

TRANSCRIPT

INTERVIEWEE: Bill Brooks

INTERVIEWER: David Todd

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David Todd [00:00:02] Okay. Well, good afternoon.

David Todd [00:00:05] My name is David Todd, and I have the great privilege of being here with Bill Brooks.

David Todd [00:00:11] And with his permission, we plan on recording this interview for research and educational work on behalf of a small non-profit called the Conservation History Association of Texas, and for a book and a website for Texas A&M University Press, and finally for an archive at the Briscoe Center for American History, which is based at the University of Texas in Austin.

David Todd [00:00:37] And I wanted to make sure that we all understood that Mr. Brooks has equal rights to use the recording as he sees fit.

David Todd [00:00:46] And before going any further, I wanted to make sure that that's good with Mr. Brooks.

Bill Brooks [00:00:51] Yes, it is no problems.

David Todd [00:00:53] Oh, good.

Bill Brooks [00:00:53] And you've got that on the record.

David Todd [00:00:56] All right. Good, good. Delighted to hear it. Thank you so much.

David Todd [00:01:00] Well, well, let's get started, then.

David Todd [00:01:03] It is Friday, August 11th, 2023. It's about 2:45 in the afternoon, Central Time.

David Todd [00:01:11] As I said, my name is David Todd. I am representing the Conservation History Association of Texas. I'm in Austin, and we are conducting a remote interview with Bill Brooks, who's based in Paige, Texas, which is not too far from Bastrop.

David Todd [00:01:29] Mr. Brooks is a wide-ranging naturalist: I think that's maybe one of the best ways I could describe him. And he's worked on the staff of the University of Texas biopsychology department and has been affiliated and helped with Capital Area Master Naturalists, Wild Basin Wilderness Preserve, Prairies and Pines Land Trust, Lost Pines Native Plant Society, and many other organizations. Of special interest today, he has been long involved with the Horned Lizard Conservation Society, serving as both its Texas and the national president of that group.

David Todd [00:02:07] So today, our hope is to talk about Mr. Brooks' life and career, so far, and especially focus on what he has learned about the history and the science and the conservation of the horned lizard.

David Todd [00:02:23] So, with that little preamble, I thought we might launch.

David Todd [00:02:28] I will ask Mr. Brooks about his childhood and early years, and whether there might be any people or events in those younger years that might have influenced your interest in animals and reptiles, and maybe even horned lizards in particular.

Bill Brooks [00:02:44] Yes. Well, I appreciate this introduction.

Bill Brooks [00:02:50] Horned lizards is one of the favorite things I have to talk about, but I will talk a little bit about my youth because I was very lucky. I grew up in a family who loved to travel. And my mother taught school. My father worked as head of personnel at Kelly Air Force Base. So my father took care of the family. And every summer, we'd spend my mother's salary on going on these wonderful vacations.

Bill Brooks [00:03:25] And they were huge travelers, who actually traveled more than anybody else I've ever known of. By the time I graduated from high school, I had visited every state in continental United States, plus Hawaii. So, we traveled quite a bit. Every summer, we'd get a little travel trailer or a little pop-up trailer and travel around.

Bill Brooks [00:03:54] By the time I reached high school, graduating from high school, I got to pick where we go to visit. And everybody thought, at that time, I'd pick Hawaii, but no. I picked Florida, because at that time I was already eaten up by the reptile bug.

Bill Brooks [00:04:18] And I went down to see the William Haast Serpentarium that was out there in Florida. Haast is the guy who's gotten bitten so many times, and he actually injected himself with venom. And people thought, well, you'd inject yourself with venom until you finally got to a point where you'd die. But he injected himself and got used to this. He could actually inject himself with more venom than what would kill a normal person. And they'd actually use blood transfusions from him to somebody who's bitten and save their lives. So, he's quite famous.

Bill Brooks [00:05:03] But went and saw his Serpentarium. And I saw the Roswell Allen Reptile Institute. And a lot of people have never gotten to see these. These closed down before too awfully long. And I was very lucky to get to visit these two reptile institutions.

Bill Brooks [00:05:25] And of course, after my parents stopped inviting me on their vacations, I kept traveling and I traveled quite a bit into Mexico. I did caving down there in Mexico.

Bill Brooks [00:05:38] I also saw the monarch butterflies that travel over there in central Mexico.

Bill Brooks [00:05:47] I went down to the Oso peninsula, which is Dr. Larry Gilbert's (he's at UT), his study site in Costa Rica.

Bill Brooks [00:06:00] And so I've done pretty well myself.

Bill Brooks [00:06:03] It's funny, I remember the first time I saw Wade Sherbrooke's book, "Horned Lizards, Unique Reptiles of Western North America" - his first version of that book, I saw it at the Grand Canyon gift shop. And that's where I found it, and that's where I grabbed it. And I never really let it go.

Bill Brooks [00:06:28] It's just a fun thing that I started very early and I've kept up this hobby - silly, silly.

David Todd [00:06:41] Let me ask you just a couple of lead-up questions.

David Todd [00:06:46] Sounds like your parents were very generous and inquisitive and took you on all these trips. And I'm curious if they would just present these places, you know, the Serpentarium, for instance, or if they would interpret it for you, you know, highlight things for you. Or is it more just providing the opportunity for you to see these things and witness it for yourself?

Bill Brooks [00:07:18] Well, of course, the Serpentarium was my idea. I wanted to go see them. But dad was a planner and he'd plan it out. If I could complain about anything, we had a schedule and we had to keep to that schedule. If we found something really, really interesting, we had to keep to the schedule. So, we couldn't stay someplace because we found it interesting. It was, what were we going to do the next day?

Bill Brooks [00:07:47] So we were traveling quite a bit. But yeah, he planned it out pretty well. But he did a great job of having all these different museums and aquariums and camping spots and sights to see. He did a wonderful, wonderful job.

Bill Brooks [00:08:12] And did you think that there were any children, peers, that that shared this interest with you when you're a young person that you could talk about these things or go on exploits adventures with?

Bill Brooks [00:08:28] Well, my sister was a year younger than me. My brother is five years younger than me. And sure enough, Bob and I, we used to go out and go snake hunting, you know. So we'd go out together.

Bill Brooks [00:08:41] And mother was a science teacher, so she was interested in a lot of these facts and figures.

Bill Brooks [00:08:49] And we just had a great time together traveling around the country.

David Todd [00:08:55] Now, did you take some of these snakes that you caught home? Did you have a terrarium or a snake cage or something for your reptiles that you had collected?

Bill Brooks [00:09:08] They let me keep reptiles, but they weren't happy enough to let me keep them in a car for long periods of time. And it wouldn't have worked. We were away seeing things. We couldn't leave them in the car. They'd overheat and die. So, I couldn't collect things on the trip.

