

## DESERT TORTOISE COUNCIL

## NEWSLETTER

## Inside this issue:

## Features

<i>BLM Purchases \$5 Million Land Parcel in Desert Tortoise Reserve</i>	1
<i>Grant Award For Purchase Reserva Monte Mojino</i>	2
<i>Structure and Function of the Desert Tortoise Council's Ecosystems Advisory Committee (EAC)</i>	3
<i>Ravens Prove a Challenge for Indoor Head-starting Experiment</i>	4

## Columns

<i>Letter from the Editor</i>	2
<i>A Recap of the 2020 Introduction to the Mojave Desert Tortoise Course</i>	6
<i>Board of Directors Spotlight</i>	7
<i>Back Page Announcements</i>	8



## BLM Purchases \$5 Million Land Parcel in Desert Tortoise Reserve

By Mikayla Shoup, St. George News (<https://www.stgeorgeutah.com>)

**ST. GEORGE** —The Bureau of Land Management recently purchased a \$5 million parcel of land from a private landowner in the Red Cliffs National Conservation Area.

The purchase of the 113-acre property, located within the boundaries of both the Washington County Mojave desert tortoise mitigation reserve and the Red Cliffs National Conservation Area, was closed on Aug. 15.

The purchase was made as part of the BLM's efforts to consolidate land within the conservation area. Currently, the land is under "checkboard ownership," meaning that the conservation area is owned by a num-

ber of private parties and government agencies. "What we're looking at doing is to consolidate the land ownership within the Red Cliffs NCA, which allows for us to continue the conservation stewardship and partnership with local communities, specifically Washington County," BLM spokesperson Christian Venhuizen told St. George News. According to the agency, having the land belong to multiple sources can make it more difficult to successfully protect the habitat of the Mojave desert tortoise, which was placed on the Federal Endangered Species List in 1989.



*The Red Cliffs National Conservation Area, Washington County, Utah, date not specified. Photo courtesy of the Bureau of Land Management, St. George News.*

Currently, the BLM owns nearly 45,000 acres of the over 61,000-acre conservation area, while over 13,000 acres are owned by the state and 2,631 acres are still owned by private parties, according to the BLM's annual manager's report.

*continued on Page 3*

# Letter from the Editor

It has been a while! After a long 2020, I am happy to finally publish this late issue and begin work on the next one. Included in the Winter 2021 issue of the Desert Tortoise Council Newsletter are articles highlighting recent significant land acquisitions, actions taken by our Ecosystems Advisory Committee, and challenges faced by an indoor head-starting experiment.

Also included is a review of the 2020 Introductory Course, as well as back page announcements regarding staying in the

loop with the Council plus a thank-you letter to our 2020 symposium sponsors and registration information for the rapidly approaching 2021 symposium.

Finally, this issue's Board of Directors Spotlight details the stories of two invaluable members of the Board, Dr. Kristin Berry and Judy Hohman, who have contributed their respective vast knowledge, research, and immeasurable dedication to the conservation of desert tortoises for decades.

Stay tuned for a catch-up issue

soon that will get us up-to-date on recent publications.

As always, follow us on social media to stay up to date on all things desert tortoise, including Council actions, courses offered, annual symposia, recovery efforts, and more!

Cheers,

*Halle*

Halle Kohn  
[newsletter@deserttortoise.org](mailto:newsletter@deserttortoise.org)

