

TRANSCRIPT

INTERVIEWEE: Diana Doan-Crider

INTERVIEWER: David Todd

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David Todd [00:00:01] Hey, it is recording now. And with your approval, the idea is that we would be recording this interview for research and educational work on behalf of the Conservation History Association of Texas,

Diana Doan-Crider [00:00:19] OK.

David Todd [00:00:19] For a book and a Web site for Texas A&M University Press. And for an archive at the Briscoe Center for American History that's at the University of Texas at Austin. And you would have all equal rights to use the recording as you see fit. And before we went any further, I wanted to make sure that was OK with you.

Diana Doan-Crider [00:00:40] Yep, that sounds great.

David Todd [00:00:42] OK, well, maybe I, at this point, I can give a little introduction to act as sort of a place keeper for when and where this recording is being made. It is July 24th, 2020. My name is David Todd. I'm here for the Conservation History Association of Texas. I'm in Austin. And we have the good fortune to be interviewing Dr. Diana Doan-Crider, who is based in Medina, Texas, and she's a biologist and a founder and director of the Animo Partnership in Natural Resources, as well as an adjunct professor in the Department of Ecosystem Science and Management at Texas A&M University.

David Todd [00:01:28] Today, the thought is to talk a little bit about her life and career, and to focus in on some of her work on the black bear in Texas and its decline and then its resurgence in recent years. And with that little intro, I wanted to thank you for doing this.

Diana Doan-Crider [00:01:47] You're welcome.

David Todd [00:01:49] Thank you.

Diana Doan-Crider [00:01:49] Glad to be here.

David Todd [00:01:50] Good. Good. Well, usually we start these, these interviews with questions about your background and your introduction to wildlife and to science and what might have brought you in this direction.

Diana Doan-Crider [00:02:08] Well, thank you. Well, most of my work has actually been done in Mexico. I actually, you know, just do a lot of support for my colleagues here in Texas. And I happen to be married to a Texan and I work at a Texas university at Texas A&M. But, you know, most of my time was focused south of the border. And the reason being for that is

that my mother is a Mexican citizen and my grandfather had a huge influence on my life. And he actually worked on the Mexican railroad in 1917. Right, really technically what they say after the revolution. But the revolution actually went on for quite a while. It was quite chaotic. So my grandfather worked for the Mexican railroad and would tell me stories of seeing Mexican grizzlies and Mexican wolves in the Sierra Madre. And so at about eight or nine, he really began, you know, putting this burr under my saddle, you know, wanting to learn about such things.

Diana Doan-Crider [00:03:06] And as a kid, I've always been very, you know, drawn to animals and so forth. So as I grew up, my father's American and my parents were civil rights activists and missionaries in the United States. But my mother passed away early on. And so then I went to Mexico and actually spent quite a bit of time with my family and with my grandparents. And I am actually both Mexican and U.S. citizen. So I knew that when my grandfather started telling me these stories that I wanted to come back home to study bears. But at the time, very few people were doing that in Mexico. This is in the late 70s and the early 80s. And at the time, I thought that maybe I could come back and study Mexican grizzly bears because grizzly bears were really what I was, you know, in love with. And I still am.

Diana Doan-Crider [00:03:54] So I went ahead and finished school in the US, high school, and I started at the University of Arizona in wildlife management. And I was about 17 and worked on a lot of different animals. But I got to work on my first black bear study there in Arizona and began learning about, you know, who was doing research on, on bears and so forth. And met this man who was actually in Montana at a place called the Border Grizzly Project. His name is Dr. Charles Jonkel.

Diana Doan-Crider [00:04:24] And so I moved to Montana. I transferred to the University of Montana because I knew if I'm going to learn about doing research on black bears or grizzly bears, I need to go learn from the best people. So I always tell people that Missoula, Montana, is like the Hollywood of bear biologists. Everybody's waiting tables, but they're really bear biologists, you know, wanting to just wait for a job. There were so many of us there, and it was such a great place to go to school because we all went out on the weekends and whenever and we all did bear research. We all volunteered. We all got hired on the summer jobs. So we actually started off working on grizzly bears there.

Diana Doan-Crider [00:05:00] And so my goal was to go ahead and get a Masters and a Ph.D. and find a school that would support me so I could come back to Mexico. Well, that was a challenge because at the time nobody had ever done, you know, an intensive quantitative type study on bears in Mexico. And I happened to meet some landowners through some of my family members who live in the Sierras del Burro, which is right below Big Bend National Park. One of them also had a ranch in Chihuahua where the last Mexican grizzly was shot in the Sierra del Miedo.

Diana Doan-Crider [00:05:34] And so I started developing, you know, connections with these people. And they actually were really supportive. I don't know why they would just take me under their wing, but they did. And so I began going down to both Coahuila and Chihuahua, looking for bears way on in the early 80s. So eventually I had to, you know, get my undergraduate. I graduated and then I had to look for a graduate school.

Diana Doan-Crider [00:06:02] So I ended up finding a graduate school in Texas, at Texas A&M - Kingsville. And they agreed to support me while I did my research in Mexico. And I put together a project. When we were in Chihuahua looking for, grizzly bears. I actually, we

actually had a very difficult time finding any evidence of grizzlies anymore. The last ones were shot sometime in the 60s. So I had to really rethink things. And I thought, you know what, the black bear at the time, in the early 80s was kind of headed in the same direction as the Mexican grizzly. So we decided to refocus on black bears.

Diana Doan-Crider [00:06:35] So I went ahead and moved over to Coahuila, where we have very healthy bear populations. And that was where I worked with a man named David Marcel La Guerra, who is pretty much like my second dad. I worked with him for over 30 years. And we put together a project to do the first quantitative black bear study in Mexico. So we had to find the money. We had to get all the permits and we had to do all of that. Took us about a million dollars, which was crazy in itself. But we started. It took us quite a while. We started our research in 1991. I'd been going down to the ranch for quite a bit of time, you know, looking at the plants and collecting, you know, just information and that sort of thing and really making contacts at the local universities. Monterrey was where my family lived and so I made a very close relationship with the University Autonoma de Nuevo Leon, which is where I still do a lot of collaboration today. And I just started looking for students that could help me and that sort of thing. So that's kind of where I got my field team together. So we started doing the research in 1991 and then we finally wrapped it up in 2001. So we had been down there quite a while. I ended up getting both my master's degree and my Ph.D.

Diana Doan-Crider [00:07:56] Then I'll tell you a little story about the actual study approach. So when I went down there, I learned everything about their studies from the United States. And so, you know, I was just gonna kind of take that and go down and show everybody what I knew about bears, because, of course, when you get your undergraduate degree, you're an expert in everything. Right? And then later, as you get older, you realize you don't know anything about anything. But at that point, I thought I knew what I was doing.

Diana Doan-Crider [00:08:22] So I remember when I was down there, the community in the Serrano de Burro is a very strong ranching community. There's about 30 large family ranches there. They have created their own conservation area. They lock their gates. They protect from poaching and everything else. And there were two landowners at the time, actually three, that had wanted to protect black bears. So they were the ones that kind of invited me in. They built a house for me. They just really, I mean, I was like a princess in, you know, 3000 square kilometers of pristine bear habitat. And I kind of just got to experience something that most people don't get to experience. I've been very fortunate.

Diana Doan-Crider [00:09:02] After we began and working with them, the other ranchers wanted to know, what are you guys doing over there, how come you guys are getting awards from the president? And National Geographic's doing stuff on you guys. And so I remember we had our first meeting with all of the ranchers and there were so many people at this meeting at that point. That's where everybody joined the project. We had 30 cattle ranches that had joined this project. We would take them with us to go trap bears. We would take them with us to check bins. These people fell in love with bears. I mean, it just became the, you know, we all had a radio connection. All of us talked to each other every night. And it became the, the soap opera of the mountain range. You know, everybody every night wanted to know what did you catch and what's going on. And so and so, you know, climbed up in the tree and she lost her collar up there. We named a lot of the bears after the ranchers themselves. And when you say radio collar in Spanish, it means necklace. So I would say, well, Doris climbed up in a tree and lost her necklace. So you can imagine some of the fun jokes that came out of that. But it was a very loving community. We, we all became like family. They watched over me like a hawk. And I had a key ring that had the keys to all of these ranches and I told somebody this

was better than an engagement ring. And it was an old cattle ear tag. And I still have that key ring. And it was such a blessing to know that I could show up anywhere, anytime and find a place to lay my head and have a meal. And not only that, have the best company in the world. I just became very, very close to these people.

