



# THE ARIZONA WILDLIFER

2015 Issue 4

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Fall Edition

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## The President's Message

It's hard to believe that we are already into fall – but it's true that temperatures are cooling down in Tucson. And this is the time of year that we begin looking for new faces to serve as officers for the Arizona Chapter of The Wildlife Society. Serving as an officer can be a very rewarding position and we are currently taking nominations for several Executive Board positions. Being an officer can be an excellent opportunity to network with fellow wildlifers, and to help our society by bringing your fresh new ideas to the board. If you or someone you know would like to get involved, please contact Scott Sprague at [SSprague@azgfd.gov](mailto:SSprague@azgfd.gov).



Also on the horizon will be the submission of abstracts for papers and posters for the AZ/NM Joint Annual Meeting in Flagstaff. Start thinking about what you want to present at the JAM, and if you are a student, make sure you get your abstracts submitted at the first call (which will be coming out in November 2015) so you can be considered for the student competition. Also at JAM registration in November, look for a good lineup of educational workshops and a thought provoking plenary session, so start planning now to attend the AZ/NM JAM, February 4-6, 2016 in Flagstaff.

As 2015 comes to a close, I reflect on what the challenges to wildlife management and conservation have been, and the word change comes to mind. Changes for wildlife – driven by manmade and natural forces. Changes in land use and development, changes in how we manage wildlife, changes to wildlife habitat. I would challenge you to strive for a better understanding of how changes (many of which are driven by human activities) are impacting our

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## Presidents Message cont...

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wildlife resources, and what role science can play in decisions involving land and wildlife resources. I also challenge you in the wildlife profession to adapt and stay relevant, in order to provide the best support for our resources. One of our upcoming workshops at the JAM in Flagstaff will be “New Technologies” such as: mobile apps for wildlife training and how can drone technology help you in wildlife management? Don’t miss this workshop for the latest in adapting to the latest new technologies for the changing times!

Enjoy the articles in this issue of the Newsletter and if you are interested in reading past issues, or in learning more about the Arizona Chapter, check out the ever improving website at <http://aztws.com>. Also, please consider submitting your interesting articles to the newsletter. And if you have suggestions regarding improving any aspect of the Arizona Chapter of The Wildlife Society, I welcome your comments and please email me at [culver@ag.arizona.edu](mailto:culver@ag.arizona.edu).

Melanie Culver  
AZTWS Chapter President

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Ring-necked Snake  
Photo by Brit Oleson

## Regional News:

### Highlights from SW Section Representative to TWS Council



By: Carol Chambers

This one’s about change, all of it great. Fall is on our doorstep, especially in northern Arizona where the temperatures are dropping to the 40s at night. We have some exciting changes coming to the Section with the election of Fidel Hernandez (TX) as the new Southwest Section Representative to TWS Council. I step down in October at the TWS annual meeting in Winnipeg and Fidel will be installed as the new Rep during the meeting. I’ve enjoyed serving the past 6 years and will look forward to continuing working with Women of Wildlife (WOW) and developing webinars for our Southwest Section series.

In more election news, John McDonald is the new Vice-president for TWS. John has served on Council for 6 years representing the Northeast Section. We thank Selma Glasscock (TX) who ran for TWS Vice-president and Kathy Granillo (NM) who ran for Southwest Section TWS Rep. We expect they will continue their many TWS contributions into the future.

We welcome two new student chapters. In Yuma, Arizona, Dr. Megan E. Lahti will serve as campus advisor for the Yuma Student Chapter of The Wildlife Society with support from wildlife biologist Lin Piest (Arizona Game and Fish Department). In Fort Worth, Texas, Dr. Victoria (Tory) V. Bennett will serve as campus advisor for the Texas Christian University Student Chapter of The Wildlife Society. These new chapters received interim status effective September 4, 2015. We congratulate both and ask that state chapters support these new student groups by providing hands-on field, lab, and classroom opportunities. TWS has partnered with Wildlife Services, and student chapters now have the opportunity to have a Wildlife Services professional speak during one of their meetings. Mariah Simmons ([msimmons@wildlife.org](mailto:msimmons@wildlife.org)) can provide a list of these representatives to student chapters on request.

More change – the Southwest Section has started a Webinar series. We are partnering with the Southwest Fire Science Consortium for our first webinar which

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## Regional News cont...

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will focus on wildfire effects on bats in the southwest (Sep 22). A list of upcoming webinars (*tentative are in italics*) includes:

September 22: Immediate Post-Wildfire Effects on Bats in the Southwest, led by Erin Saunders (AZ) & Carol Chambers (AZ)

October: *SW Section Geospatial Advisory Committee webinar, led by Leland Pierce (NM) & Ginny Seamster (NM)*

November: *Do's and don'ts of submitting your paper to be published, led by Janet Wallace (TX), WSB Managing Editor*

December 16: Impacts of Thinning and Burning in Spotted Owl Habitat, led by Quentin Hays (NM)

January: *How gizmos (PTTs, ICARUS program) change our understanding of habitat conservation, led by Dan Collins (NM)*