Bill Brooks [00:09:30] But once I got home, I went around to the vacant lots and alleys and things around the neighborhood, and I collected reptiles there, for sure.

David Todd [00:09:42] Do you remember any of the particular reptiles that were friends and pets that you brought home?

Bill Brooks [00:09:50] Why, I remember one of the first snakes I caught. And I don't recommend this for anybody, but I remember bringing it home and I wasn't sure what kind of snake it was, but I brought it home from a Boy Scout troop trip. And I came home and mom said, "Well, is it venomous?" And I said, "Well, I don't think so. It's bitten me about three times now. So, no, I don't think it's venomous."

Bill Brooks [00:10:22] So, don't, don't do this. Find out what the reptile are, before you pick them up.

Bill Brooks [00:10:30] But in my case, I did collect a few before I knew exactly what they were.

David Todd [00:10:37] That's great. So you mentioned a Wade Sherbrooke's book, "Horned Lizards, Unique Reptiles of Western North America". And it sounds like that was a sort of landmark book for you. What was it that appealed to you about it?

Bill Brooks [00:10:55] Well, it was just about horny toads. You know, it was just about the little lizards that I'd grown up with. I was around them all the time. I could get a horned toad in my neighborhood any time I wanted to. They were just in the alleys and in the vacant lots around the neighborhood. And it wasn't a problem catching those things. And they were slow enough for young children to catch. So we could catch them, and bring them home, and watch them for a while. And I usually let most of them go because they were hard to keep as pets. And that's what really made me, what appealed to me a lot with this book of Wade's.

Bill Brooks [00:11:44] And I was very lucky to later on meet Wade. And he's now a good friend of mine. So.

David Todd [00:11:52] Very nice.

Bill Brooks [00:11:53] That's a great little book.

David Todd [00:11:54] Come full circle.

David Todd [00:11:57] So, you mentioned that your mother was a teacher. And I'm curious if there were any people in school - your teachers, your classmates, that might have inspired and encouraged this same interest in the natural world and reptiles and, you know, lizards in particular?

Bill Brooks [00:12:19] Yeah, I was mostly self-taught. You know, I wasn't hanging around a lot of people who knew a lot about reptiles. So, I got most of my learning from the books and from people around me. So, I was mainly self-taught.

Bill Brooks [00:12:41] But I worked at the Witte Museum in San Antonio, under Dr. Burns there for a while. I took museology classes once I came to U.T. at the old Texas Memorial Museum. And I took all the biology classes.

Bill Brooks [00:13:01] I started a little herpetological society in Austin, my new home. And that was before ... right now, there's a good Austin herpetological society. But I started my group long before this group ever started.

Bill Brooks [00:13:22] And I worked at Wild Basin Preserve. I was very lucky to do that. And gave classes at Wild Basin and gave field trips. And it was a good place for me to throw events if I wanted to put on an event and get people to come talk. They'd come to my house and talk, at the Wild Basin. I lived there, so that was a fun education.

David Todd [00:13:52] Sure. Yeah. And a nice forum to share these teachers with the public, I imagine.

Bill Brooks [00:14:01] Absolutely.

David Todd [00:14:02] Well so, some people, you know, get their education and encouragement from people they are intimate with, and, you know, their family, their friends, their teachers and classmates. And then other folks seem to pick it up from books or movies or TV shows.

David Todd [00:14:26] And I think you mentioned the Sherbrooke book as being something that was encouraging for you. Were there other parts of the culture that might have gotten you off on this path?

Bill Brooks [00:14:40] Well, yeah. Like so many herpers, I started out with, Rodger Conant's "Reptiles and Amphibians of Eastern and Central North America". And that was a wonderful book that I just read over and over and over again.

Bill Brooks [00:14:58] I worked at a couple of pet stores - that was later, as I got older - that taught me an awful lot.

Bill Brooks [00:15:06] And I even helped with a little movie, "What Happened to the Horny Toad?" That was a movie made by Stephanie Leland and her husband, Beau. That was back in 2012. And it was a fun, little informative movie that was just addressing the question, what happened to the horny toad? So, it was a good show.

Bill Brooks [00:15:32] Well, we need to get into some of those ways to tell the story about the horny toad. Let's talk just a little bit more before we get quite there, though, and learn about your career.

David Todd [00:15:48] I understand that you worked at the University of Texas in the biopsychology research labs there for a quarter of a century - quite a while. And I was hoping that you could tell about your work there.

Bill Brooks [00:16:03] Yes. Most of my work was raising laboratory animals for the psychology department. I raised mice, quail, hamsters, gerbils, ferrets, a little bit, and other types of test animals - chickens, all kinds of animals. And I learned to feed, water and take care of these animals.

Bill Brooks [00:16:30] And when I came home, I fed, water, and take care of my animals. I kept fish, reptiles, cats, skunks and ferrets in an efficiency apartment at one time. I really

trashed that apartment. But I kept all these animals out running around loose in my apartment.

Bill Brooks [00:16:54] Except for the snakes. I didn't let them run around loose. There were too many places for them to hide.

David Todd [00:17:04] That's great. Well, it sounds like animals have been a part of your life for many years, and I thought this might be a good chance to find out when you first encountered horned lizards and what your impressions were then.

Bill Brooks [00:17:24] Yeah, it's just I grew up in San Antonio, and those were just my pet dinosaurs. As I mentioned, they were small enough for kids to catch. And they were everywhere. They were in the alley, that's when we used to have alleys, between the backs of our houses. You don't have that so much anymore. But, they were in the alleys. They were in the vacant lots. We had a lot, called, I called the Lizard Lot, and I'd take off and I'd tell mom, "Oh, I'm going to the Lizard Lot." "OK, be back for dinner", you know.

Bill Brooks [00:18:03] So, I'd take off to these different places. I had a creek that ran not too far from my house that, just like lots of creeks in San Antonio, and I knew that creek probably better than anybody, because I hiked that creek and got caught animals, small, defenseless animals I caught in that creek. And I even the kept, ran a trot line that caught mostly catfish. And once a year I'd thaw out all the catfish and feed my family.

Bill Brooks [00:18:42] So that was a lot of fun.

David Todd [00:18:46] Nice. So this might be a good opportunity just to learn a little bit about horned lizards, and their general life history or the ecological niche they fill. I understand that there's actually more than one that's found in Texas. Maybe you can touch on the different kinds that you've experienced.

Bill Brooks [00:19:13] Sure. Absolutely. And first will go, you can call these animals, these horned lizards, I call them, you can call them by several different names. And it tells something about yourself, what you call these animals.

