

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

Vermilion

FLYCATCHER

October–December 2014 | Volume 59, Number 4



Adaptation

Stormy Weather • Urban Oases • Cactus Ferruginous Pygmy-Owl

What's in a Name: Crissal Thrasher • What Do Owls Need for Habitat • Tucson Meet Your Birds



Tucson Audubon Society is dedicated to improving the quality of the environment by providing environmental leadership, information, and programs for education, conservation, and recreation. 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, nature centers, and nature shops, the proceeds of which benefit all of its programs.

Tucson Audubon Society

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All phone numbers are area code 520 unless otherwise stated.

tucsonaudubon.org

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Tucson Audubon Nature Shops

300 E University Blvd #120 ext 7015
Hours: 10 AM–4 PM, Mon–Sat
Agua Caliente Park, 12325 E Roger Rd 760-7881
Hours: Thu–Sat 10 AM–1:30 PM. Please call to confirm hours.
The shop opens earlier and closes later during certain months.

Tucson Audubon Nature Centers

Mason Center, 3835 W Hardy Rd, Tucson, AZ 85735
Open most weekdays 9 AM–5 PM or when chain is down.
Paton Center for Hummingbirds, 477 Pennsylvania Ave, Patagonia, AZ 85624

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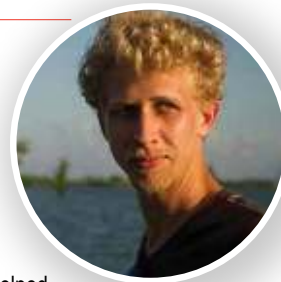


FRONT COVER: Western Screech-Owl by Guy Schmickle. Guy is a professional nature photographer. You can find his work online at www.explorethelightphotography.com

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

Let Birds Bring Out Our Best

David J. Ringer heads public relations for the National Audubon Society. He has birded in more than 25 countries on six continents and writes about birds, birding, and conservation



Something about birds brings out the best in us humans. Throughout the ages and in every human society, birds have inspired us to reach beyond ourselves toward something greater; to pursue wisdom and define moral behavior; to create art, enduring and ephemeral; to understand the universe and exploit its forces; and to check our baser impulses that, when left unchecked, unleash disaster for the birds and for ourselves.

Audubon was founded to stop the mass slaughter of birds at the turn of the 19th century, too late to save the Passenger Pigeon but in time to save the egrets, the spoonbills, and the

pelicans. We lost the Ivory-billed Woodpecker, but we helped snatch the Whooping Crane and the California Condor from oblivion. We rallied to fight the terrible effects of uncontrolled environmental pollution, and we saved the Bald Eagle, the Peregrine Falcon, and—once again—the Brown Pelican.

Today, the birds face another existential threat, and so do we. We've seen the early warning signs on our Christmas Bird Counts and our Breeding Bird Surveys. We've seen signs in the appearance of birds in new places and the disappearance of birds from places where we once knew them well. And we've seen droughts, fires, floods, disappearing glaciers and sea ice, and out-of-sequence natural events of all kinds near our homes and all across the world. Our climate is changing far more rapidly than many bird species—and maybe even we ourselves—may be able to withstand. It's happening here, it's happening now, and it's happening quickly.

For everyone who loves birds, it's time to rise up again. Audubon's new birds and climate change report paints a grim future for birds, but it's a future we still have time to avoid. Let's act from our love. Let's act now. Let's act together. ■



BALD EAGLE, JETHRO TAYLOR / CCL

COMMENTARY

PAUL GREEN | EXECUTIVE DIRECTOR

Taking Extinction Off Your Plate



Something very interesting happened 13.75 billion years ago (bya).^{*} Our Universe came into existence. Carbon, on which our life is based, originated some time later from simpler elements in burned-out stars and later became part of Earth's rocky mantle and ultimately part of us. Our planet is thought to have formed around 4.2bya, the first life forms appearing at around 3.5bya.

Around 2.4bya some life forms developed the ability to combine atmospheric carbon dioxide and water to capture and store the sun's energy in carbon-containing sugar molecules, and free oxygen was produced as a result. It took nearly two billion years for oxygen to reach the levels we know today.

Some early life forms used this newly available oxygen to release energy from those same sugar molecules they obtained from eating these photosynthesizing organisms, opening all kinds of biological opportunities for the future.

Long periods of relatively stable conditions favorable to life on our planet contributed to the birth and subsequent evolution of the complex web of life that is a wonder to behold.

It's incredible to think that five mass extinction events took place between 445mya and 65mya due to climate disruption. The largest happened 252mya and resulted in the extinction of 90 percent of marine life and 70 percent of land species and brought an end to a period of accumulation of dead plants and animals that fossilized to produce coal and oil. The dead plants and animals took with them huge quantities of carbon into the rocks below and out of our atmosphere.

Life and geology have very different timescales. In geological time higher forms of life (plants and animals) will exist on earth rather briefly, perhaps one billion years in total of an estimated 12 billion years existence of our planet.

To put modern humanity into perspective, the development of hominids with symbolic culture, language, and specialized lithic technology arose around 50,000 years ago. While we are but a tiny blip in the timescale, it's possible that

we may cause the sixth great extinction. Today, the atmospheric and climate stability of the past 800,000 years or so is threatened by a warming atmosphere caused by our release of heat-trapping greenhouse gases.

Life on earth is made possible by greenhouse gases: without them the average temperature on earth would be zero degrees, instead of the 59 degrees that we see today. A little is a good thing.

Greenhouse gases capture a portion of the sun's energy that has been absorbed into the earth's surface and then emitted to the atmosphere, increasing the energy in our atmosphere. There's nothing mysterious about global warming; it's a simple process that we can all understand.

More greenhouse gases trap more of the returning energy from the sun. Venus, for example, has an atmosphere that is flooded with greenhouse gases: now the oceans have boiled dry and lead would melt on its surface. We may not recognize the importance of our climate stability until it goes away.

Since the industrial revolution, we have emitted an incredible 1400 gigatons (gt) of carbon dioxide to our atmosphere, about one third of that since the year 2000.

As a direct result in May of this year carbon dioxide levels on earth rose above 400 parts per million level, the highest since measurements began, and probably the highest in three million years.

Since 1901, the average surface temperature across the contiguous 48 states has risen at an average rate of 0.14°F per decade. Average temperatures have risen more quickly since the late 1970s (0.31 to 0.48°F per decade). Seven of the top 10 warmest years on record for the contiguous 48 states have occurred since 1998, 2012 was the warmest year on record, and August 2014 was marginally the warmest August since records began in 1881.

We can see that our climate systems are already changing, and will likely change dramatically over the next 100 years, which puts the continued survival of the support systems for the projected nine billion people in 2050 into question.

Food production systems are especially vulnerable.

The habitat changes, and extinctions that are likely to ensue, will be a blip on the longer scale evolution of life on earth. Over the next few millions of years, natural systems will adapt to the new conditions, assuming no catastrophic outcomes that put us on the Venus trajectory. However, the future of many life forms, including birds and humanity, is in question.

I think life is very special. To be a member of a species that at least begins to understand the enormity of the possible changes we are bringing about carries with it moral responsibilities for stewardship—not least for our birds that carry with them the long genetic history of all that went before.

While predictions for the effects of climate change on birds from the American Bird Conservancy have been with us for many years, two new studies examine the outcomes of modeling future climate scenarios on the distribution of a variety of bird species.

One model predicts that 53 percent of North America's birds will lose more than half of their current climatic range over the next 50 years. The other gives detailed predictions for some birds of the southwest. Read about these on pages 14–15.

Meanwhile, George Marshall tells us that philosophers, economists and psychologists anticipate that we will do nothing to prevent climate change catastrophe. Doing something requires sacrifices now, with immediate perceived losses in comfort, convenience, and choices, in order to avoid uncertain losses, or achieve uncertain gains, in the future.

The uncomfortable truth is that we will need to change the way we live fairly dramatically since it is the way that we live our lives that is the core of the problem. 📌

George Marshall. 2014. Don't Even Think About It:

Why our brains are wired to ignore climate change.

Bloomsbury Press, New York.

^{*}Researchers continually change date estimates of all items mentioned in this article. The dates serve only to provide a relative overview.

TUCSON AUDUBON EVENTS AND CLASSES

Fall into Birding with Tucson Audubon

Tucson Audubon Bird Education Program

Become a birder or improve your birding skills and knowledge through a suite of courses offered at Tucson Audubon. Our courses are designed to take you through a natural progression that will transform you from a beginning to intermediate/advanced birder and transport you to some of the most beautiful locations throughout our region. Below, you will find our courses listed by birding level. The regular non-member cost of classes and workshops include a year membership to Friends of Tucson Audubon.

ALL LEVELS

Gardening to Attract Birds

Learn how to provide for birds the natural way by using plants that offer seed, fruit, and nectar, as well as

cover and shelter. Lynn Hassler, a naturalist, writer and gardener, will teach you how to create desert-friendly gardens that support birds and help make up for lost habitat.

Instructor: Lynn Hassler
Date and Time: October 18; 10:00 AM–12:00 PM

Location: TAS Main Office, Historic Y Conference Room, University Bld. and 5th Ave.

Cost: \$25

Birds, Beauty, and Biodiversity: Nature Journaling Retreat

Deepen your connection with life in the Santa Rita Mountains at this two-day retreat and workshop. Transformational Living activities will help us experience nature as a framework for personal, political, and spiritual inquiry. From birding and botting to story-telling and guided discussion—with nature journals in hand—we will observe and appreciate

the sky island habitat. Participants will sharpen their art of seeing, draw connections between natural beauty and values, and articulate these insights into writing. While seeking a real depth of experience, contagious enthusiasm (a.k.a. fun) is also guaranteed. Trip includes professional instruction, all meals, and lodging.

Instructors: Lynn Hassler, Naturalist, Writer, Educator; Keith Ashley, Tucson Audubon's Paton Center for Hummingbirds Coordinator, Educator
Date and Time: November 8–9, 2014
Location: Santa Rita Experimental Range and Wildlife Area, Pima County, Arizona
Cost: \$360/ \$325 member discount

BEGINNER

Backyard Birding and Beyond Part A

Learn why southeast Arizona is such a great place for birds and why bird watching is so darn much fun! The course is designed for beginners and will address how to separate birds out by habitat, seasonal occurrence, and behavior. Learn about field marks and vocalizations. Get the lowdown on binoculars and field guides, birding vocabulary, and etiquette in the field. Participants will learn how to identify

local birds and discover some of their interesting characteristics and charms. Also covered will be some of the adaptations birds have developed in order to survive in our challenging environment.

Instructor: Lynn Hassler
Date and Time: Saturdays, January 31–February 21, 2015
Location: TAS Main Office, Historic Y Conference Room, University Bld. and 5th Ave.; Field trips TBD.
Cost: \$185/ \$150 member discount

Backyard Birding and Beyond Part B

This course begins where Part A left off and explores in greater detail the characteristics of select families, vocalizations, seasonality and migration, and tips for seeing birds year-round. The course includes two 2-hour classroom sessions and two field trips outside the immediate Tucson area.

Instructor: Lynn Hassler
Date and Time: Saturdays, March 7–28, 2015
Location: TAS Main Office, Historic Y Conference Room, University Bld. and 5th Ave.; Field trips TBD.
Cost: \$185/ \$150 member discount



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

INTERMEDIATE

Advanced Topics: Flight and Feathers

One of nature's wonders, the flight of birds is an amazing physiological feat. In this workshop you will take an in depth look into the how and why of bird flight, and how to use observation of flight patterns as an identification aid. We will delve into the complexities of migration, skeletal structure, and anatomy, as well as flight behaviors. A one day field trip will connect field observations with the topics discussed.

Instructor: Homer Hansen

Date and Time: October 30; 5:30 PM–8:30 PM & November 1; full day field trip

Location: TAS Main Office, Historic Y Conference Room, University Bld. and 5th Ave.; Field Trip Destination TBA.

Cost: \$145/ \$110 member discount

WINTER/SPRING PREVIEW

All workshops taught by Homer Hansen unless otherwise specified.

Sparrows Specialty Workshop:

February 5 & 7, 2015

Raptors Specialty Workshop:

February 13 & 15, 2015

Advanced Topics: Raptor**Immersion Weekend with Bill Clark:**

March 13–15, 2015

Advanced Topics: Birding by Ear:

April 16 & 18, 2015

Register online today! Visit tucsonaudubon.org/education
Contact for all education activities: Bété Jones at bjones@tucsonaudubon.org, 520-629-0510 x7012



MARGARETHE BRUMMERMANN

You're Invited to the Holiday Potluck and Farewell Party!

Monday, December 8, 6 PM, St. Philip's in the Hills Episcopal Church, Murphey Gallery East Room

Each year the holiday potluck celebrates you and other members, and all you do for Tucson Audubon. It is a great time to meet new nature enthusiasts and catch up with old friends. Birder and botanist extraordinaire Rich Hoyer (pictured above) will present *Why Botanists Make Better Birders*. This year's holiday potluck will be a special celebration for Paul and Eng-Li Green, as they conclude their tenure at Tucson Audubon. Send them off right and bring your warmest wishes. Gift donations will be accepted in their honor.

Whether this is your first or fifteenth holiday potluck, we hope you will join the fun. Visit www.tucsonaudubon.org/calendar to RSVP online today, or call 520-629-0510 x7002 and Diana will take your details. When you RSVP, please indicate if you will be bringing a salad, main dish (vegan, vegetarian, or meat), or dessert. We will provide the non-alcoholic beverages. Please bring your own plates, cutlery, and serving utensils from home.

Cyclovia at Tucson Audubon

Cyclovia is a community event hosted by Living Streets Alliance on Sunday **November 2**. For one day the city shuts down 2.5 miles of public streets to be used only for cyclists and those on foot. Join us at our Nature Shop downtown for a day of fun for the whole family.

AXEL ELFNER



FALL COLORS IN PATAGONIA MOUNTAINS, KATE REYNOLDS

See you at the Patagonia Fall Festival!
October 10, 11, and 12

Tucson Audubon Society joins the 2014 Patagonia Fall Festival! Spread your wings for a day or weekend, and stop by Tucson Audubon's booth where our fantastic volunteers will show you how to use binoculars, and where to go and watch birds. The Tucson Audubon Nature Shop will be selling some wonderful items too! While you're there, remember to stop by the Paton Center for Hummingbirds to enjoy this jewel nestled in the mountains of Southeast Arizona, while birding and learning about the exciting, new restoration projects taking place on the property!

Known as "the best small town festival in Arizona", the 26 year-old Patagonia Fall Festival is an annual celebration of music, art, crafts, food and fun. This free event attracts more than 16,000 visitors to the tree-shaded park in the center of town over a festive 3-day weekend.

We hope to see you at the festival to share your love of birds with the local community. For more details about the Patagonia Fall Festival, please visit www.patagoniaaz.com.