On the parent TWS front, there are also changes. Laura Bies has officially stepped down as Government Affairs and Partnerships (GAP) Director and now manages TWS's Leadership Institute. Keith Norris who was Assistant Director has been hired as the new GAP Director. Keith recently discussed hunting and poaching for a radio show. His interview focused primarily on the benefits that hunting has for North American wildlife conservation. GAP staff also partnered the Association of Fish & Wildlife Agencies (AFWA) and the American Fisheries Society (AFS) to draft a web page focused on providing scientific information to agencies administrators regarding the impacts of lead on fish and wildlife management. GAP staff provided much of the background information, researching articles and developing the layout of the document. In addition, GAP staff researched, wrote, and produced 7 news articles on the website related to wildlife policy and TWS activities:

- Horse and Burro Numbers Released in Tense Political Climate
- Congressional Efforts to Modify the Endangered Species Act
- Habitat Conservation and Sportsmen's Bill Introduced in House
- Efforts Renewed for Rare Cats and Canids Conservation Fund
- Land and Water Conservation Fund Expiration Nears
- Federal Court Overturns FWS's 30-year Eagle Take Rule
- Fish and Wildlife Service Expands Hunting and Fishing on Refuges

On the publishing front, we have changes in the positions for Editor-in-Chief (EIC) for the Journal of Wildlife Management (JWM) and Wildlife Society Bulletin (WSB). Paul Krausman takes over from Evelyn Merrill for JWM and David Haukos becomes EIC of WSB in January 2016 after Christine Ribic steps down. The Wildlife Professional (TWP) will be published as 6 issues per year in 2016 (up from 4). The first issue of 2016 marks the 10<sup>th</sup> anniversary of TWP and will feature a story on the next generation of wildlife biologists. You'll also see a change in the look of TWP in 2016.

On the financial front, TWS ended the fiscal year on a strong note, finishing the year within 0.04% of the projected expense budget and essentially doubling the operational surplus that was projected in the 2014-2015 budget. Net assets increased dramatically for the year, showing a 21% increase from July 2014 to the end of June 2015. Early indications thus far are that we are continuing the positive trends from last year.

We are still concerned about membership despite the small increase from 9,135 at the end of July to 9,303 at the end of August (+168). That result is an increase of 52 members (0.5%) compared to August 2014 when we had 9,251 members. Mariah Simmons has been working with the U.S. Forest Service on

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## Regional News cont...

(Continued from page 3)

the USFS/TWS Native American Professional Development Research Assistantship Program for 2016. The application period is now open through October 26, 2015.

The annual conference was in Winnipeg, Manitoba, Canada this year (October 17-21; <http://wildlife.org/2015conference/>). At the end of August, there were 976 attendees registered compared to 915 last year at the same time. As of late September, participants were registered from the U.S. (74%), Canada (24%), and international locations (2%). In addition, The Native Peoples Wildlife Management Working Group selected seven students for the Native American Student Travel Grants program. Funding provided to these students makes it possible for them to attend the Annual Conference. WOW will host a panel discussion (WOW! Women of Wildlife at Work) and mixer this year on Monday, October 19. This is the 4<sup>th</sup> year we have sponsored an event. Last year we did not offer a WOW event and were asked by so many women and men about the event that this year we're on again. This panel discussion is intended to build discussion and networking opportunities for women and men working in the wildlife profession. Panelists will address past, present, and future challenges and opportunities they experienced or expect to experience that affect career development. And then get ready for 2016. The annual conference for 2016 will be held in Raleigh North Carolina and **2017 is Albuquerque, September 23-27!** TWS is currently scouting sites for 2018.

For fun, check out these web articles from August, with lots of Facebook likes: *Using High-Res GPS to Study Thailand's Flying Foxes* (<http://wildlife.org/using-high-res-gps-to-study-thailands-flying-foxes/>) had over 1600 likes. It is based on a paper published in JWM. Closer to home, read *Recovery of Arizona Black-tailed Prairie Dog* (<http://wildlife.org/spa-day-aids-recovery-of-arizona-black-tailed-prairie-dog/>) and *Texas Chapter President provides testimony on CWD* (<http://wildlife.org/texas-chapter-president-provides-testimony-on-cwd/>), featuring President Roel Lopez.

The Wildlife Society Southwest Section Chapters Hub continues to steadily climb in 'likes.' We increased from 392 to 418 since June. Please visit the site at <https://www.facebook.com/pages/The-Wildlife-Society-Southwest-Section-Chapters-Hub/205755042835210>. The TWS Women of Wildlife (WOW) Facebook page (<https://www.facebook.com/pages/TWS-Women-of-Wildlife/234411723382592>) also continues to grow steadily. We hit 1000 and are now at 1134 likes, up from 1089 in June. You can also see lots of great features at the TWS Facebook page with currently over 34,000 likes.

Thanks again for your support of TWS and the Section over the years. Continue to be involved – we need your help at the student, state, and section level. Contact me at ([carol.chambers@nau.edu](mailto:carol.chambers@nau.edu)) or 928-523-0014 (office) with any comments or questions.

We need articles, stories and pictures for upcoming newsletters.

