DESERT TORTOISE COUNCIL
NEWSLETTER

Inside this issue:

Biologist's Work, Desert Tortoise, an Exciting Adventure

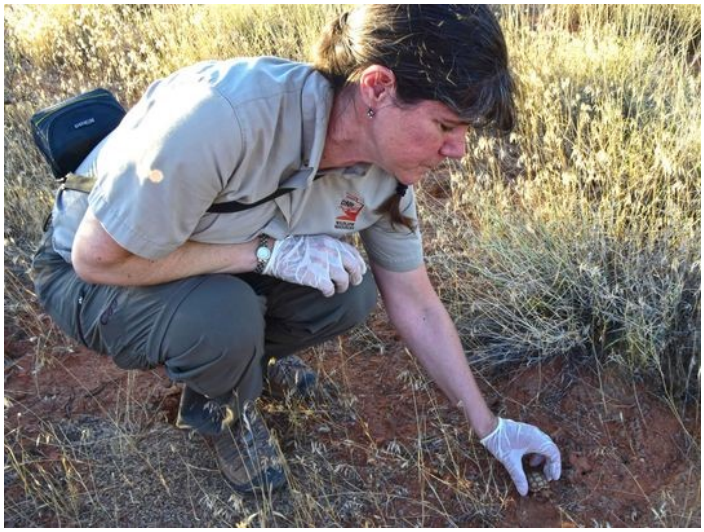
By Rachel T. Carnahan, BLM Public Affairs Specialist

On any given day, wildlife biologist Ann McLuckie's work at the Utah Division of Wildlife Resources requires her to execute an exciting variety of tasks—which is precisely what she loves most about her job. Whether it's rescuing animals and creating maps or collecting field data, analyzing the data and writing reports on those findings to help manage wildlife in complex urban areas—McLuckie enjoys meeting a host of new challenges every day.

McLuckie's interest in wildlife biology started at an early age. "I was always interested in animals," she said. As an elementary student she was president of the Ranger Rick Club where she recruited the support of friends and classmates. McLuckie later graduated with a biology degree and worked in several wildlife positions before volunteering to work with tortoises in St. George. "I did other jobs with other species but I always came back to tortoises," she said. "I loved it."

After 20 years of service as a wildlife biologist with the division, her favorite assignment continues to be working in the field helping tortoises.

On a warm summer night this September, McLuckie allowed me to join her as she worked with a small number of these fragile, threatened creatures. Tiny desert tortoise hatchlings had been discovered by Washington County residents on private developments and as part of her job, McLuckie's role is to help translocate (or move tortoise from development areas to new locations) in the Red Cliffs Desert Reserve.



Wildlife biologist Ann McLuckie with the Utah Division of Wildlife Resource translocates a threatened desert tortoise hatchling to the Red Cliffs Desert Reserve. Wildlife biologists like McLuckie enjoy completing a host of challenging tasks from collecting and analyzing data that helps guide resource management decisions to field work such as rescuing wildlife. Photo: Rachel T Carnahan/BLM Arizona Strip

An agreement between the county and the U.S. Fish and Wildlife Service, called the Habitat Conservation Plan (HCP) was set in place in 1995. The HCP does allow for some

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Letter from the Editor

Included in this short-but-sweet issue of the Desert Tortoise Council Newsletter is a nice article about one of our DTC members (Ann McLuckie), a preview of the upcoming 2017 Symposium, and a recently breaking story about the rescue of a Morafka's desert tortoise from a mine shaft by Arizona Game & Fish Department. We also feature bios for two of our Board of Directors members—Dr. Scott Abella and Jason Jones—who will be vacating the Board in 2017. We thank them for their service on the DTC Board, and wish them all the best!

Also included in this issue are announcements for a future health assessment training workshop, our basic techniques workshop, an upcoming agency coordination meeting, and upcoming scientific meetings in 2017.

Enjoy!