Bill Brooks [00:19:31] A lot of times you'll hear me call them horny toads, because that probably means you're older, like I am, because that's what they would call them when I was young. But they're not really toads. They're lizards. So, "horned lizards" is more politically correct and scientifically correct name for them. So, "horned lizards" is actually correct.

Bill Brooks [00:20:01] Now, you can also hear them called horned frogs. And if you hear them called horned frogs, you know that person is somehow connected to TCU University, Texas Christian University, because their mascot is the Horned Frog and they're the only ones I know that call them horned frogs. Not even toads, not lizards, but frogs. So, if you hear somebody calling it a horned frog, somehow they were connected to TCU.

Bill Brooks [00:20:42] And they're such neat animals. There're three species found in Texas. The short-horned and the round-tailed is found out in far west Texas. There's actually, all the horned lizards are found west of the Mississippi River. They actually are found just over the border in Canada, down all the way south to almost Central America - about 20 different species.

David Todd [00:21:13] They've been dividing species up. And they actually found a new one not long ago and named it after Wade Sherbrooke. So, they have a Sherbrookei that's running around down there in Mexico. So, they're just interesting, interesting animals.

David Todd [00:21:35] So what sort of habitat? You see that their range is generally west of the Mississippi, but all the way north to Canada and down into Latin America. Is there something that is really characteristic of the kind of habitat that they're usually found in?

Bill Brooks [00:21:56] Yeah, they're found mostly in dry areas, mostly deserts. Not all the time, but that seems to be their preferred habitat. They like bunch grasses. They hide in the bunch grasses during the day and sleep and cool off a little bit. But they come out of the bunch grasses, they want and like nice open areas. They like that sandy soil, but they like the open areas where they can find mates and where they can find food.

Bill Brooks [00:22:31] They prefer to eat ants, although they'll eat lots of insects, but ants is their favorite food. Harvester ants is their Blue Bell ice cream. They really like harvest ants. And that's, if you name a place where horned lizards are found, that's probably a pretty good description of it right there.

David Todd [00:23:00] Okay. So, I think that you've played out the life history and niche that this animal fills.

David Todd [00:23:19] It sounds like it also has gotten some exposure through some pretty extraordinary stories and one about, I guess, the most famous individual horny toad, and that's this creature called Rip.

Bill Brooks [00:23:38] Old Rip.

David Todd [00:23:39] Please tell us about Rip.

Bill Brooks [00:23:41] Old Rip. Short for Rip Van Winkle. In 1867, they were building a new courthouse for Eastland County, and I always thought that was kind of rude. But when they were setting up this courthouse, they had kind of a, they put things in the cornerstone. They put a Bible and different papers. And as they were closing this stone up, one of the guys saw his boy playing with a horned toad, and said, "Let's stick that in there too."

Bill Brooks [00:24:28] So they stuck this horned lizard in the cornerstone of this building.

Bill Brooks [00:24:34] I thought that was pretty rude, but they did it.

Bill Brooks [00:24:38] And of course, that story never quite died. That was part of the history of Eastland. And years later - February 18, 1928 - they knocked down the old courthouse. The county was growing quite a bit. They built a new courthouse. And, of course, they opened up this cornerstone and they pulled out a dusty old horned lizard that was still alive.

Bill Brooks [00:25:15] Now, I don't want to say this could not happen, because I have a lot of friends who strongly believe in old Rip in Eastland. A lot of good Horned Lizard Society members there. So, I won't say it's not true. But, it was the longest any horned lizard has ever lived. Normally, they'll live eight or nine years maybe. And, of course, he was living mostly without food or water.

Bill Brooks [00:25:53] So, it's interesting.

Bill Brooks [00:25:56] But apparently when they open this thing out and the guy pulled out a horned lizard, it must have been a slow news day, because it made headlines all over Texas. Everybody heard about this Old Rip, this horned toad that came out of the cornerstone.

Bill Brooks [00:26:15] And he was so famous, he even went up and visited President Calvin Coolidge. Calvin Coolidge made time to come see this horned lizard.

Bill Brooks [00:26:29] And the horned lizard lived for about 11 months after they pulled him out of the courthouse.

Bill Brooks [00:26:35] And, like I said, it's hard to keep these horned lizards alive in captivity. The little girl that was keeping him left him out on the porch when a blue norther came in, and it got too cold for him, and he got pneumonia and died.

Bill Brooks [00:26:54] But you can still see Old Rip. Old Rip is still the most famous horned lizard in history, and you can look at it right now and he's in a little coffin that it's built in to the side of the Eastland County Courthouse.

Bill Brooks [00:27:14] So you can drive to Eastland, go to the county courthouse and look through the little window and see the little Old Rip in his little bed now. He's long gone, but he's still this mummified corpse laying in his little funeral coffin there at the Eastland County Courthouse.

Bill Brooks [00:27:38] And they have yearly festivals, Old Rip festivals up there in Eastland. And it's quite a big deal for people up there now.

David Todd [00:27:52] It sounds like he was a favored citizen, a favorite son of Eastland.

Bill Brooks [00:27:59] Absolutely. No doubt about it.

David Todd [00:28:02] Well. So, one of the things that, aside from advanced age that has gotten people's attention about horny lizards is their recent decline. And I was curious if you could talk a little bit about the first moment when you might have believed that they were in decline, and how did you figure that out?

Bill Brooks [00:28:33] And we'll talk about that.

Bill Brooks [00:28:35] But there's a couple of things that I kind of skipped over here. And I would like to add to this part of the talk, if I could.

Bill Brooks [00:28:46] I like those little round-tailed horned lizards that are out in West Texas. They come with their own shadow. They're found mainly in pebbled creeks, dry creek beds out in West Texas. And around the edge of them, if you ever look at a rock or something, around the edge is a shadow, as the sun's shining down on the rock. These little horned lizards have little dark circles around the edges of the body where it's their own shadow - they come with their own shadow. It's really cute.

David Todd [00:29:25] Is that part of their cryptid strategy to break up the boundaries and borders of their body?

Bill Brooks [00:29:34] Break up the boundaries and borders and look like these pebbles that are found around. Those little horns that are found on the side of their body - that's also supposedly to break up the outline of their body.

Bill Brooks [00:29:54] And when they're attacked, they can do something that not many animals can do. Some of the species, not all of them, but the Texas one, can definitely squirt blood from its eyes. And so, if it's attacked by another animal, it doesn't happen very often when people pick them up. Maybe 5% of the time. Mostly, mostly, this is a defense against canines - coyotes and dogs, maybe foxes. If they grab the horned lizard in the mouth, the horned lizard will spurt this blood.

