

TRANSCRIPT

INTERVIEWEE: Billy Tarrant

INTERVIEWER: David Todd

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David Todd [00:00:02] Okay. Well, good morning. I am David. Todd, and I have the privilege of being here with Billy Tarrant.

David Todd [00:00:09] And with his permission, we plan on recording this interview for research and educational work on behalf of a non-profit group 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 at the University of Texas here in Austin.

David Todd [00:00:31] And I want to stress that he has all rights to use the recording as he sees fit. It is his.

David Todd [00:00:36] And I wanted to make sure that that's okay with Mr. Tarrant before we go any further.

Billy Tarrant [00:00:40] That's fantastic.

David Todd [00:00:42] Okay. Well, let's get started, then. It is Monday, August 21st, 2023. It's about 9:10 Central Time.

David Todd [00:00:52] My name is David Todd. I'm representing the Conservation History Association of Texas, and I am in Austin.

David Todd [00:00:59] We are conducting a remote interview with Billy Tarrant, who is based in the Alpine area.

Billy Tarrant [00:01:06] Mr. Tarrant is a wildlife biologist and he currently serves as the Associate Director of Stewardship Service at the Borderlands Research Institute, which is at Sul Ross State University in Alpine.

Billy Tarrant [00:01:18] And in past years, he worked for Texas Parks and Wildlife, beginning back in 1996, and the Arizona Game and Fish Department, starting in 1992. Among many other tasks over the years, he has been involved in research and protection and restoration of the pronghorn antelope, with work on monitoring, studying, capturing and transplanting the antelope in the state.

David Todd [00:01:44] So, today we'll be talking about Mr. Tarrant's life and career to date, and especially focus on what he's learned about the history of the pronghorn antelope in its restoration and research.

David Todd [00:01:57] So, with that little preamble, thank you again for doing this. I'm delighted you can be with us.

David Todd [00:02:04] And I wanted to start with a question about childhood and if there might have been any events in your early life where there were people or occasions that might have influenced your interest in nature and wildlife.

Billy Tarrant [00:02:21] You know, we just kind of fell into this a while back. But my early childhood: born and raised in Texas, for the most part, most of that in Midland, the Midland area, and then moving to northern New Mexico. My dad was in the oil business, semi-retired, and we moved to Chama, New Mexico, up in the mountains of New Mexico. And ... 13 years old, we moved up there and then graduated high school.

Billy Tarrant [00:02:48] But up there, really always had a big interest in wildlife. Thought I was going to be a zookeeper or something like that. I didn't know that wildlife management existed as a career. But I always had an interest, running around with field guides. We just figured this out a while back, that several of us who are about the same age, in about a ten year span there, we all cite Mutual of Omaha's Wild Kingdom as a catalyst for our career decisions. You know, I could not get enough of that show, just loved it, and it kind of just sparked that interest.

Billy Tarrant [00:03:25] I wanted to know everything that I could about lizards, snakes. I was a hunter, a fisherman. Well, and then, of course, moving to northern New Mexico, with ... the Rockies was an opportunity, really, to jump in the middle of it.

Billy Tarrant [00:03:39] And so, it all came together and I realized that New Mexico State had a wildlife management program, and that's what I opted to do. And, well, I started there in 1984. Got both my bachelor's and master's there.

David Todd [00:03:56] Well, and so, yeah, I think you mentioned your dad, who, as he got older, decided to move to northern New Mexico. So, I gather he liked the outdoors as well. Did he, you know, inspire you to spend more time outdoors?

Billy Tarrant [00:04:14] Yeah. You know, we shared a lot of time outside. Of course, my dad was born in 1921, child of the Depression, you know, and saved the world in World War Two, part of the greatest generation, you know, type of guy. He actually served on the U.S.S. Texas in Pacific engagement. So he was cut from a different cloth, as I think everybody can understand. He was a great dad. We did a lot of things together. One of the things - we had 160 acres in Midland, that we rode around on motorcycles. We had dirt bikes and chased jackrabbits. Never caught one, but, you know, stuff like that.

Billy Tarrant [00:04:53] And then when we got to northern New Mexico really started hunting. I shot my first big game animal when I was 15 years old. It was a black bear that I actually was hunting. You could, back then, you could buy a deer, turkey or bear license. If you bought a deer license, you got the other two species as well. I was hunting deer and shot a black bear at 15, and took that skin with me to college. And my son still has it on his wall.

Billy Tarrant [00:05:23] So, anyway, he really did, we did, we hunted quite a bit together during that period. And then in college I didn't. And then I came back to it later. And I've been doing a lot of Western states in the last 20 years, 25 years. But yeah, he was certainly a catalyst for being outdoors. I don't think he totally understood why I liked field guides and

figuring out what kind of whiptail lizards were out there, kangaroo rats and such. But, he certainly never stifled that. He encouraged it.

Billy Tarrant [00:05:57] He actually, at that time, to be honest with you, when I went to college, he said, "You", (it's 1984), he said, "You probably need to go into computer science. That's the future, right? Probably not going to make a lot of money in the wildlife field." And I was like, "Yeah, but I like that stuff."

Billy Tarrant [00:06:09] So, and I've been very, very blessed and fortunate to have a successful, a couple of successful, careers in the wildlife field.

David Todd [00:06:17] Yeah. So it sounds like you're one of those people that is both a hunter and a fisherman, but also kind of a student and a scholar of wildlife. Is that fair to say?

Billy Tarrant [00:06:29] Oh, absolutely. Yep. I mean. Here in a while, we'll talk more about why problem populations have come back. And that's all based upon the North American model of conservation, you know, and the use of those excise sporting goods tax on guns and ammo in the case of wildlife to rebuild populations that were decimated in the early part of the last century.

Billy Tarrant [00:06:53] So, yeah, I mean, I do my part and also really enjoy it. Enjoy the opportunity to be out there and spend time. Half the time I don't come home with anything and I'm perfectly good with that. When I do come home with something, we have some good protein over the next year, you know.

David Todd [00:07:15] So, a lot of times people have these kind of close family, friends and relatives who introduce them. But I think you also mentioned that Marlin Perkins and Mutual of Omaha was a big influence in your life. Is that fair to say?

Billy Tarrant [00:07:38] Absolutely. No, I couldn't wait for that show. I think 6 p.m. on Sundays, it came on. I couldn't wait for it, you know. It was front and center. I wanted to be Jim, you know, jumping on the back of a wildebeest, driving a Land Rover. But it certainly was part of it.

Billy Tarrant [00:08:04] And I really don't know why? Talking to my 15 year old son now about what he wants to be. And it really hasn't galvanized in his head. And that's a lot of folks. You know, some of the best wildlife biologists, natural resource people I know change their major in college, you know, and didn't really know what they wanted to be, but they ended up getting it, and having a passion for it. And so it's just, it's something that once you got that, and you know what you want to do, then pretty cool. I've been blessed that way, I guess.

David Todd [00:08:38] It's nice when there's some clarity and and certainty about what you might end up doing.

David Todd [00:08:44] So aside from Mutual of Omaha, were there other kind of references in the general culture, you know, books, magazines, journals, anything else, movies, that might have been inspiring?

Billy Tarrant [00:09:00] Really, for me, at that time, as a kid, I mean, it was "Field and Stream" and "Outdoor Life", the whole hunting aspect, hunting and fishing aspect. Loved to

fish. Still, to this day, love to go fishing for trout in the Rockies. Love any kind of fishing. You know, I love to hunt.

Billy Tarrant [00:09:18] It's just, those probably if you were going to hone in on a couple of them, besides Wild Kingdom, it would be those magazines. I've just read them front to back every month we got them.

Billy Tarrant [00:09:34] I had friends that loved to hunt, too. You know, when I made friends up there in northern New Mexico, in middle school, kind of an awkward time for a complete culture switch from where I was in West Texas to Northern New Mexico, and made friends. And they loved to hunt and we loved to be out there in it, you know, and just as much as we possibly could.

Billy Tarrant [00:09:50] And so, anyhow, that's part of that process, you know, is friendships and relationships you build that end up lasting a lifetime.

David Todd [00:10:02] Yeah. Do you recall any trips? You mentioned that hunting trip where you bagged a bear at 15. That must have been pretty impressive. Any other fishing or hunting trips that you recall from your childhood?

Billy Tarrant [00:10:17] Oh, lots of them - fishing trips and stuff. My dad and me hunting elk, and not being unsuccessful. But still, you know, my dad grew up in Texas, and he felt like I needed to have a blind for that bear hunt, I needed to have a blind for that deer hunt. And I was in the middle of a big aspen grove on a property that we actually were helping, helping manage - a 700-acre property, a beautiful spot. And three game trails came together near a little aspen motte, I'd stacked up aspen logs, dead aspen logs, and built my own blind and just sat there for a while. It was pretty miserable hunting, really, for a kid.

Billy Tarrant [00:10:54] But it was cool because, you know, I got to see everything coming to that little park there. Had a coyote come up within, you know, like, he knew something was behind this little log cabin looking thing, but he couldn't tell what it was either. The wind was just right and we were within sixteen inches of each other. He was sniffing, trying to see through the logs and stuff and. He finally (I didn't scare them of), he just took off.

Billy Tarrant [00:11:19] And then that bear showed up and it wasn't... Well, I was 15. I was pretty scared, but I shot it and it started running towards me. And so then I tripped out of my whole little blind. I fell over backwards. Poor thing. But yeah, we ate that bear that winter. That was a younger female bear and she was exceptionally tasty. And I've had a lot of bear since then it has not been as good, but that one was. We let her hang for about ten days and she was delicious and fed our family bear burgers all winter.

Billy Tarrant [00:11:48] You know, it was "been there, done that." Don't have any desire to shoot another one. But it was quite exciting.

David Todd [00:11:55] Wow. So another question about sort of early inspirations and influences. You spent a good deal of time in school. And I was curious if, you know, while you were at New Mexico State, if there were teachers or classmates that might have encouraged your interest or guided it in some way.

Billy Tarrant [00:12:19] Yeah, I'd actually go back to even high school. You know, middle school and high school, I had a science professor in middle school in Chama, and then a

science professor and teacher in high school that were both, I felt like, you know, science, I kind of got it and liked it, liked the research aspect of it and stuff. And they kind of help guide that somewhat. In fact, I recently reached out to a high school classmate of mine to tell her dad how happy I was that he was, you know, a force in my life. And I think he really appreciated that.

Billy Tarrant [00:12:53] So, you know, New Mexico State, obviously, you know, a lot of mentors, a lot of professors that really kind of help guide me. And that, to be honest with you, at 18 years old, I think I was like a lot of students and, you know, the main wildlife that I was studying was not in the halls of academia. It was on Friday and Saturday nights, you know, type of deal.

