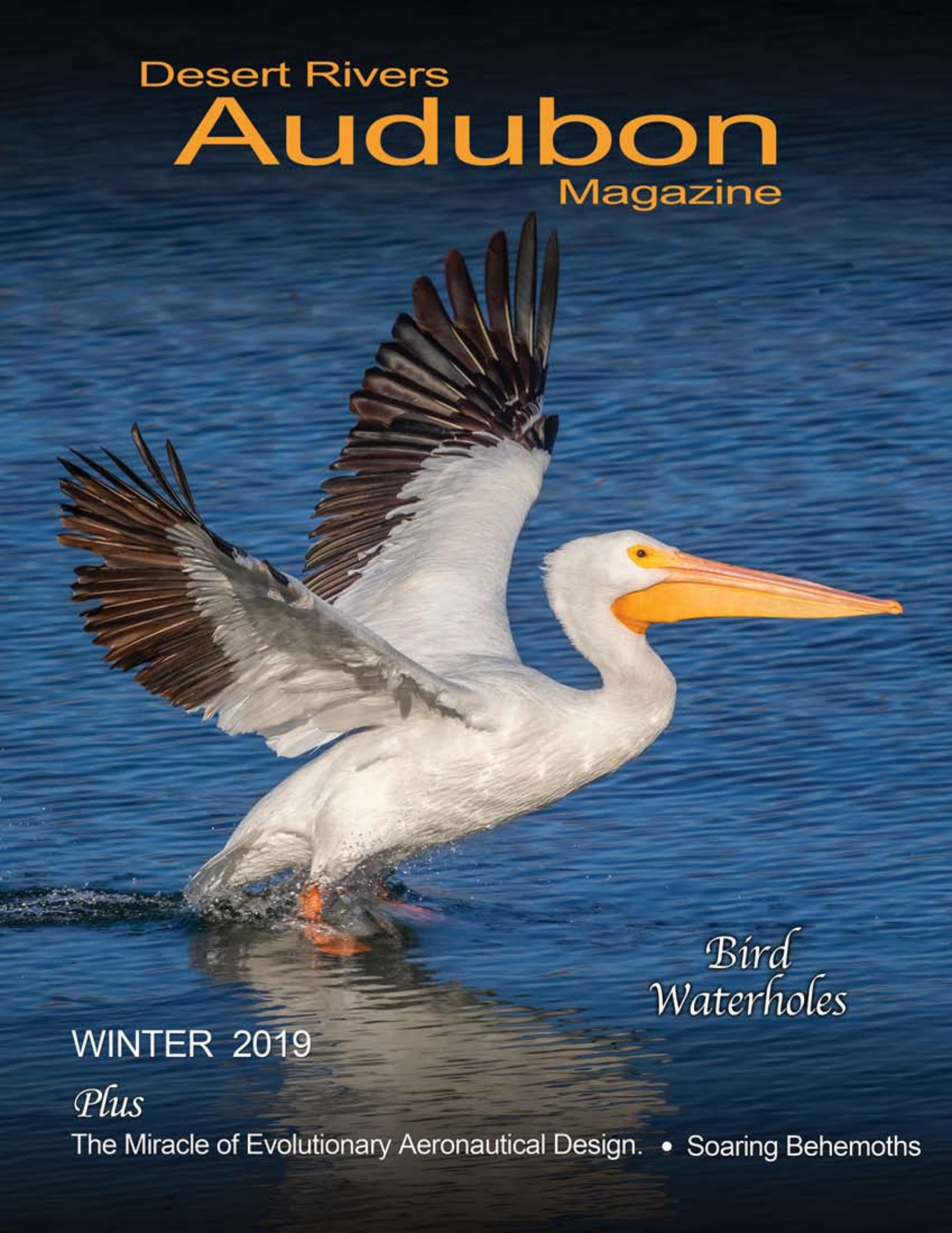
Desert Rivers Audubon Magazine



Bird Waterholes

WINTER 2019

Plus

The Miracle of Evolutionary Aeronautical Design. • Soaring Behemoths

DESERT RIVERS ACTIVITIES

Desert Rivers Audubon Magazine

Birding with Desert Rivers Audubon

Speakers Series

Our Speaker Series is the second Tuesday of the month, September through April at the Southeast Library, Greenfield and Baseline Roads, Gilbert. Doors open at 6:30 p.m. Program from 7-9 p.m. See desertriversaudubon.org for details.

February 11 – Birding the Tropics. Nature photographer Cindy Marple introduces us to the tropical region of the Americas, known as the Neotropics. Home to more than 3,000 species of birds, the Neotropics has the largest avian diversity of any region on the planet. Cindy's photographs are a window into her broad knowledge of birds—the result of hours spent observing and learning about bird behavior. She teaches an intermediate birding class through the Chandler Recreation Department and presents slide shows at local camera clubs and Audubon chapters.

March 10 - Live Raptor Show. The annual Liberty Wildlife presentation allows us to see up close some of the raptors we work hard to find in the field. Volunteers from the award-winning wildlife rehabilitation center show these birds on the glove and share information about each species. Children are especially welcome at this presentation. Liberty Wildlife is committed to nurturing the nature of Arizona by providing quality wildlife rehabilitation, conservation and environmental education for the community. We can learn from their stories how to help keep birds safe.

April 14 - Dragonflies. Would you like to learn about dragonflies? Pierre Deviche will introduce you to the history, biology, and photography of these fascinating insects. Pierre has a bachelor's degree in biology and doctorate in behavioral neuroendocrinology, both from the University of Liege, Belgium. He is currently a professor of environmental physiology at Arizona State University.

Join Us in the Field!

Expand your knowledge of birds and make new friends by going along on a field trip sponsored by Desert Rivers Audubon Society.

Guided Birdwalks and Overnight Excursions led by experienced birders are a great way to expand your knowledge and make friends. For a schedule of these and other experiences around the area, check the calendar on our homepage at desertriversaudubon.org. Formal field trips are also listed in our monthly email newsletter. Sign up by entering your email address in the form on our home page.

Informal Pop-Up Birdwalks get you into the field to exchange knowledge with other birders. Groups meet at a promising location, then pool their expertise finding birds. These groups communicate via email, so if you are interested, contact our Field Trip Director, Gwen Grace, at gwengellen@gmail.com and she will put you on the list.

