



THE ARIZONA WILDLIFER

2017 Issue 4

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Fall Edition

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The President's Message



Summer has wrapped up and fall is here. For some of us, that means field work is winding down. For me, that means a little extra time to reflect on the work accomplished over the summer and look forward with anticipation to projects that will be coming in the near future.

It also gives me time to think about our goals as a chapter. A large part of what we do is supporting students and educating folks about the various forms of wildlife in Arizona.

I have been fortunate this summer to assist the Arizona Game and Fish Department with their watchable wildlife bat netting events. It is always fun to witness the excitement in people's eyes when they see a bat up close for the first time...it reminds me of the first time I ever saw one (and I've been smitten ever since!). Conversations I've had with folks at these events indicate it is often opportunities like these that influence the decisions young people make about the direction of their future careers. As wildlife biologists and managers, it is during these interactions where we become ambassadors for the field of wildlife biology and management, as well as for the chapter. If you find yourself in a position like this, please take a moment to think about how you can engage the public, including youngsters who may want to follow in your footsteps, and promote the mission of our chapter.

Here's a quick update on the board's activities over the past few months. Hopefully, you received the emails we sent out through Survey Monkey about our continuing education survey. Thank you to all who took a few minutes to complete the survey and provide

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Presidents Message cont...

(Continued from page 1)

us with some much-needed input on everyone's preferences for upcoming workshops. Now that we have this information, our next step is to put it to good use by implementing the results with workshops that will be useful to you, our members. Be on the lookout for upcoming workshops!

Of course, I can't forget to plug the 2018 Joint Annual Meeting (JAM) of the Arizona and New Mexico chapters of The Wildlife Society and Arizona/New Mexico Chapter of the American Fisheries Society. Mark your calendars! The meeting will be held in Flagstaff on February 1–3, 2018. It's time to get your abstracts ready – the deadline for submitting abstracts is November 16 (student competition abstracts are due November 1). Hope to see you there!

The Arizona Chapter is in charge of planning the 2018 JAM, and we had our first official planning meeting on August 28. It takes a whole host of people to pull it off and make our annual meeting a success. We are fortunate to have an awesome group of individuals who have volunteered their time to assist with the preparations. We can still use more help, so if you have a couple hours a month (or more) between now and early February, please reach out to me or one of the other chapter board members, and we can get you plugged into the planning process where you feel most comfortable.

Scott Sprague has been spearheading the effort to revise the JAM manual. Many sections of the manual are out of date and in much need of revision...some minor while other sections require a complete overhaul. Thank you to everyone who has participated in this effort by providing revisions or, in some cases, brand new sections (e.g., Quiz Bowl). The manual is very helpful for figuring out what needs to be done and when during our planning process.

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Regional News:

Highlights from SW Section Representative to TWS Council

By: Fidel Hernandez

I had a pleasant, climatic surprise the week before I wrote this. After months of humid, warm mornings, I stepped outside to a cool, crisp dawn. A cool front had rolled into South Texas and decreased the humidity and temperature. I welcomed the refreshing feeling, and I thought, "Autumn must be on its way...."



Autumn is a wonderful season. It is a time of migration for many species as well as a time of senescence for many plants. Autumn also signifies the season when we gather as a professional group during the annual conference of The Wildlife Society (TWS).

Below is brief update on TWS activities from the summer as well as information on the conference in Albuquerque.

TWS ADMINISTRATION AND FINANCE

Leadership succession. As you know, former Chief Executive Officer (CEO) Ken Williams retired on 30 June and was succeeded by the incoming CEO Ed Thompson. The transition was seamless. CEO Thompson met with the entire staff multiple times during the final two weeks of June to plan for a smooth transition and to make organizational preparations for the new budget year (1 July – 30 June). CEO Thompson also participated in conference calls with the Finance Committee and Investments Committee as part of the TWS transition plan. TWS looks forward to this next phase under its new leadership.

Finance. With the passing of Jane Jorgenson, TWS Office and Finance Manager, TWS lost a valuable friend and a tremendous asset. Jane was a 30-year employee of TWS, and her long tenure and intimate

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Presidents Message cont...

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The deadline for submitting awards nominations is rapidly approaching. Please take a moment and consider recognizing a colleague for the work he or she has been doing for wildlife in Arizona. In addition, consider nominating yourself or a colleague for an officer position. Feel free to ask any board member if you have questions about what we do. Positions we need to fill this year include President Elect, Recording Secretary, Corresponding Secretary, and Board Member. Send in your nominations for both awards and officer candidates to our current President Elect, Tiffany Sprague (tasprague@gmail.com).

