading a free field trip**, contact us! We’ll set you up with a co-leader until you feel ready to lead a group solo, to a location of your choice.

This summer, volunteer captain Lynn Hassler would love for you to join her team to **garden for wildlife and sustainability** in the yard of the Nature Shop. On early Wednesday mornings, you can plant new native species and help attract even more wildlife to this urban patch.

In May, you can lead a bird walk or staff an outreach table at the **Catalina State Park 30th anniversary** and the **Madera Canyon International Migratory Bird Day** celebration.

Or, choose one of many unique individual projects to take you through the spring. Help coordinate Tucson Audubon’s free field trips, or talk with Kara about taking on a new project! ■

Carol Palmer brings a wealth of knowledge and an inquisitive spirit to volunteering with all things plant-related at the Mason Center. A few years ago, after the commute to volunteer for the Tucson Botanical Gardens’ Butterfly Magic became too lengthy, Carol turned her attention to the Mason Center, located only a short walk from her house. She has been caring for the plants here ever since.



KARA KACZMARZYK

For Carol, a love of nature began while growing up on a farm in Pennsylvania. Her grandmother adored gardening and instilled this passion for all living things in Carol and her four siblings. Carol is intrigued by the unique patterns of nature, but her curiosity does not rest on one topic for long, she’s always into something new and admits that nature can be quite distracting! In the last four years since Carol began observing the grounds of the Mason Center, she has been heartened to see how well the desert can rejuvenate, though she turns to the Mason Center permaculture plan as a tool for us all to understand the ways in which this unique ironwood-saguaro habitat continues to be affected over the years.

One of the most valuable of Carol’s roles as a volunteer is that of teacher. She takes young new volunteers under her wing. When Luke Schwarz, Mike Sadatmousavi, Ariana Villalobos, Niki Szivek, and Abraham Moreno each started at the Mason Center, Carol would tour the property with them, sharing plant lists, watering schedules, and

permaculture histories, while always encouraging further learning. Last summer, a teacher from Tortolita Middle School approached Tucson Audubon to work with her students to identify different plants around the Mason Center trail. Carol and the students created and installed plant ID signs around the trail for all visitors to reference.

An Arizona Certified Nursery Professional, Carol spent ten years working at the Rillito Nursery. As a youth, she graduated from Sunnyside High School before traveling extensively during her husband’s 20 years in the military (Hawaii was a highlight). She has many favorite birds, ranging from hummingbirds to hawks, and is especially delighted by a Costa’s Hummingbird that has become a regular backyard visitor. Carol’s other hobbies include photography, and you can visit our blog at tucsonaudubon.blogspot.com for some of Carol’s wildlife photos and a video a tarantula hawk capturing its prey, all taken the Mason Center. ■

Kara Kaczmarzyk

Contact Kara about volunteering!

volunteer@tucsonaudubon.org

520-209-1811

tucsonaudubon.org/volunteer



MATT GRIFFITHS



DENNIS WEEKS



BETE JONES



ANGELA SALMON

Recent Volunteer Activities (L to R): Bonnie Wong and Mavis Rosell with Tucson Audubon Staff Sara Pike and Kelly DiGiacomo at A River of Birds Gala; Bonnie Weeks with Kenn Kaufmann at Wings Over Willcox.

Upcoming Volunteer Opportunities (L to R): River Pathways at Empire Gulch; Mike Sadatmousavi leads a free field trip at Tucson Audubon’s Mason Center.

A Bridge to Everywhere: The Luis Gutiérrez Bridge on the Santa Cruz River

KEN LAMBERTON

One evening last fall, after the gear-whine and blade-roar of the construction equipment had abated with the heat, I took a walk on the Luis Gutiérrez Bridge on West Cushing Street. Five years ago, while I was researching my book, *Dry River*, I hiked this part of the Santa Cruz and spoke with people planning something called Tucson Origins Heritage Park, part of Río Nuevo's effort to create a historical interpretation of this river-slashed place, Tucson's birthplace. I fell in love with the plan. Already watching thousands of mud bricks rise into the *torreón* of a Spanish presidio in downtown, I imagined the similar reconstruction of the two-story Convento with its copper bells lifted into the azurite sky, its chapel and granary, workshops and kitchens, the cottonwood-draped acequias carrying river water past the Carrillo house to the grape arbors and Kino orchards of the mission gardens under A Mountain.

But as the years went by, and all I saw of the plan amounted to an adobe wall, it seemed Río Nuevo hadn't gotten into bed with the birthplace idea.

All that changed on the bridge. Seeing it for the first time, I remember thinking: *This is what Río Nuevo is supposed to be.* Art and culture and history realized in the utility of concrete and steel, spanning a river that I can only call the mother of Tucson. How appropriate to name the bridge in honor of Luis Gutiérrez, the city manager who envisioned the original 1999 Río Nuevo as a celebration of the city's connection to its river, its people,

and its past. In the elegant lines of the architecture, I saw a bridge to hope, a bridge symbolic of the greatness of our community, of our diversity.

That evening, I climbed the stairs leading to the pedestrian deck, each step embedded with replicas of Hohokam pottery shards of a design known from the nearby excavations of our earliest settlers. Under the sweeping arcs of the canopies, perforated with wedding-heart leaves, I walked through the dappled light of a cottonwood gallery into Tucson's past: Twelve landmarks, from Father Eusebio Kino's *entrada* to San Cosmé del Stjukshon (Tucson) to the University of Arizona's Phoenix spacecraft landing on Mars, the images sandblasted into the deck.

And more, something astonishing: history's sundial reaching out with light and shadow. On specific days and times, an alignment between the sun and the bridge illuminates the past, like when on every February 19 at 8:45 AM, the shape of a propeller will appear on the engine of Charles Hamilton's biplane, the first aircraft to fly over Tucson. Or on October 14 at 8:45 AM when the letters "TPBCo" will come to rest on a picture of the Tucson Pressed Brick Company.

It was at this last image near mid-span that I met a sun-weathered Hispanic man as he came from the other direction. He stopped when he noticed my interest in the sandblasted history. "My father," he told me, "worked his whole life at the brickyard—right over there." He pointed to a vacant spot above the west bank of the



FOR ALL WHO JOURNEY HERE, WHO CROSS THE RIO SANTA CRUZ, GIVER OF LIFE TO THIS DESERT AND TO THE TUCSON BASIN, LET YOUR SENSE OF DISCOVERY, OF MYSTERY, OF ADVENTURE, COME ALIVE! ETCHED INTO THE SIDEWALK OF THIS BRIDGE AHEAD OF YOU ARE IMAGES OF IMPORTANT EVENTS IN THE DEVELOPMENT OF TUCSON AND ITS HISTORY. IF YOU DARE, ON THE DAY OF THE YEAR, AT THE DISCOVERY DATE AND TIME INDICATED BY EACH IMAGE, IF OUR GLORIOUS SUN IS SHINING, A COINCIDENTAL EVENT WILL TAKE PLACE THAT THOSE PERCEPTIVE, THOSE INTERESTED, THOSE WHO APPRECIATE SYMBOLISM, WILL EXPERIENCE ONLY ONCE A YEAR IN THOSE FEW MOMENTS.

river, and then swung his arm toward the base of A Mountain. "I was born there," he added.

We talked for half an hour and he told me what it was like growing up here, going to school, raising his own family on the Santa Cruz River. I explained how I'd raised my own three daughters on the San Juan Wash, a nearby tributary of the river, and how my oldest was recently married a few hundred yards from where we stood.

When I asked him about the new bridge, what it meant to him, he said: "I walk across it every day. It's how I get to everywhere." ■

Ken Lamberton's latest book, Dry River: Stories of Life, Death, and Redemption on the Santa Cruz, was published by the University of Arizona Press in 2011. This essay is from his next book, Chasing Arizona: An Obsession with the Grand Canyon State, forthcoming by UA Press in 2014.



TUCSON meet YOUR BIRDS



AMERICAN KESTREL, JOHN KENNEDY; VERDIN, LARRY SELLMAN

This issue of "Tucson Meet Your Birds" introduces you to some birds of the Santa Cruz River and other local streams. Many resident and nesting birds need the thicker, more varied vegetation that arises along rivers and streams.

As shown on the map, the Santa Cruz River starts in the Canelo Hills east of Patagonia, Arizona. It flows south through the high grasslands of the San Rafael Valley, a prodigious birding site. After flowing south from the border about 15 miles—the direction you would expect a river to go—the Santa Cruz abruptly horseshoes back north, crossing the border again just east of Nogales. From there it flows *north* through the aptly named Santa Cruz Valley, creating great birding opportunities in the area from Rio Rico north through Tubac. The river bed dries going north through Green Valley and the southern part of Tucson.

The river was formerly verdant again from San Xavier through Tucson due to springs and higher groundwater. But as groundwater was pumped out and the

river dried out, many bird species suffered declines.

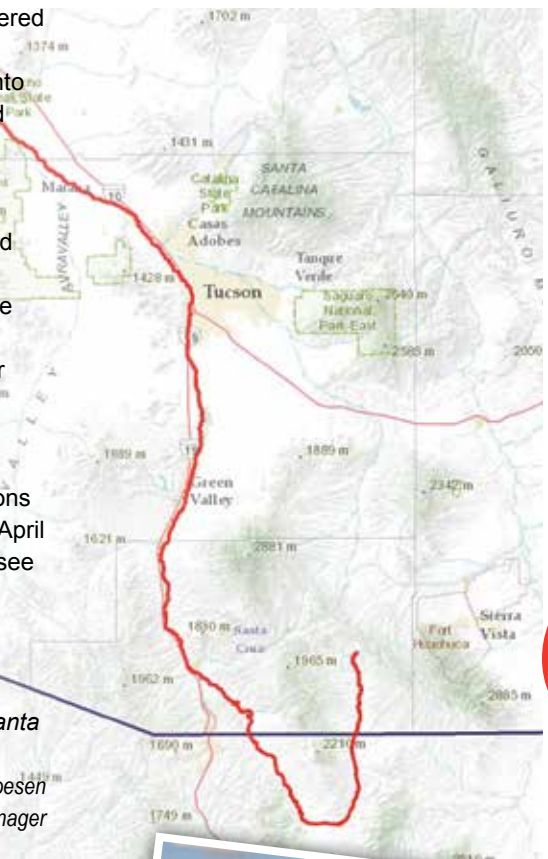
Now discharge of treated effluent into the Santa Cruz in Tucson has resulted in a thin, but useful, ribbon of this kind of vegetation—thick shrubs, willows, cottonwoods. So birders still have a chance to see some of these great bird species right in Tucson.

