

Our purpose is to document and publicize the values and conservation needs of horned lizards, to promote horned lizard conservation projects, and to assist with horned lizard management initiatives throughout their ranges.

Volume 18, Issue No. 2

MAY 2013

2013 Texas Horned Lizard Hunts!

by *Lee Ann Linam*

You are invited to join the Horned Lizard Conservation Society for three horned lizard survey opportunities in Texas this year:

Saturday-Sunday, May 18-19 – A Bioblitz (a 24-hour biodiversity survey) is being conducted on a private ranch near Glen Rose, Texas. Located in Somervell County near the intersection of several ecoregions, horned lizard populations are present but spotty in this part of the state. We will help the landowner compile a list of reptiles and amphibians and hopefully confirm horned lizards' presence. We won't start until Saturday evening, so you could take time to visit nearby Fossil Rim Wildlife Center during the day on Saturday!

Sunday-Monday, May 26-27 (Memorial Day weekend) – Rio Hondo – We will be visiting a ranch owned by Mary Jo Bogatto, who is active in Texas Horned Lizard Watch. We can assist Mary Jo with her horned lizard and Texas tortoise surveys and learn about the various conservation and education efforts that she has ongoing at the ranch. Some limited accommodations may be available. You may also want to take advantage of the long

weekend, by arriving in South Texas early to visit many of the wonderful refuges and parks in that area (or perhaps even South Padre Island!).

Saturday-Sunday, Aug. 31-Sept. 1 (Labor Day weekend) – Mason – We will be visiting Blue Mountain Peak Ranch (<http://www.bluemountainpeakranch.com/>), a beautiful property on the western edge of the Edward's Plateau that was a winner of TPWD's Lone Star Land Steward award. Texas Tech recently initiated horned lizard research on the property, and the site is being studied as an example of habitat restoration for horned lizards. The landowner is eager to host conservation groups and to have a more complete herp survey done on the area. Some lodging may be available. We might extend our stay at Blue Mountain Peak Ranch to two nights, or perhaps participants will want to visit nearby Mason Mountain Wildlife Management Area.

To sign up for these trips, please contact Lee Ann Linam (llinam@txwinet.com). More details on times, directions, and logistics will be provided to registered participants.



HLCS Welcomes New Leadership

By *Lee Ann Linam*

HLCS would like to welcome its newly-elected Board of Directors:

President – Bill Brooks

President-Elect – Tim Tristan

Treasurer – Carolyn Todd

Secretary – Reilly Dibner

Director At-Large – Megan Lahti

These officers took office on May 1. Adding a Membership Services Chair is one of its first items of business. We're excited that experienced leadership is returning and new faces are stepping up to help guide HLCS over the next two years. There's still a place for you! Education, surveys, outreach, fund-raising, marketing... Please contact President Bill Brooks if you would be willing to serve on a committee in any of these areas!



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Greetings From the New President...

What's Old is Now New Again.

(Oh, if only that was true.)

By Bill Brooks

Many of you know me. I'm a charter member of the HLCS. There are a few of us old dinosaurs still around. I've been selling HLCS goods for the last 13 years and was the president of the society about ten years ago.

You would think that after working with the society for 23 years I would have it all figured out. However, I have more questions about the viability and direction of the society than ever before.

Many things bother me. At the top of the list is the fact that 24 people voted in this election. I sure wish more people had voted. The board has been talking about hiring an executive director, but do we have a viable working organization if we have to pay someone to run it? (We decided against this, because we just don't have the money.) It is always a struggle to get volunteers to do the jobs we should be doing.

It is with all this in mind that I have stepped forward in an attempt to correct some of the problems I see with the society. I promise to do my best, but I will fail without your help. I call on all our members to step up and do what they can to help this organization.

Here are just a few projects I think we need to be focusing

on first. We, of course, need better communication with our members. I want to do this with more email messages. Now I won't blast out your mailboxes, but I want to try to keep you better informed so we can have a more active group.

We need people who can help with technology issues, government issues and people who are good with people (out reach).