I hope you enjoy the articles in this issue of the newsletter. If you have an interesting article or exciting project to write about, please consider submitting those to our Newsletter Editor, Tiffany Sprague (aztwseditor@gmail.com). Suggestions for improvement on any aspect of the Arizona Chapter of The Wildlife Society, or ideas for engaging our members, are always welcome; feel free to send me your comments at knicholson@logansimpson.com.

Kay Nicholson
AZTWS Chapter President

Wanted: Newsletter Editor

Looking for a fun way to deepen your involvement and to learn more about our chapter and partners? Become our Newsletter Editor!

The Editor is responsible for soliciting materials for our quarterly newsletter, coordinating with authors and photographers, editing submissions, and completing layout of each issue. This is an excellent way to learn more about projects in which our chapter and others are involved and to reach out to our members and the public about TWS!

For more information, please contact Tiffany Sprague at (623) 670-0750 or aztwseditor@gmail.com.

Regional News cont...

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knowledge made her an irreplaceable pillar of the organization. Thus, this summer, TWS reached out to Renner & Associates to handle TWS finances in the immediate future. Given this transition, TWS took the opportunity to identify, improve, and automate accounting processes so that the 2017–2018 financial processes will be more streamlined and effective. As of June, TWS was projected to close out the fiscal year in the black.

Audit. Preparations were made for the annual audit, given the closing of the budget year in June. Because Renner & Associates presently is handling the society's finances, TWS is in the process of selecting a new auditor. CEO Thompson has received recommendations of qualified auditors, and a draft request for proposals is being reviewed. TWS Council was updated on the status of auditors and the audit process during the annual conference.

TWS PARTNERSHIP ENGAGEMENT

One of the primary duties of TWS Leadership is to engage with other professional societies on important conservation initiatives. This engagement occurs at many levels in TWS. Below is a brief summary of some of the engagement activities that occurred during summer:

- **Multi-agency Engagement.** Director Norris and Executive Director Williams met with representatives from the American Fisheries Society (AFS), the Association of Fish & Wildlife Agencies, and the U.S. Geological Survey Cooperative Research Units to continue planning for a workshop at the 2018 North American Wildlife & Natural Resources Conference. In addition, Director Norris joined leaders of the U.S. Fish & Wildlife Service and AFS to review elements of TWS's joint memorandum of understanding, in particular the elements that call for joint efforts in growing diversity in the natural resource workforce.
- **Midwest Association of Fish & Wildlife Agencies.** Director Norris attended the direc-

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AZTWS Continuing Education Grant

Applications may be submitted at any time and will be reviewed quarterly by the Committee in January, April, July, and October. Applicants will be notified of the Committee's decision within 30 days of the Committee's review. The Continuing Education Committee evaluates applications based on your explanation of how the activity will enhance your career development, your financial need, your efforts to obtain supplemental funding, and your involvement in Chapter activities.

Total available grant amounts are limited to \$2,000 per year with the maximum individual grant capped at \$1,000. Grants are limited to Chapter members.

Grant application forms are available on the Chapter webpages at <https://aztws.com/resources/continuinged> or may be obtained from Chair of the Continuing Education Committee, Stan Cunningham (Stanley.Cunningham@asu.edu).



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

The Arizona Wildlifer Deadlines

<u>Issue</u>	<u>Deadline</u>
Winter 2018	Dec 15, 2017
Fall 2017	Mar 16, 2018

Email submissions to aztwseditor@gmail.com.

Regional News cont...

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tor's meeting of the Midwest Association of Fish & Wildlife Agencies (MAFWA) near Omaha, Nebraska. TWS applied for and was approved as an affiliated member of MAFWA.

- **Feral Horse and Burro Coalition.** Director Norris engaged with state and tribal agency leaders regarding management challenges posed by feral horses and burros. Discussions included potential policy solutions, advocacy needs, management approaches, and social research opportunities. In addition, TWS was invited for a second year by the Mustang Heritage Foundation and Bureau of Land Management to participate in an Extreme Mustang Makeover Event on behalf of the National Horse and Burro Rangeland Management Coalition. Associate Director Kovach attended the weekend event along with a representative from the Society for Rangeland Management. During the event, Kovach hosted two presentations that educated more than 150 individuals on the effects that overpopulation of wild horses has on western rangelands and native wildlife.
- **Farm Bill Coalition.** A collaborative meeting of the Farm Bill Conservation Coalition was convened to discuss consensus building efforts for the 2018 Farm Bill. Associate Director Kovach advocated for dedicated funding for monitoring and evaluation of conservation outcomes and increased funding for wildlife in both CSP and EQIP programs.

