

Texas Horned Lizard Conservation Coalition Meeting

Summary

By Mason Lee

Horned lizard professionals from across the state of Texas descended upon the Muse Wildlife Management Area in May, Texas on March 26th to attend a meeting of the Horned Lizard Conservation Coalition. This event, hosted by the Muse WMA and the Fort Worth Zoo, featured nine talks by horned lizard experts. Devin Erxleben from the Muse WMA began the meeting with his discussion of the Muse's horned lizard translocation project. They collected 71 Texas horned lizards from west Texas to release onto the Muse after they received a thorough health evaluation at the Fort Worth Zoo. These lizards were outfitted with a PIT tag and a transmitter and placed in a soft release enclosure for 10 days before being allowed to disperse. Muse staff tracked the lizards daily to learn about their spatial use and survivability. They found that, on average, the lizards used an area of 6.8 ha and males moved twice as much as females.



THL Conservation Coalition Meeting attendees

Rachel Alenius, a graduate student from Texas Christian University, and Hannah Richards, a graduate student and HLCS grant recipient from Midwestern University, both gave talks on their studies of diet composition of Texas horned lizards. Rachel studies the diets of horned lizards in Karnes City and

Kenedy and reported that even though the density of horned lizards in these areas is high, the density of harvester ants is very low. Using fecal dissection and DNA barcoding, she discovered that harvester termites made up the majority of their diet, and bigheaded ants were the most frequently consumed ant species.

Hannah studied the diet of horned lizards in north Texas using pitfall traps to estimate prey abundance. The most common families, in order of prevalence, were Coleoptera (beetles), Blattodea (roaches and termites), Hymenoptera (ants, wasps,

continued on page 3

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and bees), and Orthoptera (grasshoppers, locusts, and crickets). Despite the prevalence of beetles over ants in the pitfall traps, ants were still more common than beetles in horned lizard scat.

C. Matt Watson from Midwestern University spoke about the value of ecophysiological studies in THL conservation and discussed various nexi between conservation and academic research.

Dr. Dean Williams from Texas Christian University studies the genetics of Texas horned lizards and reported on his findings from horned lizards at the Fort Worth, Dallas, and San Antonio Zoos. Texas horned lizards fall into one of three genetic clusters, or are a hybrid between two: Western, Northern, and Southern. The Dallas and Fort Worth Zoo have mainly northern cluster lizards, with a few western and southern. The San Antonio Zoo has all southern cluster lizards, with one northern. Northern cluster lizards will be the basis of the breeding and reintroduction programs at the Fort Worth and Dallas Zoo, while the southern cluster lizards will be in the breeding and reintroduction program at the San Antonio Zoo.

Diane Barber and Vicky Poole from the Fort Worth Zoo updated us on their Species Survival Plan breeding program for the Texas horned lizard and spoke about the lizards under their care. One male lived for 9 years, making him the longest lived captive bred Texas horned lizard! Bradley Lawrence of the Dallas Zoo updated us on their monitoring program of horned lizards in west Texas. Andy Gluesenkamp of the San Antonio Zoo spoke about his plan for horned lizard reintroduction and the use of GIS mapping of plant communities in identifying potential release sites. Richard Reams, of the Albuquerque BioPark, informed us of their husbandry methods for their horned lizards, which are raised outside in greenhouses.

After the wonderful talks concluded, we visited the soft release enclosures and the field in which horned lizards are released onto the Muse. We learned about their habitat management plans and how those will benefit horned lizards. The future of Texas horned lizards in Texas looks bright, thanks to the dedication of these researchers!



Horned Lizard Research Grant 2019

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 2019. 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. 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 Monty Criswell: mcrisw1@gmail.com. The deadline is January 1, 2019. The decision will be announced by January 31, 2019.



Become a Horned Lizard Leader!

HLCS is currently seeking nominations for a 2-year term for the 2019-2020 Board of Directors.

The following positions will be available: President-Elect, Secretary, Treasurer, Member Services, and Director-at-Large. Members who are interested can nominate themselves – if you nominate someone else please get their permission before nominating them.

Please provide a brief (up to 7 sentences) biography describing any interest/expertise in leadership and/or horned lizard conservation efforts. No prior experience is required. Board members are expected to be available for correspondence via e-mail, occasional conference calls or in-person meetings. In addition to the specific duties mentioned above, board members are expected to participate in at least two board meetings per year, one of which should be in person and one of which can be conducted remotely. HLCS can opt to provide travel funds to board members to attend meetings.

This slate of officers should take office in January 2019 and will serve for two years. The President-Elect then shall hold the office of president for two additional years.

Feel free to contact the current officer if you have any questions. Nominations/volunteers must be received by September 21, 2018.