We need tech people to update our website. We have been talking about this for what seems like a decade. It's ridiculous that we still don't have the ability to click and buy our merchandise. We need the site to be more interactive and it would be nice to get kids activities up and running. We need to tally sighting reports. It would be really neat if someone would create a horned lizard sighting project on iNaturalist and then create a link to it from our website. Our facebook page needs a moderator. Many of the emails are concerned with keeping horned lizards as pets. We do not want to be associated with that.

We need people who are interested in government, both state and national. We need national laws protecting all species of horned lizards. I don't have great hope for this. They can't even decide on a budget. In Texas the roundtail horned

lizard doesn't have nearly the same protection as the Texas and short-horned species. I'd like to see this changed. People in all states need to find out what the laws are and tighten protection for all horned lizards.

We really need people people. The HLCS will live or die from our outreach ability. We need to get our name out there through booth sitting at local conservation festivals. So many communities have these now. Volunteer for your own Horned Lizard booth. Spread our message and pass out HLCS literature. We will supply you with handouts and kids activity pages. We have banners and displays if we can find a way to get them to you. We need more members, especially younger members. I encourage all of you to find friends or relatives who would like to join us or give a gift subscription and a cap to a young friend.

Everyone loves the field surveys. We'd like more in states besides Texas, but the logistics are rough. We don't all have the time and money to travel, but I'd like to see members outside of Texas step up and sponsor field surveys on their own. We will support you all we can and help publicize the event.

Lastly, to keep growing and spreading our message, we

Continued on page 4

need money. I will put together a yearly fund raising appeal. We love our lifetime members, but perhaps we can all throw a little more into the pot occasionally. Thankfully, some of you already do.

All is not doom and gloom. Thanks to the tireless people

who put together our newsletter. It is as good as it has ever been. Members please keep sending in submissions. The essential job of keeping membership records and tending to our post office box is done very efficiently. We have some great surveys in the works. I also want to thank our active mem-

bers for their support over the years. We need more "actives". With your help, the HLCS will have a bigger and brighter future. Best wishes from your president, Bill Brooks, 108 Cactus Cove, Paige, Texas, 512-581-0377, b.brooks@utexas.edu. I'd like to hear your ideas.



Volunteer Technicians Needed

By Rachel Granberg

The Verble-Pearson lab is seeking volunteer field technicians for a Texas horned lizard, ants, and fire project during summer 2013. Work will include: horned lizard relocation via telemetry, vegetation surveys, and ant surveys.

This would be a great internship opportunity for an undergraduate with the potential for school credit and an undergraduate research

project. We will be working long, hard hours. Ability to perform physical labor in hot

weather and a good attitude are a must.



http://farm3.static.flickr.com/2639/3960427752_2272e8eatt.jpg

Unfortunately, we do not have the budget to provide a stipend, but housing is provided.

Please contact Rachel Granberg (rachel.granberg@ttu.edu or 206-276-1315), Anna Meyer, or Dr. Robin Verble-Pearson if you are interested in volunteering for all or part of the field season, starting 6/1/2013 and ending 9/1/2013.



Please renew your annual HLCS membership!!!
HLCS depends on its membership for its conservation and educational presence in the community.

Categories for *annual* memberships include:

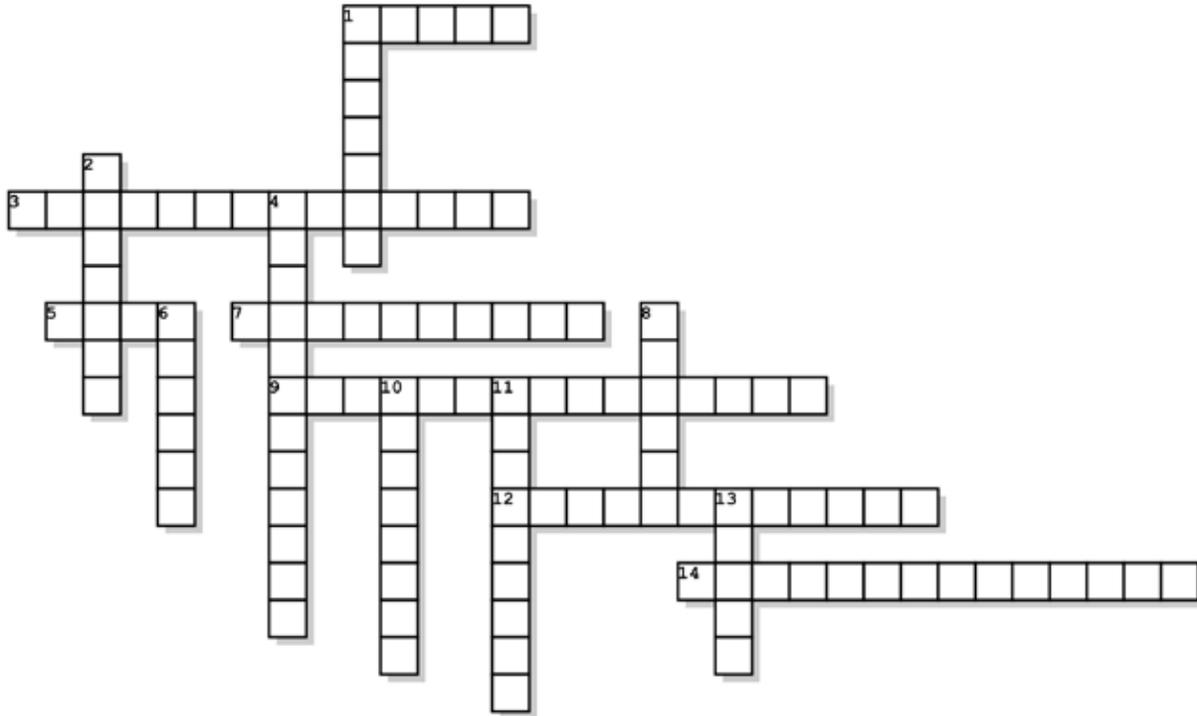
- Regular \$25
- Student or Senior \$10
- Family \$25 Each additional family member \$10
- Contributing \$50
- Corporate \$250
- Lifetime* membership \$300

The HLCS welcomes contributions in any amount you wish to submit and is a 501(c)3 nonprofit organization.

Activity Page

Super Crossword Creator!

Crossword Puzzle



Across

- 1 state in which HLCS headquarters is
- 3 Lab seeking volunteers to work summer of 2013
- 5 Treasurer of HLCS
- 7 a search engine that raises money for HLCS
- 9 a suite of 18 of these pesticides were analyzed by Wes Anderson during his research.
- 12 state where Wes Anderson spent his boyhood years
- 14 name of this newsletter dedicated to horned lizards

Down

- 1 President-Elect of HLCS
- 2 state where the Horned Lizard Ranch is located
- 4 scientific name for harvester ants
- 6 Secretary of HLCS
- 8 President of HLCS
- 10 2011 grant recipient and subject of Member Highlight
- 11 where Wes Anderson collected harvester ants for his research on horned lizards
- 13 Director-at-Large of HLCS

Answers on page 11.

Member Highlight—Wes Anderson

By Wes Anderson

Hey, y'all. My name is Wes Anderson. I completed an M.S. in Wildlife, Aquatic, and Wildlands Science and Management from Texas Tech University in 2012. While attending Texas Tech I conducted research on the ecology and conservation of the Texas horned lizard. Much of this research focused on habitat use and movement of this species in central Texas where populations have experienced heavy declines.

But I hadn't always lived in Texas. I grew up in Lancaster County (Amish Country), PA where I spent many hours as a child dip-netting streams and ponds and flipping over whatever rocks I could find in search of critters. Sadly, lizards are few and far between in that part of the country, but I found my fair share of snakes, turtles, salamanders, and frogs. By the time I was nearing high school graduation I already knew that chasing after herps was more than just a hobby.



Wes Anderson enjoying Palo Duro Canyon with a Texas horned lizard.

I decided to attend a small liberal arts school called Davidson College, which is located about 20 miles north of Charlotte, North Carolina. A large factor in my decision to attend Davidson was the herpetology lab there directed by Dr. Mike Dorcas. I learned many worthwhile herpetofaunal survey and monitoring techniques and had my first real experience conducting scientific research. During the summers I was back in Pennsylvania where I began working for an environmental consulting company. There I gained a great amount of experience surveying for the federally threatened bog turtle. Finally, I had the chance to travel for a semester to the Sub-Saharan nation of Botswana where I had the sort of wildlife experiences that dreams are made of. One highlight was getting to survey for Nile crocodile nests on my 21st birthday.