Bill Brooks [00:30:38] And apparently it doesn't taste very good. And you'll see a lot of times the dog will drop the horned lizard and it will go and rub his mouth in the grasses and then the dirt and ground, trying to get that flavor out of his mouth. So they don't like it very much.

Bill Brooks [00:30:57] Now, if he's really, really hungry, he'll eat the horned lizard anyway. But for some that aren't real hungry, that's a good defense for it.

Bill Brooks [00:31:11] Also I wanted to point out we hear about reptiles laying eggs, and that's not exactly true. The horned lizards, some of them lay eggs, and some of them don't. Now, all reptiles have an egg stage somewhere in the development of their babies.

Bill Brooks [00:31:36] But twelve-dollar words here: mammal birth is viviparous: that's little copies of the adult. Birds are like, oviparous. And that's where most reptiles, they lay their eggs and it's like, they say, "Good luck, people, see you later and they take off."

Bill Brooks [00:32:04] There are a few sneaky little reptiles that are ovoviviparous. And what that means is they have an egg stage inside their body. But, when the babies are born, they're born in a little egg sac, and not an egg. And so, they quickly tear their way out of this egg sac. So, they're quite similar to mammal birth, but they're actually this, they have eggs, but the eggs hatch inside their bodies.

Bill Brooks [00:32:40] Now, for most of these horned lizards, it's the horned lizards that are found in higher elevations, the ones that are cooler. They can move to the warmer area and that helps their babies hatch. And, they'll move around. And that way, they're not stuck in a hole where it might get too cold for them. So, they do travel around and have these live births.

Bill Brooks [00:33:13] So, you can't actually say all reptiles lay eggs. All reptiles have an egg somewhere along in the development of their little ones.

David Todd [00:33:26] That's interesting. So, it switches with the different kinds of climates and terrain that they might be found in.

Bill Brooks [00:33:32] Yeah, generally it switches according to the species. And the species that are found in higher elevations have this ovoviviparous. And the ones that are in the warmer locations are oviparous.

David Todd [00:33:49] Thank you. Good to know.

Bill Brooks [00:33:54] Now we were talking about the horned lizards disappearing.

David Todd [00:33:58] Yeah, these trends. Can you talk a little bit about that?

Bill Brooks [00:34:02] And this is really interesting. Texans noticed that horned lizards were disappearing before I ever noticed it in Texas. Horned lizards disappeared at different times in different places.

Bill Brooks [00:34:20] And to me, I have a real specific date for San Antonio, because before I went to move to Austin to go to college, there were horned lizards everywhere. I could find them whatever I wanted.

Bill Brooks [00:34:35] But when I went to college in '70, 1970, and then returned home, they were hard to find. They were almost impossible to find. So, they sort of disappeared in San Antonio about 1970.

Bill Brooks [00:34:56] Then, like I said, they disappeared in different times, points in time, all over Texas.

Bill Brooks [00:35:05] Now, a lot of them are gone in eastern Texas because that's sort of not prime habitat. That was cooler out there, wetter out there. They liked it a little drier. It's not their favorite place to live.

Bill Brooks [00:35:24] They like the sandy soils we have out East. But so, we had a few out here.

Bill Brooks [00:35:31] But, when they started disappearing, they really started disappearing in eastern Texas first.

David Todd [00:35:46] And what do you think was responsible for the decline first there in East Texas and then later in other areas of Texas?

Bill Brooks [00:35:58] Yeah, either it's a combination of things or we don't exactly know yet.

Bill Brooks [00:36:07] Over-collecting was a huge problem. I mean, there's stories like when people would stop at filling stations and get a fill-up of gas, fill up their car with gas, the owner would give them a horned lizard. And of course, they usually went out and died after that. But he'd give them away. There were so many of them.

Bill Brooks [00:36:34] A lot of little boys supplemented their incomes to see movies and get ice cream by sending boxes of horned lizards to dealers up in the Northeast. And these dealers would send them all over the world as pets.

Bill Brooks [00:36:59] There are even people still in Japan that raise horned lizards. So, they sent them all over the place.

Bill Brooks [00:37:10] And, as I've said several times before, they're hard to raise. They basically eat harvest ants. That's their main food. They will eat other little ant, other little ants and insects, but they don't seem to live very long if they just have these other insects and don't have their ants.

Bill Brooks [00:37:37] So, you can now buy ants over the Internet. So now it makes it a very expensive hobby to keep these horned lizards.

Bill Brooks [00:37:48] Of course, it's illegal to keep Texas horned lizards in Texas.

Bill Brooks [00:37:54] But it's very difficult to do that, to have a big enough cage where you can have a gradient, a temperature gradient, where they can go warm when they want to get warm, or get cool when they want to get cool.

Bill Brooks [00:38:15] You mist them occasionally, but you don't want to mist them too much because they don't want to be wet.

Bill Brooks [00:38:22] It's kind of interesting. I say horned lizards are found in drier parts of the United States. They have a very interesting habit that they can raise up their back legs, and lower their front legs, and dew will form on their bodies in the early morning hours. Dew will form on the animal's bodies. And because of the way their scales are arranged, this dew will flow down the animal's back, flow up to its head, and flow right to the tip of its nose where it can easily be lapped up and drunk.

Bill Brooks [00:39:06] The horned lizards can get a drink when there's no water around, just by having this dew form on their body.

Bill Brooks [00:39:15] Now, it's interesting, just as a side point here, there's another little lizard that does this, too, in Australia, it's the moloch, or the thorny devil. And it collects dew. It eats mainly ants. It has little thorns all over its body, like our lizards. But it's not closely related. It's like convergent evolution. These two animals live in the same type of area, and they ended up looking a lot alike, but they're not closely related - like crows and bluebirds, you know. They're both birds, but they're not really closely related.

Bill Brooks [00:40:05] So they're not Phrynosoma - it's the genus of all the horned lizards. And they're not in the genus, Phrynosoma.

Bill Brooks [00:40:15] But it's interesting, how two animals developed in quite the same way in the same sort of habitat.

David Todd [00:40:27] That is fascinating. So, they're not related, but functionally pretty, pretty similar. You know, this dew collection, what they eat.

David Todd [00:40:36] Speaking about what they eat, I've heard some people speculate that the horned lizard in Texas may have declined because of the increasing shortage of harvest ants and maybe because of the influx of the imported fire ants. Is that the case, do you think?

Bill Brooks [00:41:00] Absolutely. I think the fire ants are bad on everything that touches the ground. You know, fire ants can actually kill deer. So, they'll kill birds. They'll kill little reptiles. They do kill the horned lizard eggs. And they kill the baby horned lizards.

Bill Brooks [00:41:24] So they just, that poison that fire ants have, is just a little too strong for our lizards. I wish they'd eat the fire ants. People would be raising horned lizards everywhere, if they'd just eat the fire ants. But unfortunately, they don't.