### *The Arizona Wildlifer Deadlines*

<u>Issue</u>	<u>Deadline</u>
<b>Winter 2016</b>	<b>Dec 11, 2015</b>
<b>Spring 2016</b>	<b>Mar 11, 2016</b>

Email submissions to: [aztwседitor@gmail.com](mailto:aztwседitor@gmail.com)

\* \* \* \* \* **Standing Invitation!** \* \* \* \* \*

Submit your valued co-workers and partners for one of our Chapter Awards (see criteria at <http://aztwсom>, then click on "Awards"). Let's recognize our finest! Submit your nominations to our President Elect, Scott Sprague ([ssprague@azgfd.gov](mailto:ssprague@azgfd.gov)).

Also: Please consider becoming active with the Chapter as an officer or board member. Again, contact Scott Sprague ([ssprague@azgfd.gov](mailto:ssprague@azgfd.gov)) to register your interest. We'd love to have you on our board!

# Our Neck of The Woods...

## Effects of Saltcedar Management on Riparian Herpetofauna along the Virgin River

By Kent Mosher, Arizona State University Student

Every summer, a biological control agent emerges from the ground in the northwest corner of Arizona. The Northern tamarisk beetle (*Diorhabda carinulata*) may be a minuscule 5 mm long, but its mission is monumental - control the nonnative saltcedar (*Tamarix* spp.) growing along the banks of the 162 mile-long Virgin River. Although it is a quiet battle (involving hungry beetles and larvae), the controversy over saltcedar and its control is a topic of vociferous debate.

Saltcedar was first introduced to the United States in the 19<sup>th</sup> century as an ornamental species and a solution to erosion issues in the American West. Now, almost 200 years later, it is the third most abundant riparian tree in the western United States. Human-induced changes in stream hydrology in conjunction with the plant's unique tolerances to drought and saline conditions have allowed it to thrive in new habitats as well as establish in areas that are no longer suitable for native trees. Despite this fact, saltcedar has become a scapegoat for water issues in the Southwest and is often vilified for imperiling riparian ecosystems.

Whether you believe saltcedar is pure evil or just a plant taking advantage of anthropogenic changes, numerous studies have shown that saltcedar can have negative effects on the environment. Saltcedar can form dense, monotypic stands, which have been linked to a decline in richness and diversity of native plants and wildlife species. These single-species stands offer little structural and habitat diversity, preventing a variety of plants and animals from persisting. To combat these changes, natural resources managers have invested millions of dollars to limit the spread of saltcedar. In 2006, the United States passed The Saltcedar and Russian Olive Control Demonstration Act to determine the extent of saltcedar establishment in the western United States and outline possible methods to manage it.

One location where natural resource managers have spent a considerable amount of time controlling saltcedar is the Virgin River. The Virgin River is located within the Mohave Desert. It begins north of Zion National Park in Utah,



Virgin River

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## Saltcedar Management cont...

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flows through the northwest corner of Arizona, and heads into Nevada where it empties into the Colorado River at Lake Mead. The turbid stream is lined with a vast riparian corridor consisting primarily of saltcedar, willow (*Salix* spp.), cottonwood (*Populus fremontii*), and mesquite (*Prosopis* spp.). Although there are several locations along the river in which saltcedar is mixed among native trees, a considerable portion of the riparian corridor consists of single-species stands of saltcedar.

To control saltcedar along the Virgin River, natural resource managers released the Northern tamarisk beetle into the area in 2006. Larval and adult Northern tamarisk beetles feed exclusively on the foliage of saltcedar, which causes defoliation of the plant. The overall hope is that after several defoliation events, the saltcedar will die as its carbohydrate reserves necessary for re-growth have become depleted due to lack of photosynthetic tissue.



Tamarisk beetle adult



Tamarisk beetle larva

In addition to introducing the Northern tamarisk beetle, Utah Division of Wildlife Resources began restoring riparian areas within St. George, Utah in 2011. These projects were focused on improving habitat for the Southwestern willow flycatcher (*Empidonax traillii extimus*) and involved cutting down 50% of saltcedar and Russian olive trees (*Elaeagnus agustifolio*) in riparian areas and redirecting irrigation/stormwater runoff into the site. In place of the removed trees, native willow and mesquite stems were transplanted.

In 2013, I accepted a graduate assistantship with Heather Bateman at Arizona State University to investigate the effects of riparian restoration in association with biological control along the Virgin River. Dr. Bateman had been working on the Virgin River since 2009, examining the effects of the biological control on native reptiles and amphibians (i.e., herpetofauna). During her studies, she found that lizard abundance dropped significantly as sites become hotter and dryer due to the defoliation of saltcedar by the Northern tamarisk beetle.

To investigate the effects of riparian restoration following biological control, we examined herpetofauna communities at 21 study sites along the Virgin River from St. George, Utah to Gold Butte in Clark County, Nevada during the summers of 2013 and 2014. Study sites were divided into four stand types based on density and percent cover of dominant woody trees and the presence of restoration activities: saltcedar-dominated, saltcedar-mesquite, saltcedar-cottonwood/willow, and restored saltcedar-cottonwood/willow. All sites had experienced several years of defoliation by the Northern tamarisk beetle.



