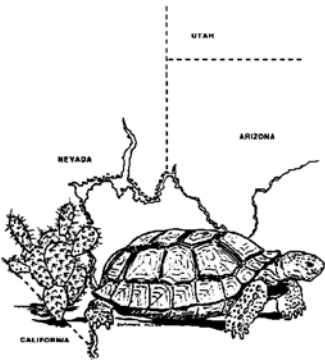


THE DESERT TORTOISE COUNCIL NEWSLETTER

Winter 2011-OUR 36th YEAR

Our Goal: To assure the continued survival of viable populations
of the desert tortoise throughout its range



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MARVELOUS RATTLESNAKES

by Glenn R. Stewart, Ph.D.
Professor Emeritus of Biological Sciences
California State Polytechnic University, Pomona

Snakes are commonly misunderstood and feared, or at least disliked, by a majority of people. However, most (about 80%) of the roughly 2,900 species known worldwide are essentially harmless to people and highly beneficial as predators of pesky rodents in the ecosystems of the world. Though many species can bite in self defense and draw blood, their teeth usually leave just a series of small puncture wounds that heal quickly with proper care. Only a few large constrictors (boa constrictors, anacondas, and pythons) and about 600 venomous species are potentially dangerous. Even among the venomous species, probably less than half are capable of delivering a lethal bite to an adult human.

Among the venomous snakes, I believe that rattlesnakes are the most interesting due to a series of adaptations for survival they have developed through millions of years of evolution. Rattlesnakes are restricted to the western hemisphere. About 40 species have been described and half of them occur in the United States, including nine species currently recognized in California. These are the only venomous snakes in California and can easily be recognized by their triangular-shaped heads which are distinctly wider than their necks. All nine of these rattlesnakes occur in southern California,



Photo: Workshop participants learning how to process at tortoise at the 2010 DTC Handling Workshop

but the most wide-ranging and commonly encountered is the Southern Pacific Rattlesnake (*Crotalus helleri*). This species can be found in many habitats from the coast to elevations of 10,000 feet in the mountains to the desert base of the mountains and south into northern Baja California, Mexico.

If you happen to encounter a rattlesnake and don't know what to do, here is my recommendation. First, determine how far you are away from the snake. A rattlesnake coiled in a defensive posture can strike a maximum of about half its body length. Thus, if you have an average-sized 3 foot long snake, it can only strike about 18 inches. If you are that far away or more, no problem - just give yourself a little more distance and observe it. If you are within the potential strike distance, back up very slowly until you are out of the strike zone. The snake will only be motivated to strike if you move quickly and it feels threatened. Of course, if you step on the snake, it can simply reach around and bite you without having to coil up first.

Now, do not kill the rattlesnake!! Instead, observe it and marvel at its beauty and highly evolved adaptations:

1) The jaw structure, which allows the snake to take prodigious meals that can last it for two weeks or more. Like most snakes, rattlesnakes have extremely flexible articulations among the bones of both the upper and lower jaws, enabling them to swallow prey considerably larger than the diameter of their heads. To facilitate swallowing, snakes usually take the prey down head first. Lacking a sternum (breast bone) to which ribs are connected in other vertebrates, a snake's body also can expand to accommodate large prey items. While most snakes kill their prey either by constriction with their bodies or by holding the prey tightly in their mouths until it dies, rattlesnakes and other vipers inject a potent venom that kills the prey quickly.

2) The venom, used primarily to subdue and kill prey, which is composed of as many as 20 or more different pharmacologically active molecules, some of which attack the nervous system ("neurotoxins"), others which impair or promote blood clotting (yes,

opposite reactions! – "hemotoxins") and still others which generally break down tissues, capillary walls and cell membranes ("cytotoxins"). Hemotoxins and cytotoxins are the principal components of most rattlesnake venoms and actually begin digesting the prey before it is swallowed, aiding the overall digestion process. In fact, the same pharmacological properties that make snake venoms so effective in acquiring and processing prey make them extremely valuable in medical research and as sources of potential treatments for various human diseases. They are worth way more than their weight in gold!

3) The curved fangs, used to inject the venom, which are relatively long for deep penetration - maybe a quarter inch in a 3 foot long snake. They are located on rounded maxillary bones that rotate them up against the roof of the mouth to keep them out of the way when not in use. When swallowing prey, rattlesnakes use these movable fangs, together with simultaneous, alternating left-right movements of the lower jaw, to "walk" the snake's head over the prey.

4) The heat receptor organs or pit organs, one positioned on each side of the face, which provide a three-dimensional, though fuzzy, image of prey in the near infrared spectrum. (Images from the heat receptors are projected to the optic lobes of the brain, the same region that receives visual input.) Rattlesnakes share these remarkable organs with other pitvipers, including Copperheads and Cottonmouths in the eastern United States. Individual nerve endings in the thin membrane suspended inside the pit organ are responsive to changes in temperature of only 0.003 degrees Celsius. Functionally, this means that a rattlesnake can perceive a moving object in the receptor field at a distance of at least 18 inches that is about 1 degree Celsius (1.8 degrees Fahrenheit) warmer or cooler than the surrounding environment, and it can strike accurately at that object without visual input. Non-moving objects, however, appear not to be perceived by the heat receptor system, and probably not very well even by the visual system, which is why it is important to back away very slowly if you find yourself with a foot or hand within striking distance.