Bill Brooks [00:41:47] And they do chase off the harvester ants. And that's their favorite food. So that will decrease the numbers of horned lizards.

David Todd [00:42:02] Are there other predators? I've heard some people say that, I think you mentioned this earlier, that dogs and foxes and coyotes will eat them. What about feral cats? Is that an issue?

Bill Brooks [00:42:13] Yes, very much so. A horned lizard will run along the ground and then freeze. And because he's so camouflaged, your eye just sort of keeps on going. And it's easy to miss a horned lizards when he runs and then freezes like that.

Bill Brooks [00:42:34] Doesn't work with cats. Cats know exactly where that horned lizard's stopped, and cats will kill and eat horned lizards.

Bill Brooks [00:42:45] So, feral cats are just bad for all kinds of wildlife.

David Todd [00:42:56] So, I've heard that some people refer to these horned lizards as a kind of indicator species: that their trends, their decline maybe, indicates something outside of what it means for the horn lizard itself, and its fate. Do you find that's true or not?

Bill Brooks [00:43:22] Yeah, I think that indicator species is sort of a vague term. I see it more of an indication that the species isn't doing very well. And generally the main reason species aren't doing very well is because of habitat destruction and people. There are just too many people - overpopulation. And that's really harming the habitat of all the different kinds of animals, all the different species - horned lizards, for sure.

David Todd [00:44:09] So, one of the things I've heard people talk about, and maybe you can put this to the test, is that it's difficult to know about whether there is a decline in horned lizards because they, at one point, were so common that folks just didn't count them. They didn't survey them. So, there's not a great baseline. And I was wondering if that is something that you would agree with, or if you think there's another explanation there.

Bill Brooks [00:44:41] Well, yeah, I'm part of the Lost Pines Master Naturalists. And a lot of things that Master Naturalists do is they count different animals and plants, to see how many are there. You go back to the same place, you know, say, a year later and you count how many animals and plants you see. You go back a year later, you count how many animals and plants you see.

Bill Brooks [00:45:07] And with that, you can make a trend. You can see how animals are trending today. Are the animals being more populous? Are they coming up in numbers? Are they going down in numbers? Are they disappearing?

Bill Brooks [00:45:24] I've heard a lot of people say, "Well, I've seen three horned toads this year. I think the horn toads were coming back."

Bill Brooks [00:45:34] But that might, you know, there might be just the right amount of water, and just the right temperature, and just the right amount of food that populations grow in this one year. But you have to read these populations, take these numbers, over and over again to find what a trend is, whether they're trending up or they're trending down. Just because you see more in one year than you have in the years past, doesn't necessarily mean that that's going to continue.

Bill Brooks [00:46:09] So you need to redo these numbers.

Bill Brooks [00:46:12] And that's really important for the Master Naturalists to do, to get, to make these counts, make these animal and plant counts. Because in that way, it's the only way that you can see a trend on what's happening to the numbers, and the number of species, of plants and different animals. So, it's a really important thing for Master Naturalists to do.

David Todd [00:46:43] That's interesting. And it's so good that there are these volunteers who are the eyes and ears in trying to discern whether there are patterns or trends that most of us would walk right by and, you know, it'd be hard to figure out whether what's the signal and what's the noise.

Bill Brooks [00:47:00] If I may, you did ask me a question there, and that was whether these animals are going up or going down. And we have a hard time. Everybody knows that the populations have dropped quite, quite a bit.

Bill Brooks [00:47:19] But we didn't do these numbers. We didn't go out and count the number of horned lizards in the very beginning, because there were so many of them, they were everywhere. We could find them everywhere. We didn't have to go look for them. They were just there when you're walking through the vacant lots.

Bill Brooks [00:47:39] So, we didn't make these population numbers back when they were common. So, we cannot say right now 50% of the horny toads are gone, or 80% of the horned toads are gone. There's just 20% of them left. Because we didn't do those numbers in the very beginning, telling us what's normal, what are the normal numbers for horned lizards?

Bill Brooks [00:48:06] Now we can all say horned lizard numbers have dropped, but we can't be specific on how much they dropped because we never made those counts in the very beginning.

David Todd [00:48:23] It's hard to be explicit. You can sort of get a idea of the direction, but not the rate. And I think I understand you.

David Todd [00:48:33] Well, so there was sort of this anecdotal impression that that the horned lizards were declining. And I thought that it would be good to talk a little bit about some of the efforts that grew up to try to understand these creatures and maybe work on their protection.

David Todd [00:48:50] And I think that you were affiliated with the Horned Lizard Conservation Society from the get-go, and I was hoping that you could talk about the beginning of that organization, and why it was formed, and what some of the activities might have been.

Bill Brooks [00:49:06] Yeah, Bart Cox, who is a lawyer here in Austin (I think he's a lawyer up in Hawaii, last I heard), but he understood that horned lizards were declining and everybody loves horned lizards. So, he decided to have a meeting, and it was at the Zilker clubhouse there in Austin on November 6, 1990. And we met and decided to bring back the horny toad. We'd do whatever we could to save as many of the horned lizards as we could, and find out why they were declining and to make it better for them.

Bill Brooks [00:49:55] We found out that's a lot easier thing to say, than actually do. We're still trying to increase the numbers of horned lizards.

Bill Brooks [00:50:06] But 100 people attended that meeting. So, a lot of people were concerned about the horned lizards. So, that's when the Horned Lizard Conservation Society first started out.

Bill Brooks [00:50:21] We formed a little non-profit. There are 300 members in the organization today. Mostly our members are in the United States and Mexico. And we sell T-shirts and other little trinkets.

Bill Brooks [00:50:45] We have a newsletter that's still going strong today. The last newsletter came out a couple of weeks ago - very good newsletter. Just letting us know about the information about horned lizards all over the United States and Mexico.

Bill Brooks [00:51:03] We do field trips, so we get to see horned lizards. We found at a real early time to take a field trip where there weren't any horned lizards. People got bored real fast. They didn't enjoy that.

Bill Brooks [00:51:18] So, we go to places where there are horned lizards, so we can count these horned lizards. And we repeat these trips quite a bit and we have these ongoing number counts.

Bill Brooks [00:51:33] So, we get to see horned lizards a lot more often than most people.

Bill Brooks [00:51:41] We've got a little web site, hornedlizards.org, and you can find a lot of information about the Horned Lizards Society there at their website.

Bill Brooks [00:51:59] So I thought it was intriguing that the Horned Lizard Conservation Society has been investing over the years in research, giving grants to support studies of horned lizards. And I was hoping that you could talk a little bit about how that got started in the sort of research that it's been supporting.

