

DESERT TORTOISE COUNCIL

NEWSLETTER

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Defending a Desert Icon: Journey through the California Desert

By Krista Schlyer

I wake this morning to the smell of rain. A desert long-denied, in the throes of an historic drought, was breathing its creosote-scented sigh of relief. In the eastern United States, where I live, rain doesn't provoke an olfactory response. It is just wet, sometimes noisy, sometimes quiet. But in the desert it's rare and memorable, and always accompanied by desert plants' rendition of the Ode to Joy. Once you smell desert rain you never forget it. And for me it is more than enough motivation to face a 4 am wake-up call and a battering cold morning wind.

I drive to a ridgeline that overlooks a vast valley formed by the eastern edge of the Sierra Nevada, the Tehachapi and El Paso mountains. I'm here for one reason—tortoises.

My photography project is broader than that, much, much broader. Over about 18 days I'm trying to capture the beauty of the California desert, and the impact that energy development—wind, solar and geothermal—are having on the region. The project is an assignment from Defenders of Wildlife, and it was scheduled now because there is an important planning process in the works that will decide the fate of the fragile desert and its creatures.

But today I'm focusing on one particular creature—the desert tortoise. If there is a poster-child for the potential and already realized devastation energy development could bring to the wild desert, the tortoise is it. These hardy, desert-adapted creatures have suffered a 40-year decline due to human de-

velopment of various sorts. They have lost 90 percent of their population despite being a protected species for most of that time.

The location I'm visiting today, the Desert Tortoise Natural Area, provides a stronghold for tortoises. There are far more in this preserve than in the surrounding areas, even those

designated critical habitat by the Bureau of Land Management. Because the tortoise preserve is so well protected—even has a fence surrounding it to thwart off-road vehicles—it has maintained a surprising diversity of desert plants, more than 230 species, many of them the yummy forbs at the base of a tortoise food pyramid.



An Agassiz's desert tortoise on a foraging foray in the Desert Tortoise Natural Area. Photo by Krista Schlyer.

Letter from the Editor

This issue of the Desert Tortoise Council Newsletter includes features on two timely issues: the DTC's 40th Anniversary and the draft Desert Renewable Energy Conservation Plan (DRECP). In celebration of our 40th Anniversary, the DTC is planning a very special 2015 Symposium, described herein. Also in celebration of the DTC's 40th Anniversary,

this issue's Board of Director Spotlight profiles two of our founders: Kristin Berry and Glenn Stewart. I've included stories about the effect of the DRECP on desert resources and a call to action for commenting on the draft plan. I am proud to have stories from Krista Schlyer, winner of the 2014 Sierra Club Ansel Adams Conservation Photography Award, and Mosheh

Wolf, Preserve Manager and Conservation Coordinator at Desert Tortoise Preserve Committee, Inc. that describe how the DRECP may affect desert tortoise populations.

Enjoy this first issue of Volume 40, and see you at the 40th Annual Symposium!

- Michael Tuma

mtuma@ecorpconsulting.com

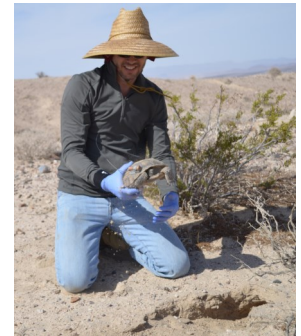


Photo by Heather Parks

The Desert Tortoise Council's 40 Years of Success

This year, the Desert Tortoise Council is celebrating its 40th Anniversary. Originally known as the "Four State Desert Tortoise Recovery Team," the Desert Tortoise Council was conceived on February 21, 1974. At this time, very little was known about the desert tortoise's distribution, abundance, or population trends, and information on diseases affecting wild desert tortoises was non-existent. Since the tortoise was not protected by the Endangered Species Act of 1973, the Recovery Team recognized that a different type of organization – one which could bring together academics, biologists, agency managers, and representatives from private organizations – would be needed to reach its goal of identifying and rectifying the problems facing the tortoise. In December of 1974, the team appointed James St. Amant, Dr. Kristin Berry and Dr. Glenn Stewart to develop a proposal for reorganization. This proposal was adopted by the team at its next meeting on April 21, 1975. Thus, the Desert Tortoise Council was

born.

Initially, the Desert Tortoise Council was chaired by two Co-chairpersons, each serving two years with an overlap of one year, with one Co-chairperson Elect. Dr. Berry and Mr. St. Amant served as the first Co-Chairpersons, and Dr. Stewart was the first Co-Chairperson Elect. Dr. Berry and Dr. Stewart have continued to serve on the Council's Board of Directors ever since.