Birdwalks in the parks

Learn about Burrowing Owls on our guided **Owl Walk and Talk**, the fourth Saturday of the month year round. Join a guide at the ramada at Zanjero Park on Lindsay Road south of the 202, one hour before sunset.

Desert Rivers Audubon offers free **Family Birdwalks** led by our expert members in two area parks.

Join us on the third Saturday of the month, October – March, at the Gilbert Riparian Preserve, one of the top birding destinations in Arizona. Or, come to Veterans Oasis Park in Chandler on the first Saturday of the month, November – April.

The first walks step off at 8:30 a.m., with the last one going out at 11. We provide loaner binoculars and fun activities for kids!

Educating and inspiring our community to protect and preserve birds, wildlife, and their habitats.

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WINTER 2020

Desert Rivers Audubon Magazine

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President's Message

Krys Hammers

When the calendar changes to a new year it's natural to look around and take stock. This year, I'm happy and thankful to find myself surrounded by an active and committed Audubon community.

Desert Rivers Audubon Society members are busy year round creating and presenting many programs and services for the broader community, especially those geared toward education. At our birdwalks we introduce families and visitors to birds at our wonderful urban wetlands. The birdwalks are also an opportunity to talk about how these wetlands process effluent from our purification plants, returning water to the aquifer. Our Young Birders Club is becoming more active again, introducing kids to birding topics in depth. Our Speakers Series is a stage for entertaining and interesting programs on a variety of environmental topics. Our Field Trips, whether with an experienced leader or a group of friends, are always fun learning experiences.

To be successful, these programs require hours of preparation and additional hours on Saturday mornings and Tuesday evenings. But the Desert Rivers community knows it's worth the effort. We know that when people learn about birds they start to care about them and what happens to them. The next step is to want to eliminate threats to birds, like habitat degradation and introduced species (feral cats) and windows that appear to be open sky. Finally, people begin to understand better the true worth of the natural world.

We couldn't do any of these things without the support of you: our Audubon community. Many of you responded generously to our annual appeal letter. You volunteered or attended our Tour de Bird. You joined and participated, and we appreciate it all. Our reward is the sparkle in a child's eye when they start to get excited about the birds they see.

Cover Photo : American White Pelican

Birders Notebook

Speak Up for Birds!

The long term drought continues, and the water that is essential to all life in our state is increasingly precious and scarce. Lake Mead has dropped into what the Drought Contingency Plan calls the Tier Zero zone, triggering cuts in water deliveries in 2020 for Arizona, Nevada and Mexico. Birders and others concerned with protecting habitat as well as providing for human needs must remain informed and active.

In the Western Rivers Action Network blog, Water Policy Manager Haley Paul outlined Audubon Arizona's three priorities for the 2020 state legislative session: increased funding for the Arizona Department of Water Resources, which oversees our water supply; improved management of our shrinking groundwater supply; and favorably settling water rights litigation concerning in-state rivers. Read more at https://bit.ly/2RRhcsq

The Request to Speak program allows Arizona voters to make themselves heard on issues before the legislature through an online tool. You can create your account online, but you must go to the kiosk at the state capital to activate your account. After that, you can use the system to sign up to speak on a bill in person, or to register your position for or against, with comment, online. The manual, available at https://bit.ly/2NYvc2w, explains how to get started and how to use the tool.

Our Garden Tour is For the Birds

Desert Rivers Audubon Society took its wildlife habitat crusade to the public on November 2, 2019 with our 8th Annual Tour de Bird. Some 170 people—a record—spent the day visiting homes, parks and businesses to learn more about ways to make the urban landscape livable for our resident and migratory birds.

Homeowners in Ahwatukee, Chandler, Mesa and Sun Lakes opened their yards, demonstrating how native and low water-use plants can create environments that please and nurture both birds and humans. Our thanks go to these gracious hosts: Cauleen Autery, Robert and Kathryn Elsaesser, Cliff and Tammy Fielding, Andrea Gaylean, Krys Hammers, Jayne and Todd Peterson, Ken Reinert and Chuck and Pam Yount.

Rare Bird List Serv

Perhaps the best way to be informed about rare and uncommon bird sightings in Arizona is the University of Arizona's List Serv. Sightings are up to date with location information, and are a sure way to see birds that are new to the birder.

Go to the following URL to sign up and receive regular reports- https://list.arizona.edu/sympa/info/aznmbirds

Are You Getting the Most from eBird?

Launched in 2002, eBird is a free online program that allows users to track their sightings to a database that other users can view and search in real time. In 2018, the latest figures available, more than 420,000 birders contributed 590 million bird observations—creating a citizen science data set that has value in ornithological research. The Cornell Lab of Ornithology provides a free, three-hour online course where you can learn the basics to get started or to up your eBird game. It's free! Go to https://bit.ly/2tMSHEu to sign up.

The Cornell Lab of Ornithology eBird

Festival Season is Here!

It's time to pick a festival and sign up:

Tres Rios Nature Festival – February 29 – March 1

Benefits the Wildlife for Tomorrow Foundation, which supports the Arizona Fish and Game Department. The Sonora Audubon Society offers free basic birding classes and a dawn tour of the confluence of the Gila and Verde at 7 a.m. each day. Location is the Base Meridian Wildlife Area, near 7602 S. Avondale Boulevard, Avondale
Information at https://tresriosnaturefestival.com/

Southeast Arizona Birding Festival – August 5 - 9

Presented by Tucson Audubon Society, this is the 10th year of this popular festival
Registration opens April 1 at http://tucsonaudubon.org/festival2020/

Southwest Wings Spring Fling – April 29 – May 2

The spring migration festival from the presenters of the famed summer event features field trips only. Based at Cochise College in Sierra Vista. Registration and information at https://www.swwings.org/spring-fling

Southwest Wings Birding and Nature Festival July 29 - August 1

First offered in 1991, this is the oldest birding festival in Arizona. The confluence of three climatic zones in the Sky Islands assures a high species count. Based at Cochise College in Sierra Vista.
Information and registration at https://www.swwings.org/main-festival

Verde Valley Nature and Birding Festival – April 23 - 26

A friendly festival targeted at birders, photographers and nature lovers. Staged by Friends of the Verde River, the festival offers more than 60 field trips to prime birding spots along the Verde River, Oak Creek and Sycamore Creeks.
Information and registration at https://verderiver.org/birding-festival/

Verde Valley Birding & Nature Festival

Mike Evans

Trump Administration Proposes Changes to NEPA

During the first full week of this brand-new year, President Donald Trump proposed changes to the National Environmental Policy Act (NEPA), originally passed in 1970. The proposed changes caused alarm in the conservation and environmental communities. Let's spend a few minutes reviewing why we passed NEPA and what the proposed changes are meant to do.

