
Tortoise Tracks

The Desert Tortoise Preserve Committee, Inc.

Fall 2002 22:3



Joshua trees, creosote and open vistas are hallmarks of the Mojave Desert. At the Annual Banquet, Dr. Jill Heaton will explore the many natural and human aspects of this fascinating desert. The scene above is in the Superior Valley in the proposed Fort Irwin expansion area. **Photo by Mark Massar.**

DR. JILL HEATON TO GIVE ANNUAL BANQUET PRESENTATION

The Desert Tortoise Preserve Committee will hold its 28th Annual General Meeting and Banquet on Saturday, January 25, 2003 at the Holiday Inn in Palmdale, California. The featured speaker will be Dr. Jill Heaton of the University of Redlands—Desert Tortoise Project.

Dr. Heaton, who is also the newest board member on the Desert Tortoise Preserve Committee, will present a slide-illustrated program titled *The Faces of the Mojave*. Her talk will explore the serious and the humorous natural and anthropogenic faces we so often see when traveling through the Mojave Desert, and those that the desert tortoise must face on a daily basis. She will look at the many threats facing the desert tortoise right now and the history of conservation efforts to protect the tortoise in the Mojave. While focusing on the desert tortoise, Dr. Heaton will also examine the special attributes of the Mojave Desert which make it such an interesting and unique

place. Dr. Heaton is an engaging speaker and her presentation will be both entertaining and informative.

Dr. Heaton has a B.S. and M.S. in biology from the University of North Texas, and a Ph.D. in geography from Oregon State University. In 1996, she began working with Mojave Desert lizards, and more recently with the desert tortoise. Dr. Heaton is currently a faculty member at the University of Redlands, and is Principal Investigator of the Redlands Institute Desert Tortoise Project.

Look for the banquet reservation form and further information on page 3. The banquet will begin at 6:00 P.M. You are encouraged to attend the Annual Meeting at 2:00 P.M. The DTPC Board of Trustees and Staff will present reports on the Committee's ongoing programs, successes, and future plans.

Desert Tortoise Health & Disease Workshop Held at Zzyzx, CA

A group of prominent scientists gathered in Zzyzx over the weekend of November 15-17, 2002 to discuss desert tortoise diseases. A similar conference was held at this remote desert studies center six years ago; this follow-up workshop was assembled to discuss new information, and to look at future directions for research and management. Diseases in tortoises are widespread and are one of the reasons for the dramatic population declines throughout the Mojave and Colorado deserts. The Upper Respiratory Tract Disease (URTD), for example, has seriously depleted tortoise populations at the Desert Tortoise Natural Area and elsewhere.

The workshop was sponsored by the California Department of Fish and Game, the United States Geological Survey, and the University of Redlands, with support from the Desert Tortoise Council, United States Fish and Wildlife Service, Fort Irwin, 29 Palms Marine Air Ground Task Force Training Command, and California Turtle and Tortoise Club. Over 30 people participated including the University of Florida scientists who first discovered *Mycoplasma agassizii*, one of the bacteria that causes URTD. Also represented were land managers from the Department of the Interior and the Department of Defense—the chief land owners of desert tortoise habitat, and the DTPC's Executive Director representing the desert tortoise interest groups.

Dr. Kristin Berry and others presented survey data showing that tortoise populations are continuing to decline at study sites, with diseases such as URTD and shell disease being major factors. Although such diseases by themselves may not be fatal, they contribute to tortoise mortality because of other human caused stressors to the environment. Also discussed were the implications of disease on proposed translocation and head-starting efforts (to augment depleted wild tortoise populations), the benefits of fencing in limiting the spread of diseases, and the importance of nutrition in tortoise health and disease.

For a further discussion on shell diseases see the Summer 2002 *Tortoise Tracks* (22:2); and for more information on URTD see the Committee's website at www.tortoise-tracks.org.

Desert Tortoise Preserve Committee Fundraising Mailing

The Committee works to conserve the tortoise in the wild by establishing and managing preserves, and by promoting research and education. The wild desert tortoise needs help more than ever before at this time, but we simply cannot do all the work that is needed without raising money. This year we are mailing a fundraising message to all our contributors and to other potential supporters to try to increase DTPC membership.

The Bush administration is de-emphasizing the role of government agencies and emphasizing the role of private sector organizations in species conservation. Given the teetering status of the tortoise and today's political and economic constraints the Committee's work is more crucial than ever.

This year has been one of great strides by the Committee. A few highlights include:

- Acquisition of 2,000 acres to strengthen and enlarge the DTNA
- Provision of a DTNA naturalist for the 14th successive year
- Major desert tortoise population and health surveys at two permanent study plots
- Mohave ground squirrel surveys at the Pilot Knob grazing allotment

The tortoise needs your help more than ever. Please join with us in our efforts to save the tortoise. If you have already contributed this year we offer you a warm thank you and ask that you kindly share the fundraising message, card and envelop with a likeminded friend.

The Desert Tortoise Preserve Committee, Inc.