The Council appeared on the scene at a time when interest in

state and federal agencies was shifting, from user-oriented recreation (fishing, waterfowl, and big game) to a broader approach that also included conservation and management of non-game, threatened, endangered, and rare species and ecosystems. Certainly, the development of the Council has been intertwined with changes in wildlife programs on both the state and federal levels. Perhaps the Council helped to direct these changes. While the accomplishments of the Desert Tortoise Council over the last

40 years are too numerous to list here, it is important to note that the Council's efforts have been instrumental in bringing managers, scientists, and private organizations together; developing survey protocols and performing surveys; influencing listing of the desert tortoise as threatened; identifying pathogens affecting the tortoise; reviewing projects and programs that affect the tortoise; developing recovery programs; identifying and describing the two tortoise species (*Gopherus agassizii* and *G. morafkai*); training generations of tortoise experts; and continually advocating for desert tortoises.

While much still remains to be done, the Council is committed to continuing its ongoing duties while simultaneously expanding into new areas by publishing Best Management Practices, developing three new workshops (Advanced Techniques, Health Assessment, and Introduction to Morafka's Desert Tortoise and Field Techniques), and expanding outreach efforts through social media platforms.



Desert Tortoise Council Symposium, 1978.

40th Annual Symposium Update

A pre-Symposium field trip to tour the Trout Canyon Translocation Site will be led by Roy Averill-Murray, Coordinator for the Desert Tortoise Recovery Office (DTRO), U.S. Fish and Wildlife Service, and Kim Fields, Health Coordinator for the DTRO. To join, meet in front of the Symposium Meeting Rooms in Sam's Town at 7:30 AM. Bring water, lunch, and good walking shoes. It may be cold and windy, so please bring some warm clothes. Plan on a return of 4:30 to 5 PM.

Festivities, courtesy of SNEI, Inc., begin on Thursday night, February 19, from 7:00 to 9:00 pm in the Red Rock Room with appetizers and open bar. We hope all will join us to meet and greet friends and colleagues as well as to make new contacts.

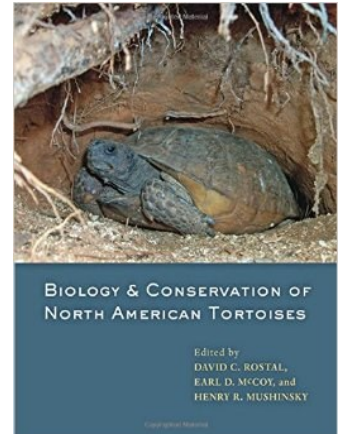
The date for the special room rates at Sam's Town Hotel and Casino has been extended to February 1. Be sure to get your rooms at the very low rate afforded those attending the Symposium.

The Symposium will start promptly at 9:30 a.m. Friday,

February 20, and will have a very full program of presentations from long-term colleagues and friends, as well as many new scientists and managers. The Council will honor Drs. Ken Nagy, Lisa Hazard, and their team, including Danielle Shemanski, Christian Meienberger, Ian Wallis, Devesh Vyas, Brian Henen, and Phil Medica for their many years of research on nutrition in tortoises. Their findings are critical for understanding habitat condition and directing future restoration products. Dr. Scott Abella will chair a session on restoration of habitat; he will present Best Management Practices for restoring tortoise habitat, the first in a series of Best Management Practices to be developed by the Council. Michael Tuma will chair a session of six papers on head-starting, translocation, and reintroductions. Dr. Bayard Brattstrom, who some of you will remember from research with Michael Bondello on off-road vehicle impacts, will talk about a favorite topic of his, social behavior in desert tortoises.

The Saturday morning session will feature Ravens and will be chaired by Dr. Pete Coates, who has assembled 12 experts to discuss three major topics: Raven Population Expansion and Growth; Impacts to Wildlife; and Potential Management Solutions. In addition to Pete Coates, speakers include Kristy Howe, Karen Steenhof, William Webb, Matt Lau, Larry LaPré, Jonathan Dinkins, John Marzluff, Brianne Brussee, Michael Casazza, and David Delehanty. They come from a wide variety of backgrounds and states. The session on management solutions covers raven removal, teaching ravens to do the right thing, adaptive management solutions, and viewing lethal control of ravens through a conservation biology lens. Sage grouse and snowy plovers will be topics, in addition to tortoises. Two other presentations on predators are: 1) a summary of a major study on coyote foraging patterns in the Central Mojave Desert and implications for predation on desert tortoises by Brian Cypher and colleagues, and 2) the American Badger as a potential predator of tortoises by Patrick Emblidge and co-authors.