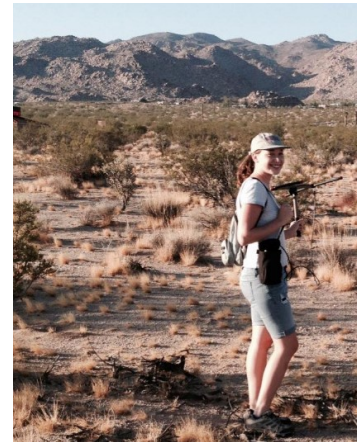
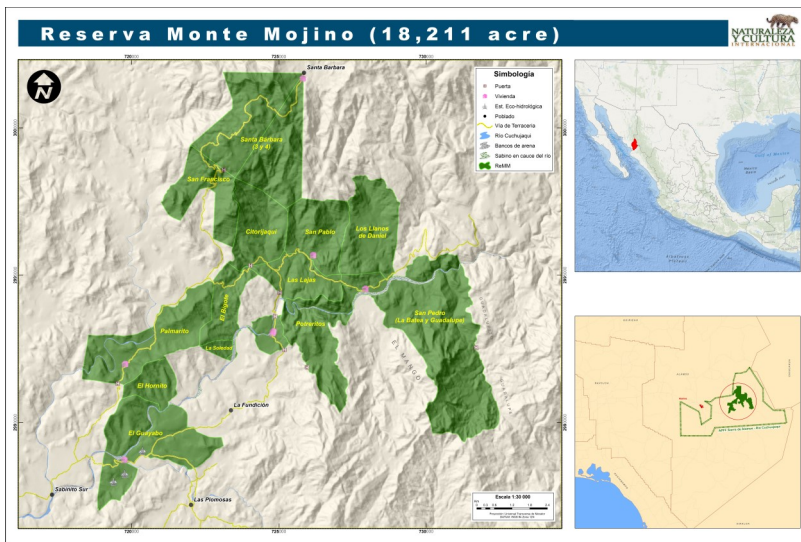


Photo by Paul Delaney

## Grant Award for Land Purchase Reserva Monte Mojino

By Nature and Culture International



including the recently discovered Sinaloa thornscrub tortoise (*Gopherus ergoodei*).

This year, Nature and Culture was able to increase protection in the region by expanding ReMM. With the support of the Desert Tortoise Council and other partners, we acquired neighboring land, Los Llanos de Daniel, growing ReMM by 1,324 acres! Together with our partners and the Alamos community, we hope to continue expanding conservation efforts in this critical ecosystem.



*Gopherus ergoodei* roaming the lands of Reserva Monte Mojino.  
 Photo courtesy of Nature and Culture International.

For the past 15 years, Nature and Culture International has worked towards conserving one of the most spectacular and threatened ecosystems in Mexico, the Tropical Dry Forest (TDF), by creating Reserva Monte Mojino (ReMM), an 18,000-acre private reserve within the Sierra Madre Occidental of Sonora.

This special area represents one of the most undisturbed TDF habitats in Mexico, and is contiguous to the

biological corridor of the Sierra Madre Occidental in Northwest Mexico. The TDF finds its northernmost distribution in the town of Alamos, located at the edge of the nearctic and neotropical realms. The region is home to an incredible array of life, such as the jaguar and four other cat species, around 330 species of birds, 1,200 species of vascular plants, and six species of turtles and tortoises,



## ***BLM Purchases \$5 Million Land Parcel in Desert Tortoise Reserve (continued)***

In 2016, the Red Cliffs National Conservation Area Record of Decision and Resource Management Plan made it so that the BLM could legally acquire private inholdings from willing property owners in order to better conserve the habitat. This can be done through trade or by purchase at market value from willing landowners. "We're able to ensure that the stewardship and the values within the national conservation area is maintained and provide for the resources," Venhuizen said.

The Red Cliffs National Conservation Area was first established in 2009 as part of the Omnibus Public Land Manage-



*The Red Cliffs National Conservation Area, Washington County, Utah, date not specified. Photo courtesy of the Bureau of Land Management, St. George News.*

ment Act of 2009 with the intention of providing a safe habitat for the tortoises and to give the community an outdoor recreation area.

The \$5 million parcel was purchased using money from the Land and Water Conservation

Fund, which is allowed through a recent reauthorization in the John D. Dingell, Jr. Conservation, Management, and Recreation Act in March.