5) The rattle that, with special "fast" muscle fibers in the tail tip, vibrates at nearly 100 oscillations per second, and evidently evolved hundreds of thousands of years ago as warning device to keep rattlesnakes from being stepped on by large hoofed mammals like bison, and going back 10,000 years or more, also horses, camels and mammoths that shared their habitat. Keep in mind, however, that a rattlesnake does not always rattle if a human approaches. You may not be heavy enough to vibrate the ground so that it perceives you (snakes are essentially deaf to air born sounds), it may not feel threatened, or it may be asleep. The rattle is composed of loosely linked segments, one being added at the rattle's base each time the snake sheds its outer layer of skin. A young snake may shed 3-4 times a year, depending on how frequently it has been feeding and, thus, how fast it has been growing. As it gets older, the growth rate will decrease and shedding frequency will decline to 1-2 times per year. Also, because it is increasing in size more slowly, the new rattle segments will not be much wider than the older ones, and terminal segments will break off, eventually leaving a rattle that doesn't taper and is incomplete. At that point, you know the snake is several years old, but it is not possible to make a good estimate of age. However, rattlesnakes can live for at least 20 years, assuming that they avoid the many hazards to survival that snakes face (especially humans and Red-tailed Hawks!).

6) The forked tongue, which is waved around in the air and touches objects, picking up scent molecules from the environment and transferring them to a highly sensitive olfactory (sense of smell) organ in the roof of the mouth. This "vomero-nasal" organ functions together with the normal nasal olfactory region and is specialized to provide directional perception of the scent source, i.e., the two sides of the vomero-nasal organ project to different sides of the olfactory region of the brain. This is why the snake's tongue is forked - to pick up scent molecules from slightly different points in the environment so the snake can follow a scent trail. It is analogous to how your ears work, giving directionality to your perception of sounds.

7) The intricate color pattern which, while rather bold and obvious against a uniform background, tends to blend in with the variegated background of a natural habitat with light and shadow and various shapes. Southern Pacific Rattlesnakes have a diamond-like pattern similar to that of several other rattlesnakes, some of which are called "diamondbacks" (e.g., the Western Diamondback Rattlesnake, *Crotalus atrox*, that ranges from extreme southeastern California through Arizona and New Mexico to Texas, and south into mainland Mexico; the Red Diamond Rattlesnake, *C. ruber*, ranging south through the hills and lower mountains of Riverside, Orange and San Diego Counties in California and much of Baja California, Mexico).

You can minimize your chances of getting bitten by a rattlesnake with a few simple precautions. Always watch where you step and put your hands! With the cool temperatures of spring and fall, rattlesnakes are most likely to be active during the daytime hours. However, during the hot summer months, rattlesnakes tend to become nocturnal. At that time of year, it's a good idea to use a flashlight when you walk outside at night.

What do you do in the unlikely event that you get bitten by a rattlesnake? Well, those same pharmacologically active molecules that were evolved primarily to subdue and kill prey are going to start working on you. Because of your much larger body size, however, you are not likely to die, and there is a 20% to 30% chance that the snake did not inject any venom. Rattlesnakes can adjust the amount of venom expelled according to the size of their prey and how provoked they might be in a human encounter. The clothing and shoes you are wearing also could deflect the delivery of venom. Still, you could suffer a very serious and painful injury.

The thing to keep in mind is that, if you get antivenom treatment within 60 minutes (of course, the sooner the better), the most serious effects of the venom can be neutralized. Many of the larger hospitals in southern California can treat rattlesnake bites, and a call to 911 probably would enable paramedics to get you to one in less than an hour. However, Loma Linda University Medical Center

currently has California's most experienced snakebite treatment team, lead by Dr. Sean P. Bush. In the event of a severe bite, this would be the hospital of choice. Meanwhile, you should sit down and try to remain calm, take off any rings, bracelets, watch bands, etc. that might restrict blood circulation, immobilize the bitten part - or at least keep it at or slightly below heart level - and minimize physical activity. Do not attempt any kind of cut and suction or apply any constricting band, ice or electric shock! They are ineffective first aid treatments, and can actually make the attending physician's job harder and the outcome worse.

In any case, think positively about rattlesnakes and appreciate them as one of nature's true wonders!

Since most of the newsletters are being received electronically, we would like to invite everyone to send us your photos. Have really great pictures of tortoises or other wildlife? Send them to us and we will put a few of them in the newsletter each issue. Any other updates or news items are welcome as well.

Please make sure you update your mailing and email addresses.

In an effort to conserve time, money, and paper, we strongly encourage all of our members to receive the newsletter electronically rather than hardcopy.

Send your photos and any other updates to sdaly@burnsmcd.com.

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FROM THE EDITOR

ANNOUNCEMENTS

Address Updates!!!

Please renew your addresses, including e-mail. Every time we e-mail newsletters, 10 to 20 percent of the e-mail addresses we have are bad.

At the Symposium...

2011 Desert Tortoise Council Symposium Features Special Sessions on Reptile Translocations, Ecology and Physiology of Rattlesnakes, and Renewable Energy Development

PLEASE NOTE THE START TIME of 9:30 a.m. on Friday, February 18. Papers will be presented from 9:30 a.m. Friday through 5:00 p.m. and on Saturday from 8:00 a.m. through 5:00 p.m. On Saturday evening, after the buffet dinner, Dr. Linda Cayot will give the post-dinner program, "Restoring a Tortoise Dynasty: Chronicles from Galapagos." Awards, Auction and Raffle will be on Saturday evening. On Sunday, the meeting will begin at 8:00 a.m. and end by 4:00 p.m. We are starting a half hour early on Friday morning and ending at 4:00 p.m. on Sunday because of a very full program of featured speakers and sessions. Please note also that

as part of registration fees, there will be a buffet mixer on Friday evening, a western chuck wagon dinner on Saturday evening, breakfasts on Saturday and Sunday mornings, coffee and other refreshments at breaks.