Diana Doan-Crider [00:10:29] So at the beginning, when I had this large meeting with the ranchers, I remember telling them, you know, OK, here's what bears do and here's how we're going to do this, studying everything else. Now, remember, they're very calmly and gently and lovingly sat me down and they said, well, let us tell you what we know about bears. And they made me this list. And this list basically said, well, you know, at this time of year, all the bears are at so and so's ranch and at this time of year, then they come down to over to so and so's ranch. And on good food years, they have, you know, four cubs, and on bad food years, they'll maybe have less cubs and sometimes they won't have any. And anyway, it was a long sheet of paper with a lot of, you know, items on there like bullet points.

Diana Doan-Crider [00:11:07] And I will tell you that I spent a million dollars to go down that list and pretty much check off every single thing that they told me. So that's really where I learned a lot, was one of the things that I learned was coming from the United States or another place to a country that has a totally different culture, a totally different way of living and trying to apply the same tools there is, is, is inappropriate. So now I spend most of my time working with my Mexican colleagues, developing tools that are appropriate for our culture, appropriate for our animals, appropriate for our budgets, because who can afford a one million dollar better project when people can't even make a living down there. So we've, that's really helped me to reshift my perspective.

Diana Doan-Crider [00:11:50] The other thing that helped me to shift my perspective was I spent a lot of time catching bears. We caught, oh, somewhere over 100 bears. We equipped them with radio telemetry. I collected all of this quantitative data. And that was helpful. But one day I was sitting at a water tank and it was doing a very bad drought and we couldn't figure out where all of our cubs were going. Our cubs were just disappearing left and right. All of the, we would monitor these family groups. And normally during good rain years, you know, everybody was just fine. But this particular drought really had me puzzled. And I sat at a water tank and in 30 minutes, 14 bears came in to get water at this one water tank and one of the females that we had radio-collared was trying to get in there to get water with her cubs and these other individual bears, which I'm assuming most of them were males were chasing her away, and keeping her from getting to that resource. And we found her two or three days later, and she had been killed along with her cubs and consumed. So these large males attacked and killed her.

Diana Doan-Crider [00:12:56] Now, that's a very common thing with bears, is that we have what we call intra-specific predation. The males will kill cubs to get the females to come back into heat and then breed again. But I couldn't figure out why they were killing our females. That didn't make any sense to me. On a good year, we had extremely high survival rates for any bear population. Our cubs were living, were surviving at an 80 percent survival rate to one year. But during a drought year, they went to 20 percent. So there was definitely something going on. And as I sat at that water tank, I realized, number one, bears are very solitary. They don't, it's not like the Charmin commercials. They are not living in families. You know, if there's a female with a male and there's cubs around, there's going to be some blood shed. So anyway, the bears like to be spread out across a landscape. They don't they don't like to be bothered by, you know, having to deal with confronting other animals or sharing those

resources. So if it's a healthy rainy year, then everybody has enough food to kind of be left on their own.

Diana Doan-Crider [00:14:03] Now, some of the females, the females, when they do reproduce, though, their female cubs will build their home ranges just right next to their mothers. So oftentimes you'll see a lot of related bears in the area, but it's not that common that you see groups of bears or things like that. I have seen them, but they're, they're usually mother-daughter, you know, groups.

Diana Doan-Crider [00:14:21] But during a drought, what happens is we get these really patchy food sources. You know, you see these thunderstorms out in the desert and it drops a little bit of rain in one area. Well, that's going to be the only area that's going to produce food for bears. They eat about 90 something percent vegetation. And in this particular area, and in most of Texas, they're pretty much completely dependent on acorn production. So if we have a complete acorn failure, then our bear populations will not do very well.

Diana Doan-Crider [00:14:51] So during this particular drought, we had very, very poor acorn production, and so guess what happens? Where, where do all those bears go when you have patchy food production? Well, they all concentrate in these little food patches and then stress is really high. Females try to come in and get food or compete, and these males are, you know, all kinds of things are probably going on. They're trying to get the female to come back into heat. But at the same time, they're stressed. We are not aware if, like, stress hormones are high, but my guess is that they are - like cortisol. You know, cortisol is one of the hormones that humans have, the fight or flight hormone. But we do know that in elephant populations during during drought and stressful times, their cortisol levels go up.

Diana Doan-Crider [00:15:34] So I've always wondered I wondered if that contributed to the level of aggression that we had during those drought periods. Those bears would not only kill each other, but we would have bears preying on livestock, just an absolute increase in bears killing cattle. And then we would also have increases in human-bear conflicts. Bears coming into houses, bears injuring people, bears just wreaking havoc. And I think that drought had a lot to do with it.

Diana Doan-Crider [00:16:03] Now, having you know, spent all my time radio-collaring bears and everything else and then sitting and watching what was going on at this water tank, it made me realize maybe I'm focusing on the wrong thing here. Maybe what I really need to be doing is measuring their food production and looking at how bears use their landscape based on where that food is produced.

Diana Doan-Crider [00:16:21] So we shifted my Ph.D. toward looking at calories. I had a really wonderful advisor named Dr. Dave Hewitt and he was at Texas A&M, Kingsville as well. At that point, I did my Ph.D. with Kingsville and with Texas A&M University. And Dave came up with this great idea to measure calories across the landscape so we could see how bears used it, because, you know, they eat a lot of different foods, they eat cacti, they eat acorns, they eat berries, they eat all kinds of stuff. But it's really hard to measure that on a map because they're all produced at different times. So what we decided to do was use calories as our currency. So we're going to convert everything into calories.

Diana Doan-Crider [00:17:02] So we made this amazing food map. And if you look at it like a vegetation map, it instead, you know, has the pixels as calories. When we actually compared that from a good rain year to a bad rain year, and in the bad rain year, you could see that food

was concentrated around where we had these water tanks coming out of the canyons because they were spring-fed. So the water tanks coincided with food production because of the watersheds. So we had acorns, usually we had produced around these water tanks at the opening of these canyons. And that was where we saw all these bears concentrating. And you can actually see that on these calorie maps, which is really interesting.

Diana Doan-Crider [00:17:44] So then all this other dynamic stuff goes on. OK? You have these mountain ranges in, in West Texas and coming down into Mexico. And West Texas is actually just a tiny, tiny piece of how big that, how big that ecosystem is in terms of bear habitat. If you go down to the Mexico side, which just seems like it goes on for forever. And some of those bears cross, the rivers don't mean much to them. Boundaries don't mean much to them. They move about between these mountain ranges. Like it's part of their part of their home, home area. And what gets them to move, it appears, are things like what we call stochastic events, large droughts, large wildfires.

Diana Doan-Crider [00:18:27] We had massive wildfires in the 70s and Serrano del Burro in 2011 where 300,000 acres were burned. And that's a lot of acreage. And what, where were those bears going to go? It took about five years for acorns to begin reproducing again in those burned areas. Well, 2012, Texas Parks and Wildlife started noting all of these bear observations popping up around the Texas/Mexico border. So what does that mean? That means that maybe you have a female normally, normally, this is what I learned in United States, but this wasn't the case for us that, see, females do not leave their natal ranges. Well, if you're a female and you've got everything that you need, you've got your food, got your water, you got your location of everything, they can hole up in a little canyon that's about seven square kilometers and not move from there, if it's a good year.

