

THE ARIZONA WILDLIFER

2018 Issue 4

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Fall Edition

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The President's Message



Tiffany with a dessert-plate sized Sonoran Desert toad (*Incilius alvarius*)

Greetings, AZTWS! Autumn is upon us, bringing with it the wonders of cooler temperatures, changing colors, migrating species, and more. This magical season provides an excellent opportunity to look back at the year that's gradually drawing to a close while building excitement for the adventures in the year to come. I hope that your year has been as productive and exhilarating as mine!

The 50th anniversary year of AZTWS has certainly been a busy one. Starting with hosting the 51st Joint Annual Meeting in February to our 8th annual Wildlife Techniques Workshop in April to our inaugural BioBlitz planning/assistance event in August, we have engaged hundreds of people in our efforts to research and protect Arizona's wildlife and habitats. Looking ahead, our efforts to engage our members and fellow wildlifers will continue to go strong. We are coordinating a fall AZTWS retreat to bring our members and supporters together for some wildlife adventures, to brainstorm ideas for the future, and to spend some time in nature getting to know each other – learn more on p. [21](#) and RSVP to Audrey Owens (aowens@azgfd.gov). We are also gearing up for the 2019 JAM, which will be hosted by NMTWS and held in Albuquerque, New Mexico. Related to that, we are seeking nominations for awards and for AZTWS board positions. We encourage you to put yourself or other worthy candidates into both of those pools! For more information, see our announcement on p. [22](#) or contact Jessica Moreno (jamoreno3083@gmail.com).

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Presidents Message cont...

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Autumn also brings with it one of the most important times for wildlife and natural resource planning: election season. Continuing with my theme of engagement, I want to focus this President's Message on one of the most critical ways that you can be involved: **VOTE!** As citizens of our nation, voting is a fundamental right and responsibility. The decisions you make at the polls have a huge impact on natural resource management. Please do your part.

Politics Matter for Natural Resource Management

You may be thinking, hey, I'm a biologist; why should I care about politics? The answer is that nothing comes close to having as much influence on natural resource management as politics. Politics pervade every aspect of our lives. As much as it pains me to say, science only goes so far. I'm sure all of you know of situations in which scientific evidence gets swept under the rug by a decision-maker, either due to that person/agency's own biases or due to pressures from special interest groups or funders.

Time and time again, we hear some policy-makers claim that climate change is a hoax, that endangered species don't matter, that pollution isn't a problem, that money trumps natural resource protection...and the list goes on. I, personally, have witnessed these claims being made by politicians here in Arizona. I've watched as state legislators claim that science is a sham and that "peer-reviewed" just means that a person's friends read their work. I've listened as Arizona Corporation Commissioners say that the next person who uses the term "climate change" will be removed from the room. Nothing is as discouraging as watching years of scientific evidence swept aside in decisions that affect sensitive species or millions of acres of public lands.

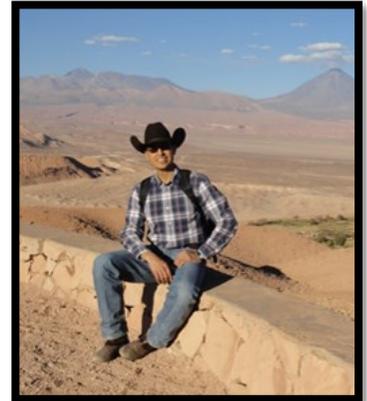
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Regional News:

Southwest Section Tracks

By: Fidel Hernandez
Southwest Section Representative

Autumn is a wonderful season. It is a time of migration for many wildlife, as well as a time of senescence for many plants. In southern Texas, autumn is a special place to observe bird migration, particularly raptors (Fig. 1). American kestrels generally are the first to arrive, around September. About



a month or so later, we begin to observe a greater diversity of southbound migrating raptors, some visiting us here for the winter while others are simply passing through, headed for more distant lands. It is amazing to travel the landscape and see the raptor



Figure 1. Autumn is a wonderful season to observe avian migration in southern Texas, where an influx of a visiting migrants that expands species diversity of, particularly raptors. Photo by Fidel Hernández.

community change from a suite of resident species to a plethora of visiting migrants. The influx of raptors is so amazing that during one particular day afield, I counted 120 raptors within a 14-mile stretch of rangeland.

Autumn also signifies the season when we gather as a professional group during the annual conference of The Wildlife Society (TWS). Below, I provide a brief update on TWS activities since the last newsletter.

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Presidents Message cont...

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It's also important to remember that the people who lead natural resource agencies – nationally and locally – and the priorities of those agencies are decided by politicians. The U.S. President determines who heads our federal agencies, including the Environmental Protection Agency and the Bureau of the Interior and Bureau of Agriculture. The Arizona Governor decides who heads many of our state agencies, including the Arizona Game and Fish Commission. The priorities of politicians trickles down into the actual management of our natural resources.

Simply put, politics matter. As a biologist, politics should be near the top of the list of what matters to you.

Be an Informed Voter

Although I care deeply about for whom and what you vote, I am not going to tell you how to cast your ballot. Instead, I urge you to do your own research – not only of the issues and candidates but also to help formulate your positions and understand your potential misconceptions related to those positions. Be thorough in your research and ensure that you are using reputable, objective sources. It's easy to fall prey to rhetoric from special interest groups, especially because those groups are becoming increasingly clever in disguising the subjectiveness of their claims or that they're coming from completely baseless positions. Use common sense and logic, look at candidates and issues from all sides, and work to make up your own mind, rather than being swayed by outside interests.

Please also be careful to tamper any preconceptions you might have. We all have opinions about things. Unfortunately, sometimes those opinions get in the way of facts. When doing your research, I implore you to make sure your opinions and positions are based on facts. And by facts, I mean the *real* facts, not those pesky alternative ones that keep popping up. All too often, people decide their positions and their votes based on

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Regional News cont...

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TWS ADMINISTRATION, FINANCE, AND GENERAL OPERATIONS

Membership

TWS has closed the gap between current membership and the society's goal of 10,000 members! The year-to-date paid member count is 10,187 members, which represents a 4.9% increase compared to last year (August 2017). If members enrolled in the Give Back Program are included (473 members), then the total member count increases to 10,660 members. To help prevent lapses in your TWS membership, make use of the Society's automatic renewal option. TWS' goal is to have most, if not all, of its members enrolled in this service, which will facilitate the management efficiency of member services. To date, 46% of TWS membership (4,744 members) are taking advantage of the automatic-renewal option. Be sure to make use of this convenient service when renewing your membership to avoid lapses or breaks in your membership services.