Michael Tuma
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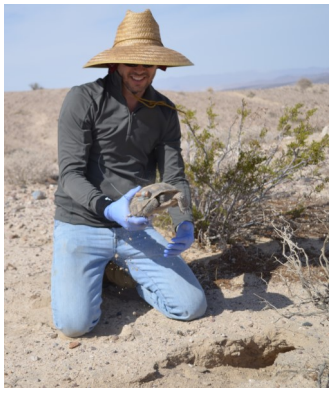

Photo by Heather Parks

The Desert Tortoise Council's 42nd Annual Symposium Las Vegas, Nevada February 24 – 26, 2017

Symposium Program

The 42nd annual symposium of the Desert Tortoise Council is fast approaching and the program has now taken form. We have several sessions on the schedule, including: 1) Renewable Energy Development and Tortoise Translocations (7 papers), chaired by Amy Fesnock; 2) a Saturday session on the latest research on deer in the arid Southwest (13 papers), chaired by Vernon Bleich; 3) a session on the Sonoran desert tortoise (4 papers), chaired by Cristina Jones; and 4) a session titled "Evolution of *Gopherus* tortoises: Past, Present, and Future" (3 papers), chaired by Michael Tuma. In addition, there are several other sessions on a wide variety of topics.

The Renewable Energy and Translocation session features papers on survival of translocated tortoises in Ivanpah Valley (Brett Dickson and Rick Scherer), benefits of roadside mitigation fencing (Brian Todd and team), connectivity of tortoise populations (Ken Nussear and team), lessons from solar development in the Mojave Desert (Chris Blandford and Danna Hinderle), the BLM's role in conservation of the tortoise (Mark Massar), and how to navigate difficult situations on projects (Kathy Simon).

The Saturday morning session of invited speakers on desert deer offers experts from colleges, universities, and agencies across the West, including Terry Bowyer, Vern Bleich, James Cain, Cynthia Downs, James Heffelfinger, David Hewitt, Paul Krausman, Kevin Monteith, Steven Rosenstock, Justin Shannon, Kelley Stewart, Brian Wakeling, and Peregrine Wolff. Topics are focused on the arid Southwest where deer and tortoises co-occur and cover taxonomy, sexual segregation, density dependence, diseases, conservation, behavioral and physiological adaptations, survey methods and harvest allocation for both mule and white-tailed deer, and interactions between bucks, does, jacks, and jennies in the Sonoran Desert. We couldn't ask for a better collection of papers to become acquainted with other herbivores in tortoise habitats.

Cristina Jones' session features an update from Kenro Kusumi and Marc Tollis on the *Gopherus agassizii* genome and subsequent evolutionary analysis directed towards a genome for the Sonoran Desert Tortoise. Tim Webster and team will give a paper on genomic evidence for local adaptations in *G. agassizii* and *G. morafkai*. We will also hear about movements and crossings projects associated with Sonoran desert tortoise habitat and ongoing efforts to monitor Sonoran tortoise populations.

The session on evolution of *Gopherus* includes presentations Michael Tuma, Dennis Bramble, and J.H. Hutchinson. They draw on genetic, fossil, and morphological evidence to track the evolution of *Gopherus* tortoises and their gopherine relatives. Attendees will come away with an appreciation of the diversity of extinct and extant *Gopherus* tortoises, the latest application of phylogenetic, paleontological, and other techniques in describing their diversity, and the implications for conservation of extant *Gopherus* tortoises.

We have additional papers on such topics as health and disease (speakers include Mary Brown, Alexandra Burne, and Kristina Drake, 3 separate papers), Student Papers from Sara Valenzuela on the bolson tortoise and Alice Karl on survey results of the new reserve for the Thornscrub tortoise. The Conservation session offers reports on the newly formed Coalition for a Balanced Environment (raven management) with Larry LaPré, and papers by the Desert Tortoise Preserve Committee, Center for Biological Diversity, and students from the BREN Institute at UC Santa Barbara. Please join us for a very stimulating meeting to hear these and other papers.

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DTC's 42nd Annual Symposium (continued)

Symposium Raffle/Auction

A raffle/auction is held at the Annual Symposium as a fund-raiser so the Council can continue to expand its conservation efforts for the tortoise. If you are attending the Symposium or if you just have an interest in being part of the effort to conserve this amazing reptile and would like to donate a tax deductible item for the raffle/auction, check out the Announcements section on the Symposium website. The Council sincerely thanks you for your support.