Billy Tarrant [00:13:15] And, net, I think my grades reflected that initially, for sure, but I kind of realized at some point I better, better step it up. And it's all about time management, you know, and I did, you know, relatively well later my junior, senior year.

Billy Tarrant [00:13:35] I was on an eight-year plan. It took me five years to get through my undergrad and three years in grad school. The grad school portion of it, I could talk about that in a minute, but that was that was kind of an unforeseen issue there. But it all works out for a reason.

Billy Tarrant [00:13:50] You know, several professors there: Dr. Shimitz, late Dr. Shimitz, Dr. Valdez, Dr. Howard. Oh, it's just, you know, just as time goes on and these people that you looked up to and worked with, they keep passing away, you know. But it's, they definitely left a mark on not just me, but a whole lot of folks that went to that program.

Billy Tarrant [00:14:19] It was a good program, good wildlife program at New Mexico State at that time. And it turned out some really good wildlife professionals, a lot of which I still stay in touch with.

David Todd [00:14:28] Was there a particular animal or system that you studied when you were in grad school?

Billy Tarrant [00:14:36] You know, I was kind of still stuck in the whole ... so, as an undergrad, I was still kind of stuck in the hole where I'd been as a kid, which was just a fascination with large carnivores and raptors. I loved the cool predatory animals.

Billy Tarrant [00:14:53] When I went to grad school, so basically, you know, at that time, was very, very difficult to get a job. The market was flooded. So I got my bachelor's. And Dr. Valdez came to me. And I was putting in, for I mean, I put out probably close to 100 applications across the country for a job, and couldn't even get an interview.

Billy Tarrant [00:15:12] And he said, "Have you thought about grad school?" And I was like, "Kind of, not really, a little bit maybe. You know, I like the research aspect of it. And I need to keep eating. So what you got?"

Billy Tarrant [00:15:26] And he had a larger project, it was on the Coronado range there, north of Las Cruces, (it's part of the New Mexico state system), studying pronghorn. And he said he had a Ph.D. from Mexico that was working on the main part of that project. And he had several graduate students, master's students working underneath him on different aspects.

And so mine was going to be breeding behavior and territoriality in pronghorn. And so that's what I did. I did that for two years.

Billy Tarrant [00:16:00] Really fascinating animal, you know, when you dive into it. And it's a, you think about their breeding behavior, they're one of the few animals, well, at least in North America, that are so territorial. You know, the bucks will set up territories in the spring and defend them for like four or five months, banking on the fact that through those two weeks in the fall during the rut, that they'll have the best resources on that little piece of property to have does with them. Right? And they defend that. They fight other bucks. They mark it constantly. And it's, you can map it out. You can see those territories and see where they lay.

Billy Tarrant [00:16:42] And I did that, as best I thought I could at the time, given the number of animals I could. I mean, I was just basically observing pronghorn all day long, or several hours a day. And when it got time to, I wrote my first draft of my thesis, and I had a professor on my committee that I had chosen who was actually a waterfowl professor, very renowned waterfowl professor, Graham Cooch from Canada on sabbatical at Las Cruces, and a phenomenal scientist.

Billy Tarrant [00:17:18] And he was like, he pulled me in after he read my draft. He goes, "You don't have enough data." Now, I've seen theses that go through with a lot less data than I had, in other programs and in that program there. But the bottom line is I had a committee member who didn't think I had enough data and he was probably right. I didn't. It wasn't stout.

Billy Tarrant [00:17:39] So, I was kind of stuck, you know.

Billy Tarrant [00:17:40] And then, down the hall, Phil Zwank, Dr. Zwank, who ended up going to Texas Tech, and then passing away very untimely, not long after. He was department chair at Texas Tech of the wildlife program.

Billy Tarrant [00:17:54] But at the time he was with the USGS or U.S. Fish and Wildlife Service cooperative research unit at New Mexico State. He had a bald eagle project, wintering bald eagles on Caballo Reservoir, which I did that project, and it actually turned into a much bigger Ph.D. project through time.

Billy Tarrant [00:18:09] So I had to stay an extra year. I gathered one more year of data. And I really, I was data-short on the first one. I was data-strong on the second one, because I did everything I could possibly do. I did time-budget analysis watching eagles all day long.

Billy Tarrant [00:18:22] Bottom line is that there was a nesting pair of southern bald eagles close to Caballo Reservoir, and they use that reservoir for irrigation. They really, the U.S. Bureau of Reclamation, I think actually adjusts those water levels constantly. So there's not a lot of good game fish there. They don't have a spawning habitat. And the concern was, are we impacting (at that time, southern bald eagles were still listed, we had a nesting pair not far from that reservoir), and were we impacting those, the fishery there for them to be able to fish and find prey.

Billy Tarrant [00:18:59] Turns out whenever you mess with water levels, at least in that system at that time, the gizzard shad don't, they spawn no problem. And there were just billions of them. There was so many gizzard shad. And they'll get to be a pretty good-sized

fish. There was certainly no shortage of food for them. They didn't have any problem finding food.

Billy Tarrant [00:19:20] But I got to spend the whole winter, because we had to study the wintering population that stays there every winter, and I got to drive around in a little johnboat and watch bald eagles come down and grab fish. Pretty cool.

David Todd [00:19:36] That's great. I may want to ask you one favor. When you pull back, we start to get an echo. So the closer you can stay to the mic, the better you will sound. And I want you to sound great.

Billy Tarrant [00:19:53] Okay.

David Todd [00:19:54] All right.

David Todd [00:19:56] Well, so it sounds like you had some exposure in that first thesis run to pronghorn. And was there anything you mentioned the territoriality and sort of mating dynamics? Is there anything else that you might want to mention about that point?

Billy Tarrant [00:20:14] Well, at the time there was an argument going back and forth in the field of pronghorn management about the timing of hunting seasons and how, you know, a certain action can cause that system of territoriality to break down and whether it's, you know, die-off or whatever.

Billy Tarrant [00:20:40] But the bottom line is, is as long as it's functioning correctly, you'll end up with breeding by dominant, older age class, dominant bucks. Like 90%. It's very effective. They defend and breed.

Billy Tarrant [00:20:55] And then when you lose that system of territoriality, for whatever reason, it can skew the other way. And even the yearling bucks are doing the majority of breeding.

Billy Tarrant [00:21:05] And so, it brings into this whole idea of fitness, are we allowing these animals to continue with some level of quote, "fitness", which is almost impossible to get a hold of. Right? What effect are we having on them primarily because of hunting? The fact of the matter is 2 to 3 weeks after they go through their breeding, their rut - you know, they're one of the only animals on the planet, they are the only ungulate on the planet that sheds its outer horn sheaf every year.

Billy Tarrant [00:21:36] And so, you don't have much time to hunt them after the ruts. So, most of the Western states, most of the states that hunt pronghorn, I mean, almost all of them, they hunt during that rut.

Billy Tarrant [00:21:46] And it does affect that territoriality.

Billy Tarrant [00:21:50] It's almost impossible to get around it. I don't know how else you could do it.

Billy Tarrant [00:21:53] We've had a lot of conversations. So that was really front and center with a lot of prominent researchers kind of arguing back and forth: "What effect are we having on pronghorn?"

Billy Tarrant [00:22:04] So, I felt like it was timely just because it became such a big issue. And of course, I observed that population was not hunted and they maintained a strong system of territoriality all the way through the breeding season.

Billy Tarrant [00:22:16] But so, you know, that's the thing about wildlife research. You want to try to answer questions. That's the idea, right? Is to have some way to answer questions and then turn it into practical knowledge that you can use going forward.

Billy Tarrant [00:22:30] So, the timing of it was pretty exciting for me.

Billy Tarrant [00:22:33] But since then, I've kind of just realized that it just it's pretty, if we're going to continue to hunt pronghorn, it's just going to be an artifact that maybe we, you know, individually try to make decisions, whatever agency or whatever private landowner, to make a decision to try to minimize that impact as much as possible.

Billy Tarrant [00:22:51] But if you wait too long, you lose the horn sheathes. So.

David Todd [00:22:56] Well, that's interesting. So, I guess what you're saying is that the science was maybe encouraging you to shift the season, but there's political, hunter pressure to allow you to hunt and get those horns on that animal rather than have an animal that has no horns. Is that right?

Billy Tarrant [00:23:16] Exactly. It's just a bony core that they start, that's left there. And even under current, you know, regulations and hunting seasons, I mean, lots of times, you know, depending upon the condition of the animal, whether whatever, you'll have an animal that's shot and falls over and its horn sheathes pop off, you know, and then they just slide off when you go to pick them up and take them, you know.

Billy Tarrant [00:23:40] And so, you've got taxidermists put those back on. It's not a problem, but, you know, it's a social issue. And it once again, we're talking about something like fitness, long-term fitness of an animal, having those older-age class bucks do the majority of the breeding, versus younger age, that's really tough to get a hold of. You know, it's really, "Do we see any impacts? Not really. Not, you're not going to see impacts for many, many years, probably."

Billy Tarrant [00:24:08] So, but it was a timely discussion across the wildlife professional journals at the time, and it kind of gives you an added sense of like this, this could mean something. And my data, my information, that thesis, was still incorporated into the larger project. So, it was still utilized. It just didn't get me my master's thesis.

David Todd [00:24:31] Well, that's fascinating. You know, kudos to you, to work on something that actually is of practical import, that other people notice. I mean, there are a lot of research projects, as you well know: they go up on the shelf. So it sounds like yours was very relevant.

David Todd [00:24:51] So, let's move on and talk a little bit about your first job. I understand that you went to work for Arizona Game and Fish in 1992, I think, and you did many things, but one of the things that caught my eye was that you did some antelope surveys, both fixed-wing and helicopter-based. Is that right?

Billy Tarrant [00:25:14] That is.

Billy Tarrant [00:25:16] So, back up real quick on that thesis. I didn't actually finish, I didn't finish defending, until two years after I had left, went to the Arizona Game and Fish. I just hope I can talk about that more in a minute. But basically when I got there, I had another mentor who said, "You need to go back and finish your thesis." And I had my thesis in the back of my pickup truck on a floppy drive. I'd written the whole first iteration of it, and it was on one of those five-inch floppies, and then it got rained on. So, I had to, all I had left was a hard copy.

Billy Tarrant [00:25:59] So, I had to rewrite the entire thing in my spare time because they didn't actually give me any more money, more salary, working at Arizona Game and Fish. They didn't give you any type of credit for that thesis, for that master's degree.

Billy Tarrant [00:26:10] But anyway, bottom line is I got back and got it done in the nick of time and defended.

Billy Tarrant [00:26:15] So, yes, so when I went to work for Arizona Game and Fish, you know, the position was, I put in for that position, well, I think my last, would have been my last semester, thereabouts. But, this is still happening today, even here. You know, you get a job, you got to go eat, you got to have a job. And so people go to work and then they have a hard time coming back and finishing.