Along with the Santa Cruz River, the species we describe here—and many more—can be seen along Sweetwater Wetlands, Sabino Creek, Tanque Verde Creek, and the Kino Ecological Restoration Project.

Some of our favorite specific locations are also described here as well. Cool April and May mornings are great times to see these birds. Listen for myriad morning songs and enjoy their unique beauty.

For more Santa Cruz River culture and history, read *Dry River: Stories of Life, Death and Redemption on the Santa Cruz*, by Ken Lamberton.

Kendall Kroesen
Habitats Program Manager



Special 4-page Pull-Out



OUR MISSION: Tucson Audubon promotes the protection and stewardship of southern Arizona's biological diversity through the study and enjoyment of birds and the places they live.

FREE Birding Field Trips:
tucsonaudubon.org/fieldtrips

Nature Shop: 300 E. University Blvd.
520-629-0510 x1

Birding Classes:
tucsonaudubon.org/education

Rare Bird Alert: tucsonaudubon.org/rba or
520-629-0510 x3

Tucson Bird Count: tucsonbirds.org

Volunteer: tucsonaudubon.org/volunteer

Tucson Bird & Wildlife Festival:
tucsonaudubon.org/festival

tucsonaudubon.org 520-629-0510

GREAT BIRD PLACES IN TUCSON

THE CAÑADA DEL ORO WASH originates at more than 9,000 feet on the north side of Mt. Lemmon, and ends 48 miles away at the Santa Cruz River in Marana, having dropped nearly 7,000 feet. Most of this normally dry wash essentially is inaccessible, but much of the lower 16 miles, all within the Tucson metro area, is open to birding and includes a wide range of rich habitat. From Catalina Regional Park at 2,900 feet through Catalina State Park, and along Oro Valley's Cañada del Oro River Park to Christina-Taylor Green Memorial River Park, ending at Thornydale and Starburst, more than 200 species can be found. One of the best segments is a two-mile paved bicycle/walking path from Rooney Ranch Shopping Center to La Cañada Drive, which parallels the wide, treed wash to the north and Oracle Country Club's golf course to the south.

Bob Bowers



BOB BOWERS



JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM

Common Yellowthroat

I remember the first time I saw a Common Yellowthroat. I was walking in a park in Los Angeles. There was a ditch with water in it; some kind of urbanized stream or runoff channel. Turf from the park gave way to patches of cattails or bulrushes.

There was a flash of yellow and for a moment I saw a small bird with a big, black eye patch. The patch was outlined in white. The rest of the body was bright yellow. I was still pretty new to birding but I had little trouble finding it in the warbler section of the field guide. There is no other bird that looks like the male Common Yellowthroat, at least not in North America.

There is also no bird that sounds like Common Yellowthroat. This is helpful because they often stay inside thick vegetation along the banks of streams and rivers, where they are hard to see. Their *wichity-wichity-wichity* often leads you to a visual encounter. Their call is a distinctive, drawn-out *chit* sounding to me like the bird version of a short, defiant “raspberry.” This can be useful for identifying the female, which is a bit duller than the males.

Look for this species at Sweetwater Wetlands or along the Santa Cruz River at places like the Ina Road Bridge, Crossroads Park, or wherever trails along the river allow you to see the vegetation along the water.

Kendall Kroesen, Habitats Program Manager



JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM

Great Egret

Have you ever stumbled upon a Great Egret patiently hunting on a pond in one of Tucson’s urban parks or along the banks of the Santa Cruz river? Suddenly with a quick jab of that large yellow bill, lunch is had.

Great Egrets seem to be able to eat almost anything, wading in shallow water (both fresh and salt) to hunt fish, frogs, aquatic invertebrates (particularly crustaceans), insects, reptiles, other birds, and small mammals. We’ve discovered this at Tucson Audubon’s habitat restoration site in Marana. There is an annual feeding frenzy by the local “wedge” of egrets every spring when lizards first emerge to sun and are speared by the opportunistic birds hunting the fields.

Found on every continent except Antarctica, Great Egrets are in Tucson throughout the year but most likely seen in winter and during migration to and from breeding grounds to the north and in the Midwest. Breeding adults develop lime green facial skin and thin, wispy feather plumes used in courtship displays. Called *aigrettes*, these plumes were prized for women’s hats in the late nineteenth century, leading to more than 95 percent of this species in North America being killed. A symbol of the resulting conservation effort, the Great Egret became the logo of the National Audubon Society.

Matt Griffiths, Communications, Habitat Restoration, AZ IBA Program



JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM

Bell's Vireo

One of my favorite mnemonic devices for birds: “Where’d I put my keys? Oh, I found my keys. Where’d I put my keys? Oh, I found my keys.”

Can you guess which bird? If you are around riparian areas in the springtime in southeast Arizona, or a surveyor for the Important Bird Areas program through Tucson Audubon, you probably know Bell’s Vireo. I’m always able to identify this bird by its “lost and found keys” song.

Most likely, and more importantly, identifying this bird means that you are probably in an area where habitat is good for Bell’s Vireo. You might be near water or in a riparian area, especially in our arid region.

The Bell’s Vireo qualifies as a Red List species for the American Bird Conservancy, which means its habitat is declining due to urbanization, agriculture, grazing and flood control.

This bird is rather drab in color and field marks, but its song is very distinct. Surprisingly, it is the most yellow in the most eastern part of its range. It breeds in Midwestern to southwestern states, and winters down into Mexico.

When you’re out birding this spring, pay attention for the bird “asking about its keys.” When you can catch a glimpse of Bell’s Vireo it’s a special sight, and your finding is notable!

Sara Pike, Operations and Retail Manager

Special 4-page Pull-Out

GREAT BIRD PLACES IN TUCSON

COACHLINE GRAVEL PITS (aka El Rio Open Space) These are publicly accessible gravel pits bounded by the Tucson Mountains and the Santa Cruz River, and owned by the Town of Marana. Tucson Audubon has worked on a riparian restoration project here, planting native vegetation, and it is on an Important Bird Area survey route. During rainstorms, the gravel pit fills with water, stays wet for months, and becomes a great spot to easily view waterfowl and shorebirds. Some birds encountered here have included Belted Kingfisher, Pied-billed Grebe, White-faced Ibis, Great Blue Heron, several duck species, Black-necked Stilt, and more.

Even when the pond is dry, there are interesting birds to see. During summer, Bell’s Vireos nest in the tamarisk. Gilded Flicker, Lazuli Bunting, Gambel’s Quail, Greater Roadrunner, Peregrine Falcon, an Eastern Phoebe, and other species have been sighted.

Take the Twin Peaks exit from I-10, go west and turn north onto Coachline Road. Drive past W. Oak Stream Road, and in approximately 0.15 miles turn right onto a dirt road; follow it a short distance to a parking area. **Janine Spencer**





JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM

Abert's Towhee

This mostly brown bird has a subtle beauty when closely examined. The feathers under the tail are a handsome russet and the black mask over its eyes makes it look like a little bandit. This bird has a very restricted range that lies mostly in Arizona and is found along flowing rivers and vegetated washes. Such suitable riparian habitat has greatly diminished in the last 100 years and as a result, this bird is on the Audubon Watch List. Most often detected by its loud clear "seep" call note, if you wait quietly they will usually come out into the open. They tend to be in pairs or family groups and are usually on the ground where they forage by jumping forward and scooting back. I call this maneuver the "towhee shuffle" and it is fun to see. With the smallest total distribution of an U.S. bird, Abert's Towhees are on many birders' wish list, we are fortunate to have them right here in Tucson!

*Jennie MacFarland,
IBA Conservation Biologist*



JIM & DEVA BURNS, WWW.JIMBURNSPHOTOS.COM

Summer Tanager

When you see the beautiful rosy-red plumage of the first male Summer Tanager of the year, you know two things. First: that spring is finally here and second: that you are in high quality cottonwood and willow riparian habitat. This handsome species is closely associated with this habitat in the Southwest and will nest along flowing rivers such as the Santa Cruz. The male is the only all red bird in North America and looks shockingly red, especially against the bright green of a cottonwood tree. The female looks very similar in size and shape but instead of red, she is completely mustard yellow. When you hear their distinctive two-note "pi-tuk" call look up into the canopy and you may see them fly out to capture a juicy cicada to feed to their nestlings.

*Jennie MacFarland,
IBA Conservation Biologist*



MUIREL NEDDERMEYER

Spotted Sandpiper

Our coverbird for this issue, the 'Spotty', is a handsome creature with a unique story.