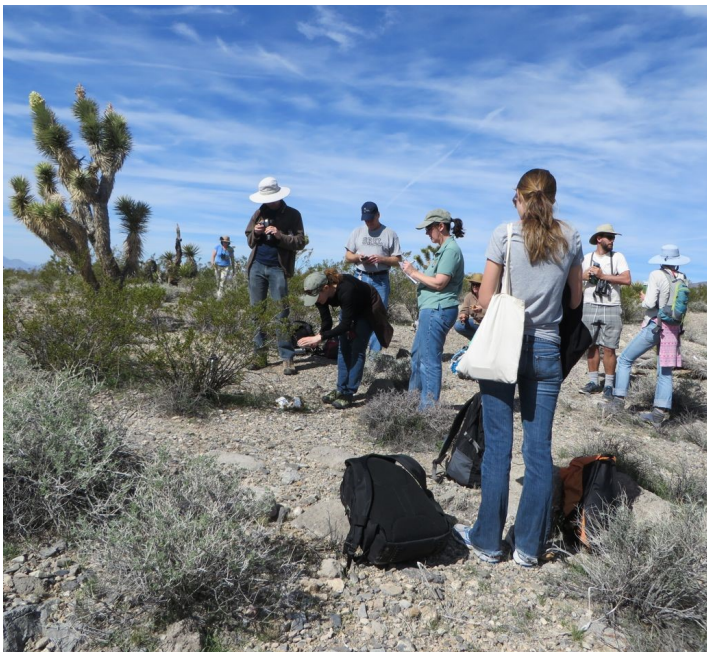
Symposium Sponsorships

We would like to take this opportunity to invite you to consider sponsoring the Annual Symposium. This one-time donation will go directly to defraying the costs of the Symposium. Depending upon the sponsorship level, sponsors will be acknowledged in the Symposium program, at the podium and on the screen during the Symposium and the banquet, on posters at various locations throughout the Symposium venue, and in an upcoming newsletter. Information on sponsoring the Annual Symposium can be found in the Announcements section of the Symposium website.

Symposium Photo Contest

The Desert Tortoise Council sponsors the annual Photo Contest at the Annual Symposium to honor and encourage our members to participate in educating the public through photography. This is an opportunity for the participants to show off their photographic skills in the following categories:

1. Wild Desert Tortoises
2. Captive (Pet) Desert Tortoises
3. Other Desert Reptiles
4. Desert Mammals
5. Other Desert Wildlife
6. Wild Desert Plants
7. Desert Scenes
8. Tortoise Conservation



2015 Symposium field trip. Photo: Bruce Palmer

The details about entering photographs in the contest can be found on the Symposium Photo Contest site.

Symposium Details

The venue for the 2017 Annual Symposium is:

Sam's Town Hotel and Gambling Hall

5111 Boulder Highway

Las Vegas, Nevada 89122

Complete information on the hotel accommodations and registration are posted on the Desert Tortoise Council's website.

Registration for the 2017 Symposium is now open through our Wild Apricot registration website.

Please take advantage of early-bird registration rates. If your registration is processed online after 19 January, rates are higher. Please remember that renewing your membership is a separate action from registering for the symposium. To receive the member registration rate, you will need to renew your membership first and then submit your registration for the symposium.

Field Trip to Piute Valley & Nearby Tortoise Populations

Join Dr. Kristina Drake (Biologist) and Dr. Todd Esque (Research Ecologist) with the Western Ecological Research Center, U.S. Geological Survey on a tour of Piute Valley, located near Searchlight, NV. Piute Valley is one of many sites where the USGS has been conducting research on the ecology, health, and habitats of desert tortoises. If time permits, we will also make stops in Ivanpah Valley near several of the solar energy installations to discuss research and projects in these areas. We plan on making a couple of stops around Jean where the USGS has several ongoing projects and walking for an hour or two at each site. There will be much time for a collegial discussion of the goals and objectives of these projects as well as general discussions on the ecology and status of these areas.

We will meet in front of the Symposium Meeting Room (Ponderosa Room) in Sam's Town on February 23, 2017, at 7:30 AM. Bring water, lunch, and good walking shoes. It may be cold and windy so please bring warm clothes. Plan on a return of 4:30 to 5 PM. Please contact Peter Woodman at Kiva-bio@aol.com for any questions and to register for the trip. When you register please let Peter know if you can drive and number of passengers you can take so he can set up car pools.