Please submit nominations (with biographies) to President-Elect Leslie Nossaman at peoranun07@gmail.com

President-elect - The President-Elect shall serve in the absence of the President or in the event or the incapacity or resignation of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. The President-Elect shall plan and recruit committees and plan and execute the biennial national meeting. The President-Elect becomes the President at the end of a two-year term.

Secretary - The Secretary shall be responsible for Corporate records, keep the minutes of all general membership and BOD meetings, and in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned by the President or the BOD. The Secretary shall also be responsible for cataloguing and maintaining the supply of all publications of the Corporation and responding to requests for information from the membership and general public.

Treasurer - The Treasurer shall be responsible for all funds and securities of the Corporation; receive and give receipts for moneys due and payable to the Corporation from any source; and deposit all such moneys in the name of the Corporation in such banks, trust companies, or other depositories as shall be elected by the BOD. The Treasurer shall advise the BOD in preparation of an annual budget, be responsible for all financial records, and provide the BOD and the membership with written financial reports, including an annual report, sit on the Fund-Raising Committee, and in general perform all duties incident to the office of Treasurer and such other duties as from time to time may be assigned by the President or the Board of Directors.

Director-at-large - The Director-at-Large shall be responsible for development of special projects as assigned by the Board, particularly related to integration of scientific knowledge and conservation issues – this position has been filled by a professional biologist/ecologist in the past. Whenever possible, nominees for this position should be drawn from states not otherwise represented on the BOD.



Texas Land Conservancy's New Mascot Showcases the Need for Conservation in Texas

By Andy G. Gluesenkamp

QUICK NOTE FROM THE Texas Land Conservation STAFF: We are excited to announce that the Texas Horned Lizard is officially TLC's (Texas Land Conservancy) new mascot! After conducting a week-long social media contest, the Texas Horned Lizard won by a narrow margin of just 11 votes over the Barred Owl. This Texas icon is the newest member of the TLC family and we couldn't be happier. We have asked our friend over at the San Antonio Zoo, Conservation Director Andrew G. Gluesenkamp, who leads the zoo's Texas Horned Lizard Reintroduction Project, to share with us why this is the perfect animal to represent our organization.*

Congratulations to Texas Land Conservancy for selecting the Texas horned lizard as their new mascot! I can't imagine a better species to represent this organization. The Texas horned lizard is an iconic and charismatic symbol, and many Texans have fond memories of this once-abundant species. Unfortunately, the lizard has declined or become extirpated from much of its former range in recent decades. As a result, many younger Texans have never seen one in the wild and are familiar with the species only from images and stories from old-timers. There is no single smoking gun to explain the decline and disap-



pearance of the Texas horned lizard. A common refrain is that the red imported fire ant is to blame since lizard populations began to decline in many areas around the same time as the ant made its appearance. However, habitat loss, fragmentation, and non-native invasive plants are also culpable to varying degrees in different places.

While the threats listed above remain serious challenges, changes in land management practices have resulted in improved conditions for the lizard across large tracts of (primarily private) land. Land management practices aimed at restoration and increasing biodiversity are now commonplace and management for game species (i.e. quail) may benefit the lizard as well. Unfortunately, unlike their favored prey (harvester ants), horned lizards are poor dispersers and

they are unlikely to colonize an area of suitable habitat unless it is adjacent to occupied habitat.

That's where reintroduction efforts come into play. The San Antonio Zoo Department of Conservation and Research is embarking on an ambitious plan to reintroduce the Texas horned lizard to areas within its historic range. After decades of research and conservation efforts by numerous conservation partners (including TPWD, TCU, Fort Worth Zoo, and Dallas Zoo), we now have sufficient ecological and genetic information about the species, and management and monitoring methods to aid in small-scale reintroductions. Successful reintroduction will require site assessment, pre- and post-release management and monitoring, and release of large numbers of lizards. A

key component is captive production of lizards rather than translocation of lizards from one population to another. This will require development of red harvester ant husbandry techniques, maintenance of a breeding colony of horned lizards, as well as genetic and pathogen screening of breeders and offspring.

Initial steps in our reintroduction program include development of ant and lizard colonies and review and management of candidate release sites. We anticipate conducting our first soft release of lizards in 2018 and will expand the scale of this effort as additional funding becomes available. This project will continue indefinitely and we hope to expand to meet landowner demand as we develop necessary techniques and protocols. At a minimum, we hope to develop a replicable program for horned lizard reintroduction that can be shared with others wishing to engage in horned lizard management and conservation. Conservation organizations such as TLC are important partners in developing relationships with landowners and raising awareness of conservation challenges and opportunities. With any luck this species will serve not only as a reminder of what we have lost but also as an example of what we can accomplish.