The Desert Tortoise Council Symposium opens on Friday, February 18, at 9:30 a.m. with a Keynote Address by Dr. Wayne Spencer, "Independent Science Advice for the California Desert Renewable Energy Conservation Plan: Background, Recommendations, and Future Directions." Dr. Spencer chaired a multidisciplinary team of 11 scientists who finalized a report of recommendations in October 2010 for the California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and California Energy Commission for the new energy conservation plan in the California deserts. Dr. Spencer's Keynote will be followed by a session featuring Drs. Michael Allen (Univ. of California, Riverside), Sid Silliman (Calpoly, Pomona, Emeritus Professor), and Larry LaPré (Bureau of Land Management, California Desert District) and panel discussion with the audience. This session is particularly timely, given the numerous renewable energy projects proposed or in development in tortoise habitats in the Mojave and Sonoran deserts.

During the Friday afternoon session, a special session on government accomplishments, the audience will have an opportunity to question government agency representatives about their management actions and recovery efforts for the desert tortoise. Please come prepared to participate in this important session.

Other Sessions scheduled for late Friday afternoon, Saturday, and Sunday are noted below. The Program is anticipated to be available during the first week of February.

Translocation of Amphibians and Reptiles: Results of Numerous Studies. Several featured speakers are in this session. Brian Sullivan (Arizona State University) and Erika Nowak (Northern Arizona University) will open this session and summarize numerous research projects, including their own.

Tracey Tuberville et al. will present results of translocation research on gopher tortoises. Linda Cayot will summarize research on the Galapagos tortoises. Danna Hinderle, winner of the David J. Morafka Memorial Research Award for 2010, will discuss effects of homing behavior on translocation of desert tortoise in the western Mojave Desert. Kristin Berry will provide an update of her team's research on translocation of Ft. Irwin tortoises. Phil Rosen will present initial results of his translocation project on the regal horned lizard in the Tucson area.

At the request of Council members, Robert Murphy of the Royal Ontario Museum has put together a special session on Rattlesnake Ecology, Physiology, and Interactions with Tortoises. Speakers include Emily Taylor (The Voyaging Viper: Studies of the Spatial Ecology of Rattlesnakes), Michael Webber (Do Sidewinder Rattlesnakes Cease Feeding During the Breeding Season?), Xavier Glaudas (Habitat Selection in Relation to Prey Abundance in an Ambush Predator, the Speckled Rattlesnake), and Roger Repp (Burrow Buddies—Or Not? Simultaneous Sheltersite Occupation of Sonoran Desert Tortoises and Rattlesnakes near Tucson).

Maggie Fusari and Cecil Schwalbe have assembled a special session on Sonoran Desert Tortoises. Papers will be presented by Cecil Schwalbe (The Sonoran Desert Tortoise: A Saguaro on Wheels), Jeff Servoss (Warranted by Precluded: Federal Status of the Sonoran Desert Tortoise), Erin Zylstra (Survival Rates of Sonoran Desert Tortoises in Arizona), David Grandmaison (Desert Tortoise Occupancy Estimation on the Florence Military Reservation, Pinal County, Arizona), and Taylor Edwards (Looking Backwards In Order to Move Forward: A Review of Desert Tortoise Genetic Research).

Scott Abella (University of Nevada at Las Vegas) has assembled an impressive group of papers on Restoration and Recovery of Habitat after fire and other disturbances in the Mojave Desert. In a short session, we will have two or three papers on the Bolson Tortoise, including Recovering the Bolson Tortoise in New Mexico: 2010 Update by Lydia Moore, Mike Phillips, and Magnus McCaffery, and

Foraging Ecology and Nutritional Requirements of a Captive Population of Bolson Tortoises in South-central New Mexico by Rosalinka Palomo-Ramos and Martha Desmond.

Several papers will be presented on Population Attributes and Ecology of Desert Tortoises, including papers by Linda Allison of the Desert Tortoise Recovery Office (Regional and Local Desert Tortoise Densities), Mark Massar (Desert Tortoise Populations in Northeastern Riverside County), Todd Esque and Ken Nussear (Desert Tortoise Potential Habitat: What Might Have Been and What Might Be”), and Kristin Berry will review changes in a population in the Argus Range and Salt Wells Valley after almost 40 years.

Papers on Conservation, Research, Management and Planning Efforts will be featured in one or more sessions. Cat Darst from the Desert Tortoise Recovery Office will speak about Collaboratively Prioritizing and Evaluating Desert Tortoise Recovery Across the Landscape and Roy Averill-Murray will present on the topic of Improving the Rate of Knowledge Acquisition for Desert Tortoise Recovery. Debra Hughson and Neal Darby of the Mojave National Preserve will discuss Desert Tortoise Road Mortality in the Mojave National Preserve. Michael Connor and Greta Anderson will present recent efforts of the Western Watersheds Project; David Lamfrom will talk about the Mojave National Preserve Conservancy’s programs; Bruce Palmer will summarize the Desert Tortoise Council’s actions during 2010; and Lisa Belenky will share the Center for Biological Diversity’s activities.

Efforts at the Desert Tortoise Conservation Center and San Diego Zoo will be highlighted in two papers in a session on Research on Health and Disease. Josephine Braun will present a paper titled “Health Conditions Affecting Desert Tortoises at the DTCC: Hotline versus Resident,” and Paula Kahn will provide an update on the progress at the Desert Tortoise Conservation Center. Dr. Elliott Jacobson also will be part of this session with a paper on molecular evidence for tortoise herpesvirus-2 in a wild desert tortoise. Ashley Emerson will summarize the last few years of

results on seroepidemiology of upper respiratory tract disease at the Daggett research site in the southern Mojave Desert.