I graduated from Davidson



Wes examining the yearling bog turtle he found while working in Pennsylvania.

College in 2009 and was thrilled when I was accepted into a Master's program at Texas Tech. There I began working on a Texas horned lizard project in the lab of Dr. Gad Perry. I was already familiar with much of Dr. Perry's research before I decided to move out to Lubbock and felt this would be a great opportunity to pursue some of my own research.

As an avid reader growing up, I had been familiar with horned lizards nearly my entire life, but had never seen one in the wild until I moved out to Texas. While a Master's student I spent two field seasons traveling down to central Texas to study two populations of Texas horned lizards. I spent many days surveying for lizards, conducting radio-telemetry on marked lizards, and collecting habitat data. At my computer I also spent time modeling Texas horned lizard survival and reproduction rates in an effort to understand what may be driving the population declines we've observed. Lastly, thanks to a grant from the Horned Lizard Conservation Society, I was able to examine potential environmental contaminants in this species' primary prey item – harvester ants.

There were many sweltering days and lots of not-so-comfortable nights. In fact, I think in 2010 I spent more than 100 nights sleeping in a tent.

But I feel it was all worth it. I came away with a real love and appreciation for this incredible group of animals. After spending months chasing after and observing them, how could I not? I also hope some of my research efforts can be helpful in further understanding this species as we continue to examine why it has declined in so many places. I also fell in love with Texas. It was hard not to when I was spending so much time in the gorgeous Texas Hill Country. The countryside, the people, the music, and the food are all things I think back to and remember fondly.

At this point in time, I'm not quite sure what my future holds. Currently I'm living in Montevideo, Uruguay and teaching English lessons. I fully intend to return to the States sometime within the next few years and begin a Ph.D. program in Biology. And it will surely involve some aspect of reptile and amphibian conservation. However, it's hard to say if I'll be in the position to study horned lizards anytime soon. Regardless, I plan on being a lifetime member of the Horned Lizard Conservation Society. I appreciate all the work this organization has done with raising awareness and supporting research focused on these animals. Keep the public outreach and conservation efforts coming as I'll continue to be reading all about them!



Horned Lizard Research Grant 2013 Applications

The Horned Lizard Conservation Society is dedicated to protecting horned lizards by documenting and publicizing the values and conservation needs of horned lizards, promoting horned lizard conservation projects, and assisting with horned lizard management initiatives.

Towards those ends, the HLCS annually sponsors research that has direct conservation applications. To learn more about the society and past grants, go to <http://www.hornedlizards.org/>.

We will be offering grants again in 2013. In the past, priority has been given to projects that have direct conservation implications, including

public education.

To apply, send a proposal detailing the goal of the study, the rationale for it including relevance to conservation of horned lizards, and how your work would benefit from this opportunity. The proposal may not exceed 1000 words, excluding up to ten references. Also include a preliminary budget with any other funding sources available or received for your project. In addition, send a short resume or CV (up to 3 pages) for the lead applicant and have a single letter of reference sent to Megan Lahti: megan.lahti@azwestern.edu. The deadline is July 1, 2013. The decision will be announced by July 31, 2013.



2011 Grant Recipient Research Summary

The Declining Texas Horned Lizard

By Wes Anderson

Declines have been noted in Texas horned lizard (*Phrynosoma cornutum*) populations throughout much of its range for over forty years. Several hypotheses for the causal factors behind these declines have been proposed. Unfortunately, most of these hypotheses remain largely untested. As the potential impact of environmental contaminants on Texas horned lizards is not investigated in the literature, yet remains a hypothesis behind this species' decline, I believe it critical that this issue be addressed. My grant through the Horned Lizard Conservation Society allowed me to initiate a pilot study examining potential lizard exposure to two common, persistent classes of environmental contaminants: metals and organochlorine pesticides. I investigated dietary exposure to these contaminants by examining concentrations in the Texas horned lizard's main prey item – ants.