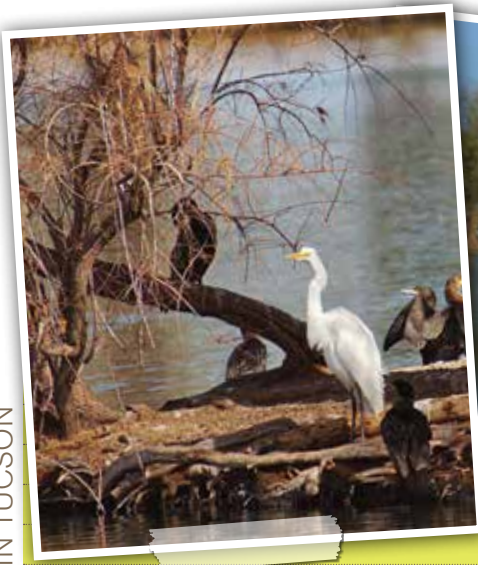
Did you know that the female Spotted Sandpiper takes the lead in establishing and defending territory? Spotted Sandpipers also sometimes employ an unusual breeding strategy called polyandry, where a female mates with several males, each of which then incubates a clutch of eggs and cares for the chicks!

Widespread throughout North America and easily recognized by its distinctive breeding plumage, teetering gait, and snappy wingbeat, the Spotted Sandpiper makes a great 'entry-level' shorebird ID. Look for them patrolling the edges of lakes, rivers, and streams, foraging on small invertebrates. In breeding plumage, the Spotted Sandpiper sports a boldly spotted breast and belly and a dark-tipped orange bill. Beware: Spotted Sandpipers are not always spotted! In non-breeding plumage they lack the namesake spots, but not to worry! Perhaps the best ID clue is the birds' incessant bobbing — as if keeping a beat. The Spotted Sandpiper is a common migrant in our area; check the recharge basins at Sweetwater Wetlands, the ponds at Reid Park (or other bodies of fresh water) for solitary birds or pairs.

Erin Olmstead, Development Manager

Special 4-page Pull-Out

JIM KARRER



GREAT BIRD PLACES IN TUCSON



KENDALL KROESEN

SANTA CRUZ RIVER AND COLUMBUS PARK There is good birding in Columbus Park and the adjacent Santa Cruz River.

Starting just north of Sweetwater Drive, effluent flows into the riverbed from the Roger Road wastewater facility.

A ribbon of willows and cottonwoods hugs the flow. It is a faint echo of the river's past abundance, but it does provide a resource for birds that have grown rarer. In the winter see Yellow-rumped Warblers and Ruby-crowned Kinglets filling the trees. In spring migrants

move through. In summer Cliff Swallows nest under bridges and cruise the river. A variety of raptors hunt along the river.

Columbus Park, on the west side of the river, has two lakes. Neotropical and Double-crested cormorants are often there. Egrets and herons roost in the eucalyptus trees on the small island in the big lake. In summer Purple Martins swoop down to drink from the lake. To get there walk along the east river dike north of Sweetwater Drive. There's a good view but to get to Columbus Park you have to cross the muddy, effluent-filled channel. Or go directly to Columbus Park, on the west side of the river off Silverbell Road (just south of Camino del Cerro Road). Visit the lakes and walk (or bike) on the trail along the west side of the river. *Kendall Kroesen, Habitats Program Manager*

It's Not a Christmas Boat Trip, But It Is the Santa Cruz

With spring migration in full flow, birders across North America will be flocking to traditional migration corridors in the hopes of finding their 'first of season' warblers, flycatchers and—who knows—maybe a surprise or two. Here in southeast Arizona we're blessed to have two of the most notable avian super-highways in the Southwest, the San Pedro and Santa Cruz rivers.

Last year I moved to Rio Rico and now live in the foothills of the San Cayetano mountains, just a mile above the Santa Cruz River, so I'm looking forward to the spring migration more than most.

Migrating birds have few requirements, but each is critical: food, water, shelter and a direct route towards their eventual destination. The lush cottonwood-lined Santa Cruz River provides all those things in spades, and thus attracts impressive numbers of migrating birds streaming northwards.

The Santa Cruz originates in the hills surrounding the San Rafael Valley and has the unique distinction of heading south, into Mexico, before turning north and heading back into Arizona near Kino Springs. This initial section is mostly private and has been somewhat overgrazed and degraded, but could still be worth a look.

However, the main action takes place further north. The Nogales International Wastewater Treatment Plant in

Rio Rico pumps treated wastewater into the Santa Cruz channel, the water staying above ground for around 15 miles, creating a vibrant, flowing river.

The Juan Bautista de Anza National Historic Trail, known to most as simply the Anza Trail, is a network of public trails that retraces the route of Lt. Colonel Anza's expedition from Nogales to San Francisco, which began in 1775. The trail is still growing as more sections are opened to the public, and we're lucky to have several stretches that traverse fantastic birding habitat in Santa Cruz County.

The best known, from a birding perspective, are the sections at Tubac, accessed from Bridge Road or the Tubac Presidio, and at Tumacacori, which can be reached via the private Santa Gertudis Lane. Birders have permission to walk this road, but not drive it, so please park on the Frontage Road.

Less famous, but equally birdy, is the section at Clark Crossing Road in Carmen (again, park on the Frontage Road). Either side of the bridge along Rio Rico Drive in Rio Rico, the Anza Trail moves through more open habitat with fewer large willow and cottonwood trees, so it produces a different birding experience. The southern access is easily spotted, with a large parking lot at the Guy Tobin Trailhead. An obscure turning just east of the bridge leads to the northern trail.

Excitingly, a new section of Anza Trail is due to be opened in Rio Rico, hopefully in April, as part of the project to span the Santa Cruz River with a new bridge at Palo Parado Road. The area is currently closed but, from the plans, I gather the new trail will initially pass through the dense mesquite bosque adjacent to the river, so could provide yet another different birding opportunity.



I haven't mentioned individual migrant species because the birds you might encounter while exploring the Santa Cruz are many and varied and, at this time of year, almost unlimited, with practically any migrating Western species (and maybe the odd Eastern stray) being possible. From raptors to vireos, swallows to orioles, if it migrates, it won't be far away.

This verdant corridor, flanked by desert, grassland and irrigated agricultural fields, is equally important as breeding habitat. Some of the birds you'll find won't be on the move, but will have already arrived at their preferred destination. These include one of the densest populations of the enigmatic Gray Hawk in North America, among other characteristic species of prime riparian habitat. It's also the traditional summer home of Black-bellied Whistling-Duck, Yellow-billed Cuckoo and Tropical Kingbird.

By mid-May, most migrant birds will have passed through and the temperatures will begin to soar, so an early morning visit will be more productive and more comfortable. Even though you may be in the shade for long periods, it's important to remember your key Arizona survival techniques: bring plenty of water and wear sunscreen and a wide-brimmed hat.

Good birding! *Richard Fray*

A lifelong birder, Richard Fray arrived in southeast Arizona from his native England in 2002. He founded Fun Birding Tours in 2010 and works full time as a birding guide and tour leader, proudly sharing the rich birdlife of his adopted home with local birders and those visiting from around the world. Learn more at: www.arizonabirder.com



Charting Wetland Health of the Lower Santa Cruz River

CLAIRE ZUGMEYER AND EMILY BROTT, SONORAN INSTITUTE

The Lower Santa Cruz River in northeastern Pima County is Arizona's longest effluent-dependent river. Its flow results mainly from treated municipal wastewater discharged into the riverbed. From the Sweetwater Wetlands to the Pinal County line, this stretch of river provides Pima County's principal wetland habitat, which supports important bird and wildlife species. Significant steps are underway to improve these riparian and wetland ecosystems, most notably with Pima County's \$660 million state-of-the-art upgrade to the two major wastewater reclamation facilities. These upgrades will improve water quality, which will in turn enhance aquatic habitat and increase the river's capacity to support birds and other wildlife.

While programs to protect wetlands and riparian areas already exist in Pima County, there is currently no comprehensive monitoring strategy and

reporting tool to track changes in wetland conditions along the effluent-dependent portion of the Santa Cruz—an important need given anticipated water quality improvements. Pima County requested support from the U.S. Environmental Protection Agency (EPA) and was awarded a \$300,000 grant in 2012 to begin to address some of these needs.

Working with the Sonoran Institute, Pima County is developing a monitoring strategy and reporting tool for the Lower Santa Cruz River modeled after the Institute's successful EPA-funded *Living River* series developed for the Upper Santa Cruz River in Santa Cruz County. This project will provide local governments and stakeholders with quantifiable measures of wetland and riparian health which will help define further direction for wetland and riparian protection and restoration needs. The project will also inform the wetland and riparian component of the Lower Santa Cruz River Management Plan, a regional effort that recognizes the need to preserve and enhance wetland habitat. Over the four year grant period, the project will help produce increased understanding of wetland conditions and improve public understanding of wetland values.

A Technical Committee of experts has been formed to select indicators of wetland health and help develop a citizen-oriented report that will provide an annual snapshot of wetland health along the river. Three Lower Santa Cruz *Living River* reports will summarize annual wetland conditions for the selected indicators in the 2013–2015 water years (Oct 1–Sept 30). If you would like to support this project or learn more about the *Living River* series, visit the Sonoran Institute at www.sonoraninstitute.org, navigate to "Where We Work" > "Southwest" > "Santa Cruz River." ■



CLAIRE ZUGMEYER



MATT WEBER, EPA

Top to bottom: Lower Santa Cruz River, just north of Sunset Road, taken during a recent tour; Santa Cruz River near Camino Del Cerro

The Living River Team:

The Technical Committee includes Jennifer Duan, University of Arizona; James Dubois, Pima County Regional Wastewater Reclamation Department; Akitsu Kimoto, Pima County Regional Flood Control District; Kendall Kroesen, Tucson Audubon Society; Nathan Lehman, Bureau of Reclamation; Michael Liberti, Tucson Water; Jean McLain, University of Arizona, Water Resources Research Center; Brian Powell, Pima County Office of Sustainability and Conservation; Linwood Smith, Ecologist; Patti Spindler, AZ Department of Environmental Quality; Dr. Juliet Stromberg, Arizona State University; Robert Webb, U. S. Geological Survey; and Claire Zucker, Pima Association of Governments.