TWS GENERAL OPERATIONS

Membership. TWS membership continues to maintain strong trends. For the first time since 2012, TWS closed the fiscal year (1 July – 30 June) with a membership growth higher than the previous year. The final count for the closing budget year was 9,133 members compared to 9,076 last June (+57, +0.6%). Although the increase was modest, demonstrating growth in membership after three consecutive years of losses is a huge turnaround for the society. During

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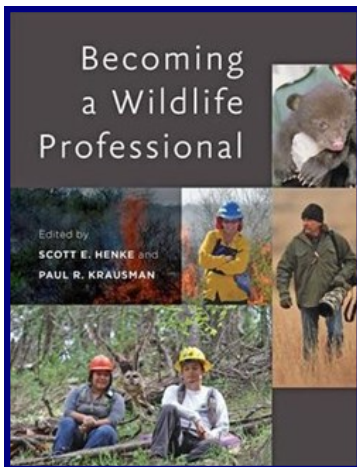
Regional News cont...

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June, TWS added three distinctly-themed email campaigns at members who had lapsed during 2014, 2015, and the first five months of 2016 with positive responses. TWS also is announcing two new major member benefits in the coming months that should continue to showcase the value of TWS membership. One minor but critical improvement in membership services was the automatic renewal option. This option continues to perform beyond expectations. Since January, 3,394 members (32.6%) enrolled in automatic renewal.

While we're on the topic of membership, I'd like to take the opportunity to highlight the Give Back Program. This program extends a free 6-month TWS membership to a colleague of your choosing when you renew your membership. Nominees do not have to join TWS at the end of their 6-month free membership but get to enjoy all membership benefits during that period. If you have not already taken advantage of this opportunity, be sure to do so the next time you renew your membership. It does not cost you anything more than a simple click of a box in your renewal form and the nomination of a colleague, who – if he/she accepts your nomination – will enjoy a 6-month free membership and many TWS benefits.

Publications. TWS has just completed an author survey of *Wildlife Monographs*, *Journal of Wildlife Management*, and *Wildlife Society Bulletin*. This is an effort to improve the publication process in these journals while enhancing their effectiveness. Survey results are being compiled, and I will report back on the findings in the next newsletter. Of worthy mention is the recent increase in the impact factors for all three TWS journals. We extend our gratitude to the current editors of these journals – Drs. Merav Ben-David (*Wildlife Monographs*), Paul Krausman (*Journal of Wildlife Management*), and David Haukos (*Wildlife Society Bulletin*) – for their professional service.



I would also like to highlight the recent release of a new book, *Becoming a Wildlife Professional*, that is part of TWS's book-series agreement with John Hopkins University Press. This book is an edited volume by Drs. Scott Henke (Texas A&M University–Kingsville) and Paul Krausman (Professor Emeritus, University of Arizona). The book represents a compilation of perspectives on the wildlife profession from students to early-career professionals to seasoned biologists. Topics are wide ranging and include careers in wildlife, graduate-school advice for prospective students, student perspectives on higher education in wildlife, contemplations on the future of the profession, and many more topics. It is an excellent textbook to include as part of an undergraduate wildlife course. For more information on TWS book publications, please visit the following website: http://bit.ly/TWS_books.

Certification. Certification of wildlife biologists is one of the many services TWS provides to its members. During the month of June, 13 applications were reviewed for certification by the Certification Review Board. The review resulted in the approval of nine Associate Wildlife Biologist® applications and four Certified Wildlife Biologist® applications. In addition, six renewal applications and one Profes-

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Regional News cont...

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sional Development Certificate application were approved. In an effort to increase the relevance of certification, Government Affairs Associate Caroline Murphy and Director Norris engaged in a meeting organized by the Ecological Society of America on the merits and challenges faced by other professional societies when operating their certification programs.

24TH ANNUAL CONFERENCE


TWS's 24th Annual Conference in Albuquerque occurred from **23–27 September 2017!** TWS and many section, chapter, and student chapter members spent a great amount of time and effort planning for the conference. An impressive number of our Southwest region members assisted with conference activities, ranging from fundraising to programs to field-trip organization. The conference theme of “Wildlife Conservation – Crossroads of Culture” was highlighted in the plenary, which discussed cultural factors important in effective conservation and included presentations by the following people:

- **Arthur “Butch” Blazer** (*Retired USDA Deputy Under Secretary for Natural Resources and Environment, Mescalero, NM*) is a retired deputy undersecretary for natural resources and environment for the U.S. Department of Agriculture. Since retiring, he has remained passionate about engaging the next generation of wildlifers, particularly Native Americans. Mr. Blazer, a member of the Mescalero Apache tribe, once managed its 463,000-acre reservation. He has been an active member of TWS and helped found the Native American Fish and Wildlife Society.
- **Hilary Tompkins** (*Partner, Hogan Lovells US LLP*), a member of the Navajo Nation and former solicitor for the Department of the Interior, spoke about the intersection of Native American tribes with legal processes, an important aspect of cultural influences in wildlife conservation. In her former role, she represented the department in judicial litigations, negotiations, and contracts between federal and state agencies and tribes. Her legal experience includes work with the Navajo Nation Supreme Court and the Navajo Nation Department of Justice as a tribal court advocate.
- **Alexandra Sandoval** (*Director, New Mexico Department of Game and Fish, Santa Fe, NM*) is the current Director of New Mexico Department of Game and Fish and only the second female director in the department's 101-year history. She has worked for the department since 1994 in various roles, including district wildlife officer (game warden), wildlife management specialist, federal grant manager, and licensing supervisor. She holds a Master's degree in Business Administration and a bachelor's degree in Wildlife Management and is a graduate of the National Conservation Leadership Institute.

We are excited that the annual conference returned to the Southwest Section! Collectively, the conference featured four plenary/keynote sessions, 950 educational opportunities, 40 networking opportunities, two major networking events, three field trips, and much more. The complete conference program is available in PDF at http://bit.ly/TWS_2017conference_program.

We hope you were able to make it and enjoy all Albuquerque has to offer! We also look forward to seeing you in Cleveland in 2018!

Until next time,



Fidel Hernández
Southwest Section Representative of TWS

Let's Recognize Our Finest!



Do you know of a wildlife professional, student, or organization that deserves recognition for their work? Please nominate them for one of our awards!

We present these awards in order to recognize those individuals and organizations that make significant contributions to wildlife management and conservation in Arizona. These awards are significant because of the history and prestige behind each one – and because they come from you. This is your chance to give credit to some of the many deserving people and organizations out there!

WE NEED YOU to submit a nomination for one or more of our eight awards (see descriptions at http://bit.ly/AZTWS_award_descriptions). Please include the name and affiliation of the nominee (nominees need not be members of TWS or the AZ Chapter), the award for which the individual/organization is being nominated, a letter of support signed by you and endorsed by at least

one additional individual, and your name and contact information.

Visit http://bit.ly/AZTWS_past_awards to view past recipients of each award.

Final nomination documents must be received by November 17.
Submit your nominations to Tiffany Sprague (tasprague@gmail.com).

Awards will be presented at our Joint Annual Meeting in February 2018.

Bored? Join Our Board!

Our Chapter needs you! Are you interested in taking an active role in Arizona's wildlife conservation and management? Do you want to advance professional stewardship of wildlife resources and habitat? Do you want to help prepare the next generation of wildlife professionals? Join the board of the Arizona Chapter of The Wildlife Society!

We have four positions open: President Elect, Corresponding Secretary, Recording Secretary, Board Member At-Large. You can learn more about each of these at http://bit.ly/AZTWS_board_positions.



Nominations and a short bio are due by November 17.

For more information or to nominate yourself or someone else for a position, please contact Tiffany Sprague at 623-670-0750 or tasprague@gmail.com.

Our Neck of The Woods...

Ecology of a Mesocarnivore and the Impact on Rabies Management

By Amanda Veals, Wildlife and Conservation Master's Student, University of Arizona

According to the World Health Organization, infectious diseases are increasing worldwide and, in the face of climate change, zoonotic diseases and vectors are becoming increasingly important for wildlife and public health. As the landscape changes, so too does the spatial ecology of many wildlife species and the disease etiology of these infectious agents, bringing an importance to the study of how these two fields connect. This approach of cross-disciplinary research is referred to as “One Health” by the Centers for Disease Control (CDC). One Health recognizes that the health of people is directly linked to the health of the environment and the species in it. My research facilitates the fusion of diverse disciplines: wildlife management and public health through a One Health approach. My thesis focuses on how the spatial ecology of wildlife can inform disease management for a zoonotic disease that can often spill over into humans and domestic animals.

Spatial ecology is the study of how species interact with their environment, which can inform us about several aspects of a species' basic ecology, including habitat selection, movement across landscapes, and interactions within and among species. Spatial ecology can also inform future management plans, especially when studied across an expansive geographic area, including disease management.

A One Health approach to disease management is important when considering that six out of every 10 infectious diseases that affect humans are spread from animals, according to the CDC. Epizootic events can lead to spillovers into other species, which often means that humans, livestock, and pets can be affected by zoonotic diseases. Disease management practices today hinge on mitigating such spillover events from occurring, and such practices are almost always more successful when the vector species' spatial ecology and the disease etiology are understood.