Diana Doan-Crider [00:19:18] But let's say during a drought, they've got to go out and start looking for food. They've got to figure out how to feed these cubs. And we noted in my study that just during the beginning of the drought, they began doubling their home range size. Females did. Males always have big home ranges. They're always just wandering around all over the place and they can have up to a 1000 square kilometer home range.

Diana Doan-Crider [00:19:40] But it got me thinking. You know, Big Bend National Park. Let's take Texas for a minute. In 1940, the black bear disappeared from Texas, basically just due to overhunting. It was just persecuted into the ground, for whatever reasons. There were a lot of different reasons. But the bear was persecuted. So it disappeared. In the 1980s, about the time I showed up in the Serrano de Burro. And it was not because of me. I just got to observe all of this stuff because of some landowners down there that locked their gates, protected bears. And all of a sudden we had a female pop up in Big Bend National Park. And guess what? She started reproducing and maybe another male bear, something showed up. Pretty soon, before we knew it, by the 90s, Big Bend National Park had their own resident bear population. We do know that they came from the Serrano de Burro, where I was. We know that we were able to trace genetically one of the females that came over and started that population.

Diana Doan-Crider [00:20:30] However, a number of years later, during a very, very severe drought in the national park. All of the bears left. They came back to Mexico. So you can see how these bears move around these mountain ranges. And in our case, it's not necessarily true: females do not stay on their home, on their natal ranges. They will wander. They will cross large desert areas to make it to another, you know, mountain area or a place where there's food so that they can survive. And so I think for thousands of years, these bears have

been adapted to moving around in these arid areas to find food. And in our case in Texas, it's actually been a mechanism for recovering and expanding the bear population, because if it wasn't for females leaving, then Texas wouldn't have any bears except for the occasional male that's wandering around.

Diana Doan-Crider [00:21:17] There are other places in Texas that want to have bears, that bears want to be in. But we still have a lot of work to do in terms of educating the public about how to co-exist with bears. And we'll talk about that in just a little bit.

Diana Doan-Crider [00:21:29] But so far, Big Bend has bears and some of the mountain ranges surrounding Big Bend, we do know that there are a lot of ranchers that may not promote themselves in such a way because, you know, I do know that when you live in such an area like that, you don't necessarily want to tell everybody about what's going on there, which is one thing that I love for bears, because bears really need isolated areas, large areas. They don't need to be interacting with humans. And a lot of these ranches in both Texas and Mexico afford that to them. These are very wild places, very remote places. Bears can go for weeks and weeks and weeks without even seeing a human being. And that's kind of an ideal situation.

Diana Doan-Crider [00:22:08] So I'm very protective of what the ecological services that these ranchers provide for us because they keep us from turning places into Disneyland. OK? If you go to places where there are bears and I think this is necessary, we do have, Big Bend is necessary for educating the public and for allowing us to have access to our public lands. But that also exposes these bears to a lot of human beings, and it exposes these bears to potential behavioral changes that would cause them to look for food that is not their natural, not their natural foods. And that's what we get into trouble with their behavior.

Diana Doan-Crider [00:22:48] On the on the side of the of the landowners. You know, I know that there are people who would love to go in there and see what they have. But for the sake of bears, I'm glad that they can't. You know, because bears, bears need wild places. Bears need places where they don't run into people all the time. And so that's one of the reasons I love this area of both Texas and Mexico, is that they do afford that for them. So we do have places in Texas where the bear is quietly coming back.

Diana Doan-Crider [00:23:14] There are other areas where it's not quietly happening, in areas that are more urban in nature, that have a lot more attractants like garbage dumps, you know, deer feeders, things like that. None of those things mix well with bears. So it's a very complex scenario. There's no easy "one, two, three. How to get along with bears, how to tell the public to behave." You have all kinds of people that simply will not clean up their garbage. You have people that love to watch bears come in and feed on their garbage. You have people who actually go out of their way to feed the bears without understanding that we have a saying that says, "a fed bear's a dead bear."

Diana Doan-Crider [00:23:54] Because eventually that bear will begin to lose its fear of humans and will begin to cause problems to the point where it may pose danger to humans themselves. And that's where the public can't tolerate it. People don't like it when bears come in and drag their dogs off. People don't like it when somebody, when a bear comes in and attacks their kid or attacks adults. And this does happen.

Diana Doan-Crider [00:24:19] So I'll explain briefly, the levels of bear behavior that people need to be aware of. The first one is habituation, habituation to humans. And, you know, we

see it every day. People taking pictures of bears on the street or in a park. Now we're getting into the very, you know, crazy world of selfies. You'd be just amazed at how stupid people can be. Sorry, but that's just the truth. And when they do that, they tell a bear, that we're always conveying messages to bears. And when you take a photograph of a bear, let's say closer than a hundred yards or something. You're telling that bear, hey, this is a comfortable space for you. You're okay around humans. But what happens when that bear wanders off somewhere else where it's not OK with that particular group of humans and something's going to happen? He's either going to get killed or they're going to get carted off by the game agency and dumped off somewhere where he's not familiar with it and have to, you know, try to make a way that way.

Diana Doan-Crider [00:25:21] So people don't realize that their actions, although they seem to feel emotional toward the animals and that, you know, everybody, you know they have some sort of spirit animal or something and that they're gonna become one with the bear, they don't realize that they're setting that bear up for failure because bears were intended to be wild and they were intended to be left alone.

Diana Doan-Crider [00:25:39] The second level of behavior that we have is what we call, "food-conditioned". Now, when you have these things going on in the landscape like you have your acorns drying up or you have a large fire in Mexico and all those bears have to leave. Bears have two objectives in their lives. One is a little bit of sex and a lot of food. OK, so they only breed once a year. So that's very, very little sex. But they have to gain enough weight to be able to survive in a den during the wintertime. And especially if you're a female bear, you have to gain enough weight to be able to support cubs that are lactating. And in the case of northern Mexico, where I work in the Serrano de Burro, our average cub litter size was three to four cubs a piece. Lactation is one of the most energetically demanding activities that a human body can sustain. We have to produce, they have to take, what a woman has to take, or a female has to take all the fat in her body and convert it to milk and then feed it out and then find enough food to keep that fat, you know, that fat storage going. So these bears are 100 percent obsessed with finding food and they will do whatever it takes to get that food, because if they don't get it, then they're not going to survive.

Diana Doan-Crider [00:26:59] Ok because we go through about maybe three or four months of winter period where our food is very, very inaccessible for bears, where there's just nothing going on out there, certainly not enough to keep them sustained. And if I remember right, I think a bear has to eat about 15 kilocalories a day to gain enough weight to survive over the winter. Don't quote me on that, but I'm pretty sure that's what the number is. So if a bear doesn't find that food in their natural resources, if acorns are not being produced, if berries are not being produced, they're going to go find it. And they usually, unfortunately, find it in our dumps. They find it in bird, bird feeders nowadays. Nowadays, they find them in deer feeders, you know, because it's easy-access. And if you're a bear, you're thinking, "hey, man, I don't even have to climb up in a tree. I can just sit here and gorge on this corn all day."

Diana Doan-Crider [00:27:45] You know, so then we begin training them. So the training process where we're creating some we're creating some brain neural pathways there for bears to begin shifting from their natural, you know, food resources into non-natural food resources, because it's easier. We do it, too. It's easier for us to drive through McDonald's than to go out and go shoot a deer. Right. I mean look at our, look at our, our society.

Diana Doan-Crider [00:28:10] And this is the same thing with bears. They're going to do whatever's easiest to gain weight. So as this happens, more and more, as we are now seeing

more severe droughts, we see longer periods between droughts. And then we get these huge, you know, rain events that come in like massive hurricanes that dump 88 inches in two or three days. You get these, these huge buildups of vegetation. And so now these females, let's say during the year after a hurricane, you've got acorns everywhere and you've got females just producing cubs out of everywhere.