Key Pima County staff working on the project are Evan Canfield, Regional Flood Control District; Ed Curley, Regional Wastewater Reclamation Department; and Julia Fonseca, Office of Sustainability and Conservation. Claire Zugmeyer and Emily Brott are the lead staff and project facilitators from the Sonoran Institute.



CLAIRE ZUGMEYER (WITH AERIAL SUPPORT FROM LIGHTHAWK)

View looking south along Santa Cruz River near Avra Valley Road

Visit tucsonaudubon.org for updates and more.

The Great Mesquite Forest: A Permanent Loss in Avifauna Along the Santa Cruz River in the Tucson Basin

R. ROY JOHNSON AND ROBERT H. WEBB



The history of riparian vegetation along the Santa Cruz River is one of extreme change that is related to the types of vegetation and their relation to groundwater.

Riparian areas along Southwestern rivers have among the highest densities of birds for the United States, and although cottonwood-willow gallery forests are of special interest to ecologists, mesquite bosques have been a neglected critical habitat for birds. Our forthcoming book (Webb *et al.* 2014) documents the loss of the San Xavier bosque, the best known and one of the largest mesquite bosques in the United States. Also known as the Great Mesquite Forest, this was one of two mesquite bosques along the Santa Cruz River that are named in the scientific literature. The other, Komatke, or New York, Thicket was near the confluence of the Santa Cruz and Gila Rivers on what is now the Gila River Indian Reservation.

Above: View looking south across Santa Cruz River from Martinez Hill. *Left (June 1942)*: A gallery of cottonwoods flanks the river channel and dense mesquite occupied the bottomlands, then a haven for nesting and roosting White-wing Doves. As late as 1942, one could dig by hand and find water in the streambed. (Photographer unknown, courtesy of the Arizona Game and Fish Commission). *Right (25 November 2002)*: The 1977, 1983, and 1993 floods widened the channel significantly, removing floodplains. By 2002, the active channel was reduced in width and floodplains were deposited, particularly in the area behind the palo verde tree at left. (R.M. Turner, Stake 937).

Historical observations of southern Arizona, beginning with Spanish explorations and extending into the mid-19th century, document the presence of regionally important riparian ecosystems. In 1804, Manuel de León described a *ciénega* near San Xavier. In 1854, John Bartlett called the valley “the most picturesque and beautiful we had seen.” Wildlife was abundant, including Black-bellied Whistling-Ducks and Wild Turkeys, heard calling in the mid-1850s. In 1872, Captain Charles Bendire, the first ornithologist to spend significant time in the Tucson Basin, found a nesting Spotted Owl in the Basin, and those that followed observed Gray Hawk, Anhinga, Purple Gallinule, Crested Caracara, Common Black-Hawk, Northern Beardless-Tyrannulet, Rose-throated Becard, Green Heron, Pied-billed Grebe, and Scarlet Ibis. White-wing Doves were



Anhinga

the most abundant bird in the bosque, and approximately 85 species of summer birds were recorded historically from the Great Mesquite Forest, with more than 75 species nesting there before its demise. By the early 20th century, such avian diversity made Tucson the “ornithological capitol” of Arizona, if not the entire Southwest.

By the 1890s, the Great Mesquite Forest had a *ciénega* dominated by perennial grasses at its core. Arroyo downcutting over the next 30 years



The remains of the Great Mesquite Forest, 2012



KENNETH COLE SCHNEIDER

Purple Gallinule

drained groundwater to the channel bed, but this only encouraged more mesquite growth in the drained marsh. Using 1936 aerial photographs, we estimated that the area of the bosque was 7 square miles, and that likely was reduced from its zenith owing to agricultural clearing and woodcutting. Between 1900 and 1940, numerous observers commented on massive trees that were present, some reportedly 60 or more feet tall and exceeding 4 feet in diameter. Woodcutting took a toll, but still secondary growth trees were reportedly 20–25 feet tall in

the early 1940s; by the 1950s, second-growth trees generally were only 15–20 feet tall. Woodcutters kept cutting, but trees regrew; the channel downcut and widened, but the bosque thrived; groundwater overdraft finally killed the Great Mesquite Forest.

By the 1940s, water development caused perennial flow to cease in the Santa Cruz River, and through the mid-20th century, groundwater literally dropped away from tree roots. Bird populations remained only as long as there was habitat and food offered by the bosque. Approximately 10 species of birds were extirpated by the 1970s, disappearing when perennial flow ended. Six species of native fishes were extirpated from the middle reaches of the Santa Cruz River, as well as the California floater, a large unionid clam. Riparian herpetofauna losses consisted of an amphibian, three lizards, and four snakes, including the lowland leopard frog, Sonora mud turtle, and northern Mexican gartersnake.

By the 1960s, the Great Mesquite Forest had been reduced to a fraction of its original size by agricultural fields. The tipping point past which recovery became impossible was in the early 1970s, when



CRESTED CARACARA, MANJITH KANINGKARA

Crested Caracara

Interstate 19 bisected the western part of the bosque and groundwater levels declined below the limit for riparian tree roots. In the mid-1980s, all that remained were stumps, and trees were replaced by mesquite shrubs, desert plants, and *Athel tamarisk*. Some birds have recolonized the Tucson basin, such as Song Sparrow, using the newly created habitat from wastewater effluent in places such as Sweetwater Wetlands and the reach downstream from the Roger and Ina Road treatment plants. What no longer is present, and cannot be easily replaced, are the open water, ciénegas, and mesquite bosques once natural along the Santa Cruz River. ■

References Cited

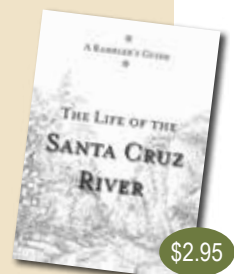
Webb, R.H., J.L. Betancourt, R.R. Johnson, and R.M. Turner. 2014. *Requiem for a River: The Santa Cruz River near Tucson, Arizona*. University of Arizona Press, Tucson, Arizona, in press.

R. Roy Johnson, a retired National Park Service Research Scientist and University of Arizona Professor of Renewable Resources, has studied riparian birds for 60 years.

Robert Webb has worked on long-term changes in natural ecosystems of the southwestern United States and Mexico since 1976. He is a research hydrologist with the U.S.G.S. in Tucson and an adjunct faculty member of the Departments of Geosciences and Hydrology and Water Resources at the University of Arizona.

AVAILABLE IN OUR NATURE SHOPS

This guide describes the tremendous life and diversity supported by the Santa Cruz River. It chronicles the plants found in the five main plant communities and descriptions of the animals you might see along the river.



Interesting stories about birds with interesting names

Scaled Quail

LARRY LIESE

Of the three native quail species found in our area, local birders would have to pick Scaled Quail as the least known. Most of us have Gambel's Quail in our backyards and probably took to feeding birds at least partly to enjoy them more. Montezuma Quail get lots of attention partly due to the striking male plumage but more probably due to how hard it can be to find your first one! Also adding to Scaled Quail mystery is the fact that they are notorious runners and one rarely gets good, prolonged looks at them. Typical sightings are of them running away from you through their preferred habitat of sparse grasslands where they quickly blend in and become inconspicuous.

But when springtime comes around, luck sometimes comes your way and you find a male perched in the top of a bush singing his little heart out—with nary a care to those birders hurriedly trying to get a spotting scope fixed on him. This happened to our Audubon group once along the entrance road to the Buenos Aires National Wildlife Refuge in the Altar Valley southwest of Tucson. We were treated to prolonged views that were the best most of us had ever had. We all marveled at just how handsome a species they are.

Scaled Quail (*Callipepla squamata*) are affectionately called “cotton-tops” for the white topknots adorning their crowns. They are in the same genus as Gambel's, but are most closely related to the Elegant Quail endemic to western Mexico. Allopatric there (no range overlap), the Scaled Quail prefer the sparse grasslands to the east associated with the Chihuahuan Desert. In Arizona their range extends eastward from BANWR with areas around Elfrida in the Sulphur Springs Valley being where I've seen them in highest numbers. I'll never forget my first participation in the Elfrida CBC. Our area included Emma Poe's yard, a long-time resident who had fed the quail every afternoon for years. We were told to be sure to be there at 4:00 PM when 150 each of Gambel's and Scaled Quail would be seen. We were skeptical until our return that afternoon when large gangs of



both were scurrying that way as we drove up the driveway. What a treat!

Regular readers might remember from our look at Gambel's that “quail” comes from old French *quaille*, imitative of the call of a European species and that the origins of the genus name *Callipepla* comes for the Greek words *kallos*, “a beauty” and *peplos*, “a robe,” hence “beautifully dressed”. The species name *squamatus*, is Latin for “scaled” as the plumage suggests. Dark edges to the feathers of the mantle and underparts make this an apt description.

Scaled Quail have a larger proportion of insects in their diet compared to other quail, an important adaptation as they winter in harsher climates on average. They have been shown to be less well adapted physiologically to excessively hot, arid environments as might be expected. The young are highly precocial and follow their parents immediately after hatching. Renesting is common following nest failure but second broods are rare. Average brood size is just over eight young. Feeding is mostly from dawn to mid-morning, then again in late afternoon. At midday these birds prefer “loafing cover” for protection from aerial predators and hot temperatures. Look for them underneath low bushes such as wolfberry or small mesquites in coveys of up to twenty or thirty birds in winter. For a few years one group was quite regular in a rectory backyard near the

main intersection in Sonoita. Easily visible from the road, these birds were a treat to show visiting birders on field trips—I wish I'd kept track of how many got their “lifer” Scaled Quail there.

One interesting behavioral trait these birds have is that like some grassland mammals such as black-tailed prairie dogs they have different alarm vocalizations for different predators that are approaching. Notice any calls they make the next time you see them and perhaps you'll learn their word for human! Events like these can be a fun addition to your day when out birding.