DESERT TORTOISE COUNCIL SINCE 1975

CONSERVING DESERT TORTOISES AND THEIR HABITATS

Biologist's Work (continued)

development in tortoise habitat but it requires that biologists walk development areas to conduct a clearance survey. In exchange, the county agreed to protect areas for tortoise habitat in the reserve in perpetuity. When threatened desert tortoises are found in development areas biologists assist in the agreement. "Then we move the tortoises out of harms' way to translocation sites in the reserve," said McLuckie.

Washington County resident Claudia Miller who lives near Mall Drive in St. George found two hatchlings this fall—one on the front door step and another under a bush. "Our dog was over there investigating and we discovered that it was a tortoise," Miller said with a laugh, noting what a thrill the discoveries were. "I've never seen one—we've lived here about 12 years and we've never seen one, so I was excited to find the first one and again to find the second one."

Miller thought the animals must be desert tortoises and called a friend who works in the biology program for the state parks. Her friend suggested that Miller bring the hatchling into their offices. When Miller brought the hatchling to the biologists, she was assured that a vet would check the hatchlings over and make sure they were in good shape and that the tortoise would be well fed and hydrated before being translocated to the reserve.

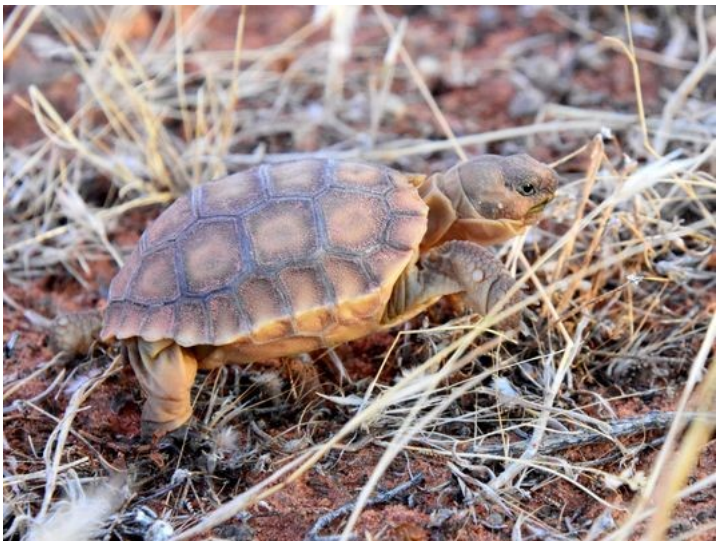
"They were cute," Miller said adding that she and her husband were tickled to be able to see the tortoise and to be able to rescue them. "Any endangered species I think it's worth trying to preserve," she said.

Specialists attribute the recent findings of hatchlings by residents to the plentiful moisture the area has received from monsoon rains. Females lay eggs from March to June, McLuckie said, and specialists have observed an increase in activity among tortoise after monsoon rains for the past several years. "It seems like when you have really good rains the hatchlings have a better chance of success as far as successfully emerging from their eggs and coming to the surface through the sand," said McLuckie.

Even so, only five percent of hatchlings born in the wild make it to adulthood due to a high mortality rate among the species. "They might get hit by a car, taken by people as pets, eaten by coyotes or road runners, a swarm of ants can take them, or if it's really dry, from lack of food," said McLuckie. "They're just really vulnerable and fragile."

Adult desert tortoise can also get an upper respiratory tract disease—like pneumonia—which specialist try to help manage among the populations. Because females don't transfer the disease to offspring, the hatchlings are disease free. So specialists can translocate the healthy babies to a new place and give them a new start. "Translocation is a great opportunity for biologists to be able to help bolster populations with native tortoise," McLuckie said.

Habitat plays a vital role in the ability of desert tortoise populations to be able to take hold and thrive. Desert tortoise can always be found within a stone's throw of creosote because the climate where creosote is found also tends to be ideal for tortoise as well. In addition, the creosote's root system stabilizes tortoise dens and provides shade.



A desert tortoise hatchling is released in September 2016 in the Red Cliffs Desert Reserve. The Reserve provides an environment that increases the tortoise's chance of survival. Photo: Rachel T Carnahan/BLM Arizona Strip

Desert tortoise like all kinds of vegetation from grasses and forbs to desert flowers including globe mallow, penstemon, four o'clock, protein rich stork's bill, wooley daisy, cactus flowers and cactus pads, mariposa lily, desert marigold, verbena or ice cream plant and evening primrose.