For opportunities to volunteer at our booth, please contact Julie at volunteer@tucsonaudubon.org or 520-629-0510 x7011.

Visit tucsonaudubon.org for updates and more.

October 10–12. Patagonia Fall Festival (see p 5)

October 11. Atturbury Wash Restoration Volunteer Day (see p 11)

October 13. Living With Nature lecture (Tucson): Birds, Climate Change, and You with *Paul Green*

October 15. Birds & Beer at Sky Bar 5–7 PM: free slice of pizza, beer at happy hour prices, share your bird photos.

October 17–19. SAHBA Home Show at TCC: come see Tucson Audubon at our Urban Bird Habitat booth.

October 18. Gardening to Attract Birds workshop (see p 4)

October 30 & November 1. Flight and Feathers workshop (see p 4)

November 1. Living With Nature lecture (Green Valley): Saving the Great American West: The Story of George Bird Grinnell with *Hugh Grinnell*

November 2. Cyclovia at Tucson Audubon Society (see p 5 & p 11)

November 8. Atturbury Wash Restoration Volunteer Day (see p 11)

November 8–9. Birds, Beauty, and Biodiversity retreat and workshop (see p 4)

November 10. Living With Nature lecture (Tucson): Saving the Great American West: The Story of George Bird Grinnell with *Hugh Grinnell*

November 15. Guajalote Flats and Relaxed Lecture on Azure Bluebirds and sub-species at Paton Center (see p 9)

November 19. Birds & Beer at Sky Bar 5–7 PM: free slice of pizza, beer at happy hour prices, share your bird photos.

December 6. Living With Nature lecture (Green Valley): Birds of the El Triunfo Biosphere Reserve, Sierra de Chiapas, Mexico with *David MacKay*

December 8. Living with Nature lecture (Tucson): *Why Botanists Make Better Birders* with *Rich Hoyer* and member holiday potluck at St Phillip's Plaza (see p 5 & p 6)

January 3. Living With Nature lecture (Green Valley): Urban Bird Habitat: Recipe for Conservation with *Jennie MacFarland*

January 12. Living With Nature lecture (Tucson): Urban Bird Habitat: Recipe for Conservation with *Jennie MacFarland*

January 31–February 21. Backyard Birding and Beyond Part B (see p 4)

February 10. Tucson Audubon Society's Seventh Annual Gala at the Hilton El Conquistador Resort. Save the date!



Tucson Audubon's Living with Nature Lecture Series

We are back!

Our lecture series is a monthly, free of cost, public presentation that seeks to inform, educate, and entertain. We invite speakers who are experts in their fields to present on a variety of topics related to birds including their biology and ecology, global, regional, and local birding hot spots and conservation issues that affect birds, other wildlife, and their habitats.

TUCSON All lectures will be held at the Pima Community College Downtown Campus, Amethyst Room, 1255 N. Stone Ave. Lectures are scheduled for the **second Monday** of each month at 7:00 PM, October through April.

October 13 • Tucson



Birds, Climate Change, and You with Paul Green

Increasing carbon emissions cause a warming planet which results in changes in climate. Changes in climate bring changes to the lives of birds that we can already see. Some new models predict species specific changes from range expansion to extinction. Paul will briefly examine two recent reports and share what they predict for some western bird species and discuss how each of us can engage in different ways to help our birds.

November 10 • Tucson

Saving the Great American West: The Story of George Bird Grinnell with Hugh Grinnell

The great West that George Bird Grinnell first encountered in 1870 as a 21-year-old man was shortly to disappear before his eyes. Nobody was quicker to sense the desecration or was more eloquent in crusading against the poachers, the hide-hunters, and the disengaged U.S. Congress than George Bird



GEORGE GRINNELL IN GLACIER, PBS.ORG

Grinnell, the "Father of American Conservation." Grinnell founded the first Audubon Society, co-founded the Boone and Crockett Club with Teddy Roosevelt, and led the effort to establish Glacier National Park. Audiences will travel back in time to the 19th century, listening to Grinnell's own words as taken from his field journals, memoirs, personal correspondence, and newspaper editorials. Additionally, audiences will enjoy dozens of 19th-century photographs, which visually capture Grinnell's many expeditions and discoveries.

December 8 • Tucson

Holiday Potluck: Botanists Make Better Birders with Rich Hoyer (RSVP required, see p5)

Many experienced birders have a passing interest in plants, but most of them can't tell a cyprus from a cedar, let alone a corymb from an umbel or a palea from a lemma. Who needs to know that if you're looking at wing coverts and primary extensions? Rich Hoyer will show how your skills in identifying plants and recognizing habitat details will help you hone your own birding skills with this photo presentation of plants and birds from Arizona.

In 2015:

January 12 • Tucson

Urban Bird Habitat: Recipe for Conservation with Jennie MacFarland

We all have the power to create habitat for urban wildlife in our yards



GAMBEL'S QUAIL, DORIS EVANS

and neighborhoods. Do you have the desire, but need some guidance? Jennie will introduce you to "Recipe Cards" for attracting specific urban bird species into our outdoor living spaces. These cards will provide a step by step on the "how to" how to create yard habitat for hummingbirds, Gambel's Quail, Lesser Goldfinch, Western Screech-Owl and Curve-billed Thrasher. She will give some background on the origin of this outreach tool within the Tucson Bird Count's "Bringing Birds Home" project and will discuss reconciliation ecology, the driving force behind this initiative started by Mike Rosenzweig at the U of A. Sharing our urban space with wildlife will greatly influence local conservation efforts in the future. Learn how you can join in and contribute to this important movement.

Save the dates for 2015:

- February 9
- March 9
- April 13

GREEN VALLEY All lectures will be held at the Green Valley Recreation's Desert Hills Social Center, 2980 S. Camino Del Sol. Lectures are scheduled for the **first Saturday** of the month at 10:00 AM from November to April.

November 1 • Green Valley

Saving the Great American West: The Story of George Bird Grinnell with Hugh Grinnell
See description for Tucson, November 10.



HORNED GUAN, DAVID MACKAY

December 6 • Green Valley

Birds of the El Triunfo Biosphere Reserve, Sierra de Chiapas, Mexico with David MacKay

Long known to birders, the El Triunfo Biosphere Reserve has taken on an almost mythical quality due to its remoteness, limited access, rare birds and intact cloud forest. It is the only place in Mexico and one of the only places anywhere in the world to see the endangered Horned Guan and the recently re-discovered Azure-rumped Tanager. Other great birds include the King Vulture, White-faced Quail-Dove, Fulvous Owl, Resplendent Quetzal, Long-tailed Manakin, Giant & Nava's Wrens, Pink-headed Warbler, Rosita's Bunting and many, more! A visit to this beautiful place is an opportunity of a lifetime. Join David MacKay for a virtual journey and experience the magic of El Triunfo.

January 3 • Green Valley

Urban Bird Habitat: Recipe for Conservation with Jennie MacFarland

See description for Tucson, January 12.

Save the dates for 2015:

- February 7
- March 7
- April 4



COSTA'S HUMMINGBIRD, ALAN D. WILSON, WWW.NATURESPICSONLINE.COM

PIGMY NUTHATCH, KENNETH COLE SCHNEIDER / CCL

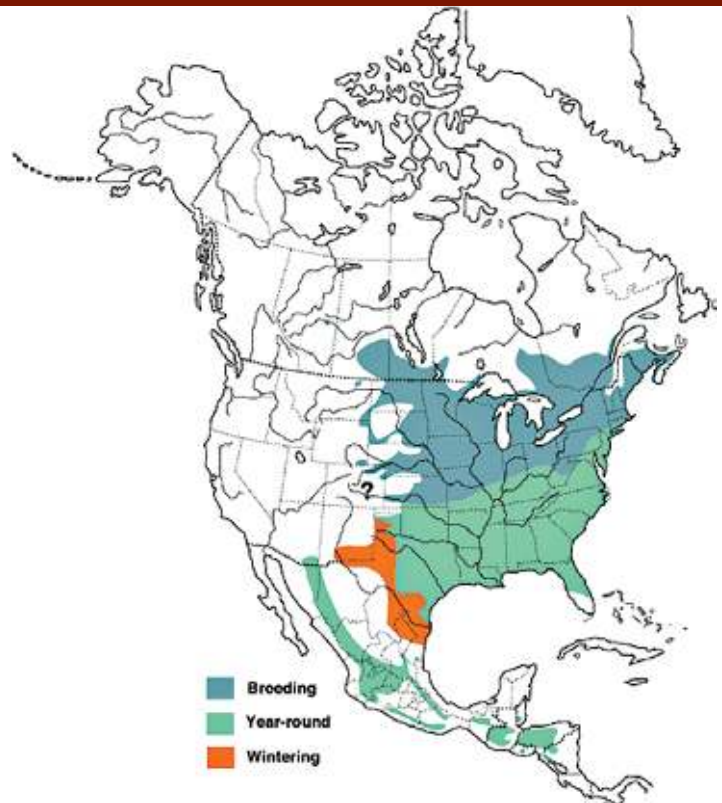
Patagonia Mountains IBA and Our Special Azure Bluebird Arizona Important Bird Areas News

Jennie MacFarland, IBA Program Biologist

The Arizona Important Bird Areas (IBA) Program has reached an exciting phase in its eleventh year and is perfectly situated to spring into its twelfth next year. One recent highlight was the highly anticipated addition of the Patagonia Mountains IBA to this network of Arizona sites recognized for their critical role as habitat for native birds. Tucson Audubon's amazingly dedicated IBA volunteers helped with survey efforts in this mountain range for many years. Their hard hard work was rewarded with this amazing area being recognized as an IBA, bringing Arizona's total up to 45 Important Bird Areas. This newest IBA stands out among its neighboring sky islands, the Huachuca Mountains IBA and Santa Rita Mountains IBA, because of its extensive oak habitat with intermittent meadows and creeks. This habitat zone is restricted to a "band" of habitat around the higher sky islands but makes up larger portions of this lower elevation mountain range. This makes this area

of critical importance for species associated with this habitat type.

There are many species of conservation concern and high birder interest associated with the extensive oak and meadow habitat of the Patagonia Mountains. These include Arizona Woodpecker, Montezuma Quail, Hepatic Tanager and Virginia's Warbler. One of the most interesting, however, is a bird that not many local birders even realize is around but can almost certainly recognize at a glance: Eastern Bluebird. There is a distinct sub-species of Eastern Bluebird that occurs in southeast Arizona known as Azure Bluebird or Mexican Bluebird and they are quite different from the "regular" Eastern Bluebirds. The Azure Bluebirds that love the meadows and grasslands of southeast Arizona are smaller and paler than their eastern cousins and stay in this habitat year-round instead of migrating. It is tempting to think of



CORNELL LAB OF ORNITHOLOGY

Map of Eastern Bluebird distribution. The Eastern Bluebirds we have here in SE Arizona are not from the east but from the south.

these birds as pioneers from the eastern population that have made it out west. But in reality the situation is more complex and international. The range of Eastern Bluebirds extends significantly into Mexico and our Azure Bluebirds are a northern extension of the birds that inhabit the Sierra Madre mountain chain. This means that the Azure Bluebird that helped to make the Patagonia Mountains an Important Bird Area are one more "Mexican

specialty" bird that makes Southeast Arizona such a great place for birders.

The Arizona IBA crew will continue to survey for Azure Bluebirds in the Patagonia Mountains in the face of several threats to this area including the Wildcat Silver Mine. The Patagonia Mountains are the most significant habitat for these birds and we will endeavor to keep this area "for the birds."



COBALTI23 / CCL



LOIS MANOWITZ

There are many species of conservation concern and high birder interest associated with the extensive oak and meadow habitat of the Patagonia Mountains (bottom left) including a bird that not many local birders even realize is around but can almost certainly recognize at a glance, Eastern Bluebird (bottom right).

So Long, and Thanks for All the Birds . . .

Paul Green, Executive Director

Living and working in Tucson has been transformational for me. While I was drawn here by memories of my first experiences with southeast Arizona birds when I moved to the United States in the mid-nineties to work for the American Birding Association, the lot of an NGO executive does not normally lead to much time in the field. My wife, Eng-Li, and I have been very fortunate to live in a place where the birds and wildlife come to us.

Tucson hosts a unique group of cooperative and mutually supportive NGOs, has a world-class university, and an engaged population. That's a magical mix for environmental thought and action. And Tucson Audubon can be proud of many achievements and actions over the last eight

years, beginning with our part in the eventual defeat of challenges to the Clean Water Act spearheaded by the National Association of Homebuilders and their local affiliate, and ending with what I hope will be a defeat of the proposed Rosemont Copper Project.

Of increasing importance in my personal life is my concern over the consumptive and growth-focused nature of our society that has led to a range of ills, one of which is the warming of our planet and climatic outcomes that will make life difficult for our species in the coming years. Southeast Arizona, as we are experiencing, is ground zero for the effects of climate change.

Over the last few years Eng-Li and I have been exploring ways of living more sustainably, and have decided

to try out some ideas for living with as close to zero carbon emissions as we can achieve. To that end we will be relocating at year-end to an off-grid, passive solar house on several acres of land in northern New Mexico. This is not retirement but a realignment of our lives, and we will continue to promote the values of cherishing our natural world which is an important driving force in our lives.

We have been but one small cog in a community of people who have inspired and transformed us. We are grateful to have had this opportunity, and we thank the many people with whom we have worked for teaching us new ways of thinking and acting.



ALL PHOTOS PAUL & ENGLI GREEN

Right, top to bottom: A small selection of the birds that regularly visit our Tucson abode: Greater Roadrunner, Western Screech-Owl, Harris's Hawk.

Share a Goodbye and a Thank You

Cynthia Pruett, Board Chair

Many of us, board and former board members, volunteers, donors, and members, have come close to Paul and Eng-Li over the eight years they have been part of Tucson Audubon. So we will miss them at the end of the year when they move to New Mexico. They are leaving with quite a legacy.

Just a simple thank you does not seem to adequately convey how much they have meant to us as individuals, to the organization, and the community. Perhaps the Spanish "mil gracias" comes closer, but I would recommend that we all, in unison, shout the loudest, biggest Thank You we can manage. You can do that by coming to the Annual Pot Luck on December 8 (see p 5 & 6), sharing time with them, and we can make the rafters ring.

Mason Center: Green Energy Exporter

Paul Green, Executive Director

Mission Accomplished. Those were the words used by George Villec, leader of Geoinnovation (geoinnovation.com), who installed the Mason Center's latest solar array *pro bono*, and who also donated the photovoltaic panels. George installed the panels on our Education Center ten years ago, and on our straw bale composting toilet facility.