Communications

One of the Society's goals is to increase TWS' visibility with members, organizations, and the public. Thus, TWS has a goal to write 3–4 wildlife.org articles per day and to steadily increase its website visits and social-media audience. TWS staff has written 122 wildlife.org articles as of 31 August, which is about on target. Website visits are 112,731 as of 31 August and represents a +28% increase compared to last year (August 2017). TWS' social-medial audience also has increased to 113,665 as of 31 August and represents a 2% increase compared to last year (August 2017). Be sure to visit the TWS website or social media to read the latest articles, posts, and stories.

Finance and Business Relations

The Wildlife Society also continues to make steady gains on providing a sound financial footing for the Society. Part of the TWS strategy for financial security involves a mixture of sound ac-

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Presidents Message cont...

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those alternative facts. To me, that's terrifying.

When deciding how to vote, I also implore you to consider the bigger picture. As John Muir wisely said, "When we try to pick out anything by itself, we find it hitched to everything else in the Universe." People often focus on single topics without considering how those affect other issues they care about. For example, I can't tell you how many times I've heard people profess to love wild-life, yet they vote for a measure that promotes habitat destruction, whether that component is obvious or disguised under clever wording or mis-direction. Or they vote for a candidate who has a similar position as them on one issue but differs substantially on a diversity of other important topics. Do a thorough investigation of each measure and candidate. This can be tricky to do, but plenty of resources are available to help. Once you have an idea of how you will cast your votes, take a step back and consider the cumulative effect of your ballot. Overall, does it support your ideals? Will the people and measures for which you're voting work toward your goals and what you want our state and nation to accomplish? Most importantly, do these candidates support using facts and science when making decisions?

Informed Voters Yield Informed Decision-Makers

This fact should be obvious, but I fear that our nation has gotten off track in this realm. Too many of our politicians base their decisions on convenience and what they think their constituents want. "Climate change means we might have to change our ways? Well, that's inconvenient, so I'll just say it's false. Pollution in our air is making people sick? Meh, maybe if I ignore that fact, people will, too. Selling off public lands will yield a short-term profit (whereas protecting them provides a long-term net gain)? Well, let's sell 'em!"

You've probably noticed that politicians are becoming more and more divided – the left is lean-

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Regional News cont...

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counting practices, conservative investments, and strong partnerships (Fig. 2). Below is a brief summary of some of the major business-relations activities happening in this arena since the beginning of this fiscal year through August 2018.

- Net income from organizations and businesses is \$3K (-\$14K vs budget) through July, but \$10K is due to the timing of invoicing vs budgeted month.
- Added three new conference exhibitors, two sponsors and one contributor. Total to date is five advertisers, 41 exhibitors, and 36 sponsors.
- TWS' "Drive for 44" organizational-units campaign has generated 30 donations or commitments for \$9,567 .
- Invoiced \$19,950 in advertising and added a new commitment of \$19,250 for 2019 advertising.



Figure 2. Building business partnerships is an important part of TWS' strategic plan. Here, TWS CEO Ed Thompson visits with The 1,000, a group of TWS members who donate annually to the Society. Courtesy of The Wildlife Society.

Government Affairs

The Program of Government Affairs and Partnerships is lead by Director Keith Norris. Director Norris and his team are responsible for overseeing TWS' policy activities, providing support to TWS Chapters and Sections on conservation policy issues, strategically expanding TWS' engagement with other organizations, and providing direction to the Society's professional development and certification programs. Below is a brief sum-

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Presidents Message cont...

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ing further left and the right is leaning further right, even though the public is generally more toward the center. There's a myriad of reasons for this divide, but it's important to remember that *we are the ones voting these people into office*. It is up to us who sits in those positions and, thus, what kinds of decisions are made.

Wouldn't it be amazing if our decision-makers and natural resource agencies made decisions based on the best available science, rather than on political pressures? I can imagine a world where this occurs, and I am doing everything I can to ensure that we get to this ideal situation. I encourage you to join me in this effort. Together, maybe we can turn the tide toward more informed politicians.

Pay Attention to Down-Ballot Races

We're all familiar with the big-ticket races – Presidential and Congressional. But those are not the only races that matter. Here in Arizona, our state legislators, the Arizona Corporation Commission, and many local races have *huge* influence over natural resource management. The state legislature determines policies specific to our state, including those that affect wildlife and habitat. The Arizona Corporation Commission oversees regulated utilities, including Arizona Public Service Co. (APS) and Tucson Electric Power, determining their power structure (including renewable energy generation), approval and siting of transmission lines, and so much more. These races matter just as much as those big-ticket ones.

Every Vote Matters

I realize that some of you may laugh when reading that. But it's true. The 2016 election is a prime example. Many people thought they knew how the races would turn out, so they didn't bother to vote. And thus came utter surprise at the results.

Voting matters. So please, please, please do your

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Regional News cont...

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mary of key TWS Government Affairs activities since the beginning of this fiscal year through August 2018.

- Presented on the Recovering America's Wildlife Act and grassroots, professional-society member engagement with the American Fisheries Society (AFS) and the National Wildlife Federation at AFS' annual conference.
- Developed and distributed resources for the Conservation Affairs Network in support of action related to the Senate version of Recovering America's Wildlife Act.
- Collected member comments on proposed USFWS and NMFS regulatory revisions to the Endangered Species Act to inform TWS' comments.
- Evaluated TWS' representation on AFWA committees and submitted nominations for 2018–2019.

1ST ANNUAL CONFERENCE OF WILDLIFE MANAGEMENT AND ECOLOGY IN MEXICO

I know I noted this conference in my last newsletter, but I believe it is worth mentioning here again. The first annual conference of wildlife management and ecology in Mexico is being organized. The conference will convene in San Luis Potosi, Mexico on **13–16 November 2018** and is being organized by long-time TWS members, **Dr. Luis Tarango** (Colegio de Postgraduados, San Luis Potosí, México) and **Dr. Raul Valdez** (New Mexico State University), along with a conference committee comprised of Mexican wildlife professionals. Estimated attendance is 350–450 participants and will be comprised of students, professors, researchers, biologists, landowners, and federal agency personnel. It is anticipated that about 20 Mexican universities will be in attendance. This national conference will be the first of its kind in Mexico and is devoted to Mexican wildlife. It is planned to convene annually with subsequent annual conferences being held in different cities of Mexico.

