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David Todd [00:00:02] All right. Well, good morning. I'm David Todd, and I have the privilege of being here with Dr. David Hewitt.

David Todd [00:00:09] And with his permission, we plan on recording this interview for research and educational work for a non-profit group called the Conservation History Association of Texas, and for a book and a website in preparation for Texas A&M Press, and then finally for an archive at the University of Texas, in their Briscoe Center for American History.

David Todd [00:00:31] And I want to stress that he would have all rights to use the recording as he sees fit.

David Todd [00:00:36] And, before we went any further, I wanted to make sure that sounds like a good plan for him.

David Hewitt [00:00:40] Yeah, no, I agree. Appreciate you guys doing this.

David Todd [00:00:43] Good, good. Well, thank you for participating.

David Todd [00:00:46] Well, let's get started.

David Todd [00:00:48] It is Saturday, May 25th, 2024. It's about, 10:05 AM, Central Time.

David Todd [00:00:58] And my name, as I said, is David Todd. And I'm representing the Conservation History Association of Texas. I'm in Austin.

David Todd [00:01:06] We are conducting a remote interview with Dr. David Hewitt, who is based in the Kingsville, Texas area.

David Todd [00:01:13] Dr. Hewitt, has a series of degrees in wildlife biology, including a B.S. from Colorado State University, a M.S. from Washington State University, and a Ph.D. From Virginia Tech.

David Todd [00:01:26] During his career, he has worked in a number of research and educational roles, including service at Washington State, the Texas Agricultural Experiment Station, Virginia Tech, Humboldt State University, and Utah State University. In 1996, he came to the Caesar Kleberg Wildlife Research Institute, at Texas A&M University in Kingsville, where he has worked in the succeeding years as an assistant and associate and a full professor, and since 2017, as the Institute's executive director.

David Todd [00:02:00] Much of his research over those years has focused on white-tailed deer, although he has interests in a variety of wildlife. In fact, he held the Stuart Stedman Chair in White-tailed Deer Research from 2006 through 2016.

David Todd [00:02:16] Today, we'll talk about Dr. Hewitt's life and career to date, and especially focus on what he can tell us about the life and management of white-tailed deer in Texas.

David Todd [00:02:27] So, with that introduction, I just wanted to thank Dr. Hewitt for spending some time with us today.

David Hewitt [00:02:33] You bet. Appreciate the interest.

David Todd [00:02:35] Yeah. You bet.

David Todd [00:02:36] Well, I thought that we might, start with just a question about your childhood and if there might have been people or events during your early years that might have gotten you interested in wildlife, deer, science, anything along those lines?

David Hewitt [00:02:54] You bet. So, I grew up in Colorado, north of Denver, a town called Greeley. I was actually born in Utah, but grew up in Greeley. And I grew up in a family that did a lot outdoors stuff - hunting, backpacking, fishing, hiking, all those kind of things. So, it was pretty easy to get interested in wildlife with that background.

David Hewitt [00:03:17] The other impactful part of my childhood in terms of my future career was my grandfather on my mother's side - Les Robinette is his name. He was a deer biologist. He did a lot of mule deer research back in the '50s and '60s.

David Hewitt [00:03:35] And so, I had a kind of ready-made role model and knew that you could make money and get paid to be a wildlife biologist. Most people don't come into this field with that kind of background and experience. And so, so that was obviously a big part of my, you know, kind of early career choice. I never struggled with what I was going to do. I knew from when I was little that, you know, I could - that this is what I wanted to do. And I had a road map to know that that was possible and that you could, could do some good in the world as a wildlife biologist.

David Todd [00:04:11] Well, do you recall any particular hiking trips, backpacking trips, growing up?

David Hewitt [00:04:19] Yeah. All manner of them. Grandfather would take us grandkids out backpacking and, you know, do some fishing and things like that. Had a lot of just wonderful memories with a lot of my family, on hunting trips. And started kind of an annual fall hunting experiences with dove hunting in eastern Colorado, and then some elk and deer hunting in the mountains in October, and then November, December, January, go out into eastern Colorado and there's ducks and pheasants and geese and things like that.

David Hewitt [00:04:57] And, through all those hunting trips, you know, it isn't just hunting. There's a lot of birdwatching and wildlife viewing and photography, and just a lot of ways of interacting with the natural world on all those trips. So, there's a lot of special memories I have from all those kind of experiences.

David Hewitt [00:05:15] My dad enjoyed, socially, he enjoyed the hunting and things, but it was more to be with people. But where his passion really lay was in hiking and backpacking and especially climbing. He did a lot of climbing in Colorado and across the United States and even some overseas. And so, he got my brother and sister and I involved in that early. And, when we were real small, we weren't super enthusiastic of seeing the value of hiking up a mountain. But, eventually it really grew on us.

David Hewitt [00:05:48] And so that was just another, you know, kind of way of enjoying experiencing the outdoors that has continued. So, I still do those kind of activities now as a family and with friends.

David Hewitt [00:06:00] So, I get the, you know, kind of the social and spiritual value of being outside, interacting with wildlife.

David Todd [00:06:09] It sounds like a really kind of multifaceted way with lots of members of your family that you enjoyed the outdoors.

David Todd [00:06:15] So, I don't know if all that outdoor time left much opportunity to read books or journals, magazines, watch TV, see movies. But did any of those sort of media outlets get you interested in wildlife and science?

David Hewitt [00:06:37] Yeah. So, I was of the generation of Mutual of Omaha's Wild Kingdom. And Sunday evening, that was often, you know, some time I'd spend in front of the TV to watch Marlin Perkins and Jim and them do their thing. So, you know, again, another kind of way of experiencing wildlife.

David Hewitt [00:06:56] I did enjoy as a child growing up Sports Afield and Field and Stream and, you know, some of the outdoor magazines that were popular at the time. And yeah, always had a family that reading is a big part of it as well. So, lots of books to pick through and there were some wildlife books, you know, some Jack London and different things that folks had turned me on to and I enjoyed reading.

David Hewitt [00:07:27] So, yeah, yeah, it was kind of infused through a lot of the different parts of my childhood.

David Todd [00:07:34] So, you've had a lot of education, and I was wondering if there might have been teachers or classmates in grade school or then during college, grad school, your Ph.D. years, that might have been influential for you.