Curiously, these birds are present but hard to find in the desert grasslands of the bajada exiting Madera Canyon. On the Green Valley Christmas count in the area our team covers, we have a “special spot” to look for them and consider ourselves lucky when we get them.

If Scaled Quail and other birds of desert grasslands interest you, you might want to take a closer look at an event being held this fall at the Appleton-Whittell Research Ranch in Elgin, AZ—Tucson Audubon's First Annual Institute of Grassland Ecology October 3–6, 2013. See page 4 in this issue or the Tucson Audubon website tucsonaudubon.org/ige for further information. Should be fun! ■

ILLUSTRATION BY GEORGE WEST

CONSERVATION AND EDUCATION NEWS

CHRIS MCVIE, PAUL GREEN, KENDALL KROESEN, BÉTÉ JONES, AND JENNIE MACFARLAND

Protection and Economic Benefits of Public Lands

The results of the 2013 *Colorado College State of the Rockies Conservation in the West* poll revealed that Westerners see the permanent protection of their public lands as an economic imperative, and essential to their quality of life. Decision makers would do well to take notice and cure the often one-sided tendency to pursue development rather than protection that we've seen emerge over the last four years.

This year's bipartisan survey of 2,400 Westerners, representing a cross section of the region's population, found 91 percent agreement that public lands like national parks, forests, monuments and wildlife areas are an essential part of their state's economy. Further, 71

percent oppose proposals to sell off public lands. Some figures:

- 79 percent believe public lands support their economy and enhance their overall quality of life.
- 74 percent believe our national parks, forests, monuments, and wildlife areas help attract high quality employers and good jobs to their state.
- 71 percent believe selling off public lands to corporations for development will hurt their economy and quality of life.
- 52 percent perceive public lands to be a job creator in their state.

The survey also illuminates Westerners' view of energy production. For the second year in

a row, Westerners vastly prefer that renewable energy development be encouraged in their state, rather than nuclear power or fossil fuels.

Drilling on public lands has flown under the radar of most Westerners. Only 34 percent of those interviewed knew with certainty that oil and gas drilling occurs on public lands. Those polled call for a balanced approach to any energy development occurring in these areas, with 56 percent saying that environmentally sensitive public lands should be permanently protected from this type of activity.

Visit www.coloradocollege.edu/other/stateoftherockies/conservationinthewest/statereports/Arizona.dot for the full report.

IN BRIEF

Rosemont Copper

Consultation continues with the U.S. Forest Service, U.S. Fish & Wildlife Service, and U.S. Army Corps of Engineers. Outstanding issues include an appeal of the Air Quality Permit by Save the Scenic Santa Ritas. Changes include a revised Biological Assessment and a revised pit design. Despite these issues, and the assertion by many that the Draft Environmental Impact Statement (DEIS) does not provide sufficient information about direct, indirect and cumulative impacts, the Forest Service has yet to call for a Supplemental DEIS which would allow the public to fully participate, review and comment on the changes and ongoing lack of data on short and long term impacts, in compliance with the intent of the National Environmental Policy Act (NEPA).

SunZia

BLM and SunZia have identified the lower San Pedro River and Aravaipa Canyon as two alternatives for the proposed transmission line from north-central New Mexico to central Az. Neither route is ecologically sound and we have written in opposition to both. Issues with the part of the route that would impact the Rio Grande River may necessitate a Supplemental DEIS. The Cascabel Working Group has issued a new report detailing the flaws regarding the purpose, need and economic realities of this project. See the new report at www.cascabelworkinggroup.org/SZhome.html.

Together Green

Toyota has approved a \$3.5 million grant to extend the Toyota Together Green program into its sixth year. The program will fund 40 Fellowships and offer nearly \$1 million in Innovation Grant funding. Volunteer Days will be discontinued.

Southwestern Willow Flycatcher

The U.S. Fish and Wildlife Service (FWS) has expanded the critical habitat for the Southwestern Willow Flycatcher, adding 490 stream miles and 88,149 acres of land to the designation. The Southwestern Willow Flycatcher occurs only in Arizona, California, Colorado, Nevada, New Mexico, Texas and Utah, and has been listed as endangered since 1995 under the Endangered Species Act (ESA).

This decision constitutes a 65 percent increase in stream miles designated as critical habitat and a 75 percent increase in acreage designated compared to the previous designation. The designation of protected critical habitat for endangered Southwestern Willow Flycatchers is for 208,973 acres, along 1,227 miles of river in California, New Mexico, Colorado, Utah and Nevada, and along several Arizona rivers, including the Rio Grande, Gila, Santa Cruz, San Pedro and others.

Protection of critical habitat for this bird could make a crucial difference to its survival, and also gives urgently

needed help to the Southwest's beleaguered rivers.

This is the third designation of critical habitat for the flycatcher. The first—599 river miles in 1997—was challenged by the New Mexico Cattle Growers' Association, resulting in protection of more miles rather than fewer—730 miles in 2005—by the Bush administration. The Center for Biological Diversity challenged this designation, arguing that it failed to consider hundreds of miles of rivers identified in a scientific recovery plan for the flycatcher. That challenge resulted in the current designation of 1,227 miles of river as protected habitat.

Southwestern Willow Flycatchers have suffered from the destruction of rivers by livestock grazing, mining, urban sprawl and overuse. The new designation excluded hundreds of miles of river habitat from the August 2011 proposal of 2,090 miles of river based on existing management in habitat conservation plans (HCPs).

The Southwestern Willow Flycatcher was first listed as an



PATRICIA WARE

endangered species in 1995. According to a 2007 survey, there are roughly 1,299 territories spread across the species' range, with substantial populations on the upper Gila River and middle Rio Grande in New Mexico; Roosevelt Lake and the lower San Pedro River in Arizona; and numerous scattered locations in California.

This small neotropical migrant breeds in streamside forests of Southern California, southern Nevada, southern Utah, Arizona and New Mexico. Within this range, the flycatcher has lost more than 90 percent of its habitat to dams, water withdrawal, livestock grazing, urban sprawl and other causes.

See www.fws.gov/nevada/protected_species/birds/documents/swwf/1-02-13_SWWF_NR_Final.pdf for more details.



MT. WRIGHTSON IN THE SANTA RITAS, MIKE SANCHEZ

IN BRIEF

Resolution Copper

Representatives Gosar (R) and Kirkpatrick (D) and Senators McCain (R) and Flake (R) have introduced legislation reviving Representative Gosar's previous Southeast Az. Land Exchange bill for the proposed Resolution copper mine outside Superior, Az. The legislation once again circumvents NEPA prior to any land exchange and fails to address the numerous environmental concerns we have written about since 2005 including: the potential dewatering of Gan Canyon; a proposal for enormous tailing piles on state lands outside Florence; and the potential dewatering of one of their proposed mitigation parcels, the 7B Ranch on the lower San Pedro River, by their partner BHP's approved development plan for 35,000 units outside of San Manuel, Arizona. See our most recent letter on this at www.tucsonaudubon.org/images/stories/conservation/Letter_to_DavidBrooks_6_15_09.pdf

On March 13, 2013, the town council of Superior passed a unanimous resolution opposing HR 687, the latest version of the Oak Flat land exchange. The resolution passed following a town council meeting a week ago in which the town council took comments on their decision to oppose the land exchange and end a Mutual Benefits Agreement with Rio Tinto. At that meeting, the majority of comments supported the town decision. During the council meeting Rio Tinto threatened to lay off its workers if the town passed the resolution.

Sally Jewell nominated as new Secretary of the Interior

The release of data on the economic impact of outdoor recreation is notable because of President Obama's nomination of Sally Jewell, CEO of outdoor retailer REI, to be his new Secretary of the Interior. Jewell has been an impassioned advocate for the value of this industry, and many expect her to continue to make the business case for conservation when she takes the reins of the Interior Department.

New Study Reports That Outdoor Cats Kill “Staggering” Numbers of Birds and Mammals

A new peer-reviewed study, co-authored by Scott Loss and Peter Marra, research scientists at the Smithsonian's Migratory Bird Center, and by Tom Will, a research scientist with the U.S. Fish and Wildlife Service's Division of Migratory Birds has revealed that outdoor cats kill at least 1.4 billion birds and 6.9 billion mammals every year. Those death tolls are far higher than all previous estimates, and they have triggered new calls for controls on outdoor cat populations. The article has been published by the online journal *Nature Communications*.

After systematically reviewing more than 170 previous cat predation studies, the authors estimated that outdoor cats kill between 1.4 billion and 3.7 billion birds per year. The estimated death toll for mammals ranged from 6.9 to 20.7 billion per year.

These new estimates show that outdoor cats are responsible for more bird and mammal deaths than “any other anthropogenic (human-caused) mortality source.” Other man-made bird and mammal killers include pesticides and collisions with windows and communications towers.

The American Bird Conservancy (ABC) had previously estimated that outdoor cats kill 533 million birds each



COUNT RUSHMORE

year—a number that some animal welfare groups dismiss as wildly inflated. Those groups have long argued that large colonies of feral cats can be controlled by so-called “Trap-Neuter-Return” (TNR) programs, and that owned cats left to roam outdoors do not kill many birds or mammals.

This study results seem to refute those arguments. Unowned cats—including feral cats in TNR colonies found all over the country—were said to kill at least 900 million birds a year. The authors add that efforts to create more TNR colonies in the United States are currently being implemented “without widespread public knowledge, consideration of the scientific evidence, or the environmental review processes typically required for actions with harmful environmental consequences, partly by determining that outdoor cats

with owners kill at least a half billion birds per year.”

Native bird species were found to make up the majority of the birds preyed upon by cats. Studies of the mammals killed in urban and suburban areas concluded that the most common prey species were mice, shrews, voles, squirrels and rabbits. All of these mammals are important food sources for birds of prey such as hawks, owls and eagles.