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Presidents Message cont...

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part and VOTE. Do your research and then cast your ballot. If you don't, your post-election complaints will have much less depth to them.

I also implore you to take it a step further. Encourage your friends to vote. Volunteer for a candidate or issue. Help get out the vote by canvassing neighborhoods. And, through it all, please speak up for science.

Vote!

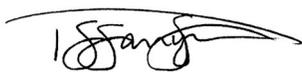
The General Election will be held on November 6. You can vote at the polls or request an early ballot and vote by mail (be sure to mail your ballot at least a week ahead of Election Day!). Important dates are below.

- OCTOBER 9 Last day to register to vote in the General Election
- OCTOBER 10 Early voting begins
- OCTOBER 26 Requests for early ballots must be submitted to the county
- NOVEMBER 6 Election Day!

You can learn about candidates, find your polling place, and more at <https://azsos.gov/elections>.

If you have any questions about the political process or how you can get involved – or if you have questions about AZTWS – please contact me at tasprague@gmail.com. Thank you for taking part in this important component of natural resource management!

Very sincerely,



Tiffany Sprague
AZTWS Chapter President

Regional News cont...

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The goal of the conference is to form an established venue whereby Mexican wildlife professionals can learn, network, and engage professionally. As many of you know, there has been a perennial need in Mexico for wildlife biologists to engage in the exchange of current wildlife-science knowledge not only of Mexico but also North America. Presently, there are no effective means for Mexican professionals to become aware of the vast wildlife conservation efforts in North America or to engage with North American wildlife biologists. Drs. Tarango and Valdez and the organizing committee wish to address these needs by 1) bringing together wildlife professionals in Mexico, 2) providing a venue for information exchange, professional development, and networking opportunities for Mexican wildlife biologists with peers and North American counterparts, and 3) increasing TWS presence and engagement in Mexico. Along with other Mexican organizations and government agencies, TWS has provided financial support for this conference. The call for abstracts and conference information may be found at the following website (<http://conferenciafaunasilvestre.com/>).



TWS ANNUAL CONFERENCE: CLEVELAND

The 25th Annual Conference of The Wildlife Society was held 7–11 October 2018 in Cleveland, Ohio. The welcome reception included a networking event at Cleveland's iconic Rock & Roll Hall of Fame. The theme for this year's conference is **Recognizing and Sustaining Conservation Success**. Too often, it seems that wildlife biolo-

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gists focus their attention solely on wildlife challenges and crises. The plenary this year highlights our wildlife successes and takes time to appreciate and learn from those successes. The conservation success stories document approaches to wildlife conservation that involved the application of science, the building of partnerships, and overcoming of policy struggles. Plenary presentations included the following (Fig. 3):

Kirtland's Warblers Sing the Sweet Song of Success! How Collaborative Conservation Can Recover a Conservation-reliant Species (*Dr.*

Carol Bocetti, Professor, California University of Pennsylvania). Dr. Bocetti received degrees at University of Florida and Ohio State University where she worked with land managers to recover endangered species. She continued this work at Patuxent Wildlife Research Center and then at California University of Pennsylvania. She worked for 32 years with the Kirtland's Warbler recovery effort where her contributions were recognized by two national awards from the Fish and Wildlife Service and the Forest Service. Dr. Bocetti will share her insights about how collaborative conservation was essential to recover and sustain the fully conservation-reliant Kirtland's Warbler.

Conservation efforts contributed to an improved IUCN Red List status for snow leopards – so why are we not all happy? (*Tom McCarthy, Executive Director, Snow Leopard Program, PANTHERA, New York*). Dr. McCarthy directs Panthera's wide-ranging snow leopard program in central Asia. After his ground-breaking study of the elusive species in Mongolia, he established numerous successful community-based snow leopard conservation projects in China, India, Kyrgyzstan, Tajikistan, and Pakistan. Such conservation efforts, coupled with better information, recently led to revising the cat's IUCN Red List status from Endangered to Vulnerable, a move not welcomed by all in the snow leopard community.

The Return of River Otters in North America (*Ron Andrews, Retired, Iowa Department of Natural Resources*). Mr. Andrews retired in 2010 after nearly 45 years with the Iowa Department of Natural Resources, where he spearheaded several major research studies. He received his B.S. in fisheries and wildlife biology from Iowa State University and authored several scientific studies. His talk will chronicle the comeback of river otters in North America, a story that can be described as the most successful carnivore restoration effort in the history of conservation and management.

Well, that is all for now.

Until next time,

Fidel Hernández

Fidel Hernández, Southwest Section Representative to TWS Council



Figure 3. Plenary sessions often contain some of the most engaging presentations. Courtesy of The Wildlife Society.

BioBlitzing the Petrified Forest

By Dan Groebner,

Biologist, Arizona Game and Fish Dept.

Redistributed with permission from the original article in [Get Your Mountain On AZ](#)

Linebacker and safety blitzes have re-entered our vocabulary this fall with the football season in full swing but a few weeks ago at [Petrified Forest National Park](#) (PEFO), all the talk was about the BioBlitz. Before your imagination goes too wild trying to conjure up a vision of what a BioBlitz could be, it is simply a concentrated, coordinated, and all-inclusive effort (the Blitz part) to count and identify as many living things (the Bio part) occurring on the Park that day, August 25th.

The event, which also occurred in 2014 and 2016, was a unique partnership between public volunteers filling the roles as citizen scientists to survey plants and wildlife alongside experienced biologists from natural resource agencies, museums, universities, and consulting companies. Specialists looked for everything from insects burrowing in the ground to lichen encrusted on rocks as well as hawks soaring above and pronghorn loping amongst the saltbrush, junipers, and yuccas. So, besides the melding of citizen and professional scientists, why is it important to count and identify the living component of a Park noted for its long departed fossilized components? Is there anything still living in the Park anyway? Of course, there is!

Many plants and animals of Petrified Forest have developed specialized adaptations to deal with the local conditions. Although none have figured out how to browse on fossilized ferns yet, many of the species have specialized physiological processes, behaviors, and anatomical body structures adapted to living in the relatively dry, temperature shifting, wind-swept badlands or pinyon/juniper expanses. Most life in PEFO has found ways to conserve water either by storing it from rain storms (e.g., succulents and deep-rooted plants), obtaining it through their food (e.g., rodents and raptors), conserving it by being nocturnal (e.g., bats and some mammals), or having super-efficient kidneys (pretty much everybody!).