Tiger whiptail



Coachwhip

We measured a variety of habitat variables using a combination of transects and plots at each site, including ground cover type, litter depth, amount and size of woody debris, woody tree and shrub cover/density, canopy cover, and visible light. Herpetofauna was monitored using Y-shaped trap arrays consisting of pitfall traps, funnel traps, and drift fences. Since restoration sites were restricted to St. George, Utah, we also conducted visual encounter surveys at restored and unrestored sites in Utah to avoid possible confounding effects.

During 2013 and 2014, we captured eight species of lizards (656 unique individuals), three species of snakes, and three species of amphibians at our 21 study sites along the Virgin River. Surprisingly, stand type dramatically influenced the diversity and abundance of herpetofauna. Not a single yellow-

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## Saltcedar Management cont...

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Yellow-backed spiny lizard

backed spiny lizard (*Sceloporus uniformis*) was found at a saltcedar-dominated site. Restored saltcedar-cottonwood/willow sites, however, had the highest abundances of yellow-backed spiny lizards, tiger whiptails (*Aspidoscelis tigris*), common side-blotched lizards (*Uta stansburiana*), and Woodhouse's toads (*Anaxyrus woodhousii*).

One explanation for high herpetofauna diversity and abundance at restored saltcedar-cottonwood/willow sites is that the unique combination of trees produces a habitat that allows for a diverse array of herpetofauna to thrive. Unlike saltcedar-dominated sites, which had high canopy cover and shade, restored saltcedar-cottonwood/willow sites exhibited intermediate levels of habitat characteristics compared to other stand types. Furthermore, some herpetofauna selected for specific habitat requirements. Yellow-backed spiny lizards were found to be associated with areas having high

densities of cottonwood/willow and larger diameter mesquites and avoided areas with high densities of small diameter saltcedar. Since spiny lizards primarily forage in large trees in riparian areas of the Southwest, saltcedar's shrub-like growth form may not provide suitable foraging habitat for this species.

Although restored saltcedar-cottonwood/willow sites had the highest herpetofauna diversity and abundances, they were not without their problems. Restoration activities caused increased soil disturbance and solar radiation at the sites resulting in a tremendous increase in the density of the non-woody plant, kochia (*Bassia scoparia*). Biological control also resulted in increased densities of arrowweed (*Pluchea sericea*), a native woody shrub, across all stand types. Some study sites saw a 2.5-fold increase in arrowweed densities. Active management may be necessary if these secondary succession species are negatively affecting establishment and growth of riparian trees and herpetofauna.

Overall, this study suggests that riparian restoration in sites affected by saltcedar biological control positively affects herpetofauna abundances. Since 2009, riparian canopy cover and reptile abundances have steadily decreased along the Virgin River due to defoliation of saltcedar by the Northern tamarisk beetle. Saltcedar biological control in conjunction with the lack of replacement by native woody trees has resulted in stands becoming hotter and dryer. Although increases in solar radiation and temperature in saltcedar stands would seem beneficial to ectothermic species, defoliation may decrease thermal variability and/or increase temperatures that exceed the thermal maximum of some lizard species. Therefore, biological control may actually be making riparian habitat less suitable for ectothermic wildlife along the Virgin River.

Even though biological control may decrease lizard abundance by altering riparian microclimate, it provides an ample opportunity to incorporate restoration activities to further reduce saltcedar densities and promote native tree growth. Restoration activities may help mitigate immediate negative effects caused by saltcedar biological control and re-create a community that supports a diverse array of wildlife and habitat. Decreased saltcedar density and canopy cover in conjunction with reintroduction of water flow into a site would likely benefit both translocated native woody species and their natural reproduction. In addition, mechanical removal of dead and/or defoliated saltcedar would also prevent further loss of native riparian habitat due to increase of fire.



Kingsnake



# Student Voice

## **AZTWS Continuing Education Grant Report: V<sup>th</sup> International Wildlife Management Congress**

**By Amanda Veals**

This past July, I attended the Vth International Wildlife Management Congress (IWMC), which was held in Sapporo, Japan. In collaboration with The Wildlife Society's national chapter, Japan's Society of Mammalogy hosted this conference. The IWMC is meant to bring a wide array of researchers in the wildlife field together; all aspects of our profession from academia to local management agencies were represented. The goal of this conference was to foster international collaboration for common global wildlife issues.

This conference provided me with the opportunity to gain an irreplaceable learning experience about global conservation issues. During the five-day conference, I attended many interesting talks on wildlife conservation and management. I particularly enjoyed talks about sample design for camera traps, occupancy modeling, and presence/absence data. These are all topics directly related to my graduate thesis. It was interesting to see how similar concepts to those I am using are being applied to a broad range of taxa to answer questions very similar to my own. Spatial ecology was another broad topic that was discussed in length during IWMC, showing that despite our diverse backgrounds, biologists from around the globe can benefit from collaboration and idea sharing to answer global issues of wildlife management and conservation.