If you have any questions related to the San Antonio Zoo Texas Horned Lizard Reintroduction Project, feel free to reach out!

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Andy has had a lifelong fascination with nature. He attended the University of California at Davis where he participated in surveys of rare and threatened amphibians in the San Joaquin Valley, worked as curatorial assistant in the Zoology Museum, and conducted independent fieldwork on reptiles and amphibians in Belize and Ecuador. He graduated with a BS in Zoology in 1993. He entered the graduate program in Zoology at the University of Texas in 1994 where he studied a wide range of topics relating to reptiles and amphibians and worked in various museum collections. During this time, he discovered his love of caving and biospeleology.

His dissertation work focused on the relationship between development and morphology in bufonid frogs using a phylogenetic approach. He graduated with a Ph.D. in Zoology in 2001. He conducted postdoctoral research as a Parsons Fellow at the Los Angeles County Museum of Natural History before returning to Texas to work as a karst specialist and cave biologist. He worked as a biological consultant specializing in karst issues, a university lecturer, and as skeletal preparator for the Texas Memorial Museum. He also conducted numerous grant-funded projects on rare and endangered salamanders in central Texas as well as research on karst organisms in California, Texas, Cuba, and Mexico before becoming the State Herpetologist for the Texas Parks and Wildlife Department (a position he held for seven years).

He has served as an officer of the Texas Speleological Survey and Texas Herpetological Society and remains active in both organizations. Andy came to work as Director of Conservation in the San Antonio Zoo Department of Conservation and Research in September 2016. Here, he continues his research on central Texas groundwater salamanders and other projects focusing primarily on rare and threatened fish, reptiles, and amphibians. He is ac-

tively involved in various projects in Texas and Mexico. He is a member of the Chinese Cave Fish Working Group and leads the San Antonio Zoo Texas Horned Lizard Reintroduction Project in addition to numerous collaborative research projects, both in Texas and abroad.

*Texas Land Conservancy

The Texas Land Conservancy (TLC) is a non-governmental, 501(c)3 non-profit organization dedicated to protecting land all over the state of Texas. We are in the business of protecting natural areas from the negative effects of land fragmentation and poorly-planned development. Land conserved by TLC will be protected forever from becoming a subdivision, strip mall, or parking lot. Their mission: "Our mission is to conserve natural areas in Texas and to protect the physical and ecological integrity of their water, wildlife habitat, native plant communities, and scenic landscapes. We work with communities, private landowners, governments, and other partners to protect these natural treasures for the benefit of present and future generations."

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Thanks to the Texas Land Conservancy for allowing Phrynosomatics to reprint this article.



Recovering America's Wildlife Act

By Mason Lee

We know our members are not only passionate about horned lizard conservation but are also advocates of preserving biodiversity in our natural world. We wanted to bring to our members' attention to a proposed bill that is currently being considered in Congress.

The Recovering America's Wildlife Act would use a portion (\$1.3 billion) of existing revenue from energy and mineral production royalties to fund state wildlife conservation programs. Each state's wildlife and fish agency would apply their allocated money to projects that benefit and protect species of greatest conservation need (SGCN), which are species that are at risk of becoming endangered. This bill has bipartisan support and is also supported by energy companies and outdoor equipment companies.

If this Act is passed, the state of Texas would receive \$60 million to go towards protecting SGCN such as the Texas horned lizard. Texas is not the only state that lists a horned lizard species as an SGCN. Eight other states would also receive money that could be put towards horned lizard conservation.

The voice of the people is a powerful tool in legislation. Our aim is to inform our members of potential legislation that could benefit horned lizard conservation and to provide them with opportunities to become involved, if they so choose.

Go to the HLCS website (www.hornedlizards.org) to find a fact sheet about the Act (currently tailored for Texas). Also found on the website is a link to a sample letter (also currently tailored for Texas) that can be sent to your state representative requesting that they co-sponsor this bill, if you decide to get involved. You can find your state representative on this website: <https://www.house.gov/representatives/find-your-representative>

Thank you for your continued support of the Horned Lizard Conservation Society and its mission to publicize and promote horned lizard conservation throughout their ranges.





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Table of Contents

Texas Horned Lizard Conservation Coalition Meeting Summary.....pp 1, 3
Mason Lee

Horned Lizard Research Grant 2019 Applications.....p 3

Become a Horned Lizard Leader!p 4

Texas Land Conservancy's New Mascot Showcases the Need for Conservation in Texas.....pp 5-7
Andy Gluesenkamp

Recovering America's Wildlife Actp 7
Mason Lee

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