David Hewitt [00:07:54] Yeah. You know, I'm going to say not as much in K through 12. I had some science teachers that, you know, that I enjoyed the classes and all. But, in terms of kind of professional influence, maybe not as much, because again, I already had sort of an idea where I wanted to go.

David Hewitt [00:08:14] Colorado State, there was a professor, Dale Hine, who spent a lot of his career and passion focusing on teaching and was an outstanding teacher. So, I learned a lot from him.

David Hewitt [00:08:28] And there were other faculty members there - Bill Aldredge and Jim Bailey - that did the kind of big game research and always have had an interest in big game. Some scientists that worked over at the Colorado Division of Wildlife - I spent a year on a

student kind of work / study type deal with them - Tom Hobbs and Dan Baker and some other ones over there.

David Hewitt [00:08:59] So, there was a variety of people that I was able to interact with as an undergrad that helped, you know, kind of give me some direction and role models and those kind of things.

David Hewitt [00:09:10] Both of my major professors for my Master's degree and my PhD were wonderful people and scientists and I learned a lot from them - Charlie Robbins at Washington State University.

David Hewitt [00:09:24] And, there's kind of an interesting tie. There was one other person at Colorado State, actually, I should mention. There was a professor named Julius Nagy (N-A-G-Y). He was Hungarian and had come to the United States and became a wildlife biologist. And his focus was wildlife nutrition. I remember him talking about "witamins" in our wildlife nutrition classes because he had an Eastern European pronunciation of some of these things. And it wasn't vitamins, it was witamins.

David Hewitt [00:09:57] But, it was kind of fun because Julius Nagy was one of the really early wildlife nutritionists and Charlie Robbins, who became my Master's advisor, had got a degree at Colorado State, and was also influenced by this Julius Nagy. And then Charlie Robbins really became one of the preeminent wildlife nutritionists - did a lot of neat work with deer and elk and mountain goats, and then moved into bears. And the last almost 30 years, I guess he's been working with bears.

David Hewitt [00:10:31] And when I went for my Master's degree, I went up to Washington State and had got involved in Charlie Robbins' lab, just about the time he started the bear research. And so, it was a nutrition-type project and I learned a lot of good, you know, kind of solid wildlife nutrition information and background from my time at Washington State.

David Hewitt [00:10:53] And then I worked for a year in the Uvalde with one of Charlie Robbins's former students, a guy named Don Spalinger, who's also done a lot of really neat foraging and nutrition work. I had a year in Uvalde with Don, and learned some, you know, some really, really valuable things with him, and then went to Virginia Tech for my Ph.D.

David Hewitt [00:11:14] And I worked with a gentleman there, Roy Kirkpatrick, who also was pretty prominent in the wildlife nutrition and physiology field. He had come through kind of a different route. He'd come up through the animal science side, which is really good from a nutrition standpoint, because animal scientists have a lot of resources to kind of figure out a lot of those nutritional pathways and influences. And so, that was really valuable.

David Hewitt [00:11:39] And both Roy and Charlie, you know, outstanding scientists and gave you a lot of freedom to kind of develop projects and pursue them, but enough guidance to make sure you did them well. And so, yeah, both those gentlemen I'm really appreciative of.

David Todd [00:12:01] It's always interesting when you start to see this daisy chain of influences from, Dr. Nagy on through his students, and then to you and so on.

David Hewitt [00:12:11] Yeah. Yeah, exactly. Yeah, they kind of talk about these academic lineages and that's a little bit of it, that you can kind of see some influences, you know, out into the future from some of those early interactions and done well.

David Todd [00:12:26] Well, and I imagine you've spawned your own lineage.

David Todd [00:12:29] How did you first get your first job after graduate school? I understand that you started as an assistant professor at at the Kleberg Institute in 1996. How did you find that position? That's often a big hurdle to get that first bite at the apple.

David Hewitt [00:12:46] Right? Yeah, like many Ph.D. students, when I finished up at Virginia Tech, I sent a lot of applications out and interviewed - got some bites on things. But the one that I ended up taking was a one-year position at Humboldt State in Northern California. In part, it was a good opportunity in a neat area of the country I hadn't been in. And so I went there.

David Hewitt [00:13:11] And it was really a pretty focused teaching position. So, I didn't get a lot of research. Got one paper submitted or something, but made some connections there and got a lot of great experience on the teaching side and a working environment I had never been in. I had to go teach a habitat course on managing redwood trees. And you don't get that anywhere else. So, I had to become kind of a quick study on that.

David Hewitt [00:13:39] And then, I went to Utah State, spent a year in Logan. There's an outfit there called the Berryman Institute that was involved in looking at kind of wildlife / human conflicts and trying to manage those and reduce kind of the negative impacts of those conflicts for both wildlife and for people.

David Hewitt [00:14:00] And, I had a really good experience there. And while I was there, I attended a professional meeting in Portland, Oregon, and was approached by a gentleman there who was the Dean in Kingsville at the time. He goes, "Hey, we've got a position open and wanted to see if you'd be interested in it."

David Hewitt [00:14:23] And when you talk about these kind of linkages and maybe even academic lineages, the person that was in this position before me was a scientist named Eric Hellgren. So, Eric Hellgren was in Kingsville doing nutrition work, including nutrition work with white-tailed deer here at the university.

David Hewitt [00:14:43] And there's a, we've had a captive herd of white-tailed deer, because nutrition stuff can be really hard to study on free-ranging deer. They just don't sit around and let you collect feces and feed them certain things or whatever you need to do, collect blood, whatever.

David Hewitt [00:14:57] And so, captive deer, you know, open up a lot of potential to learn about how wild deer interact with their environment, because we can control a lot of things. And Eric Hellgren had been doing that here in Kingsville.

David Hewitt [00:15:09] Eric also got his Ph.D. from Virginia Tech and had worked with Roy Kirkpatrick, the same major advisor I had at Virginia Tech. And so, I think Roy had mentioned to Eric, "Hey, you know, if you need someone to kind of fill in the types of things you are doing in Kingsville. Somebody ought to approach this David Hewitt person, to see if he's interested."

David Hewitt [00:15:32] So, this Charlie DeYoung, who I think will be interviewed for your program later, Charlie was the one who had told me at first about this position at Kingsville.

So, I applied and went through the whole deal. And then and then they'd offered it to me. So I came down here in summer of 1996.

David Todd [00:15:52] It's a very personal connection. You know, you can send out all those paper inquiries, but it's maybe who you know.