Mine Ruins

NEPA was signed into law on January 1, 1970 by President Richard Nixon. The law was passed by a Congress controlled by the Democrats but signed into law by a Republican president. The act authorized the creation of the Council on Environmental Quality (CEQ), established a national policy for the environment, and required federal agencies to assess the environmental effects of their proposed actions prior to making decisions. NEPA not only covers any action by the federal government, it also covers any project for state, tribal, or local governments that uses federal funds, and any action by private or corporate interests on federal lands.

"NEPA was the first major environmental law in the United States and is often called the 'Magna Carta' of Federal environmental laws," states the NEPA website.

Many of you are very familiar with the requirements of NEPA. The range of actions covered by NEPA is broad and includes making decisions on permit applications, adopting federal land management actions and constructing highways and other publicly-owned facilities. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations. Read more here https://bit.ly/2RlDpQe

So, what has President Trump proposed to change? According to a January 9 report in the Washington Post, he has proposed fundamental changes to regulations, making it easier to approve new mines, pipelines, highways and hundreds of other projects around the country, including some that could harm the environment and accelerate climate change. According the Wall Street Journal, full environmental impact statements would have to be completed in two years and environmental assessments in one year. Both currently take many more years to thoroughly complete. The president has also asked for a page limit on the length of every report! On January 9, the Wall Street Journal quoted Brett Hartl, government affairs director at the Center for Biological Diversity, about the overhaul plan: "Forcing federal agencies to ignore environmental threats is a disgraceful abdication of our responsibility to protect the planet for future generations." Hartl called it a 'gift to the fossil-fuel industry," according to the publication.

The League of Conservation Voters also weighed in: "This rollback of NEPA is designed to silence the voices of tens of millions of Americans affected by federal projects and deny the devastation of our changing climate. There will now be almost zero public input into these environmental reviews."

The Sierra Club had this to say: "Under the changes to NEPA, released at the request of the fossil fuel industry, federal agencies would not be required to consider the effects major infrastructure projects would have on the climate. Agencies would also be allowed to ignore the effects of rising sea levels, extreme weather, and other results of the climate crisis on proposed infrastructure. The changes would also limit opportunity for public participation and open the door to potential conflicts of interest." Read more https://bit.ly/36puBgC

The National Audubon Society refers to the proposed changes as a gutting of a decades-old law that ensures the public's right to evaluate projects' impacts to communities of people, birds, other wildlife, and the places they need, not to mention our air, water and the rest of our environment. Read the rest of the statement, authored by Nada Wolff Culver, NAS Vice President, Public Lands and Senior Policy Counsel at https://bit.ly/2RkyeAg

Clearly these proposed changes will be opposed by the conservation and environmental communities. Reportedly, they will also be opposed by members of Congress and numerous state governments. Please stay on top of this issue and be prepared to give your input to your U.S. representative and U.S. senators.

Acid drainage from a containment pond

Waterholes

Article and Photos- Jim Burns

It wasn't long after I began looking *at* birds as a young adult that I realized birdwatching was an enjoyable and fascinating pathway to nature, and then I found myself looking *for* birds. The next step in my progression as a birder came when I began using my observations and my research into avian lifestyles to insure my hiking and explorations of the natural world would intersect with the birds' needs and movements.

Some 30 years ago my pathway to nature diverged from the one most traveled when I found myself wanting mementos of my birding adventures while realizing I was a very visual person. I began carrying a camera. It may have been because a Christmas Count compiler demanded documentation of a rarity, but more likely it was because I found myself bereft of any talent for drawing or painting.

Following this new pathway was at once more challenging and more rewarding. The camera demanded that I slow down and spend more time with a single bird or species while also requiring a more granular focus on finding them. The answer to what do birds do all day is that their needs dictate their movements, and the primary need for birds is the same as ours. Water!

Although some desert birds such as roadrunners and wrens are able to satisfy their moisture needs with their food intake, most birds seek free standing water to drink, and additionally there are two other reasons they gravitate to water. They need/love to bathe, and water attracts prey, whether other avian species, small mammals, or insects.

At this point in my birding life there is nothing I'd rather do than walk a boardwalk or sit at a waterhole, but what is a boardwalk but a long access over a big waterhole? A waterhole, as typically construed, is something small enough to walk around, giving access from all compass points to all comers, birds, birders, and photographers alike, the latter two always seeking to keep the light behind them.

Waterholes attract birds. Period. A waterhole can be anything from a trickle at a mountain seep to monsoon runoff in a retention basin, from a backyard water feature to a fishing pond, from a waterfall pool to an oxbow of a river. Waterholes are one of the most overlooked and underutilized hotspots for many birders who just want to keep moving and/or run up a big list. And the most undervalued strategy for birding at waterholes is sit and wait.

Waiting at water for birds is, I suppose, boring for "hard core" birders, but I find it at once both calming and exhilarating. Even if one is knowledgeable about seasonal activity, terrain, and habitat, surprises abound at waterholes where locally uncommon species or even rarities may drop in at any moment. Activity at waterholes provides a glimpse behind the curtain into the secret life of birds that the typical birder seldom sees.

Who knows the crown of the seemingly inaptly named Orange-crowned Warbler really is orange? I have seen it three times, all at waterholes. Who believes the icon of the southwestern deserts, our beloved Greater Roadrunner, is a ruthless killer, gruesomely disarticulating prey by beating it against rocks? I have seen it twice at waterholes. Who watches avian parents teach juveniles the wary caution and meticulous grooming and preening techniques required in bathing? I see it every time I sit and wait at a waterhole in summer or fall.

Red Crosssbill, male

Summer Tanager, male

Here are the three most singular things I've seen at waterholes: in June, 1996 I observed two Five-striped Sparrows at an ephemeral waterfall in the Santa Rita Mountains, at that time a northern range extension for the species; two years ago I watched a Brown Creeper catch flies on the wing for half an hour around a mountain spring, landing vertically on a rocky cliff face between forays, the only time I've ever seen a creeper anywhere but on a tree; this fall I watched a Broad-tailed Hummingbird fly slowly back and forth for five minutes through a suspended mister built to replenish a postage stamp waterhole in a private backyard. Water attracts birds. Period.