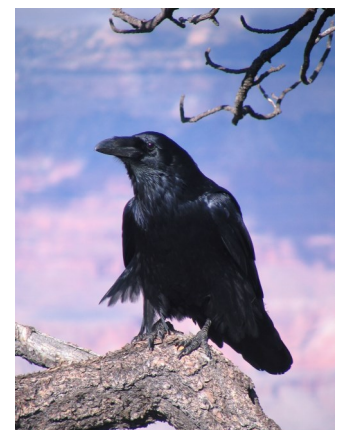
Morafka's desert tortoise, *Gopherus morafkai*, occupies a substantial portion of this meeting—especially appropriate with the pending consideration of federal listing as a threatened species. Cristina Jones will chair the Arizona session with 10 papers on the species, and Mercy Vaughn likewise will chair a session reviewing 15 years of field work on Morafka's tortoise in Mexico. There will be several other



*The Council will be offering copies of the book, *Biology & Conservation of North American Tortoises* at a discounted rate, and one of the books editors, David C. Rostal, will participate in a book signing.*

sessions: the Friday afternoon government presentations followed by a question and answer panel; papers by NGOs; health and disease research; demography and reproduction; and many other topics.

David Rostal, senior editor of the newly published book, *Biology and Conservation of North American Tortoises*, will be with us to talk about this multi-authored book. The Council will be selling the book at a special low rate and there will be a book signing. Many of the book authors are attending.



Dr. Pete Coates will chair a session on ravens. Photo by Aaron Vowels.



Be sure to take advantage of the special group discount rate at Sam's Town Hotel and Casino by registering for your room by February 1st.

Energy Versus Tortoises, the Sequel: Draft DRECP Threatens Desert Tortoise Research Natural Area

By Mosheh Wolf

Considered a rare success story in the conservation of the threatened Agassiz's desert tortoise, the Desert Tortoise Research Natural Area is now itself threatened by California's Desert Renewable Energy Conservation Plan (DRECP).

Resolutely making its way across the arid landscape, the iconic desert tortoise is a flagship species of the Mojave Desert. In color, texture, and shape, it seems to be a small piece of desert that decided to take a walk. Even its slow deliberate gait seems to reflect the pace of desert life under the intense midday sun. No wonder so many people who love the desert hold a special place in their hearts for this unprepossessing, yet unquestionably charming and charismatic reptile!

Despite this affection and respect, humans have put the fate of the desert tortoise in jeopardy. Mining, grazing, military activity, off-highway vehicle recreation, construction, and now solar and wind farms

are pushing the species to the brink. The numbers of this desert native are but a fraction of what they were 40 years ago, and the decline continues.

Forty years ago, Dr. Kristin Berry and others were concerned about conserving tortoises and habitat. They lobbied the Bureau of Land Management (BLM) and other agencies to establish a protected area for tortoises. They chose an area in the Rand Mountains and Fremont Valley of Kern County, California that supported the highest density of desert tortoises ever recorded. The efforts of Dr. Berry and her allies were successful, and, in 1973, the BLM started the process of establishing a Desert Tortoise Natural Research Area.

In 1974, the Desert Tortoise Preserve Committee, Inc. (DTPC) was formed to act as the principal long-term caretaker and advocate for the area. In the 40 years since its establishment, the DTPC has made significant acquisitions of habitat that allowed for expansion of the protected lands. From the initial 10 square miles, the area has expanded, and today comprises more than 39.5 square miles. Beyond advocating for the expansion of the Research Natural Area on public land, the DTPC has purchased private land within the preserve boundaries and has transferred almost 4 square miles to the BLM. The DTPC not only buys land for tortoise conservation, but initiates work for its restoration. Much of the land purchased had suffered



An adult Agassiz's desert tortoise photographed in the Desert Tortoise Research Natural Area, a BLM-designated Research Natural Area.

serious habitat degradation from off-road vehicles, target practice, unregulated bonfires, and illegal dumping of refuse.

Education is also an integral part of the mission of the DTPC, and it has developed and presented educational programs throughout southern California and created and installed multi-media educational displays at desert access areas. As part of the mission, the DTPC, in partnership with the BLM have stationed a Naturalist at the Research Natural Area every spring since 1990, to provide guidance and information to the thousands of people who have come to visit.

The DTPC also supports research efforts on various wild-life species and plant communities inside and outside the Research Natural Area, which explains the "Research" part of the name. This preserve has proved invaluable as an undisturbed site for Masters and Ph.D. students' projects. More importantly, the preserve has been the site of major discoveries regarding the tortoise such as the highly selective

nature of feeding habits and requirements, the catastrophic nature of raven predation on juveniles, and the new and emerging infectious upper respiratory tract disease. The value of fencing in protecting animal populations and habitat has been amply demonstrated through research as well.