"So putting them out in a really good place where there are lots of plants and food and away from cars—that will improve their chance of surviving to adulthood," said McLuckie.

But the success of the project is a result of team work, where multiple partners, working together are able to pool resources like funding and man power.

"Successful tortoise populations in this highly urbanized area comes from working with partners, like the BLM, the U.S. Fish and Wildlife Service and local governments like Washington County," said McLuckie.

By working together agencies are able to accomplish challenging conservation measures for tortoise populations and their habitat, far beyond what a group working alone could achieve.

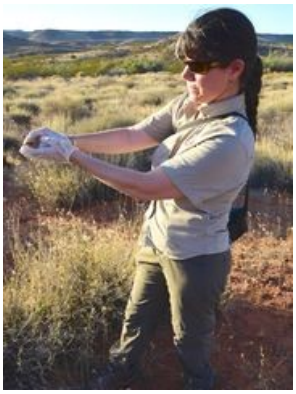


Photo: Rachel T Carnahan/BLM Arizona Strip

Health Assessment Procedures for Translocations of the Mojave Desert Tortoise

The U.S. Fish and Wildlife Service's Desert Tortoise Recovery Office is working with San Diego Zoo Global, U.S. Geological Survey, Arizona Exotic Animal Hospital, Nevada Department of Wildlife, Arizona Game and Fish Department, and several private tortoise biologists to deliver a course in Spring 2017. The purpose of this course is to prepare biologists to conduct standardized health assessments that are required prior to and following the translocation of Mojave desert tortoises from project sites. The course presents information through lectures and specialized hands-on training using live desert tortoises, and the students' understanding of the concepts and ability to conduct health assessments and collect biological samples is evaluated by course instructors through a written and practical exam. Details will be announced on the Desert Tortoise Council website after new year.

Introduction to Desert Tortoises and Field Techniques Course Planned for 2017

The DTC intends to offer its Introduction to Desert Tortoises and Field Techniques course on Saturday and Sunday Nov 4-5, 2017. A final announcement will come in June; please keep watching the DTC website for details.

The course includes important information on ecology, habitat preferences, life history, health, physiology, and threats; applicable state and federal laws and required permits; and two field sessions on surveys and identification of tortoises and tortoise sign. This comprehensive introduction to Agassiz's or the Mojave Desert tortoise, is designed for wildlife biologists, zoologists, natural resource specialists, wildlife managers, land managers, recreation specialists, persons dealing with the public, teachers, and the general public.

In 2016, 78 people completed the course.
Email workshopdestort@gmail.com if you have specific questions.

Desert Tortoise Council Agency Coordination Committee

The Desert Tortoise Council has invited biologists from State, Federal, and County agencies responsible for the management of desert tortoises and / or their habitat in Nevada to participate in a joint meeting in January 2017 to discuss existing issues, identify obstacles that may impede implementation of recovery actions, and seek options to remove those obstacles. The Council held a similar meeting with biologists from State, Federal, and County agencies in California in 2015, and together we were able to better understand the threats to tortoises in California, and identify ways that the Council could help ameliorate those threats.

A Look Ahead: Meetings in 2017

38th Rescheduled Annual Gopher Tortoise Council Meeting

The Annual Gopher Tortoise Council Meeting will be held at Ravine Gardens State Park in Palatka, Florida on January 13-15, 2017 (http://www.gophertortoisecouncil.org/annual-meeting/).

42nd Annual Symposium of the Desert Tortoise Council

The 42nd Annual Symposium of the Desert Tortoise Council will be held at Sam's Town in Las Vegas, Nevada on February 24-26, 2017 (http://deserttortoise.org/symposium/index.html).

Joint Meeting of Ichthyologists and Herpetologists

The Joint Meeting of Ichthyologists and Herpetologists is an annual meeting of four scientific societies — the American Society of Ichthyologists and Herpetologists; the American Elasmobranch Society; the Herpetologists' League; and the Society for the Study of Amphibians and Reptiles – to share current research and network with professional peers. The Joint Meeting of Ichthyologists and Herpetologists will be held at the Renaissance Austin Hotel in Austin, Texas, July 12-16, 2017 (http://conferences.k-state.edu/joint-meeting/).