“The very high credibility of this study should finally put to rest the misguided notions that outdoor cats represent some harmless new component to the natural environment,” said George Fenwick. “Every time we lose another bird species or suppress their population numbers, we’re altering the very ecosystems we depend on as humans.”

Fifth International Partners in Flight Conference—Advancing Bird Conservation across the Americas

August 25–28, 2013, Snowbird, Utah

The chief bird conservation meeting for the Americas, held just four times since 1990 and organized under the multi-partner bird conservation organization, Partners in Flight (PIF), is scheduled for August 25–28, 2013 in Snowbird, Utah. This year's theme is “Advancing Bird Conservation Across the Americas” and details are posted at pifv.org

PIF V, as the conference is known, has as its goal the creation of a unified vision in the bird conservation community for full lifecycle bird

conservation needs. It will seek to identify innovative approaches to address those needs. With new scientific knowledge and collaborative networks emerging, PIF V will focus on building hemisphere-wide collaboration, increased funding, and shared priorities to strategically address drivers of population declines. The meeting will encourage conference participants to work together in geographic-based work sessions to develop implementable projects for linked regions throughout



the Western Hemisphere. The results will be used to guide future conservation activities by researchers, educators, conservation practitioners, state and federal agencies and philanthropic organizations.

PIPING PLOVER IS A SPECIES OF HIGHEST CONCERN ON THE AMERICAN BIRD CONSERVANCY AND AUDUBON WATCHLIST. NDF

Restoring the Colorado River Delta: A Vital Link on the Pacific Flyway

"At each bend we saw egrets standing in the pools ahead, each white statue matched by its white reflection. Fleets of cormorants drove their black prows in quest of skittering mullets; avocets, willets, and yellow-legs dozed one-legged on the bars; mallards, widgeons, and teal sprang skyward in alarm. As the birds took the air, they accumulated in a small cloud ahead, there to settle, or to break back to our rear. When a troop of egrets settled on a far green willow, they looked like a premature snowstorm."

Aldo Leopold describes the Colorado River Delta in 1922, from *A Sand County Almanac*

The Colorado River, the greatest desert river in the Western Hemisphere, once formed a lush delta as it flowed into the Gulf of California. Less than 100 years ago, the Colorado River Delta encompassed more than 3,000 square miles (about twice the size of Rhode Island) of riparian habitat and freshwater and tidal wetlands, which supported a large population of plant, bird and marine life. However, due to upstream dams and diversions the Delta today is but a remnant of its former self. Sadly, the mighty Colorado no longer reaches the sea.

This begs the question: what are the current conditions of the Colorado River Delta and the vast diversity of life it once supported?

Fortunately, the Delta has proven to be a remarkably resilient ecosystem and is far from being dead. Although greatly diminished in size, the Delta continues to support about 380 resident and migratory bird species. Several are either endangered or threatened, including the Yellow-billed Cuckoo, which has been spotted recently in our restoration sites. The largest known population of the endangered Yuma Clapper Rail resides in La Ciénega de Santa Clara, the biggest wetland in the Delta, and the population is rapidly growing at our Las Arenitas treatment wetland. Located in the "hourglass" of the Pacific Flyway, the remaining wetlands and restored areas in the

Delta continue to provide wintering habitat for nearly 500,000 migrating birds every winter.

In addition, the Delta's estuary in the Upper Gulf of California provides vital breeding and nursery grounds for various marine fisheries.

Over the past 15 years, the Sonoran Institute has been working with local users as well as governmental and non-governmental organizations (NGOs) from both sides of the border to protect what is left of the Delta and to restore habitat for the benefit of people and wildlife. Our work has shown that there is hope for the Delta's future.

This hard work prompted Mexico to declare in 2012 that restoration of the Delta was a national conservation priority. This, in turn, resulted in a recently signed agreement between Mexico and the U.S. to dedicate water to the Delta for ecological purposes and provide additional resources and mechanisms to help restore the region.

Water for Life in the Delta

"If we can work together to secure the necessary water and restore the natural habitat, and then let nature do what it does so well, there is a great potential for success in bringing the Delta back to life," said Tom McMurray, founder of Marine Ventures Foundation and a partner of the Sonoran Institute.

The shortage of water has been the main cause of the Delta's demise over the past century; thus, securing water has become the principal focus of the organizations working to restore it.

The challenge lies in the fact that the Colorado River is already over-allocated, providing critical water supplies to municipal, industrial and agricultural users in the West. The Sonoran Institute is exploring alternative sources of water and implementing a variety of mechanisms to acquire water for the Delta.

Mexico's first Water Trust

In 2008, the Sonoran Institute, Pronatura Noroeste, and the Environmental Defense Fund established the *Colorado River Delta*



FRANCISCO ZAMORA



FRANCISCO ZAMORA



GUADALUPE FONSECA

Clockwise from top: Aerial photo of the Ciénega de Santa Clara, the largest wetland in the Delta. Cottonwood and willow trees at the riparian restoration site. Yuma Clapper Rail at the Las Arenitas restoration site.

Water Trust, a legal mechanism that allows water rights to be purchased and permanently dedicated to the Delta. To date, the *Water Trust*, has purchased nearly 4,000 acre-feet of water, which is currently being used to maintain over 150 acres of restored riparian habitat.

The *Water Trust* was used to allocate flows to the Ciénega de Santa Clara. The Ciénega's nearly 13,000 acres of open water lagoons and cattail marsh provide habitat for several endangered bird species, including the Yuma clapper rail. In 2010, the *Water Trust* played a pivotal role in facilitating the historic agreement between Mexico, the United States, and NGOs to each dedicate 10,000 acre-feet of water to the Ciénega de Santa Clara.

We are also pioneering the use of treated effluent as a water resource in the Delta. We are developing a 250-acre artificial wetland to provide additional treatment to effluent water from the Las Arenitas Wastewater Treatment Plant, which treats wastewater from Mexicali. The wetland itself has become a major attraction for both resident and migratory birds. More than 145 species of aquatic and terrestrial birds have been documented there, including the endangered Yuma Clapper Rail.

Perhaps the most difficult component of the Delta's restoration

is reconnecting the river to the sea and restoring the estuary region. The lack of river flows to the estuary has resulted in the development of a large sand bar. Working with our partners, we are implementing a restoration strategy that includes creating a pilot channel through the sand bar to help reconnect the river to the sea.

It is not just water that will bring the Delta back to life. Restoration projects are essential to maintaining and providing additional habitat for wildlife species, particularly birds. The health of the Delta is not only critical to the resident wildlife in the region, but is also a vital link within the Pacific Flyway, impacting the survival of hundreds of thousands of migrating birds every year.

The efforts of people in both the U.S. and Mexico are required to ensure the future of the Colorado River Delta. For more information, to donate or to find out how you can help, go to www.sonoraninstitute.org or contact Francisco Zamora at fzamora@sonoraninstitute.org.

Francisco Zamora and Karen Schlatter, Sonoran Institute

To hear more about this issue, come hear Dr. Karl Flessa speak at our Living with Nature Lecture on April 8th in Tucson. On May 13th, Dr. Charles van Riper III speaks on migration of Western Neotropical birds.

Recreation Driving an Economy

The Outdoor Industry Association had released new data that show the fiscal impacts of recreation in all 50 states, from consumer spending to direct jobs to wages and salaries. The top five states for consumer spending on outdoor recreation are: California (\$85.4 billion), Florida (\$38.3 billion), New York (\$33.8 billion), Texas (\$28.7 billion), and Georgia (\$23.3 billion). In Arizona, outdoor recreation generates \$10.6 billion in consumer spending.



NIKKI MCLEOD

Every state in the union benefits from between 28,000 direct jobs (North Dakota) to 732,000 direct jobs (California) in the industry. In Arizona the number direct jobs is 104,000, generating \$3.3 billion in wages and salaries, and \$787 million in state and local tax revenues.

In total, outdoor recreation provides \$646 billion in economic impacts and 6.1 million direct jobs every year (three times that of the oil and gas industry). These data incorporate manufacturing, retail and sales, transportation and warehousing, and accommodation and services near outdoor recreation sites.

As a number of western state legislatures are attempting to “reclaim” federal public lands in order to exploit their resources more easily, this information shows that for the outdoor industry’s economic influence to increase, political leaders must balance the use of public lands for energy even as they implement policies that protect them.

Permanently protecting public lands will be an important priority for the conservation community over the next few years, especially since the Obama administration has leased 2.5 times as many acres to oil and gas companies

than it has permanently protected. Former Secretary of the Interior Bruce Babbitt has proposed preserving one acre for every acre developed to balance the approach of the federal government. More information at www.outdoorindustry.org/advocacy/recreation/economy.html.

San Pedro Eco Fest

April 13



Come celebrate the beautiful San Pedro River at the first ever San Pedro Eco Fest Saturday April 13th from 9 AM to 3 PM. This celebration of the last free-flowing river in the Southwest will be held at Central Arizona College—Aravaipa Campus in Winkelman. This one-day festival will feature birdwatching, nature and history exhibits and information on sustainable farming and ranching. There will also be special tours of private conservation areas that you can sign up for from 6 AM to 9 AM. Most of the ecologically richest portions of the San Pedro River are on private land and this is a rare opportunity to visit these habitats and see why this area has been designated “one of the last great places!”

Toxic Liquid Waste Dumping in Unlined Landfill Sites?

Thanks to Vice Mayor Regina Romero for taking the lead in clarifying the City of Tucson’s position on bioreactors in Arizona. Though the City Water Environmental Services Manager had expressed interest in the concept utilizing water treated by the City for contaminants, the rest of the state might use potable water or untested, potentially toxic liquid waste. Expressing their concern for protecting our water quality and public health and safety, the City Council voted unanimously to oppose bioreactors, as currently proposed by the Arizona Department of Environmental Quality.