Rabies is one such viral disease that remains a considerable challenge for both wildlife biologists and public health professionals. Rabies lyssavirus is one of the oldest known viral diseases and is invariably fatal to unvaccinated mammals. However, despite all that is known about this virus, approximately



Amanda Veals with a radio-collared gray fox. Photo courtesy of Amanda Veals.

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Rabies Management cont...

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69,000 people die each year worldwide due to rabies. This has led to the U.S. alone spending \$300 million annually for rabies management programs.

Over the past 30 years, rabies management has increased in complexity across the U.S. due to wild animals replacing the domestic dog as the main reservoirs. Mesocarnivores are the primary rabies reservoirs in the U.S. and, here in the Southwest, the gray fox (*Urocyon cinereoargenteus*) is an important vector for the disease. In Arizona, gray foxes carry a unique strain of the rabies virus and are a periodic source of epizootic events for the state. Arizona has a large, intact guild of mesocarnivores, providing a unique opportunity to examine how interspecific interactions and spatial overlap can influence disease spillover, especially in the presence of a unique strain of the rabies lyssavirus stemming from gray foxes.

Despite their status as a substantial reservoir for rabies in the southwestern U.S., the spatial ecology of gray foxes is poorly known. Understanding how foxes as vectors use the landscape is important to control the spread of rabies, and knowledge of gray fox spatial ecology and movement dynamics across an expansive geographic area can better inform disease management plans. In addition to providing valuable information for wildlife disease managers, my results regarding the spatial ecology of gray foxes also address regional public health challenges through One Health.



A radio-collared gray fox. Photo by Amanda Veals.



A gray fox caught on camera trap. Courtesy of Amanda Veals.

The goal of my study is to compare the spatial ecology of gray foxes to determine differences in well-connected and isolated landscapes to inform disease management. Over the last two years, I have used camera traps and radio collars to examine gray fox spatial ecology in the Pinaleno Mountains near Safford and the White Mountains near Alpine. I have just finished collecting data and am in the process of analyzing it. Preliminary results have shown that gray foxes use areas dominated by ponderosa pine and pinyon-oak-juniper mix across a wide elevational gradient. I am looking forward to understanding the relationship between gray foxes and sympatric mesocarnivores across a spatial and temporal scale. If all goes according to plan, I will defend my thesis in December 2017. This

research would not have been possible without considerable assistance from USDA Wildlife Services, the Arizona Game and Fish Department, and the University of Arizona.

Headlamps, Headlights, and Herps: A BioBlitz in the Chiricahuas!

By Brian R. Blais, Corey Shaw, Brandon Mayer, and Colin W. Brocka,
School of Natural Resources and the Environment, University of Arizona

The American Southwest is home to an incredible array of diverse landscapes and animals, including its herpetofauna (i.e., amphibians and reptiles). In fact, this region has the highest richness of lizards in the U.S., and Arizona has more rattlesnake species ($n=13$) than any other state. It is no wonder why scientists, naturalists, and recreationists prize the American Southwest for its many fascinating ectothermic inhabitants. (Check out the American Museum of Natural History's "Field Herpetology of the Southwest" course: http://bit.ly/AMNH_SWherps.)

One of the reasons herpetology maintains a stronghold in this region is the lifelong efforts of conservation herpetologist Charles W. Painter. "Charlie" was a key pillar of southwestern field-based herpetological research and conservation. As a wildlife manager for the state of New Mexico, Charlie understood that it was imperative to support management policy with science-based research. Despite passing away too soon, Charlie's legacy lives on through the lives he has touched and the efforts he made. Southwest Partners in Amphibian and Reptile Conservation created a memorial award in Charlie's honor, the Chiricahua Desert Museum (CDM) created a grant in Charlie's name to stimulate and support herpetological research in New Mexico, and the CDM hosts an honorary "Charlie W. Painter BioBlitz & BBQ" (hereafter CWPB; <https://www.cwpbioblitz.com>) honoring both Charlie's legendary conservation and culinary sides.

The CWPB website notes that a "BioBlitz" [bahy-o-blitz; noun] is "...an intense period of biological surveying in an attempt to record all the living species within a designated area..." The CDM hosted the second annual CWPB in August 2017, and we jumped at the opportunity to join. This particular 24-hour event took place around the Chiricahua and Peloncillo Mountains. Because this region shares a state border, both Arizona and New Mexico state wildlife agencies offered organization, sponsorship, and fun! The CWPB focused on photo-ID, and data was synchronized real-time in an *iNaturalist* group (<https://www.inaturalist.org/observations/project/13595>). The platform was a great way to link participants, see cool wildlife, and contribute important data for researchers and managers alike.