David Todd [00:16:02] Well. Speaking of deer and deer nutrition, I thought this might be a good place just to acquaint people with the trends for deer in Texas. You know, they've been rare. They've been very populous.

David Hewitt [00:16:20] Mmhmm.

David Todd [00:16:21] There have been big swings in the numbers and the range, and I was hoping that, with your experience, you could give us that overview of the last century, if that's not too much to ask.

David Hewitt [00:16:37] No, not at all. And I think to understand, you know, kind of where we are now and a lot of the management techniques and kind of philosophies, you do need a little bit of that history. So, I think that can be really helpful.

David Hewitt [00:16:50] And, you know, to understand really a lot of the wildlife in North America, you do need to go back, and let's say, at the very least, to the kind of late 1800s because there was very much still, you know, kind of an exploitation view of wildlife at that time. And it was true for beavers, true for bison. And a lot of the game birds, they'd send wagon loads and train loads of prairie chickens to market.

David Hewitt [00:17:22] Same thing with deer: deer were seen as a resource. The hides, the meat, you know, could be harvested and shipped to market. And so, through the late 1800s, a lot of things happened, including the railroads got well established. So, it opened up markets that hadn't been opened previously, so they could ship meat and hides long distances. Rifles, just numbers of people, access to areas - all those things changed in such a way that many wildlife populations, including white-tailed deer, got pushed to very low levels. Including, I mean, to a point where people it would be newsworthy if you saw a deer. It would be newsworthy throughout the county if someone saw a deer in the county, because they may go years without seeing a deer.

David Hewitt [00:18:13] And so, that was kind of where things were in the early 1900s. And there were a lot of people who were concerned about that - you know, I'm sure kind of general people. But some of the ones that really got concerned were hunters, because they had something that they were passionate about that was really kind of deep in their psyche, and they were worried they never be able to hunt again.

David Hewitt [00:18:39] And so, there were groups like the Boone and Crockett Club and others that got active at that time. A lot of individuals kind of took it upon themselves to do things to help stop the flow of this kind of decline of deer and then try to reverse it.

David Hewitt [00:18:58] And some of the early game laws, you know, in the late 1800s and all were instituted to try to reduce harvest of deer.

David Hewitt [00:19:11] The problem with a lot of those early efforts is there just wasn't any infrastructure to kind of enforce any laws that were on the books. There was still a kind of

mindset of exploitation, you know. And some of it you can get, you know, if you've got to feed your family and a deer steps out and the kids are hungry, you can see where someone might make a decision that isn't in the deer's best interest, but might be in their best interest.

David Hewitt [00:19:36] So, there's a lot of kind of competing passions.

David Hewitt [00:19:40] But moving up into the '30s, the field of wildlife biology started coalescing. And Aldo Leopold is one of the kind of early proponents, and like you said, heroes of developing that wildlife management field, getting professionals and getting state agencies set up through '20s and '30s and developing that field. It kind of arose out of forestry, a lot of it at the time.

David Hewitt [00:20:14] And I'm going to do a little detour here. Just kind of bring it back sort of local here to South Texas, because there's a parallel story going on that I think reflects some of the broader trends for deer nationwide.

David Hewitt [00:20:29] I work at this institute called the Caesar Kleberg Wildlife Research Institute. So, there was a gentleman, Caesar Kleberg, who came to South Texas in 1900 and worked on the King Ranch from 1900 to his passing in 1946. And in doing so, he brought with him a passion for wildlife. And he saw this playing out, this decline of wildlife, playing out here, where he was managing in South Texas.

David Hewitt [00:20:55] And one of the things that really kind of brought especially the deer's plight to his attention was they put a railroad in from Kingsville south to Brownsville and it cut across some areas that were probably some of the still most wild areas in North America, or in the United States anyway.

David Hewitt [00:21:15] And part of that was on the King Ranch where Caesar Kleberg was working. And they were shooting deer to feed the railroad workers. And, you know, Caesar Kleberg was like, "This is not sustainable. This can't be."

David Hewitt [00:21:31] And so, he worked pretty hard in getting some, you know, just kind of landowner-enforced regulations on the private lands that he was managing on the King Ranch. And they were real simple things like no hunting during the rut, and reducing doe harvests, and a variety of things for turkeys and quail and other wildlife, too.

David Hewitt [00:21:51] But it kind of changed the mindset of what wildlife is: it's no longer a resource to be exploited. It's a resource that has value that, you know, that one of which is hunting, others of which are just having them there and enjoying them to wake up in the morning and have a cup of coffee and look out and see some deer in the pasture. You know, there's value in that.

David Hewitt [00:22:11] And so, so Caesar Kleberg kind of took that on.

David Hewitt [00:22:16] And then did some things that people elsewhere in the country were doing for white-tailed deer. There were some pockets where there were still deer. And those pockets served as some sources of reintroduction into areas that had really had deer extirpated. We may have got down to a few hundred thousand deer in in the United States.

David Hewitt [00:22:38] And that still seems like a fair number of deer, but when you spread them out across everything from the Rocky Mountains to the Atlantic Ocean, that's not a lot of

deer. And, you know, we're up into the tens of millions of deer now. So, I think puts how perilous things were back around the turn of the century, puts that in context a bit.

David Hewitt [00:22:58] So, others in the eastern U.S. and on King Ranch found some little pockets of deer. Kind of nurtured them, protected them, let them grow. And then started some active reintroduction programs: getting state agencies and other landowners. I know there's some significant reintroduction programs in North Carolina, a lot across the Southeast eventually. So, there's deer that got moved from some of those different areas. There's also deer from South Texas, right near Kingsville, that were reintroduced in different places across the southeastern U.S. and across Texas.

David Hewitt [00:23:38] So, that was kind of a turning of the tide, I think, on how people viewed deer - not a resource to be exploited, but a precious resource to be stewarded and cultivated. And then, you know, be able to be there for whatever it is that people enjoyed having them.

David Hewitt [00:23:58] And so, that played out through the '30s, '40s, '50s, and hunting took on a very strong flavor of, you know, shooting a doe in those times, a female deer, was not a good thing because we're trying to grow the populations and that kind of mindset of harvesting only male deer got kind of ingrained in a lot of people's psyche at the time.

David Hewitt [00:24:22] And then as you get into the, I'm going to say, the '70s and '80s, kind of made a change from not having very many deer to having probably decent deer numbers.