Billy Tarrant [00:26:36] But yes, the job was posted as "wildlife manager", and I didn't really realize what that was, but it's basically a game warden, you know. I had been quoted probably a month or two before I got the offer, or got the interview, that I would never wear a gun. I didn't have a desire to be a law enforcement officer. But once again, you know, I'm hungry. I got to eat.

Billy Tarrant [00:27:03] And so, I interviewed and got a position, went through the General Law Enforcement Academy, got stationed up on the Colorado River. I was primarily a watercraft enforcement officer on Lake Mead, Lake Mojave, and I had two boats up there and did a lot of patrols in the summertime.

Billy Tarrant [00:27:21] But the only big game animal I had up there of note was desert bighorn sheep. And I had a ton of them. And so I spent a lot of time surveying those, worked that one hunt a year, basically. And then that's all I had.

Billy Tarrant [00:27:34] That allowed me to travel and assist other game wardens across the state on their hunts and surveys. And so, I started doing pronghorn surveys, primarily around the Seligman area and, you know, towards Flagstaff.

Billy Tarrant [00:27:55] And that's where I learned that, you know, I've never had a problem with motion sickness. But if you're going to have a problem with motion sickness, that's where it comes up is pronghorn surveys. And so, I dealt with that the whole rest of my career, but I dealt with it. Right? It just is what it is.

Billy Tarrant [00:28:09] And interesting, I'll say this about the Arizona Game and Fish. They're like a lot like Colorado and some other states where all of their game wardens have a natural resource degree and so there should be around, on average, 50%, law enforcement, 50%, wildlife management, right? That should be kind of what drives the surveys, etc..

Billy Tarrant [00:28:33] Versus in this state, you know, like in Texas and a lot of other states, you either have wildlife biologist, or you have game wardens. And they're not required to have a natural resource degree.

Billy Tarrant [00:28:42] And I tell people after working for two different agencies that did it different ways, I don't know if there is any clear advantage one way or the other. Or, everybody'd be doing it the same way, right? You always felt like you weren't getting enough of your law enforcement done; you weren't getting enough of your wildlife surveys, etc., done.

Billy Tarrant [00:28:59] When you do it that other way - the way Arizona does it, the way Texas does it - you have a disconnect between your game wardens and wildlife biologists at times.

Billy Tarrant [00:29:05] So, it's, anyway, it was a great job. I had four years in a great state with tremendous resources and country, and actually went down all over the state. But those pronghorn surveys, with a gentleman named Tim Pender, who was the biologist there in Seligman, and he, man, he had good eyes. He could see so well. And, that's where I started.

Billy Tarrant [00:29:32] And I also did mule deer surveys out of a helicopter. I think only did fixed-wing surveys for pronghorn though.

David Todd [00:29:39] What was the goal of these surveys that you were doing for pronghorn?

Billy Tarrant [00:29:45] It's the same as every state does, every state conservation agency that has wildlife populations, game populations: you survey to ascertain reproduction, how the population is doing, and then to set, you know, harvest goals. And so, based upon amount of harvest, you issue the number of permits to the hunters, the hunters in that state draw from. They draw those permits. And then that harvest, you look at your impacts of the harvest from the previous year. By looking at that population annually, you also know your reproduction, survival, your fawn crop, etc..

Billy Tarrant [00:30:31] It's the same here. And in fact, pronghorn is one of the species that we, the department, Texas Parks and Wildlife, still issues permits on. You know, almost all other game species in the state, they are, well it's up to the landowner to decide how many animals he wants to harvest. But the department actually issued those permits to individual landowners across the range in Texas.

David Todd [00:30:57] Well, we should talk about Texas, because in 1996, you came here and worked for Texas Parks and Wildlife. And again, were doing these pronghorn surveys, I think at this time in Culberson and Hudspeth Counties in West Texas. And I was wondering, you know, how that survey worked and how what you saw compared to what you might have seen in Arizona.

Billy Tarrant [00:31:25] Oh, it's you know, the Arizona populations that I surveyed were a little higher, a little wetter, you know, higher elevation, versus what we have in Culberson and Hudspeth Counties. You know, I was, I spent, I think, three, four years in Van Horn.

Billy Tarrant [00:31:44] My parents had gotten older and to be honest with you, Arizona was not at a real high pay scale at that point. It was pretty, pretty tight. And my parents, like I said,

are both quite a bit older, and had moved back to Texas, and what little extra money I did have, I got to see them once a year. You know, so I'd spend on a plane ticket to come out and see them.

Billy Tarrant [00:32:09] I decided to start looking, you know, back closer to home and where they were, and was fortunate enough to get that position and loved it. It was a great job.

Billy Tarrant [00:32:21] I was single at the time. Van Horn is tough on a single man. But it was still a - the country and the people up there - I had a blast.

Billy Tarrant [00:32:28] I was also in charge of, I'll just say as a side note, at that time, that position still managed the Sierra Diablo Wildlife Management Area, the first wildlife management area in the state, set aside for the restoration of bighorn sheep. We still actually had sheep in the propagation facility there at that time and I had to feed those animals and take care of them and do surveys for multiple species.

Billy Tarrant [00:32:49] But, you know, Hudspeth County: people don't realize Hudspeth County has a tremendous amount of grassland that's still very, very much intact. And it's pretty cool, pretty cool country. And yeah, also impressed some of the biggest pronghorn every year that are harvested in North America are killed in that population, some really big bucks.

Billy Tarrant [00:33:14] Much stronger populations down, at that time, down further south on the Marfa Plateau and Marathon Basin.

Billy Tarrant [00:33:21] But I was, I spent like three, three and a half weeks every year staring out of an airplane with no air conditioner in the middle of July. So not the funnest thing to do. It really isn't, especially when it's not wet. You know, if it's not green. If it's just dry, they're hard to see and you're just looking for little dust clouds running across the landscape there. And that's where they are.

Billy Tarrant [00:33:53] You'll find, you know, flying linear transects. At that time, the department was still treating it as a total count, like you're going to see every pronghorn, which you won't. And that changes so much with visibility. If you get a green background, they're easier to see. The time of day - you know, early morning, just like any other species of wildlife - when the light's right, they popped really well, early morning, late evening. But, because of time constraints, we had to fly more than that.

Billy Tarrant [00:34:20] And those long linear transects: long days. Come home at the middle of day, take a nap, get back up, do it again that afternoon and evening.

Billy Tarrant [00:34:31] It's work. Work. I tell you, when I finally made the jump to administration years later, that was probably why I didn't mind it - not having to do pronghorn surveys anymore. Several thousand hours doing it.

David Todd [00:34:44] And when you do these surveys, is part of the puzzle, extrapolating what you see to what there is? I mean, you're, like you said, you might see fewer in the middle of the day or if it was a brown background. And how do you move from that sort of 'what you sample' to 'what the actual underlying population' might be?

Billy Tarrant [00:35:10] Well, they made those changes. Right? I mean, Parks and Wildlife has made those changes through a research project actually partnered with Borderlands Research Institute, where I now work. At the time, you know, the idea was to do something different.

Billy Tarrant [00:35:25] Like, ... for mule deer, they ended up utilizing a sightability model, how across the terrain that you're flying, and they're doing those with helicopters, across the terrain you're flying, how likely are you able to see a deer, based upon that particular habitat type, that cover, whatever it may be?

Billy Tarrant [00:35:46] The problem when they went with what's called, "distance sampling", which basically accounts for the animals that you can't see, depending upon how well you can see the ones you do see. Right? It fills in that gap. ... Intuitively, the further away they are, the less likely you are to see them.

Billy Tarrant [00:36:02] And so, they made that change. Well, it's been almost ten, fifteen, ten, twelve years ago, I think. And that accounts for what you don't see. Right? You have a total population estimate that is based upon at least some level of certainty that you miss some and didn't over-count, double-count any animals, too. That's another thing you got to be careful of is double-counting animals.

Billy Tarrant [00:36:28] But they've made those changes and that gives you a lot better population estimate through time than what we had before. Because, like I said, you had a green year, your populations would skyrocket. Well, they didn't really skyrocket. They just were more visible.

Billy Tarrant [00:36:42] So, I think most state conservation agencies have made some change like that as the science has gotten better, research has told us how to count them better, how we can get more reliable estimates. They've kind of made some changes along those lines for a lot of species.

David Todd [00:36:57] I see. It's interesting. You know, it seems like a lot of wildlife study is about counting. And counting is not as simple as you might think.

Billy Tarrant [00:37:07] No, census is a big part of it. That's a big chunk of everything from, you know, you want to know how many you got and you never know exactly what you got. But you can get pretty close and it really drives a lot, you know, because that's important. It's important for restoration purposes for pronghorns, important for permit issuance, etc. So.

David Todd [00:37:31] So you went on to do more surveys for pronghorns when you moved in 1998, I think, up to Texas Parks and Wildlife's Wichita Falls office. And I was curious. That terrain is very different from West Texas. And I'm wondering, you know, what you saw between the populations between out in Arizona, originally, then out in West Texas, and then you go up to north Texas.

Billy Tarrant [00:37:59] Well, really, I wasn't actually surveying North Texas. I was surveying on the Rocker B Ranch by San Angelo. I, once again I mentioned, I was single and Wichita Falls seemed a little more attractive than Van Horn at the time for a single guy. And so, I moved up there and was fortunate to meet my wife up there, and drag her back down here out in west Texas again at some point.

Billy Tarrant [00:38:24] But when I got there, I thought I was done flying surveys, you know, and then come to find out, you know, I knew we were doing surveys on the Rocker B Ranch, which we'll talk more about historic restoration efforts. But that was that was the source for so many restoration efforts for many decades on that ranch west of San Angelo, north of the Big Lake area.

Billy Tarrant [00:38:49] And, well, my boss, you know, when he hired me, when I got that job, lateraled over, he said, "By the way, you're going to be flying pronghorn surveys because nobody else wants to fly them." The biologist that was there in San Angelo, he flew them every year, but ... you have to have a secondary observer.

Billy Tarrant [00:39:07] So, here I go, back in the airplane again. And we actually did fly one or two years, we flew helicopter surveys for them too, which was pretty cool.

Billy Tarrant [00:39:16] But, yeah, and then I got stuck flying midwinter waterfowl surveys, which is a new initiative. I say, I got stuck, I mean, I enjoyed it, but it really increased our state - talk about counting - ducks, wintering ducks and geese. Those are typically done on large reservoirs with an airplane and you don't account for all of the little stock ponds across the entire state that hold a lot of ducks. So we started doing long linear transects across a huge chunk of central, north central Texas, as part of a kind of a little initiative to see what that did to the population estimate.

Billy Tarrant [00:39:57] And it completely changed it, because there's a lot of ducks that stay on those ponds. Those are tough - long, long transects, like 50-mile transects, just staring out, waiting, waiting to fly over a little pond and see some ducks and identify them.