Bill Brooks [00:52:22] Yes, absolutely. I didn't mention that. We do spend some of our money on supporting research with the horned lizards. And most of these go to graduate students, college graduate students. But not all the money goes to them, and just research about whatever we need to know.

Bill Brooks [00:52:50] All kinds of interesting research grants we've given out. And a lot of these grants are, they're talked about a lot more on our website.

David Todd [00:53:07] Do you think that there are some things that are just not well understood about the horned lizard?

Bill Brooks [00:53:15] We may not know why exactly that number is down. The populations have crashed. I think it's a combination of events, all this habitat change, and chemicals in the environment, over-collecting and all this stuff.

Bill Brooks [00:53:36] But, it could be something we don't really know yet. You know? There was one summer we found that Texas spiny lizards, these big tree lizards, as they're called,

carry a form of malaria, and they get this malaria from mosquitoes. And it doesn't kill the lizard, but it cuts down the number of eggs that they have.

Bill Brooks [00:54:09] So, we thought, well, maybe these horned lizards are getting this malaria, and that's reducing the number of babies it can have. And I spent a summer collecting blood from these, from a bunch of horned lizards, and we didn't find that at all.

Bill Brooks [00:54:28] So, we're still doing research there. There might be something out there that we don't know the answer to. But I personally think it's a combination of all sorts of different things that we know quite a bit about.

David Todd [00:54:46] That's so interesting, when there's maybe the factor that it's not good or bad or indifferent. It's just maybe unknown. But your belief is that it's probably more just a sort of accretion of all these different effects - the habitat loss, the fire ants, I think you mentioned chemicals. What are the chemicals that might be affecting the lizard?

Bill Brooks [00:55:13] Well, for sure, DDT. When we used DDT, it affected so many animals. It affected, of course, the birds and the thickness of the shells of their eggs. A lot of birds, like American bald eagles, were dying out because their own mothers would crush the eggs because the eggs weren't thick enough.

Bill Brooks [00:55:37] So it could affect the eggs, it could affect the insects, the food, you know, it kills off a lot of the food. It kills off these harvester ants. A lot of times they can eat these things and get a little DDT and a little DDT doesn't hurt them a lot. But if you eat it over and over and over again, day after day after day, it's going to affect you.

David Todd [00:56:09] I see. And so, their prey species, these ants may be, or other insects, may be carrying the DDT. And then that sort of accumulates in the horned lizards?

Bill Brooks [00:56:22] Yeah. Yeah.

David Todd [00:56:24] I see.

Bill Brooks [00:56:24] We're finding that, we found that in our bodies too. Some of the fish that we're eating: it's not good to eat some of these fish over and over again, because this fish actually accumulates chemicals, mercury, a lot of times, that isn't good for us. A little bit, uh, we can, we can live through it. But over and over and over again, it causes a lot of problems.

David Todd [00:56:55] I see. Well, so we talked a little bit about the Horned Lizard Conservation Society as one kind of answer to trying to address this decline that's been seen. I think that there are some zoos and other organizations that have been trying to breed these horned lizards and then release them into the wild. And are you familiar with that? And maybe you can tell us a little bit about that, if you could.

Bill Brooks [00:57:24] Yeah. Yeah. Our zoo in San Antonio is doing a great job right now raising horned lizards. And they do headstart them, just like you said. They like to get them a little bit bigger. The baby tiny little horned lizards are food for everything. I mean, birds, other lizards, other snakes, they'll eat the horned lizards, the baby horned lizards. If you can get them up a little larger, they can take care of themselves a little bit better.

Bill Brooks [00:58:01] But San Antonio Zoo is doing that - Fort Worth Zoo, El Paso Zoo - all of those have raised them at one time or another. And they've gotten really good at it. And they can now raise so many horned lizards that they can't really keep them all. They can't keep them on display. They can't keep at their zoo. And so, they have to release them.

Bill Brooks [00:58:28] And it's really interesting. When I was part of the Horned Lizard Conservation Society (well, I still am, but back when I was president), I'd get so many letters from people saying, "I'd like, give me some horn lizards. I want to start horned lizards back on my property." Which, just again, shows you how many people love horned lizards.

Bill Brooks [00:58:54] But if the state is doing this, or zoos are doing this, they need to take them to an area where it's going to be protected for a long, long time.

Bill Brooks [00:59:08] Like you have a ranch and say, "Well, I'm going to protect it forever." And you protect it until you die. And then your kids get the ranch, and they sell it and they make a big Walmart on the property. You know, it has to be properties that are protected for a long time. So that's why they let them go mainly to state parks and state management areas. But need to be protected for a long time.

Bill Brooks [00:59:42] It doesn't, we don't want it infested with fire ants. You can either do a quick release, where you just take the animals out and let them go. Or you can sometimes do a release where you put them in a caged area, where you put the horned lizards in a cage, and you get them used to the area, used to the weather and the plants and things like that. And then you let them go.

Bill Brooks [01:00:15] We had one experiment like that. And we had them in the cage and the fire ants found them, and they killed all the baby horned lizards. Because it's not a good idea to let them go where there's fire ants.

Bill Brooks [01:00:36] It's hard to, we mentioned a little bit about cryptic coloration and different areas have horned lizards that are colored different ways. The red gumbo, the red sands, found around here, you get reddish horned lizards, red colored. In San Antonio, there's black gumbo, gray dirt: they're dark gray. Down on the coast with the sand: they're almost look like albinos, they're so light colored. So, you have to release them in areas where they match the color of the soil.

Bill Brooks [01:01:21] And they're just ... reptiles, in general, are not ... they don't do very well when you pick them up from one place and you move them to another place. It seems like when you move a reptile, he moves around a lot more. And he's got to find water; he's got to find water sources. He's got to find food sources. He doesn't know from youth where these things are, and he has to move around a lot. And when you move around a lot more, predators prey on you, find you a lot quicker.

Bill Brooks [01:02:07] So even just moving a snake ten miles down the road sometimes isn't very good for the snake, just because he tries to orient himself. And so it's difficult. Reptiles generally don't do as well as mammals do when you move them from one place to another.

David Todd [01:02:33] You know, you said at one point of something that caught my ear and that was that habitat loss may be one of the most significant problems for horned lizards. And I was curious if you can sort of turn that on its head and say, what is it that landowners can do

to make their land more appealing and supportive of horned lizards, besides avoiding putting a Wal-Mart on it?

Bill Brooks [01:03:07] Yeah. An awful lot would be farming practices - the way you till your soil. You leave a little area around the edges. This helps the horned lizards out a whole lot. Poisons, of course. You want to save these harvester ants. You get rid of the fire ants, but save the harvester ants any way you can, because that's the main food for the horned lizards.