Ants are composed primarily of indigestible chitin, and, for this reason, horned lizards must consume large quantities – upwards of 100 each day. Through-



One of the few Texas horned lizards encountered at Camp Bowie in recent years.

out much of their range, harvester ants (*Pogonomyrmex spp.*) are common and comprise up to 80% of this species' diet. It has also been recently shown that rough harvester ants (*Pogonomyrmex rugosus*) near El Paso are able to uptake significant amounts of heavy metals through their diet. Therefore, it is plausible contaminants may have serious effects as they bioaccumulate across trophic levels.

As I had been conducting research in central Texas and as red harvester ants (*Pogonomyrmex barbatus*) are the most abundant species in the area, they were chosen for the ecotoxicological analyses.

In fall of 2010 I collected red harvester ants from multiple colonies at two sites in Brown County, Texas. Brown County is located within one of two regions in Texas identified as where population declines of Texas horned lizards have been greatest. The primary site where ants were collected was Camp Bowie. Camp Bowie is managed primarily for training military personnel. Live munitions training is frequent with all four firing ranges located on the easternmost part of the property. As a reference site I selected the McGillivray and Leona McKie



Overview shot of habitat at Camp Bowie.

Muse Wildlife Management Area. This property is located approximately 27 km northeast of Camp Bowie. By analyzing contaminants within red harvester ants at this site, I was able to determine if the levels of contamination at Camp Bowie are a function of military training and are unique to the property or if the levels indicate a more regional exposure.

At Camp Bowie fifteen colonies were sampled with at least 2.0 g of ants collected from each colony. In order to provide coverage for most of Camp Bowie, nests were located greater than 1 km from the next nearest sampled nest. At the Muse WMA four colonies were sampled with at least 1.5 g of ants collected from each colony. Ants were then frozen until they were prepared for analysis. Samples were prepared following appropriate methodology for both organochlorine pesticides and metals.

Three samples, two from Camp Bowie and one from the Muse



Close-up view of red harvester ants emerging from a nest at Camp Bowie.



Red harvester ants were collected using a plastic serving spoon to avoid stings and deposited in a Tupperware container prior to ecotoxicological analyses.

WMA, were analyzed for a suite of eighteen organochlorine pesticides using gas chromatography. Analyses revealed that six different organochlorine pesticide compounds were present in the samples from Camp Bowie and seven different compounds were present in the sample from the Muse WMA. The pesticide endosulfan was detected in all samples tested. However, it appears unlikely that any of these compounds were present in concentrations that may pose widespread risks to horned lizards in the area.

Nineteen samples, fifteen from Camp Bowie and four from the

Muse WMA, were analyzed using an inductively coupled plasma-mass spectrometer to determine concentrations of the following metals: aluminum, nickel, zinc, arsenic, cadmium, and lead. Mercury was also analyzed separately. There were no significant differences detected in metal concentrations between Camp Bowie and the Muse WMA suggesting military activity is not a major source of trace element contamination – at least at this site. There were, however, significant differences detected for both zinc and cadmium among the samples collected at Camp Bowie.

samples, it was two to five times higher than what was observed in ants at sites that were known to be contaminated with trace elements. However, it is unknown how much zinc is actually available to the lizard after ingestion of its ant prey and at what rates it can excrete this metal from its system. Although it is known that lizards and snakes, in general, are able to tolerate much higher levels of zinc than other terrestrial vertebrates, the high levels of this element within the Texas horned lizard's primary prey at sites separated by 27 km may warrant the need for further investigation.



Organochlorine pesticides were analyzed using the gas chromatograph-mass spectrometer (GC-MS).

Overall, metal concentrations were generally well below levels seen in studies on ants at other sites. The one anomalous result of this study was elevated zinc levels at both Camp Bowie and the Muse WMA. At a mean of 1029 mg/kg across all

I would like to thank Derek Faust and Morgan Willming for assistance in the laboratory. I would also like to thank Dr. Todd Anderson and Brad Thornhill for access to the analytical instruments. I thank the Texas Parks & Wildlife Department, particularly Devin Erleben, for access to the Muse WMA and thank the Texas Army National Guard for access to Camp Bowie. Finally, I would like to thank the Horned Lizard Conservation Society for the funding to carry out this project.

Where Have all the Horned Lizards Gone?