Diana Doan-Crider [00:28:42] And then all of a sudden you have a drought. And now these, all these bears have no food to eat. They're gonna go somewhere to find that food. And so bears, because they can wander so much, they are now finding these food resources in townships, on ranches. And as we watch our large ranches become subdivided, which is a crisis, in my opinion, that these large landscapes are being subdivided now and sold into, you know, these, these little ranchettes and that sort of thing. For bears, that's not good news at all. It's just more opportunity for bears to get into trouble.

Diana Doan-Crider [00:29:18] So as we see that happen more and more, bears are, you know, kind of like a pinball machine. They're starting to bump into all these food resources. And the most challenging thing is that very little effort is put into educating the public as a whole. Because if you're, if you're a wildlife educator, you don't get to get on the cover of a National Geographic. I mean, they're gonna get something with a bear in a collar or a jaguar or something like that, not somebody handing out pamphlets. Right? But educating the public is the most important thing that we can be doing to have them pick up their garbage.

Diana Doan-Crider [00:29:50] But then that that's not even that easy, because when you think about like, let's take a township - right now, we're dealing with some very major human-bear conflicts in the city of Monterrey, which is a very unique situation. Monterrey has six million people and it butts up against the Sierra Madre Oriental. And we have what we call a very large interface between suburban areas and wild areas. So this is basically an opportunity for a huge clash between bears and people, because all these people are building their homes up into these areas. They all have swimming pools. They all have dogs with dog food out on the porch. They all have hummingbird feeders. They all have garbage. And these bears are just going bonkers. We're dealing with an instance right now where we had a very dangerous bear that is posing risks to the public and the public's really crying out. They don't want to see them move the bear because they like it. And, you know, it's just really pretty. But they don't realize the kinds of conflicts that you can have when you put bears into human populations.

Diana Doan-Crider [00:30:52] So that's happening more and more frequently. So, for example, when we look at things like the East Texas bear population, they've got quite a gantlet to maneuver through in order to find actual food resources because there's so many people over there. And then if they start migrating over to other areas of the state, they run into interstates, they run into large cities, they run into all kinds of things.

Diana Doan-Crider [00:31:17] In West Texas, because we're still a little bit isolated, you still can drive for a long, long way without seeing a house and that sort of thing, that's bear's really that's their, that's their safe, that's their safe place, I think for, as far as Texas goes, because it's so wide and expansive.

Diana Doan-Crider [00:31:34] Now, let's talk a little bit about where I live right now. I married a Texan, a very handsome Texan cowboy. And we live in the Texas Hill Country. It's beautiful. It's got, it's probably some of the most wonderful bear habitat I've ever seen because of our large oak trees. We have rivers everywhere. It's just a bear paradise.

Unfortunately, it's a paradise for humans as well. So most of the ranches that we used to have out here are now very subdivided, very small acreages. And you have houses everywhere, with garbage, and with bird feeders, and with deer feeders, and everything else. While bears would try to reestablish themselves in the Texas Hill Country, I find it very difficult to see that ever happening in substantial numbers because the public just are not going to tolerate these large animals that are like monkeys in bear suits and they get into everything, you know, they can break apart a deer feeder in 10 minutes. They can bust through a door, they can pull your windshield off of your car if they smell food in your car. So it's, those two things just don't mix very well. I think there are pockets where we'll see that, if we can get out there and really educate the public. There are places in the United States where communities are coexisting with black bears. However, those don't come without their conflicts. It's constant. We'll never see conflicts go away. You always have some human out there doing something stupid or you always have some unknown source of food that a bear is acquiring that you never thought about.

Diana Doan-Crider [00:33:06] But one thing we never thought about in Mexico was that water, or that swimming pools, would become an attractant for bears. So we have people out there swimming, and a bear, just walks up and plops into the water and starts swimming around. Well, you've got five kids there right next to him. So we never thought, how do you tell people to put their swimming pools away and not to, not to create attractants for bears? So it poses a whole new different type of conflict.

Diana Doan-Crider [00:33:31] So with bear management, I had somebody ask me one time, when, when will it ever go away? What, what has to happen to make this go away? I said, "it will never go away. It will never." It's like monitoring people and their habits driving in a city, they're never gonna behave themselves. They're never gonna quit speeding. They're never going to quit going through stop signs. You constantly have to have some sort of a monitoring system to keep an eye on people. And the same thing with human-bear conflicts, it's just gonna be constant. And especially as human populations start to encroach in areas where bears once had these large wild expanses, it's difficult for people to own, you know, 100,000-acre ranch anymore. It's very expensive and it's very expensive to make a living raising cattle. You know, we know that. I'm a cattle producer myself, and it's almost impossible to make a living doing that. And although there are there are conflicts between cattle and bears, I will tell you, I know, I am very familiar with the fact that some of the highest bear populations that I've ever worked with is in the middle of cattle country. And these cattle ranchers have figured out how to do it.

Diana Doan-Crider [00:34:35] So at that point, I think I'm just going to let you ask me some more questions, because that's that's it in summary and my story.

Diana Doan-Crider [00:34:43] But now, you know, I can't really crawl around in bear dens anymore because I can't fit. And we all get old and we can't jump around in the mountains like we used to. And I also have very bad knees. I'm now working with students in Mexico and trying to transfer the knowledge that I have in my head and teaching them to solve problems and not teaching them what to think, but teaching them how to think about theirs, because they're constantly surprising us. They're constantly teaching us new things.

Diana Doan-Crider [00:35:13] And we have a very short window of what we know about bears, because, you know, when the Spaniards came in and when European colonization took place, they killed out a lot of these animals. That was a long time ago. So us as biologists, we have a very short window of what we know about bears. Like, where do they live? What

habitat do they like? Well, that was, that was way after they were killed out. We don't know where they went to live.

Diana Doan-Crider [00:35:34] But now we're seeing bears live in desert areas next to Big Bend National Park down along the river, in Black Gap Wildlife Management Area. We have bears that we're now seeing in the tropical jungles of Mexico where there are howler monkeys and jaguars.

Diana Doan-Crider [00:35:48] Was that where they've always lived? We don't know. We don't have any records about that. All we have is like from the fifties on.

Diana Doan-Crider [00:35:53] We don't know if bears live in mountains because they were persecuted and they were chased up into the mountains or if that's where they want to live.

Diana Doan-Crider [00:36:00] But my supposition is that bears will live anywhere where they can get food. So you can actually go to a dump in a large city, and technically speaking, that's bear habitat. Why? They have food. Probably have access to water. They have access to shelter. They have arrangement. They have space. And nobody's bothering them. It depends on how you want to classify your habitat.

Diana Doan-Crider [00:36:20] But if you look at Texas, and the historical data, there's a really wonderful person that I know and who's a former biologist with Texas Parks and Wildlife, his name is Rick Taylor. And Rick Taylor has collected more historical information for black bears in Texas than any other person I know. I'm really wishing he would publish that information. But what it demonstrates is that black bears can live in areas that we did not consider as black bear habitat, based on this short window that we have. We thought they were mountainous. We thought they were this or that. Rick has, you know, has documentation that these bears were living in swamps. We know they live in swamps in Louisiana. They live in swamps in Florida. You know, so I think we have to be really careful about what we call bear habitat, because we again, we have a short window of what that knowledge is. And as they expand, they're going to tell us what bear habitat is.

Diana Doan-Crider [00:37:15] Questions?

David Todd [00:37:16] Well, you're a wonderful teacher. This is very, very helpful. Thank you so much. Well, I have lots of questions and I just have to have some rhyme or reason to it. Maybe we could start, sort of chronologically. And the the larger story is this arc, I think, of disappearance and then resurgence. And I was hoping that you might be able to talk a little bit, I mean, I think you're deferring to Rick Taylor, but if he if you could tell us a little bit about the sort of pursuit of, of bears, both on a kind of private scale, and then then, I guess, government predator control in the early days in Texas, I think there'll be an interesting thing to hear, and a good place to start.

Diana Doan-Crider [00:38:06] Sure.

David Todd [00:38:06] Go on from there.