*This article was reprinted courtesy of St. George News.*

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*<https://www.stgeorgeutah.com/news/archive/2019/08/30/mks-blm-purchases-5-million-land-parcel-in-desert-tortoise-reserve/#.XjxEOm5Fz4g>*

## ***Structure and Function of the Desert Tortoise Council's Ecosystems Advisory Committee (EAC)***

*By Ed LaRue, EAC Chairperson*

Several years ago, during the Desert Tortoise Council's (Council) Annual Symposium in Las Vegas, a member whom I didn't recognize approached me to thank me for a comment letter bearing my name and submitted by the Council on one of the many proposed projects we routinely review. That's when I realized that our letters are read by a wider audience than just the agencies to whom our comments are submitted. In fact, the last 112 comment letters the Council has submitted since 2013 on as many proposed projects potentially affecting tortoises are

posted on our website at [deserttortoise.org](http://deserttortoise.org), under the EAC link in the left margin. We encourage you to read these letters and trust that they provide both scientific and regulatory background information to inform you of the Council's position on such projects.

Frequently the Council learns of proposed projects from one of our non-board members or members of another environmental group, and we encourage you to contact us about proposed projects, legislation, and/or regulations that may

affect tortoises in the southwestern United States. One or more of our 17 Board members will take the lead to draft a comment letter, which is then reviewed and modified by other Board members. Letters are not considered final and are not submitted until at least three non-author Board members endorse the letter. As such, our letters reflect the position of the entire Board, which is responsible to represent the Council and its general membership, as opposed to any one Board member's opinion. In the spirit of transparency, you are encouraged to re-

view the Council's Board meeting minutes ([deserttortoise.org](http://deserttortoise.org), About the DTC, Board of Directors) where all activities of the EAC are documented at the end of each set of minutes since June 2011.

A six-year summary of EAC activities reveals that the Council has commented on 159 of 304 notices we received between 2013 and 2018, attended 36 public meetings, participated in 6 interviews for newspaper articles, and cosigned (or declined to cosign) 37 letters from other environmental

*continued on Page 4*

## *Structure and Function of the Desert Tortoise Council's Ecosystems Advisory Committee (EAC)* (continued)

groups. Among pertinent projects the Council has reviewed during these six years, 141 were in California, 51 in Nevada, 29 in Arizona, 10 in Utah, and 14 were at the national level. Twice as many notices were received in 2018 (95 notices) than in the next highest year (48 in 2015), and the Council submitted formal comments on 39 of those 95 notices.

Although comment letters are all written by Board members, there are non-board Council members in California, Nevada, and Utah who routinely review the Council's draft letters and provide comments be-

fore submittal to the pertinent lead agencies.

As a reader of this newsletter and conscientious Desert Tortoise Council member, we urge you to get involved. We encourage you to contact the EAC about any proposed or existing projects affecting tortoises that you would like us to review and provide comment. If you want to be more involved, we encourage you to coordinate with the Chair of the EAC about preparing draft comments or reviewing draft letters and providing input before they are reviewed by other Board mem-

bers, finalized, and submitted to pertinent agencies. Please consider joining the EAC and participating in this effort to educate agencies, regulators, and lawmakers about desert tortoises in the southwestern U.S., how their proposed actions can be modified to reduce adverse effects to tortoises, and what can be done to conserve them.

Feel free to contact us at [eac@deserttortoise.org](mailto:eac@deserttortoise.org).

Learn more at <https://deserttortoise.org/eac/>.



## *Ravens Prove a Challenge for Indoor Head-starting Experiment*

*By Jacob Daly, recipient of the Council's 2015 Morafka Research Grant*

There it was—50 feet or so on top of the powerline tower—a gnarly bed of sticks, probably creosote and mesquite branches... but impossible to tell from that height. We didn't see the brood-rearing pair of ravens when we chose the site to release our young tortoises. A few days later I started finding them dismembered and disemboweled, discarded beneath or up in Yucca, my young head-start tortoises—the pride and joy of my thesis project.