David Hewitt [00:24:35] Then we started getting into situations where, "Wow, we've got too many deer in places." And that's kind of where we are now, where there's some places where we've got too many deer. A lot of times it's places where hunting just isn't possible.

David Hewitt [00:24:51] But that isn't even always the case. Sometimes in real productive habitat, hunters aren't able to keep up with the deer reproduction, and then you can end up with too deer for areas where there's agriculture and those kind of instances.

David Hewitt [00:25:05] So, I think that kind of brings us up to where we are now with kind of a complex management situation, you know, where the state agencies, primarily, and then private landowners, working with them and working together to try to manage the deer to meet a variety of different purposes.

David Hewitt [00:25:28] And, I'm going to take it kind of one step further here that in Texas, especially, we've gone through an evolution to where now there's a lot of attention by landowners to manage specifically for white-tailed deer. And these landowners do tremendous things on maintaining native habitat, which is good not only for the deer but for all wildlife.

David Hewitt [00:25:56] And so, our state agency in Texas, Texas Parks and Wildlife Department, works with landowners to help them meet their deer management goals. And one of which is to maintain deer populations, but others is to, you know, is maybe to be able to manage the density.

David Hewitt [00:26:13] And increasingly, because a lot of the hunting interests are around antlers and kind of trophy-type deer, there's a lot of other management techniques that can be used to help meet those goals. And so, we've moved into a, I'm going to call it "intensive", a

period of intensive deer management now in Texas, where there's a lot of tools available for landowners to use, or not use, entirely up to them, to meet their deer management goals.

David Hewitt [00:26:44] And so, you know, I guess that would kind of bring us up to date then on where we are now.

David Todd [00:26:52] Okay.

David Hewitt [00:26:53] Maybe more than you wanted.

David Todd [00:26:54] No, no, this is great. This is perfect. Thank you so much for explaining the arc in in Texas and beyond. It's a big story. So, thanks for introducing us to it.

David Todd [00:27:06] So, I thought we might talk a little bit about deer management. I think you you've tipped your hand a little bit to that, and all the new tools that are available. And, I thought a place to start would be to talk about deer nutrition, which is something you've worked on so much. What can you tell us about supplemental feeding as well as, just, you know, what the habitat can provide, without any intervention. And, maybe you can talk about the sort of impacts on deer density.

David Hewitt [00:27:39] You bet. Yeah. So, you know, deer are herbivores. And they're an animal that belongs to a group of animals called ruminants. So, they've got a, kind of like a cow, they've got a complex digestive system that enables them to eat plants. But they're a small ruminant, so they're not very big. And what that means is they need a pretty high quality diet from a plant standpoint or forage standpoint. So, they tend to be pretty selective.

David Hewitt [00:28:09] They, deer, can't eat mature grass for example. So, food that would be good for a cow isn't a good food for a deer.

David Hewitt [00:28:18] What deer tend to focus on are a group of plants we call "forbs". They're kind of the weedy plants. You know, they're not grass. They're flowering type plants that, you know, that are grown at ground level - kind of herbaceous type plants. Weeds are what most people think of them. Those can be really good white-tailed deer food.

David Hewitt [00:28:43] Another class of food that you really focus on are the shrubs. So, woody plants - the leaves and tender twig tips are another class of food that are really good for white-tailed deer.

David Hewitt [00:28:56] And then another thing that we've become increasingly aware of here is a class of food, I'm going to call "mast". And so, it's acorns. It's fruits of cactus and shrubs and, you know, raspberries, blueberries, depending on where in the country are - all those kinds of things. There's a whole variety of these fruits that deer eat.

David Hewitt [00:29:17] Those are all examples of high quality foods from the plant standpoint. So you look at all the plants available - that's kind of high grading and that's what deer need to do.

David Hewitt [00:29:28] And so deer can be constrained in their productivity by the quality of the forage that's available to them. And so, you need to be kind of cognizant of what it is they're able to do well on. You could look out at a pasture of waist-deep grass and think, "Oh my gosh, there's a ton of food for an herbivore out there." But a deer could literally starve to

death out in a field of nothing but mature grass because they can't eat enough and move it through them fast enough and digest it well enough to support their needs. And they can they can starve to death with a full belly.

David Hewitt [00:30:08] And so, with that as background, when we think about managing deer on rangelands, which is largely what we're doing here in South Texas, and I would say most of kind of the western part of Texas, it can swing from some of the best deer habitat from a nutrition standpoint to kind of look like the Chihuahuan desert, you know, look pretty rough for a white-tailed deer. And most people would say there's no way a white-tailed deer could make a go of it out, you know, in the times when it's real droughty and it can look pretty rough.

David Hewitt [00:30:44] And so, as a deer manager, recognizing the importance of nutrition for reproduction, for growth, for survival, for antler size, for all the things that are important for a deer, and a deer manager here in Texas is living in this environment that can go from the very best to almost the very worst, depending on what rainfall does, they look for ways of trying to stabilize that nutritional plane.

David Hewitt [00:31:12] And one way that that's been done in the eastern U.S. a lot is with food plots. And so, if you get enough rain, food plots can be a wonderful way of getting extra food into deer and providing different kind of nutrients and different forage choices. In the rangelands, if we can grow a food plot, that means we have enough rain. It'll be really nice for deer. The native range will produce a lot of the good foods.

David Hewitt [00:31:41] And so, in a lot of the rangelands, many deer managers that want to invest at that level have gone to providing supplemental food. So, pelleted food that meets the deer's needs.

David Hewitt [00:31:52] And we've done some research that has demonstrated how impactful that can be in in South Texas. So, we've had some experiments where we've had deer on just native habitat (and deer can live on native habitat is here, their native animal here, they can live on the forages that are available here). And then adjacent to them, we've had some large enclosures where we had deer with supplemental feed.

David Hewitt [00:32:18] And just about everything about the deer change with that improved nutrition from the supplemental feed.

David Hewitt [00:32:25] So, we've got viable deer populations where there's no supplemental feed, but as soon as you put feed in, those populations go from just kind of maintaining themselves to growing 30% a year, which is a tremendous growth rate for a wildlife population. Body sizes go up, survival goes up. You know, antler sizes go up. Just like I said, just about everything about the deer changes with that improved nutrition. And it's largely because of those large swings in nutrition that we get from year to year because of differences in precipitation.

David Hewitt [00:32:56] So, I think that's been the driving force behind landowners and managers wanting to provide supplemental feed for deer in our area.