The IWMC also served as a great event that brought together students and professionals from across the globe. This event was an opportunity for me to meet and collaborate with my fellow graduate students from many different countries, including the host country, Japan. I have been working with the Student Development Working Group (SDWG) of TWS for about a year now. My involvement with SDWG has been as their newsletter chair and assistant international liaison. With the help of our Chair and the students of the IWMC planning committee, we were able to put together a student mixer for all the students in attendance. By attending IWMC this past July, I was fortunate enough to participate in international collaboration efforts with other students, but collaboration does not end once the conference is over, it is just the beginning. SDWG has forged a strong bond with the students of IWMC and we have plans to continue our collaboration. We will be working together on a letter for our bi-annual newsletter on the importance of international collaboration to spread the fundamental message of IWMC: wildlife management and conservation is a global effort.

## **AZTWS Continuing Education Grant Report: V<sup>th</sup> International Wildlife Management Congress**

**By Melissa Merrick**

Thanks to generous funds from the Arizona Chapter of The Wildlife Society's Continuing Education Grant, I was able to attend the Vth International Wildlife Management Congress (IWMC), jointly hosted by The Wildlife Society and the Mammal Society of Japan, July 26-30 in Sapporo, Japan. The convening of the congress in 2015 marked the first time the IWMC has met in Asia, and with an attendance of over 800 delegates from around the world, it was the best attended, and most diverse International Wildlife Management Congress yet. Attending this conference was an amazing experience

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## Student Voice, cont...

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personally and professionally as I learned about new and exciting international wildlife research, techniques, and management policies, worked with and learned from an amazing group of presenters and symposium co-organizers, and left with many new friends and colleagues.

The Congress opened with a plenary session on human-wildlife conflict and resolution, with examples from speakers from around the world. This plenary really set the stage for the remainder of the congress, reminding us that the issues and challenges we face in wildlife conservation and management are a communality among us, and often what we think of as local issues are really global issues. Following the opening plenary, the Congress hosted a fantastic welcome reception with traditional Ainu (the native peoples of Hokkaido) drummers, and a generous sampling of local fare including Sika deer (*Cervus nippon*) sausages and salami, fresh vegetables, saki, shochu, and beer. Here I had my first opportunity to meet new people, connect faces to names, and reconnect with many others.

I attended many symposia and contributed papers from diverse topics including road ecology, pangolins, invasive species management, lagomorph conservation, Cuban solenodon conservation, and brown bear management around the world. One of the most interesting symposia for me was titled "Wildlife Conservation and Management in Shiretoko National Park: Sharing Experience and Knowledge with Yellowstone, Sikhote-Alin, and Shiretoko". This symposium clarified for me some of the similarities and differences in approaches to wildlife management within National Parks. Particularly how national parks in Japan, such as Shiretoko, are zoned with varying levels of human activity, dwelling, and extraction allowed within different zones of the park. I had the opportunity to visit several national parks in Hokkaido, including Shiretoko, following the IWMC and saw these management techniques in practice.

I was fortunate to have the experience of co-organizing an international symposium on how to gain international experience and develop international collaborative research with colleagues Jonathan Derbridge and Dr. Hsiang Ling Chen. Our symposium was sponsored by the TWS International Wildlife Management Working Group, with a stellar line up of speakers that so kindly agreed to participate including TWS president Dr. Rick Baydack from the University of Manitoba, TWS fellow Dr. John Koprowski from the University of Arizona, Dr. Martha Desmond from New Mexico State University, Dr.



IWMC Welcome Reception



Brown bear cubs in Shiretoko National Park

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## Student Voice, cont...

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Japanese red-crowned cranes

Tatsuo Oshida from Obihiro University of Agriculture and Veterinary Medicine, Walt Anderson, professor at Prescott College, along with individual experiences from students and past-students who have successfully fulfilled their goal of obtaining a wildlife degree abroad, and initiating international collaboration including two PhD students from Japan (Tatsuki Shimamoto and Masahiro Ohnishi) and a Postdoctoral researcher from Taiwan (Dr. Hsiang Ling Chen). Happily, our symposium was very well attended and generated much discussion at the end - so much so that we were kicked out of the room by the convention center staff. Discussion spilled into the halls and on to dinner, a good sign of success! The theme of gaining research experience abroad and facilitating international collaborative research flowed nicely into the meeting of the TWS Inter-

national Wildlife Management Working Group later in the conference, which filled the room to maximum capacity. The IWMC was a perfect venue to hold the IWM Working Group meeting and generated a list of new, interested members and contact information that was shared among us. We discussed the location of the next IWMC and how the TWS IWMWG can be involved. Further fostering the theme of international collaboration, I attended a student mixer and other social events hosted by Japanese graduate students from Obihiro University, Hokkaido University, and Michigan State University, and the TWS Student Development Working Group. These meet ups were also a resounding success as it was easy to meet new people and talk about research, despite language barriers. I am grateful to have met so many new friends that I now consider future colleagues.

On the last day of the IWMC, I presented a portion of my PhD dissertation research on modeling landscape connectivity for forest obligate small mammals during a diverse and well-attended contributed paper session on small mammal ecology. While it was intimidating to present my research following very well known ecologists, and several others in attendance in the audience, overall it went well and my presentation was well received. I had many thought-provoking questions from the audience and also received valuable feedback and new ideas to take back with me and try out.