Billy Tarrant [00:40:12] So yeah, just the fact that I can keep my lunch down and could do those surveys, they took full advantage of it over there, which is fine. I had fun. But I did have a couple of my closest calls I've ever had. I've had a few close calls in aircraft. And it's, I can tell you, after a career of it and losing good friends doing aerial surveys, I'm not a big fan as I used to be when you're young and indestructible, you know. But I've lost colleagues and friends for years and years who have died in crashes and stuff. And I had a couple that were really close.

Billy Tarrant [00:40:40] And, you know, I think technology is getting us past that at some point. So I can see that happening, as far as drones, etc.

David Todd [00:40:53] And I guess the risk is that you are flying in all different kinds of weather in little aircraft?

Billy Tarrant [00:41:00] Yeah. You know, either one, you know, fixed-wing airplanes or helicopters, you know, it's just a short fall and there's not much time to react. And so, you know, obviously, bighorn sheep surveys over rough terrain, that's just a bad situation. But, you know, in hot weather - the department's now changed those to falls surveys, which is more helpful. In other words, you get more lift in cooler weather.

Billy Tarrant [00:41:26] Pronghorn surveys: you know, we ended up one day we bounced a buzzard off, excuse me, a turkey vulture off the wing, which didn't do any damage. It just scared us all a little bit.

Billy Tarrant [00:41:36] And then, the next day, with just a little tiny thunderstorm out there, and it had a microburst associated with it. And man, we just, we were really close to trying to...

The pilot was one of the best pilots I've ever flown with, and he got us out of there, but it was within a few feet of the ground. And I mean, he had to pick up his speed. So, we're going like 150 miles an hour to try to get out of it and. And he was visibly shaking.

Billy Tarrant [00:42:01] So, when your pilot, who served in Vietnam as a helicopter pilot, and he's shaking, and he says, "I think I'm done for the day." I said, "We're done too, you know, let's go home."

Billy Tarrant [00:42:14] So, anyway, it's just, you know, it's part of the job. But it also, you know, it's just it's one of those things, I don't get off track on this, but, you know, surveys are one of those things that are inherently dangerous. Low-level flight in any type of aircraft, weather, mechanical problems, whatever it may be, and just not a lot of time to adjust, I guess, from a pilot's perspective.

David Todd [00:42:39] That's a really valuable insight because I think, you know, these surveys seem to be, as you were saying, just core to figuring out what the population is, you know, issuing permits. It seems like something that is kind of essential, but really dangerous. Thanks for opening my eyes to that.

Billy Tarrant [00:42:59] You bet.

David Todd [00:43:02] So could you tell us about some of these other tools? I mean, I think that you ... did you use some radio telemetry to track pronghorns as well, or mostly were you flying these transects.

Billy Tarrant [00:43:20] All the work that I did was flying transects, you know, as an individual.

Billy Tarrant [00:43:26] Now, we've been involved, the Department, Texas Parks and Wildlife, has partnered with, you know, a lot with Borderlands Research Institute and Texas Tech and others, you know. Radiotelemetry is more of the idea of understanding where animals are growing and what habitats they are using, what's important to them.

Billy Tarrant [00:43:46] Now, having the knowledge to make management directed changes or actions, and really, when we started, that really came into play when we started translocated animals. But, of course, the technology there has improved so much. I did a lot of radio telemetry in graduate school, helping out other grad students that had collars on turkeys or trying to think what else we did - owls, spotted owls.

Billy Tarrant [00:44:18] But that was all triangulation. You know, you just had a "beep-beep" that you listened for, and then you triangulated that direction and got pretty close. Well, now, if there had been a GPS and satellite based collars, you know, you'd have an exact location, pretty much exact location, of that animal several times a day versus once a week or whatever you may be doing. So that's been hugely, hugely, not only, we'll talk about that more in a minute, but it's not just what you learn, but what you're able to show the public, you know, where these issues may exist and how impactful that can be.

David Todd [00:45:02] Well, let's talk a little bit more about the studies that you've done with these pronghorn. I believe that when you were in Fort Davis, starting in 2002, you served on Texas Parks and Wildlife's Pronghorn Committee and I think started studying the population dynamics and distribution of pronghorns.

David Todd [00:45:25] And this might be a good chance to just talk about those studies and then what you learned about the life history of these animals and the niche that they fill. Could you help us there?

Billy Tarrant [00:45:36] Yeah. So, like, you know, if you look back at historical populations of pronghorn, both in Texas and across the country, obviously they cratered because of overhunting and probably, you know, habitat changes. I think we talked about this at some point. It just, you know, there weren't any pronghorn in 1998 in North Texas, really to speak of. There were a few populations on the Rolling Plains. But they were there historically.

Billy Tarrant [00:46:04] You know, they were there all the way into South Texas, across much of what's now the Edwards Plateau Hill Country, because that was a different habitat, right? It was more plains, savannah. It's now become more, you know, oak forest type stuff. So it's changed.

Billy Tarrant [00:46:18] So, that's one part of it is how the habitats changed.

Billy Tarrant [00:46:20] But also, you know, they were hunted, just like so many species, hunted extensively in the late 1800s, early 1900s.

Billy Tarrant [00:46:30] And then their populations cratered out before the opportunity to build them back based upon, you know, restrictions on hunting and landowners actually being a good steward of those populations, in Texas especially.

Billy Tarrant [00:46:47] So, if you go back through time, you know, looking to the Department, it moved a ton of pronghorns back in the day to wherever they thought they might could exist. If it looked grassy, take them there, see what they do. And most of them came off the Rocker B.

Billy Tarrant [00:47:00] But by the late 1980s, I didn't realize this, as I was going to school and then getting out to work. Late 1980s, early 1990s, we had several, several, across the southwest, really good wet years.

Billy Tarrant [00:47:14] And all species - you know, desert mule deer, pronghorn, scaled quail, all these desert-type species just, they respond to that. They responded immensely. I didn't realize it at the time, but that was the last that was going to happen, you know, for the next 30 years.

Billy Tarrant [00:47:29] And I mean, Lake Mead came over the spillway in like 1987. You know, look, where Lake Mead is now, you know.

Billy Tarrant [00:47:39] So, but the population started to decline through these more frequent and more intense droughts in the late 1990s. It became evident that, you know, that there was something awry. It wasn't just one thing. It's like, you know, one thing I've learned throughout my career, there's never a single silver bullet. There's always a multitude of issues of why populations do well and a multitude of issues of why they do bad.

Billy Tarrant [00:48:11] And so, we kind of started asking those questions about what could we do better. To be honest with you, at that time, I felt like we hadn't done any research at TPW on pronghorn in a while. And heaven knows we've been doing it since.

Billy Tarrant [00:48:27] I moved to Fort Davis in I guess in '02. I took my wife ... I didn't move to Fort Davis. I actually took the job in Fort Davis; lived in Alpine and commuted back and forth. Talked my wife into coming out here. I always tell the story. I took her up to McDonald Observatory, after it had been raining. It was nice and green. She said, "Man, I had no idea this existed in Texas. It looks like Colorado." And I was like, "Baby girl, it's green like this all the time, I promise." And so here we are, you know, 20, 21 years later. I think she's on to me now.

Billy Tarrant [00:49:01] So, she made the move from a town of 100,000 to a town of 6000 and isolated in the middle of West Texas. We're a long ways from an H-E-B, a Walmart or a Buckee's or anything of note like that. But, it's a great place to be, and I want to die here. It's where I want to be.

Billy Tarrant [00:49:17] So, anyway.

Billy Tarrant [00:49:21] If you want to jump up a little bit further about when we really started, you know, we, so it was like, it was probably '07, '08. Jon Means is a good friend of mine and he was, at that time, he owns a big ranch between Valentine and Van Horn. And he was at the time, I think he was president of the Texas and Southwestern Cattle Rancher Association. I'd known him since I was in Van Horn before.

Billy Tarrant [00:49:51] And I became district leader in '05, I think. And so I spent a few years in that Fort Davis office and then became district leader over the whole Trans-Pecos. And not long after that, I think it was in a year or two, he called me and said, "Hey, I want to talk to you about pronghorn."

Billy Tarrant [00:50:04] So I went up there and met with him at the ranch and he said, "Man, our population's just continuing to decline. We're not doing well. We need to figure something out."

Billy Tarrant [00:50:11] And so that's that was the catalyst to putting together the Trans-Pecos Pronghorn Working Group. And that was a phenomenally, you know, what's the word I'm looking for, it was just a, it was a fantastic group of folks to be working with. And we were able to basically handpick them, you know, folks that we thought had a big interest or a passion for pronghorn management.

Billy Tarrant [00:50:37] And, it wasn't, it was like, I'm trying to remember this. I want to get this right. Populations were already down quite a bit, had not seen a lot of rain the last couple of years. Fawn crops were down some. But we had a call. What was it? It was '09. We're coming off a dry year and then that May, I believe it was. It was May, first week in May of '09, actually had a freeze. Just a freakish cold front moved in. And we had like a 15 degree, it was 15 degrees on the Marfa Plateau one morning.

Billy Tarrant [00:51:17] And so, you know, pronghorn will make a living on forbs. That's where they want to make, that's where they get most of their nutrition is from weeds, from forbs. But they can switch over to browse, and when they need to, and survive.

Billy Tarrant [00:51:35] Well, when all that browse buds out and then freezes and it hadn't rained in six months, eight months, we did our surveys that year and it was just catastrophic. We couldn't find any pronghorn hardly.

Billy Tarrant [00:51:48] And come to find out that landowners, some of them, had found some. So I said we couldn't find any. It was down 50% or better.

Billy Tarrant [00:51:58] And so, then we got a call from a landowner on the Marfa Plateau. And he says, "I've got this doe that's got something wrong with her on the side of her, or something."

Billy Tarrant [00:52:07] And so, we went out there and we found her. We put her down. And turned out it was just an injury. She got through a fence or a coyote or something.

Billy Tarrant [00:52:19] But while we're there, of course, here's the best part. You know, we have these vets that we're working with - Dr. Ken Waldrup out of El Paso, at the time was, I think, with the Texas Animal Health Commission, has since switched over to Texas Department of Health. And then Dr. Dan McBride, both of which just phenomenally knowledgeable vets. I think they were both. I know Ken was there.

Billy Tarrant [00:52:44] And so when he necropsied the animal, and a couple of things taken away from that. She was in relatively fair condition. She wasn't bad. What blew my mind was the fact that it had been dry for a while and there was no green on that landscape. You could not find a green forb, weed, of any type. And her rumen was completely full of green.

Billy Tarrant [00:53:08] She was ... they have this ability to, in a mouth that is constructed in a way that allows them to get down and get the smallest stuff coming right off the ground, little tiny forbs in some of these deeper soil that you can't even hardly see.