FIELD TRIP

February 17, 2011

Northern Ivanpah Valley

Join Sid Silliman on a tour of northern Ivanpah Valley. Three solar sites have been proposed for this region. We will spend much time walking thru desert tortoise habitat and will see desert tortoise burrows, possibly tortoises if it is a warm day. Topics of conversation will be the solar projects, desert tortoise populations in the region, head-start program scheduled for the Mojave Preserve, and regional monitoring efforts. We will meet at Sam’s Town in the Hall in front of the meeting room at 9 AM. Bring water, lunch, good walking shoes, and a coat. Plan on a return of 4 PM. We will car pool and will set that up Thursday morning. For any questions please contact Sid at gssilliman@csupomona.edu or Peter Woodman at Kivabio@aol.com.

2011 SYMPOSIUM PHOTO CONTEST

The Council sponsors the annual Photo Contest to honor and encourage our members to participate in educating the public through photography.

AWARDS: Qualified winners will be awarded first, second, and third place ribbons in each of the eight categories. First Place awards will be \$50.00; second and third place winners will receive ribbons. The Best of Show will receive \$100. Awards will be presented during Saturday evening's program.

CATEGORIES:

Wild Desert Tortoises
Captive (pet) Desert Tortoises
Other Desert Reptiles
Desert Mammals
Other Desert Wildlife
Wild Desert Plants
Desert Scenics

Tortoise Conservation. (This category covers a range of subjects, but must depict activities or subject matter important to the perpetuation of the

species. Examples are research, impacts (i.e. raven predation), improvements (i.e. fencing), and environmental education.)

FORMAT: For 2011, the format is mounted print photographs. Prints may be either in a mat frame, or mounted on cardstock or similar weight paper to enable display. NO GLASS PLEASE.

All prints must be labeled with the following information placed on the back:

1. common and scientific names of subject
2. location photo was taken
3. date photo was taken
4. contestant's name, address and phone number
5. entry category

No names on the front, please, but titles are acceptable.

The council also requires contest entrants to provide a digital copy of the Photograph at the time of submittal. If you are submitting more than one photo, you can put multiple files on your fully LABELED disk.

OTHER RULES: The contestant must be a registered attendee of the 2011 symposium. Contestants will be limited to a maximum of three (3) entries each, with no more than one (1) per category. With the exception of Captive (pet) tortoises, all photographs must be taken of WILD (i.e. unrestrained and photographed in its natural habitat) subjects occurring WITHIN THE GEOGRAPHIC RANGE OF THE DESERT TORTOISE. Photographs must have been taken by the contestant.

SUBMISSION OF ENTRIES: PRINTS must be available for viewing no later than 1:30 p.m. Friday, February 18. Please bring the prints (and your electronic disk) to the symposium and turn them in at the registration table.

JUDGING: Prints will be judged at the Symposium by the attendees. Attendees will pick up ballots at the registration table and voting will be from 3 p.m. Friday to 3 p.m. Saturday. Winners will be announced at the Saturday evening program.

PRINTS and DISKS will not be returned and will become the property of the Desert Tortoise Council. The Council will have the right to use these photographs in its publications and educational programs, as well as to assign such permission to others, with full credit given to the photographer. These photographs may also be auctioned off in the auction at the Symposium. Questions and/or concerns may be directed to Ann Bedlion via email: ann.bedlion@gmail.com

THE 2010 DESERT TORTOISE TECHNIQUES WORKSHOP

In November, the Desert Tortoise Council (DTC) held two "Introduction to Desert Tortoise Surveying, Monitoring, and Handling Techniques Workshops" in Ridgecrest, CA. The two workshops were attended by 194 people; including 111 consultants, 14 federal, 4 state, 2 academic, 2 tortoise preserve, 1 military, and 60 unaffiliated attendees.

This brings the total 19-year enrollment to over 1894 attendees. The DTC would like to thank the following speakers and instructors who donated their time toward making this workshop such a success. They are: Kristin Berry (USGS), Ray Bransfield (USFWS), Paul Frank, Rebecca Jones (CDFG), Alice Karl (Alice Karl & Associates), Larry LaPre (BLM), Sharaih Romero, Liz Smith, Rachel Woodard and Peter Woodman (Kiva Biological Consulting).

We are very grateful to the Indian Wells Valley Water District, who for the past 16 years has donated the use of their land so we could have a place for our outdoor sessions.

We would like to extend a "thank you" to the following volunteers who helped set-up the outdoor plots as well as assist as plot instructors. They include Courtney Bennett, Alain d'Eprenesnil, Paul Frank, Rosemary Jackson, Alex Mach, Colden McClurg, Corey Mitchell, Jake Mohlman, Bob Parker, Shariah Romero, Liz Smith, Tracy Taylor, Molly Thompson and Rachel Woodard. We

appreciate all of you giving up your time to help us with these most important tasks.

Finally, we would like to extend special thanks to Tracy and Mike Bailey (DTC) and Maggie Fusari (DTC), who along with Peter Woodman organized the workshop; to Ed LaRue (Circle Mountain Biological Consulting) for his fantastic job emceeding the workshop and keeping it on schedule; Pat vonHelf (DTC) who helped with registration; to David Carr (ECORP Consulting) who provided the audio/visual; to Bob Parker for providing his pet tortoises for the handling demonstration; to Mark Bratton (Edwards Air Force Base) for again providing the DVD "Desert Tortoise Awareness" to each attendee; to Sean Daly for getting the test together; to Jeremy Mack and Lucia Acosta for grading the tests; to Mike Connor for putting all the information on our website; and to the Springhill Suites Marriot staff who went above and beyond in accommodating us. We wouldn't be able to do this every year without your support!