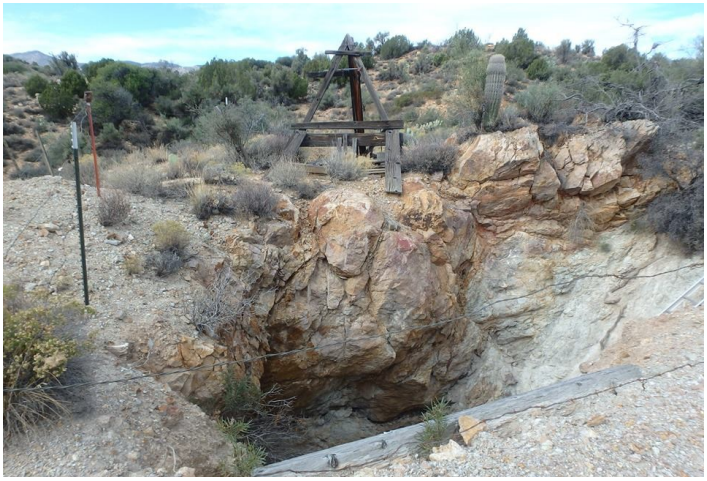
Desert Tortoise Saved When Arizona Game & Fish Comes to Rescue

By Hubble Ray Smith

KINGMAN – This desert tortoise is going to have the best Christmas of his endangered life.

He'd slipped into an abandoned mine shaft in the Thompson Canyon area near Wikieup and was rescued by Arizona Game and Fish officials after a call from an off-road vehicle rider.

"It's a great story with a happy ending," Dee Kephart, habitat evaluation and land manager for Arizona Game and Fish, said Wednesday.



Old prospector mine shaft in which OHV recreationist J.C. Sanders discovered the trapped desert tortoise. Photo: AZGFD

Her Kingman office was contacted by the BLM in October after the rider came across the tortoise in an old prospector mine shaft that was about 30 feet wide and 20 to 25 feet deep.

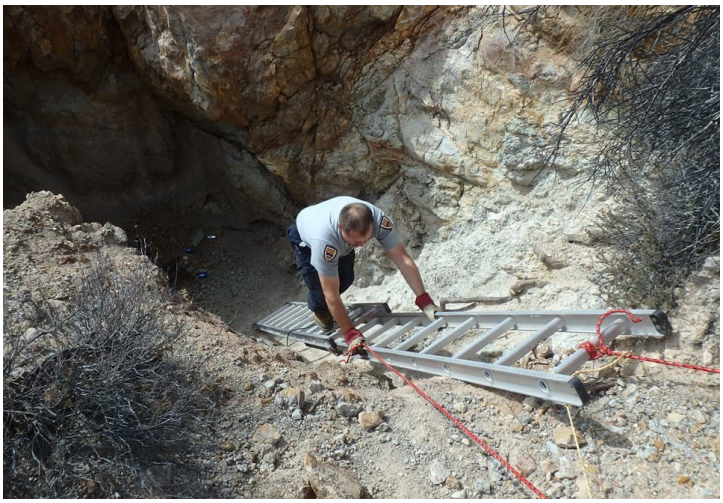
The rider, J.C. Sanders of Lake Havasu City, sent pictures of the mine shaft with GPS coordinates and general directions, and Game and Fish came up with a plan to rescue the tortoise the next morning.

The sides of the mine shaft were too steep to climb, so Brian Miller of Game and Fish used an extension ladder and rappelling ropes to get to the tortoise. Assisting in the rescue operation were Kephart, wildlife manager Debra Groves and Bill Henak.

"The tortoise was extremely dehydrated and very emaciated," Kephart said. "He had been in there for quite a while. We immediately soaked him in the field, but after looking at him closely, we found he was extremely light, had scarring on his legs, a swollen joint on this back leg, and had worn down his front toenails to nothing."

If the tortoise was released back into the wild, he probably wouldn't make it through the winter, Kephart determined. It's already late fall, the reptile was in poor shape and probably would never be able to "gain sustenance" so late in the season, she said.