Regal horned lizard (*Phrynosoma solare*). Photo by Colin Brocka.

Being dedicated herpetologists based out of Tucson, we got off to an early sunrise start on 17 August 2017 by heading up Reddington Road, which cuts between the Catalina and Rincon mountains. We were hoping to encounter some "herps" on our way to encountering herps. It was slow and dusty going for a few miles until Corey abruptly stopped the car and yelled, "Horned lizard!" We were all out of the car as quick as possible. What we found was an adult regal horned lizard (*Phrynosoma solare*) thermoregulating on the side of the road. Normally, these lizards are fascinating in their own right with their crown of occipital and temporal horns, but this one had an added bonus. There was evidence that this animal had recently exhibited one of the most incredible, and odd, defense mechanisms in the animal kingdom. Some species in the genus can

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directionally squirt blood out of their eyes in self-defense, often a response to predatory attacks by canids. We could see blood stains around the lizard's orbits, and the stretch of habitat where we found the lizard likely supported canids, such as coyotes or foxes. Clearly, the defense was enough for this individual to live another day.

Excited, we continued onward for another mile or two until "SNAKE!" – an adult western diamondback rattlesnake (*Crotalus atrox*) was stretched out along the road. Perhaps threatened by three clumsy, overly-enthusiastic biologists running towards it, the snake quickly retreated into nearby cover. We paused to let the snake relax and got some voucher pictures before moving on...until we came to a roadside ditch with standing water and little black flecks. Those flecks turned out to be spadefoot toad tadpoles. Adults of these amphibians remain dormant, buried underground for most of the year until monsoon rains spring their emergence. Spadefoots often deposit their eggs in ephemeral pools as their life history favors rapid development. Farther down the road, we encountered a few more diamondbacks and a serpentine missile shooting across the road that we can only presume was a whipsnake (*Masticophis* sp.).

GREETED BY MOUNTAINS

We arrived at the Southwestern Research Station, our quarters for the CWPB. The grounds were beautiful, and our rooms were clean, cozy, and far more than we expected. Almost immediately, we were greeted by blue-throated hummingbirds (*Lampornis clemenciae*), local residents of the grounds. Drawn to the creek running through the property, we saw a rare Chiricahua leopard frog (*Lithobates chiricahuensis*) and an egg mass nearby. After a chef-prepared dinner at the station, we prepared our headlamps and set off for some evening road cruising (a term used by herpetologists to survey from a vehicle).

After a magnificent sunset over the Chiricahua Mountains, it did not take us long to find some cool critters. We stopped at a ditch with standing water alongside a desert dirt road. Soon enough, we spotted movement – tiny hops. A recently metamorphosed Mexican spadefoot (*Spea multiplicata*) caught our eye. We also saw small creatures oddly undulating in the same ephemeral ditch, which turned out to be living fossils. These long-tailed tadpole shrimp (*Triops longicauda*) play important roles in the food web. Before calling an end to a long and successful day, we spotted a large plover on the side of the road – a male Great Plains toad (*Anaxyrus [Bufo] cognatus*). Like several anuran species, male



Left: Mexican spadefoot (*Spea multiplicata*). Photo by Colin Brocka. Center: Long-tailed tadpole shrimp (*Triops longicauda*). Photo by Corey Shaw. Right: Great Plains toad (*Anaxyrus cognatus*). Photo by Brian Blais.

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Great Plains toads can be identified by darkened vocal sacs on their throats. A fitting end to a day of herping!

THE BIOBLITZ

The following morning, we had time for an adventure before the official 10 a.m. BioBlitz kick-off. We took a scenic route on a primitive road that looped around the foothills of the Chiricahuas. Corey had experienced some luck on this road during the previous year's CWPB, but this morning's fortune did not favor us. It was a hot morning, and it seemed as if all herpetofauna had taken shelter.

We arrived at the CDM and were warmly greeted by Cristina Jones, Arizona's lead turtle biologist. We filled out registration forms and purchased commemorative t-shirts before being lured into the CDM's gift shop, a naturalist's dream: t-shirts and hats adorned with native flora and fauna decals, field guides, snake hooks and tongs, hyper-realistic paintings by the talented Tell Hicks, and more. We were unable to resist the temptation and departed with a vehicle that was a bit more packed than before. Alas, we set off towards what would turn out to be a series of dead-ends or locked gates near both the Peloncillos and Chiricahuas. We were about to turn around near a lowland dry wash but decided it would be a good spot for lunch. After a quick bite, we walked around the area looking for anything to catch our eyes. Nothing. On our way back from defeat, Colin spotted movement and made a slow, overly-gentle lunge for a lizard. After a few "practice" pounces, he came up with a tiny juvenile greater short-horned lizard (*Phrynosoma hernandesi*).