NEWS

COURT RULING REQUIRES GREATER PROTECTION AGAINST OHV ABUSE IN CALIFORNIA DESERT

In follow-up to a ruling on off-highway vehicle routes in the California desert, federal judge imposes deadline for new plan and imposes protective measures

San Francisco - Ten environmental organizations secured a favorable ruling in a federal lawsuit against the U.S. Bureau of Land Management (BLM), which manages 25 million acres of public land in southern California known as the California Desert Conservation Area (CDCA).

The January 29, 2011 remedies ruling from the Hon. Susan Illston of the U.S. District Court for the Northern District of California is the follow-up to a 2009 decision in which Judge Illston held that BLM did not adhere to its own regulations and violated the National Environmental Policy Act and Federal

Land Policy and Management Act in its 2006 Plan allowing off-highway vehicle (OHV) use on thousands of miles of trails within West Mojave planning area. The court's remedies ruling addresses the status of OHV routes during the pendency of BLM's remand to comply with the court's 2009 decision, and implements measures to protect the desert during that time period.

The January ruling ordered several key protective measures, including:

- BLM must complete a new designation of OHV routes by the end of March, 2014.
- BLM must place signs on all the OHV routes where use is legal, and inform visitors which routes are legal for use
- BLM must create a monitoring plan that will determine whether illegal OHV use is occurring
- BLM must provide additional enforcement capacity to prevent illegal use

The judge declined to implement several protective measures the plaintiffs had requested, including closing some specific areas with lengthy histories of illegal OHV use.

Plaintiffs' counsel David Lazerwitz and Matt Bostick of Farella Braun + Martel in San Francisco, Sky Stanfield of Keyes & Fox in Oakland and Robert Wiygul of Waltzer & Associates in Ocean Springs, Miss., together represented six of the ten plaintiff environmental organizations.

Sky Stanfield of Keyes & Fox said, "We are pleased that the judge has ordered these important protections for the CDCA and all the creatures that depend on it. These measures will force the agency to better manage the rampant illegal use plaguing the Western Mojave."

Robert Wiygul of Waltzer & Wiygul noted, "We are certainly disappointed that some of the broader protections we requested were not granted, but overall the new measures the judge ordered will provide a foundation for curbing destructive OHV use. The real test will come when its time for BLM to actually implement these measures. If the agency

wants to get a handle on OHV use, it will cooperate. If it doesn't, it will fight any new requirements."

David Lazerwitz of Farella Braun + Martel explained, "We are particularly glad to see the court impose specific protective measures during the remand period, which will likely take several years and involve significant public input. The plaintiff organizations filed this case in 2006 and, despite the favorable ruling on summary judgment in 2009, have waited many years to see on-the-ground action to address OHV impacts. This ruling finally gets us heading in the right direction."

Farella Braun + Martel LLP, Keyes & Fox LLP and Waltzer & Wiygul represent the following plaintiffs: Alliance for Responsible Recreation, The Wilderness Society, Friends of Juniper Flats, Western San Bernardino Landowners Association, California Native Plant Society and Community ORV Watch. The Center for Biological Diversity and the Stanford Law School Environmental Law Clinic represent four additional plaintiffs: The Center for Biological Diversity, the Sierra Club, Public Employees for Environmental Responsibility and Desert Survivors.

To see the website of the press release, see:

http://sanfrancisco.dbusinessnews.com/shownews.php?articletitle=Court%20Ruling%20Requires%20Greater%20Protection%20Against%20OHV%20Abuse%20in%20California%20Desert&newsid=227634&type_news=latest&s=sbcn

CENTER ESTABLISHED TO 'BALANCE DEBATE' ON ENVIRONMENT

To counter what he calls misinformation put out by environmental groups, Southern Arizona attorney Hugh Holub has established the Center for Sustainable Development.

There is a range war going on in Southern Arizona with a clear effort on the part of a couple specific groups to kick all ranchers off public lands in the West, says Holub, who is founder and executive director of the new organization.

"Our purpose is to balance the debate in front of Federal officials," he said. "The Native Species Act was never meant to be used as a tool to beat the heck out of another group they didn't like."

For instance, Holub said efforts are under way to increase fees for federal grazing because according to the Center for Biological Diversity, cattle grazing contributes to the endangerment of the Desert Tortoise.

In December, the U.S. Fish and Wildlife Service said the listing of the Desert Tortoise as an endangered species is warranted, however, due to other priorities it will have to wait. During the wait time, the service will make any determination on critical habitat during development of the proposed listing rule.

"People who aren't aware of this don't know how much it will affect everyone in Southern Arizona, especially in Tucson," Holub said. "They way some of the language is written home building, ranching, RV/ATV use, power lines, gas lines - just about everything is subordinate to the tortoise."

Holub said issues like this shouldn't be driven by litigation, as most of the claims by these groups are. Instead they should be driven by science.

"We need to put another chair at the table that will expand the role of relevant and reliable science; maximize consideration of economic and environmental benefits and assure that deceptive and/or unsupported claims are not given weight in the decision-making processes," Holub said. "That's what we are."

This doesn't mean Center for Sustainable Development will align itself against environmental issues. The primary purpose of the center is to assist in creating environmentally and economically sustainable land and natural resource development.

"Sustainable developments must be good for the environment as well as economically sound," Holub said. "It doesn't have to be one way or the other, we can come up with a third option that benefits both our economy and our environment."

More information about the Center for Sustainable Development is available at www.centerforsustainabledevelopment.net.

www.deserttortoise.org

See the original article here:

http://www.gvnews.com/news/local/article_e18c0e6-2e78-11e0-8724-001cc4c03286.html

NEW OWNERS OF CALICO SOLAR TO MEET RESIDENTS

NEWBERRY SPRINGS • The new owners of the Calico Solar project will be holding a meeting Wednesday regarding proposed changes to the project as well as answering questions that residents have about the project, which may begin construction in November.