Diana Doan-Crider [00:38:06] A good question. That's a very good question. So we do know that, and I believe it was in Texas, that he saw this, but Davy Crockett actually documented that he encountered a wall of bears. And if you travel through East Texas, you travel through other areas of Texas, if you're a bear or if you look at things through the eyes of a bear, or let's

say if you look at things through the nose of a bear, you see the different types of food production or food availability that they had. And in some of these areas, it's some of the richest that we have, even better than like Alaska or some these other places that have such long winter periods. You know, we have long periods of food production here.

Diana Doan-Crider [00:38:43] So from what we can gather from historical data is that there were once a very large number of bears in Texas. But, you know, especially when the gun, when the Colt was developed and all of these arms are now starting to evolve with human societies, it became very easy to get rid of problems that were causing a headache. A lot of our Native Americans were just shot out. A lot of our wildlife with teeth were just shot out. Why? Because it was easy and it was the way to go at that time.

Diana Doan-Crider [00:39:14] And we have a very funny way of dealing with things in this country, given the fact that we're such a, not this country, but let's talk about Texas in particular, which was a group of people that tended to be these frontierspeople and kind of pushing it, going places that were very dangerous. It's ironic to me that these same people were the ones that wanted to make things so ultra-safe that we know that we no longer know what bravery is. I mean, we don't even know what you know, when you, when you carry a gun everywhere it's kind of cheating.

Diana Doan-Crider [00:39:45] It's kind of like, you know, you kind of, you know, I always tell people I like living in grizzly country because I have to be on my toes. And especially in places where we're not allowed to carry guns, it makes me more aware of my environment. And I have had to be very brave without the support of a, a piece of a weapon or anything like that. And it's made me, I think, a stronger person. So what we do is, what we did in Texas, is we just got rid of anything that would pose any kind of a problem with our goats, our cattle, our sheep or whatever. Now, granted, goats and sheep taste really good for humans and for bears, and they're very easy prey. So it was much easier for people to just eradicate bears instead of trying to solve the problem.

Diana Doan-Crider [00:40:27] Now, what's happened over a long period of time is that our public perceptions have changed. Maybe prior to the 40s, yeah, OK, everybody shot everything that had teeth. We used poisons and we overhunted things. If you look at just the history of this country in eradicating the passenger pigeon or the bison, which is almost unbelievable to think that we can have that kind of an impact on that many millions of animals. It shows you how quickly we could get rid of the black bear, especially when black bears are so easily tempted with food and things like that. So I think that the shift in public perception came as you know, there was more, I think, public support for protecting those animals and so forth. And it's not like people change their minds overnight.

Diana Doan-Crider [00:41:16] But what happened is we began solving problems at a different level. So, for example, let's take the Mexico cattle predation problems that we have with bears in that particular area. It's not very common. Bears don't really prey on cattle that much. And I believe it's kind of a learned behavior. And it's it's depending on how easy it is for cattle, bears really aren't, I mean for bears. Bears really aren't very good predators, but they can be. But when bears learn how to do it, they not only become really good at it, they can teach other bears how to do it.

Diana Doan-Crider [00:41:49] So in the case of the Serranos del Burro, we had a number of cattle herds, very large numbers, and during this same drought, when I noticed those bears at that water tank, we started losing calves in the spring time. It was May, no food out. It was

very dry. So we had these open areas in these valleys where these cattle were grazing, but they were surrounded by brush around the perimeter and the cattle would go into the brush at night to go look for grass. And as they were calving, those cows would leave those calves down in the open areas where the water tank always was. So you had this water tank in the middle and you had these you know, fences. We were at the time, where I was working, it was the, what they called the Savory grazing method. And so you had these pie-shaped pastures around these water tanks with like a two-strand electric wire. These bears were very smart. And as these cows would go forage during a drought, these bears knew they could sneak up. And why did these bears know? Because they were drinking water out of the same water tank. All the other water sources around the mountain range had been closed or dried up. So everybody was drinking out of the same water source.

Diana Doan-Crider [00:43:00] So some innocent bear comes along and he's looking around when. Whoa, what is this? You know, afterbirth all over the ground. These calves are all being born at the same time, within the same month. And he just happens to see another bear running off with a calf. And then he learns to do it. And it's right there. It's like a big smorgasbord. You know, you have calves that are not being watched over by the cows. You have everybody coming and drinking water.

Diana Doan-Crider [00:43:22] And in a normal circumstance, you know, most cows will babysit calves. But these cows were, very, cows were very stressed. And we were monitoring, I was monitoring them 24 hours. We were, had spotlights. And I would watch them at night, monitor how much time they actually were in the open areas, versus the closed areas. And the cows that stayed in the open areas with the calves were actually able to chase the bears off. They could see them coming. Based on some of Temple Grandin's work, we learned that cows have very good peripheral vision. And if they were left with their horns on, in another area that I was working in, we actually had a bear killed by a cow with horns as she tried to defend her calf.

Diana Doan-Crider [00:43:59] In this area, we commonly observed what we call swamping, where cattle were mobbing of these bears. If a bear grabbed a calf and made a bunch of noise. Every cow in the vicinity would nail it. But what happened was, the bear started learning how to use the fences and would quickly grab the calf, drag it under the fence and then eat it right there while the cow was just standing there because she couldn't get the fence. So one of the things that that we noted is after I did this study, it was actually a really great study. I never expected it, but we monitored how much time the cow spent in these open and closed areas and how much the time the bear spent around the herds. And one of the cowboys told me, I asked him, I said, "you're the only cowboy in the whole valley, out of about six or seven herds, that has not lost a calf. And I want to know why." And he says, "because at night," he says, "I've noticed that those bears use the brush to sneak up on the cows and or to, you know, scurry off with the calf. So what I did is at night, I bring all the cows in and I bed them down in an open area and then we keep them there in the open area. That way the cows can see the bears."

Diana Doan-Crider [00:45:01] So I thought, I'm going to test that. So we set up our design to test open areas versus closed areas. And we found, it was actually very significant. We had 60 calves that were killed in a 1-month period and we were able to actually document that that predation probability increases with the calf being in a closed area, like most of the calves that were killed were killed in an enclosed, like vegetative area, not, not an open area. And the closer you got to water, the closer the probability increased.

Diana Doan-Crider [00:45:34] So what did we do? We went to the ranchers and we said, all right, here's what we think. Number one, whenever your calving during the 1-month period, you need to hire a cowboy just to camp on these cows at night. You need to keep them in an open area. And he needs to be just riding around and making sure that no, no bears are coming around or anything. The other thing you need to do is you need to open waters in other areas. You start putting in water catchments or opening up your other water tanks. Even though water was very scarce, we needed to provide bears with some sort of optional water source. And the other thing was, you know, like be careful about when you feed the cows because even the bears were coming in and eating some of the cattle feed.

Diana Doan-Crider [00:46:10] They always need to be supervised because you can easily chase off a black bear, easily. They're very, they're like a Volkswagen compared to a grizzly bear that's four wheel drive. So even if you're attacked by a black bear, they always tell you, fight back, don't ever play dead with a black bear because it's just you're not going to get anywhere with it. Grizzly bears, it's different. But with a black bear, you know, you don't want to play dead. They're actually quite, I don't mean take this lightly. But you can beat a bear off. You can beat a black bear off. It's a lot easier. But if you have a frying pan in your hand or whatever, just do whatever you got to do to get them off you.

Diana Doan-Crider [00:46:45] But anyway, so in this case, the cowboys were very easily able to chase these bears off and keep them, keep them away from the cattle herd. On one evening, around one water tank, at one herd, there were nine bears circling around like sharks. And we were up all night long, just keeping them at bay. But as soon as those calves got old enough and as soon as it rained, the problem went away. And I really do think that water had a lot to do with it.