Rejuvenated, we left the desert lowlands and made our way towards the upper reaches of the Chiricahuas to spend some time in the Barfoot Spring area, dominated by rocky outcrops and pine stands. On a fire-scarred tree snag, we spotted a species commonly associated with this habitat type: Yarrow's spiny lizard (*Sceloporus jarrovi*). Its blue throat and side flanks indicated it was an adult male. While enjoying the cool higher elevations of the Chiricahuas, we also saw two bird species less commonly found in the U.S., a tom (male) Gould's wild turkey (*Meleagris gallopavo mexicana*) and a band-tailed pigeon (*Patagioenas fasciata*).



Yarrow's spiny lizard (*Sceloporus jarrovi*). Photo by Brian Blais.



Couch's spadefoots (*Scaphiopus couchii*): male left, female right. Photos by Brian Blais.

After dinner at the station, we ventured out for more night fun. We agreed to make a second attempt on the loop from the morning. We were not disappointed. After a mile or two, Brian spotted a diamondback rattlesnake in the road. We found two more diamondbacks within the next two miles, as well as a desert centipede (*Scolopendra polymorpha*). Running low on fuel, we headed toward Animas, NM. We had several distractions along the way, including another large Great Plains toad, a green toad (*Anaxyrus debilis*), and an aberrantly light Sonoran Desert toad (*Incilius alvarius*), all along ephemeral roadside ditches. A desert blonde tarantula (*Aphonopelma chalcodes*) greeted us while we were pumping gas. On the way back to home base, we encountered a few adult Couch's spadefoots

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(*Scaphiopus couchii*). This species is sexually dimorphic; males have small or absent markings, whereas females have dark reticulations. A great night, indeed!

SMELLS LIKE PEANUT BUTTER

The next morning, we were eager to find more animals. Because our planned route into the Peloncillos the previous day was blocked, we sought a new entry point. We spotted a vibrant snake on the road and stopped. Brian was the first to reach it and was surprised by its reluctance to move. Sadly, we found the reason for its demeanor. It was a deceased gopher snake (*Pituophis catenifer*). Oddly, we saw no sign of trauma. It was a mature adult and appeared to be in good shape. The locality and information gathered from even a deceased animal can be useful data for scientists, so we entered a point in the *iNaturalist* app. We were soon distracted by turkey vultures (*Cathartes aura*) and a large Swainson's hawk (*Buteo swainsoni*) perched on a wooden fence post. Onward we drove, but, after a few dirt

road miles, we came to another locked gate. Bummed out, we decided we would just head back to another location in the Chiricahuas. Shortly after turning around, Corey excitedly spotted a female ornate box turtle (*Terrapene ornata*) crossing the road! This is an Arizona species of concern, as box turtles across the U.S. are susceptible to habitat loss and exploitation (e.g., poaching). We took photo vouchers and correlating data, which we later submitted to Cristina and Arizona Game and Fish Department's "box turtle watch" program (http://www.azgfd.gov/w_c/boxturtlewatch.shtml). Reenergized, we headed into the Chiricahua Mountains to a beautiful spot along East Turkey Creek. This cool, clear headwater stream cascades through bedrock and riparian habitat. It was here we saw more Yarrow's spiny lizards,



Ornate box turtle (*Terrapene ornata*). Photo by Corey Shaw.

a desert shaggymane mushroom (*Podaxis pistillaris*), and even an elusive talussnail (*Sonorella* sp.)! The 24-hour data-gathering portion of the CWPB ended during this point, but we took advantage of spending some leisure time at this beautiful site.

Next, it was time to meet back at the CDM for results, festivities, and, of course, the BBQ. Many people participated in the CWPB, and the event generated a lot of data. After a touching "Travels with Charlie" memoirs talk by Dr. Geoff Carpenter, a live auction began with proceeds benefitting future events and the Charlie Painter Grant for research, conservation, or education. At the end of a fun and delicious BBQ, a monsoon storm rolled in. Although the event was now over, we were still interested in seeing what the wet evening had in store. After driving some unsuccessful miles, we saw an anuran and stopped. It was different than the Great Plains or Couch's spadefoot toads we had seen previously. It was definitely in the spadefoot family (Pelobatidae), so we performed the routine test any herpetologist would do in our situation: we smelled the toad. "I smell peanuts!" shouted Corey vehemently! This would ordinarily be an



Mexican spadefoot (*Spea multiplicata*). Photo by Brian Blais.