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<http://www.tortoise-tracks.org>

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**THE DESERT TORTOISE PRESERVE COMMITTEE
INVITES YOU TO JOIN US AT OUR**

28th Annual General Meeting & Banquet

The Desert tortoise Preserve Committee will hold its 28th Annual Meeting and Banquet **Saturday, January 25, 2003** at the Holiday Inn, 38630 Fifth Street West, Palmdale, California. The Annual Banquet speaker will be Dr. Jill Heaton who will give a presentation titled *The Faces of the Mojave*.

DRIVING DIRECTIONS

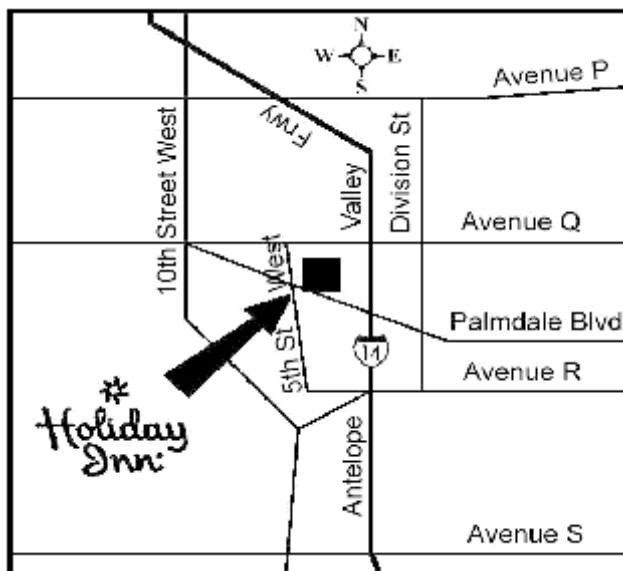
Los Angeles: Take the 405 N to the 5 N to the 14, continue N on 14 to Palmdale Blvd., turn left (west) to 5th St. West.

San Bernardino: Take the 15 N to 138, continue W on 138, it turns into Palmdale Blvd., continue on Palmdale Blvd. to 5th St. West, turn Right.

Mojave: Take the 14 S to Palmdale Blvd. Exit Palmdale Blvd., go west to 5th St. West, turn Right.

If you want to stay overnight after the banquet, call the Holiday Inn, Palmdale at (661) 947-8055 for room reservations.

- Annual Meeting 2:00 to 5:00 P.M.
- No-host Social Hour 5:00 to 6:00 P.M.
- Banquet Program 6:00 to 9:00 P.M.



RESERVATION FORMS AND CHECKS MUST BE RECEIVED BY JANUARY 15, 2003

*Questions? Please call (909) 683-3872 or email <dtpc@pacbell.net>
Or visit our website at <http://www.tortoise-tracks.org>*

___ Dinner reservations at \$25 each: \$ _____

Optional tax-deductible donation: \$ _____

Enclosed is my check for a total of: \$ _____

Name(s): _____ Phone Number: (____) _____

Address: _____ Email: _____

City: _____ State: _____ Zip: _____

Organizational Affiliation (if any) _____

I (we) plan to attend the afternoon business meeting: Yes _____ No _____

**Make checks payable to DTPC and mail to:
DTPC Annual Banquet
4067 Mission Inn Ave, Riverside, CA 92501**

Redlands Institute Becomes Important New Player in Desert Tortoise Research

Dr. Jill S. Heaton, Redlands Institute—Desert Tortoise Project

The Redlands Institute for Environmental Design, Management and Policy is the largest research unit within the University of Redlands. Based in the Center for Environmental Studies, it coordinates and supports grant-funded projects related to a broad range of multidisciplinary topics. Much of this work has focused on the development and environmental application of advanced geographic information systems (GIS) and related decision support technologies. The Redlands Institute is the current home of the Desert Tortoise Project, a multi-year, multi-million dollar effort to develop a GIS based program using advanced sensor technologies and spatial data analysis techniques to support desert tortoise monitoring efforts and investigate tortoise populations in the context of the Ft. Irwin National Training Center (NTC) land expansion efforts.

While the focus of the Redlands Institute Desert Tortoise Project is centered on the NTC expansion area, it must ultimately be considered in the larger context of range wide desert tortoise recovery, particularly within the West Mojave Recovery Unit. In that vein, the overall purpose of the Desert Tortoise Project is to provide better science-based estimates of desert tortoise *populations*, *habitat*, and *threats* generally within the West Mojave Recovery Unit, and specifically, within the context of the proposed NTC expansion area. Desert tortoise recovery can only be achieved through the dynamic interplay of science, management, and policy. In order for this to happen, desert tortoise science must continue to advance, management must be adaptable (i.e. adaptive management), and policy development must be equally balanced between scientists, managers, and stakeholders.