Birds at water are at their most cautious. When drinking, their heads are down, vision averted from danger above and behind. When bathing, their feet are in water and their feathers are wet making launch and fly less instantaneous than often needed. But when they become comfortable around water they let their hair down, literally. If you enjoy birds for their plumage, nothing is more beautiful than breast feathers spread, spray and ripples reflecting unimaginable nuances of color, black skin exposed underneath.

Water is one of the eternal verities, along with light and sky, for birds and those who seek them out. Water is life for birds, and it can add immeasurably to the birding life of birders. Water reflects light and sky. Water implies depth and distance. Water takes on form and function. Water is both dynamic and dramatic. It makes both natural history and camera captures come alive.

Just as "bird" evolved linguistically from a noun to a verb, so has water evolved from noun to adjective, modifying where, why, and how the binoculars find birds and the camera finds beauty. So, at this stage in my birding life there is no place I'd rather be than sitting and waiting at a waterhole. Peace and quiet. Anticipation and action. Discovery and drama. All the photos accompanying this article were taken at waterholes in Arizona. Water will add some spice to your birding life just as it adds life to the birds you enjoy.


White-breasted Nuthatch

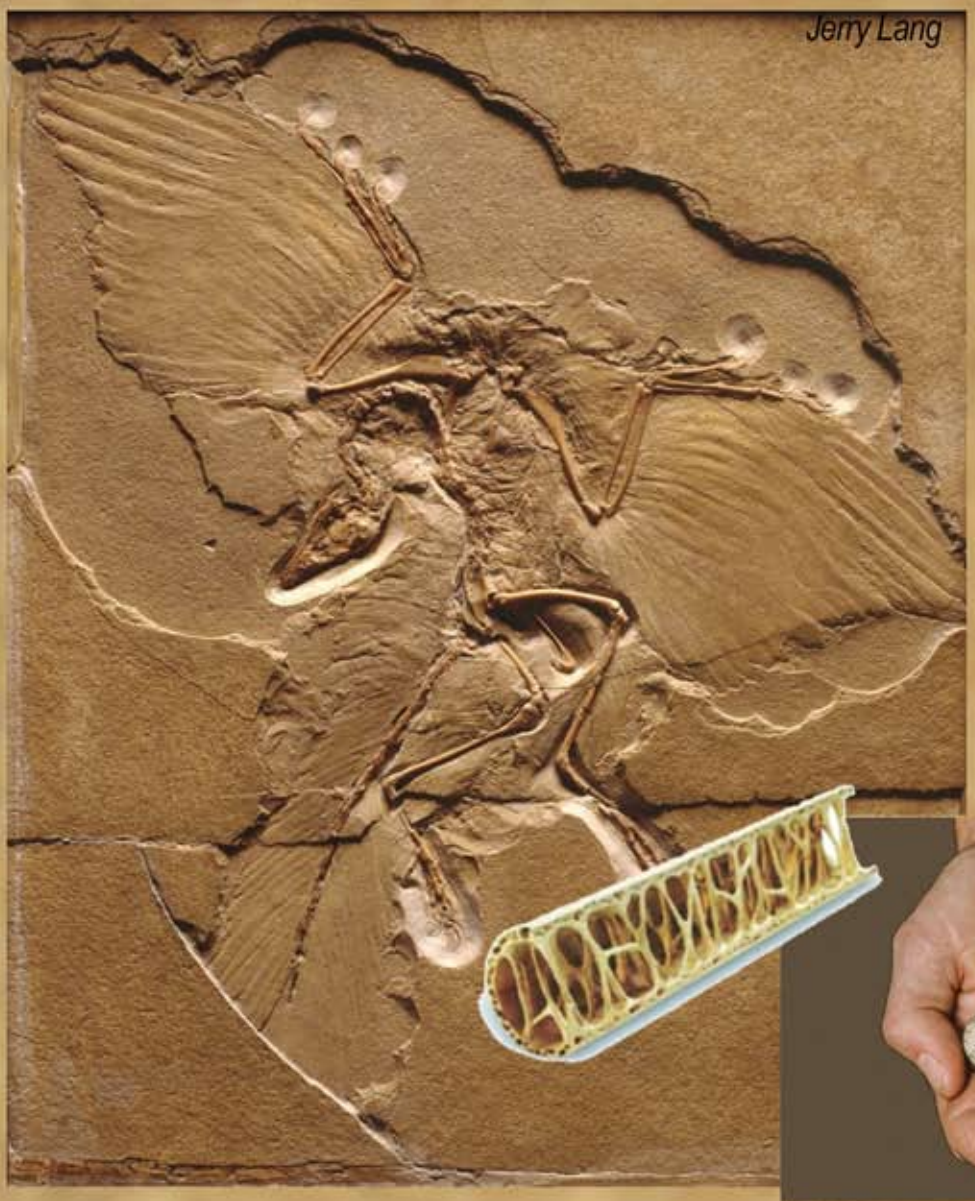

Black-throated Gray Warbler, male


Yellow-eyed Junco


Wilson's Warbler, male


Costa's Hummingbird, male

60 Million Years of Flight Innovation



"Oh! I h
surly bo

To meet their oxygen demands, birds have a much more efficient respiratory system than do most other vertebrates. Bird lungs are dense, immoveable structures attached to the back of the rib cage. Posterior and anterior air sacs connected to the lungs expand and contract responding to internal pressure changes associated with movement of the sternum.

One respiratory cycle in birds is composed of four steps—two inhalations and two exhalations—which create a continuous unidirectional airflow through the lungs. The movement of oxygen-rich air is from the nasal and bronchial passages to the posterior air sacs, then through the lungs and on to the anterior air sacs. From the anterior air sacs, the carbon dioxide-rich air is exhaled back through the bronchial and nasal passages.

While humans have only recently created flying machines, evolution has been perfecting avian flight for more than 60 million years. Whether human or bird, the key to all flight includes overcoming weight (gravity) and drag (air resistance) with enough thrust to generate lift using some type of airfoil or wing.