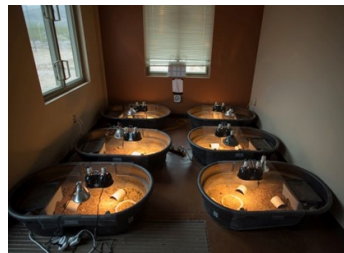
The idea behind head-starting is that if you can increase an animal's size under protected conditions, and then release it into the natural environment when it's larger and presumably more likely to survive, you can increase survival in a way

to bolster depleted populations. We had designed an experiment in Ivanpah Valley, at the northern edge of the Mojave National Preserve to determine if we could feasibly raise hatchling tortoises indoors in an effort to increase their growth and raise them big enough to resist predators in a single season. We raised 30 hatchling tortoise indoors, kept them active through the winter and fed them often, 20 outdoors in predator-proof enclosures, and 20 released directly after hatching; and we compared growth and post-release survival and movements among the three treatment groups by radio-tracking them for a full activity season. The growth looked promising. The indoor head-started tortoises

grew over 16 times faster than the directly released ones. In fact, they reached the size of six-year-old wild juvenile desert tortoises in just seven months.

Despite the hearty growth of our indoor-raised tortoises, tortoises in each of our treat-

ment groups succumbed to raven predation—and the seven months of head-starting appeared to have no effect on survival. This was a disappointing result. However, we learned a lot from the study. Perhaps our most important



*Indoor head-starting mesocosms (left) and outdoor head-starting pens (right). Photos by Jacob Daly.*

*continued on Page 5*



## *Ravens Prove a Challenge for Indoor Head-starting Experiment (continued)*



*Seven-month-old outdoor-reared tortoises (left) with seven-month-old indoor-reared tortoises (right) just prior to release. Photo by Jacob Daly.*

finding was that identifying only individual tortoise-killing ravens (termed “offending ravens” by the U.S. Fish and Wildlife Service) for removal by searching for juvenile tortoise carcasses beneath raven nests (the policy at the time) is not likely an efficient way to manage ravens to protect juvenile tortoises. Of the 18 tortoises in our study that were clearly killed by ravens (up in, or directly beneath Mojave Yucca or Joshua Trees), none were brought back to the nest. Ravens that kill tortoises might not be classified as “offending,” despite their substantial impact on juvenile tortoises.

Although the indoor-reared tortoises did not have increased survival, they did appear to use cover and behave similarly to our control groups (directly released tortoises, and those reared for seven months in outdoor pens). They didn’t disperse far from the release site and we saw signs they had been foraging after release (bright green, grass-stained

beaks). This suggests that indoor-rearing did not deteriorate natural behaviors. We also determined that juvenile desert tortoises released at least 1.6 km from raven perch sites (such as powerlines) would be more likely to survive. We also recommend conducting releases in fall after raven nests have fledged. We’ve used these valuable lessons to improve the outcome of subsequent releases.

Pearson McGovern, another University of Georgia master’s student, has since been evaluating the potential in rearing tortoises for one year indoors, and one year in predator-proof pens outdoors, in a method he is calling “combo” head-starting. Initial growth and morphology results look promising, with two-year-old combo head-starts growing substantially larger and having harder shells than the seven-month-old head-starts in my thesis study.

Biologists still debate whether or not head-starting will be a useful recovery tool for desert

tortoises, but head-start studies have undoubtedly contributed a lot to our understanding of desert tortoise reproduction and the biology of juvenile tortoises. I will forever cherish my time in the Mojave. The desert, and the Mojave National Preserve in particular, is a deliciously lonesome place. Ultimately, protecting high quality habitat like that found in the Preserve will be essential to saving this keystone species and the Mojave Desert ecosystem. I greatly appreciate the support of the Desert Tortoise Council for helping make my study possible.