Former owners Tessera Solar sold the project to K Road Power Holdings LLC in December. K Road Power plans to build to the original permit approved by the California Energy Commission last October for 663.5 megawatts, which will be able to power up to 350,000 homes at peak hours, said K Road Power spokesperson Felicia Bellows.

K Road Power is holding the public information meeting Wednesday in order to keep the public up to speed on what is going on with the project, said Bellows.

The company is currently looking for a new power purchase agreement for the solar plant, but is planning to begin construction of the desert tortoise fencing in August, said Bellows.

The fencing will keep the threatened desert tortoise — which has been found in the area — from entering the solar project area. Bellows said the company would still be able to start construction if they were unable to get a power purchase agreement signed with a utility company. The project is expected to begin construction of the actual facility in November and will create over 700 construction jobs at its peak, said Bellows.

Calico Solar was originally planned to be strictly suncatcher technology — which concentrates the solar energy using mirrors —but K Road Power plans to change most of the plant to photovoltaic solar energy — which converts solar energy directly into electricity. The plant will still produce about

100.5 megawatts of power using the original suncatcher technology, but K Road decided to go with mainly photovoltaic energy because of delays in getting financing for the suncatchers, said Bellows. The first phase of the construction will consist of only solar photovoltaic energy, while the second phase will build the suncatcher technology.

K Road Power has already developed other solar plants in California, Nevada and Arizona, as well as wind, gas and other energy plants worldwide.

To see the original article, see:

<http://www.desertdispatch.com/news/residents-10250-calico-solar.html>

RARE EARTHS PUT SAN BERNARDINO COUNTY ON WORLD'S MAP

MOUNTAIN PASS - No one was on their way to Vegas 1.3 billion years ago when a large, high-quality deposit of rare earths formed here.

Molten rock was pushing up through the Earth's mantle in eastern San Bernardino County and leaving a sizable deposit of the metals just poking its nose through the planet's surface.

Uranium hunters stumbled across it around 1950 - rare earths are often found in the company of heavier radioactive metals - and eventually it came under the ownership of Molycorp, a Colorado mining company.

Today, according to Molycorp CEO Mark A. Smith, "potential buyers are beating down the door to get those rare earths," which Molycorp stopped mining in 2002 because of environmental problems - and China could do it cheaper, anyway, he said.

Things change. China has virtually cut the world off from its supply of rare earths.

The Asian nation has the world's largest deposits, but Mountain Pass is No. 2, experts say, and Molycorp is back in the race.

Why should we care?

Rare earth metals - or oxides - are vital commodities for a range of products, from smart phones to smart bombs.

And the company's Mountain Pass Mine promises to make lots of money for Molycorp.

It's potential customers can breathe a sigh of relief now that there is another source of the elements. They are so relieved they have pushed Molycorp from a 52-week low of \$12.10 on the New York Stock Exchange to a Jan. 5 high of \$62.10. It has moderated a bit since the high and closed at \$42.99 on Friday, down \$3.55 on the day.

Molycorp is tearing down its old plant and building a \$500-million operation about 15 miles from the Nevada border to mine and process the ores.

The company celebrated earlier this month with a groundbreaking and barbecue for the board of directors, top management and employees at the site. They are calling it Project Phoenix, Smith said.

But not everyone is happy with the operation.

A national environmental group, Western Watersheds project, criticized Molycorp's 8.6-mile proposed gas pipeline, which it says traverses protected desert tortoise habitat.

Western Watersheds filed a complaint (*DTC Editor Note: see next article for press release*) Jan. 14 in U.S. District Court in Los Angeles, seeking to halt the Ivanpah Solar Project, which it says got an inferior examination in its Environmental Impact Statement to help it meet a deadline. That deadline has been extended a year to Dec. 31, and Western Watersheds wants a proper EIS done, which it predicts will halt the power project being built by BrightSource Energy.

"We want it to go away," said Michael Connor, California director for Western Watersheds.

He was unfamiliar with Molycorp's core project, but the pipeline was mentioned in the complaint his group filed.

Still, the Mountain Pass project is gaining interest from potential customers, cut off from China's rare earths but interested in what's in Molycorp's huge open-pit mines.

"We are getting attention - a lot of attention," Smith said on the day of the barbecue.

He expects the new plant to be operational by mid-2012.

To see the rest of the original article, click here: http://www.redlandsdailyfacts.com/news/ci_17178413



More workshop participants learning how to process a tortoise

WWP SUES TO STOP FAST TRACKED POWER PLANT IN CA

LOS ANGELES — On Friday January 14, 2011 Western Watersheds Project filed suit in federal court to halt construction of the Ivanpah solar power plant project being built in the Mojave Desert on public lands in eastern California near the Nevada border. The project site consists of 5.4 square miles of high quality habitat for the threatened desert tortoise.

“No project can be considered clean or green when it involves destruction of habitat for a species listed under Endangered Species Act on this scale,” said Michael Connor, California Director for Western Watersheds Project. “The Department of Interior is tasked with siting energy projects in an environmentally sound manner. Instead it is allowing thousands of acres of important desert tortoise habitat to be bulldozed when there are alternative ways of generating power.”

Threatened by habitat loss, habitat degradation, disease, and predation by ravens and coyotes, the Mojave population of the desert tortoise was listed as threatened under the Endangered Species Act in 1990. Since then, populations have continued to decline. The Ivanpah Valley is home to the most genetically distinct of the five recognized California desert tortoise populations. Desert tortoises on the Ivanpah power plant site are one of the highest elevation breeding populations known, and the area provides essential habitat connectivity through the mountain passes to desert tortoise populations in the neighboring valleys.