Reptiles, amphibians, and small mammals deal with cold winters by retreating underground where the temperature remains between 45 and 55° Fahrenheit. But during the summer, and especially after the monsoon rains start, PEFO comes alive as plants and animals feed on the levels of the food chain situated below them, gain weight, and reproduce.

Plants and animals found during any BioBlitz act as a “snapshot” of biodiversity in the area under those conditions. This is in no way a complete list of species but represents a strong sample with enough people “blitzing.” Because some migratory birds were already on their way south, the local breeding birds were joined by cousins who sometimes were very similar looking, including the dusky and gray flycatchers (a good way to distinguish these two in the fall is to observe tail behaviors – the



Biologists set up a mist net used to harmlessly capture birds and bats for identification and release during the recent BioBlitz at Petrified Forest National Park. This mist netter group was led by Joel Diamond (holding the net) and Samantha Vaughan. Photo by Jacob Holgerson.

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gray flycatcher will repeatedly lower its tail slowly then lift it up quickly). The data generated by the BioBlitz can be used to update educational brochures and checklists for visitors as well as providing raw data for scientific studies, such as changes in species biodiversity and distributions over time. Wildlife research can also provide early indicators of possible climate change effects, such as dramatic alterations in migration schedules.

The PEFO Visitor Center served as the headquarters for the 2018 BioBlitz, organized by Andy Bridges and Pat Lopez. Andy was the PEFO Biologist, working for the National Park Service since 2011, and

had organized the past two BioBlitzes; he just retired at the end of September. Pat is a biology professor currently on sabbatical from Northland Community College, spending her time off from teaching doing field work at PEFO.



Pat Lopez, Biology Professor at Northland Community College, helps a BioBlitzer get information for her excursion while PEFO staff registers a new participant. Photo by Jacob Holgerson.

Organizers were well prepared with packets of background information for both the citizen scientists and the experienced biologists that included a detailed description of the excursion and what to expect, printed maps, GPS tracks to help navigate the maze of roads surrounding PEFO, species checklists, and emergency contact information. The local Navajo County HAM radio club provided backup emergency communications because much of the area did not have cell phone coverage.

As “Blitzers” encountered species and entered them into their *iNaturalist* app (inaturalist.org) in the field, the results would pop up on a big screen at headquarters if the Blitzers had cell phone coverage and could upload their data. The free *iNaturalist* app is available to anyone and was used to record all observations for the BioBlitz under a special “project” just for this event. Even members of the general public, not formally involved with the BioBlitz, could enter observations. You can search *iNaturalist* for the PEFO results by looking for “[Petrified National Forest BioBlitz - 2018](#)” and sorting through the results. More than 1,000 observations comprising 297 different species were uploaded by nearly 70 observers as part of the 24-hour project.

The *iNaturalist* platform is a great way to get out and learn new plants and animals as well as participate as a valuable citizen scientist at any time. You can search the existing photo databases to help identify any unknown organism or ask its collective of more than 400,000 users to help identify your photograph. You simply take photos of your observation and then fill out as many of the fields that pop up as you can. You can type in a guess of your observation and the app will bring up possible answers to help you figure it out. It even has an algorithm that suggests possible IDs just from the photo(s) you provide. The app automatically saves your location, time, and observer with the photo record. Another cool feature is the “Explore” button (looks like a compass) that brings up a map and a bunch of colored pins. Tap on a pin and it will reveal an observation made by somebody and when it was made.

If you’re the competitive type, the app keeps track of the number of your observations and species

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Bill Parker, PEFO's Chief of Science and Resource Management, photographs an insect as the first step in documenting an observation on the recent BioBlitz held at Petrified Forest National Park. Bill's entire family joined him for the event. Photo by Jacob Holgerson.

Northern Arizona, River of Time Museum, Desert Botanical Garden, and independent amateur experts. Participating biologists represented their organizations well by guiding numerous members of the general public as citizen scientists.

So what was found during the BioBlitz? Besides sticky snakeweed, prostrate pigweed, Wilson's warblers, oleander aphids, cane cholla, and prince's plume? Yes, those actually are all organisms found during the BioBlitz. More common critters were also observed, such as mule deer, pronghorn, red-tailed hawks and ravens as well as desert paintbrush, tumbleweed, termites, and puffballs (fungi). Keeping track of common species is just as important as monitoring rare critters and plants. For example, the behavior of common species, such as the timing of migration, can tell us a lot about shifting trends in wildlife populations and/or biological processes. And because Arizona contains such a variety of habitats, we are located on the extreme northern or southern edges of ranges of many different species. Documenting spatial changes in a population's range (e.g., expansion or contraction) is likely more obvious on its edges, so BioBlitzes, including PEFO's, provides invaluable data for many years to come.

The 2018 PEFO BioBlitz yielded important information on the living treasures within the Park's boundaries, including acres within the Park's newest land acquisition. Results revealed that PEFO has a diverse and widespread live element that rivals its famous and amazingly awesome petrified plants and animals. So on your next visit to this nearby national park, don't forget to bring your binoculars and field guides for the natural wonders that are still alive.

identified and ranks you with other users on their "Leaderboard" in the "STATS" section. You'll have to spend a little time outside to catch up with the leader, Andre Hospers from the Netherlands, who has 125,066 observations of 6,614 different species at the time of writing. Since he has been entering observations for only five years, that averages out to 69 observations and four new species every day for five years without a break. Really? [Editor's note: *iNaturalist.org* allows uploads/scans of older images with associated data -- another option in the citizen-science platform.]

Subject matter experts came from Petrified Forest National Park, Arizona Game and Fish Department, McDowell Sonoran Conservancy, Archaeological Consulting Services, Logan Simpson Design, Arizona State University, Northern Arizona University, Museum of



Observations of BioBlitz participants were displayed on a screen at the headquarters in real time. Andy Bridges, event coordinator, maintains the system with the help of Karla Moeller. Photo by Jacob Holgerson.