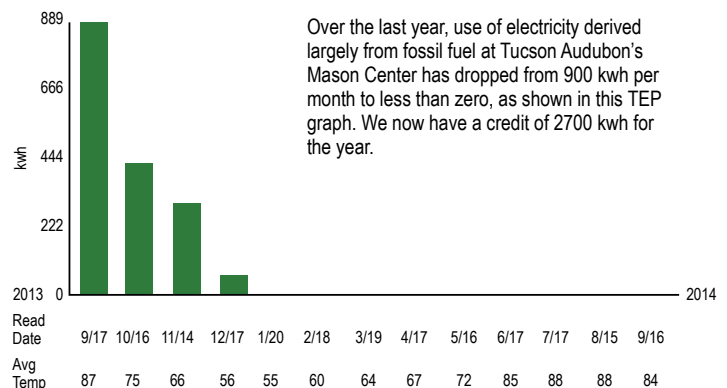
The graph says it all: Tucson Audubon's Mason Center is a net exporter of clean, solar energy to our community. This is your success: members and supporters made this possible. The story began with the replacement of our single pane 1950s windows and continued with the installation of roof insulation, an efficient heat pump for heating and cooling, and then solar panels to generate the power for heating, cooling, lighting, cooking, and water heating and pumping.

At this point in the year we have accumulated a credit of 2700 kwh of energy.



PAUL & ENGLI GREEN

Mason Center's newest solar array was donated and installed by Geoinnovation.



Over the last year, use of electricity derived largely from fossil fuel at Tucson Audubon's Mason Center has dropped from 900 kwh per month to less than zero, as shown in this TEP graph. We now have a credit of 2700 kwh for the year.

The Paton Center for Hummingbirds Hard Times Ahead for a Natural Oasis?

Keith Ashley, Coordinator: Tucson Audubon's Paton Center for Hummingbirds

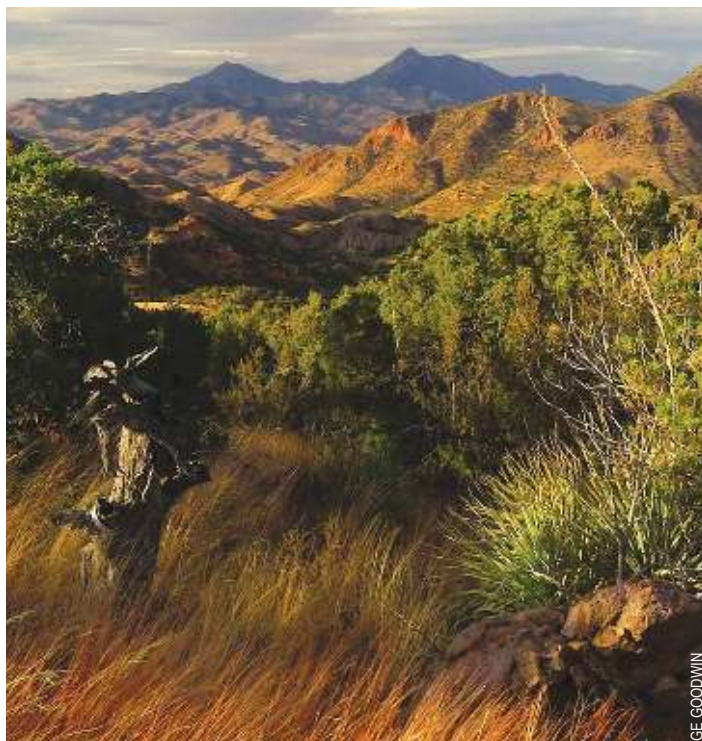
We like to think of the **Paton Center for Hummingbirds** in Patagonia as a safe space for birds and people alike, but life is rarely so simple. Both birds and people depend upon a much larger context for their survival than what is immediately obvious. Sadly we've learned that exploratory mineral drilling—and the disturbance of vital habitat—has now been sanctioned in the heart of the Patagonia Mountains, without appropriate environmental studies.

Mines destroy and poison communities of both people and birds. While mines provide necessary resources, in the case of recent claims around Patagonia, the gross contrast between tiny profits for foreign companies and vast destruction of the local ecology and economy is alarming and extreme.

Mining operations bring with them noise, roads, air pollution, water pollution, water depletion, potential changes to the bedrock itself, and many unknowns. Two things to keep in mind about the Patagonia Mountains are that their water is already highly mineralized and in relatively short supply. Mining operations from the late 1800s into the early 1960s have left a legacy of contamination, adding higher levels of dangerous metals to the water supply. New mining efforts would most likely raise the level of those contaminants even higher—perhaps quite steeply. They would also drain enormous amounts of water for their operations—water currently supporting wildlife. We don't believe it's too late to save this treasured area, but we must act soon.

What can you do? Arm yourself with education by studying the PARA website (www.patagoniaalliance.org) and Tucson Audubon's Action Alert web page (www.tucsonaudubon.org/act-now/alerts.html). Participate in related activities and support our conservation work through generous donations.

Visit tucsonaudubon.org for updates and more.



GE GOODWIN

Hike, Learn, Eat: Seven Saturdays in Patagonia

One way to build awareness of the richness of the Patagonia Mountains is to participate in the **Seven Saturdays in Patagonia** program activities. One Saturday each month from October 2014 to May 2015 (excluding December) we will lead a hike in the surrounding area, offer a relaxed lecture on a local conservation topic, and invite people to support the local economy by purchasing food in town for a picnic. **Registration for the hike and the lecture are required and are separate.** You can participate in one, two, or all three of these activities. Find out more on our website at: www.tucsonaudubon.org/paton.

Nov. 15: **Hike with Bryon Lichtenhan in Guajalote Flats** (in search of Azure Bluebirds).

Nov. 15: **Relaxed Lecture with Jennie MacFarland: Why Subspecies Matter** (a discussion of southeast Arizona subspecies and the stories they tell us).



RICHARD THOMPSON

Meet PARA!

The Patagonia Area Resource Alliance (PARA) is a grassroots, non-profit community alliance committed to preserving and protecting the Patagonia, Arizona area. One way to get to know their work is by watching the 18 minute documentary film "Mining Patagonia" on their website at www.patagoniaalliance.org/patagonia-area-videos/



Win-Win for Azure Bluebirds and Arizona Vineyards

Jonathan Horst

Azure (or Mexican) Bluebirds (*Sialia sialis fulva*) are a subspecies of the Eastern Bluebird limited in range to northern Mexico and southeast Arizona. Here they nest primarily in the Patagonia and Huachuca Mountains, often visiting the grasslands surrounding these Sky Islands. Due to its strict habitat requirements, the Azure Bluebird is listed by Arizona Game & Fish as a "Species of Greatest Conservation Need" and "Vulnerable."

In partnership with the Sonoita Wine Guild and several other organizations, Tucson Audubon is launching an Azure Bluebird conservation project. We will install nest boxes on the vineyards of the Sonoita grasslands and in the Patagonia Mountains. Though breeding in the grasslands is historically documented for Azures, eBird and first-hand accounts reveal that the breeding range and population numbers have decreased. Research states lack of adequate nesting cavities to be the population's primary limiting factor.

Re-opening the grasslands as breeding territory will not only strengthen the population, but also increase species resilience to climate change and potential loss of habitat through mining and agriculture. This project will also model the innovative principle of reconciliation ecology—intentionally designing human land use to actively benefit sensitive species. In this case, the vineyards hosting nest boxes will benefit by hosting a beautiful, blue-feathered, insect-eating army to protect their grapes.

We need your help to make this project a reality. Teams of nest box builders and monitors will be crucial to success. We are also actively seeking financial sponsorship for the project. Contact Keith Ashley (kashley@tucsonaudubon.org) or Jonathan Horst (jhorst@tucsonaudubon.org) for more information.

Fourth Annual Tucson Bird & Wildlife Festival Roundup

Julie Pulliam, Events & Volunteer Coordinator

Thank you for supporting the fourth annual Tucson Bird & Wildlife Festival! You made this event a success and it

continues to grow each year. Please enjoy this short glimpse of the festival and check out our facebook page,

website and birdsnews.com for more photos! We look forward to seeing you next year, August 12–16, 2015!



Top row, L to R: Volunteers (and attendees), Wanda Wynne and Craig Marken smiling after dinner with keynote speaker Robert Mesta and special guest Raul Grijalva; California Gulch field trip group viewing a Five-Striped Sparrow with leader Laurens Halsey; Conservation Advocate Matt Clark speaks with a visitor at the festival Advocacy Station. Bottom row, L to R: Keynote speaker Steve N.G. Howell visits with friends and guests at the WINGS Birding Tours booth; Arizona Game & Fish Department Environmental Educator Sam Huselton takes a moment to smile for the camera. This was a popular exhibit for visitors at the Nature Expo, with live birds and desert animal demonstrations; A young birder learns about binoculars with Leica Sport Optics representative Jeff Bouton.



BROAD-BILLED HUMMINGBIRD, ALAN D. WILSON/NATURESPICSONLINE.COM

THANK YOU TO OUR DONORS

Gifts in Honor/Memory:

- In memory of Ed Caldwell from Mary Caldwell
- In honor of Casa de San Pedro Bed & Breakfast from Carolyn Greene
- In honor of Les Corey from Diana Freshwater
- In memory of Carol Jones from Barbara & Joseph Brinig
- In memory of Michael Aaron Lyman from Eric J. Lyman
- In memory of Ronnie Sidner from Jane Ash, Bam & Kevin Dahl, Martha Anne Jaffe, Cheryl & David Lazaroff, Carole & Michael Rosenzweig, Candance Sidner, and Mindy Sparks
- In memory of Lucy Tarbox from Marlene Hilligoss
- In honor of Richard Tipton from Marjie & Dick Tipton

Thank You to Our Frequent Flyers

Ardeth Barnhart, Myrna Beards, Melanie Builder, Andrea Cohen, Janet Cohn, Mich Coker, Christine Curtis, Sandy Elers, Peggy Ford, Marcy Gray, Mike Judd, John Kennedy, Susan Kozacek, Erin Olmstead, Mary Beth Slivka, Deb Vath, Nancy Young Wright, Claire Zucker

Monthly giving through automatic credit card or bank withdrawals is convenient, secure, and simply one of the best ways you can support Tucson Audubon's programs. For more information, visit tucsonaudubon.org/give.

WELCOME NEW MEMBERS

Michael Abbott, Dabney Altaffer, Maria Altemus, Sharon & Max Atwell, Matt & Rebecca Bailey, Thea Baker, Karen Marchi & Michael Barnes, Mark Barry, John Barthelme, Carol Baum, Bob Bauman, Karl Becker, Jan Bernardini, Diana & John Bragg, Bill Brown, Laurie & Mark Bryant, Martha Burgess, Steven Caldwell, Marc Callis, Matt Clark, Laurel & Sid Clarke, Martha Collier, Helen Cordier, Barbara Cornelsen, William Craig, Laura Diaz, Michael Ehrhardt, Lois Eisenstein, David Elwood, Jane & Richard Evans, John Ferner, Jon Fimbres, Robert Finnan, Craig Fletcher, Janice Fletcher, Judith & Thomas Ford, Syrene Forsman, Patricia & Howard Frederick, Beverly Gallagher, Katie Gannon, Camille Gannon, Margot & Jose Garcia, Kathleen & Robert Goodrich, Mary Gould, Marlesa Gray, Vera & Gary Gregg, Teresa Hager & Lee Milligan, Nerissa Hall, Virginia Hanes, Linda Hansen, Phyllis & Bob Harris, Janos Hegede, Norma & Tim Helentjaris,

Marlene Hilligoss, Sidney Hirsh, Jeff Horton, Bruce Housik, Suzanne Hunter, Bill & Kathy Johnston, C.J. Karamargin, Lieve Keeney, Andrea Kennedy, Donna Kidder, Kathy King, Ralph Kitchens, Edwin Kohlhepp, Kathy Kuyper, Linda Langin, Geraldene Larrington, Joshua Lazenby, Peggy & Wilson Leggett, Dan Lehman, Nancy Lehrkamp, Ronda Lustman & Paul Winick, Elena Martin, Michael Martyna, Barbara McCarter, Judy McCarthy, Nathan McDonald, Carol McLain, Brianna McTeague, Judy & Paul Mercer, Lillian Meriwether, Joan Merrill-Brundage & Alan Brundage, Hugh Metcalfe, Nancy & Walter Miller, Steven Miller, Bonnie Paton Moon & Richard Moon, Marla Motove, Kelvin Murphy, Brooke Myers, Diana Nash, Will Nelson, Genavieve Hueftle & Bob Nonamaker, Susan Norris, Betty Ohr, Ingrid Orłowski, Christopher Overlock, Michael Parker, Janet Parkhurst, Candy Parsons, Kerry & Dave Paul, Barbara Pemp,

Mary & Ed Post, Don Prentice, German Quiroga, Patricia Reardon, Elizabeth Evans & Steve Reitz, Joy Remer, Taralynn Reynolds, Heather & Christopher RoDee, Diana Rosenblum, Cheryl Ross, Gayle Salisbury, Lois & Gonzalo Sanchez, George Saravia, Rick Saxton, Amy Schlossberg, Susan Scott, Dan Sheahan, Forrest Shorman, Melinda & Irwin Simon, Stephen Spare, Carol & Greg Starr, Judy Staubo, E Ann Stewart, Mary Jane Stillely, Joan Stunz, Bonnie Swarbrick, Chris Tanz, Sue Taylor, Candace Temple, Patty Tersey & Keith Kamper, William Tyndall, Elda Vail, Susan Valachi, Linda & Tim Valder, Sonya Valentin, Kaaren Zvonik & Stephanie Velsmid, Frances Walker, Hugh Ward, Elizabeth & Christopher Warren, Sarah Whelan, Marty Wilde, Anne & Ron Williams, Melissa Williams, Leoma Wittenberg-Love

Diana Rosenblum, Membership & Development Assistant

Volunteer Update

Julie Pulliam, Events & Volunteer Coordinator

Warmest Welcome

to the new members of Tucson Audubon's volunteer team: Linda Elling, Hanna Hard, Kathy Kuyper, Tyler Loomis (intern), Donya Meggs, Francine Wetzal (intern).

A Big Thank-You!

Thank you fabulous volunteers for your commitment and hard work! Over the past few months you made great things happen at Tucson Audubon. We extend a special thanks to our 62 core volunteers who made the 2014 Tucson Bird & Wildlife Festival a success. You made us shine brightly, and it's because of you that this festival can thrive. **We extend our gratitude for your time, commitment and positive energy.** What a joy to work together; you brought a smile to my face and to many others! Thank you.

Your Volunteer Season: October–December 2014

We have some exciting events happening in the fall! As always, please stay tuned for other rewarding opportunities that may not be previewed below. Hope to see you this fall!