After a few weeks to digest the full experience of the IWMC and Japan in general, I am left feeling positive and energized. Positive about my abilities to participate in meaningful collaborative international research on wildlife ecology issues now and in the future, and energized by the many new ideas, organisms, and methods to which I have been exposed. Further I am energized knowing I am part of global community dedicated to conserving wildlife and biodiversity. The more we are able to work together, the more likely we are to develop effective solutions to the conservation challenges wildlife currently face. Thank you again for the opportunity to participate in this life-changing experience.



Juvenile Siberian flying squirrel, Obihiro University

## Student Voice, cont...

### ASU Wildlife and Restoration Student Association Report

By Jessica Latzko

I am happy to report that the Wildlife and Restoration Student Association (WRSA) is starting off the fall semester with a bang. A few students are planning to attend a trip to the South Rim of the Grand Canyon in mid September to assist the Sierra Club with a wildlife photo essay. Progress is being made in collecting photo submissions for the 2016 wildlife calendars. Headway on the establishment of a native fish pond on our Polytechnic campus has been slow but moving forward, and various fundraising opportunities are underway to send students to the JAM and the Society for Range Management conference. By November, I hope to bring in a network of professionals to assist with mock interviews and resume building.

We have been fortunate to already have volunteer opportunities, seminars, and field trips available to us so early in the semester. This coming year, I'm looking forward to the black-footed ferret spotlighting in Seligman, prairie dog trapping at Las Cienegas, and squirrel trapping near Flagstaff, just to name a few. These are all opportunities that WRSA members have participated in in the past and have offered a lot of hands-on experience with the animals.

As president of WRSA, one of my goals is to continue to provide numerous volunteer opportunities, with a variety of agencies, to diversify the group. I believe it is beneficial to work with many different agencies and organizations to find out where you fit and what direction you would like to take your career. It is also a great way to network and get involved with the natural resources community, which is very important for any young professional. My second goal is to collaborate with other student chapters of TWS to expand opportunities, share knowledge, and build relationships that could carry on into our careers. I would like to see the establishment of a JAM team-building exercise that helps different student chapters get to know each other. This would help form bonds and possible partnerships between all of the chapters, which could only benefit us as students.

As WRSA president, I want to again welcome everyone to campus. We are ready for another great year, filled with opportunities for wildlife and range students.

### Roger Bumstead Lifetime Achievement Award Given to Reed Sanderson

Reed Sanderson was awarded the Southwest Section's Roger Bumstead Lifetime Achievement Award at the Joint Annual Meeting in Albuquerque on February 6, 2015. His long-term commitment to conservation was seen through his long, outstanding career and continues to be seen as he continues to support The Wildlife Society and conservation efforts giving freely of his time, energy and money. He serves as a role model and mentor for college students, young and not so young professionals alike, and can be found sharing sage advice and promoting others selflessly at Wildlife Society meetings at every level. Reed Sanderson has always answered the call for help with a resounding "Yes, what can I do" regardless of the issue or the needs of The Wildlife Society.

#### The Southwest Section's **Roger Bumstead Lifetime Achievement Award**

To be awarded to a **SOUTHWEST SECTION OF THE WILDLIFE SOCIETY** member:

- Who is/was a natural resource professional
- Who has committed their time and their career to conservation
- Who serves as a role model for ALL professionals
- Who has had a long term commitment to The Wildlife Society and The Southwest Section of The Wildlife Society





## Service Proposes to List the Headwater Chub and Roundtail Chub as Threatened Under the Endangered Species Act

### U.S. Fish and Wildlife Service News Release

The U.S. Fish and Wildlife Service (Service) is proposing to list two minnows, the headwater chub and a distinct population segment (DPS) of the roundtail chub in the Lower Colorado River Basin (Arizona and New Mexico), as threatened species under the Endangered Species Act (ESA).

The Service's species status assessment (SSA) documents the results of a comprehensive review for both the headwater chub and roundtail chub DPS to inform the proposed listing decision under the ESA and to inform future conservation efforts. The SSA thoroughly describes the viability of the headwater and roundtail chubs based on the best scientific and commercial data available. Results from the review indicate the headwater chub and the Lower Colorado River Basin DPS of the roundtail chub could be in danger of extinction in the foreseeable future and meet the definition of a threatened species under the ESA.

Threats to these species are primarily predation by non-native fishes and habitat destruction due to dewatering, impoundment construction and channelization, as well as the effects of mining, livestock overgrazing, roads, water pollution, urban and suburban development, groundwater pumping and climate change.

"Water is obviously a scarce resource in the desert southwest, and virtually all climate models predict hotter and drier times ahead," said Steve Spangle, Field Supervisor for the Service's Ecological Services Office in Arizona. "When you add these stressors and non-native predators to the equation, the outlook isn't good for many native fish. But it's our hope we can work closely with partner agencies such as the Arizona Game and Fish Department to prevent further declines and eventually recover these species."

The Southwest's unique headwater streams and the native fish they support are a source of local identity and a critical component of the region's economy. They provide sustainable water for desert communities, agriculture and businesses, as well as for recreational fishing. To protect these important resources and the imperiled chubs, the Service has been working closely with Arizona Game and Fish Department, New Mexico Department of Game and Fish to prevent further declines of these species.