Conservation Corner!

PITCH IN

Looking to adopt? Tucson Clean and Beautiful (www.tucsoncleanandbeautiful.org) has an adoption program. You and your friends can adopt a park, a wash or a street and keep it clean and free of invasive plants.

Many parks have been adopted, but there are still lots of orphaned

washes and streets. Many of Tucson’s washes and streets have problems with trash and invasive plants, like buffelgrass. Washes are particularly important for wildlife, which use them as pathways for moving about our metro area. Birds use the denser vegetation along washes to forage for food, take shelter and build nests.

The health of Tucson’s birds rests in part on the health of our washes. Litter-free and invasive-free streets help too.

For more information on adopting, contact Tucson Clean and Beautiful at adoptapark@tucsonaz.gov or 520-791-3109. If you don’t have a group of your own, ask if there is a group near

you that you can join. The Friends of Urban Wildlife, a group based here in Tucson, has adopted Sweetwater Wetlands. Learn more about them at <http://tucsonwildlife.wordpress.com/>.

RECYCLING UPDATE

You can now recycle an amazing range of items, from clothing to hearing aids to musical instruments. Here are places to look for more information—each of these sites has lists of things you can recycle:

- City of Tucson Residential Recycling (Blue Barrels): <http://cms3.tucsonaz.gov/es/customer-services-residential-recycling>.
- Tucson Clean and Beautiful Recycling Directory: www.tucsoncleanandbeautiful.org



(roll the mouse pointer over the “Recycling Directory” on the menu)

- Suburban Miners: <http://www.suburbanminers.com> (a variety of unusual things can be recycled here)
- RISE Equipment Recycling Center: www.riseequipmentrecycling.org (mostly electronic equipment)

Kendall Kroesen,
Habitats Restoration Manager

KENDALL KROESEN

ROBB WASH, KENDALL KROESEN

TUCSON AUDUBON FIELD TRIPS

MATT GRIFFITHS | INTERIM FIELD TRIP COORDINATOR

DORIS EVANS



Burrowing Owl

April

April 3—Wednesday 7:30 AM

Bike N' Bird Wednesdays

We'll ride the Loop along the Santa Cruz then east along the Rillito to Curtis Park at La Cholla Blvd. and return to start around noon. Please call in advance to reserve a spot. Leader: Norma Miller 520-235-8927 n8urnut@comcast.net

April 9—Tuesday 7:00 AM

Canada del Oro Path in Oro Valley

Bird up in Oro Valley along the paved path that runs between Canada del Oro Wash and Oro Valley Country Club. Leader: M.E. Flynn me.flynn@comcast.net or 520-797-1743

April 13—Saturday 8:30 AM

Catalina State Park

Meet at Picnic Area. We'll walk along Bridle Trail to trailhead at end of road. Leaders: Matt Brooks, Sara Pike spike@tucsonaudubon.org

April 16—Tuesday 4:45 AM

Maricopa Burrowing Owls

This private residence has been kind enough to grant us access to see the upwards of 30 Burrowing Owl burrows on their property and they will definitely be a target bird for the trip. Trip Leader: Jennie MacFarland. To sign up email jmacfarland@tucsonaudubon.org.

April 20—Saturday 7:00 AM

Catalina State Park

We should see a number of bird species including residents as well as both low and higher elevation breeding birds migrating through. No need to sign up, but call or email if you have questions. Leader: Larry Liese larryliese@prodigy.net 520-743-3520

April 25—Thursday 7:00 AM

4th Thursday Club at Agua Caliente Park

Extension of usual trip by adding a drive to nearby birding areas and going up into the Catalinas.

Visit tucsonaudubon.org/fieldtrips for updates and more

Emphasis will be on comparing the environments, species distribution and building a Big Day list. Limit 15, sign up necessary with Leader: Richard Carlson rccarl@yahoo.com

April 28—Sunday 6:00 AM

Madera Canyon

We'll start in desert scrub and work our way up canyon. Please register with the trip leader, Clifford Cathers, at AZCliffy@Q.com. Trip limited to 20–25 individuals so you must register.



May

May 1—Wednesday 8:00 AM

Benson & Willcox Ponds

Check out the spring shorebird migration. Bring scope if you have one. Optional stop at Apple Annie's new store in Willcox after birding. Sign up with Leader: John Higgins, 502-578-1830, jhiggins@comcast.net



May 4—Saturday 6:00 AM

Atturbury-Lyman Bird & Animal Sanctuary, Lincoln Park

Join us to find migrants, residents and the last of the wintering birds at Atturbury Wash, on Tucson's east side. This is one of Tucson's premier washes and the site of a Tucson Audubon project to improve habitat. Call leader for exact directions: Kendall Kroesen kkroesen@tucsonaudubon.org or 520-971-2385.

May 7—Tuesday 4:30 AM

Fort Huachuca

Birding on foot in some of the canyons on Fort Huachuca. Contact the leader by email to reserve a place. Be prepared to hike on rough rocky trails that are steep in places. Leader: Jim Hays jhays@iname.com (preferred) or 520-203-3489



May 14—Tuesday 5:30 AM

Happy Valley, east of the Rincon Mts.

We'll drive up the Ash and Paige Creek drainages and into Happy Valley, an area with grasslands, desert hillsides, and extensive Sycamore/Oak riparian areas. Contact the trip leader, Tim Helentjaris, at thelentjaris@msn.com for details.

May 23—Thursday 7:00 PM

Owl Prowl up Mount Lemmon

We will attempt to find as many owl species as we can in the different elevational life zones that the mountain offers. Bring a flashlight/headlamp and a snack. Trip Leader: Jennie MacFarland. To sign up email jmacfarland@tucsonaudubon.org

Wednesdays, starting April 10, 8 AM.

(7 AM when it starts getting hot).

Sweetwater Wetlands.

Join Mike Sadatmousavi for an easy walk to see waterfowl in the hundreds, regular and visiting warblers, and several exciting species hiding in the reeds. Birders of all experience levels welcome! Email mike.sadat@gmail.com to sign up.

Thursdays, April–May: 8 AM, June:

7:30 AM. Wake Up With the Birds at Agua Caliente Park.

A stroll through the bosque and along the ponds. Loaner binocs available, meet in front of the ranch house. For more info call Pima County Parks and Rec., 520-615-7855.

Saturdays, October–May, 8–9:30 AM.

Tucson Audubon's Mason Center.

Families and birders of all skill levels are welcome. Visit tucsonaudubon.org/masoncenter for details.

Saturdays, November to April, 8:00 AM,

Arivaca Cienega of Buenos Aires National Wildlife Refuge.

All skill levels welcome. For more info call Bob Rolfson at 520-399-2873.

Find new trips and expanded descriptions online at tucsonaudubon.org/fieldtrips or call 520-629-0510 x4.

General Information Tucson Audubon field trips are free. For general information call 520-629-0510. For specific information about a trip, contact the leader of that trip. Please dress appropriately for your field trip. Always wear sturdy shoes, a hat, and use sun protection. Bring plenty of snacks and water for yourself. Always bring your binoculars, field guide, and for most trips a scope can be useful. Bring money to cover your share of the carpooling and any required entry fees (e.g. for state parks).

Arrival Times Arrive *before* listed departure times. Trips will leave promptly at the time given.

Carpooling Sites Tucson Audubon strongly encourages carpooling and for some trips it may be required. Check our website for frequently used carpooling sites. You are expected to reimburse the driver for the actual cost of fuel. Drivers and trip leaders are not expected to contribute.

Rare Bird Alert Listen to the latest rare bird alert at 520-629-0510 ext. 3. Report rare birds at 520-629-0510 or rarebirdalert@tucsonaudubon.org

Don't forget to stop in our Nature Shop for your birding supplies.

BIRDING TRAVEL FROM OUR BUSINESS PARTNERS



Five-striped Sparrow

May 25—Saturday 5:00 PM

An Evening in Madera Canyon

Let's explore the fabulous Santa Ritas as the light fades away, searching for evening songsters and their after-dark counterparts. Please register with the trip leader, Clifford Cathers, at AZCliffy@Q.com. Trip limited to 20–25 individuals so you must register.



June 5—Wednesday 7:00 AM

Bike N' Bird Wednesdays

We'll ride the Loop along the Santa Cruz then east along the Rillito to Curtis Park at La Cholla Blvd. and return to start around noon. Please call in advance to reserve a spot. Leader: Norma Miller 520-235-8927 n8urnut@comcast.net

June 8—Saturday 6:00 AM

Santa Catalinas

Today we'll escape the heat while looking for the highland specialties of the southwestern Sky Islands (after an early morning start in desert habitat). Please register with the trip leader, Clifford Cathers, at AZCliffy@Q.com. Trip limited to 20–25 individuals so you must register.

June 22—Saturday 2:30 PM

California Gulch

We will head into the gulch via Arivaca with stops to browse the birds along the way as we head into the gulch proper. Our main target is the Five-striped Sparrow. We will owl after we eat. Leader: Melody Kehl, Melodysbirding@cox.net, 520-245-4085



ADDITIONAL BIRD WALKS IN TUCSON AND SOUTHEAST ARIZONA

For information on weekly regional bird walks from Agua Caliente Park to Ramsey Canyon Preserve, please see our website, www.tucsonaudubon.org/fieldtrips

ADVENTURE BIRDING COMPANY

www.adventurebirding.com
info@adventurebirding.com • 520-495-0229

Big Bend Nat'l Park, Texas: Colima

Warbler short tour April 30–May 4, 2014, \$1195. Leader: John Yerger. Big Bend is one of the most remote birding hotspots in the U.S., and home to some of its most spectacular scenery! It's the only place in the country to find Colima Warbler, the focus of one long day hike. A surprising number of habitats and oases are found within Park boundaries. Ideal for anyone desiring lots of birding and sightseeing on limited vacation time. Lucifer Hummingbird, Painted Bunting and Common Black-Hawk are just a few others we'll seek on this fun-filled adventure!