Birds have excelled at getting rid of excess weight. Most species have hollow bones and light-weight, strong feathers. They also lay eggs rather than having embryos develop inside the female body. They feed on small amounts of high energy and easily digestible foods. Birds also have eliminated the need for bladders and therefore don't carry a lot of liquid weight with them.

In order to keep their weight very near their center of gravity, birds have no teeth or nose, both of which would add frontal weight. They also have short tails, reducing posterior weight. Bird gizzards, which do bulk up with food, are located very close to their centers of gravity.

The strong wing muscles attached to a large sternum or breastbone generate thrust to power flight. These muscles require a lot of oxygen during active flight.

Bird wings, which are generally large compared to overall body size, have relatively few bones. The wing bones and muscles are positioned to the front of the wing and are covered in feathers, creating an aerodynamic airfoil. The distance from the front to the back of a bird's wing is greater over the top of the wing than beneath the wing. This is the same design used for aircraft wings. When this shape of airfoil moves through air, the air must move faster over the wing than under it. The faster moving air creates lower pressure above the wing and lift results.

Another important aerodynamic aspect of bird flight is the angle of attack, which is the angle between the wing and the direction of oncoming air. Small angles of attack increase lift, but too great of an angle of attack creates turbulence and will stall forward movement. Most birds hold their wings at about a 6-degree angle of attack. Large birds may increase this to about 20 degrees. The shape and size of a bird's wing determines the required air speed for a bird to remain in flight.

...iavslipped the ...nds of Earth"

...-High Flight by John Gillespie Magee Jr.

Bird wings are not just simple airfoils. The flapping wing motions of most birds are complex movements involving wing shape, size, and control of feather and wing positions.

The primary feathers at the wing tip are attached to a bird's 'finger bones' and are the longest wing feathers. These feathers create the majority of thrust on the downstroke. On the upstroke or recovery stroke, the primaries can be rotated and separated like a jalousie, which reduces drag. Then on the next downstroke the primaries come back and lock together with hooks on feathers' barbules.

The secondary feathers are attached to the ulna, which corresponds to the human forearm. These feathers are closer to the bird's body and shorter than the primaries. They cannot be individually separated, but they are important in forming the wing's airfoil, which maintains forward thrust during the wing's upstroke.

The alula feathers, which are not strictly flight feathers, are attached to the 'thumb bone' at the leading edge of the wing. They only detach at higher angles of attack forming a gap between themselves and the wing. This increases the wing area and provides birds with extra lift during slower flight and at landing.

A bird's tail feathers are also very important in flight. They maintain stability and balance especially during slow flight when they can be spread. This facilitates air flow over the wing providing additional lift. When spread and turned downward, tail feathers help control and slow down flight for landing.

Wing shapes and sizes vary tremendously across bird species. The major categories of wing shapes are elliptical, high speed, long soaring, and high lift/soaring.

Many small birds such as most passerines have short elliptical wings. This wing shape along with the ability to quickly spread (slot) the primaries allows high maneuverability in confined spaces. These small birds get themselves airborne by a simple upward jump that starts air moving over the wing.

Swallows, falcons, ducks and many shore birds have wings designed for high speed. Wings of these birds are relatively long and thin and taper to a point. This design reduces drag and energy consumption but does not work well for low-speed flying. Birds with these types of wings must take off into the wind or generate air speed by running as seen in ducks.

Large sea birds such as albatrosses and frigate birds have very long wings that are adapted for long-term soaring on oceanic air currents. These birds also must take off into the wind or run to create lift.

Vultures, condors, hawks, and ospreys have broad wings that can provide high lift at relatively slow speeds. This design also offers maneuverability necessary for take offs and landings in relatively tight spaces.

Bird flight is the most complex means of locomotion found in the animal kingdom. Birds use an extremely diverse variety of wing structures, feather arrangements, and control mechanisms to move through the air. Each bird is a miracle of evolutionary aeronautical design.

Soaring Behemoths

Adam C. Stein

I've been having a certain recurring dream for years: I look up and the sky is nearly blackened by a wave of migratory birds. The birds are a mix of species, some real and some products of my imagination, but all are huge—derivations of storks, cranes, and the like. The birds eventually land in some unfamiliar field and I am overwhelmed with excitement and call to the people around me to come and see this amazing spectacle.

There are places and moments where elements of my dream can actually come to life, for instance, watching thousands of Sandhill Cranes circle above Whitewater Draw in southern Arizona during a winter evening. Knowing where and when to go, I can see dreamlike events in reality: sights that closely resemble the scenes in my subconscious. But since they are planned they can't capture the spontaneous joy I feel when I am asleep.

Every winter here in the valley, there is the potential to experience this kind of surprise moment, when a large flock of American White Pelicans takes to the air. For those new to the Phoenix Metropolitan area, the idea that we host a bird averaging 15 pounds that survives on fish and lives in water would seem preposterous. Nevertheless, these birds arrive here in October from Central Canada and the Great Plains, where they nest during the warmer months on isolated islands along freshwater lakes. To be clear, Arizona is not the main destination for these snowbirds. Most spend the winter in coastal bays and estuaries along the Gulf of Mexico and coastal California and Mexico. But the Phoenix area has some features that have brought in a regular (and possibly increasing) number of individuals each year. Manmade lakes and areas along the Salt and Gila Rivers that contain water—some stocked with exotic Tilapia fish—provide safe resting places for the pelicans.

It is this scene—a flock of pelicans soaring towards the Rio Salado—glimpsed while driving along I-10 through downtown, where my recurring dream is most fully realized. As in my dream, I am instantly captivated and brought out of the daily routine and into the beauty of nature. I inevitably will pull over and admire until they are out of view. To increase your odds of witnessing this truly awe-inspiring sight, look for them around Tres Rios (where the Gila, Salt and Agua Fria meet) or along the Salt River in Tempe.

It wasn't that long ago in history that my dream was a daily reality in many parts of the world; enormous flocks of large birds moved along the landscape. These impressive flocks have not been eliminated completely. As stated above cranes still come in the tens of thousands to southern Arizona, in Central America I have regularly come across 10,000-plus migrating hawks in one big wave, and in Africa I have seen nearly a thousand storks descending onto the landscape to eat emerging termites.

But large aggregations of animals are becoming rare. Studies have shown a nearly 40 percent decline in wildlife populations across the board with animals that aggregate, especially large animals, being disproportionately affected in many cases. This has led me to ponder how big these aggregations used to be. I can only imagine … or dream.