The headwater chub (*Gila nigra*) grows to about eight inches in length, is dark gray to brown with silvery sides, and lives in the upper and middle reaches of moderately sized streams. Headwater chub historically occur in a number of tributaries of the Verde River, most of the Tonto Creek drainage, much of the San Carlos River drainage, and parts of the upper Gila River in New Mexico. Today, they occur in the same drainages, but have a smaller distribution.

The nine- to 14-inch roundtail chub (*Gila robusta*, also known as the Verde trout) is an olive-gray to silver minnow with a lighter belly. The species was historically considered common in deep pools and eddies of large streams throughout its range in the Upper and Lower Colorado River basins in Wyoming, Utah, Colorado, New Mexico and Arizona. Today the roundtail chub occupies about 18 percent of its historical range in the Lower Colorado River Basin and is limited to Arizona's Little Colorado, Bill Williams, Salt, San Carlos and Verde River drainages, Eagle and Aravaipa creeks, and New

(Continued on page 13)

## Headwater Chub and Roundtail Chub Proposed Threatened, cont...

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Mexico's upper Gila River.

Members of the public, agencies, and the scientific community are encouraged to review and comment on the proposed rule during the 60-day public comment period. We are seeking comments regarding the potential critical habitat designation for these species. We are also requesting information as to which prohibitions and exceptions to those prohibitions, are necessary and advisable for the conservation of the headwater chub and the Lower Colorado River Basin DPS of the roundtail chub.

The Service is also working with partners to create a special rule under section 4(d) of the ESA that would tailor prohibitions of the Act to those that are necessary and advisable for the conservation of the species. The rule would cover roundtail chub that reside in agricultural and urban canals or fishable waters, and would exempt operational and maintenance activities on state, private and tribal lands and waterways (including canals, stock tanks, etc.) from the requirement to obtain a permit in cases where an otherwise lawful activity incidentally harasses, harms, or kills one of the fish.

Written comments and information concerning the proposed listing will be accepted until December 7, 2015. Comments and/or information may be submitted by one of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>  
Submit comments on the listing proposal to Docket No. FWS-R2-ES-2015-0148; or
- By hard copy: U.S. mail or hand-delivery:  
Division of Policy, Performance, and Management Programs  
U.S. Fish and Wildlife Service;  
5275 Leesburg Pike MS: BPHC  
Falls Church, VA 22041-3803

More information on this proposed action and how to provide comments is available online at: [www.fws.gov/southwest/es/arizona](http://www.fws.gov/southwest/es/arizona)

You may also contact Steve Spangle, Field Supervisor, Arizona Ecological Services Field Office, 2321 West Royal Palm Road, Suite 103, Phoenix, AZ 85021; telephone 602-242-0210. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339.

## **Sonoran Desert Tortoise Does Not Warrant Endangered Species Protection** **U.S. Fish and Wildlife Service News Release**

After reviewing the best available scientific and commercial information, the U.S. Fish and Wildlife Service (Service) finds that the Sonoran desert tortoise does not face the threat of extinction and will be removed from the Endangered Species Act (ESA) candidate list. The finding is due in part to long-term commitments to continued proactive efforts between federal agencies and Arizona Game and Fish Department, in identifying and addressing the primary threats to the tortoise. The Service utilized a robust scientific analysis of the desert tortoise status and current and future threats and concluded it does not face extinction now or in the foreseeable future.

*(Continued on page 14)*

## Sonoran Desert Tortoise Listing Not Warranted, cont...

*(Continued from page 13)*

“This is yet another example of the power of the ESA in inspiring successful collaborations between states, landowners and federal agencies on behalf of America’s most imperiled wildlife,” said FWS director Dan Ashe. “When you combine this with other recent efforts culminating in not-warranted findings, such as the New England cottontail, greater sage-grouse and others, it is clear that the ESA is accomplishing its intended purpose in a flexible and collaborative way.”

Organizations coming together to protect the tortoise include the state of Arizona (the only U.S. state in the species’ range), Bureau of Land Management, Department of Defense, and National Park Service. Together, stakeholders protect an estimated 73% of potential habitat for the tortoise, with 55% of that protected by interagency agreements committing federal land managers to continuing conservation efforts.

“Our [Species Status Assessment](#), a tool we did not have previously, showed that our federal land-management partners have been managing this species for more than 30 years, and doing it well,” said Steve Spangle, Arizona field supervisor for the Service. “With this track record, we are confident that the tortoise will continue to thrive. When we can conserve species without listing under the ESA, everybody wins, including the tortoise.”

In evaluating the status of the Sonoran desert tortoise, the Service collaborated with experts from public and private sectors to complete a comprehensive status assessment that included advanced geospatial and population viability modeling and forecasting of the current and future threats to the tortoise. The review identified six primary threats: 1) altered plant communities; 2) altered fire regimes; 3) habitat conversion of native vegetation to developed landscapes (for agriculture, residential, etcetera); 4) habitat fragmentation; 5) human-tortoise interactions; and 6) climate change. Varying combinations of the severity of these threats were projected over the next 100 years and evaluated.