Bill Brooks [01:03:50] A lot of times people want to save, say, quail. And if you save quail, the habitat that quail like is also habitat that horned lizards like. So, a lot of times if you are making your habitat better for quail, you're also making it better for horned lizards.

Bill Brooks [01:04:16] Ducks Unlimited has been doing a wonderful job. Although these are mainly hunters, but they protect the environment. They started out with waterfowl environment, and now they're getting more and more into quail and other game animals, and they protect that environment. And this is really important to save these animals.

David Todd [01:04:48] What do you think about the effect of grazing or prescribed fire for horned lizards?

Bill Brooks [01:04:59] Yeah. Grazing is good: moderate grazing. I mean, horned lizards grew up a lot of times around buffalo, so they're kind of used to that. They shuffle off when the cows start running. They get out of the way.

Bill Brooks [01:05:23] Burning, you know, watchful, careful burning. Sometimes ... we're still judging on whether that's good or not, because a lot of times the horned lizards, to get away from the fires, will dig into the ground. But sometimes they don't dig into the ground deep enough. They can actually be killed by overrunning fire. If you get into a burrow, deep enough, they can avoid those flames.

Bill Brooks [01:06:02] But prescribed burning, the judgment's still out there. We haven't decided if that's really good for the horned lizard. It does make habitat that's good for the horned lizards. It opens things up a little bit. And the horned lizard likes that. But a very active fire can sometimes kill horned lizards.

David Todd [01:06:31] So I've heard that there are some folks that are trying to revert from some of these exotic carpet grasses, Old World grasses like, you know, King Ranch bluestem and so on. And can you explain the thought behind switching from those Old World to New World grasses and back to these bunch grasses, how that might effect on horned lizards?

[01:07:04] Yeah. It's difficult to say. These grasses aren't as good for the horned lizard just because that's not what they grew up with. They like being around what they've been around for generations. And they prefer that. They prefer those bunch grasses to these invasive non-natives. Sometimes they cover up more of the area than the horned lizards, like, you know.

Bill Brooks [01:07:43] Lawn grass is terrible habitat for horned lizards, just because they like big sandy open areas where they can dig, where as I said before, where they can find their food and find their mates, things like that. Carpet grass is just lousy.

Bill Brooks [01:08:03] And so a lot of these non-native grasses are just different than what they're used to, and they just do better with the native grasses.

David Todd [01:08:16] Okay, That's helpful. Thank you.

Bill Brooks [01:08:19] So it sounds like you have spent a good deal of time explaining horned lizards not just to me and our little audience, but to other organizations, whether they're school groups or Audubon-affiliated organizations or the like.

Bill Brooks [01:08:39] Yeah. I talk to lots of people.

David Todd [01:08:41] Tell us about some of the lessons that you give and the organizations that you teach.

Bill Brooks [01:08:51] Yes. I really like to talk to kids, just because kids, they haven't made up their minds about a lot of things. And perhaps I can change their minds a little bit easier.

Bill Brooks [01:09:08] I mean, it's interesting. If I do a snake talk with a group of people, and I have decided that there are more men afraid of snakes than there are women afraid of snakes. I can give a snake talk and a woman will get out and touch the reptile after I've given my talk. And she wants to see what it feels like, things like that. With a man, he'll either come over and pick it up. He has no fear of snakes. Or there's nothing I can say to get him anywhere near that snake. He won't touch it. He won't get anywhere near it. I can't talk him into anything.

Bill Brooks [01:09:51] So, if I can talk to kids first, maybe they haven't made up their mind so much about that.

Bill Brooks [01:09:59] And kids, I really like their attitude. So, they're really interested in saying, "Well, you found horned toads in your youth, in the alleys and the vacant lots. Well, I want to find them. I want to be able to go out and find horned lizards."

Bill Brooks [01:10:21] They want to do what they can do to get that habitat to be correct so that they can experience the same things I felt, that I've seen.

Bill Brooks [01:10:33] And most people that are really afraid of snakes, they either grew up in an area where their parents, people told them, be careful of rattlesnakes. There are rattlesnakes out there. Don't mess with the snakes. And it's just been ingrained in them that snakes are dangerous.

Bill Brooks [01:10:59] And of course, most snakes are not dangerous, but they are either been ingrained with this from parents. Or they've actually been teased. I've talked to a lot of people who other kids teased them with rubber snakes, dead snakes, and then said, "I'm going to get that snake and put it on you." And just it makes them, you know, it naturally makes people afraid of snakes.

Bill Brooks [01:11:33] And so, hopefully I can explain the falsity of those beliefs and I can help them, you know, have respect, because there are some snakes out there that can send you to the hospital. But understand that most of them are not venomous.

Bill Brooks [01:11:58] And especially, when I tell the kids, you know, if somebody asked me, is that snake poisonous, I say, "Well, I don't know. I've never eaten one before." You need to understand the difference between poisonous and venomous. Snakes are not poisonous. Snakes are venomous. So, if something's poisonous, you have to eat it and it affects you. It

affects you once you eat it. Venomous - they inject the poison into you, like spiders and bees and some venomous snakes.

Bill Brooks [01:12:43] And when I can tell the kids they can correct their parents that way. They get a big kick out of that. And they really enjoy that, the difference between poisonous and venomous. And you hear it all the time: "Is that snake poisonous?" "I don't know. I've never eaten one."

David Todd [01:13:04] I like that. A great opportunity to teach our elders a lesson. That's, that's always a treat.

David Todd [01:13:13] Well. So while there are people who seem to have this aversion for many kinds of reptiles, it seems like there's this widespread love of horned lizards. And I think that's shown, at least in Texas, by the fact that it was dubbed the state reptile and then later put on license plates. And I was hoping that you might be able to tell us how those two things happened.

Bill Brooks [01:13:49] Absolutely. Abraham Holland, who became a member of the Horned Lizard Conservation Society for a while, his mother, Sandra, and she drove Abraham and his brother Noah all over Texas. And they did horned lizard programs. They told people about horned lizards.

Bill Brooks [01:14:14] And finally, one of them, well, Abraham, came up and said, "You know, we don't have a state reptile. This ought to be the state reptile of Texas."

Bill Brooks [01:14:25] So he petitioned the Legislature and he got it to pass. The 73rd Texas State Legislature passed Resolution 141 to make the Texas horned lizard the state reptile of Texas.

Bill Brooks [01:14:45] And what a great job! And I'd like to point out to a lot of kids that think, "What can I do? What can we do?" Well, this is a young man, a child, who actually got the Legislature to name this Texas horned lizard. And everybody thought that was a great idea because, and I keep saying, everybody in Texas loves horned toads. So, this became the Texas state reptile.