The sight of a flock of pelicans flying in downtown Phoenix gives me hope—hope that we can coexist with these impressive birds, that birds with prehistoric wingspans can still dominate our skies, and that monster-sized birds will still descend onto the landscape.

Watching Birds is Not Enough

Liz Farquhar

Getting outside with binoculars heals what hurts. I can approach the challenges or disappointments we all face more calmly if I've spent some time watching birds. Stress drains away and I'm outside of myself, part of nature, for those few minutes.

But enjoying birds and nature isn't enough anymore, if it ever was. A recent comprehensive study estimates that bird populations in the U.S. and Canada are down 2.9 billion in the last 50 years (Living Bird: https://bit.ly/2tvGu7g). We can wait for government or the market or some other outside actor to heal what hurts our birds, or we can take action in the habitat we control: our homes.

Small actions add up, especially if you can recruit a few others to join you. Start with plastic. I hope everybody reading this carries groceries home in reusable bags. You can step it up by making or investing in reusable bags for produce: I found some online made of organic cotton. I've cut plastic wrap out of my life, too, by replacing it with wax-coated cloth that can be washed between uses and glass containers with silicone lids. Next on my list: the plastic cutlery that comes with takeout (I'm already carrying bamboo straws for my drinks). I'm looking for a set of silverware I can carry in my bag for the salads I pick up to eat on the fly. Audubon offers eight ways to break your plastic habit here: https://bit.ly/2Uugh45.

Now let's step outside. If what you see in your back yard is tropical plants and grass, the birds aren't getting what they need from you. First mark your calendar for November 7th, the date of Tour de Bird, our

showcase of homes with native landscaping. Transforming a yard is daunting, but Audubon's Plants for Birds database at https://bit.ly/2v9AQrY is helpful.

Plug in your zip code and the database feeds you a list of plants that are native to your exact position. Together our yards can form a patchwork of habitats that birds will use to survive the urban sprawl.

What have you done to help save the birds we love to watch? Send me a note at liz.farquhar51@gmail.com and I will share your tip in the next issue.

This Road Trip was For the Birds

Liz Farquhar

Steady rain drove the 10 of us to seek cover under the ramada at Whitehouse Picnic Area in Madera Canyon. As we munched on sandwiches, we reviewed the birds we had seen earlier at the Sweetwater Wetlands. Next stop would be the feeders at Santa Rita Lodge. We weren't going to let rain and a 50 degree chill dampen our day!

That was the first of three birding days on a recent Desert Rivers Audubon field trip organized by Gwen Grace and Theona Vyvial. A hotel in Green Valley served as base camp for outings to some of the most famous birding spots in Southern Arizona.

After an early start we whetted our appetite at Sweetwater. The birds were apparently under cover from the damp, but we spotted a couple Red-tailed Hawks and a Cooper's along with the usual water birds. At Madera, we saw two Rivoli's and one Blue-throated Hummingbird at the feeders despite the rain. We vowed to return when the weather cleared as we headed for shopping in Tubac and a lovely dinner at the Firefly Restaurant in Amado.

The next day we headed for Patagonia, where the Paton House lived up to its reputation. We had several long views of the Violet-crowned Hummingbird and a happy half hour watching Lazuli Buntings work the seed feeders.

After a tasty lunch at Gathering Grounds we repaired to Patagonia Lake State Park. From the viewing area we watched water birds in the distance while Red Winged Blackbirds and Pyrrhuloxia swept in for seed. We finished the day with dinner and a serenade at Soto's PK Outpost in Tubac.

A return trip to Madera Canyon closed out the adventure. We located a still-empty pygmy owl nesting site before stopping at the lodge for a last look at the hummingbirds, Arizona Woodpeckers, a Hepatic Tanager … and a coatimundi napping in the sun on a roof nearby. The Elegant Trogon eluded us, but we scoped out a spot on the Old Baldy Trail where it was seen last year. Happy and tired we headed back to Phoenix.

Watch for more opportunities like this on the field trip page and the calendar at desertriversaudubon.org.

Arizonans Are Helping a Desert Warbler Expand Its Housing Options

Reprinted from the Audubon magazine- See audubon website for full story.

A DIY nest box program run by Tucson Audubon provides new living quarters for Lucy's Warblers. The key, though, is to land the perfect shape.

Olya Phillips, citizen science coordinator with the Tucson Audubon Society, photographs a Lucy's Warbler nest along the Tanque Verde Wash in southern Arizona.

The perky sounds of male Lucy's Warblers echo through the Tanque Verde Wash in Tucson's east side. It's mid-April, and the birds have just migrated from Northern Mexico to breed and raise their families in the dripping Arizona canyonlands. This morning, there are at least two of the small, gray-plumed males singing and flying from branch to branch on the cottonwood trees. Their partners are nearby as well, maybe tucked inside the nest boxes recently installed by the Tucson Audubon Society.

Olya Phillips, the chapter's citizen science coordinator, is here to document the number of nesting Lucy's and keep track of the eggs they've laid. The team's research on the birds has been ongoing for five years, focusing on how human-made habitat might benefit the local population. In the past, Lucy's Warblers were largely ignored, Phillips says, largely because they were thought to be a desert-only species. But when Tucson Audubon heard stories of them popping up in peoples' yards, the staff decided to launch the first-ever nest box program for the bird.

Since 2014, Tucson Audubon has enlisted dozens of elementary school kids and other volunteers every spring to build and install the contraptions around Arizona. The aim isn't to reverse decline, but rather to prop up the birds long before they land in crisis. Part of that includes rolling survey data into a larger conservation strategy for the warblers. "We're in the heart of their breeding range. There should be a plan so that we can help them in the future," Phillips says.

Lucy's are one of just two U.S. warbler species that lay their eggs in cavities (the other is the eastern Prothonotary). They typically hole up in mature mesquite trees across the Sonoran Desert. But as the region's water table declines, the trees are dying. What's more, wood harvesters cut mesquite down, and because young trees encroach on grasslands and other grazing areas, so does the state."The one thing that Lucy's need is being aggressively fought in many areas," says Jonathan Horst, Tucson Audubon's conservation and research director. Fewer nesting trees might mean fewer warblers in the future. To keep the local population from slumping, Horst and Tucson Audubon did something that no one else had succeeded at: They devised a nest box that would bring the picky species to urban yards or conservation areas like the Tanque Verde Wash.