Credit: Jeff Servoss

In 2010 the Service determined that listing the tortoise was warranted. However, the more in-depth the status review employed today showed that there are presently 470,000 to 970,000 adult desert tortoises rangewide on approximately 38,000 square miles (24 million acres, 9.8 million hectares) of potential tortoise habitat (64% in the U.S. and 36% in Mexico). The tortoise has not experienced any significant reduction in its overall range and past population losses are presumed to be limited to urbanization in historical tortoise habitat. Of Arizona’s 1,279 square miles currently designated as urban, not more than five percent was potential tortoise habitat.

The Sonoran desert tortoise will continue to receive state protections as a “Species of Greatest Conservation Need” by the state of Arizona, and is listed under the Mexican equivalent to the Endangered Species Act as threatened. The collection of wild Sonoran desert tortoises in the United States remains prohibited.

The Sonoran desert tortoise occupies portions of western, northwestern, and southern Arizona in the United States, and the northern two-thirds of the Mexican state of Sonora. The species is most often associated with rocky, steep slopes and bajadas (a broad slope extending from the base of a mountain

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## Sonoran Desert Tortoise Listing Not Warranted, cont...

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range out into a basin) in both Mojave and Sonoran Desert scrub habitat. Records also indicate Sonoran Desert tortoises in Madrean evergreen woodland, semi-desert grassland, interior chaparral, plains of Sonora, and Sinaloan thornscrub communities of Arizona. The Sonoran desert tortoise is now recognized as a distinct species from the Mojave desert tortoise, which has been listed under the ESA as threatened since 1989.

Today's finding, the Species Status Assessment, Candidate Conservation Agreements, images, and other information about the desert tortoise are available at <http://www.fws.gov/southwest/es/arizona/>. Information regarding the status and conservation of, and any potential threat to, the Sonoran desert tortoise should be submitted by mail to Field Supervisor, Arizona Ecological Services Office, 2321 West Royal Palm Road, Suite 103, Phoenix, AZ 85021-4951

America's fish, wildlife and plant resources belong to all of us, and ensuring the health of imperiled or at-risk species is a shared responsibility. We're working to actively engage conservation partners and the public in the search for improved and innovative ways to conserve and recover imperiled species, as well as keep common species, common. To learn more about the Endangered Species program, go to <http://www.fws.gov/angered/>.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit [www.fws.gov](http://www.fws.gov).

## International Dark-Sky Association Annual General Meeting

The University of Arizona's School of Natural Resources and the Environment, Arizona State University's Global Institute of Sustainability, Northern Arizona University's College of Engineering, Forestry and Natural Resources, the Arizona Game and Fish Department, and the Arizona Chapter of The Wildlife Society have partnered and are co-sponsoring the International Dark-Sky Association's Annual General Meeting to be held in Scottsdale, AZ, November 14-15. The 2-day conference will focus on "Impacts of Artificial Night Lighting to Fish and Wildlife Resources and the Mitigating Role of Emerging Lighting Technologies." This event should be of interest to anyone concerned about light pollution, but it's also particularly relevant for local, state and federal agencies, science faculty and students, and others whose work involves natural resources and fish and wildlife conservation.

As you will see from the program (link below), the meeting will bring together a wide variety of experts and authorities – including scientists from the U.K. and Australia – on this important and timely subject. We hope you will take advantage of this unique opportunity to learn more about the ecological impacts of light pollution, and to meet and interact with some of the world's leading authorities on the subject.

For more information on the program, please visit:

<http://darksky.org/ida-26th-annual-general-meeting-program/>

For information on how to register for the meeting, please visit:

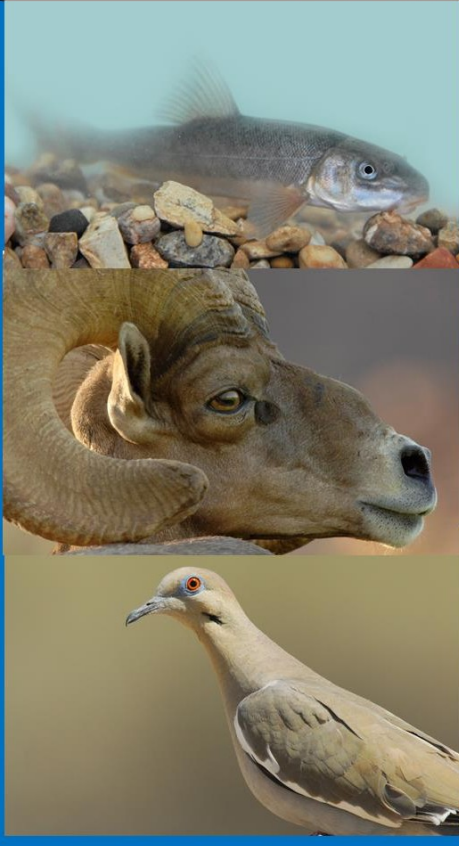
<http://darksky.org/annual-general-meeting-2015/>



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Call For Papers and Online Registration available Nov 22 at [www.aztws.com](http://www.aztws.com)

For more information email Melanie Culver at  
[mculver@email.arizona.edu](mailto:mculver@email.arizona.edu)

## AZTWS Continuing Education Grants

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 <http://aztws.com>, or may be obtained from the Chairman of the Continuing Education Committee, Mike Sorum ([hossdoc007@yahoo.com](mailto:hossdoc007@yahoo.com)).