David Todd [00:33:07] I think I saw a term once that deer are flexible capital breeders: that they can sustain at a low plane, but if they're given a little bit of extra, they can do very well?

David Hewitt [00:33:21] Correct. Yeah. And when they use this term "capital breeders", what it means is that those kind of animals are relying on their capital, which in an animal standpoint, we think of capital as the fat and protein that the animal's carrying around with them. And then, the alternative is an "income breeder", which means they're living on food that they're eating at the time. They're living on their income, as opposed to what they have in the bank, which is the fat and muscle mass and everything in their bodies.

David Hewitt [00:33:50] And yeah, you're exactly right that the deer are a capital breeder, because if you look at a female deer in October, if she's had a fawn, she looks pretty rough. She almost can look sick, because she has taken so much of her body, the muscle and fat, put it into milk and given it to her fawns, that she can look pretty tough.

David Hewitt [00:34:14] And if she's got a lot of resources, a lot of fat in her body and a lot of muscles and everything, when she gives birth, then she's got a lot of nutrients she can pass on to her fawns through milk, not only from what she's eating, but also from her body.

David Hewitt [00:34:31] If she gives birth and she's a little bit skinny or not in really great shape, she now doesn't have nearly as much to give to her fawns through milk. And so, she's going to get, you know, really thin typically. And her fawns just aren't going to get very big because they're not getting the nutrients that they could potentially use, and grow to their full potential. So, they tend to be smaller.

David Hewitt [00:34:53] And it's come to the realization that that probably happens all over the country. One really neat example where I think this has really played out is the Hill Country of Texas. The Hill Country has always been known for really small deer. South Texas has been known for big deer. And one explanation for that might be that the Hill Country has allowed deer densities to get really high.

David Hewitt [00:35:18] The Hill Country has also been kind of a focal point of the sheep and goat industry. And so, there's been other herbivores living on that landscape that compete with deer.

David Hewitt [00:35:29] And so, the deer in the Hill Country have always been on that kind of cusp of not having great nutrition. But they adapt in such a way where they can still make babies. They just don't get very big. They live on, they grow to the size that their habitat can allow them to grow to. And that's kind of where they top out.

David Hewitt [00:35:49] Down in South Texas - much lower deer densities. In these wet years, like I said, it could be phenomenal. And certainly the fawns born in those years have all the nutrients they need. They can get big.

David Hewitt [00:35:59] And so, there are places in the Hill Country that have worked hard reducing deer densities, maybe providing supplemental feed, and body sizes do start rising with that improved nutrition.

David Todd [00:36:11] That's fascinating. And this sort of competition - it's so dynamic, I mean, sheep, goats, the amount of rain that might fall.

David Hewitt [00:36:19] Yeah, yeah. There's so much going on.

David Todd [00:36:22] Well, so I guess, as you pointed out, these deer can respond so well, if you do a little bit of intervention and a little bit more management and nutritional supplemental feeding. So, I guess there's always a temptation to get involved in that sense.

David Hewitt [00:36:42] Mm hmm.

David Todd [00:36:42] I understand there's been a controversy over the years about, you know, these sort of different levels of intervention and the high-fenced, managed deer, I guess being at one extreme and then may be a little further, the breeding operations...

David Hewitt [00:36:59] Mm hmm.

David Todd [00:36:59] And then I guess on the other pole would be the free-ranging herds. And I was wondering if you could talk about how you think about those different kinds of deer management schemes.

David Hewitt [00:37:12] Yeah. One of the beauties, I guess, of Texas management is, the approach has been to give landowners as much freedom as they choose to take advantage of to manage deer to meet their goals. And you get landowners from across the spectrum - that kind of spectrum you identified - that they have made a choice to invest real heavily in deer management, real intensive deer management. And there's a kind of a whole sliding scale of that.

David Hewitt [00:37:48] And there's other landowners that have said, you know, what matters most to me, and what I find most rewarding, is being able to manage my habitat and then let that drive, you know, what the deer population looks like. And they've chosen not to invest heavily.

David Hewitt [00:38:07] As you get more and more investment through, let's say, supplemental feeding and, you know, maybe there's some predator control or maybe other things that landowners choose to do, the value of each of those deer kind of goes up.

David Hewitt [00:38:25] And the deer, like any wild animal, are going to be moving around. And, typical kind of livestock sense isn't a barrier for a deer. And so, adjacent landowners often don't have the same goals. They may be interested in the same, you know, the same mature buck, but they've got kind of different approaches on management. And eventually those approaches just don't, you know, you've got neighbors who are trying to do very different things and it just doesn't line up.

David Hewitt [00:38:59] And so, one kind of driving force behind these high fences that you mentioned, so kind of an eight-foot high fence, has been these differences of management philosophy. One owner's investing a lot in deer and wants to make sure that that person and their family and their friends, or whatever it is, are able to enjoy that best. So, they'll put up a fence that will keep deer from moving outside that area.

David Hewitt [00:39:27] And from a deer management standpoint, there is, I mean, there's value in that because without some control on the deer herd, the landowner or the manager, you know, their options are very limited, and they could want to manage for mature bucks, they could want to manage for a certain density. But if every type of deer steps onto the neighbor's, you know, that deer's harvested or whatever, you know, then all that management, it just doesn't make sense to invest in anymore.

David Hewitt [00:39:59] And so, I think that that's how I look at that kind of difference between these, we'll call them "low-fenced ranges" where the deer are free to move wherever they need to and want to go, you know, to these high-fenced operations which can be expansive, I mean, maybe tens of thousands of acres, you know, behind the high fence. But those deer can be managed under one kind of regime, I guess, one set of of expectations and investment everything.

David Hewitt [00:40:31] And then there's another step of management intensity that you referred to, and it's deer breeding. And what the goal of deer breeding is to not only manage the food and age and everything of deer, but also try to manage the genetics, and do it in such a way that, you know, you can influence who's breeding because it's really hard in the deer breeding system to have, let's say, the deer with the largest antlers do a majority of the breeding. Even in a high-fence situation, there's really no way of doing it.

David Hewitt [00:41:13] You can tip the balance a little bit maybe. And landowners can do that by harvesting bucks with just smaller antlers. So, you know, so that that's one approach to try to do that.

David Hewitt [00:41:24] But to really, if you really want to play on that genetic side, you really need to go to that real intensive kind of breeding type approach.