Would you like to serve as the face of Tucson Audubon Society, while connecting with 16,000 visitors in the Patagonia community? **The Patagonia Fall Festival, October 10–12 is a great opportunity to spread your wings and day-trip to Patagonia.** Manage an outreach table with fellow volunteers, while selling merchandise and educating people about the Tucson Audubon's Paton Center for Hummingbirds.

Atturbury Wash Workdays are back with opportunities October 11 and November 8. Wield your outdoor strengths at this urban habitat restoration site with a team of volunteers to plant native plants and create natural channel design structures.

Ready for a fun event that connects with the Tucson community? Join us for Cyclovia, a

fundraiser that gives people a chance to enjoy Tucson from a different perspective (outside of the car). Bring a friend and a smile for this exciting event, and rally cyclists and walkers along the route to participate in fun, birdy activities at the Tucson Audubon Nature Shop!

In December, **celebrate with members, fellow volunteers and staff while offering your event assistance skills.** The Holiday Potluck December 8 is a special time to bring everyone together, and wish Paul and Eng-Li Green a farewell.

For volunteers who like to work behind the scenes, fall is a great time to participate in planning for Tucson Audubon Society's signature events, including our seventh annual Gala held in February 2015 and the fifth annual Tucson Bird & Wildlife Festival next August. These roles are integral in creating successful events and offer variety and flexibility to tailor to your strengths and experience levels.

Lastly, if you enjoy working in an environment where you can interact with visitors to Tucson Audubon Society, please consider taking a few hours each week to **work at our Nature Shop.** This is a committed role that can be very rewarding while learning and helping others in a retail setting.

For more information about these opportunities and more, please contact Julie at volunteer@tucsonaudubon.org, 520.209.1811, tucsonaudubon.org/volunteer.

Meet Ken Murphy!

"Birds brought me to Tucson, and I love it!" Birding aficionado Ken Murphy began volunteering with Tucson Audubon this past May 2014 and has spread his wings into many roles, serving twice a week as a Nature Shop attendant, an Important Bird Area surveyor, and most recently taking on the role of Field Trip Coordinator.

Birding is a passion for Ken—it's one reason he became a field trip coordinator. "I love talking to people about birds—it's always fun to help a beginner learn how to identify a bird along with its behavior and habitat, and I enjoy the camaraderie of the long-time birders," says Ken.

Growing up on a 24-acre ranch in the Sonoma wine country of California, Ken was surrounded by wildlife and vineyards, and naturally inspired by the birds and animals on the land. "I always loved birds as a kid, particularly birds of prey," says Ken. It wasn't until he took a college class about birds that he branched out to birding.

Ken graduated from Sonoma State University with a BS in Biology and Geology (influenced by his love of the land). In the year 2000, he ventured to Flagstaff, Arizona and worked in a chemistry lab while leading occasional birding trips for the local Audubon chapter. When he made a career change, he jumped on the opportunity to move to Tucson, where he had always planned to retire. "I just got a 10–15 year headstart!" he chuckles.

Ken enjoys volunteering at Tucson Audubon, and credits those moments that inspire him, whether



Ken Murphy, at the Smithsonian.

it's helping a customer find the right binoculars or surveying out in the field. "It's been fun! My favorite times are when people call or see me with birding questions—it's where I thrive."

Ken continues to grow within his roles at Tucson Audubon. He plans to round up more field trips. He hopes to expand them further afield into areas like New Mexico, California and Mexico.

Ken's favorite bird? There are too many for him to choose. He credits birds of prey as his inspiration, but now he's drawn to wood warblers, in particular, the Painted Redstart. "It's a standout bird, with its beautiful colors and gregarious personality—coming right up close to birders," says Ken.

If you are looking for Ken, you will usually find him outdoors, whether it's birding, hiking, travelling or photographing (his most recent interest). When he's not outdoors, you will find him picking up a good read, rockhounding (one of his scientific passions) and spending time with his companion bird of 20 years, a Blue-headed Parrot named Frank.



L to R: Tyler Loomis and Donya Meggs representing Tucson Audubon with fun activities at the 2014 Desert Museum "Conservation is Cool" Summer Night; Volunteer Joe Eigner greeting visitors with a smile at the 2014 Tucson Bird & Wildlife Festival, as he does each year; Operations and Retail Coordinator Sarah Whelan and volunteer Ken Murphy are all smiles after helping many customers with their purchases at Tucson Audubon's on-site Nature Shop at the 2014 Tucson Bird & Wildlife Festival.



Interesting stories about birds with interesting names

Crissal Thrasher

LARRY LIESE

I used to love leading Tucson Audubon field trips to Catalina State Park. While we arranged carpooling to the park I'd prime the visiting birders to be ready for two local species they would want to see there that were more difficult elsewhere—Rufous-winged Sparrow and Crissal Thrasher. We'd arrive at the picnic grounds and start walking to the rest rooms near the Equestrian Trail—conveniently passing the garbage dumpster behind which a pair of Crissal Thrashers was nearly always present. I'd hear their "tuit-tuit"/"chewy-chewy" calls and call out to the group: "Oh! There's one right there!" A little sneaky, but it made for a great start to a field trip.

Our bird this issue is Crissal Thrasher, a bird of desert washes and riparian thickets. It favors dense, brushy habitats which in the desert are infrequent and patchily distributed. It is one of the more terrestrial thrashers in our area. Unless perched for singing or calling to attract mates and proclaim territories, these birds forage, evade intruders and evict trespassers almost entirely from the ground which can make this bird hard to find and difficult to see well. Interestingly, published literature indicates that although nest predation is common by corvids, snakes, and perhaps Greater Roadrunners, no predation of adults have been noted. This makes me wonder about birds south of the border where their habits and range in Mexico are very poorly known. I once heard a talk on Aplomado Falcons in the State of Chihuahua. In their main range there when vegetation was dense enough to attract the thrashers, they were the falcons' main prey. I don't recall whether individual thrasher species were mentioned in that talk, but Sage, Curve-billed, and Crissal Thrashers are present there.

Our bird presently carries the scientific name *Toxostoma crissale*. Although this was the originally intended species name from the time of original publication in 1858, for much of its existence its proper scientific name remained *T. dorsale*, a printer's error duplicating a junco's name in the same publication. Due to the

inviolate nature of the Law of Priority, it wasn't until 1983 that it was decided to make the correction when the species name *dorsale* was suppressed by the International Commission on Zoological Nomenclature and things were put right. Or were they? Let's take a look at the Law of Priority, a cornerstone of biological nomenclature, and you can make up your own mind.

The Law of Priority is one of the most important contributions to the regulation of nomenclature. Prior to its formulation species were referred to by a mish-mash of local, sometimes overlapping names that caused much confusion in taxonomy. The Law states that each distinct living thing retain inviolate its original and unique binomial name as long as it is scientifically valid and, once published, its initial form becomes a technical term describing that species—regardless of whether mistakes in spelling, grammar, color or place name occurred.

In practice, as knowledge grows of the taxonomical relationships between species, genera, families etc., it is not uncommon for genera to be changed—but unless lumps or splits occur the species name will follow the organism through time.

In the story of our thrasher, in 1855 the original specimens were gathered by T.C. Henry, an army surgeon stationed in New Mexico. He forwarded them via John Cassin to Spencer Baird at the Smithsonian Institution in Washington. In 1858, Baird's description of the new thrasher was published under Henry's name. Unfortunately, that publication was fraught with errors, including a duplication of a junco's species name for the thrasher. Thus, Crissal Thrasher was named *T. dorsale* (referring to the

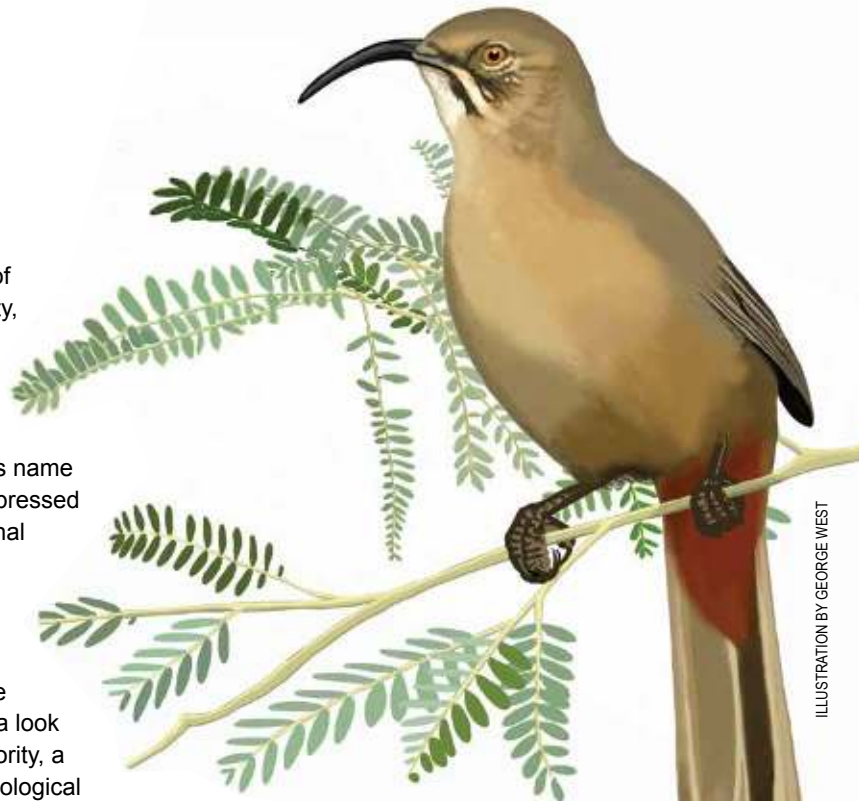


ILLUSTRATION BY GEORGE WEST

back, which is not distinctive in our bird). A month later that page was reissued with the correction to *T. crissale* (referring to the bird's bright rufous crissum), and until 1920 the bird was referred to in the corrected form. But ... in 1920 Oberholser insisted that the original *T. dorsale* name had legal precedence and it resumed as the official name. This carried on for half a century until the 1983 change. Take a look in any early field guide you might have (my old Golden Guide has it), and you will find the former name listed. Birders joke that it took nearly 150 years to get it straight, but one could still argue against the change!

An interesting story, right? I thought it a fitting end to this article series. As I mentioned in the last issue, this will be the final "What's In A Name" article. In closing the series, I'd like to add thanks as always to Dr. George West, whose bird images have brightened the articles and brought their professionalism up a number of notches. I'd also like to thank Tucson Audubon for allowing me space in each *Vermilion Flycatcher* issue for them, and especially Matt Griffiths for putting up with my abuse of the submission deadlines. A relief for both of us, right Matt? It's been a fun run of articles. I hope you've all enjoyed reading them and perhaps learned a bit along the way. Good luck out there birding! 🍷

What Do Owls Need for Habitat?

RICH HOYER

Getting to know owls and their habitats is tricky—such is the challenge with nocturnal creatures. There is still a lot we don't know about what owls need to call a place home, but observing that many of our locally breeding species occur in a huge variety of habitat types seems to point to something other than a dependence on particular plant species. We might start on the assumption that owls need a place to nest above all. Then consider that they need food as well as a daytime roost where they can avoid predators and mobbing passerines. It seems you don't really need to be a botanist to know how to find owls.

A large variety of nest sites are used by owls, depending on their size. All of the smaller ones use cavities—either natural holes in trees or old woodpecker holes, and the size of the hole is important. As for a place to hide during the day, a dense tree or bush works for some, while a tree cavity might be preferred for the smaller species. But the more difficult trick seems to be understanding what exactly they eat and what the habitat is of this prey.

Then what is it that urban Tucson lacks for owls? I live near the U of A Campus Agricultural Center on Roger Road, and in 16 years have had Great Horned Owl regularly but Elf Owl only twice, presumably as fall migrants. Once I found a Western Screech-Owl in Christmas Wash near here, but only once. So clearly something is missing in urban Tucson.

Great Horned Owl needs a platform to nest on—an old Red-tailed Hawk nest or some other flat structure such as a concrete bridge abutment works, and their prey base of Desert Cottontails and rats (and perhaps even un-housed cats) seems to have no end here in Tucson. They seem to be perfectly at home roosting in an ornamental pine, tamarisk, or Red River gum, and for these reasons most everyone has Great Horned Owl in their neighborhood.

But what about Elf Owl? Consider that Elf Owls can be found in the desert suburbs of Tucson and nests in surprising densities in any kind of desert, well up into the lower oak zone of our sky

islands. They will nest in holes made in mesquites, oaks, sycamores, saguaros, or even power poles. They feed almost entirely on invertebrates that thrive in warm desert nights, especially moths, beetles, and others such as scorpions, but they will also catch small mammals and reptiles if the opportunity arises. Their prey of choice might be what limits them at higher elevations, but introduced Mediterranean geckos and countless moths, beetles, and grasshoppers can be found almost anywhere in urban Tucson during the warmer months, so maybe the lack of nesting cavities is the answer. In nature, their cavities are largely created by woodpeckers—Ladder-backed and Arizona are probably the most common constructors, though Acorn Woodpecker is most certainly responsible for the most familiar holes in Madera Canyon. In several places, such as Big Bend National Park, the species has been known to nest in nest boxes in desert areas completely devoid of trees.

Western Screech-Owl is a bit pickier with its food choice, preferring a higher percentage of small mammals, which it catches on the ground in open areas. They also need larger cavities, which are fewer in number in most areas. But there might be plenty for them to eat year-round in Tucson, if the mouse population in my neighborhood is any indication; and the



WESTERN SCREECH-OWL IN NEST BOX, KEITH CARLSON

species has been known to take bats leaving roosts as well as many insects. So the lack of nesting cavities might also be the limiting factor for this species.

What if there were appropriately-sized nest boxes placed with the correct height and compass direction in alleys throughout Tucson? Would we have these wonderful denizens of the night in our own back yards, keeping insect and rodent populations in check as well as charming us with their barks and hoots? ■

Rich Hoyer is a Senior Leader for WINGS Birding Tours Worldwide, wingsbirds.com/leaders/rich-hoyer.

Support the WILD Nest Box Business



Luis Benitez, freshman, and Daniel Huerta, junior, make sure their pieces for an American Kestrel box will fit together well.

Tucson high school students at the **Western Institute for Leadership Development (WILD)** are now working with Tucson Audubon to build nest boxes according to scientific specs. Screech-owl and kestrel boxes will be sold on a trial basis in our **Nature Shop**. The school's **MakerSpace** program is exploring projects with the "Triple P Bottomline" of People, Planet, and Profit—part of WILD's "Changemaker" project-based curriculum. Support their efforts by purchasing a box. If you don't have space for a box at home, consider sponsoring a box. We are currently developing a sponsorship program. Contact Keith to find out more: Kashley@tucsonaudubon.org.