*Dr. Brian Todd (University of California, Davis) also served on Jacob’s thesis committee. US National Park Service, US Department of Energy, US Department of Agriculture, California Energy Commission, and the Desert Tortoise Council (through the David J. Morafka Memorial Research Award to Jacob in 2015) provided funding for this research. The published papers related to Jacob’s story are shown below:*

Daly, J. A., K. A. Buhlmann, B. D. Todd, C. T. Moore, J. M. Peaden, and T. D. Tuberville. 2019. Survival and movements of head-started Mojave desert tortoises. *Journal of Wildlife Management* 83:1700–1710.



*Rainbow across the desert tortoise head-start project release site in the Mojave National Preserve. Photo by Jacob Daly.*

*Jacob Daly finished his Master’s program in spring 2017, and he is currently the Wildlife Biologist for U.S. Army Garrison Camp Parks in Dublin, CA. Dr. Tracey Tuberville (University of Georgia’s Savannah River Ecology Lab [UGA-SREL]) and Dr. Clinton Moore (US Geological Survey) were Jacob’s thesis co-advisers. Dr. Kurt Buhlmann (UGA-SREL) and*

Daly, J. A., K. A. Buhlmann, B. D. Todd, C. T. Moore, J. M. Peaden, and T. D. Tuberville. 2018. Comparing growth and body condition of indoor-reared, outdoor-reared, and direct-released juvenile Mojave desert tortoises. *Herpetological Conservation and Biology* 13:622–633.

# Course & Workshop Announcements

## *A Recap of the 2020 Introduction to the Mojave Desert Tortoise Course*

*By Maggie Fusari, Introductory Course Coordinator*

In the 29<sup>th</sup> year of presenting a course to introduce people to working with and understanding the desert tortoise, we presented the lecture portion of the course as a Zoom webinar. We met in two half-day sessions on Friday afternoon November 6 and Saturday morning November 7, 2020. There were 147 attendees.

The 2020 online lecture course included specific information about the biology, ecology, habitat preferences, life history, and health of the Mojave Desert Tortoise as well as presentation of the threats the tortoise faces today. In our annual introductory course, we introduce how to do field surveys and tortoise handling, present advice on starting a career in field surveying, and provide an introduction to the permits and authorizations that are required from various agencies. This course is designed for wildlife biologists, zoologists, natural

resource specialists, wildlife managers, land managers and recreation specialists, and may be useful for teachers, students, professionals working with the public, and the general public.

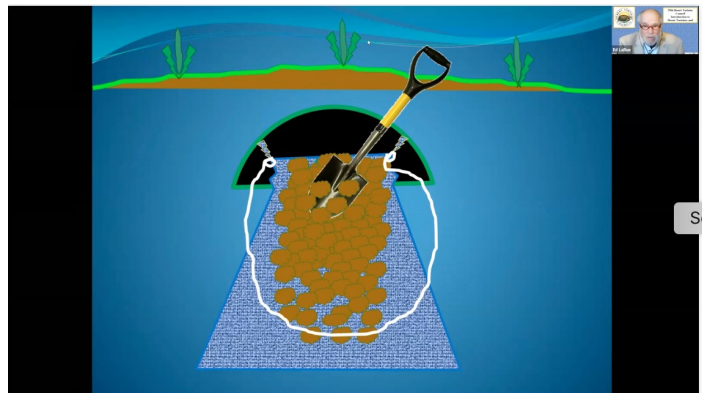
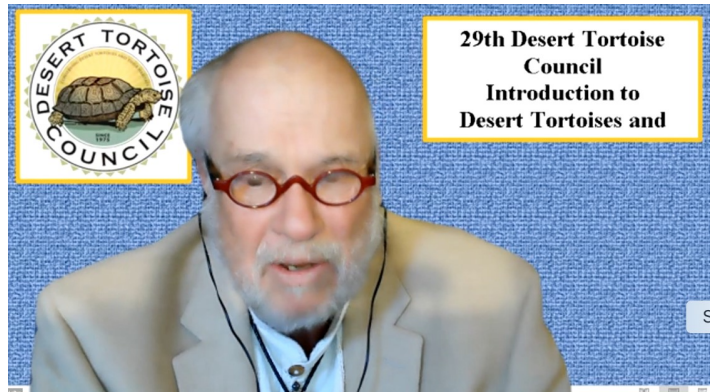
We owe a debt of gratitude to the Turtle Survival Alliance for sponsoring this course and especially to David Hedrick and Jordan Gray and for their superb technical support.