Documenting the Inhabitants of a Petrified Forest: The 2018 Petrified Forest National Park BioBlitz

By *Stephanie Cobbold*,
Biologist, Archaeological Consulting Services

Resting near the edge of a globemallow flower not far from the Puerco Ruins in Petrified Forest National Park, a large female crab spider slowly waves her front legs up and down, seemingly in an attempt to intimidate my pocket camera. Realizing that the big red box is not retreating, she cautiously takes a couple of side steps closer to the edge of the flower and suddenly disappears. Startled, I lean closer to the plant. I eventually notice the tips of her legs extending beyond the back of the flower stalk, giving her vanishing trick away: she is hiding on the other side of the flower. Holding my camera behind the plant, I take a few pictures in macro mode, hoping that one of them will be in focus. A quick check reveals that I was able to get a nice picture; a white, plump crab spider stares back at me on my camera screen, her eye pattern suggesting that she belongs to the genus *Mecaphesa*.



A crab spider rests on a leaf, patiently waiting for unsuspecting prey to be within reach. Photo by Stephanie Cobbold.

This crab spider was one of many species documented during the Petrified Forest National Park BioBlitz, which took place August 25 through 26. That weekend, between 9 AM on Saturday and 9 AM the next day, volunteers explored the park to record as many species as possible. About 25 invited Subject Matter Experts from a variety of specialties took volunteers into the field to find and identify plants, invertebrates, mammals, reptiles, amphibians, and birds. This is the third year that the park has hosted a BioBlitz.

BioBlitzes are a good opportunity to explore and learn about the organisms that occur at a given location and to meet people who are equally passionate about nature. During a BioBlitz, creatures and plants, large and tiny, are avidly searched for, observed, and discussed, and participants are always hoping to find an elusive, rare, or odd-looking species that can be shown with pride to the other participants. BioBlitzes are not only fun, they represent an important component of citizen science, in which the public collects data that is useful to biodiversity research and conservation. For instance, new plant species were identified in the park when Petrified Forest National Park conducted BioBlitz events in 2014 and 2016. In addition, through discovery and learning, BioBlitzes engage the public to connect to their environment. This connection is essential if we want the public to understand and protect biodiversity and become more aware of our impacts on natural ecosystems.

All observations were documented using the [iNaturalist](#) application; bird observations were also docu-

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mented using *eBird*. The *iNaturalist* smartphone application relies on photo-upload tools, mapping tools, and social data validation that can be easily used by people of all ages. Pictures posted on this platform can be seen by other *iNaturalist* users, thereby significantly expanding the pool of potential identifiers for the organisms documented during the BioBlitz. As an *iNaturalist* user, I have noticed that it is not unusual for experts to provide identifications of my pictures. For instance, field guide authors and researchers have helped me identify organisms that I have shared on *iNaturalist*. While *iNaturalist* can be used to document all organisms, *eBird* is a checklist program aimed at documenting birds specifically. In addition to documenting presence, *eBird* allows the documentation of absence (non-detection) and abundance.

On Saturday morning, I led a team for a few hours in search of spiders. We searched under rocks, used a sweep net in grasses and forbs, and used the beating sheet method on shrubs. The beating sheet method consists of gently hitting a shrub so that invertebrates within the shrub fall on a sheet placed around the base of the shrub. The beating sheet method also gave us the opportunity to discover and document several non-arachnid invertebrates, including tiny inchworms, beetles, flies, and grasshoppers.



A *Sassacus* jumping spider resting on a sheet displays iridescent scales. Spiders in this genus are thought to be beetle mimics. Photo by Stephanie Cobbold.

One of the spiders that we documented with this method was a jumping spider in the genus *Sassacus*, which displayed beautiful iridescent scales. It is thought that spiders in this genus, which are relatively compact and iridescent, are mimics of foul-tasting chrysomelid beetles, also known as leaf beetles. We also lifted up some of the drain covers near the visitor center and were rewarded with several pholcids, also known as cellar spiders, hanging in their webs. As we peered into the drain, some of the spiders scattered to the sides, surprised by the sudden sunlight, but we noticed that some females were guarding their eggs. It was interesting to see that several of these delicate, long-legged spiders were sharing that small space, their irregular webs almost adjacent to each other.

Meanwhile, other teams were also hard at work. The bird team documented approximately 50 species of birds, of which five were *Empidonax* flycatchers, which reflects the diversity of migrants that use the areas we surveyed. Reptiles found by the amphibian and reptile teams included eastern collared lizard, striped whipsnake, and New Mexico whiptail. In Arizona, New Mexico whiptails are only known to occur in Petrified Forest National Park. Numerous species of plants were documented, including Fendler's hedgehog cactus, Abert's sanvitalia, narrowleaf yucca, and rocky mountain zinnia. The aquatic and terrestrial invertebrate teams made several observations, including common desert centipede, American snout (a butterfly), amber snails, water boatmen, and a spotted tylosis, an attractive red and black species in the longhorn beetle family. In addition to the BioBlitz excursions, tours were offered by park staff, including visits of paleontology and archeology sites, tours of the fossil preparation lab, and guided hikes off the beaten path.

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As the sun was setting on Saturday and the air got cooler, many participants continued their explorations to document nocturnal species that otherwise would be difficult to observe during the day. The glow of headlamps and flashlights could be seen wandering around the visitor center, and the illuminated white sheet deployed by the invertebrate team offered an attractive surface for moths to rest on and an easy way for observers to study them. White-lined sphinx moths and purslane moths were found resting on the illuminated walls of the visitor center. That night, despite a setback due to the swelling of the Puerco River following heavy rains, the bat teams documented several species, including Townsend's big-eared bat, pallid bat, California myotis, and silver-haired bat. Meanwhile, the amphibian and reptile team encountered Great Plains toad, as well as Couch's, Mexican, and plains spadefoot toads while road-cruising.

Participants took breaks in a designated operations center room in the visitor center, where computers were available to upload pictures to *iNaturalist*. A microscope and a stack of field guides to a variety of taxa were also available, as well as snacks to keep everyone's energy levels up. A large screen near the computers area displayed the latest pictures posted by participants, as well as a ranking of the participants based on how many species they had documented. Once in a while, participants excitedly commented on pictures of species they were unfamiliar with or remarked on exceptionally good pictures. Eventually, by the early hours of the following day, most participants had fallen asleep in their tents.



The spider team documents several pholcid spiders near the visitor center. Photo by Stephanie Cobbold.