Billy Tarrant [00:53:23] And then the other thing was she was completely, a lot of haemonchus worms or barber pole worms, intestinal parasites, that they adhere to the inside of the intestine and basically suck blood, you know, and they can, especially on livestock, that can be pretty detrimental at times. And she was loaded up with them.

Billy Tarrant [00:53:48] So, here we go. This initiates some fundraising efforts to understand what's going on. Why are they... I actually presented at the biennial pronghorn conference, the Western Association of Fish and Wildlife Agencies; I presented at that.

Billy Tarrant [00:54:03] What we did, actually that fall, was we have requested hunters to bring us their harvested pronghorns. And we collected rumen samples from them, or, excuse me, the abomasum, the portion of the ... small intestine, to get an idea of how many barber pole worms there were.

Billy Tarrant [00:54:30] And so, we also did age - cementum annuli - selected teeth so we could have those sent off and see how old they were, which is just shocking how old some of these pronghorn are. And it makes sense. If you're a desert dweller and you make a living in the desert, you're probably going to have a longer lifespan, but you've got to wait until conditions are good.

Billy Tarrant [00:54:48] We've seen the same thing with scaled quail living so much longer than typically bobwhite would, because if you don't have, if you can't reproduce in three years, you can't make any more offspring in three years because it's too dry, you need to be able to live long enough to find those good years.

Billy Tarrant [00:55:02] And some of these pronghorn - 15 years old!

Billy Tarrant [00:55:06] Anyway, so and we found that there was these exceptionally high numbers of these barber pole worms. And over the next several years, you know, it impacted them physiologically. You know, they become anemic.

Billy Tarrant [00:55:23] But what was amazing was they were carrying loads that were two or three times higher than what you'd see in a similar sized goat before the goat dies. These are, they've adapted to these worms.

Billy Tarrant [00:55:33] And their ability to ... these worms live a life cycle through the poop. Hit the ground, poop hits the ground. Eggs hatch. They get in the dirt. They come out on green vegetation that pops up. And so where these pronghorn, when it's really dry in these deep washes and draws and such that have a little bit longer moisture grow some weeds.

Billy Tarrant [00:55:57] Well, that's where the pronghorn are. That's where they're eating, right on the ground. That's where they're pooping.

Billy Tarrant [00:56:02] So, it's just this cycle of them picking up these high loads of worms.

Billy Tarrant [00:56:08] The worms were not, the barber pole worms were not the only problem. Right? I mean, it's just it's one issue. But it was indicative of something.

Billy Tarrant [00:56:18] And I'll just run through that real quick. You know, the research that we did radio collaring. So the 11 week we did our plan forward. David...

David Todd [00:56:30] No, this is fascinating. Don't stop now.

Billy Tarrant [00:56:35] So, we, as part of this effort, you know, it wasn't just Bill looking at our populations on the ground here, but how to supplement those populations to try to help them come along.

Billy Tarrant [00:56:46] And that's when translocations were restarted again. Like I mentioned before, there was thousands of animals moved over many, many years prior to that to, you know, basically '50s, '60s and '70s as these Trans-Pecos populations came back at the Rocker B, etc.

Billy Tarrant [00:57:03] But we had not done any translocations for many, many years. And so, when we started. Now, I think we were going to talk about this. We could talk about it more, but it's basically a surplus of animals in the Panhandle that we're able to pull from and bring down here. And that's when we started putting collars on animals. Right? We started putting these better collars, these newer collars, that could give us really good information. Started putting those on animals to see their survivability, how well they survive after the release, not on every single animal that's released, but on a high percentage of them.

Billy Tarrant [00:57:38] And so, you know, this project, the Trans-Pecos Pronghorn Working Group - ranchers, biologists, veterinarians, outfitters - this group kind of really worked hard to, from the ground up, to try to do what we need to do to learn what we can about pronghorn and in the Trans Pecos.

Billy Tarrant [00:57:58] It's a lot of PR work, getting the word out there. And honestly, we feel like we're pretty successful in elevating this issue.

Billy Tarrant [00:58:08] And one of the things that we realized ... so historically, so much of the Trans-Pecos was, you know, when it was first settled by European settlers, if you will, in the late 1800s, it was cattle country, a lot of cattle. But then in World War Two, the sheep and mohair incentives kicked in and a lot of people switched over to sheep and goats.

Billy Tarrant [00:58:42] And so, many of the fences were changed at that time to accommodate - they were net wire fences.

Billy Tarrant [00:58:50] And given the dry nature of our climate, these old cedar posts will last 100 years in this dry climate, they were still in place.

Billy Tarrant [00:58:59] And, landowners had never had to ... you know, going back to some of the biologists well before me - Tommy Hailey, Sam Brownlee and others that were out here - they were like, they need to be able to move. And the pronghorn can jump a fence, but they typically won't.

Billy Tarrant [00:59:17] And so, they didn't have the ability to move around the landscape. We're talking about an animal that probably, 200 to 300 years ago, was migratory in nature. You know, there's no doubt that they were probably as the snows built up in the Panhandle, they'd come to the Trans-Pecos. You know, they do that now. They do that in the northern U.S. and Canada. They're migratory based upon snow or whatever, you know, that they have that ability to move large distances.

Billy Tarrant [00:59:40] And here now we've gotten confined in these, you know, not small, but maybe six, 8000-acre pasture and they can't move. And landowners will say, they'd always had these high populations through the early nineties and all they were really doing was killing coyotes. That fix seemed to work. And it just wasn't working anymore.

Billy Tarrant [01:00:08] And then, when you start seeing these animals bunched up, basically, when you see these locations of particular individuals unable to move across a fence, and bunched up in a corner. All these, day after day after day, animals in that corner. And they can't get across the landscape.

Billy Tarrant [01:00:32] That visual was compelling to landowners. They saw and they were like, "Okay, now I get it. You know, these animals can't move."

Billy Tarrant [01:00:41] And so, that started a whole, you know, effort. Our friends at the NRCS, we put together a EQIP priority area, Environmental Quality Incentive Program, where we were able to cost-share, they were cost-sharing with landowners to rebuild fences and get that bottom wire preferably 18 inches off the ground, at least 16.

Billy Tarrant [01:01:09] And, plus just we actually thousands of man hours of Sul Ross natural resource students and Parks and Wildlife biologists going out and actually lifting up fences, you know, with landowner permission, going up and lifting, rolling up that bottom net wire, allow these animals to move.

Billy Tarrant [01:01:26] And ... it's not easy for them to, sometimes you can pull a fence completely out and they won't cross where that fence was. They've got it habitually in their brain. It's been there for so long that it takes them a while to figure it out. But they did figure it out.

Billy Tarrant [01:01:42] Put cameras on the crossings, a lot of those. Picked up a lot of animals moving.

Billy Tarrant [01:01:45] Plus, this continued research of looking at these animals through time and seeing how they weren't as restricted anymore, were able to move across the landscape.

Billy Tarrant [01:01:54] And lo and behold, we were still sampling for haemonchus worms to figure out how to do that with these barber pole worms. Did that with picking up, you know, having a grad student out there waiting for them to poop, and then picking up fresh poop and getting the relative number based upon that, you know, in a laboratory. Those numbers dropped significantly, when they have the ability to start moving and finding resources. That helped a lot.

Billy Tarrant [01:02:25] In 2011 was our first transplant from the Panhandle.

David Todd [01:02:29] Can I just explore a couple of things here, because this is fascinating, but I, I know so little about this. I need a little bit of help.

David Todd [01:02:41] Two questions: one is I've seen white-tailed deer, which seem to be built similarly to pronghorns, jump over six-foot fences. And these fences out in West Texas, I think are probably lower. And yet the pronghorns couldn't clear them. And I'd be curious to know about the difference in behavior.

David Todd [01:03:03] And then the other thing is, were you somehow breaking the cycle on these haemonchus worms between when the poop was laid and those worms were laid, and the next time that antelope would come back and graze in that areas? Did that allow them to lower their worm infestations?

Billy Tarrant [01:03:25] I think, you know, second question first: just the ability to move and not necessarily be in one pasture where you only have one low spot to eat, right, and be able to take advantage of browse resources off the ground somewhere else. And if once they had that, and once they knew they could move, then, as the movements increased across the landscape, the relative worm loads went down.

Billy Tarrant [01:03:56] Now, there's other factors there, too, as well. Obviously, if you've got a good year with high vegetation and stuff, the worm loads are going to go down.

Billy Tarrant [01:04:01] But in similar situations, those worm loads decreased significantly. And, back to the point now, it's just, you know, we kind of put a pin in that one.

Billy Tarrant [01:04:08] So that's, because we were talking about how do we treat this? Do we need to put Ivermectin in water troughs? You can't do that and it's not going to work. It's just, it was kind of perplexing.

Billy Tarrant [01:04:21] But when we figured that out, that if they had the ability to move, they'll take care of it themselves, which makes sense. It's intuitive. They're big movers. They can move long ways. And they follow a sea of green, if you will, now. They can do that like they used to. They can fight off conditions. If rain falls in one area, they can follow those

thundershowers, that vegetation, across the landscape: go where they need to go. It's just what they do and how they're adapted.

Billy Tarrant [01:04:47] Which really makes it shocking, if you think about it, that an animal that is that, you know, that resilient and has adapted to a completely different landscape than what it was 200 years ago as far as fences, roads, highways, you know, everything we've done to change, alter the landscape.

Billy Tarrant [01:05:07] And they have adapted well - survivors.

Billy Tarrant [01:05:12] And the other question was the, oh, fences?

Billy Tarrant [01:05:17] Yeah, some individuals can and do. But, it's a small percentage of the population as a whole across their entire range, probably less than 5%. I don't know. I'm just guessing. You know, you just don't see that many on them can and do, if they can do it and do it.

Billy Tarrant [01:05:33] We've actually had, you know, during the Rockhouse fire in '11, we had pronghorn burn up in a corner, you know. They could have easily jumped that fence, but they didn't and they burned up.

Billy Tarrant [01:05:43] You know, so it's just something, something in their brain, you know. They're a unique animal. They, you think about it, everything hinges on, other than the first week or so of their life when they are just hidden, they just stay hidden. And that's when coyotes usually do most of the damage on them. Other than that, everything about them is run. Just run. It fixes all your problems.

Billy Tarrant [01:06:11] So if a predator is trying to get them, whatever it may be, they're not comfortable about a situation, you know, they just take off, and they can run so fast, so far, without a lot of effort. And, it's my opinion, I think they're the most efficient runners on the planet.

Billy Tarrant [01:06:28] You know, they're second fastest landed mammal after the cheetah. The cheetah's got, what, half-mile, maybe, a quarter-mile, they can go at top speed.

Billy Tarrant [01:06:38] These guys can run five miles at 60 miles an hour plus, you know, so they can, they're very efficient.