The Research Natural Area has not only been a preserve for desert tortoises but also for other species, including many species of conservation concern that live and flourish in the preserve. The Mohave ground squirrel thrives there, as does the burrowing owl and recently discovered populations of the Barstow woolly sunflower. Studies have demonstrated that densities of tortoises and several lizard and bird species are significantly higher within the Research Natural Area than in adjacent areas outside the fence. The 40 years of protection and restoration have allowed this unique place to become flourishing, diverse desert habitat.



A Mohave ground squirrel on the Desert Tortoise Research Natural Area.

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Defending a Desert Icon (continued)



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Black-tailed jackrabbit. Photo by Krista Schlyer.

Despite the essential nature of this preserve for tortoises, it is proposed as a location for large-scale solar production, which would scrape the land of vegetation and displace or kill the tortoises here. But it's not a done-deal. The Desert Renewable Energy Conservation Plan is a tool for deciding future land use in the immense California desert. And a plan is desperately needed—without it development will proceed ad-hoc, which has not served the wild desert well in the past decade. And conservation of important landscapes is part of the process.

But the plan as it stands does not yet adequately protect wildlife and wild lands, and tortoise survival hangs in the balance. For decades these creatures have been forced onto smaller and smaller pieces of viable habitat and faced new threats from human introduced predators and disease. And now they face the chaos of climate change, which is shifting the seasonal arrival of their foods and exacerbating drought. Climate change is also bringing a market for energy development to their home. We call it green energy, but like oil and gas and coal, when done on an industrial scale it has the power to

devastate the land. Solar scrapes the land bare, solar and wind and geothermal bring powerlines, new roads and invasive plants, and can drain scarce water resources. But an added complication with renewables is that it's so easy to justify the sacrifice of wild lands and wildlife habitats when climate change is hanging over our heads.

Under this pressure we forget the costs and we fail to see the alternatives right in front of us: energy efficiency and conservation; industrial scale energy development on already degraded lands, and small-scale energy production in urban areas, on rooftops, roads and parking lots.

The energy systems of the future—a very near future, already happening to a large extent in Germany—will be distributed power, micro-grids, roof-top solar, and cutting-edge efficiency. The question is, will we realize this before we needlessly sacrifice the desert and all its vulnerable creatures?

A lot of that depends on whether we can learn to love

and understand the desert. Its hard angles, harsh moods and shy creatures. This photo journey has taught me a few things. And it all goes back to the sun.

The sun has a special relationship with the desert. It showers attention on this land in intense, killing heat, a kind of



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A researcher weighs a desert tortoise. Photo by Krista Schlyer.

fiery stare only the heartiest of wild creatures can endure. But it also rewards the desert with some of the most soul-

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The Ivanpah Solar Power Facility. Photo by Krista Schlyer.

Board of Directors Spotlight

Kristin Berry

The decade of the 1970s was a critical period for conservation—passage of the Endangered Species Act and National



Environmental Policy Act—both of which helped build a growing conservation movement. Kristin Berry, having grown up in the Mojave Desert, had a keen interest in desert reptiles. In 1971, while completing her Ph.D. at UC Berkeley, she started a desert tortoise translocation project at the request of the California Division of Highways. Kristin joined with Glenn Stewart and Jim St. Amant in efforts to protect the desert tortoise before the Desert Tortoise Council was officially established. During the 1970s, she also was instrumental in founding the Desert Tortoise Preserve Committee, Inc., a non-profit with land holdings in the California deserts. Her career has been with the government: from

1974 to 1993 with the Bureau of Land Management; from 1993 to 1997 with the National Biological Survey; and from 1997 to the present with the U.S. Geological Survey, where she is a research scientist with expertise on the tortoise and desert ecology. She is author and co-author of many papers,

ranging from health and disease to ecology and demography of tortoises. She remains on the board of directors of the Desert Tortoise Council and Desert Tortoise Preserve Committee and very much enjoys the team efforts to recover the tortoise.



Glenn Stewart

Glenn's hometown is Perris, California. He became interested in desert tortoises at an early age when an uncle brought him several "pets" from around Joshua Tree. Glenn received



his B.S. in Biological Sciences from Cal Poly, San Luis Obispo, in 1958. Attending Oregon State University, he earned his M.A. in Zoology in 1960 and Ph.D. in Zoology and Ecology in 1964. Glenn took a position in the Biological Sciences Department at Cal Poly, Pomona, in 1963 and was employed there until 2008, teaching courses in Vertebrate Zoology, Herpetology, Mammalogy, Environmental Science, and Tropical Field Biology. His research interests focused on the ecology and systematics of Pacific Coast garter snakes and rubber boas, the biology of black bears in southern California, and the desert tortoise.