Stormy Weather

PAUL GREEN | EXECUTIVE DIRECTOR

The earth is warming. Climate patterns are changing. Birds will be affected by changes in the annual timing of natural events (phenology), and by changes and shifts in habitat. Their physiological limits and ability to adapt will determine their survival.

Consider the saguaro. How will climate change affect the distribution of our drought-adapted, cold-intolerant, iconic cactus? Saguaros support cavity nesting species such as Gilded Flicker, Gila Woodpecker and the 12 other species that depend on the holes they create, such as Elf Owl and desert nesting Purple Martin. In arid region ecosystems that have not co-evolved with a fire cycle, the probability of loss of charismatic megafauna such as saguaro cacti and Joshua trees will greatly increase. In addition, southward flows of unusually cold air into our region resulting from disruption to the polar vortex can kill saguaros with freezing temperatures. How will the birds react?

We have known for some time that species of all kinds will shift their distributions—and in some cases are already doing so—to adapt to the changes wrought by a warming planet. A National Audubon Society report from 2009 revealed that nearly 60 percent of the 305 relatively widely distributed bird species found in North America in winter are on the move, shifting their ranges northward by an average of 35 miles.

How do we best plan our conservation efforts to take these changes into account?

Modeling Bird Futures: NAS

To help us, scientists have built models that describe future bird species distributions in the light of a changing climate. Some models study tens to hundreds of bird species taking into account climate envelopes and scores of climate variables to predict future distributions. Other models study fewer species and include non-climatic variables (like vegetation) because animal species respond to more than just climate events. Proponents of this approach argue that projections using little or no prior ecological knowledge in both the design and interpretation may produce odd or misleading results.

National Audubon Society's (NAS) recently launched climate change report is an example of the former approach. It combines a climate change prediction with bird distribution information from the Breeding Bird Survey (BBS) and the Christmas Bird Count. Using information from the current winter and summer ranges of 588 species, they describe a "climate envelope"—defined by temperature, precipitation and seasonality—for each species. The model predicts where that envelope would enable the species to live in 2050 and 2080. For their climate prediction they used three scenarios for greenhouse gas emissions: low [SRES B2], medium [A1b], and high [A2]. Each scenario was represented by outputs from multiple general circulation models (GCMs)—averaged across the GCM projections—to generate a single climate projection for each time period and scenario.

Emission scenarios were derived from the Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report.

NAS suggests that half the birds of North America are at risk of extinction due to projected changes in climate as a result of global warming. They have divided the 588 bird species studied into three groups: climate endangered (126 species projected to lose more than half their current climatic range by 2050), climate threatened (188 species projected to lose



more than half their current climatic range by 2080), and climate stable (204 species). Other species' ranges may expand.

Modeling Bird Futures: van Riper

An example of a model that uses more variables to predict future ranges of birds in the western US was published this year. Charles van Riper and his colleagues at the USGS Southwest Biological Science Center (van Riper) used a pre-selected set of GCMs that are known to be good predictors of southwestern climate (five individual and one ensemble GCM), for the A1B emission scenario, to characterize future climatic conditions in three time periods (2010–39; 2040–69; and, 2070–99). They included plant species and, while the total contribution of plants in each distribution model was small, inclusion of plant distribution effects led to more negative projections—either less gains or greater losses in breeding range—than models with only physical variables (climatic or landscape). van Riper also found that the warmer the current range of a bird species, the greater the projected distributional gain or the less the projected loss.

However, both van Riper and the NAS teams commented that few general patterns have emerged from their studies. Changing climates will not uniformly



WILLIAMSON'S SAPSUCKER, FRANK LOSPALLUTO



PYGMY NUTHATCH, LEN BLUMIN

The projected range losses for Sage Thrasher, Williamson's Sapsucker and Pygmy Nuthatch are of a magnitude that could move these three species close to extinction within the next century.

affect all species and some species will gain in suitable areas and thus possibly experience increases in population numbers, while other species will experience distribution contractions and likely shrinking populations.

In one pattern that *did* emerge, van Riper found that those bird species with the strongest association with a landscape feature during the breeding season, such as terrain ruggedness and amount of sunlight, exhibited the smallest contractions in projected breeding range in the future. Landscape effects appeared to buffer some of the negative effects of climate change for some species.

While the NAS report covers more species and a greater geographic area, it has some limitations. It covers some breeding and wintering birds in Canada and the USA, but not in Mexico or further south, and data from migrating birds have not been captured so the modeling does not help us predict the effects on or of migratory stopover sites. Further, some species, including nocturnal, riparian, and low density species are not captured well by the BBS, making it hard for the model to predict their future ranges. For example, see maps for Western Screech-Owl and Gilded Flicker at climate.audubon.org

The climate.audubon.org animated maps can be difficult to interpret—more useful are the Venn diagrams that indicate the species' range size in 2000 and 2080 where the amount of overlap between the 2000 and 2080 circles indicates how stable the climatic range will be. Lots of

van Riper's Findings

van Riper's team found that for Virginia's Warbler the most important factors in decreasing order were terrain ruggedness, the range of Gambel Oak, mean winter precipitation, mean summer temperature, mean summer precipitation, and exposure to sunlight. The Virginia's Warbler's breeding range is projected to decrease slightly, by 1.5–7 percent, between 2010 and 2099.

Other species included in Van Riper's study are Black-throated Sparrow (47 percent range increase), Gray Vireo (71 percent range increase), Pinyon Jay (30 percent range decrease), Pygmy Nuthatch (81 percent range decrease), and Sage Thrasher and Williamson's Sapsucker (both 78 percent range decrease).

The projected range losses for Sage Thrasher, Williamson's Sapsucker and Pygmy Nuthatch are of a magnitude that could move these three species close to extinction within the next century. van Riper and NAS's studies agree in this respect. Although all three species currently have a relatively limited distribution, they can be locally common and neither is presently considered a candidate for federal listing as threatened or endangered. This suggests the need to reconsider how the US Fish & Wildlife Service currently assesses candidate species for listing under the Endangered Species Act.

overlap means the bird's climatic range doesn't shift much. No overlap means the species will potentially leave its current climatic range entirely. Birds then will have to adapt to the new conditions *in situ*, or move to where favorable conditions exist, or not move and not be able to adapt, possibly leading to extinction.

Conclusions

van Riper intends the results of their study to provide a series of projected range maps that will enable scientists, concerned citizens, and land and wildlife managers to identify what the potential effects of climate change will be on bird and reptile distributions in the Western United States. They anticipate their results may be used in proactive ways to mitigate some of the potential effects of climate change on selected species. NAS says that mapping each species' climatic range and assigning it a threat level helps to conserve birds by giving conservationists and natural resource managers a general idea about where to concentrate their efforts. NAS calls its report a 'call to action', including continuing to protect areas important to birds today and that may be important in the future. In any event, the bigger issue is for us to aggressively reduce greenhouse gas emissions and consume fewer natural resources, to avoid reductions in bird habitats.

Critically, NAS's Chief Scientist Gary Langham admits that we are working in the dark, since we don't know how most species will respond to increasing temperatures, or how ecologically important factors such as food resources and habitat will change. Both van Riper and NAS note that plants migrate more slowly than animals. So even if a bird species can shift its range, how long might it take for suitable habitat to catch up? ■

Projecting Climate Effects on Birds and Reptiles of the Southwestern United States by Charles van Riper III, James R. Hatten, J. Tom Giermakowski, David Mattson, Jennifer A. Holmes, Matthew J. Johnson, Erika M. Nowak, Kirsten Ironside, Michael Peters, Paul Heinrich, K. L. Cole, C. Truettner, and Cecil R. Schwalbe. Open-File Report 2014–1050. U.S. <http://pubs.usgs.gov/of/2014/1050/>

<http://climate.audubon.org>

See also <http://data.prbo.org/cadc2/index.php?page=maps#WesternUS>

The Urban Oasis: Batt

Urban birder? Urban gardener? Urban habitat creator! In our yards and in our neighborhoods, we increasingly have the power to support thriving and nurturing habitats. Don't just stand your ground. Why not develop it to host birds and wildlife?

Research by John Marzluff suggests that, at least in some regions, bird diversity in suburbs is higher than in urban city centers and rural natural areas. His new book, *Welcome to Subirdia*, is available now.

In Tucson, in a sense, we have brought our rural riparian areas into our yards. The water that used to flow in streams and rivers now comes out of our faucets. Some riparian species like Abert's Towhee, Lucy's Warbler and Bell's Vireo regularly show up in our yards.

Don't get me wrong—bird populations have suffered terribly from the loss of habitat along the Santa Cruz River, Rillito and other western rivers. But we can conserve potable water, someday sending some back to our rivers, and still irrigate our back yards with harvested rain. This "Urban Oasis" concept is the theme of our Gala dinner in February. It is also central to my work as Tucson Audubon's Urban Program Manager.

In addition, yards—properly engineered, planted and tended—can support some of the species that will decline due to climate change (see pages 14–15). Helping birds will require lifestyle changes (water is not the only thing we need to conserve) and a different way of conceptualizing the suburban landscape.

As the climate changes, for some species our back yards may be a key to survival. On this page are some of the ways you can make your back yard a true urban oasis.

*Kendall Kroesen,
Urban Program Manager*

Landscape Recognition Program

On January 1, 2015 Tucson Audubon will launch a program to recognize yards that have made substantial progress toward resource conservation, sustainability and support for birds.

This will include properties where native vegetation has been left in place but the focus is on suburban lots that employ the principles Tucson Audubon's Urban Program has been promoting for several years. These principles include shifting irrigation toward rainwater and gray water and away from potable water. To be recognized, homeowners will need to landscape with native plants, have high diversity of native plants, create cover, create shade, and employ diverse vegetation structure. See www.tucsonaudubon.org/urban for more on high-quality urban habitat.

Recognized properties will also need to do at least some of the following: reduce or eliminate pesticide use, rely less on rock for ground cover, reduce raking and pruning, support native insects, have

bird nest boxes, keep cats indoors and actively prevent window strikes.

Tucson Audubon will provide classes and home visits to help you bring your yard into compliance with recognition criteria. There will be three levels of recognition, each recognizing a higher level of attainment.

There will be an initial fee and a sign will announce to neighbors that the yard has been recognized by Tucson Audubon. Landowners will need to recertify periodically.

*Kendall Kroesen,
Urban Program Manager*



Top to bottom: Associate Director, Operations Sara Pike noting scores of tiny bees on graythorn in the Nature Shop yard. Urban Program Manager Kendall Kroesen studied other back yard recognition programs, including Portland Audubon's, in designing Tucson Audubon's program.

BOTH PHOTOS KENDALL KROESEN

Legground for the Birds



DAN MOONEY

A Western Screech-Owl in a nestbox.

Nest Boxes for Urban Birds: a Birder Adaptation

Too often we feel that the average citizen can't do much to support the wild creatures we value, but nothing is further from the truth. From planting native mesquites to taking government and industry to task for destructive greed and short sightedness, we just need to learn to better exercise the power we hold. Nest boxes are one avenue for hands-on citizen conservation action.

Of roughly 50 nest boxes built and installed through our *Nest Boxes for Urban Birds* pilot project last year, one box fledged a family of Ash-throated Flycatchers and two more are hosting Western Screech-Owls. The project has also put us in touch with successful Lucy's Warbler nests in local boxes and has inspired us to conduct a series of experiments to learn more about the temperatures in nest boxes and the significance of entry hole orientation (see page 23).

Of course nest boxes for (sub)-urban birds need to be placed in appropriate habitat with plenty of native vegetation, nearby water sources, and attentive landlords (who discourage invasive House Sparrows and European Starlings from their boxes). We can all participate in creating that habitat through Tucson Audubon's Landscape Recognition program. More actively supporting our birds in town might be thought of as a birder adaptation to climate change!

Keith Ashley,
Coordinator: Tucson Audubon's
Paton Center for Hummingbirds

Recipe Cards for Urban Bird Habitat

Protecting and enhancing urban bird habitat was an overarching goal of the Tucson Bird Count (TBC) when it was founded in 2001. Mike Rosenzweig, one of the founders of the TBC, coined the term "reconciliation ecology" and he always envisioned outreach encouraging Tucson residents to create bird habitat in their yards (read *Win-Win Ecology* by Mike, available in our bookstore, to learn more). One way to do this, he said, was with "recipe cards" with ingredients and directions for attracting a desired species to your own patch of urban habitat. In this way we could all make up for the bird habitat lost to urbanization by inviting birds into the city, reconciling our needs with the needs of birds. Tucson Audubon was recently awarded a Heritage Grant

from Arizona Game and Fish Department to bring these recipe cards into reality. Recipe cards for five species are being created now, with many other species in the works. These cards and the corresponding, more detailed information on the TBC website (www.tucsonbirds.org) will endeavor to appeal to non-birders and birders alike with the ultimate goal of gaining the interest of residents who have never thought deeply about birds or attracting them to their yards. These recipe cards will make their debut at the upcoming Southern Arizona Home Builders Association Home Show on October 17–19 to ensure we reach a wide audience and encourage as many people as possible that we can all share Tucson with native birds. ■

Jennie MacFarland,
IBA Program Biologist



JOAN GELLATLY



LOIS MANOWITZ



Tucson Audubon was recently awarded a Heritage Grant to create "recipe cards" that contain ingredients and directions for attracting specific bird species to your urban yard. A draft sample card is shown above. The ultimate goal of this project is to gain the interest of Tucson residents who have never thought deeply about birds or about creating habitat for them. Target bird species include Cactus Wren (top left), Lesser Goldfinch (bottom left), and Curve-billed Thrasher (bottom right).



JOAN GELLATLY

The Cactus Ferruginous Pygmy-owl— A Prime Candidate for Climate Adaptation

MATT CLARK | CONSERVATION ADVOCATE AND CHRIS MCVIE | CONSERVATION CHAIR

Vast portions of southwestern North America are experiencing pervasive drought, but there is little known about how these events are affecting wildlife populations. A recent

study published in the *Journal of Climate* predicts a 30 to 50 percent chance of a devastating “megadrought” in southeast Arizona in the coming century, which is among the highest levels of risk across Southwestern North America.¹ Megadroughts can persist for several decades and bring extreme temperatures that further desiccate already parched landscapes. This prediction is particularly troublesome because drought conditions have persisted in southern Arizona for much of the last 15 years. Lead author of the study Toby Ault of Cornell University also warns, “As we add greenhouse gases into the atmosphere—and we haven’t put the brakes on stopping this—we are weighting the dice for megadrought conditions.”²

Monitoring sensitive wildlife species across time is useful for understanding the potential impacts of changing rainfall and temperature on populations and for triggering management responses to observed declines. In the Sonoran Desert, ongoing monitoring of imperiled Cactus Ferruginous Pygmy-Owl populations in northwest Mexico provides us with just such a case study.