Billy Tarrant [01:06:45] And that solves their problems, every problem they have. They don't hide ever. They don't get in close quarters. They don't ... and that's one of the reasons we'll talk about habitat here in a while with all the work that I'm doing now actually is opening up habitat that used to be more open. And that's why they don't exist anymore in the Hill Country, places like that, because brush and trees have taken over. Landscapes change.

Billy Tarrant [01:07:09] But getting off topic.

Billy Tarrant [01:07:12] 2010, we were the first ones, and one of our ranchers, a good friend of mine, Albert Miller, he's on the Trans-Pecos Pronghorn Working Group. He says, "I just don't feel comfortable about it. It hasn't rained, you know." Then I said, "Albert, we can't predict the rain. Wildlife biologists and ranchers I mean, we try, but we can't do it. You know, we got a surplus of animals. I think we should move them."

Billy Tarrant [01:07:38] And boy, he was right. 2011 happened. And we lost a huge chunk of those in that first translocation.

David Todd [01:07:47] So it's 2010, Albert Miller, old time ranching family, says, "Hey, it's dry." But you've got a surplus up I guess some place in the Panhandle and you need to move some of those animals. But it turns out this historic drought hit that next year.

Billy Tarrant [01:08:05] Right.

David Todd [01:08:06] So what happened?

Billy Tarrant [01:08:08] Well, we lost most of them. We actually lost a lot in transport. And I'm going to pat the Department on the back, you know, Shawn Gray, and BRI researchers and just, not say a loss. We lost some in transport as well. And understanding the mechanics of translocations and how you have the most success, I don't know if anybody had ever studied at the level we did, you know, to put that many collars on released animals so you'd have a much better idea of post-release mortality. Understanding, you know, what animals need, what they need to be in a comfortable situation while traveling. Man, we really went overboard. I say overboard. It was needed, but we figured out a lot of things.

Billy Tarrant [01:08:56] And one of them was like, you can't, we had these old boxes, large metal boxes that we moved bighorn in, which makes sense, you know, bighorn, they hide in caves. When you are flying survey, they'll hide. It's like white-tailed deer hide, you know.

Billy Tarrant [01:09:11] But pronghorn don't. And they don't need to have being in a little box. And it stressed them out immensely. And I don't say died during transport - several died during transport. Just could not get comfortable.

Billy Tarrant [01:09:26] Well, we learned that, you know, you put them in a big trailer, you stack them in a big trailer, but it has a high ceiling. And something about that just gives them much more solace. They are more calm.

Billy Tarrant [01:09:37] And actually, you know, you check them before and after you get them off the trailer. And, you know, we actually had collars that were telling us what, if I remember correctly. I don't want to talk erroneously here. But we were at some point we were actually looking at respiration and heart rate, how calm they stayed through the travel. You know, because it's a eight, nine-hour plus drive.

Billy Tarrant [01:10:00] Then we'll release them, you know. And then release them in the right area and just, you know, having conditions, you know, the best they could be and really honed that science down like nobody ever had before. And trying to be successful.

Billy Tarrant [01:10:15] Still can't predict the rain. You know, that's just part of it.

Billy Tarrant [01:10:18] But, if we can minimize the stress on the animal, we've learned from all those.

Billy Tarrant [01:10:23] I've got to back up. Some of those animals survived, right, from 2010. And some of them were still identifiable six, eight years later by ear tags. The collars

drop off automatically. We get those back, typically. But if they still have the ear tag no, you know which animal it was.

Billy Tarrant [01:10:44] And some of them successfully fawned for six, eight, nine years - twins. If you go back and look at those animals that did that, we actually came out ahead. You know, it was a pretty good loss at that time. But through the long term, they actually replaced themselves and then some.

Billy Tarrant [01:11:09] And interestingly enough, you know, I talked to you about these animals here. Even when you fix fences, they don't know that they can move across that fence or go underneath that fence. But bringing in translocated animals that don't know any of this at all, they move freely. And actually seem to pick up native animals that are already here and to get them to start moving more freely. So it's actually been a good, they've actually learned that they can move around the landscape more. So, kind of a benefit of translocations.

Billy Tarrant [01:11:45] We've seen a lot of dry years, you know, and it's just, you know, seen some good years and some bad years, but...

David Todd [01:11:52] I'd be curious to get a little context to this translocation effort. You're saying that you learned a good deal by having these collars and being able to track their respiration, their stress levels, how you crated them and trailered them? It sounds like that was very different from some of these earlier efforts which, I guess, date back to the thirties. I think you mentioned it pretty active in the '50, '60s and '70s. Can you talk at all about those earlier efforts to move pronghorn around the state?

Billy Tarrant [01:12:27] Obviously I wasn't around at the time, but yeah, as I understand it, you know, they felt like they had a surplus of animals primarily on the Rocker B Ranch and then some of the Trans-Pecos as well.

Billy Tarrant [01:12:38] Remember that was a time when 1080 compound was being utilized, it was a cyanide-based poison that really, really worked on predators as well. And of course, they used that exclusively throughout the sheep and goat years, you know, in the '40s and '50s.

Billy Tarrant [01:12:55] And finally, when it was outlawed (and I'm not saying yay or nay on that: obviously everything's about balance, and predators are an important part of the landscape), but regardless it did give those animals a chance to reproduce and do well, plus probably higher rainfall on average, except for the drought in the fifties.

Billy Tarrant [01:13:12] But they had this surplus and they just felt like, as you rightfully do, you don't want to keep all your eggs in one basket. You want to have other sources out there. And they were like, let's figure out what's still pronghorn country and what's not.

Billy Tarrant [01:13:27] And that actually kind of led to some understanding that, you know, if you don't have 15 to 20,000 acres of continuous grassland, you're not going to be successful because so many of those were not successful. It wasn't big enough country.

Billy Tarrant [01:13:43] But I don't have the numbers, David, actual numbers of how many they moved. And I hope I'm right on that respiration stuff because I'm trying to remember how we ascertained that. I think we had some pretty stout collars that were able to do that for us on some of those animals.

Billy Tarrant [01:13:58] It was, like I say that I think Texas Parks and Wildlife has really honed in on this translocation effort and how to get it done most efficiently, effectively and have the best outcome.

David Todd [01:14:12] So, just to make sure I understand this. When the 1080 compounds were being used, this cyanide to control coyote pressure, to protect the sheep and goats, it was also protecting the pronghorns, and so they reproduced more quickly.

Billy Tarrant [01:14:29] Yes. And the conditions were enough that you could handle, you know, a lot of pronghorn, a lot of sheep, on the range at the same time.

Billy Tarrant [01:14:37] But what you see a lots of times, and I had a rancher buddy of mine explain this to me one time after, you know, I spent 15 minutes talking about predator-prey relationships and dynamics. And he said, "You know, Billy, if I got ten coyotes and 150 fawns, I don't have a problem. If I got ten coyotes and twelve fawns, I got a problem."

Billy Tarrant [01:15:01] That summed it up as good as I could possibly do with a whole lot less jargon. And when these populations drop to a level, they have to break through, you know, to build back up again, they've got to breakthrough this level of suppression. Predators may keep them at that level, keep that population lower. And so to get there, you know, to break through that, it's either going to take some type of activity, some energy, either controlling the predation or supplementing the population or both.

Billy Tarrant [01:15:38] And so that's kind of the recipe that we've been using for many years. It works.

Billy Tarrant [01:15:44] But the big caveat, too, is rain. You know, and if we continue to have these type of, like this summer now, it's just, I mean, everybody's feeling this summer. But, you know, we definitely probably don't have much of a fawn crop to speak of this year because of it. Maybe we did. Some folks get some pretty good rain in May, which is pretty unique out here. Most of our rain comes July through September, October - monsoonal.

David Todd [01:16:19] So it sounds like the 2011 translocation was kind of a bust because of this drought condition like we're seeing right now. But it sounds like you did not give up and there were future efforts to move these antelope from, I guess, mostly the Panhandle down to the Trans-Pecos. Can you talk about some of those later experiences of trying to move them?

Billy Tarrant [01:16:48] Yeah, it just got better and better. You know, I wasn't necessarily with the trailer as much as time went on. I changed positions, became regional director. But, you know, it was certainly more successful through time and, like I said, just learning what we learned. There's a lot to learn. There is a lot of moving parts to this that can determine whether or not you're going to move animals or not.

Billy Tarrant [01:17:18] And one of them is whether or not the Panhandle landowners are willing to part with them. Historically, you know, there was always, you know, those animals because of row-crop agriculture and center-pivot agriculture, they can typically be on a little higher nutritional plane through time than these desert pronghorn. And so their populations would build up pretty high.

Billy Tarrant [01:17:49] And then, for a landowner, they don't eat a whole lot of crops. Research has shown they don't do a lot of damage to crops, even in high numbers, just because they don't eat a lot of it. But, if you're a landowner and you see them out there on your crop every day, on your alfalfa field, whether they're taking a lot or not, it doesn't make you feel good.

Billy Tarrant [01:18:04] And so, there was a desire to move those animals. And so, you have a wildlife biologist that worked for the Department up in the Panhandle working with their landowners, and a wildlife biologist down here, you know, working with our landowners and trying to find, A), the best place to go get them, and, B), the best place to drop them off.

Billy Tarrant [01:18:24] And so, that's not always just habitat-based or, you know, what makes the most sense strictly from a resource standpoint. It's often just people management, which is about 75, 80% of wildlife management. It's understanding the landowners, their sentiment. On the release side, their dedication to those animals, what they're willing to do to foster that population, whether they've made the steps to improve their fences and distribute water better, whatever they are doing, or willing to do, to give us the best chance of success.

Billy Tarrant [01:19:05] And, but we've had, you know, through time, when the Panhandle has gotten kind of dry and populations are as good up there, some of our historic land owners that we worked with are now hesitant to let us come get them.

Billy Tarrant [01:19:20] So, we continue working on both ends.

Billy Tarrant [01:19:24] In fact, this year, I was fortunate to sit in with the technical committee, back on the old technical committee. It's been combined mule deer - pronghorn now, Shawn Gray leading that. And there was no, they're not going to move animals this year, just given the conditions.

David Todd [01:19:42] So, I'm curious. I could understand why people in the Trans-Pecos would like pronghorns. It's a great, probably, source of hunting income for them. What happens in the Panhandle? Are the farmers there so focused on, you know, row-crop production that the pronghorn income is just not significant? Or why would they release them if they could, you know, make that a part of their business?

Billy Tarrant [01:20:13] Well, where they are, you know, this is, once again, people management. Right? Where they are during the summer is not necessarily where they're going to be during hunting season in October. But if we're, you know, we're probably not going to capture them on row-crop agriculture. We're going to capture them on rangelands. And so, got to watch for conflicts between the ranchers deriving some income, and the farmer who's seen a loss, in their minds anyway. Right? Find that balance between the two. And then, hopefully, in the best case situation, you know, they own both and they're willing to to part with some. They don't necessarily want to get rid of all of them, obviously, but some population management is what they're shooting for.