By Bayard H. Brattstrom

Many of us have had this question asked of us. Here is my story and answers.

Often when shopping in Kingman Arizona, a person seeing the Horned Lizard Ranch logo on my Subaru, comes up to me and asks, "Are they the same as Horny Toads"? Of course I answer, "Yes but with scales rather than wet skin, they are really lizards". They often ask if I raise them. I answer, "No, the ranch other than my house is just an ecological reserve". My late wife however, in her teasing way, complete with hand gestures, would answer, "Yes and we have tiny little cowboys who ride tiny little horses, and with tiny little lassos they catch them and brand them with tiny little branding irons".

Then they say, "When I was a kid there used to be a lot of horned lizards around here, where did they all go"? I answer with some or all of the following:

1. You are now standing in the Walmart parking lot! Of course there are no lizards here. Cities and other development destroys habitat for lizards, tortoises, birds, foxes, etc.
2. If you go just beyond the edge of the city or beyond human habitat destruction... You will find horned lizards; they are still there!
3. You had more time as a kid to explore, and you were more agile. Now you are busy shopping, driving, working, thus have no time to look for lizards, but they are still out there.

They often respond with something like, "But I go hunting (hiking, walking my dog, rock-hounding), and I still don't see horned lizards... And they are so cute"! My responses often are:

4. But as a kid you were shorter, hence your eyes nearer to the ground, and had a better search image.
5. As a kid you probably were out in the open a lot, but even then you really only saw horned lizards out in the spring or early summer when they were feeding and mating. In Fall you may have seen hatchlings that spend

a few hectic weeks eating to store enough energy to survive the winter. But now as an adult if you go out hunting (walking, etc.) during horned lizard activity time, you will see them, but if you miss their seasonal activity, you will not see them and think that they are all extinct.

And yes human habitat alteration is rapid, introduced Fire, Argentine Ants, cats, dogs, and cattle have impacts on horned lizards which is why we have to protect them with laws and biological reserves. I often point out that in a study I did in Southern California on Coast Horned Lizards, in spite of development, horned lizards were still found in 75% of their known range and of that 50% was in National or State Forests, National Monuments, Bureau of Land Management lands, State, County, and City Parks, and in biological or conservation reserves. I also put in a plug for the Horned Lizard Conservation Society and for the scientists and volunteers that study and help conserve horned lizards.

So, I conclude by saying that while human impacts on horned lizards have been severe, they are still out there, mostly on protected lands, but you won't see them unless you are there during their season of activity.

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ARIZONA
www.50states.com



GoodSearch: A Search Engine that Raises Money for Us!

By Wendy Hodges

GoodSearch.com is a search engine that donates half of its revenue, about a penny per search, to charities that users designate. The HLCS has been set up as a charity through their web site. You use it like any other search engine, and it's powered by Yahoo!, so you get great results. Stop Googling and use GoodSearch!

Go to www.goodsearch.com and enter the Horned Lizard Conservation Society as the

charity you want to support. You will earn us money doing a normal web search every time you use it! You can see how much money we earn at any time.



Please use it as often as you can! Set it as your home page or bookmark it or put it on your web browser's tool bar.

We could earn thousands of dollars a year just by having our members designate us whenever they do an internet search. GoodSearch has now added GoodShop. By following the links from the GoodSearch page to stores you already purchase from, a percentage will go to your charity of choice – designate HLCS! Examples of stores that donate are ebay, Barnes & Noble, Alibris books, and REI.

Thanks for contributing - and **SPREAD THE WORD!!!**



Calling All Horned Lizard Survey Ideas!

By Lee Ann Linam

Do you know of some great locations for horned lizard surveys? Are you involved in a horned lizard project where you need some volunteer help? Is there just a neat place that you think we should explore?

We're looking for horned lizard survey ideas for 2013 and 2014. We'd welcome ideas for any state or any horned lizard species. Please send ideas to Lee Ann Linam (leeann.linam@tpwd.state.tx.us) to help HLCS offer some great opportunities to its members.

Watch for details in upcoming newsletters.



Super Crossword Creator!

Crossword Puzzle





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Families: \$25 for the first person and \$10 for each additional member
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Phrynosomatics is now sent electronically.