“The environmental review for this project was rushed and inadequate - the agencies did not even determine how many desert tortoises were on the site, nor did they determine what impact blocking the north Ivanpah Valley with an industrial-scale power plant would have on connectivity with other tortoise populations,” said Connor.

The site located in relatively undisturbed Mojave Desert near Mojave National Preserve, is prime habitat for 19 other rare animal species including desert bighorn sheep, golden eagles and burrowing owls, and several rare plants in addition to desert tortoise. There are impressive stands of barrel cactus, and centuries-old Mojave yucca.

“The federal government’s rush to approve this ecologically disastrous project is a textbook example of how NOT to address our energy needs,” said Western Watershed Project’s attorney Stephan Volker. “Virtually every significant environmental law was shortcut to shoehorn this destructive project into this ecologically irreplaceable site, despite the known availability of cheaper and better

power sources including conservation, roof-top solar, and energy development in existing industrial zones,” added Mr. Volker.

The 1.7 billion dollar power plant project is being underwritten with \$1.3 billion in federal loan guarantees and “economic stimulus” funds. Secretary of the Interior Salazar approved the project in October.

Western Watersheds Project’s mission is to protect and restore watersheds and wildlife on public lands throughout the American west through education, research, public policy initiatives and litigation. Western Watersheds Project has offices in six western states including California.

To see the original press release, see: <http://www.westernwatersheds.org/news-media/news-release/2011/01/17/wwp-sues-stop-fast-tracked-power-plant-ca>

SCHOLARSHIPS/AWARDS

MAYHEW GRADUATE RESEARCH AWARD FOR BOYD DEEP CANYON

2011 – 2012

Research awards are available for graduate students conducting research at Boyd Deep Canyon Desert Research Center. The competition is open to all graduate students, not just those enrolled at the University of California. Information and application forms are attached. Boyd Deep Canyon is a gateway reserve and research projects centered at the reserve, but conducted off-site will be considered.

Graduate students should submit their applications to Dr. Allan Muth by March 31, 2011, for review by the panel. The review criteria are attached*. Awards will be announced by April 30, 2011. We anticipate making one or more awards with a maximum award of \$2,000. Submit applications and supporting materials electronically.

Deadline for submission of the application and all supporting material is March 31, 2011

For further information about Boyd deep Canyon, please visit: <http://deepcanyon.ucnrs.org>

Dr. Allan Muth (deepcanyon@mindspring.com)
(760) 341-3655

**Note: the application can be found at:*
<http://deepcanyon.ucnrs.org/Grant/MayhewAnnouncement2011.htm>

JOB OPPORTUNITIES

Spring Reptile Internship

Description

Interns at KRZ care for the non-venomous collection, including colubrids, boids, alligators, turtles, as well as feeder animal colonies. Interns also interact with the visiting public by giving informal tours of the zoo and interpretive talks. Interns are also responsible for general cleaning and maintenance tasks around the zoo, including but not limited to cage cleaning, general sweeping/mopping, moving of supplies and building materials, and grounds maintenance.

See the full announcement here:
<http://aazk.org/job-listings/job/1373/>

Desert Tortoise Field Biologist

SNEI - Las Vegas, Nevada

Established in 1991, SNEI is a team of USFWS Authorized Desert Tortoise Biologists who conduct inventories for sensitive species of flora and fauna, do sensitive species clearances moving them out of harms way, and provide construction monitoring services keeping sensitive species alive during construction projects.

A Bachelors Degree in Biology, Conservation Biology, Wildlife Biology, Wildlife Management,

Ecology, Zoology, Environmental Studies, Botany, Conservation Biology, or a related field is required to obtain USFWS Authorization. Therefore, it is a requirement for these positions.

Field Biologist Trainee - SNEI has developed a 6 month desert tortoise authorization training program that upon successful completion results in USFWS Authorization as a USFWS Authorized Desert Tortoise Biologist. These training positions are paid positions, SNEI pays you learn to become an Authorized Desert Tortoise Biologist. Learn in the field under the direct onsite supervision of a USFWS Authorized Desert Tortoise Biologist.

Biologist I - Applicants must have considerable prior field experience preferably with sensitive species in the Mojave desert. Prior authorization by USFWS as a desert tortoise monitor is preferred.

We are looking for full time field biologists. We have multiple long term projects that are ongoing. We are contracted to provide biologists on multiple "green power" projects in Southern Nevada, Southern California and Southern Utah. We have other utilities projects and airport related projects as well.

SNEI field Biologists locate and document biological resources during the permitting phase, collect and relocate biological resources during the pre-construction phase, and monitor construction and protect biological resources during the construction phase.

Field Technicians for desert tortoise monitoring program Institute for Wildlife Studies

Description:

The desert tortoise monitoring program is part of the USFWS initiative for the recovery and monitoring of the endangered desert tortoise. Data collected through distance sampling is used to estimate population size and density. Field technicians are needed to fill positions related to distance sampling.

Field technicians will work in pairs, walk pre-defined transects to collect information on desert tortoises, and drive long distances through the desert on dirt roads to travel between daily transects. Field training will be provided, but applicants should have previous experience with wilderness field skills and the ability to use a GPS and topographic maps for navigation. Technicians must be able to walk ≥ 12 km per day in challenging and uneven terrain, carrying personal gear and field equipment. Technicians also must be prepared for temperature and weather conditions that can change rapidly and without warning, able to operate a 4WD vehicle, and willing to camp in the desert backcountry for ≥ 3 consecutive nights. Previous tortoise survey experience is a plus.