Billy Tarrant [01:20:59] So, anyhow it it's ... I want to back up real quick. Why is there an incentive for pronghorn in the Trans-Pecos? And that goes back to like the fifties. I think Tommy Hailey was a biologist out here. And, at that time, the department issued permits not to landowners, but to public hunters. And then it was up to the hunter to strike a deal with the landowner to get access to go actually shoot a pronghorn.

Billy Tarrant [01:21:39] And so, the economic incentive was not there. It was not, you know, it was whoever, you know, if a well-to-do hunter has a permit, he may be willing to pay more, you know. But if you've got somebody who's not well-to-do and they may not get to go hunting at all because the landowner doesn't want to put up with them.

Billy Tarrant [01:21:57] Back then, of course, there was also this, across the state and across the country, a certain perception of hunters, you know, that's completely changed in the last 60, 70 years. You know, hunters are not expected, you know, they're not shooting up your windmills anymore like they used to, you know. It's a different crowd now.

Billy Tarrant [01:22:14] And so, he was, Tommy was able to get landowner support and actually pushed through, I think that had to go to the Legislature, and they pushed it through where they were able then for the landowner to be issued the permit. And then the landowner markets that permit and sells it to whomever they want to come on.

Billy Tarrant [01:22:32] And when that happened, the incentive behind it and the opportunity to see more substantial income from hunting materialized. And that's really been the kind of the catalyst behind the desire to manage these populations from a landowner's side perspective.

Billy Tarrant [01:22:48] And, I think through time, there's just that appreciation of the animal, right? Especially when you start to lose them. It's not just the loss of income. It's the idea that they belong there. They've been there and they need to be there.

Billy Tarrant [01:23:02] And so, those stewards really have stepped up even in years where we didn't, populations were so low, we probably could have issued permits, but we're like, just the public perception, we don't. And because you're only shooting the bucks. Right? So you're not really affecting them at a population level, unless you completely shoot all the bucks, which we'd never do. We're pretty conservative on permit issuance.

Billy Tarrant [01:23:22] But, they were much better not shooting them, than they were shooting them, because they didn't like the idea of harvesting when the population is that low either.

Billy Tarrant [01:23:31] So, kind of just a glimpse into some of the intricacies of natural resource management, i.e., wildlife management, and how it really boils down to people management, understanding people and what drives them.

David Todd [01:23:48] This is so interesting. And I was wondering if you could talk a little bit about the hunting restrictions and how those have played out with pronghorn populations. And it's interesting to me, you know, we're in a part of the country where there are a lot of white-tailed deer and folks are encouraging hunters to shoot the does. And I guess with pronghorns, where maybe you don't have enough animals, it's the reverse and it's a focus on bucks. Is that correct?

Billy Tarrant [01:24:20] Yes. You know, across portions of their range, you know, there are doe harvests, obviously. I think Wyoming has like half of the pronghorn in North America live in the state of Wyoming. And you can harvest does there. But when you start harvesting the female segment of the herd, you're talking about an opportunity to control the population. That's desire, right? And it's something you have to be very careful with, especially in arid

environments where you may not see any reproduction for several years or any recruitment into the population.

Billy Tarrant [01:24:58] Historically. And like I think through at least the late '80s, we were, part of my time, the Department was issuing doe permits to Trans-Pecos landowners, particularly in the Marfa Plateau. Not many of them took advantage of it. But I always say this, that our mindsets have changed.

Billy Tarrant [01:25:20] We've got landowners that were going to do coyote control, but we're talking about the 1980s now, we're no longer in a sheep and goats situation. We're in a cattle situation. Coyotes have very little impact on cattle. But they are sitting on so many pronghorn because of all those good years of rain. They're sitting on so many pronghorns that they're doing coyote control every year, and the Department is issuing them doe permits. And the irony of that is like, you know, save, put that money in a coffee can and save it, because predator control can be very helpful when you need it. You just didn't need it then. Let the coyotes help you out a little bit to get your population down.

Billy Tarrant [01:26:01] But, I mean, for our predator control is something that the department has supported. And it's part of the recipe. Right? Timely predator control, aerial gunning of coyotes or snaring of coyotes, trapping of coyote prior to fawning. Right prior to fawning, where you can make an impact, it's a short-lived impact. But you just got to get them through those first couple of weeks. By that time, they can get up and run around - coyotes have very little impact on them.

Billy Tarrant [01:26:32] So, but it's another tool in the toolbox. Because you know where we're at now in the Trans-Pecos, every fawn is precious. Whatever we can do to get that recruitment into the population, you know, we do it.

Billy Tarrant [01:26:47] So, it's a lot of research. BRI's in the forefront in partnering with Texas Parks and Wildlife. You know, collaring fawns, understanding survival of fawns, what the impacts are.

Billy Tarrant [01:27:07] They don't have much smell. But coyotes are smart enough to find them. And at that age, that first week or so, they are tasty and vulnerable. Even to the point that like gray foxes, bobcats. I made a joke one time. We found out foxes were eating them. I was like, "Wow, what's going to be next? Pack rats, you know?" I mean, everything eats these things when they're brand new like that.

Billy Tarrant [01:27:33] But, once they get up and run. That depredation goes way down. They're just too fleet of foot.

Billy Tarrant [01:27:40] So, did I answer your question, or did I just ramble?

David Todd [01:27:44] No, no, no. This is very responsive. Thank you.

David Todd [01:27:48] So, I was hoping that you ... you talked a little bit about the issues of habitat management and people management for doing these translocations. I'd be curious about just the mechanics of it. I mean, you mentioned at one point, you know, what sort of a crate or trailer you used was really important. But how do you capture an animal that can run 65 miles an hour and, you know, safely bring it down, do the testing, you know, put a collar on it. How does that happen?

Billy Tarrant [01:28:25] So, historically, you know, in fact we did this on the Rocker B, we initiated a research project on the Rocker B when I was in still in Wichita Falls. And we actually dusted off an old corral trap, which is the way they used to do it. And I think some other states may still be trying corral traps. But, we used it on the Rocker B and it didn't go well.

Billy Tarrant [01:28:50] It went fine. Really, the problem was the collars were too big, and we had some mortality from the collar. But we lost a few animals in the corral trap just because, you know, they're, once again, they don't like being corralled.

Billy Tarrant [01:29:01] But that's a large, it's a circular, probably 40 foot across, corral - portable, that you stand up. Then you've got a wing off one side and typically on the other side, a net wire fence or something. Or maybe there's two wings. And then a helicopter pushes those animals in that corral. We run across the back, usually on horseback. Now, with people running across the back, and kind of get them into this acreage and then push them into that corral, then close them in. And then go in there get them, work them, etc.

Billy Tarrant [01:29:38] Since then, the advent, in the era of aerial net-gunning, has just kind of made that obsolete. And now the Department contracts to specialists who do that for a living, and they're able to do it very safely, very effectively. And there's always going to be some mortality, but very low levels of mortality.

Billy Tarrant [01:30:00] And I'm not an expert on aerial net-gunning. You know, I've never done it myself. But, if you would look at the video of them working, what they'll typically do is the helicopter will get a herd of running pronghorn, the helicopter will get out about a quarter of them, about the time they start to turn stop and turn, that's when they get them with the net gun. So they're not going 60 miles an hour when the net gun hits them. They're almost at a standstill as they turn or are going very slow. Very low rates of mortality, very few injuries.

Billy Tarrant [01:30:29] And then put them in the right trailer. Keep them calm. Keep them cold, because they overheat real easy. And use a sedative that'll wear off by the time they get out of the trailer nine hours later.

David Todd [01:30:50] And then so you've trucked these animals from the Panhandle to the Trans-Pecos. How do you figure out where to release them and how do you do that release?

Billy Tarrant [01:31:04] You just basically, you know, where you want to release and that decision's been made well beforehand. And we find the willing landowner, which there's plenty of them, you know, there's a lot of folks that want to bolster their populations, that's willing to do what they need to do. They've done the modifications or brushwork or whatever it is to help give us probably the best opportunity for success. And then basically pick a spot close to water. And then just open up the trailer door and kind of push them out.

Billy Tarrant [01:31:39] And if it's at night, and I don't know what they're doing afterward. Release them first thing in the morning because that's always best. They don't see well at night. Right? They're not the best, one of the best night vision. But, you know, they'll typically just kind of stand around till daylight till they get their bearings about them.

Billy Tarrant [01:31:55] But, push them out. And they come out slowly. And you've take them from a lush green field in the panhandle to desert grassland in the Trans-Pecos. And wonder what they did wrong to deserve that.

Billy Tarrant [01:32:09] But, they do well, translocated animals do well, especially if the conditions are good. And like I said, some of them are very good at reproducing. And now they have this ability to, because of all the thousands of miles of fence modifications and replacements, that they can move around on the landscape better.

Billy Tarrant [01:32:31] And then the work that we continue to do on brush management, I mean so many of our grasslands have been invaded by, you know, mesquite or creosote, tarbush, these invasive species of brush that no longer make it good pronghorn habitat. We've had the opportunity to work, that's kind of what I do now, is facilitate a lot of different large-scale opportunities for landowners to partner with.

Billy Tarrant [01:32:58] You know, we partner with our friends at Texas Parks and Wildlife, Rio Grande Joint Venture and these other conservation agencies, organizations, and along with our landowner partners, you know, this voluntary incentive-based conservation, because that's, you know, they want, ranchers want, less brush, too. We want to restore those grasslands to what they were a couple of hundred years ago. It's an opportunity, kind of a win-win.

Billy Tarrant [01:33:23] And you throw in the mix there as well, wintering grassland birds, which are in serious decline across the country, all the way from Canada to Mexico. And these grasslands are vital habitat for wintering grassland birds that, you know, are in significant decline.

Billy Tarrant [01:33:43] And so, it really helps. It's a win-win for a lot of different levels and very gratifying work. Turning brushland back into grassland is pretty cool.

David Todd [01:33:54] Well, so maybe you can tell us a little bit about how that works. I mean, to turn brush land to grassland is probably easier said than done. I mean, does this involve herbicide? Does it involve bulldozers? Are you using fire? How do you do that? And are you reseeding as well?

Billy Tarrant [01:34:14] Yes, on all fronts, depending upon the situation. We use tebuthiuron, Spike. We use that on creosote tar bush, white brush, where we have a lot of it, it's acted as invasive as well.

Billy Tarrant [01:34:32] On mesquite, we have actually a difference. Throughout most of the grasslands out here, we have different subspecies of mesquite that's a little different than what you have over most of Texas. It's a little tougher to kill than regular mesquite. It's western honey mesquite, or Torrey mesquite. Torreyana is the subspecies name and you've got a, you can use herbicide on that, like Sendero, but you've got to do it at exactly the right time. The recipe needs to be just about perfect, as far as soil temperature, and color of leaves and where the plant is.