The searches resumed on Sunday morning; participants had until 9 AM to document additional finds. After deploying small mammal traps the previous day, the mammal team documented woodrat, western harvest mouse, and pinyon mouse. I was also able to add a few spiders to my list, including the orb weaver *Metepeira* and a *Habronattus* jumping spider. After the event, while uploading additional pictures to my *iNaturalist* account, I received a comment from another *iNaturalist* user on a picture of a *Salticus* jumping spider we had found on Saturday. The comment quoted the illustrator of the [Field Guide to the Spiders of California and the Pacific Coast States](#), who stated that our spider may be the southernmost record of the "racing stripe" form of *Salticus peckhamae*, which normally lacks a pattern. It appears that the genus *Salticus* is being revised, and this racing stripe form may eventually be described as a separate species. This comment was a nice surprise, as it confirmed that our finds are already contributing to our knowledge of the distribution of species.

During this 24-hour "snapshot of biodiversity," more than 1,000 observations were made by participants, and approximately 300 species were documented in *iNaturalist*. All of us participants would like to thank Andy Bridges, Petrified Forest National Park Biologist; Tiffany Sprague, Manager of the Parsons Field Institute at McDowell Sonoran Conservancy; and Scott Sprague, Arizona Game and Fish Department Biologist; as well as all the volunteers who worked so hard to make this amazing event possible.

Blitzing Forward

*By Scott Sprague,
AZTWS Past President, BioBlitz Coordinator
aztwsblitzer@gmail.com*

At an AZTWS Business Meeting a few years back, an attendee pointed out that the Joint Annual Meeting (JAM) is a great place for chapter members to gather in the winter and the Techniques Workshop is a great venue for mentoring and sharing with students each spring. But from May through January, there isn't a regular opportunity for our membership to come together. The suggestion was to institute a fall camping retreat, and our board has taken on that idea with a retreat scheduled for this November 10th. However, before the retreat fell into place, I got to thinking about the Techniques Workshop and JAM and the gap in between.

JAM is a great event every year because it allows our entire membership to gather to network, share, learn, and commiserate on the current state of affairs. The Wildlife Techniques Workshop is an amazing event because it introduces students and young professionals to valuable skills and methods critical to wildlife management and conservation as well as providing an opportunity for them to network with experienced biologists in a field setting. But what if we could combine aspects of both events, take the show on the road, and make real contributions to the science of wildlife while we're at it?



Painted lady butterfly documented during the 2018 PEFO BioBlitz. Credit Scott Sprague..

If we invite our entire membership out to a summer "Techniques Workshop" where various experts lead sessions to demonstrate capture, survey, and identification techniques across a landscape – well that sounds perfect, but it also sounds like something that is being done. Beginning with the Saguaro National Park BioBlitz, there have been at least 25 BioBlitz efforts in Arizona from 2011 through 2017. I was lucky enough to be involved in at least five of those events. I'm tempted to share the details that I just "researched" (okay I just pulled up a list on *iNaturalist*) about the various scopes and scales of the efforts, but that's not the point of this particular rambling. Suffice it to say they have varied greatly in structure and scale and included some reoccurring efforts.

What if our chapter could help facilitate BioBlitz efforts and utilize it as an opportunity to gather our troops to network, train, and mentor, while we also expand our ranks by engaging dedicated citizen scientists and even professionals who may not yet be familiar with our organization? The timing was perfect to latch onto the 3rd Biennial Petrified Forest National Park (PEFO) BioBlitz in 2018 with the prospect of teaming up with the [Charlie W. Painter BioBlitz](#) for 2019. A conversation with Andy Bridges from Petrified Forest at the 2018 JAM quickly cemented the partnership between the AZTWS chapter and the park.

For the Petrified Forest National Park BioBlitz 2018, chapter members took leading roles to find, secure, and coordinate with subject matter experts (SMEs) to lead "excursions," or specific survey efforts. They also played a significant role in finding and coordinating what were deemed "Blitzers" – the larger crew of participants that support and learn from the SMEs. And chapter members also helped coordinate the staffing of the operations center support resources for registration and *iNaturalist* use.

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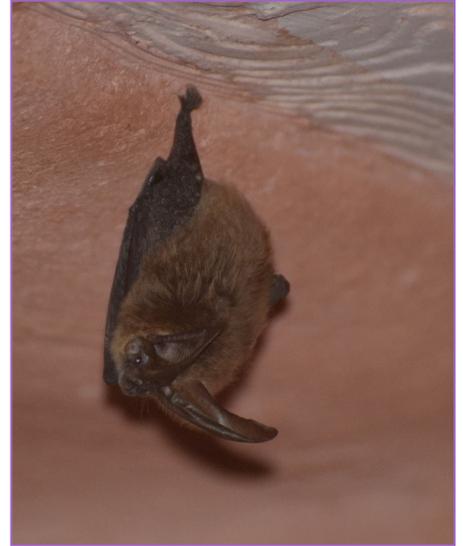
Many of the SMEs, Blitzers, and support personnel happened to be AZTWS chapter members, but several others joined the chapter in conjunction with their participation in this event.

I could try to rehash the excitement and successes of the 2018 PEFO BioBlitz, but Stephanie and Dan have written better articles than mine to capture that sentiment. Instead, I'll simply add that we learned a tremendous amount about what goes into the organization of these events from the amazing staff at PEFO. And we are now turning our attention to the 4th Annual Charlie W. Painter BioBlitz that will occur on July 26–27 of 2019 across the Chiricahua Mountains of Arizona, the Pelloncillos of New Mexico, and the San Simon Valley in between.

The chapter has been invited to participate in the planning of the 4th CWP BioBlitz, and I look forward to both learning from the organizers' experiences and sharing lessons from ours. We could use a few dedicated members to help with coordination and planning, so get in touch if you're interested in helping out. One potential addition that takes time to develop but could be valuable are a series of tailor-made *iNaturalist* Field Guides. So if you're a student looking for a project for your herpetology, ornithology, mammalogy, botany, or invertebrate zoology class, you might consider linking up with our planning team and developing one of these guides for the area.

We will, of course, be sending out updates; calls for planning assistance, SMEs, and Blitzers; and other details between now and then. But please mark your calendars now for July 26–27, 2019, so you can make sure you'll be available to participate in the event.

In the meantime, be thinking of 2020, too. My vision is to partner with an organization or team of organizations to initiate a 2020 BioBlitz in an area that has never had one. A Blitz in either McDowell Sonoran Preserve or across the White Tank Mountains – Hassayampa Plain – Vulture Mountains complex could be extremely valuable given pending development and encroachment around those habitats. If you have ideas for other locations, please feel free to send them along or, better yet, get involved with planning!



Townsend's big-eared bat documented during the 2018 PEFO BioBlitz. Credit Scott Sprague.