Since 2000, Dr. Aaron Flesch of the University of Arizona has monitored pygmy-owl populations immediately south of Arizona in Sonora, Mexico, partly supported by Tucson Audubon. Based on the first 12 years of monitoring, Flesch recently reported in the journal *Biological Conservation* that populations



have declined by an estimated 19–27 percent. Moreover, results suggest recent drought and high temperatures are driving declines of pygmy-owl populations in Mexico, which has major implications for recovery of populations in Arizona that have already declined to endangered levels.¹

Additional research by Flesch, that will be published in the journal *PLoS ONE* later this year, suggests low rainfall drives reductions in owl prey (mainly lizards) and high temperatures drive reductions in prey activity, which have multiplicative effects on reproductive output and thus affects population dynamics.

How can managers help prevent further declines of pygmy-owl populations in the face of warming and drying conditions and thus adapt to climate change? To address these questions, Flesch² found that “owl abundance was higher and varied less over time in areas with more nest cavities, greater structural complexity and amount of riparian vegetation, and lower land-use intensity, which suggests these factors are important drivers of habitat quality and good targets for managers. Thus, augmenting nest cavities by erecting nest boxes or translocating saguaros, restoring mesquite woodlands in riparian areas that have already been lost or degraded across much of the Sonoran Desert, and mitigating the effects of land use on important resources should augment habitat quality and recovery prospects for owls . . . Enhancing habitat quality



BOTH PHOTOS © AARON FLESCH

offers a promising potential strategy for mitigating the effects of climate change. Understanding the extent to which habitat quality can mediate weather effects is important in the wake of anticipated climate change.”

Restoring and enhancing habitat for pygmy-owls is one approach to facilitate climate change adaptation. Best management practices based on the best available scientific information should guide adaptation strategies to conserve populations and reduce extinction risks for pygmy-owls and other sensitive species as they attempt to acclimate to a warming world. ■

1. Ault et al. 2014. See: <http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-12-00282.1>. Cornell University, Media Relations Office. *Southwest May Face Megadrought this Century*. Online at: <http://mediarelations.cornell.edu/2014/08/27/southwest-may-face-megadrought-this-century/>
2. Flesch, A. 2014. *Spatiotemporal trends and drivers of population dynamics in a declining Sonoran Desert predator*. *Biological Conservation*. Elsevier. Volume 175, July 2014, Pages 110–118. Online at: <http://www.sciencedirect.com/science/article/pii/S0006320714001724>

We thank Dr. Aaron Flesch for his review and contributions to this article. More information on Dr. Flesch’s research can be found online at: www.aaronflesch.com.

TUCSON *meet* YOUR BIRDS



AMERICAN KESTREL: JOHN KENNEDY;
VERDIN: LARRY SELMAN

JOHN HOFFMAN



Green-tailed Towhee

As the weather cools in Tucson listen for the distinctive cat-like “mew” call of a Green-tailed Towhee that has come to stay through the winter months. This very attractive bird has a striking white and black striped face and prominent rufous cap, which it will sometimes raise inquisitively. Its body feathers are a lovely matte gray that blends into green wings and tail, though the green can be hard to see. This is not an uncommon bird here in the winter but it is not often seen since it habitually skulks in the undergrowth. A wash that is lined with mesquite trees with thick vegetation and dense undergrowth is the perfect place to look for this lovely winter visitor. Their loud mewing call is the best way to find them but listen also for rustling in the undergrowth. They search for food on the ground under dead leaves by hopping forward and then scooting backward to turn over the foliage. They do this over and over again and this hunting method is fascinating to watch. If your yard has dense undergrowth or you live near a wash you could have some Green-tailed Towhees as your guests this winter and you can enjoy their interesting behavior and big personalities. You can make your yard attractive to this species by planting bushes for them to perch in and stand under with a top layer of native trees over the bushes. Having a portion of your yard where you leave leaf litter on the ground gives them a place to look for food.

*Jennie MacFarland
IBA Program Biologist*

RHETT HERRING



Yellow-headed Blackbird

Anyone who has witnessed an enormous cloud of blackbirds that seems to swoop and swirl and coalesce with its own innate consciousness, only to suddenly fall out of the sky upon the autumn fields, cannot help but be amazed. These flocks often include a mixture of species: starlings, Red-winged Blackbirds, cowbirds, and, perhaps our most striking character—the Yellow-headed Blackbird. The male’s vivid yellow head and breast is a delight for even the casual birder, as they are easy to find and observe. When these birds reach their dense marsh breeding grounds in the heart of the continent after their journey from Mexico and the Southwest, the dominant breeding males set up territories in prime reeds and cattails. These males will mate with up to 8 females, leaving subordinate males to “float” around the breeding population; the breeding male, however, will only help feed nestlings at the first nest that he has established! The Yellow-headed Blackbird often forces less-dominant species that it shares a marsh with—like Red-winged Blackbirds and Marsh Wrens—from prime nesting spots. Yellow-heads feed mainly on invertebrates in the summer, and seeds and grains in fields in the winter. The Yellow-headed Blackbird, along with many other species, has been identified as “Climate Endangered” by National Audubon and could lose at least 50 percent of its range by century’s end due to climate change—that is, if nothing is done to curtail emissions. In autumn look for those magical and raucous flocks along the highways, roads, and farmlands of our region.

*Andy Bennett
Restoration Specialist*

DAN WEISZ



Western Screech-Owl

Owls are easy to love. With their intense, forward facing eyes they may even remind us humans of ourselves at times—though smaller of course, feathered, beaked, and taloned. Standing just 8½” tall, Western Screech-Owls are particularly charismatic, having recently adapted to nest and roost in city suburbs where their eerie trills and “bouncing ball” calls add an element of wild mystique to the night. Step too close and they’ll also snap their beaks at you!

No surprise that our Western Screech is predicted to be struggling in the near future. Studies suggest that vast habitat loss drove Eastern Screech-Owls into the suburbs in the first place. A three-year drought period in southwest Arizona led to a 70 percent decline of Western Screech-Owls there. They have disappeared entirely from certain urbanized coastal areas in California.

Local Western Screeches prefer to nest in woodpecker holes in saguaros, especially in mesquite riparian areas. However, we now have confirmed cases of four Tucson screech-owls nesting or roosting in human-crafted nest boxes. That’s good news for owl lovers, as it suggests this may be one highly-adaptable species people can support through tough times simply by providing the missing habitat element of available apartments. (See the article on page 17 to learn more about Tucson Audubon’s Nest Boxes for Urban Birds pilot project.)

*Keith Ashley
Coordinator: Tucson Audubon’s
Paton Center for Hummingbirds*

CONSERVATION AND EDUCATION NEWS

CHRIS MCVIE, MATT CLARK, PAUL GREEN, KENDALL KROESEN, JONATHAN HORST, BÉTÉ JONES, AND JENNIE MACFARLAND

Threats to Bird Habitats in Southeast Arizona: Updates



PATRICKALEXANDER

Patagonia Mountains, low peak near Alum Gulch, southeast of the box canyon, Santa Cruz County.

City–County Cooperation Saves Saguaro-studded Painted Hills

Led by Supervisor Richard Elias and Council Member Regina Romero, Pima County and the City of Tucson recently approved the purchase and preservation of this scenic, 286-acre desert property for community open space, wildlife habitat and recreation! For years a subject of controversy regarding the City of Tucson's water service area policies and urban sprawl, Painted Hills has been a long-standing conservation priority for the Tucson Mountains. The County is expected to close in September with the seller, the Dallas Police and Fire Pension System. \$3.5 million of the \$7.5 million purchase will come from 2004 community open space bond funds, and the remaining \$4 million will come from either a future bond election or the Starr Pass Environmental Enhancement Fund.

Tucson Audubon commends the City and County for their commitment to preserving Painted Hills. We also commend dedicated area residents and conservation leaders for staying the course on this long-standing goal. Please THANK the Supervisors and Council Members who listened to their constituents and WRITE to the Pima County Bond Advisory Committee (at the mailing address or email below) urging that they support a new, fully funded open space bond package so that conservation success stories

like Painted Hills can continue to be possible. We also urge members to attend an important meeting (details below) to voice your strong support for the bond package.

Contact info:

Larry Hecker, Chair, and
Committee Members
Pima County Bond Advisory
Committee
130 W Congress St., 10th Floor
Tucson, AZ 85701
bondinfo@pima.gov

Important meeting info:

8:00 AM, November 7th, 2014
Arizona Riverpark Inn
350 South Freeway, Tucson

Pima County Adopts, then Drops Controversial “Community Cats” Trap, Neuter, Return Program

Tucson Audubon is disappointed in the Pima County Board of Supervisor's August 5th approval of a trap, neuter and return (TNR) program for feral cats called “Community Cats.” We believe it was the wrong decision for birds, biodiversity and for the health and human safety of Pima County residents. Tucson Audubon submitted a science-based letter (go to tucsonaudubon.org/cats for download link) to county supervisors detailing the reasons for our opposition to the program.

While the County did not heed our recommendation, according to

a newspaper article out just before publication of this issue of the *Vermilion Flycatcher*, the program is being dropped because of a financial dispute with the City of Tucson over administrative and upgrade costs for the county-operated Pima Animal Care Center. In a letter to the County, City official Joyce Garland explained the City will not be shouldering the unanticipated bill from the County, amounting to \$873,000, because the costs in question are not covered by the intergovernmental agreement between the City and the County. In her September 23rd letter, Garland stated costs incurred by the TNR program are among those not covered by the intergovernmental agreement and that, “The program should not be conducted in the City limits.” Because the majority of the program was to be conducted in ZIP codes within City limits, and because the group that provides matching grant funding for the program, Best Friends Animal Society, declined to shift the program to ZIP codes outside of the City, Pima County Administrator Chuck Huckelberry has indicated the County will end the TNR program effective immediately.

Rosemont is now known as HudBay—Update

Despite the delay posed by the reopening of consultation with the US Fish & Wildlife Service (FWS) under the Endangered Species Act (ESA) due to concerns regarding riparian obligate listed species, jaguars and

ocelots, Hudbay continues to pursue a mining permit from the Forest Service (FS) under the 1872 Mining Act. We expect a decision to be issued prior to the end of 2014. Based on the regrettable historic posture of the FWS regarding this project, we do not anticipate that listed species issues will preclude the issuance of a permit. Due to the archaic nature of the 1872 Mining Act, it is likely, but uncertain, that the FS will issue a mining permit. Fortunately, the health and safety of our watershed and wildlands does not only rely on the actions of the FS or FWS. HudBay's current mining proposal will require significant mitigation for impacts to Waters of the US under Section 404 of the Clean Water Act, administered by the US Army Corps of Engineers (ACE). At this time it seems unlikely that HudBay can adequately mitigate for their extensive proposed impacts. While HudBay has proposed future purchases of state lands to, in part, comply with mitigation requirements for impacts to Pima County's Conservation Lands System, we trust the ACE will not accept some future hypothetical scenario as adequate, real, in hand mitigation for the serious



OCLOT, DAGGETZ / CCL

impacts to seeps, springs, and streams, including Outstanding Arizona Waters, in the Davidson Canyon and Cienea Creek watersheds.

Forest Service Fast Tracks Mining Exploration in Patagonia Mountains

The Sierra Vista Ranger District of the U.S. Forest Service recently issued a “categorical exclusion” to foreign-owned Regal Resources for its proposed “Sunnyside” exploratory mineral drilling project in Humboldt Canyon of the Patagonia Mountains. A categorical exclusion is a policy short-cut that allows mineral, energy, or geophysical investigations on public lands that meet certain specifications to avoid undergoing a detailed environmental analysis and public process. There are questions as to whether the Sunnyside Project indeed meets all of the specifications required for a categorical exclusion.

Mining and mineral exploration are a clear threat to the health, safety and well-being of the watershed and town of Patagonia and the biological diversity harbored in the area. The Patagonia Mountains provide much of the municipal drinking water for the community of Patagonia, and are a major economic draw for outdoor recreation and nature-based tourism—especially birding! This is evidenced by the fact that the Patagonia Mountains were recently designated as an Important Bird Area by the Arizona Important Bird Areas Program (see also page 7). The new IBA designation notes that the oak-juniper vegetation community is extensive and continuous throughout the range, making it a very important area for species associated with oak habitat, such as Arizona Woodpecker,

Montezuma Quail, Dusky-capped Flycatcher and Whiskered Screech-Owl. In addition, Elegant Trogons were documented in high numbers in a special 2013 survey and patches of grassy meadows throughout the range provide habitat for resident Eastern “Azure” Bluebirds. The Patagonia Mountains are also designated as critical habitat for the threatened Mexican Spotted Owl and the endangered jaguar. Tucson Audubon opposes mining proposals in the Patagonia Mountains and thinks that exploratory mining activities in this ecologically sensitive mountain range have been given the green light without adequate environmental analysis and public review.

Birds, Bees and Butterflies Threatened by Nasty Neonics

The Tucson-based Center for Biological Diversity, The Xerxes Society and the Center for Food Safety have recently petitioned the federal government to list the migratory Monarch butterfly as an endangered species, citing a population drop of more than 90 percent over the past two decades.

The petition notes the rise in the use of neonicotinoids pesticides (“neonics”) as one of a host of threats to Monarchs. Neonics are a class of insecticides whose use by the agricultural industry has become increasingly widespread over the last two decades. It is often used on the seeds of crops, including cotton grown in Arizona, which provide breeding sites for monarchs.

Neonics are also believed to be contributing to the very alarming global decline of bees. Our region boasts diverse habitat types that support

the greatest diversity of bee species on the entire planet. Bees are a key pollinator for flowering plants and are essential for the propagation of many agricultural crops. Neonics can persist for months or years in water, soil, pollen, nectar and other plant tissues—resulting in the harm or death to non-target species such as earth worms, freshwater snails, bees, moths, butterflies, amphibians and birds.

Tucson Audubon is joining forces with other conservation organizations, businesses and concerned citizens in support of a ban on the use of neonicotinoids by the City of Tucson. Call your City Council Representative today to show your support for instituting a ban on neonics.

Critical Habitat Proposed for Western Yellow-billed Cuckoo

While the U.S. Fish and Wildlife Service proposes critical habitat for the imperiled Western Yellow-billed Cuckoo, questions remain if it will be sufficient to prevent the species’ further decline. The service proposes to designate over 500,000 acres as critical habitat for the cuckoo, in conjunction with the species being considered for endangered species designation. The American Bird Conservancy’s press release on the proposed designation was not very upbeat: ABC’s Senior Policy Advisory, Steve Holmer said, “The draft rule only proposes to list the species as threatened rather than as endangered, and doesn’t address the threats or propose more effective conservation measures such as removing cattle from riparian areas and restricting the use of pesticides in adjacent agricultural areas.”