Diana Doan-Crider [00:47:11] So the whole reason I'm telling you this story is because this is what we call problem solving 101. We don't go out there and we don't shoot all the bears. You know, we don't hire Animal Protective, Animal Wildlife Services or whatever, come in and trap everything. We solved the problem. All right? And, and that's what I love about wildlife management. I love that about, particularly in these cases, is that usually there's a way to solve the problem. Now it requires people to take the effort to do that. This is not for lazy people. I'm sorry. It's just not. It's for people who actually care about conserving the resource and having some sort of balance. I know for a fact that up in places where there are wolves, not that the problem has been solved completely, but there are people who are making headway in learning about wolf behavior to what we call in horse-training, you make the right thing easy, and you make the wrong thing difficult. So the same thing with bears, we use the same approach, or any other predator. You make the right thing easy, and you make the wrong thing difficult. If it's easy for bears to come in and kill cattle because there's a water tank, then you close that, or you open other water tanks, you make it less easy for that bear to do that. So I don't know if that makes that very clear.

David Todd [00:48:21] It does. It does. So, so your story about this problem solving 101, and I guess it's, it's in the course of coexistence between livestock managers and the bears. Two questions come up. One is, is how you, as a trained, Ph.D. scientist, learn from somebody who is very rooted in community and habitat, but as a lay person. You know, you told me how you spent a million dollars to check off everything on the list of bullet points of things that they knew through observation and long experience. I think that's one question I'd be curious to hear about is how, how sort of formal science meets sort of lay knowledge. And the other is, you know, why would these people want to do the hard work of coexisting when it probably

would be much easier just to have the quick solution of predator control, taking out the bears that were causing the problems?

Diana Doan-Crider [00:49:27] You know, they're a great set of questions. I'll answer the first one, or the second first. But, that one, I can only speak for Mexico. Mexicans are very proud and are becoming even more proud of our natural heritage. I think a lot of people think that we're going to hell in a handbasket, but we have a lot to be proud of and we have, you know, wildlife there that's unbelievable. I believe we're fourth on the planet in terms of biodiversity. And instead of trying to get rid of some of those things, I think people are now starting to realize this is our God-given heritage and we have a responsibility to take care of it. And one of the ranchers once told me, he said, you know, he said, I think we learned our lesson. He said once we saw the last grizzly bear shot, we realized what, what a sin that was against our grandchildren. And I told him my own perspective, I said, "I'll never get to see them because you guys made those decisions. And that's not fair because I'm I'm a Mexican citizen as well. I have as much right to partake of my natural heritage." You know, I know there's all kinds of disputes on, you know, whose land is what. But as a citizen of a country, I should be able to see a Mexican grizzly bear because that's something that God created for me. And it was put there for me. And I don't I don't believe that that would be what He would want to have us kill off the very beautiful things that he's made. That's my own spiritual perspective.

Diana Doan-Crider [00:50:54] Now, I'll tell you about the formal science versus the lay science. Let me tell you a little story. I'm indigenous. My family is native from Mexico. They're Tepehuan people in Durango and so I'm very, I work with indigenous people. It's a very important thing to me. And indigenous people have lived with wildlife for a long time, and most of their knowledge was transferred through storytelling and conveying that to the next generation. Now, in the United States, we got most of our science from Europe came over with, with them, you know, the colonization. And in Europe, the, the different condition of a type of science that was developed for people who were not indigenous thinkers was to objectify everything. And to quantify everything. And to take the emotion out of it.

Diana Doan-Crider [00:51:43] And so now what we have in as as that has evolved, our little stars, you know, when you put a star on somebody's forehead in class or whatever, our stars or our cool, if you want to call it that, are our publications, scientific publications. When you do a research project, you publish that scientifically.

Diana Doan-Crider [00:52:00] Unfortunately, most of that information is published and written for that specific audience. So you have this very small group of people who are the only ones who know about what you're doing. You know, when I published this paper on bear predation in northern Mexico, I think there's like 12 people, 12 other scientists, who had read that paper. What good does that do if they don't even live there, and they don't live with the animal? That's not helping me.

Diana Doan-Crider [00:52:26] So what it made us realize is that, number one, there's a very critical component in storytelling and transferring that knowledge because of culture and of heritage, not just for not just for what we call Westernized science. And I believe that now there are a lot of people who are starting to realize the benefit of both. If you talk to an Alaskan Inuit, they will define for you how many different types of snow, because they've been out there and they know the different sizes and what that means in the weather and what that means for their hunting abilities.

Diana Doan-Crider [00:52:56] Whereas we don't value that is important. But now we're realizing, you know, we've lost a tremendous amount of information and knowledge. And the worst thing is that our public isn't aware of it, because we've made our communication system inaccessible to them.

Diana Doan-Crider [00:53:12] So now we have to figure out how to translate that information so that people can understand it. And I'm a huge proponent of, I may have a Ph.D. behind my name, but my most successful impacts have been through living within those communities, telling stories, drinking coffee with people. My mentor, Dr. Charles Jonkel, told me, he said you get more done for bear conservation by whittling and drinking coffee, whittling a stick and drinking coffee, by visiting with somebody. And I will tell you, he did more for bear conservation than most scientists that I know just by promoting a lot of these ideas that he had.

Diana Doan-Crider [00:53:48] And so we have got to learn as scientists that, number one, we can not do "dis". We cannot look down upon other people's values and how they learn. You know, if you look at our Native Americans that were just absolutely, you know, trashed when, when colonizers got here. A lot of the scientific discoveries and so forth that we talk about today, we usually start with when that society started, like, you know, when when the United States was formed or whatever. But indigenous people have been collecting information for thousands of years. They could tell you where the food is. They could tell you about the geology. They could tell you about the wildlife habits and things like that. And unfortunately, we actually have people that say, oh, this is the father of such and such because he published the first book. You know, nothing personal. But this has been known for a long time, a long time. It was just conveyed in storytelling and in other ways to other people.

Diana Doan-Crider [00:54:46] So I think, as scientists, we need to open the doors for our little ivory towers. And it's OK if I offend people because I'm really used to that. But we need to, we need to start, you know, learning from others in terms of how they, of these other learning methods and in conveying these stories.

Diana Doan-Crider [00:55:05] If we look at climate change, for example, it's a very good scenario of how scientists have just absolutely been disastrous in telling the climate change story. Nobody listens to us. Nobody wants to believe us. Why? Because of the way that we talk to people. You know, when you when you look down on people or make people feel stupid or you're not willing to talk to them in a language that they can understand, then forget it. It's just, you're, you're going to get a closed door there. Whereas you have a number of scientists that have really learned how to communicate to the public and how to translate our information so that the public can understand it.

Diana Doan-Crider [00:55:41] You know, that's, that's the real charm, and that's what's going to be the determining factor as to whether bears will come back or not. Can we tell that story, to where it matters to people, to where they're not going to shut their door when we start blabbing off something about, you know, confidence integrals and density estimates and things like that. They're like, "what?" You know? So that's our big challenge today.

David Todd [00:56:05] Well, I'm glad you mentioned climate change. And I think you touched on it earlier when you talked about the severity and frequency of droughts and, and then these great sort of booms in and vegetation and what that can do to the population. And I was curious if there's any way that you can sort of package what climate change may mean going forward for black bear populations in Texas?

Diana Doan-Crider [00:56:30] Well, I think there's no doubt, most of us who study black bears know that they're kind of like coyotes. They're extremely adaptable. You know, the problem is how they adapt. And unfortunately, the way that they're probably going to adapt is through non-natural food sources, through human beings. So we can expect that bears will survive. They will adapt, but unfortunately, they're going to be adapting, you know, in human-occupied areas, because it's, it's simple.

Diana Doan-Crider [00:56:54] When you have a mountain range that has had no rain for five years, then those animals have to go look for food and they're going to find it where there are humans. So those are kind of, that's kind of contradicting dynamic there is that. Yeah, OK. I think bears are going to, they're going to survive. They won't be eradicated. They won't be killed out. But we're gonna have a lot more conflict.