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odd thing to do, but “smells like peanut butter when handled” is one of the key descriptors for the spadefoots in the area. We had the adult form of the Mexican spadefoot. Just prior to concluding our night adventure, we saw another diamondback rattlesnake that we safely moved off the road. A fitting end to a great weekend, or so we thought....



Western diamondback rattlesnake (*Crotalus atrox*). Photo by Brian Blais.

HOODOOS AND HALLWAYS



Talussnail (*Sonorella* sp.). Photo by Brian Blais.

We decided to leave the beautiful Chiricahuas in style – by first going deeper into them. So the next morning, we met up with some friends and took the scenic route up and over the crest to Chiricahua National Monument. A hike on Echo Canyon Trail did not disappoint. The vistas and majestic grottos were adorned with naturally-sculpted hoodoos and balanced rocks. The monument had no shortage of Yarrow’s spiny lizards, as it seemed every boulder had a lizard defending its castle. We almost walked right by another talussnail. Many talussnails are endemic to single ranges or even mountains, and this very well could have been one of those species. We even encountered a young black-necked gartersnake (*Thamnophis cyrtopsis*) near a small stream pool.

As we descended along the trail, Brian paused to observe an interesting invertebrate. It was an Apache click beetle (*Chalcolepidius apacheanus*), one of about 9,300 global species of click beetles. Soon after, Corey spotted a true treat. What turned out to be our last herp of the trip was the majestic Arizona mountain kingsnake (*Lampropeltis pyromelana*). Echo Canyon Trail transitioned into Rhyolite Canyon Trail, and the views continued to be splendid. After a few more miles through beautiful scenery, we arrived back at our vehicles. Our incredible weekend of nature in the Chiricahuas was now complete.

We encourage all readers to take advantage of any bioblitz opportunities when they come around, including the 2018 CWPB, and always take time to get out and appreciate the beauty in nature!



The view from Rhyolite Trail in Chiricahua National Monument. Photo by Brian Blais.

By Kristi Confortin, Chair, Student Development Working Group

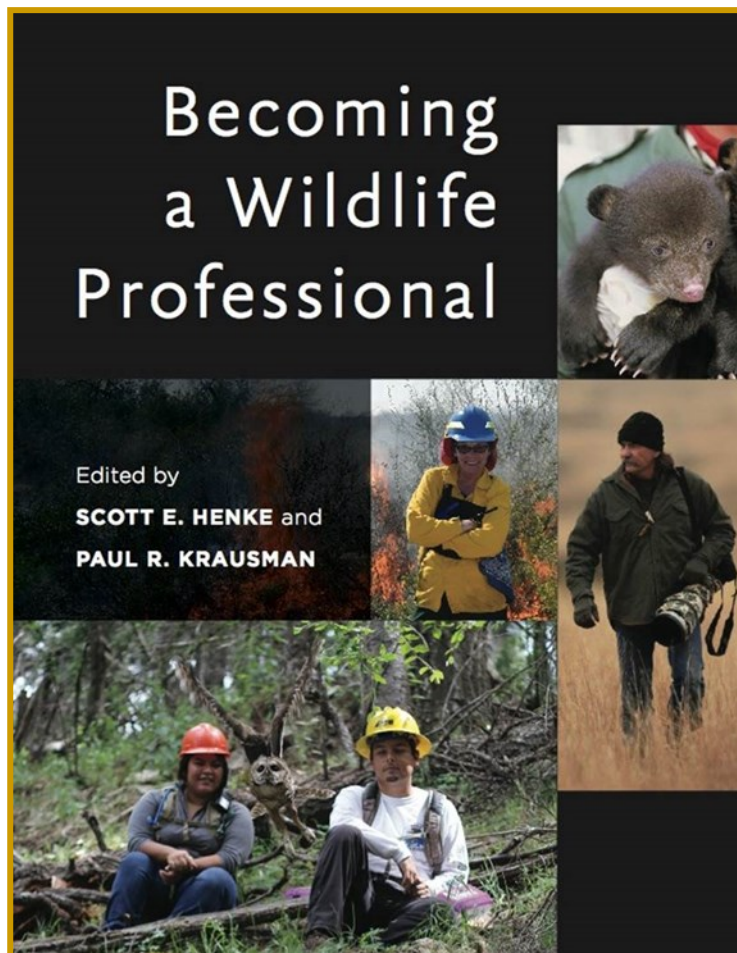
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If you have any questions about the Student Development Working Group, please contact Chair Kristi Confortin at kaconfortin@bsu.edu.

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