David Hewitt [00:41:33] And we, at the Caesar Kleberg Institute, just haven't moved into that. We see that more as an animal science approach to managing wildlife. And there's so many interesting things to do on the rest of the deer management side, with kind of more free-ranging deer that, that that's where we've invested a lot of our efforts and research and everything.

David Hewitt [00:41:57] But, you know, that's a practice in Texas, that's legal and supported. A lot of people use it. So, it's kind of the far end of that spectrum of management intensity.

David Todd [00:42:13] So I guess, there's room for disagreement here, but I understand there has been a good deal of controversy about, you know, the degree of containment of animals and the degree of intervention with supplemental feeding and genetic kind of strategies. I was wondering what you think about some of the pushback. I mean, there's some people who feel like, you know, there are inbreeding risks that may affect the robustness of the deer population or, you know, there may be sort of, well, sort of philosophical, legal aspects of this - public trust, you know, that the state should own wildlife. But of course, if you've invested all this time and money in an animal, you probably think of it more as livestock. I mean, I can see it's a very contentious area, and I was wondering how you think about it.

David Hewitt [00:43:07] Yeah. No, you've kind of summarized it well, that there's a lot of competing thoughts, interests, passions in all this, and some of them are, you know, kind of biologic. You know, like I say, by doing really intensive breeding, you, by definition, are trying to change the genetic makeup of those animals and if, you know, if we've been blessed with deer that are able to live in these rangelands, there's probably something about them that enables them to do that. And you don't know if that's being carried on by, you know, those traits are being preserved with some of the intensive management or genetic selection.

David Hewitt [00:43:57] So that that could definitely be a concern.

David Hewitt [00:44:03] And, you know, it can kind of also move over into just what people are interested in from, let's say, a very personal standpoint. So, a lot of the real intensive deer breeding has made deer that that are found nowhere in nature - you know, almost, almost a different species. Obviously, they're still white-tailed deer. They can breed with white-tailed deer. But they're so different in antler size and configuration and structure and all that a lot of people just aren't comfortable with that.

David Hewitt [00:44:39] And some people love it. Some of it, you know: that's the challenge is to try to grow really big, robust, deer with huge antlers. And others, again, just don't see that. They've got very different set of goals and passions. And so there's I think that's kind of at the base of a lot of the controversy, that just people want to do different things. And the beauty of the Texas system is that everybody is free to pursue whatever their passions are.

David Hewitt [00:45:11] Where things get difficult is when what one group does influences the ability of the other group to do what they want to do. And so, it's pretty easy to say, "Hey, I got my fence, you know, I'll manage my deer the way I want. You got yours, you do what you want to."

David Hewitt [00:45:28] But the deer don't always play by those rules. You know, there's other things that happen and a couple of them... You know, you mentioned this public trust doctrine of wildlife management, and that really is at the kind of the bedrock of our wildlife management system in the United States, with the idea that the wildlife belongs to the public, and there's agencies, both federal and state, that manage wildlife on the public's behalf.

David Hewitt [00:46:01] And the market hunting, you know, that I had talked about earlier, this kind of era of exploitation made it obvious why that's important, because if one person is able to go out and grab all the value of that wildlife and nobody else gets to enjoy it or even see it, you know, if the market hunters take it all, then that's not good for everybody. It's only good for that one person.

David Hewitt [00:46:23] And so this public trust doctrine is trying to get away from that to say, "Hey, this wildlife has value. A lot of it is totally free-ranging. And, you know, it's not tied to individual properties. We need to manage this with that, those characteristics in mind." It's particularly true for migratory birds, but it's also true for white-tailed deer.

David Hewitt [00:46:42] And so, as you alluded, when you start putting up fences, now, some of those characteristics of the deer, of moving around the landscape are being lost. And not everybody can get access to deer behind a high fence.

David Hewitt [00:47:00] Now really the access is tied not to the deer but to the private land ownership. And so, whether there's a fence there or not, if a landowner says, "No, you can't come on my land," then those deer aren't accessible anyway.

David Hewitt [00:47:15] But, we manage them in such a way that the state still has, you know, kind of oversight and responsibility to make sure that no one is doing something that's going to jeopardize all our deer. Somebody could over-harvest on their own property. You know, they could invite as many friends with deer tags out as they want. They can do that, and they can do it legally. Now most people aren't going to do that because they want to have some deer around. And even if somebody did that, that's not going to jeopardize white-tailed deer around the whole state. The neighbors may be pretty torqued off if somebody's shooting a lot more deer that are there.

David Hewitt [00:47:50] But Texas Parks and Wildlife has some ways that, you know, they can kind of help manage that, and even more so, provide incentives to keep people from kind of going out to those extremes.

David Hewitt [00:48:06] And the deer breeder situation largely is the same. What's throwing a big wrench in this here over the last, let's say, ten years, is a disease that has entered the deer population, both the free-ranging deer and the captive deer industry.

David Hewitt [00:48:24] It's called "Chronic Wasting Disease". And it's a disease that we've known about since the early '80s, primarily in mule deer, where they found it originally, and found it now in white-tailed deer. And it's a long, slow-acting disease.

David Hewitt [00:48:44] It's related to this mad cow disease that many people are familiar with that could kill cows. But the reason mad cow disease got to be a concern is because it got into the food chain and people started catching a similar, or developing a similar type disease in people, this particular kind of class of diseases.

David Hewitt [00:49:13] And it takes a long time to play out, but it basically kills deer. And there's studies in a couple of different places that have shown that when this disease gets established in a population, and it may take two decades, may take a long time to get fully established, that it will cause deer populations to decline. So, that's a big concern for everybody who cares about deer.

David Hewitt [00:49:36] And that disease is now found in free-ranging deer in the Panhandle, in far west Texas, out by El Paso, and then in a couple of real localized spots in the Hill Country, and there's a little patch near Del Rio that they may have actually got rid of.

David Hewitt [00:49:57] But once the disease gets kind of broadly established in a population, right now there's really nothing we can do about it. And so, that's a concern.

David Hewitt [00:50:06] But our options are pretty limited because it's playing out, I'm going to say "naturally" in the free-ranging deer. The disease has also got into the deer breeding population. And this is where a lot of the, you know, kind of passions flare up. And a lot of the controversy comes, because the deer breeding, you know, for deer breeders to do what they want to do, they have to hold deer in captivity. They have to have them in pens and those deer are living pretty closely together.