- Preference will be given to applicants with previous desert tortoise experience.
- Technicians must have a positive attitude and be capable of working closely with others.
- Exact start and end dates are to be determined, but expect to start in early March and work until the middle to end of May.
- Technicians will be expected to work 5 consecutive days per week, with the understanding that 2 days off may vary.
- The position requires long hours, early morning start times, and camping in the field.
- Compensation: Approximately \$2,500/month (based on an hourly wage), plus housing will be provided during the training (2 weeks in March) and available intermittently throughout the field season.

Location:

Mojave Desert, California and Nevada

Qualified applicants should send a cover letter, resume, and contact information for 3 references to: tortoise@iws.org, or Institute for Wildlife Studies, PO Box 1104, Arcata, CA 95518.

Please note the job (Field Technician) you are applying for in the subject line.

Click here for original notice:

<http://www.parcplace.org/2010-11-16a.pdf>

Telemetry Technicians for desert tortoise monitoring program Institute for Wildlife Studies

Description:

The desert tortoise monitoring program is part of the USFWS initiative for the recovery of the endangered desert tortoise. Data collected through distance sampling is used to estimate population size density and locations of tortoises determined by telemetry is used to calibrate sighting probability. Field technicians are needed to fill positions related to radio telemetry monitoring of tortoises.

Telemetry technicians work alone but in coordination with distance sampling technicians. Technicians are expected to listen for previously tagged tortoises and obtain visuals of tagged tortoises. Field training will be provided, but applicants should have previous experience with radio telemetry, wilderness field skills, and GPS and topographic maps for navigation. Technicians will also be trained to conduct distance sampling in order to help with that aspect of the program.

Applicants must be able to walk alone for long distances in challenging and uneven terrain, carrying personal gear and field equipment. Technicians also must be prepared for temperature and weather conditions that can change rapidly and without warning, able to operate a 4WD vehicle, and willing to camp in the desert backcountry for ≥ 3 consecutive nights.

- Preference will be given to applicants with previous desert tortoise experience.
- Technicians must be capable of working alone, but communicate and coordinate activities regularly with others.
- Exact start and end date is to be determined, but expect to start in early March and work through the end of April.
- Technicians will be expected to work 5 consecutive days per week, with the understanding that 2 days off may vary.
- The position requires long hours, early morning start times, and camping in the field.
- Compensation: Approximately \$2,500/month (based on an hourly wage), plus housing will be

provided during the training (2 weeks in March) and available intermittently throughout the field season.

Location:

Mojave Desert, California and Nevada

Qualified applicants should send a cover letter, resume, and contact information for 3 references to: tortoise@iws.org, or Institute for Wildlife Studies, PO Box 1104, Arcata, CA 95518.

Please note the job (Telemetry technician) you are applying for in the subject line.

Click here for the original posting:

<http://www.parcplace.org/2010-11-16b.pdf>

QAQC Coordinator for desert tortoise monitoring program Institute for Wildlife Studies

Description:

The desert tortoise monitoring program is part of the USFWS initiative for the recovery and monitoring of the endangered desert tortoise. Data collected through distance sampling is used to estimate population size and density. Field technicians obtain data from line distance sampling transects and radio-telemetry that must be centrally collected, checked following defined quality assurance/quality control (QAQC) guidelines, and turned into USFWS weekly.

The QAQC/Project Coordinator will be responsible for:

- (1) Traveling to meet crews at specified locations in the Mojave desert for weekly collection of data;
- (2) weekly delivery of paper and electronic data that have been verified for completeness and correctness (QAQC);
- (3) weekly updates on completion of assigned transects, and timely and appropriate response to feedback from the USFWS to improve patterns in collected data;
- (4) assisting the project lead with creating maps, creating or assisting with reports; and
- (5) working with field crews to reduce errors in data entry.

The position requires regular contact with IWS staff in the Arcata office and USFWS project staff, plus interaction with the Crew Leader and field crews. The QAQC coordinator is expected to have previous knowledge of Microsoft Access and ArcGIS, an understanding of working with large databases, and distance sampling.

The exact start and end date is to be determined, but we anticipate a start in early March, with work through June 8. The coordinator is expected to work 5 consecutive days per week, with the understanding that 2 days off may vary. The position requires long hours, extensive travel, and a willingness to meet with field crews in the Mojave Desert.

Salary: Approximately \$3,000/month (based on an hourly wage), plus housing.

Location:

Las Vegas, Nevada with travel to Barstow, CA and possibly throughout the Mojave Desert.

Qualified applicants should send a cover letter, resume, and contact information for 3 references to: tortoise@iws.org, or Institute for Wildlife Studies, PO Box 1104, Arcata, CA 95518.

Please note the job (QAQC Coordinator) you are applying for in the subject line.

Click here for the original posting:

<http://www.parcplace.org/2010-11-16c.pdf>

DESERT TORTOISE COUNCIL MEMBERSHIP
619 Pinon Ct.
Ridgecrest, CA 93555

Check one: _____ MEMBERSHIP APPLICATION/RENEWAL _____ CHANGE OF ADDRESS
DATE: _____ EMAIL ADDRESS: _____
NAME: _____ PHONE: _____
(Please Print) *(Include Area Code)*

ADDRESS: _____
CITY: _____ STATE: _____ ZIP CODE: _____
_____ Regular (**\$30.00** per year) _____ Organization (**\$125.00** per year)
_____ Contributing (**\$100.00** per year) _____ Lifetime (**\$300.00** or more)
_____ Student (**\$20.00** per year- Requires endorsement of student's advisor or Major Professor)
NEWSLETTER FORMAT:
_____ Pdf file via e-mail _____ E-mail notice for web page viewing _____ Hardcopy

Make check or money order payable to the Desert Tortoise Council
and **send** with this application
to: **Desert Tortoise Council,**
619 Pinon Ct.
Ridgecrest, CA 93555

The Desert Tortoise Council does not release its membership list