South Texas: Rarities and Specialties

short tour February 26–March 2, 2014, \$1295. Leader: John Yerger. Limited vacation time? This "short tour" will target some of the rarest birds in the ABA region! Our main focus: find mega-rarities in the Lower Rio Grande Valley. In recent years, species included Crimson-collared Grosbeak, Golden-crowned Warbler and Black-vented Oriole. In addition, we'll seek rare residents like Clay-colored Thrush and Red-billed Pigeon. And of course, spectacular South Texas specialties like Green Jay, Altamira Oriole and Buff-bellied Hummingbird will round out the trip! See website for details and on this and other tours.

ROCKJUMPER—WORLDWIDE BIRDING ADVENTURES

info@rockjumperbirding.com
www.rockjumperbirding.com
(USA & Canada toll-free): 1-888-990-5552

Kazakhstan—Best of Central Asia: 04 May to 17 May 2013 (14 days) Tour Price (per person): US\$4,525 (Single supplement US\$300, approx. cost of flights US\$100). Please note: these prices are subject to foreign exchange fluctuations. Kazakhstan is the world's largest landlocked country and its territory of 2,727,300 square kilometres (1,053,000 sq mi) is larger than the entire Western Europe! Extending from the Caspian Sea in the west to the Tien Shan Mountains in the east, this area is of immense interest to the serious birder as it's the transition zone between the Western and Eastern Palearctic bird species.

Australia & New Zealand Comprehensive—Southwestern Endemics, Eastern Top to Bottom, Tasmania Birds & Wildlife: 21 Sept to 19 Oct 2013 (29 days) Tour price (per person): US\$13,730 (Australia portion) & US\$7,175 (NZ portion). Please note: these prices are subject to foreign exchange fluctuations. Australia is a vast continent harbouring many endemic birds and bizarre wildlife found nowhere else on our planet. During this exciting trip we will cover an incredible range of habitats travelling across

the eastern portion of the country, ranging from dense tropical rainforest to endless stretches of the desolate outback. New Zealand supports a host of unusual endemic land birds and a rich assemblage of marine birds and mammals. Our comprehensive tour is designed to seek almost every possible endemic and take full advantage of New Zealand's oceanic diversity.

SOLIPASO TOURS

www.solipaso.com

Madera: Thick-billed Parrots: August

19–22, 2013. \$1000. Leader: David MacKay. A short trip into northern Chihuahua to see the highly endemic Thick-billed Parrot and Eared Quetzal. Summertime in the Sierra Madre is a sight to see with green meadows, lakes, blue sky vistas and monsoons! The trip starts in Tucson and we bird the pinyon-juniper habitat on the way to Nuevo Casas Grandes. We visit the remote Paquime ruins site, Cuarenta Casas then spend two nights in the Madera area to see the Thick-billed Parrots in their nesting habitat, along with many other high elevation species.

Copper Canyon: September 17–25, 2013.

\$2600. Leader: David MacKay. The world famous Copper Canyon is a great destination for summer birding! In Los Mochis, we explore the botanical garden and take a trip out into the Sea of Cortez. From El Fuerte, we board the train with stops in Cerocahui, Cusarare and Creel. Target birds are Eared Quetzal, White-striped Woodcreeper, Mountain Trogon, Rufous-capped Warbler, Striped and Rusty Sparrows and more. We'll have the opportunity to see some of the Tarahumara villages and purchase their crafts. Starts and ends in Los Mochis.

TROPICAL BIRDING

www.tropicalbirding.com
info@tropicalbirding.com • 1-800-348-5941 ■

AVAILABLE IN OUR NATURE SHOPS

New Zealand is commonly described as "the land of birds." Now, there is an easy-to-use guide for all those interested in this country's remarkable bird population. **A Field Guide to the Birds of New Zealand** contains over 600 stunning photographs of the more than 350 bird species likely to be seen in this area of the world. Comprehensive and compact, the book includes full descriptions of all native species and regular visitors, distribution maps and measurements, key information on national parks, useful information on ongoing conservation efforts in the country, and handy tips for nature enthusiasts wanting to make the most of their trip.

\$24.95



Visit tucsonaudubon.org/alliance to learn more about the products and services offered by our Bird & Business Alliance partners

TUCSON AUDUBON'S BIRDS & BUSINESS ALLIANCE

We extend special thanks and welcome to our Gala corporate sponsors as valued members of Tucson Audubon's Birds & Business Alliance!

FICO / Green Valley Pecan
Tucson Electric Power
Freeport-McMoRan Copper & Gold
Lori Pascarella, Merrill Lynch
Salmon, Lewis & Weldon PLC



MATT GRIFFITHS



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

GOLD

Riverpark Inn • 800-551-1466

STERLING

Adventure Birding Company
• 520-495-0229 • www.adventurebirding.com
Rockjumper BirdingTours • info@rockjumperbirding.com
• www.rockjumperbirding.com
Solipaso Tours • www.solipaso.com
Tropical Birding • 800-348-5941
• www.tropicalbirding.com

SILVER

Cox Communications
Farmers Investment Co (FICO) • sahuaritafarms.com
Fiore Tile Works • 520-971-0677
Freeport-McMoRan Copper & Gold
Loews Ventana Canyon
• 520-299-2020 • www.loewshotels.com
Pima Federal Credit Union • 520-887-5010
Tucson Electric Power • www.tep.com

COPPER

Associated Benefits Specialists, Inc. • 520-219-1950
Bed and Bagels of Tucson • 520-603-1580
Borderland Tours • www.borderland.tours.com
Brooklyn Pizza Company • 520-622-6868
Casa de San Pedro B&B • www.bedandbirds.com
Country Inn & Suites • www.countryinns.com/tucsonaz_citycenter
Down By the River B&B • 520-720-9441
Financial Architects • www.financial-architects.com
Hughes Federal Credit Union • 520-794-8341
Kimberlyn Drew, Realtor • 520-237-1408
Leica Sport Optics
The Living Fence • 520-795-5300
Metropolitan Tucson Convention & Visitors Bureau • VisitTucson.org
Naturalist Journeys • 866-900-1146
Lori Pascarella, Merrill Lynch • www.fa.ml.com/Lori
Quailway Cottage • 520-558-0019
Ravens-Way Wild Journeys • 520-425-6425
*Salmon, Lewis & Weldon PLC
Sierra Vista Ranch • Sasabe, AZ
Spirit Tree Inn B&B • 520-394-0121
Sundance Press • 800-528-4827
Sunglow Ranch • www.sunglowranch.com

THE TAS-IFIEDS CLASSIFIED ADS

Classified and display ads are accepted from individual members and members of our Birds & Business Alliance. Visit tucsonaudubon.org/vfly for rates or contact Matt Griffiths mgriffiths@tucsonaudubon.org to book an ad.

BIRDS & BEER Third Thursdays at Sky Bar:
5–7 PM. Free slice of pizza, beer at happy hour prices, share your bird photos.

LODGING AT PEREGRINE PERCH Beautiful views and natural desert serenity in this newly remodeled, furnished 2 bedroom, 1 bath home perched in the Tucson Mountains. Minutes away from I-10 and easy access to birding hot-spots. New kitchen appliances, washer/dryer, AC & fireplace. Weekly/\$500, monthly rates available. Contact Jeanine at 520 400-5872.

SOUTHWESTERN RESEARCH STATION, Portal, Arizona <http://research.amnh.org/swrs/>
Six-day birding tours in April, May, and September 2013. Round trip is included from Tucson airport. Newly remodeled rooms! Also, individual accommodations are available for birders, hikers, and naturalists. Rates include meals, pool, and great birding. For more information contact: 520-558-2396; emoisan@amnh.org

RAMSEY

ROOST

Vacation Home
Sierra Vista, Az.

CLEAN. COMFORTABLE. AFFORDABLE.

This sprawling 1970's home is set on 2 acres with great birding at 5,000 ft on the Huachuca Mountains and famous Ramsey Canyon. A comfortable retreat for couples, families and small groups. 4 bedrooms, 2.5 baths. Right on the edge of the National Forest—birds and wildlife in the yard. Walk out the door to great hiking and cycling in Brown and Ramsey Canyons. Night Skies Community.

phone 1-877-417-9224

www.VRBO.com search 406192



300 E University Blvd, #120
Tucson, AZ 85705

Change Service Requested

Vermilion Flycatcher

Volume 58, Number 2, April–June 2013

© 2013 Tucson Audubon Society

The *Vermilion Flycatcher* is the newsletter of the Tucson Audubon Society, a chapter of the National Audubon Society. National Audubon Society members and members of other chapters may receive the *Flycatcher* by becoming a Friend of Tucson Audubon. See membership at www.tucsonaudubon.org.



NON-PROFIT ORG
US POSTAGE PAID
TUCSON, AZ
PERMIT #1345



COMING SOON!

TUCSON



BIRD & WILDLIFE FESTIVAL

August 14–18, 2013

Don't Miss the
Sky Islands Birding Cup

For more info visit
tucsonaudubon.org/festival

Find us on Facebook!

Make a team, Join a team, Go birding **Birdathon 2013**

Professional guides lead beginner and advanced teams

April 21: Bieber's Bluebirds with
Gavin Bieber of WINGS

April 21: The Wrenegades with
Jennie MacFarland of Tucson Audubon

April 25: IBA All the Way with
Jennie MacFarland of Tucson Audubon

April 27: Scott's Orioles with
Scott Olmstead of Tropical Birding

April 28: Birds of Fray with
Richard Fray of Fun Birding Tours

200 give or get donation

Reach out to friends, family, coworkers for support, and celebrate migration!

Details at tucsonaudubon.org/birdathon



SCOTT'S ORIOLE, ALAN MURPHY