Desert tortoise recovery efforts have reached a critical threshold where scientists, managers, and policy makers recognize the need for better integration of scientific information and enhanced coordination. At this point, heavy demands have been placed on scientists and science organizations to compile, synthesize, and produce data for science-based solutions to recovery without crossing the line of policy and management recommendations. With these thoughts in mind, the Desert Tortoise Project has identified three key project research objectives:

1. Facilitate better understanding and integration of *desert tortoise science* and its applications to *population* estimates, *habitat* evaluation, and *threats* assessment;
2. Enhance the integration of science with *management and policy*; and
3. Through the use of *information science* technologies including knowledge management, data discovery, modeling and decision support tools, provide an integrated information infrastructure and support for the organization, dissemination, and synthesis of desert tortoise knowledge, information, and data to the scientific, management, and policy community.

The project recognizes that the advancement of desert tortoise science, by itself, will not achieve the goal of tortoise recovery in the Mojave Desert. Policy makers and managers will play a crucial role in that regard. As a result, the Desert Tortoise Project will consider *management and policy* implications in the development of its science based research activities. And finally, the *information science* component of the project is primarily intended to provide infrastructure and support for the desert tortoise science, management and policy components.

The Desert Tortoise Project has just completed the first year of a four year project. A Draft Program Design was completed in September of 2002 and is available for distribution. An Implementation Strategy is being developed and will be combined with the Program Design to form the Strategic Plan. The Draft Strategic Plan will be available for distribution in January 2003. Most of the activities to be carried out by the Desert Tortoise Project will require intensive involvement of key existing players among the desert tortoise stakeholder community. As such, the Program Design, Implementation Strategy and the Strategic Plan will be refined based upon review and feedback from the community, including the identification of specific key partners from among them who will provide guidance, advice and direct assistance with respective components of the project.

DESERT TORTOISE PRESERVE COMMITTEE

MEMBERSHIP/DONOR FORM

NAME _____ DATE _____ NEW _____ (Check one)
 ADDRESS _____ RENEWAL _____
 CITY _____
 STATE _____ ZIP _____

Individual membership \$ 15 annually []
 Family membership \$ 20 annually []
 Sponsor membership \$ 30 annually []
 Benefactor membership \$ 75 annually []
 Patron membership \$100 annually []
 Life \$500 []

Membership Dues \$ _____
 Additional Donation \$ _____
 Total Enclosed \$ _____

DONATION ONLY

Enclosed is my donation of \$ _____

Please make checks payable to: **DTPC**

And mail to: **DTPC**
4067 Mission Inn Avenue
Riverside, CA 92501

The DTPC is an IRS recognized tax-exempt 501 (c)(3) nonprofit corporation. All contributions above the basic \$15 annual membership dues are tax-deductible to the full extent allowed by law.

All contributors receive the quarterly newsletter *Tortoise Tracks*.

Membership and donor information are kept confidential and will not be disclosed to third parties.

I WANT TO VOLUNTEER

My area of interest/expertise is:

My e-mail address is:

Natural History Notes

Hibernation and Dormancy

Now is the time for desert tortoises to start their long hibernation, which will take them through the often harsh, sub-freezing winters of the Mojave Desert. Beginning in late October and continuing through mid November, tortoises enter a state of inactivity known more properly as dormancy or brumation. Hibernation technically applies to endothermic ("warm-blooded") animals such as mammals, who *actively regulate* their body temperatures to very low temperatures. Ectothermic ("cold-blooded") creatures like tortoises have no mechanism for physiologically regulating their body temperatures, which simply match their surroundings. During dormancy the tortoise's heart and respiration rate decrease and all other bodily processes are greatly slowed down. The tortoise's body temperature closely matches the air temperature in its burrow—about 40° F to 60° F.

The onset of dormancy varies both among individual tortoises and geographically—commencing earlier in the more northern, cooler parts of the range like Utah. Desert tortoises may hibernate for 100 days per year, while some have been known to hibernate more than 200 days. Tortoises use a variety of winter cover sites (also called hibernacula) including soil burrows, rock shelters and caliche caves. Burrows used in winter tend to be longer than those used as summer cover sites. It is believed that the number of freezing days per year in a region dictates the length of a hibernaculum, with the length of the cover sites in Utah being up to 30 feet long.

Although most tortoises remain sequestered in their hibernacula throughout the winter, some are occasionally active on warm winter days, moving to the entrance of their burrows to bask and sometimes even leaving the burrow altogether to forage. It has been suggested that this behavior may be a sign of sickness, initiated as an immune response to fight infections.

Winter dormancy is a way for tortoises to survive the often harsh desert winters when conditions are stressful and resources are at a minimum. A somewhat analogous condition called estivation allows tortoises to cope with the equally stressful months of midsummer. Between hibernating in winter and estivating in summer, desert tortoises spend the vast majority of their lives asleep underground!



Tortoise Tracks

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DTPC CALENDAR OF EVENTS

25 January 2003
Desert Tortoise Preserve Committee's
Annual Meeting & Banquet

21-23 February 2003
Desert Tortoise Council's
Annual Meeting and Symposium
Las Vegas, Nevada

28-29 March 2003
Desert Tortoise Preserve Committee's
Spring Work Party