Our lecturers were Bruce Palmer, Kristin Berry, Michael Tuma, Alice Karl, Pete Woodman, Ray Bransfield, and Ed LaRue.

Cristina Jones, Larry LaPre, and Judy Hohman assisted on the panels.

Rachel Woodard presented a video on tortoise handling in the field.

Ed LaRue prepared hand lettered certificates which were sent to attendees along with



*Screenshot of Ed LaRue, host of the 2020 Introductory Course and Chairperson of the Ecosystems Advisory Committee.*



*Screenshot taken during Desert Tortoise Council Board Member Peter Woodman's presentation at the 2020 Introductory Course.*

formal letters attesting to participation.

A certificate of attendance does not guarantee any USFWS authorization or any other permit or permission.

As of this newsletter publication, we do not know how we will present this course in 2021. Unfortunately, we were unable to provide onsite field experience and training in 2020 due to the digital format of the course. We will decide by early July 2021 what we will be able to offer this year.

Anyone having questions or comments is urged to contact us at [intro-course@deserttortoise.org](mailto:intro-course@deserttortoise.org).

For updates, please consult the [website](http://deserttortoise.org).



## Board of Directors Spotlight

### Kristin Berry

Dr. Berry grew up in the western Mojave Desert at China Lake. She spotted her first tortoise when she was a child; her father brought one home that he had salvaged from under a bulldozer. Eventually, Kristin left China Lake to go to college and university, returned, and ultimately lived there and in adjacent Ridgecrest until 1979. During university, she conducted research on desert spiny lizards for a thesis and chuckwallas for a doctoral dissertation. In the 1970s, Dr. Berry met Jim St. Amant and Dr. Glenn Stewart, who were involved with state approvals for collecting limits on lizards and snakes.

Berry, Amant and Stewart shared an interest in desert tortoises, the lack of protected habitats for the species, and

concern about its numerous threats. They formed the Four States Desert Tortoise Recovery Team, which became the Desert Tortoise Council in 1975. One of Dr. Berry's first tasks was to develop a program for the first Desert Tortoise Council Symposium, held in Las Vegas in 1976. Objectives for the symposium focused on bringing together wildlife biologists and managers from state and federal agencies, research scientists, members of turtle and tortoise clubs, and interested parties to work on common goals of protecting tortoises. These objectives, including protection of tortoise habitat and the dissemination of information, remain major topics of the symposia today.

In the 1970s, Kristin went to work for the BLM for the California Desert Plan Program. Eventually

working at the USGS, her research and publications focused on demography, health and diseases, ecology, and habitat of tortoises as well as anthropogenic effects.

Dr. Berry continues to serve on the Board of Directors of the Desert Tortoise Council, working on programs for the annual symposia and contributing to the workshops. In her time on the Council, she has observed the decline of the tortoise populations and further degradation and loss of habitat. Of great disappointment to her is the failure of existing regulatory mechanisms to prevent the tortoise from moving closer to endangerment and extinction.

Dr. Berry also directed her interests into forming the non-profit Desert Tortoise Preserve



Committee, Inc., and working closely with BLM to establish the fenced Desert Tortoise Research Natural Area in 1980. The Desert Tortoise Preserve Committee has gone forward to save portions of habitat throughout the state for the tortoise and other species. Essential to Kristin's vision for the species is saving representative populations and habitats.