"With his front toenails completely gone, he probably would not be able to even dig a burrow in time to get out of the winter season, so we are rehabilitating him through the winter," Kephart said.



AZGFD OHV Law Enforcement Specialist Brian Miller descends into the mine shaft to retrieve the trapped desert tortoise. Photo: AZGFD

He's recuperating nicely at her home, where she has another desert tortoise. He has gained almost a pound in weight and is eating regularly.

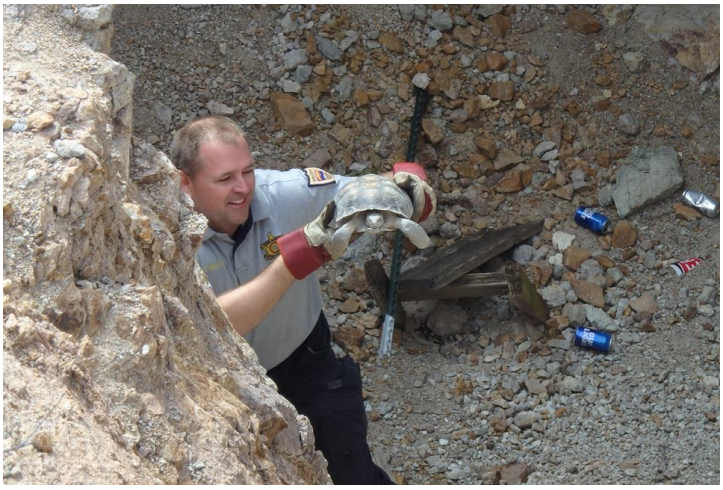
"He goes out every morning and runs around and eats," she said.

Several people have expressed interest in adopting the tortoise when he's healthy enough, but Kephart said he'll probably stay with her.

"This guy's kind of special, just the circumstances of where we found him," she said.

It's the first time Kephart has received a report of a tortoise falling into a mine shaft in her 10 years with the agency, and she credited the off-road rider for calling it in.

"He was probably eating vegetation around the mine shaft and lost his footing," she surmised.



AZGFD OHV Law Enforcement Specialist Brian Miller retrieves the desert tortoise from the mine shaft. Photo: AZGFD

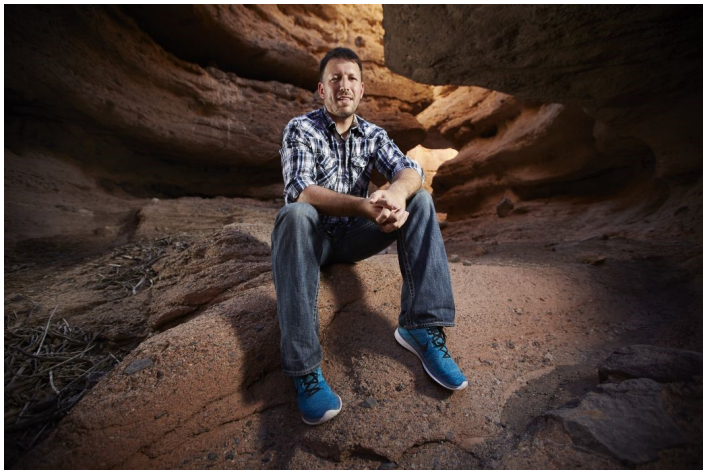
Board of Directors Spotlight

Scott Abella

Scott Abella is an Assistant Professor in Restoration Ecology with the School of Life Sciences at the University of Nevada Las Vegas, and owner of Natural Resource Conservation LLC. His areas of expertise include fire management, ecological restoration, plant ecology, and habitat-wildlife relationships. Dr. Abella has experience working in numerous North American ecosystems including eastern forests, Midwestern prairies and savannas, wetlands, western forests, and deserts, as well as internationally in desert restoration. He specializes in implementing ecological science that facilitates conserving biodiversity and natural resources critical to society. His expertise has been requested by all levels of governmental organizations in the U.S., non-profits, private companies, and international organizations such as the United Nations. At the University of Nevada Las Vegas, he teaches courses in biology and restoration ecology and works with a diverse group of undergraduate and graduate students to actively engage students in helping meet conservation science project goals. He has published over 100 peer-reviewed scientific articles and 50 outreach articles, given 135 symposium or invited presentations, been featured over 35 times in media outlets for conservation stories and projects with students, and received over 40 grants and contracts. In 2015, he published the book Conserving America's National Parks, corresponding with the 2016 Centennial of the National Park Service.