The process involved a lot of trial and error, Phillips says. In the first year, the team mimicked classic nest-box blueprints, but none of the rectangular residences attracted Lucy's Warblers. They then used measurements from natural cavities to land on a 10-inch-high, triangle-shaped cubby with an entrance on each side, allowing for better ventilation in scorching summer conditions. The new design made all the difference.

Last year volunteers set up 1,400 boxes across half the length of the state, from as far north as the Tonto National Monument to as far south as Nogales. After testing the triangular layout against four other shapes, the team discovered that the occupancy rate hit 75 pecent. They also counted close to 200 Lucy's fledglings from all the boxes.

Perhaps some of the most enthusiastic builders are the fourth-grade students of Manzo Elementary School, located in Tucson's historic Barrio Hollywood neighborhood. "The more opportunities we can give kids to be exposed to nature and understand natural processes—in this case bird nesting—the better the overall education is," says Blue Baldwin, an educator at Manzo. "If we want students who care about the Earth and the environment, they need to understand both."

Notable Arizona Sightings

From the Az Field Ornithologists Photo Documentation Page.
Complete listing can be seen at www.azfo.org

Black Scoter (Melanitta nigra), Lake Pleasant, Maricopa County. This Black Scoter was found and photographed by Marceline VandeWater on 23 January 2020. Casual late fall through winter visitor to Arizona, particularly along the lower Colorado River. With more than 30 accepted records this species was removed as an ABC review species in 2020. The large, completely orange-yellow knob on the bill of this otherwise all black duck makes this unmistakably a male Black Scoter. Male Common Scoters have much less yellow on the bill.

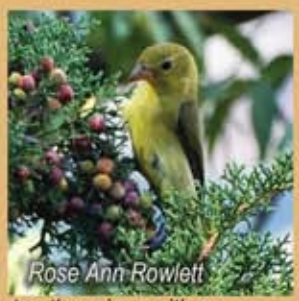
Blue-headed Vireo (Vireo solitarius), Ajo Country Club, Pima County. This Blue-headed Vireo was found by Doug Backlund and Paule Hjertaas on 09 December 2019 and photographed by Doug Backlund on 09 December 2019. There are few accepted records of the Blue-headed Vireo in Arizona. The Arizona Bird Committee takes a conservative approach to reports of this species, which can be indistinguishable from the regularly-occurring Cassin's Vireo.

Bay-breasted Warbler (Setophaga castanea), Madera Canyon Proctor Road Parking Lot, Pima County. This Bay-breasted Warbler was found by Max Leibowitz and Christine Toering on 08 December 2019 and photographed by Max Leibowitz on the same date. One of the rarer of the eastern warblers in Arizona, there are only 21 previous state records. Bay- breasted can be similar to Pine and Blackpoll Warblers, however note greenish side of neck, faint stripes on back, no stripes on breast, and especially the bay coloration to the sides.

Ruff (Philomachus pugnax), Aztec Slop Pond, Yuma County. This Ruff was found by Dave Stejskal and Gary Rosenberg on 21 October 2019 and photographed by Gary Rosenberg on the same date. Casual with 10 prior accepted records.

Long-tailed Jaeger (Stercorarius longicaudus), Lake Pleasant, Yavapai County. This Long-tailed Jaeger was found and photographed by Mary McSparen on 18 October 2019. With 16 previous records for the state, the Long-tailed is the second most frequent of the three jaegers in Arizona, with slightly fewer records than Parasitic Jaeger. If accepted by the ABC, this would represent the second Long-tailed Jaeger this fall on Lake Pleasant.

Scarlet Tanager (Piranga olivacea), Portal, Cochise County. This Scarlet Tanager was found by Richard Webster on 18 October 2019 and photographed by Rose Ann Rowlett on the same date. Casual late spring/early summer and late fall visitor (mid October and later) to Arizona with 35 prior records. Overall yellow-green color ation on head and underparts; dark contrasting wings with no obvious wingbars. Wings appeared very dark olive (not black) so this is likely a female.



Pomarine Jaeger (Stercorarius pomarinus), Glendale Recharge Ponds, Maricopa County. This Pomarine Jaeger was found and photographed by Jeff Ritz on 28 November 2019. Pomarine is the rarest jaeger species in Arizona, with only eleven accepted records and another pending, most of which are of juveniles in late fall.

Black-legged Kittiwake (Rissa tridactyla), Upper Lake Mary, Coconino County. This Black-legged Kittiwake was found and photographed by Roger Sleeper on 18 November 2019 and photographed by Jason Wilder on 23 November 2019. Casual late fall and winter visitor to Arizona with over 20 prior accepted records. If accepted by the ABC, this would be the first record for Coconino County.

Purple Gallinule (Porphyrio martinica), Santa Cruz River, Tucson, Pima County. This Purple Gallinule was found by Rudy Corral on 11 September 2019 and photographed by Max Leibowitz and Jennie MacFarland on 11 September 2019 and by Nick Pulcinella on 13 September 2019. Rare, less than annual. There are 19 accepted records.

Sooty Fox Sparrow (Passerella iliaca unalaschcensis Group), Near Oatman, Mohave County. This Sooty Fox Sparrow was found and photographed by Bruce White on 02 November 2019.The status of this subspecies group in Arizona is poorly known. Since the ABC began reviewing the group in the early 2000s, there have been two accepted records.

A Beautiful Day in the Neighborhood: Burrowing Owls Move In at Zanjero Park

Liz Farquhar

February 8 was moving day for a group of nine or 10 Burrowing Owls. The owls were relocated by the wildlife rehab organization Wild At Heart to Zanjero Park at Lindsey Road and the 202 in Gilbert. Desert Rivers Audubon Society volunteers helped set up the two tents that would enclose the owls and their burrows for a month while the birds acclimate to their new digs. During the adjustment period, the volunteers delivered a dinner of defrosted mice every day.

The Burrowing Owl habitat is a long term project for Desert Rovers Audubon. Thanks to a Toyota TogetherGreen grant through the National Audubon Society, Desert Rivers and Wild At Heart built 100 artificial burrows at the park in 2012. The burrows are located along a walking path on the south edge of the park and downslope in the basin at the center of the park. Ten owls moved in that first year, and since then Desert Rivers volunteer and board member Anne Koch has led birdwalks through the habitat on the fourth Saturday of the month year round.