The service’s public advisory notes that “In the proposal, the Service is considering excluding approximately 193,347 acres from the critical habitat designation because of existing conservation plans for those areas that protect the Western Yellow-billed Cuckoo and its habitat. All proposed critical habitat designations on tribal lands are being considered for exclusion.”

Tucson Audubon is reviewing the proposed critical habitat designation



JERRY OLDENNETTEL

Yellow-billed Cuckoo in TNC’s Sonoita Creek Nature Preserve (that borders on Tucson Audubon’s Paton Center for Hummingbirds) in Patagonia.

and plans to submit detailed comments. Our review will look at lands that are being considered for exclusion, as well as lands in southeast Arizona containing important cuckoo habitat that were not included in the draft proposal that should be considered for inclusion in the final designation. Act today! Visit www.tucsonaudubon.org/conservation to learn more and make your voice heard.

Lawsuit Launched to Restore Endangered Species Protections for the Cactus Ferruginous Pygmy-Owl

According to a joint press release, the Center for Biological Diversity and Defenders of Wildlife filed notice of intent to sue the U.S. Fish and Wildlife Service over the agency’s denial of Endangered Species Act protection to the Cactus Ferruginous Pygmy-Owl. Although the Service acknowledges that pygmy owls still face many threats in the Sonoran Desert and that the region is important to the species as a whole, it denied the a 2007 petition by the groups to relist the owl under a controversial new policy that will make it far more difficult for imperiled species to gain federal protection. Once again, the imperiled tiny raptor is the poster child for attacks on the integrity of the intent of the Endangered Species Act.



MONARCH BUTTERFLY, GARRY WILMORE / CCL

Obituaries

SARA PIKE



Ronnie Sidner was a popular instructor at Tucson Audubon's Institute for Desert Ecology, sharing her vast knowledge of bats and other wildlife with unflinching enthusiasm.

Ronnie Sidner 1951–2014

On the evening of August 1, Tucson Audubon's friend, researcher, and teacher Ronnie Sidner was killed in a car crash on Interstate 10 while driving back to her Tucson home from Sierra Vista. She was returning from the Southwest Wings Festival, where she had taken participants to Ramsey Canyon south of the city to use night vision equipment to watch bats drink nectar from hummingbird feeders.

Ronnie was raised in Pennsylvania and obtained a bachelor's degree in arts and elementary education at Kansas State University. She moved to Parker where she taught science for seven years before taking a field course in mammals at Northern Arizona University. She attended a field trip to net bats, and that led her to a career of monitoring, writing about and advocating on behalf of bats, and becoming one of Arizona's top bat researchers. She attended the University of Arizona, where she obtained a master's degree in mammalogy in 1982 and a Ph.D. in 1997. One of her contributions was the use of low-disturbance bat monitoring.

Many members will remember Ronnie from her 16 years on the faculty at Tucson Audubon's Institute for Desert Ecology, and her talks at numerous bat and other wildlife festivals. She helped the public understand the often misunderstood bats' value to our ecology and society. Ronnie had a gentle spirit that could turn peoples' minds around about bats with a single talk.

Starting in 1980, she conducted bat research and conservation projects on national forest, national

park, state park and military reserves for government agencies and nonprofit groups. She lectured tirelessly, often with a pet bat in hand, and belonged to research and working groups on bats.

Among her prolific and varied research activities, she monitored bats' use of bridges to help state transportation officials and railroad companies understand that use before they upgraded or replaced the structures. She worked for Westland Resources as Rosemont Copper's environmental consultant, using infrared lights to monitor the distribution of agaves, where the Long-nosed bats feed, across the proposed Rosemont Mine site.

Survivors include her husband, Russell Davis, a retired UA mammalogist and professor of ecology and evolutionary biology; a brother and three sisters.

Michael Lyman 1942–2014

Michael Lyman passed away August 26 after a long battle with cancer. He served as a police officer and in retirement was very active in the community. Michael volunteered with Tucson Police to develop crime prevention programs and to increase safety in public parks. His work with the Groves-Lincoln Park Neighborhood Association included decades of efforts to preserve the natural area around Atturbury Wash at Lincoln Regional Park on the east side of Tucson. The wash was threatened with development and suffered from illegal dumping, wood cutting, shooting, off-road vehicles and many other activities not consistent with

good stewardship. Michael worked tirelessly to preserve the wash and make it a friendly, accessible place for walkers, nature lovers and bird watchers. The work Tucson Audubon has done at the wash would not have been possible without Michael and his wife Darlice ("Murph"), who survives him. Many Tucson Audubon volunteers met Michael during habitat restoration work at Atturbury Wash. Atturbury Wash at Lincoln Park was recognized by Tucson Mayor and Council and named the Atturbury/Lyman Bird and Animal Sanctuary. He was born on May 3, 1942.

BOB WENZEL



Bob Witzeman 1927–2014

Bob (Robert Allen) Witzeman passed away on August 30, 2014. Bob was born in Akron, Ohio, in 1927 and moved to Phoenix in 1958 to work as an anesthesiologist for 30 years. Throughout his career and retirement he devoted his life to conservation. While serving as President and Conservation Chair for the Maricopa Audubon Society, Bob was involved in multiple campaigns: to protect the desert nesting Bald Eagle, founding Arizona's nest watch program, which remains key to recovery, and hiring the first nest guardian; to defeat the proposed Orme and Cliff Dams on the Fort McDowell Yavapai and Apache reservations; to protect the endangered Mt Graham Red Squirrel and sacred Apache sites nearby; to save Gaan (Devil's) Canyon and a sacred Apache site at Oak Flat from the proposed Resolution Copper mine; and to protect riparian areas throughout the state, especially from cattle grazing. Bob was an active birder up to the day he died. He travelled around the world in search of birds and wildlife, photographing birds, butterflies, and dragonflies, including several first state records of birds for Arizona. Bob worked closely with Tucson Audubon on issues of state conservation concern and we will miss his passion. Survivors include his wife Janet, also an avid birder; three sisters; two children and five grandchildren.

Arizona CBC Schedule 2014–2015

The National Audubon Society has conducted Christmas bird counts (CBCs) since 1900. Volunteers from across North America and beyond take to the field during one calendar day in December and January to record every bird species and individual bird encountered within a designated 15-mile diameter circle. These records now comprise an extensive ornithological database that enables monitoring of winter bird populations and the overall health of the environment. Help is needed on most of these counts, so find one that interests you and contact the compiler for more information. The counts are now FREE. See tucsonaudubon.org/cbc for the full list of Arizona counts.

Tucson Valley Christmas Bird Count

All are welcome to sign up for the Tucson Valley Christmas Bird Count, scheduled for Sunday, December 14, 2014. Help keep this CBC the in the #1 spot for species diversity in Arizona—and maybe this year we'll break the record for the state (last year we tied it with 164 species). Compiler Rich Hoyer will be appointing team leaders to cover each of the circle's 27 areas and assigning all volunteers to make up the teams. Experienced birders are needed to be team leaders, but participants in the teams can be of any level of experience. See the blog at aztvcbc.blogspot.com/ or the Facebook page facebook.com/TucsonValleyChristmasBirdCount, and send an email to Rich at birdnaturalist@me.com to sign up.



The Tucson Valley CBC logged record numbers of Vermilion Flycatchers for two years running: 190 in 2012 and 267 in 2013.

DMITRY MOZZHERIN / CCL

Public Funds to Destroy Riparian Mesquite Woodlands—Time for Large-Scale Science-Based Conservation Planning



MESQUITE BOSQUE, L.J./CC

In the spring of 2014, the Arizona Legislature and Governor passed Senate Bill 1478, authorizing the use of Arizona Water Protection Fund (AWPF) monies to remove mesquite trees in all environments. Despite the admonitions of conservation professionals during the bill's review process, the final law does not distinguish between upland scrub mesquite and riparian woodlands and does not recognize the habitat value and climate change adaptability of the native velvet mesquite. Arizona residents are now in the position of providing funds for the destruction of riparian woodland habitat, which supports a wide range of birds and wildlife.

The AWPF was designed to provide financial resources for the protection and restoration of this state's rivers, streams and associated riparian habitats, including dependent fish and wildlife. It was intended to be a proactive response to possible federal intervention in Arizona's river and riparian resource issues. Instead, this fund is turning out to be another example of why it is so important **not** to entrust the fate of our last remaining natural riparian habitats to state politicians who ignore peer reviewed science and only respond to a narrow range of interest groups.

This law's water conservation premise is deeply flawed. The new AWPF executive director claimed that mesquite uses almost twice as

much water at all times as her ranch's highest water use agricultural crop, alfalfa, but peer-reviewed studies indicate that just the opposite is the case on an annual per-acre basis. During the bill's review process, scientific challenges to the bill's unsubstantiated water conservation rationale were disregarded, as was any consideration of the habitat value of riparian mesquite woodlands.

Currently, at least two Natural Resource Conservation Districts (NRCDs) are planning to make mesquite removal a primary objective. NRCDs are government-supported organizations that constitute part of the approval process for distributing millions of dollars of federal Farm Bill funds to agricultural operations. By placing a high priority on the removal of riparian woodlands, these NRCDs can position themselves to direct federal funds toward this practice.

We must ensure that this new state movement to remove mesquite does not result in the same progression toward riparian habitat destruction that took place along so much of the Santa Cruz River. Efforts at the state level to protect riparian habitat are obviously failing. It is now imperative that the U.S. Department of Interior takes an active role in the protection of riparian habitat, in order to counteract misguided policies at the State level.

Please write to Sally Jewell, Secretary of Interior. Alert her to Arizona's destructive new policy regarding the removal of riparian mesquite woodlands, and **emphasize the urgent need for neutrally-facilitated, landscape-scale conservation planning to help protect our last remaining natural riparian areas in southern Arizona.**

Secretary Jewell
Department of the Interior,
1849 C Street, N.W.
Washington DC 20240
feedback@ios.doi.gov

Peter Else,
Conservation Activist

Where's the Best Home? First Experiments Reveal Unexpected Answers



BOTH PHOTOS JONATHAN HORST

Experimental nestboxes at Tucson Audubon's Mason Center, on the south side of the classroom ramada (left, circled) and in the partial shade of a mesquite tree (right).

The best part of doing science is learning new things, especially unexpected things. How refreshing to be able to say more than "this makes sense, it must be right," but also "we did experiments, and the data are clear, regardless of what we thought before." So what did we learn?

We tried some experiments to investigate the effects of aspect on the internal temperatures of nestboxes. As expected, nest boxes on the west side of a building were substantially hotter than those facing east, north, or south. On sunny days the west facing boxes topped out about 22 percent hotter, some even hitting 130°F. The interesting things were that the east-facing boxes warmed up most quickly and maintained a long plateau through the day but had top temps almost identical to the north- and south-facing boxes. On cloudy days like 25 July, all boxes were equal.

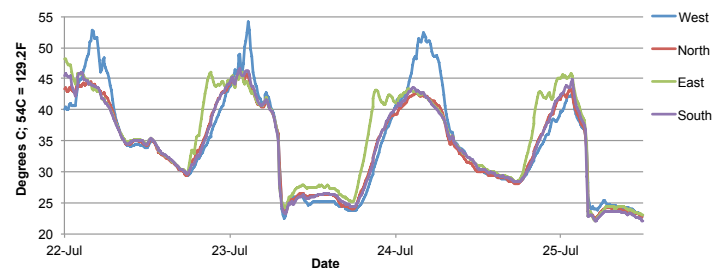
So we followed this up by looking at the effects of shade and

shade type. Here we got some real surprises! Most people expected the results to be, from warmest to coolest: full sun, light dappled mesquite shade, heavy dappled mesquite shade, full shade. However, as you can see, full shade was the second warmest. Apparently being mounted in a mesquite tree, even in an area with only partial shade is cooler, and in a dense section of canopy is coolest of all. We're thinking it must be due to the tree's natural cooling effect as it breathes and releases water vapor and oxygen into the air—a natural swamp cooler effect.

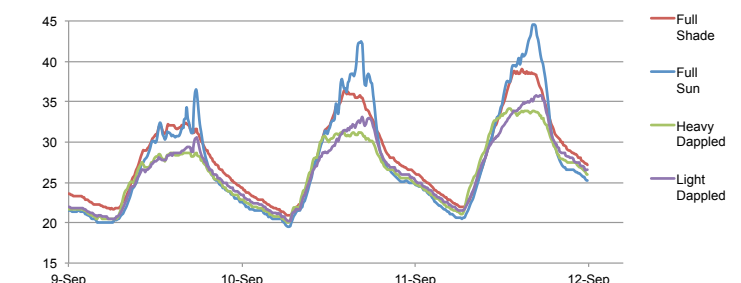
For more information or to support these and ongoing nest box experiments to expand our knowledge and capacity for conservation efforts by safely providing nest boxes in a desert environment, contact Jonathan (jhorst@tucsonaudubon.org).

Jonathan Horst
Restoration Ecologist

Daily Temperatures by Nestbox Aspect



Daily Temperatures by Shade Type



Wildlife Garden Plant Profile

Lynn Hassler, Garden Volunteer Captain

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

Fragrant Mist Flower

Scientific name: *Eupatorium odoratum*, syn. *Chromolaena odorata*

Family: Asteraceae (Composite)

Native range: Tropical America, north to the Gulf States, Southeast Texas and Rio Grande Plain

Wildlife value: Flowers attract nectaring butterflies, bees, and other pollinators; seeds eaten by granivorous birds

Fragrant mist flower is a multi-stemmed, deciduous shrub that grows 3–6 feet in a season. Showy, flat-topped lavender blue flower clusters provide perfect landing pads for butterflies. In Texas, this plant is often found in large masses where butterfly watchers make a habit of going out to “scoop the Eups.” In Tucson, this shrub kicks into bloom in late October/early November when many other plants are entering their winter pause.

The genus *Eupatorium* is a Greek name for Mithridates Eupator, King of Pontus, an ancient Hellenistic kingdom in Asia Minor. The species name

odoratum means “fragrant.” Leaves emit an aromatic odor when crushed.

Fragrant mist flower may die back to the roots in hard winters. I prune mine to the ground every year following bloom. Plants grow rampantly during the warm season. Prune to shape and keep to desired size through early September—then leave them alone so they can concentrate on setting bloom.

Grow in full sun, part shade, or on a north side, but note that flowers are less likely to be visited by sun-loving butterflies in the latter two orientations.

The blossoms of my plants have courted the following butterflies: Western Pygmy Blue, Queen, Fatal Metalmark, Dainty Sulphur, Painted Lady, Giant Swallowtail, Southern Dogface, Sleepy Orange, Gulf Fritillary, Monarch, American Lady, White-checked Skipper, Marine Blue, Texan Crescent, Great Purple Hairstreak, American Snout, Funereal Duskywing, Acmon Blue, and West Coast Lady. It doesn't get any better than this!