In 1975, Glenn joined with Kristin Berry, then with the USBLM, and James St. Amant, then with the CDFG, to found the Desert Tortoise Council. Kristin and Jim served as the first Co-Chairs and Glenn the first Co-Chair Elect. He served

a second term as Co-Chair in 1987-88 and has continued on the Board of Directors to the present time, Chairing the Awards Committee since the 1990s and also the recently established Grants Committee.



Draft DRECP Threatens Desert Tortoise Research Natural Area (continued)

However, these achievements are threatened by proposed changes in management and land use under the draft DRECP. This draft plan has a No Action Alternative and five Action Alternatives. The Independent Science Review for the DRECP has pointed out multiple errors and problems with the biological information and habitat modeling in an earlier draft. Most importantly, DRECP alternatives threaten the very existence of the Desert Tortoise Natural Area.

In the current draft of the DRECP, the Desert Tortoise Research Natural Area does not receive adequate attention and protection. In the maps made available to the public for each DRECP alternative, there is no presentation of the location of the Research Natural Area (the maps are available to the public for free at <http://www.drecp.org/maps>). And although the Research Natural Area is mentioned several times in the Environmental Impact Report, there is little indication of its location, ecological and conservation im-

portance, or its status as a BLM Research Natural Area. To find an actual map of the DTRNA, the reader must sift through the Appendices to find it buried in Appendix L. However, the maps in this document are not available for review through the DRECP Gateway, nor are many of the details appearing on these maps included in the maps that are available through the Gateway.

The real issue is that, of the five Action Alternatives, three contain incentives to develop areas within the Research Natural Area and immediately adjacent to it. These Alternatives also encourage development on areas to the north of the Desert Tortoise Research Natural Area that are designated as critical habitat for the tortoise. Worse yet, another Action Alternative actually eliminates the DTRNA, and creates incentives to develop almost 85% of the preserve's present lands as solar and wind farms. Not one alternative treats the preserve as though it was an existing conservation area.

The most obvious disregard of the Research Natural Area is in the No Action Alternative. This alternative, which is required by law, should present the existing land use plan which is, in this case, the 2005 West Mojave Plan. According to this plan, the Research Natural Area and the area to the north are to be managed for the conservation of the desert tortoise and for research. This area is also to be open for lim-



Three of the DRECP's Action Alternatives contain incentives to develop areas within the Research Natural Area and immediately adjacent to it, while a fourth Action Alternative would eliminate it completely. Photo by Alan Radecki.

ited, low impact use (e.g., hiking and photography). Erroneously, the maps for the DRECP's No Action Alternative present the Research Natural Area as open for development and as managed for "recreation emphasis." In the past, this preserve has always been managed for research, education, and contemplative forms of recreation. Billed as a "conservation plan" with a photograph of a desert tortoise in the center of the first page, the DRECP should have placed more importance on recovery of this flagship of desert species.

Land use planning is a long process involving many competing views. The DRECP is still in draft form, and comments from the public can make a difference. The plan alternatives can still be modified, and the choice of alternative can still be influenced. The

public can view and comment on the DRECP and its appendices at <http://www.drecp.org/>. Those who feel strongly about the California Desert are encouraged to comment on the plan, whatever their position. Comments that are specific and contain recommendations are more likely to be influential. After all, these are our public lands.

Mosheh Wolf, Ph.D. works for the Desert Tortoise Preserve Committee Inc. He is deeply committed to the conservation of the desert, its ecosystems, and its organisms. In a previous incarnation he has taught ecology, evolution, conservation planning, and statistics. While he has lived and worked in many locations, he is happy to be back in his favorite, the desert, working to preserve this amazing landscape and its denizens. He would love it if you followed him on Twitter (twitter.com/Gaggeasiz) where he tries his best to be pithy while tweeting about desert tortoises.

"Although the Desert Tortoise Research Natural Area is mentioned several times in the DRECP's Environmental Impact Report, there is little indication of its location, ecological and conservation importance, or its status as a BLM Research Natural Area."

Defending a Desert Icon (continued)

breaking beauty that a mind can manage, a beauty so profound it hurts your heart to witness it, like its going to explode your chest with the generosity of life.

One night in the Silurian Valley I felt that sweet pain as I watched clouds in the broad valley amphitheater fade from white, to yellow, to pale blue-gray, and just as I was packing up my cameras for the night, two lightening bolts of blindingly bright salmon-pink shot like comets across the sky. The land itself turned rosy in the

Valley National Park and Mojave National Preserve, it serves as a passageway for wild species like bighorn sheep, mountain lions and bobcats as they navigate available islands of protected habitat. Never has this been more important than now, as a historic drought brings home the reality of climate change. Animals will have to be able to move if they are going to survive the changes we've set in motion, and we have to make sure they have protected lands and protected migration corridors to be able



Desert bighorn sheep in the Soda Mountains. Photo by Krista Schlyer.