Some highlights from previous BioBlitzes in Arizona. L→R Deer mouse (2014 PEFO), Hopi rattlesnake (2016 PEFO), Burrowing owl and fishhook barrel cactus (2017 CWP). Credit Tiffany Sprague (L) and Scott Sprague (ML, MR, R).

Willow Creek Riparian Preserve, Kingman, AZ

By Julie Alpert, Willow Creek Environmental Consulting



Warbling Vireo

The Willow Creek Riparian Preserve is located 28 miles east of Kingman and two miles south of Interstate 40. In February 2018, we presented approximately 10 years of wildlife data collection and observations at the 51st Joint Annual Meeting of the AZ–NM Chapters of The Wildlife Society and American Fisheries Society in Flagstaff, AZ. Since this presentation we have been able to add some new species to our lists and/or status updates at the Preserve:



Top to bottom: Arizona Toad, Red-spotted Toad, Woodhouse x Red-spotted Toad

- ✓ ***Black-throated Gray Warbler*** – 1 pair observed [first time Breeding Status]
- ✓ ***Lincoln's Sparrow*** – Migratory [first observation]
- ✓ ***Lucy's Warbler*** – 2 pair observed [first time Breeding Status]
- ✓ ***Northern Cardinal*** – 1 pair observed [first time Breeding Status – Juvenile Male fledged]
- ✓ ***Rose-breasted Grosbeak*** – 1 male observed [3 years in a row (2016–2018)]
- ✓ ***Scott's Oriole*** – 1 male observed [2010, 2014, 2018 – moved from Accidental to Infrequent Status]
- ✓ ***Warbling Vireo*** – 2 pair observed [first observation/first time Breeding Status]
- ✓ ***Lazuli Bunting*** – 3 pair observed [first Breeding Status]
- ✓ ***Great Egret*** – 4 individuals observed [moved from Accidental to Infrequent Status]
- ✓ ***Red Spotted Toad*** and ***Red Spotted x Woodhouse Toad*** [first year to see more than 2]

We are always looking for volunteers to help collect plant and wildlife data. If you are a student, we will help and mentor you in your study development. Opportunities include hydrological and geomorphological studies and research, help with brush management and noxious species removal (i.e., tamarisk and other weeds), trail development, and other habitat management projects. Consider our Preserve for your research projects or just come and enjoy the day!

You can learn more at www.willowcreekenvironmentalconsultingorg.wordpress.com (click on the Willow Creek Riparian Preserve tab). E-mail or give us a call to arrange your activities: jalpert@willowcreekenviro.com or 928-692-6501.



Black-throated Gray Warbler



Long-nosed Leopard Lizard with juvenile Western Whiptail breakfast!

Greetings from Arizona Department of Transportation



*By Lisa Anderson,
District Environmental
Coordinator, ADOT*

"Jack" the desert tortoise moseyed about after his stint as the live animal for Arizona Department of Transportation's new employees Environmental Awareness Class, which focuses on clean air, clean water, and wildlife. When he's not hibernating, organizers try to include Jack at the end of every class. Participants really enjoy seeing him, and he helps provide a personal slant to the wildlife portion of the class.

"Just another day at the office." Photo by ADOT engineer Sara Howard

ADOT has course curriculum (Desert Tortoise Awareness ENV 1210) for the specific goals of understanding tortoise life history, Endangered Species Act status, trends in the population, and "hands on" training in proper handling according to Arizona Game and Fish Department guidelines. A 13-year-old male, Jack was an orphan at the adobe Wildlife Center and is now a permanent resident with three ducks, two dogs, one chicken, and Lisa, his caretaker.

SAVE THE DATE
FEBRUARY 7-9, 2019
JOINT ANNUAL MEETING
OF
THE ARIZONA AND NEW MEXICO CHAPTERS OF
THE WILDLIFE SOCIETY
AND
AMERICAN FISHERIES SOCIETY
ALBUQUEQUE, NEW MEXICO



Continuing Education Grants

By Andrew Jones, AZTWS Treasurer



The Arizona Chapter of The Wildlife Society is dedicated to promoting sound management and conservation of Arizona's wildlife resources. The Chapter aims to meet this goal by promoting communication among our members and other wildlife professionals, organizing workshops and meetings, and enhancing the knowledge and technical capabilities of wildlife researchers and managers. Enhancing the knowledge and technical capabilities of our members is arguably one of the most important functions of our Society – where we fail to keep pace in an evolving field and grow as professionals is where we fail in our wildlife conservation and management goals.

To that end, the Chapter offers [Continuing Education Grants](#) to AZTWS members to support education and career goals. In the 2018 calendar year, the Chapter awarded \$4,000 in continuing education grants to seven individuals. This total amount is far above what is normally awarded in a year. Moving forward, the Chapter is making \$2,500 in Continuing Education Grant Funds available in each calendar year, starting January 1st, 2019. Grant requests should not exceed \$500 per application.

In addition to Continuing Education Grants, the Chapter solicits donations from our members to support students to attend The Wildlife Society annual national conference. This year we received \$320 in member donations. The Chapter matched these donations, resulting in a total donation of \$640, which will assist three students to attend the national TWS conference. Many thanks to AZTWS members Keith and Jackie Menasco, John Koprowski, Valerie Horncastle, Kay Nicholson, and Tiffany and Scott Sprague who all donated to support students to attend the national meeting.



Southwestern Wildlife Graduate Student Scholarship

Call for Applications:

The [Southwest Section of The Wildlife Society](#) is soliciting applications for the *Southwestern Wildlife Student Scholarship*. This scholarship will be presented at either the 2019 Joint Annual Meeting of the New Mexico and Arizona Chapters of The Wildlife Society and the Arizona/New Mexico Chapter of the American Fisheries Society in Albuquerque, New Mexico, or the 2019 Annual Meeting of the Texas Chapter of The Wildlife Society in Montgomery, Texas. Please submit nominations electronically by December 15th, 2018, to Ginny Seamster, virginia.seamster@state.nm.us.

Description

The *Southwestern Wildlife Student Scholarship* is a new award in the amount of \$500. Starting in 2019, this scholarship will be given annually to a graduate student who is currently enrolled in a natural resource-oriented program at a college or university in Arizona, New Mexico, or Texas and is studying wildlife. Wildlife includes all fauna and habitat components, excluding fisheries-related studies. Applicants should have a minimum cumulative grade point average of 3.5. Women, members of minorities, or students who are the first in their family to attend graduate school are especially encouraged to apply. The Southwest Section's Geospatial Advisory Committee encourages exchange of information regarding the application of geospatial technology to wildlife research. In support of the work of this committee, students who are extensively utilizing geospatial data, including satellite imagery or other products of remote sensing technology, and/or generating their own geospatial products through the use of drones are also encouraged to apply. Incorporation of these technologies in an applicant's graduate research is NOT required; applicants not using these technologies should still apply.