Bill Brooks [01:15:20] Now, license plates are another thing. It was real easy. Texas came up with all these plates. They voted on what license plates we want to have and enough people like that horny toad on the license plate that they said, "Well, we ought to make horny toad license plates."

Bill Brooks [01:15:40] I had the HLCS, horny toad license plates, on my car for years.

Bill Brooks [01:15:51] But a part of this, the funds that are raised by making these prestige plates, goes to the animals that are indicated on the plates. So, some of the horned lizard plates go to horned lizard research.

Bill Brooks [01:16:18] And it's funded ... I'm not really sure what they funded, but they have funded some research. I know.

Bill Brooks [01:16:27] So, it just shows that everybody in Texas loves horny toads.

David Todd [01:16:35] Well, I was intrigued that another way folks have promoted the horned lizard, you in particular, by organizing this Horned Lizard Art Show. And I was wondering how that came about and what happened.

Bill Brooks [01:16:54] Yeah, February 4th and 5th, 2006, I had a horned lizard art show. That was when I was living at the Wild Basin Preserve, and in the Great Hall out there, I invited artists that use horned toads in their art and I got about 15 artists out there. And then we also had a display of just everybody seems to have little horned toad trinkets and little ceramic models and things. We had a big display of horned lizard art, and then had a little art contest with these artists who made this horned lizard art.

Bill Brooks [01:17:42] And we had about 300 people showed up to this art show. And I thought that was pretty good because it was on the Super Bowl weekend. That was very bad planning on my part. But still we had 300 people show up to see the Horned Lizard Art Show, on Super Bowl weekend.

Bill Brooks [01:18:14] So, that was that was a lot of fun, but bad planning on my part.

Bill Brooks [01:18:20] Some of these artists - Larry Wisdom and Tom McCain - just did some fantastic stuff and brought it to show it.

David Todd [01:18:33] Well, that's a real token of horned lizards' support: that they were able to tear themselves away from the Super Bowl to come and see the art.

David Todd [01:18:47] So, one of the things I'm intrigued by is, is how you set future generations up to take care of creatures that we love and want to see survive into the future. And, in the case of horned lizards, I think there are many of us who are older, who remember them from our childhood. And it's maybe somewhat easier, I would think, for us to understand what it is that we're working for. But I'm curious, how do you inspire that same interest and affection, hope, in younger generations who may not be familiar with horned lizards as much?

Bill Brooks [01:19:34] That's been a problem that I've wrestled with for years. How do you get someone to miss something they've never seen? I mean, how do you do that?

Bill Brooks [01:19:45] And it's difficult: telling these stories, studying these animals, raising them and trying to repopulate areas with them. Telling these little kids about horned lizards: "When I was a kid..."

Bill Brooks [01:20:04] It seems to be what we're left with doing these days: just telling kids about the animals and plants that we saw when we were younger. And it's difficult. Definitely difficult.

Bill Brooks [01:20:20] But you get someone fascinated with a subject and who knows where they may take it.

David Todd [01:20:29] So, I think one of the heartening things is there are a number of people who are in this "herper" community, you might call them, who love reptiles of many sorts, including horned lizards. And I was wondering if you can maybe give us a little insight into the herper community in Texas.

Bill Brooks [01:20:53] Well, we talked to a lot about reading. I learned about reptiles through reading. But another great way to learn about reptiles is talking with people that are also interested in reptiles.

Bill Brooks [01:21:10] I started, I was a member of the San Antonio Herpetological Society back in the sixties, when I was, before I graduated from high school. I started that Austin herpetological society back in the seventies.

Bill Brooks [01:21:30] I remember since the first day, the first meeting, of the Horned Lizard Conservation Society, out at Zilker Park. I've been a member for several years with the Texans Herpetological Society. They have Fall conventions, where we have reports on research, and then every spring they have a field trip where you go out places and capture and photograph reptiles out in the wild, and just talking with people like this.

Bill Brooks [01:22:08] I went and visited herper people - that Wade Sherbrooke - I've seen them out in Tucson. And different herpers I've met and talked with over the internet. And then I just went out and visited. And it's just a lot of fun to learn about reptiles from other reptile people, because people that don't like snakes don't want to talk about them.

David Todd [01:22:47] Well, and I wonder if, beyond the facts and figures that you might learn from your fellow herp enthusiasts, that just the idea of a community, having a tribe - is that encouraging for you, that you have some fellow travelers that find these animals as interesting as you do?

Bill Brooks [01:23:12] Oh, yes, I it's great fun to go to one of these conventions. And that's my tribe. These are my people. I kind of feel the same way when I go into a Master Naturalist Convention. These are my kind of people. They love nature and they love reptiles.

David Todd [01:23:40] So one of the things that I see as a thread in many of the conversations we've had about wildlife conservation is the disparate but pretty definite impacts of climate change. And I don't know if that extends to the situation with horned lizards or not, or if you even see that in wildlife in general, but I'd be curious to know if that is an impact.

Bill Brooks [01:24:14] Oh, absolutely, it's an impact. Habitat conservation and climate change are linked together. They are two sides of the same coin. So, it's very important. And that's what we've discovered here: that's what good for the animals is also good for people. So if we can preserve these animals. Who knows? We may be preserving ourselves too.

David Todd [01:24:50] That is a great insight. We're all in this together, I guess.

David Todd [01:24:56] Well, as we wind down here, I want to make sure that we didn't miss something or just give something sort of short shrift. Is there something that you might like to add that would fill in one of the gaps we might have left behind?

Bill Brooks [01:25:16] I did sort of, I jumped around a little bit here and I hope that didn't bother you too much because I did notice that several times I forgot things. But I think I filled in all the gaps. I think I've talked about most of what I wanted to talk about.

Bill Brooks [01:25:35] And go out and see if you can find horned lizards. When you see them out there, it's good to report them to Parks and Wildlife. Let them know where they're still

horned lizards that are found out in their native surroundings. Just report them if you see them and let's do what we can to bring them back.

David Todd [01:26:02] That's great. Well, I hope that you see a horned lizard every day.

Bill Brooks [01:26:10] Wouldn't that be nice?

David Todd [01:26:12] Well, it's a good ambition. And thanks for your work in seeing that that may be in the future someday.

David Todd [01:26:23] Thanks again, Mr. Brooks. Great to talk to you. And thank you again for your time and your interest.

Bill Brooks [01:26:31] It was a pleasure talking to you. I do appreciate you giving me the chance to do my little spiel about horned lizards. And this is a lot of fun.

David Todd [01:26:42] Well, good. Likewise for me. Thank you so much.

Bill Brooks [01:26:47] Thank you.