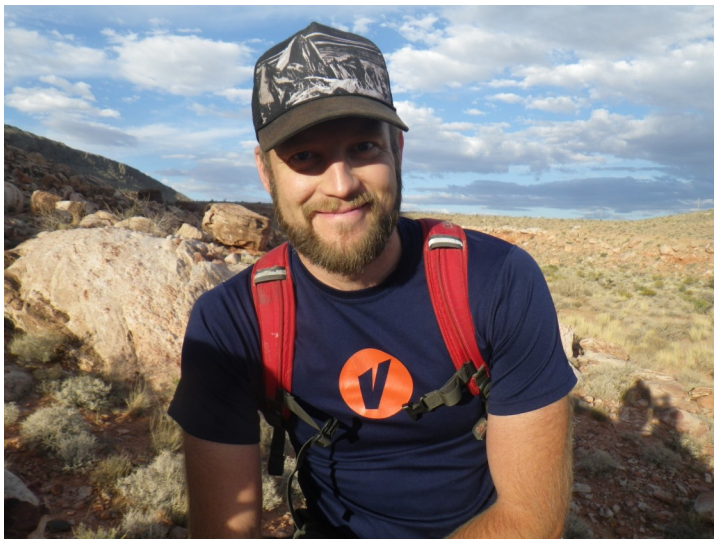
Website: https://www.unlv.edu/people/scott-abella

UNLV applied ecology lab website: https://abellaappliedecology lab.wordpress.com/



Jason Jones

Jason began his infatuation with herpetology at an early age. He clearly recalls his family recounting his reptile-like birthing story: "We were hiking along the Wasatch Mountains and someone flipped over a rock… and there you were!" His fate was sealed after watching his grandmother catch snakes bare-handed along the Snake River of the Teton Mountain Range. As an undergraduate at the University of Utah, he worked under the tutelage of the late Dr. John M. Legler, studying the diets and reproductive physiology of southwestern lizards and toads. As a M.S. student at Idaho State University, he studied Rocky Mountain tailed frogs in dendritic stream networks of Idaho and Montana. Jason studied tropical herpetology with the Organization for Tropical Studies in Costa Rica and Panama. Following a Ph.D. attempt, Jason worked as a lift operator at his favorite ski resort, logging over 100 days of "shredding gnar" in one season. Jason has worked for numerous state and federal agencies developing and implementing amphibian and reptile inventory and monitoring programs. Currently, Jason works with Nevada Department of Wildlife where he is the State's lone herpetologist. He collaborates with numerous citizen scientists to improve Nevada's understanding of numerous reptile species through radio telemetry, trapping, road cruising, specimen vouchering, and herp focused bio-blitzes. Jason assists with Desert Tortoise Health Assessment Trainings and sits on the steering committee for Southwest Partners in Amphibian and Reptile Conservation (SWPARC).



Back Page Announcements

Sponsors Sought for DTC Newsletter

Interested in getting more exposure for your organization by sponsoring a non-profit? Consider advertising in the next issue of the Desert Tortoise Council Newsletter! The Council is currently seeking sponsors for upcoming issues of the Newsletter, which is published quarterly, distributed via email to more than 500 of our members and past members, and available for free download from our website (www.deserttortoise.org/newsletter.html).

We are offering the following sponsorship levels:

Silver: Your organization's name mentioned in the sponsorship section of the Newsletter for 4 issues ($100).

Gold: Your organization's logo presented in the sponsorship section of the Newsletter for 4 issues ($250).

For more information on becoming a sponsor of the Desert Tortoise Council Newsletter, please contact Michael Tuma at michaelwtuma@gmail.com.

Follow the Desert Tortoise Council on Social Media

Council Mission

The Desert Tortoise Council was established in 1975 to promote conservation of the desert tortoise in the deserts of the southwestern United States and Mexico. The Council is a private, non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for desert tortoises in the wild and a commitment to advancing the public's understanding of the species. For the purposes of the Council, desert tortoise includes the species complex in the southwestern United States and in Mexico, currently referred to as Gopherus agassizii *and* Gopherus morafkai.

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