Application Format

The application package should be addressed to the Southwest Section of The Wildlife Society Board and consists of a **cover letter** and current **resume**. The cover letter should be no longer than one page and the resume no longer than two pages. Please use standard one inch margins and size 12 font. The application package should contain the following information:

1. In their **cover letter**, applicants should briefly describe their graduate research project, state their academic and professional goals, and include details on past and anticipated future contributions to the conservation of biodiversity in the Southwestern United States, including Arizona, New Mexico, and Texas, and elsewhere. Applicants should also provide information on relevant leadership experience, either through academic or professional experiences or extracurricular activities. Finally, applicants must provide a brief statement of financial need, including personal indebtedness related to education, current scholarships, grants or assistantships, and whether the applicant has previously received the *Southwestern Wildlife Student Scholarship*.
2. **Resumes** should contain detailed information on educational experience including: field of study; college or university where currently enrolled and those previously attended; expected date of completion; completed relevant coursework; and cumulative grade point average. Additional information on honors, awards, and/or scholarships previously received is also appropriate. Resumes should also include information on professional experience, whether paid or volunteer, including employers, locations, time periods, and brief descriptions of work responsibilities.

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Scholarship Criteria

The Southwest Section of The Wildlife Society Board reviews applications and determines awardees through a ranked review process based on the following criteria:

- 1) Current cumulative grade point average and related educational experience and/or achievements receive the highest consideration during the review process.
- 2) Contribution(s) to the field, especially current and anticipated future contributions to the conservation of biodiversity in states within the Southwest Section, receive secondary consideration.
- 3) Demonstrated leadership through professional and/or academic experiences is also given consideration during the review process, as is the inclusion of geospatial data and/or technology in a student's graduate research project.
- 4) Demonstrated financial need and, in the interest of recognizing students from all states in the Southwest Section, the state of the prior year's scholarship recipient are considered as final determinative factors to distinguish among applicants who may otherwise receive equal rankings during the review process.

Application Submittals

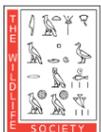
Applications for the SWS of TWS *Southwestern Wildlife Student Scholarship* should be submitted electronically to Ginny Seamster, President of the Southwest Section of The Wildlife Society at virginia.seamster@state.nm.us.

Please write *Southwestern Wildlife Student Scholarship* in the subject line and include the submittal package as one email attachment (pdf is preferred) using the following naming format:

Applicant Name_SWSTWS_SWScholarship_Year

Example: GinnySeamster_SWSTWS_SWScholarship_2019

**Applications are
due by Dec 15th**



The Wildlife Society
Southwest Section

AZTWS Fall Membership Trip

Join Us November 10th!



Details:

Friday November 9th

Camping at [Sharp Creek group campsite](#). The campsite is reserved for Friday and Saturday nights. There will be no charge and at least one of the bathrooms will be accessible.

Saturday Activities November 10th

- 1) Tonto Creek Hatchery tour
- 2) Herping
- 3) Elk crossing and culvert show and tell*
- 4) Camping at Sharp Creek group campsite to talk about opportunities for member involvement.



Meet at [Tonto Creek Hatchery](#) at 11 AM Saturday for a ~1 hour tour of Tonto Creek Hatchery. We will have a picnic lunch afterwards (bring your own) before walking down to the creek to look for the introduced *Ensatina* salamanders (on hatchery property) for ~1–2 hours. Next, we will head over to the culvert and elk crossing on Hwy 260 for a brief show and tell from Scott Sprague.

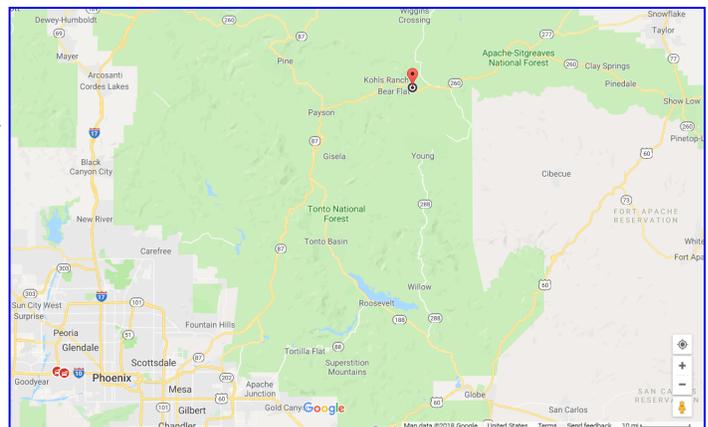
Around 5 PM we'll head to the campsite so folks can set up camp and make their dinners [[Directions from Tonto Creek Hatchery](#)]. Afterwards, we will chat about chapter opportunities, including officer positions and other roles in the chapter.

Sunday morning November 11th

Free to enjoy the beautiful area
*If we do not have time to do the elk crossing Saturday, we will try for Sunday.

So we can estimate space and timely activities, please RSVP to Audrey Owens (aowens@azgfd.gov) before **November 7th**

We hope to see you there!



Standing Invitations!

Call for Award Nominees

Submit your valued co-workers and partners for one of our Chapter Awards (see categories and criteria by visiting <http://aztws.com> and clicking on "Awards"). Let's recognize our finest! Submit your nominations to our President Elect, Jessica Moreno (jamoreno3083@gmail.com).



Call for Chapter Officer and Board Member Nominees

Also: Please consider becoming active with the Chapter as an officer or board member. You can learn about positions and responsibilities by visiting <http://aztws.com> and clicking on "About," then "Executive Board Positions." Nominations are due in November of each year, with elections occurring in January. Contact Jessica Moreno (jamoreno3083@gmail.com) to register your interest. We'd love to have you on our board!





We need articles, stories, and pictures for upcoming newsletters.

The Arizona Wildlifer Deadlines

<u>Issue</u>	<u>Deadline</u>
Winter 2018	Dec 21, 2018
Spring 2019	Mar 15, 2019

Email submissions to aztwseditor@gmail.com.