David Hewitt [00:50:36] So, if one of those gets this Chronic Wasting Disease, it is transmissible. It can be passed from one animal to another. And that can happen a lot more readily in a real high-density, pen-type situation than in free-ranging deer. It still happens in free-ranging deer, but it can kind of get magnified in a in a pen situation.

David Hewitt [00:50:56] And then the other thing about the deer breeding industry is, you know, a lot of their interest in getting involved in that is to share deer, you know, move deer around from one breeding facility to another. And that that's important for them, you know, to be able to meet their goals.

David Hewitt [00:51:14] And then over the last 5 or 10 years, there's been an increasing kind of development of another way of using deer out of this breeding industry and that's to release them into areas outside of a facility. And that's generally done for two reasons. One, is

some landowners, you know, would like to try to get larger deer on their property and influence the genetics. But like I said, you can't really do that with free-ranging deer. But the idea is you could bring a deer out of these deer breeding facilities that are bringing the genetics with them, bring large antlers' genetics on, release them on your property, and, you know, maybe kind of accelerate that genetic process and end up with larger antlers on your property.

David Hewitt [00:51:57] So, now we've got deer from deer-breeding facilities being released out with native deer, which now all of a sudden that's going beyond the fence line of just that deer-breeding facility. That could potentially influence anybody in that area.

David Hewitt [00:52:13] And then another thing that the deer-breeding industry has developed here recently is, and it's almost kind of a put and take hunting model, where they will take deer out of the facility, release them into a high-fence pasture. It has to be high-fenced. And then those deer can be hunted. And so, that's another way where deer out of the deer breeding facilities can interact with native deer.

David Hewitt [00:52:38] And if it wasn't for the disease concerns, I don't think there's a lot of harm in either of those approaches of releasing deer.

David Hewitt [00:52:47] There are some people that don't like the idea of raising a deer in a pen, releasing it and hunting it, and it's nothing I'd be interested in doing. But it's legal, and again some people don't have a problem with it. So, it's a perfectly legitimate business practice or a way of going about a hunting operation.

David Hewitt [00:53:09] But, once you get that disease concern, and then with moving deer in ways that really aren't natural, we've got a very different kind of landscape of thinking about some of this really intensive management. And that's where, you know, where we're sitting today, right now, with the deer-breeding industry, you know, really having some difficult challenges around Chronic Wasting Disease, and working hard to try to address those, and people that aren't interested in deer breeding and, you know, and aren't interested in intensively managed deer, kind of being exposed to some of those risks, even though they never chose, you know, to have deer moved onto their property.

David Hewitt [00:53:58] So, it's, you know, kind of like we talked about the complexity of managing, you know, with supplemental feed and all the different foods and all that. This is another situation that has a lot of complexity, a lot of passions, and a lot of different motivations around it that are almost intractable.

David Hewitt [00:54:19] Yeah, we'll see where things go. But that that's sort of my understanding of where things are at right now.

David Hewitt [00:54:24] And, and I personally, you know, again, everybody's got a choice to figure out where they sit on that continuum. I personally appreciate the interaction between the deer and the environment, and like thinking about that deer as being a product of its environment.

David Hewitt [00:54:43] You know, supplemental feeding infringes on that a little bit. But I'm still, you know, personally comfortable, I guess, with that.

David Hewitt [00:54:54] The high fences certainly change deer movements, but many of the places, you know, it doesn't really change the hunting experience because the areas are so big that that they're far bigger than deer home range. So, it's not really constraining the deer.

David Hewitt [00:55:10] And, you know, again, for a lot of the kind of investment, and the investment isn't just in feeding things, it's investment in land. There's a big investment. That's a huge use of a lot of our rangelands now is managing for wildlife and, and that kind of return on investment can be dependent on being able to manage that resource, manage the wildlife that are there.

David Hewitt [00:55:31] So, but yeah, it's complicated.

David Todd [00:55:36] Well, most things that are interesting are complicated, so...

David Hewitt [00:55:39] Yeah. Yeah, yeah, they wouldn't be interesting if it was an easy solution. So.

David Todd [00:55:43] True, true. Well, thanks for explaining that. So, let's talk about something else regarding deer management. I think it's been really interesting what Texas has done with this Landowner Assisted Management permit system, which I think at least in what I understand, it's called the wildlife co-op model, where, you know, neighbors group together and they develop ways to manage the herds that range across their tracts, often smaller tracts that are contiguous.

David Hewitt [00:56:15] Yes.

David Todd [00:56:16] II think it started in the early '90s in, like Colorado County, some of these areas between Houston and Austin.

David Hewitt [00:56:20] Yes.

David Todd [00:56:22] And I was wondering if you could talk about the development of that and what sort of impact you think it's had on deer herds here in the state.

David Hewitt [00:56:33] Yeah. I think it's a wonderful model and this idea of a co-op recognizes the fact that a lot of the property sizes are much smaller than, I say, a deer home range size, or the scale that deer use the landscape. And so, everybody is managing with their neighbors.

David Hewitt [00:56:54] And one approach to that is kind of like I talked about: you know, you could put up a high fence. But if you only own 20 acres, that's just not going to work well with deer.

David Hewitt [00:57:06] So, a different approach, and this is really kind of a neat community approach, is recognizing, you know, that, again, these deer belong to all of us, is to get together with the neighbors, start building up blocks of these small properties to get to a large enough area that now you can manage a deer herd. You know, get up to 50,000 acres or something like that, and then work with the state agency and everybody who's part of that coop, get together.

David Hewitt [00:57:36] And based on how much land they have and a variety of other things, there may be a certain number of deer that could be harvested on that 50,000 acres. So, the state can give the co-op the permits - a certain number of buck permits, a certain number of doe permits, to harvest deer in that large area, and then the co-op can distribute those out to all the members.

David Hewitt [00:57:58] You know, so harvest is appropriate to the density of deer that are in that area. And, everybody gets to participate. And, there's no one person, you know, shooting way too many deer and causing problems with their neighbors and all that kind of stuff.

David Hewitt [00:58:12] So, yeah, it's an approach that I think is really neat. And you see it bringing people together, whereas some of these other management issues are pushing people apart, and that's, you know, that's really not doing any of us any good.

David Hewitt [00:58:25] And we'll go out periodically. There's a co-op out of Goliad, and then we'll share some of our information with them. And it's really heartwarming to to go in that room and have, you know, 2 or 300 landowners all there for a common purpose and interest and, you know, and a strong, strong interest in wildlife management. We could share some of what we've learned. And, you know, they can get together and figure out how that might be useful in all their management, both on individual properties, but across the co-op as a whole.