Burrowing owls. Photo by Krista Schlyer.

reflected glow of the radiant clouds.

I've heard it often heard the dismissive phrase, It's just a desert, barren, lifeless. Nothing could be further from the truth, a truth shouted from the Avawatz Mountain peaks that tower above the Silurian Valley; declared indisputably in the thundering of bighorn hooves against rock, and whispered in the branches of creosote, and beneath the ground in the burrows of desert squirrels, lizards and tortoises.

The Silurian Valley provides critical linkages between Death

to do that.

The Silurian Valley, like the tortoise preserve, is proposed as possible location for future solar and wind energy development. If this comes to pass it will alter wild desert forever and the loss would be incalculable, as articulated by one desert resident I've met in the past week: "When you break the ground in the desert, it's permanently broken."

The issue at hand is not whether we pursue renewable energy, but where we get it. Do we get our energy from rooftops and

degraded lands—or from the last remaining wilderness and critical wildlife habitat.

For creatures like the imperiled desert tortoise, survival on this planet swings on a renewable energy pendulum. The Desert Renewable Energy Conservation Plan is the instrument that will decide the fate of the desert and its creatures, from bighorn, to tortoise, to wilderness-starved human being.

We have this one chance to set ourselves on an ethical renewable energy course. Once the

decision is made, there's no going back.

This article is reprinted courtesy Krista Schlyer and Defenders of Wildlife. Krista Schlyer is a photographer and writer and longtime collaborator of Defenders of Wildlife. She is the author of Continental Divide: Wildlife, People and the Border Wall, and winner of the 2014 Ansel Adams Award for Conservation Photography from the Sierra Club. Follow Krista's California Desert tour on Twitter @kristaschlyer and on Instagram at krista_schlyer.



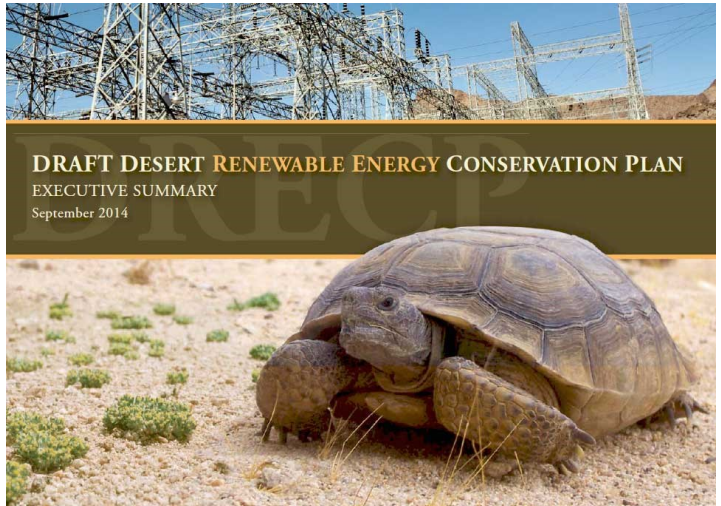
The Mojave Desert is a target for energy generation and transmission projects. Photo by Krista Schlyer.

Request for comments on Draft DRECP

The Desert Tortoise Council is actively reviewing and preparing formal comments on the Draft EIR/EIS for the Desert Renewable Energy Conservation Plan, or 'DRECP.' At the time of this writing, comments are due by 23 February 2015. We want our membership to be involved and to be heard. This plan stands to program-matically change how conservation and recovery of Agassiz's desert tortoise is implemented throughout the California deserts. In terms of scope and effect, there has not been another proposal with potential for such a substantial change in policy and protection of the desert tortoise since 1980 when

the California Desert Conservation Plan was formulated.

Please get involved. If you are experienced at reviewing and commenting on technical reports, we ask that you simply identify the page number and section of the DRECP on which you wish to comment, cut and paste the pertinent text, followed by your comment. If you are not experienced and wish to participate, please contact Ed LaRue either by phone (760-964-0012) or email (ed.larue@verizon.net). Although only our final comment letter will be posted on our website (www.deserttortoise.org), we



will readily share with you the current status of our review and comments. We hope you take this opportunity to help

the Desert Tortoise Council be as thorough and as insightful as possible in commenting on this important plan.

Photo Gallery



Agassiz's desert tortoise. Photo by Ken Nagy.



Chuckwalla. Photo by Krista Schlyer.



Wind energy generation facility. Photo by Krista Schlyer.