Diana Doan-Crider [00:57:14] And so we have got to solve these problems. We've got to figure it out. And I will say this, that in most other areas, human-bear conflicts are probably one of the higher causes of mortality. If you look at grizzly bears in Montana, one of the highest causes of mortality are chickens, is that people do not tolerate grizzly bears coming into their chicken coops. And so they fuss at their council members, they fuss at the game, game and fish people and they end up putting grizzly bears down because they don't want to take the time to, you know, electrify their chicken coops and do what they're supposed to be doing.

Diana Doan-Crider [00:57:46] And that is the most infuriating thing. As a conservationist and as a scientist, that you have told people what they need to do and they still won't do it. And that's going to be the biggest problem for bears is that people who simply will not do what we need to do in order to make sure that bears, you know, can function on the landscape. Now, people will say, well, if they don't have any food, what if they all die? It's very rare that, that bears just all die. What they end up doing is they end up, they end up not producing cubs. You know, their, their production values go very, they go down, their survival rates go down. But there's usually enough bears to recover once the rains start again, at least that's what we've seen in the Serranos del Burro, which is kind of a laboratory for me because it was a almost closed environment in terms of protection for the black bears. And we also were able to see these populations get really, really high. Something that you're not normally able to do, maybe close to carrying capacity, I'm not sure. But we were able to see these really incredible nosedives that, you know, our, our population growth rates did. But then it was amazing how they bounce back.

Diana Doan-Crider [00:58:50] So one of the things that amazed me was the fires of 2011. We found nine dead bears in one pasture that had gotten caught up. And it was a ferocious fire, went on for three months and highly severe in many areas where it just destroyed the vegetation, where there was nothing left and nothing grew for two or three years. But as I went back over the years and on year five, I was blown away, we were making a film for the BBC and I agreed to go in there and help them with it. And I was astounded at the number of bears that we had, that had bounced back because there was enough of a reservoir of those bears to take advantage of the new food production that would come in. Because when you have fire, it's like a acorn factory. You get fire and a little bit of rain and acorns just go berserk. They're just everywhere. If you're a cattle rancher, that's not the best thing because it's called brush encroachment. But for the bears, it was really good food. And now we have more bears than we believed that we had before, which is a good problems. It's kind of like a church

parking lot that's too small or something. But it can be problematic when you've got so many bears where you see fourteen, fifteen bears in a day and it's like, OK, this is nuts. So anyway.

Diana Doan-Crider [01:00:03] But it's just it's just all these dynamics that are going on and how these bears can adapt to these different environments and move around to adapt. Some of them make it, some of them don't fit the ones that do make it, they're able to bounce back. And if you want to think about it this way, one female bear is much more productive than a female human being, a female human being, maybe at her most if she's gonna be pregnant all the time - 12, 15 kids. Right? A female bear in her lifetime has the capacity to produce maybe someone or up in the 30s, 30 cubs! Now, they don't all live. They don't all survive. But that's just demonstrating that female bears have very, very high reproductive potential.

Diana Doan-Crider [01:00:43] So if you quit killing all of them, they will bounce back. You know, I think that's the key. And in Texas, they're protected. So you don't have people that are out killing them all the time. In Mexico, they're certainly protected. We don't have any hunting there. And now we're seeing them do their thing. And I love this natural expansion. I am not a proponent of relocating bears. I'm not a proponent of, you know, reintroductions like moving bears around and starting new populations. They'll come back where they can come back and where they want to come back, if we, if we're willing to wait.

Diana Doan-Crider [01:01:19] Now, I want to go back and just make sure that this is clear, that when we solve problems with bears, we're always going to have a few bears that simply cannot respond to our problems solving. And occasionally we get a dangerous bear. When we were talking about the habituation levels - you have bears that are so used to being around people, sometimes you can do that and bears not cause a problem. They're just wanting to eat, just leave me alone kind of thing. But every now and then, we have a case that we're dealing with right now in Mexico, you get a bear that has predatory behavior. And for whatever reason, we're not really sure, but it happens more in black bears and in grizzlies and polars, that were we've had predatory cases in North America of bears killing and eating people, it's been black bears and we don't know why. We have to remember, most people maybe didn't know that they could fight their way out of a black bear attack. There were many people who believe that if you played dead and we actually had victims that actually sat there and let bears chew their arms off, thinking, you know, you don't move. Don't do anything. That's not the case with black bears. People need to learn about black bear behavior.

Diana Doan-Crider [01:02:28] But every now and then you'll see a bear that's demonstrating dangerous behavior, like going up... The bear right now in question is in Monterrey. It's going up and grabbing people, biting, trying to get their food out of their hands. It's not afraid of people at all. And my recommendation is you need to get that bear out of there now because it's in a it's a, you know, a suburban area there. Children around, you know, all kinds of things could go wrong.

Diana Doan-Crider [01:02:51] We're gonna have those scenarios. I wish we could save every bear, but that's not the case. Bears die every day. They kill each other. They die in water tanks. They die on highways. Every now and then they're gonna have to die because they have behavior that is just not retrainable. And you cannot retrain a bear that has predatory behavior. You have to get him out of that population, and you need to get him out of there pretty fast. So that's that's something that we need to educate people about, is like, look, there's just gonna be times where that's the only solution. So I wish it was different, but it's not.

David Todd [01:03:22] So a lot of what you've taught me tonight, this afternoon, is about the bears in Mexico, and their spread into Texas, the United States. Of course, with political changes underfoot, on, on the way, there's been a lot of attention to fortifying the border in some way, you know, lights, troops, fences, walls. How does this, what does this mean for, for bears' continued resurgence and mobility?

Diana Doan-Crider [01:04:04] That's another good question. I think we have to think about it in this term. I always tell people, well, really, there's two walls we're talking about here. One of them is a physical wall and the other one is a, is an invisible wall. And that's whether the public is willing to accept these bears when they crawl, when they cross the border. We do know that we have bears across the border, but then we get a couple of reports that we don't hear about it anymore. And I will say this, that, you know, deer hunting is a pretty big economy in Texas. It's important for people just even to maintain the ranches that they have that source of income. However, bears and deer feeders do not mix well. And, you know, it can be very costly and a pain in the rear. I'm not justifying it, but I don't know how people deal with those incidences.

Diana Doan-Crider [01:04:51] But I do know this, that given the number of bears that we have in Mexico, I'm not sure that we'll ever see that in Texas because Texas is so populated. And if you look at the West Texas area, compared to the Mexico side. The Mexico side, just this just looking at it, Mexico, for whatever reason, is so much more productive in terms of food production. I mean, Big Bend National Park can maybe hold, well, I heard one number today by my good friend Raymond Skiles, and he said there are some models that estimated between 30 and 40 bears in the Big Bend area, on a good year, not in Big Bend area, but in the Park itself.

Diana Doan-Crider [01:05:28] Whereas in the Serranos del Burro and some of the other neighboring mountain ranges, you know, I think it's probably much higher, higher because we have, that whole area is really strange. It's kind of where east meets, meets west. On the eastern side of, it's just a road that goes through there south of La Linda, but in the Burro mountain range, we have flowering dogwood. We have a lot of species that almost are more of an eastern species. And then as you cross over into the other mountain ranges and go into Chihuahua, you get over more into the vegetation of Rocky Mountains and more arid and that sort of thing. You actually have aspen up in there and so forth. So I know that between Eastern and Western bears, the general statistic is that Eastern bears produce more cubs than Western bears, and it might be because of that food productivity level.

Diana Doan-Crider [01:06:11] So when we talk about West Texas and bears, you know, presenting themselves in numbers, the way that we see them in Mexico, I don't know that that will ever happen because Big Bend National Park, Davis Mountains are all much more vulnerable to weather patterns. They don't have the same weather patterns as we do in Mexico. And so if we have bears that cross over or as we saw in Big Bend National Park, sometimes they just disappear and they go back home. Now, if the Hill Country were next to the Burro Mountains or something in Mexico, that'd be a different story because the Hill Country is a lot more productive in terms of the number of oak species and the amount of water that we have here, and just in general. However, we have the people problem there. And so I don't think you'll ever see bears, you know, get, get to that point there. So, as far as the invisible wall, obviously, a lot of public education that needs to happen there.