The number of owls in residence has fluctuated—they are, thankfully, wild and free. This year just two owls remain, but they won't be lonely for long.

Greg Clark, a Wild At Heart volunteer who has been managing the organization's habitat and active translocation protocol for 20 years, says owls disappear from a site for many reasons, but it's often a problem with food supply or risk.

Zanjero Park abuts farmland on two sides; the highway and Lindsey Road form the other two. Depending on the market, farmers have planted alfalfa some years and wheat the others. The good years for owls appear to be when farmers have planted alfalfa next door. There's speculation that wheat offers less favorable conditions for hunting, but Clark says that's probably not true.

A bigger issue, he says, is drought. When the fields are fallow and not getting irrigated, the insect and rodent population—foods favored by Burrowing Owls—drops. And, Clark points out, farmers are getting better at controlling insects using methods that include genetic modification. With less food around, hungry owls start investigating new neighborhoods. But, evidence suggests that food isn't the issue at Zanjero, Clark says. "The pellets we found in the basin, where one owl lives, indicate that food is plentiful and the owls are eating well," he comments.

The other factor at play is vegetation. Burrowing Owls are short grass prairie animals. Standing just 7.5 to 10 inches tall, these birds need the ground around their burrows clear of large plants that would make it hard to see danger. Tall weeds and woody plants have grown up, cutting off the sightline that these small owls prefer. And tall trees can serve as a blind for the large predators that prey on Burrowing Owls—other owls, hawks and falcons—who hide in the foliage and swoop down for the kill unexpected. A stand of trees at the western end of the park near the walkway has grown very large, providing good hiding places for owl-hungry raptors. For some Burrowing Owls, Zanjero Park may just look too risky.

On moving day, some of the Desert Rivers volunteers tackled weeds while others constructed the tents. Late in the morning, Clark trained the members who had agreed to feed the owls daily. Volunteers went home with a supply of frozen mice and instructions on how to defrost them, slide the feeder board and water dish into a tent, and record uneaten mice from the day before—if any. Around March 7, the tents will be removed, and we'll see how many of the owls agree to stay.

Wild At Heart is a raptor rehab organization that handles between 700 and 900 animals a year. The organization cares for injured and orphaned raptors, manages the Burrowing Owl program for artificial habitat and active translocation of Burrowing Owls at risk from new development, installs Barn Owl boxes in farm hay sheds, and manages a captive breeding program for Cactus Ferruginous Pygmy Owls. Although most of the artificial burrows are in Central Arizona, Wild At Heart has placed burrows at locations all over the state. The owls come to the raptor rehab organization after being rescued and include adults, juveniles, family groups, and orphans.

The group works closely with developers, and the number of owls that need rescue depends upon the construction market. Since 2009, Clark says, Wild at Heart had averaged 60-70 a year; this year so far the organization has taken in 200.

To stabilize the population at Zanjero, Clark says, the park needs a vegetation management plan to thin out trees and thick green vegetation. For now, Desert Rivers Audubon will continue its monthly owl walks led by Anne Koch on the fourth Saturday of every month, one hour before sunset. See you there?

The Great Blue Heron: Go Fish!

Kathleen McCoy

Great Blue Herons breed in colonies of 500 or more individual nests located within 2 to 4 miles of feeding areas. The 4 feet by 4 feet deep nests, which hold three pale blue eggs, are usually 100 or more feet high near water, but can also be ground nests. Hatchlings emerge in about a month, taking their first flight around 2 ½ months. Great Blue Herons can live to about 15 years, although one was reported to be 24 years old.

Great Blue Herons are symbols of wisdom and the Iroquois considered them extremely lucky. How fortunate are we to share this world with the magnificent Great Blue Heron!

Walk along grassy fields or areas with shallow water and you might see a Great Blue Heron, hunting alone, foraging for anything that can be eaten. The Great Blue Heron is the largest heron in North America with a 72" wingspan but weighing only 4.5 - 8 pounds. They are as tall as the average fourth grader and have a wingspan almost as long as your bed. Usually Great Blue Herons are silent, but a hoarse croak may signal that a Great Blue Heron, with slow and steady wingbeats, is flying overhead. The heron's very long neck is tucked into an "S" shape unlike cranes and storks, which fly with their necks outstretched.

Great Blue Herons eat small reptiles and mammals, but its favorite is fish. They use a long dagger-like bill to spear fish and swallow them head first so the spines on the fins don't poke its throat. Great Blue Herons also use long legs to wade in deeper water than other birds. Can you see under your chin without moving your head? Great Blue Herons can! When fishing, Great Blue Herons can look underneath their chin directly at fish below.

Generally, upper wings, back and tail are a grayish-blue. Great Blue Herons have a white face with black eyebrows that extend into several long plumes off the back of its head. Juveniles are grayish brown. Great Blue Heron feathers are thin and droopy in contrast to other birds with rigid and formed feathers. In fact, these beautiful feathers almost caused the Great Blue Heron to become extinct. In the late 1800s, many birds, including the Great Blue Heron, were slaughtered for their feathers to be used for decorations on hats. Many protested these killing and their efforts ultimately helped create the Audubon Society. Now, the number of Great Blue Herons has increased to a conservation status of least concerned.

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The National Audubon Society and local Audubon chapters are separate entities. All Desert Rivers Audubon dues are dedicated to local programs. You may hold concurrent memberships in National Audubon and any number of local chapters. If you are a National Audubon member, you may assist this chapter by designating Desert Rivers (Chapter B08) as your assigned chapter by emailing audubon@emailcustomerservce.com

Member Jerry Lang Shares the Science of Birds

As a winter visitor from Michigan in 2008, Jerry Lang had never seen so many water and wading birds in one place as at Gilbert's Riparian Preserve. Soon after, Jerry joined Desert Rivers Audubon Society. "Participating as a member in Saturday birdwalks and other activities has given me a sense of involvement and the satisfaction of introducing others to the joys of birding," he says.

A freelance writer, Jerry is a mainstay of our magazine, and like all of our writers he generously donates his work. Jerry's fascinating articles look at birds from a science viewpoint; look for his story on avian flight on pages 7-8. Past topics include domestic fowl, the architecture of nests, feather mites and bird vision.

"The people, the birds, and the satisfaction of being a contributing member are all reasons I'm involved in Desert Rivers Audubon Society," he says.

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