New Desert Tortoise Council Logo Unveiled

The Desert Tortoise Council is proud to unveil its new logo, in celebration of the 40th Anniversary. The logo incorporates an element—the line drawing of the desert tortoise—that was featured in original logo produced by Suzanne Allan.

The new logo was created by Pablo Navarro, a creative Marketing Consultant at Caterpillar, Inc. in Peoria, Illinois. “I

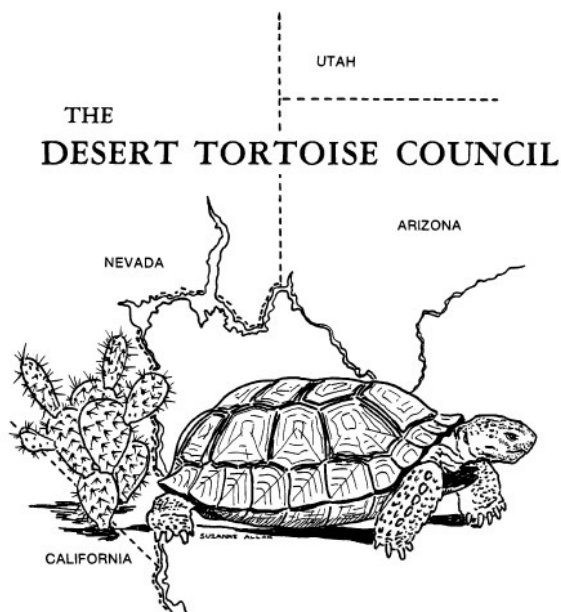
looked for a way to give the classic logo design a modern, updated look,” said Navarro.

The new logo not only provides a fresh update to celebrate 40 years of success in conserving desert tortoises and their habitats, but resolves issues with the previous logo. Specifically, the original logo was designed during a time when the DTC was dominated

by biologists and land managers from the United States, and when the desert tortoise was considered a single species. Accordingly, the previous logo featured a map of the southwestern United States naming the four states where the ‘desert tortoise’ was known to occur. Over the past 40 years our membership has grown to include Mexican biologists who study and conserve desert tor-

toises in Sonora and Sinaloa, and we’ve come to understand that the ‘desert tortoise’ includes at least two species (and likely more).

The new logo will be featured on our website, correspondences, and social media platforms, and appear on numerous items for sale at the 2015 Symposium, including t-shirts, hats, and coffee mugs.



The original Desert Tortoise Council logo, used between 1975 and 2015.



The new Desert Tortoise Council logo redesigned in celebration of 40 years of conserving desert tortoises and their habitats.

Best Management Practices Forthcoming

The Desert Tortoise Council is committed to being the premier organization for conserving desert tortoises and their habitats, and to that end the Council will begin publishing a series of Best Management Practices (BMP). The BMPs will be developed to provide guidance to scientists, land managers, and wildlife agencies concerning conservation of desert tortoise populations and management of threats to desert tortoise

populations and their habitats within the context of up-to-date scientific knowledge. The first of the BMPs to be published concerns restoration of Agassiz's desert tortoise habitat. The Desert Tortoise Council recently awarded Dr. Scott Abella with a grant to develop this BMP. Dr. Abella will produce a publication that will discuss restoration of desert tortoise habitat, develop a flyer summarizing recommendations

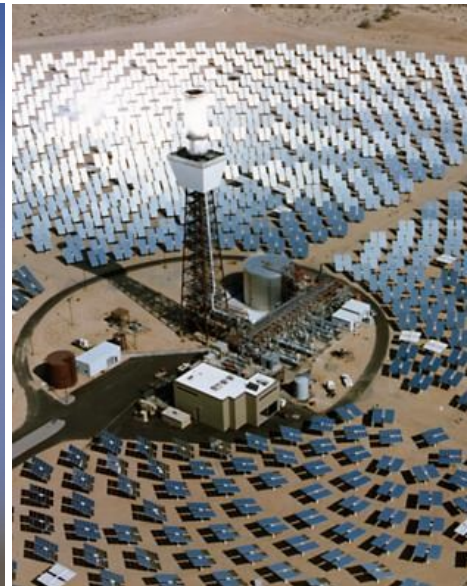
that can be distributed to interested parties, and present the BMP at the upcoming 40th Annual Symposium. The BMP will identify the most effective management interventions reported for: 1) re-establishing perennial plants as cover sites following disturbances such as fire and land clearing that remove perennial plant cover; 2) increasing the quantity and quality of forage, especially annual plants; 3) managing

grazing of both domestic livestock and non-native feral animals; 4) decommissioning and managing roads, utility corridors, and other linear disturbances; 5) reducing hazardous fuels and fire risk through management of non-native annual plants; and 6) accommodating climate change, including potential shifts in plant communities that may influence distribution of desert tortoises.