Diana Doan-Crider [01:07:06] As far as the physical wall, you know I have my own perspectives that they've been trying to build that wall for a long, long, long time, way before

this president. And they have never been able to get it done because of all of the, you know, catching the legal disputes and things like that. And I will tell you that bears can climb high fences. They can dig holes. They can do, I mean, like I said, they're like monkeys in bear suits. If there's a way to find a way across, they will find it, but not in the numbers. Like if they put a big steel wall in Big Bend National Park, which would be an absolute tragedy for our natural resources and everything else. You know, it's going to stop bears from coming across or stop bears from going back. They're localized problems.

Diana Doan-Crider [01:07:48] But I think we have bigger problems right now. And that's the invisible wall. I think there are a lot of bears that do want to come across or try to come across and then don't make it very far, for whatever reasons. I know that in Texas, a lot of bears, and in Mexico, a lot of bears get hit on highways. That's a huge cause of mortality. You know, big black thing crossing the road in the middle of the night, you know. So there's a lot of, lot of problems that are confronting bears on the Texas side today. A lot needs to change for that to to, you know, for them to come back. But there are these little places where they're telling us where they want to make that happen. And if our managers in Texas can focus on those areas and be allowed to do their jobs. You know, if we can help people who have deer ranches solve problems and figure out how to keep bears from getting into their corn feeders, that would be a huge, you know, plus. So it's not an easy answer to your question, but I hope that helped.

David Todd [01:08:50] Oh, it does, it does. And it makes me want to ask another question if you still have time.

Diana Doan-Crider [01:08:55] I do.

David Todd [01:08:55] I understand that there are some bears that are coming in from Oklahoma, Arkansas, and Louisiana. And I'm wondering what is, how would you describe the, this invisible wall between Texas attitude here, versus those in our neighboring states where it seems like there's a more welcoming attitude there. And I have read that Arkansas introduced over 200 bears.

Diana Doan-Crider [01:09:27] Yeah.

David Todd [01:09:27] You know, 60 years ago. And I think in Texas, we seem to have a different culture or attitude about that. And I wondering if you've lived in Bear Land for many years, what, what's your, you know, speculation about that?

Diana Doan-Crider [01:09:43] Well, I think, you know, my husband's a historian and we're always talking about stuff like this. And I think that the people who, who came to Texas originally, you know, during, before Texas became a state, not originally, but because, before they became a state, they were of a different mentality. They, they just you know, they, they basically wiped out anything that was in front of them. And I think that there's, there's maybe a remnant of that. But it's also because, you know, we had the deer hunting issue here. And I, and I will say this for Texas. Texas has changed a lot since the 40s. And there are a lot of places that will allow bears to come back. The one thing that I will say about Texas, because of their private property rights, that they're very protective about that, is that Texas landowners are not as willing to tell people that they have bears if they do. You know, I do know that there are a lot of people who just leave them alone. And, you know, if they behave, we'll behave kind of thing. Texas landowners in that aspect don't get enough credit for that. They just don't, they're just not vocal about it. So and again, even if you look at Texas landowner patterns, that's

changing. A lot of the landowners in the Davis Mountains are now, you know, dealing with wildlife as an income source. And they're looking at things differently. Everybody changes.

Diana Doan-Crider [01:11:08] Generations change. You know, now you have sons and grandsons that are taking over some of those places. And I'm not, I'm not saying that older generations had a negative view because some of the best advocates for bears that I've worked with are the older generations that realized what was happening. They've been the ones to lock their gates and and provide protection. So I don't think there's any real way to stereotype, you know what's happening. And I think you will start seeing people, to quote my friend Jonah Evans, who works for Texas Parks and Wildlife. He thinks that people will start allowing bears to come back because they are kind of fun. They're neat to see. Everybody has pictures of them and stuff. And people that once would get rid of bears now are not as quick to do that. So I think you will see bears starting to filter in, and that's going to happen more and more as bears go in search of food. Bears, bears don't have a reason. Bears don't have a reason to leave an area. Probably not. But if you give them a reason, a reason to leave, like searching for food, then they're going to go looking for food. So you can count on seeing those bears.

Diana Doan-Crider [01:12:14] Like this as a huge bear observation year, even all the way up into Montana and everywhere else, it's going crazy because bears are on the search for food with all of these weird climate patterns. And you have to realize it's not just about rain and drought. It's about the timing of rain that, you know, a lot of these oak trees have evolved with. If they're not raining at the time of year, at the time of year that they're used to, or if you get early freezes or, you know, all this other stuff happening, that's altering everything. And I know it's, you know, look at our allergy issues as trees are pollinating just in wacko ways. So all of that, you know, plays into it. But I think we need to really start preparing people and telling them, look, this is what's coming. We need to start making sure that everybody's got garbage, bear-proof dumpsters and, you know, putting some educators on the cover of National Geographic. Thank you very much. We need to do that. Give them some, some attention, because they're the ones who are really, really doing the hard work.

Diana Doan-Crider [01:13:14] Well, you've clearly done a lot in this field, and thanks so much for sharing all that you've learned. I don't want to keep you for too much longer, but I did want to see if you had anything you'd like to add about your experience of black bears and what you's learned and what you'd like to share.

Diana Doan-Crider [01:13:33] Man, I think I said it all and I just I really hope that people will just get into the problem-solving mode and, and learn to take care of this, this beautiful creature, in balance. You know, I'm a manager. I understand. People need to get over death. People, things, things die all the time. We all die. You know, everybody's so afraid of death. Like, oh, my gosh, I don't want this bear to die. And we just need to kind of get into the groove of letting nature show us, you know, how things work and, and, and just learning from, from those aspects to apply to our problems-solving approaches.

Diana Doan-Crider [01:14:11] You know, I was telling somebody the other day, like, oh, my gosh, we need to start sterilizing bears because we have so many. And I said, you know what? You don't need to sterilize bears, you just have to quit feeding them. And I said their reproductive reproductive rates will go down with the fluctuations in nature, but quit feeding them, you know, because you're, you're pouring all this corn out there and then you're like, oh, my gosh, why do we have so many bears? I said, any cow person will tell you, that's how to get more production out of your cow herd, you feed them more. So we need to, we need to understand that we're kind of our own worst enemies and we're creating a lot of the havoc

out there. And we need to kind of go back and see how Mother Nature does it and, you know, let her teach us so.

David Todd [01:14:53] Very wise and very practical. Thank you. It would be, yeah, sometimes we are our own worst enemy. Well, thank you so much, Diane. It is just a pleasure to visit and learn so much from you. Thank you so much.

Diana Doan-Crider [01:15:10] I appreciate the opportunity. And like I said, I'm glad you guys are putting this compendium together. It's gonna be really interesting for future generations. And hopefully they'll be in a really great spot and you can say, wow, check this out. When there were hardly any bears in Texas. Look at us now. You know, that's my expectation.

David Todd [01:15:26] All right.

Diana Doan-Crider [01:15:26] So anyway. All right. Well, thank you, David. And just to follow up with your recording thing, when you record, it's going to say, if you want to save it to your cloud or to your computer and you can save it to your computer and it will convert it, let it convert it, and then you'll have it as an MP4. So..

David Todd [01:15:41] Very handy! Not only do you know a lot about bears, you know a lot about zoom.

Diana Doan-Crider [01:15:47] Oh, that's how all of us know a lot about Zoom who are kept cooped up in our houses nowadays. That's all we seem to do. So anyway. All right. Well, thank you so much. I really appreciate it.

David Todd [01:15:56] Well, thank you. You have a good day. All right.

Diana Doan-Crider [01:15:58] Take care.

David Todd [01:15:59] All right.

Diana Doan-Crider [01:15:59] Bye bye.