### Judy Hohman

Judy was born and raised in Virginia – with no desert nearby. She moved to California in high school. Her first desert experience was a 5-day college field trip in Dr. Robert Stebbins's herpetology class to the Mojave Desert. Judy was fascinated with the adapta-

tions that reptiles had to survive in this harsh and unusual environment. It was an experience that changed her life.

Judy's stint as a biological technician for the U.S. Fish and Wildlife Service introduced her to the world of federal environmental regulations. She became a botanical technician for the Agricultural Research Service. Their researchers gave her first-hand experience of the objectivity of the scientific method and its implementation. Politics and controversy had minimal to no influence over what was researched or the results. After that, Judy was an environmental protection

specialist at the Bureau of Reclamation, ensuring National Environmental Policy Act compliance for the agency's activities. She then returned to the U.S. Fish and Wildlife Service where her focus for 26 years was listed and candidate species in the Mojave Desert in California. She considers herself fortunate to have been mentored by researchers, regulators, and engineers who provided her with diversified perspectives and experiences.

In college she was given the opportunity to study the Mojave desert tortoise, so she needed to learn as much about the animal as possible. The annual

Desert Tortoise Council Symposium is a forum for researchers and resource managers to share their findings about desert tortoises with the rest of the world; and so, she attended her first symposium in 1977.

Judy joined the Board in summer 2017. Currently, she serves on the Membership Committee and the Ecosystems Advisory Committee.



## Back Page Announcements

### *In gratitude to Our 2020 Symposium Sponsors*

The Desert Tortoise Council would like to extend our gratitude to those people and organizations who partner with us and sponsor our symposium year after year. We could not do this important work without you.

It is not too late to sponsor the 2021 symposium! Please consider sponsoring the annual Symposium of the Desert Tortoise Council. This one-time donation will go directly to defraying the costs of the 46th Annual Symposium. For additional information on sponsorship levels and to down-

load the sponsorship form visit the [sponsorship page on our website](#). On this page you can also find our nonprofit partners.

Thank you to those who sponsored our 2020 symposium, whose names, sponsorship level, and websites have been included

on the following page to conclude this issue.

YOUR generous donations, sponsorships, and partnerships are integral in every way to making this world more habitable, wonderful, and rich with biodiversity for future generations.

### *2021 Annual Symposium Announcement*

The 46th Annual Desert Tortoise Council Symposium, which will be a virtual event this year, is scheduled for 8:30 am to 12:30 pm (PST) on Tuesday and Thursday mornings between February 9 and February 25. The symposium will have a very full program of presentations covering a wide

range of topics. The draft program and the abstracts have been posted on the Desert Tortoise Council's Annual Symposium [webpage](#), where you can also register for the symposium. Don't forget to [renew your membership](#) prior to registering for the symposium to receive the discounted membership rate!

The Council is appreciative of those who participate in our photo contest each year. You can access the instructions for entering the photo contest on the Desert Tortoise Council's [web site](#). All symposium registrants will have an opportunity to vote for the winners in each category and cash prizes will be awarded

on the last day of the symposium. All symposium registrants also have the opportunity to participate in the daily raffles, and we will provide the link to purchase raffle tickets to all who register. We look forward to your presence at our virtual symposium!

Follow the Desert Tortoise Council:



### *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*, *Gopherus morafkai*, and *Gopherus evgoodei*.*

### *Board of Directors & Staff*

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Becky Jones, *Corresponding Secretary*  
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Kristin Berry  
Margaret Fusari  
Peter Woodman  
Bruce Palmer  
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Larry LaPré  
Judy Hohman

#### **Webmaster**

Sky Esser



# Back Page Announcements

## *In gratitude to Our 2020 Symposium Sponsors*

**Southern Nevada Environmental, Inc. (SNEI)**—*Special Event Sponsor*

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