Photo Gallery (continued)



Cactus wren. Photo by Krista Schlyer.



Solar One. Photo by U.S. Department of Energy.

Recent Publications

Aiello, Christina M., Kenneth E. Nussear, Andrew D. Walde, Todd C. Esque, Patrick G. Emblidge, Pratha Sah, Shweta Bansal, and Peter J. Hudson. 2014. Disease dynamics during wildlife translocations: Disruptions to the host population and potential consequences for transmission in desert tortoise contact networks. [*Animal Conservation* 17:27–39.](#)

Averill-Murray, Roy C. and Bridgette E. Hagerty. 2014. Translocation relative to spatial genetic structure of the Mojave Desert tortoise, *Gopherus agassizii*. [*Chelonian Conservation and Biology* 13\(1\):35–41.](#)

Berry, Kristin H., Mary B. Brown, Mercy Vaughn, Timothy A. Gowan, Mary Ann Hasskamp, and Ma Cristina Meléndez Torres. 2014. *Mycoplasma agassizii* in Morafka's desert tortoise (*Gopherus morafkai*) in Mexico. [*Journal of Wildlife Diseases* 51\(1\):89–100.](#)

Berry, Kristin H., Lisa M. Lyren, Julie L. Lee, and Tracy Y. Bailey. 2014. Protection benefits desert tortoise (*Gopherus agassizii*) abundance: The influence of three management strategies on a threatened species. [*Herpetological Monographs* 28\(1\):66–92.](#)

Bowen, Lizabeth, A. Keith Miles, K. Kristina Drake, Shannon C. Waters, Todd C. Esque, and Kenneth E. Nussear. 2015. Integrating gene transcription-based biomarkers to understand desert tortoise and ecosystem health. [*EcoHealth* 12\(1\).](#)

Braun, Josephine, Mark Schrenzel, Carmel Witte, Larisa Gokool, Jennifer Burchell, and Bruce A. Rideout. 2014. Molecular methods to detect *Mycoplasma* spp. and Testudinid herpesvirus 2 in desert tortoises (*Gopherus agassizii*) and implications for disease management. [*Journal of Wildlife Diseases* 50\(4\):757–766.](#)

Germano, Jennifer, Vanessa E. Van Zerr, Todd C. Esque, Ken E. Nussear, and Nadine Lamberski. 2014. Impacts of upper respiratory tract disease on olfactory behavior of the Mojave Desert tortoise. [*Journal of Wildlife Diseases* 50\(2\):354–358.](#)

Hinderle, Danna, Rebecca L. Lewison, Andrew D. Walde, Doug Deutschman, and William I. Boarman. 2015. The effects of homing and movement behaviors on translocation: Desert tortoises in the western Mojave Desert. [*Journal of Wildlife Management* 79\(1\):137–147.](#)

Jacobson, Elliott R., Mary B. Brown, Lori D. Wendland, Daniel R. Brown, Paul A. Klein, Mary M. Christopher, and Kristin H. Berry. 2014. Mycoplasmosis and upper respiratory tract disease of tortoises: A review and update. [*The Veterinary Journal* 201\(3\):257–264.](#)

Lovich, Jeffrey, David Delaney, Jessica Briggs, Mickey Agha, and Meaghan Austin. 2014. Black bears (*Ursus americanus*) as a novel potential predator of Agassiz's desert tortoises (*Gopherus agassizii*) at a California wind energy facility. [*Bulletin of the Southern California Academy of Sciences* 113\(1\):34–41.](#)

Sullivan, Brian K., Roy Averill-Murray, Keith O. Sullivan, Justin R. Sullivan, Elizabeth A. Sullivan, and Daren J. Riedle. 2014. Winter activity of the Sonoran Desert tortoise (*Gopherus morafkai*) in central Arizona. [*Chelonian Conservation and Biology* 13\(1\):114–119.](#)

Special 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 mem-

bers, and available for free download from our website (www.deserttortoise.org/newsletter.html).

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Position Announcement: DTC Social Media Coordinator

The Desert Tortoise Council, a non-profit organization with a mission of promoting the conservation of wild desert tortoise populations and their habitats, is seeking a Social Media Coordinator who will assist in the development and maintenance of the Council's

presence and message on various social media platforms. This is a volunteer position. The ideal candidate would be an existing member of the Desert Tortoise Council who is social media savvy, and who wishes to become more involved in the mission of the

Desert Tortoise Council. If you are interested learning more about the Social Media Coordinator position, please contact Chris Noddings at chris.noddings@cardnogs.com and enter "DTC Social Media Coordinator" in the subject line.



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*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*.*

Desert Tortoise Council
4654 East Avenue S #257B
Palmdale, CA 93552