Billy Tarrant [01:35:04] But, you know, especially on mesquite, if you treat it and you're successful and have a successful kill, you're still not back to where you need to be from a pronghorn or wintering grassland bird standpoint, because you just have skeletons standing

out there now. And then we'll actually go back and roller chop those skeletons and knock them down with landowner support and really open it up.

Billy Tarrant [01:35:28] And it's pretty cool what you can see: see those pronghorn in there, like days later that they hadn't been in there. We got the data to show that they didn't go into those grass, those woody, that brushy landscape. They didn't use that stuff at all. You know, that's not what they're about. They're about being able to see a long ways and see predators, etc. They don't like being closed in, but the second we knock it down, suddenly they're back in there maybe for the first time in 80, 100 years, you know. So it's pretty cool.

Billy Tarrant [01:36:02] And we do grub as well. We grub, not typically bulldozer, but like a excavator. You know, that may be the best approach, if the mesquite is not in the best situation to be treated.

Billy Tarrant [01:36:14] Or, if we're looking at juniper, you know, cedar removal as well. You may end up using an excavator.

Billy Tarrant [01:36:21] But it just depends upon the situation where we're at in helping that landowner meet their conservation goals, as well as providing increased habitat for wildlife.

David Todd [01:36:34] So, I think you also mentioned that it's an advantage to these pronghorns to have some sort of water improvements. What does that mean for a landowner out in West Texas? What would you be asking for?

Billy Tarrant [01:36:49] Well, that's just, you know, typically, if a ranch from a pronghorn's perspective, if a ranch is watered well enough for a livestock operation, it's watered plenty well for pronghorn. You know, they can travel long distances to get water.

Billy Tarrant [01:37:01] Water distribution in the Trans-Pecos is one of our number one, quote, "habitat recommendations" that all wildlife professionals that work out here tend to tend to recommend just because it allows animals to have a greater presence on the landscape, be able to utilize more resources. Just having that water close by and almost all of them now have some type of wildlife escape ramp or some way for smaller wildlife to utilize that water source.

Billy Tarrant [01:37:30] But, you know, from a pronghorn's perspective, it's not as critical to have a ton of water, like it would be maybe for a, you know, I shouldn't say from just a quantity standpoint, availability standpoint, you know, across the landscape, which is probably a little more useful for sure with, you know, mule deer and even bighorn sheep where we have, you know, wildlife guzzlers that capture rainwater and store it and provide that water for bighorn sheep, because you don't typically have livestock operations in the roughest terrain of the Trans-Pecos. Right?

Billy Tarrant [01:38:05] So the other thing that the landowners have to do and some, in the past, there's been some that have forgotten this, is, you know, if you move your cattle out of a pasture, leave the water on. Right? It's by mistake. Seen ranchers forget and turn the water off, not thinking at the time. This is years ago, but, and pronghorn don't have any water.

Billy Tarrant [01:38:30] They can get by. They make their own metabolic water pretty well, like a kangaroo rat and other desert-adapted species. If it's green out there and lots of forbs,

they probably aren't even drinking any water. They just get what they need to out of the plants.

Billy Tarrant [01:38:47] But, when it's really, really dry, they can drink up to a gallon or so a day and if they don't have it, it's not good.

Billy Tarrant [01:38:58] So, I think something else I noticed and maybe you can elaborate a little bit, is that minerals can be a key thing for pronghorns to be successful, if they don't have the right kind or enough, and I don't know enough about that. Maybe you can just explain a little bit.

Billy Tarrant [01:39:14] I don't either. We don't, I don't think we typically see any of the issues with copper and other minerals that some populations do from a pronghorn perspective. And once again, you know, there's so many different types of soil types, ecosites, different plants across the Trans-Pecos. This place is very, very diverse and different parent materials of soil, etc.

Billy Tarrant [01:39:41] So, as long as they can move, it just seems like they don't really need any supplementation. Now, they will eat it. They'll definitely eat it. You know, we've been able to attract them with that, with just a general mineral block.

Billy Tarrant [01:39:56] And I think we may have done some research on that. But by the time that we were doing any of that work, I think I'd already moved pretty high up in administration and too busy figuring out policy and stuff. Not spending enough time with the resource.

David Todd [01:40:10] Well, you know, speaking of management, I think it's really intriguing that you have been, you've worked for two different state agencies, and now you're working for what I would think of as sort of a joint venture operation, academic, very on-the-ground academic kind of effort at the Border Research Institute. How do you think the advantages and disadvantages of each institution of play out when you're dealing with pronghorn?

Billy Tarrant [01:40:44] Well, partnerships. You know, wildlife, natural resource partnerships, that's something that's really come to fruition in my career just the last 30 years or so has really, you know, historically. I was going through school, you know, it was talked about and there were examples of it, but it didn't really manifest itself until later. And it's just been gratifying to watch it occur through time.

Billy Tarrant [01:41:10] In fact, what was the old saying? In wildlife management, the three ships you want to stay away from are sinking ships, burning ships, and partnerships. But that's, you know, that still can play. I mean, if you've got a partnership, it's exactly that. You know, you're working with somebody, you're building enough resources to get it done.

Billy Tarrant [01:41:38] It's not somebody needing something, putting something else on a Texas Parks and Wildlife biologist's plate. It's actually come to the table, working together, getting things done. And we've got so many partners out here, like I mentioned a while ago, and that's kind of one of my goal or goal for our, we call it the "Center for Land Stewardship Stakeholder Engagement", that's kind of my shop, is to be a facilitator, a leader of partners.

Billy Tarrant [01:42:05] Not, you know, we've got our own programs and we've got, not a single one of them are we doing by ourselves. Every one of them has some partners, you

know, and also to facilitate our other conservation partners on their projects and kind of work in concert. We can pool our resources and get more landscape-level work done. You know, that's a win-win.

Billy Tarrant [01:42:26] That's great stuff. Very gratifying. Very gratifying at this point of my career, you know, towards the tail end of my career, to have this opportunity to really get some great work done on the ground, not just with grassland restoration, but also riparian restoration.

Billy Tarrant [01:42:43] That's a big key thing right now out here is restoring some of these watersheds. And watching water be on the ground more maybe permanently or more frequently, slowing the water down, recharging aquifers, building wildlife habitat, you know, good stuff. It's really fun and a lot of great landowners to work with and great partners to work with.

Billy Tarrant [01:43:07] And versus that, you know, I loved my time with Parks and Wildlife, but, you know, I spent five years as a district leader and seven years as a regional director. And I didn't get much time on the ground doing that, you know.

Billy Tarrant [01:43:20] So, this is pretty, pretty good stuff we're doing now,.

Billy Tarrant [01:43:23] And tying that back to the research component at Sul Ross State University too. Right? We're on the cusp of some really big grant opportunities working with landowners across the entire Trans-Pecos and to put our, have the chance to stick our undergraduates and graduate students in the truck with a wildlife professional or natural resource professional and get out there and you know, see how stuff's actually done, work with the individual landowners. That's valuable, valuable stuff for them to have when they make the step into the workforce.

Billy Tarrant [01:43:55] So, that's the kind of value that we really want to provide to the university and the educational component as well.

David Todd [01:44:03] So, I'm curious how ... this isn't sort of a command-and-control situation where you can dictate how things go. You've got to somehow incentivize your partners to want to be part of this, to volunteer to be in this venture with you. How do you pull folks into some of these pronghorn projects?

Billy Tarrant [01:44:29] Well, you know, we really haven't had to. We just got good partners. I mean, they want to, we all have the same goals. We all want to get things done. Our partners at Rio Grande Joint Venture, you know, there's a need to be bird-focused. And they need to have some, you know, some bird nexus, typically, because that's their charge. And for us, we're a little more malleable, in a sense, especially grassland restoration or grassland enhancement that's across the board.

Billy Tarrant [01:44:58] And really TPWD, Parks and Wildlife, right now is really staffed up exceptionally well with a bunch of biologists that really want to get stuff done. They really want to be part of the solution. And that's not always the case. Right? I mean, through ... I'm not saying here or anywhere else. I'm not going to give away dark secrets. But sometimes, you know, it's hard to get people motivated. And that's not the case out here right now. We're really moving forward.

Billy Tarrant [01:45:23] We have a quarterly call, Trans-Pecos Conservation Partners call, where we're able to tie different projects together and give people the resources they need to be successful from another, maybe a National Park, or our Inland Fisheries folks at Texas Parks and Wildlife, just these different groups that we work with, that we're all kind of on the same page moving forward.

Billy Tarrant [01:45:47] It's, it's cool. Like it. It's a good time to be doing it.

David Todd [01:45:52] Well, so do you have any goals for, say, the next five years with the pronghorn?

Billy Tarrant [01:45:59] Well, I think we're looking to hopefully ... 50,000 yeah, restore about 50,000 acres over the next two years. So, I would say, the next six years, we get a couple hundred thousand acres restored, that's good stuff. You know.

Billy Tarrant [01:46:16] And we've got some big grants coming in, working with our friends at the USDA. That's another one I haven't even mentioned. But we have a USDA, NRCS, Natural Resource Conservation Service - we got a RCPP, Regional Conservation Partnership Program, grant working with them. You know, same stuff. Just, you know, getting good work done on the ground with landowners and providing an incentive for them to not only get them to a situation where they are, you know, able to meet their goals, but be more sustainable and not necessarily have to look at either selling the ranch or breaking the ranch up, which is not good for pronghorn, at all. Right?

Billy Tarrant [01:47:07] Or, even, I'm not, you know, I went through the entire energy partnership, the Respect Big Bend effort. But we're very prone to a lot of wind and solar energy. Well, if we pouring a lot of money on the ground restoring grasslands: if we come back on top of that with solar farms someday, that's not necessarily a good thing. So, but if we can get a landowner in a position where they're more economically sustainable, they don't necessarily have to think about that option, then that's even better. There's plenty of work showing that there's plenty of places we could put wind and solar across the Trans-Pecos and not impact pronghorn or other species of concern.

David Todd [01:47:46] I hear you.

David Todd [01:47:47] Well, we've talked about a lot of things. Is there something that we may have skipped over that you'd like to discuss?

Billy Tarrant [01:47:58] I hope you got all you want. If I'm running out of steam, you know it's been a lot, so...

David Todd [01:48:06] Well, it's been fascinating. And thank you so much for, you know, treating us to a little tour of the world of pronghorn and Billy Tarrant's life as well. So thank you very much.

Billy Tarrant [01:48:19] I thank you. Appreciate it, David. We'll see you sometime for sure.

David Todd [01:48:23] I'd like that. Thanks so much. I'll switch off the recording then.

David Todd [01:48:27] Thank you so much.

Billy Tarrant [01:48:29] Mhhmm.

David Todd [01:48:29] Bye now.