Although *Chromolaena* may be the current genus name, I can't possibly switch because “scoopin' the Chroms” just doesn't have the same ring as “scoopin' the Eups...”



BARN OWL / DORIS EVANS

Tucson Audubon's eNews Delivered to Your Inbox

Did you know that Tucson Audubon offers a range of specialized email updates on various topics, such as Volunteer News, Green City News, Conservation Alerts, Paton News, IBA News, Nest Boxes for Urban Birds, as well as a regular Weekly Update?

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JIM P. BROCK

Conservation Corner!

Sweeter Water May Bring More Birds

Pima County has met new EPA requirements for the quality of effluent (treated wastewater) released into the Santa Cruz River. The Regional Wastewater Reclamation Department renovated the Ina Road Wastewater Reclamation Facility (WRF) (now renamed Tres Rios WRF) and opened a new plant called Agua Nueva WRF (replacing the now closed Roger Road WRF).

A federally funded study is measuring whether key indicators of river health improve now that the new, higher quality effluent is flowing into the river. For birders, the upgrade may mean more macroinvertebrates and fish in the water, which may mean more birds coming to eat them.

The new and renovated plants are achieving other improvements and efficiencies as well—less odor, less electricity use and soon an effort will begin to clean and sell the biogas produced onsite.

The burden of keeping our effluent as clean as possible does not only fall upon the Wastewater Department. You can do your part by not putting things down the drain that shouldn't be there.

DO NOT FLUSH THESE ITEMS:

- Medicines
- Automotive fluids
- Pesticides
- Solvents
- Grease
- Kitchen waste (compost instead)
- Disposable wipes

Please use green household cleaning fluids—there are several online guides to these such as <http://www.ewg.org/guides/cleaners>. For more about what not to flush, go to <http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=57426>. For how to properly dispose of medicines, go to <http://webcms.pima.gov/cms/One.aspx?portalId=169&pageId=135181>. For how to dispose of many household hazardous wastes, see www.tucsonaz.gov/hhw.

Kendall Kroesen
Urban Program Manager

Pictured right is Santa Cruz River at the Ina Road Bridge. Water flowing here is now cleaner and may attract more birds.



KENDALL KROESEN

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Malaysia & Borneo—Rainforest Birds & Mammals I

2015: Tour Dates: 17 Mar–04 April 2015. Tour Price (Per Person) MYR20,750 * USD6,590. Our Malaysia & Borneo—Rainforest Birds and Mammals tour visits some of the world's most famous birdwatching sites. From Fraser's Hill to the Danum Valley we will seek out many species of stunning pittas, hornbills, trogons, broadbills, bee-eaters and kingfishers while also enjoying memorable experiences with Orangutan and Proboscis Monkeys.

Please note: these rates are subject to foreign exchange fluctuations.



DAVID DENNIS / CCL

Proboscis Monkey in Borneo



Sage Grouse

STEVEN TING, USFWS

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Yucatan: January 5–13, 2015. \$3200.

Leader: David MacKay. The cultural, historical and natural diversity of the Yucatan Peninsula makes for a great trip. Our itinerary takes us to the many different habitat to see most of the regional endemics. We also visit some of the magnificent archeological ruins, enjoy unique regional cuisine and explore the world of the Mayan culture, which is still thriving. Bird highlights include Yucatan Flycatcher, Vireo, Woodpecker, Bobwhite, Jay, White-bellied Wren, Orange Oriole, Ruddy Crane, Rose-throated Tanager, Mexican Shearwater and Gray-throated Chat. Starts in Cancun and ends in Merida.

Colorado Prairie Chicken and Sage

Grouse: April 8–16, 2015. Leader: David MacKay. Colorado is the best and most beautiful place to see these interesting birds! The geographic position and geologic diversity creates a great array of varied habitats ranging from prairie grasslands through high plains to subalpine forests and alpine tundra! Beyond the grouse, there are many other birds including Mountain Plover, Three-toed Woodpecker, Williamson's Sapsucker, Rough-legged Hawk, Black, Brown-capped, and Gray-crowned Rosy-Finch, McCown's, Chestnut-Collared Longspur and many others....along with great scenery and interesting wildlife. Starts and ends in Denver, CO. ■

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TUCSON AUDUBON FIELD TRIPS

KEN MURPHY, FIELD TRIP COORDINATOR

Tucson Audubon Field Trips Listings Are Now Online Only

For a full listing of trips and details, visit tucsonaudubon.org/fieldtrips, call the trip hotline at 520-629-0510 x4, or pick up a printout at our Nature Shops.

FEATURED FIELD TRIP

November 25—Tuesday 5:00 AM

San Rafael Grasslands



This trip provides an opportunity to see raptors and grassland sparrows. The number of bird species we will see is not large, but we hope to see some birds not easily seen elsewhere. We will be mostly birding from cars, but some walking through tall grass and over rocky slopes. If you don't have a high-clearance vehicle, plan to carpool with someone who does. Bring lunch, scope will be useful. Meet at Houghton Road north of I-10 before 5:00 AM. Please email the leader before the trip. You must register online at tucsonaudubon.org/fieldtrips. Leader: Contact Jim Hays jhays36@mac.com, with questions



Bog Hole in San Rafael Valley

KATE REMOLDS

Weekly bird walks are listed at tucsonaudubon.org/fieldtrips

General Information Tucson Audubon field trips are offered at no charge and are led by expert volunteers. Bring money to cover your share of the carpooling and any required entry fees (e.g. for state parks). 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 sun protection. Bring plenty of snacks and water for yourself. Always bring binoculars and a field guide. For most trips a scope can be useful.

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 x3. Report rare birds at 520-629-0510 x3 or rarebirdalert@tucsonaudubon.org.

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*Please call to confirm hours. The shop opens earlier and closes later during certain months.

From Tanque Verde Rd and Houghton, continue east on Tanque Verde 2 miles. Turn left (north) onto Soldier Trail, continue north for 2 miles. Turn right (east) onto Roger Rd, continue ¼ mile to the park entrance on the left (north).

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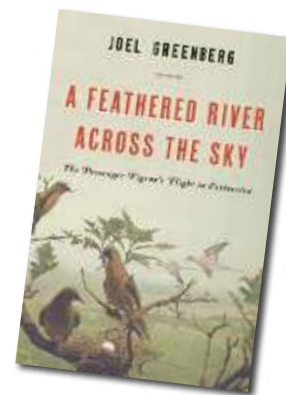
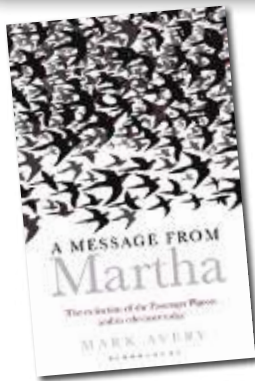
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Book-Pigeons, Pigeon Books

Avery, M. 2014. *Message From Martha*. Bloomsbury. 304 pp. \$22.00.

Fuller, E. 2014. *The Passenger Pigeon*. Princeton UP. 177 pp. \$29.95.

Greenberg, J. 2014. *A Feathered River Across the Sky: The Passenger Pigeon's Flight to Extinction*. Bloomsbury. 304 pp. \$26.00.



The end came in the summer of 1910, when George died in the Cincinnati Zoo. He left behind him only Martha, who would shuffle off her own mortal coil four years later, dying on the floor of the same cage on September 1, 1914.

And that was that. The Passenger Pigeon, whose flocks had darkened the skies and whose flesh had sustained generations of pothunters, was no more. Maybe we'd grown used to the idea, or maybe we just didn't care, but the reaction to this most public of extinctions was strangely muted, less outrage than nostalgic resignation.

Not so a hundred years later. This centennial month of Martha's death has been marked by solemn commemorations and calls to conservation action—and more pixels and ink than have been devoted to any other bird in history, I think.

The most thoroughly researched of the new crop of pigeon books, Joel Greenberg's *Feathered River* was released some months in advance of the anniversary, and is already the new standard reference for the species, replacing A.W. Schorger's 1955 compendium.

Much here is inevitably familiar, but Greenberg adduces new material, too, including helpful précis of several recent ecological studies of the pigeon, which reconstruct the birds' relationship to their environment and invite tantalizing speculation about what the North American landscape might look like today had they survived: Less Lyme disease? More Bachman's warblers? We'll never know. But this is the book—in spite of its maddeningly poor index—to start with to learn more, or simply to learn about, the pigeon and its extinction a hundred years ago.

Where *Feathered River* aims to be comprehensive, Errol Fuller's attractive *Passenger Pigeon* is an intentionally eclectic celebration, in words and pictures, of what that species meant and what it means. The author of several other books about extinction and extinct birds, Fuller limns what is known of the pigeon's biology in an introductory chapter, going on to explore the causes of its extinction in the wild and the "grim" career of those individuals, including Martha, that survived in captivity.

The chapter "Art and Books" brings Robert Shufeldt's 1921 survey of the pictorial record nicely up to date, reproducing folk and public art, book

illustrations, and fine paintings; indeed, the great strength of this book is its lavish use of handsomely reproduced graphic material, from Mark Catesby's original painting to broadsheet advertisements of shooting matches and poignant photos of the captive birds in their last days. Julian Pender Hume's brief anatomical appendix offers drawings of a passenger pigeon and a pink pigeon in flight (an exercise that would have been more revealing had the second bird been a mourning dove).

Like Fuller, Mark Avery is an Englishman, the former Conservation Director of the RSPB. Avery's *Message from Martha* rehearses many of the same facts as Greenberg and Fuller, but more clearly focuses the modern conservationist's lens on those circumstances, "putting the ecology back into history." Centered around Avery's US road trip of 4,000 miles, *Message from Martha* subjects the facts to a number of fascinating thought experiments and reaches some equally compelling conclusions. The Passenger Pigeon's accelerated life history, for example, was due to the continuous depletion of its specialized food supply. A critical evaluation of the species' likely demography leads Avery to conclude that the species likely nested more than once a year. And a carefully imaginative look at mast production in the American forest primeval convinces him that the pigeon population before European settlement may have been as high as ten billion.

Avery feels "robbed and saddened" that those billions are gone—and he goes on to point out that Britain and western Europe have suffered an equivalent loss across a whole suite of species, including (ironically enough) the Turtle Dove. But there is hope in the message he decodes from a long-dead passenger pigeon. Unlike the unwitting witnesses of that not-so-long-ago slaughter, we know the threat to the environment, to our environment. The issue is whether we care enough to do anything about it. ■

Rick Wright

Rick Wright is Senior Leader at WINGS Birding Tours and Review Editor at Birding magazine. Except when he can get away to Arizona, he lives, writes, and birds in northern New Jersey.

OBITUARIES

Ann Zwinger

Originally from Indiana and a graduate of Wellesley College, Ann Zwinger died on August 30. Readers of works on the Southwest will know at least some of her nearly 20 books on Southwest environments and people. She wrote on subjects ranging from alpine tundra, canyonlands and Baja California deserts. Familiar titles include *A Desert Country Near the Sea*, *Aspen*, *Downcanyon* and *The Nearsighted Naturalist*. Her 1975 book *Run, River, Run: A Naturalist's Journey Down One of the Great Rivers of the West* won both the John Burroughs Memorial Association Gold Medal for a distinguished contribution in natural history and the Friends of American Writers Award for non-fiction. Her latest book, from 2000, was *Shaped by Wind and Water: Reflections of a Naturalist*. She was born on March 12, 1925.

Charles Bowden

Charles Bowden died the same day as Ann Zwinger. He lived in Tucson and other parts of the Southwest over 50 years until finally moving to Las Cruces, New Mexico, five years ago. Early in his career he wrote for the *Tucson Citizen* and contributed to several national magazines. He eventually authored many books about the Southwest deserts including *Frog Mountain Blues*, *The Sonoran Desert* and *Killing the Hidden Waters*. The latter revealed in obsessive detail the unsustainable exploitation of groundwater and the inevitable decline of Western rivers. His environmental works often revealed both beauty in Southwest landscapes and dystopian stories of humans in relationship with nature. Often using nature as a touchstone, he went on to report extensively about the growing culture of violence in the border region, particularly in Juarez, Mexico. Bowden was born on August 6, 1945. ■

Kendall Kroesen
Urban Program Manager



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Vermilion Flycatcher

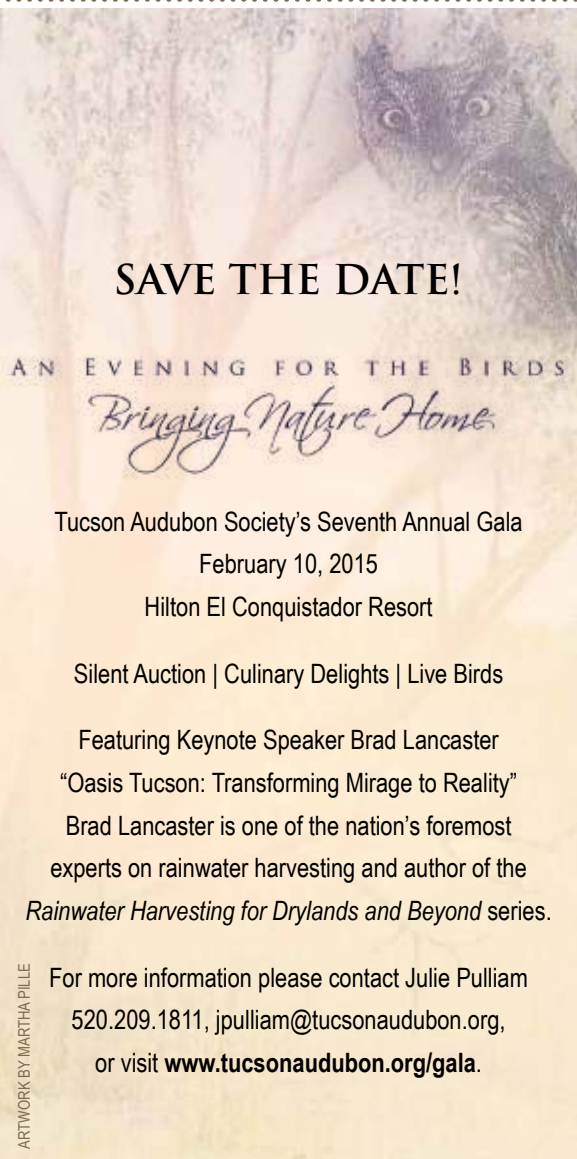
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Brad Lancaster is one of the nation's foremost experts on rainwater harvesting and author of the *Rainwater Harvesting for Drylands and Beyond* series.

For more information please contact Julie Pulliam
520.209.1811, jpulliam@tucsonaudubon.org,
or visit www.tucsonaudubon.org/gala.

ARTWORK BY MARTHA PILLE



Missing!

We've almost lost our owl.

Will Pygmy Nuthatch and Williamson's Sapsucker be next?

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