David Hewitt [00:58:54] So yeah, it's a really neat approach to these challenges.

David Todd [00:59:00] You know, we're in (sort of personal note), we're in a couple of co-ops ourselves, and I remember in the '90s, there was some resistance to some of the suggestions and rules that were proposed, particularly about letting bucks live out their years, and not shoot them when they're small so that, you know, their genetics can be reinvested in the herd and so on.

David Hewitt [00:59:31] Right.

David Todd [00:59:31] And I wondered how you've seen that sort of mentality and philosophy change over the years, and people sort of accept what the biologist might tell a landowner.

David Hewitt [00:59:44] Yeah. No. And you're right, this idea of kind of antler point restrictions has been at the core of some of that. And in any group of people, you know, you're going to have people of different interests. Some just want to harvest a deer and maybe it's to see either their child or their grandchild, you know, if there's a young buck comes out, "Man, that's great. You know, we can shoot that. We'll have this wonderful experience. We'll have food, all this stuff."

David Hewitt [01:00:10] And then others are like, "Holy cow, if you let that deer grow another two or three years, you know, his antlers would have been much larger and he would have been a bigger deer. And he could have bred and all this stuff."

David Hewitt [01:00:20] And so, yeah, so there's all these competing passions.

David Hewitt [01:00:23] But it seems like what's happened is the survival of many of those young bucks - let's say, if hunting is off the table - is still pretty high. So, if you don't shoot that

(and I'm just going to use the term, "yearling buck", so it's a buck with its first set of antlers), if you don't do that, shoot that buck when it's really small, it's likely to be around next year.

David Hewitt [01:00:49] And they actually make a big jump from one year old to two years old in antler size.

David Hewitt [01:00:56] And a lot of people, you know, even ones who are primarily interested in food and things like that. If there's a larger deer than a smaller deer, there's still some interest in that. There might be some, you know, kind of behavioral and, let's say, biologic reasons to having some mature bucks in the herd and not just a whole bunch of yearling bucks, you know, that they rarely get older than that, because they get harvested when they're really, really young.

David Hewitt [01:01:25] And so, trying to delay that harvest a little bit to two or three-year old bucks has some different values, both biologic and social. And that's where some of these antler point restrictions have tried to get people to do, is just, maybe not harvest that really young buck, let him get a year or two older.

David Hewitt [01:01:46] And part of the controversy is there's no perfect system of that. There's some yearling bucks that end up with a neat little eight-point rack. And you know, from a genetics standpoint, that deer probably has a lot of potential. We've got data that says if a deer has big antlers as a yearling, it's much more likely to have big antlers as a mature deer.

David Hewitt [01:02:10] And there's some genetic aspect to antler size. And so, that young buck with big antlers may have some genetics, you know, inside him - maybe there's value of passing that on.

David Hewitt [01:02:24] The problem is of a yearling buck with a really nice antler set may look like a small three year old buck, if you're not careful in looking at body size and some other characteristics. And so, some people see that little eight point think, "Oh my gosh, that's the buck we're supposed to shoot. That's this three year old buck that, you know, we've been trying to grow this little eight point." So, they shoot it. Well now, it was a yearling. And so, there's that problem.

David Hewitt [01:02:49] There's also some mature bucks that, you know, if you use spread on antler size ... Which, in general, spread gets larger, and if you get to a certain spread it's likely an older buck. And that's the type of deer that you might want to try to harvest under these kind of guidelines. But there's some mature bucks that just never get a very wide spread.

David Hewitt [01:03:07] And so, now, all of a sudden, it's never legal, you know. And so, those are some things that people say, "Well gosh, this stuff just doesn't work. You know, we're going to shoot the really good young bucks too young. We're never going to harvest these old bucks. You know, they're never going to get any bigger."

David Hewitt [01:03:21] And so, yeah, no system's perfect.

David Hewitt [01:03:24] But my sense is, and it sounds like you've kind of been living this a little bit too, is that, in general, some of these antler point restrictions are now favorably

received because the general trend has been people are shooting bucks at older age classes. It's probably good from some breeding standpoints and other things.

David Hewitt [01:03:47] And, you know, people are seeing a wider variety of types of deer out there. They're seeing young deer. They're seeing old deer. And some of those deer are larger. And so, you do have more deer that, you know, people might want to tell story about being harvested.

David Hewitt [01:04:01] So, that's kind of my sense, that I think people are generally favorable now towards some of these, but for a variety of reasons and some of it's just, you know, not wanting the government come tell you what to do. There was pushback against a lot of that originally.

David Hewitt [01:04:17] So, we talked about some of these big operations and then talked about some of these co-ops where you may have, you know, 20-acre, 100-acre tracts that are managed together.

David Hewitt [01:04:30] Right.

David Todd [01:04:30] Talk to us a little bit about this situation we're finding in some suburban areas. I know in the outskirts of Austin, even quite close in, we are seeing deer that are wandering through people's backyards. How did that originate? And what do you think the issues are that that raises? And how do you manage that problem?

David Hewitt [01:04:51] Yeah. Yeah. It's fascinating. We did a study. It's throughout the eastern U.S., and there's even places in the western U.S. with mule deer and elk that are kind of similar. And, what it comes down to is these wildlife species, deer in particular, are highly adaptable. And, if they figure out that people aren't out to try to kill them, which in national parks and suburbs and things, you know, there's no reason to run from a person every time they see them.

David Hewitt [01:05:21] In fact, the deer that spend all their time running from people in those situations, probably don't eat very much and probably aren't very healthy. And the ones that just say, "Ehhh, these people aren't any big deal", they're the ones that are healthy and are making babies and raising their babies, being comfortable around people.

David Hewitt [01:05:34] And so, you end up with these deer herds that that are again, because of the adaptability, are just really comfortable in this totally novel environment.

David Hewitt [01:05:44] We do a lot of things in our suburbs that take some country that may not be great deer habitat, or may be marginal, and we probably make it pretty good deer habitat. We water it. I told you before that grass is not a good deer food, but if you water it and mow it, and it's always in a real kind of young, growing stage, it's actually really good deer food. Anyway, you know, we plant plants, you know, shrubs. And we talked about these forbs. A lot of those forbs, we call them weeds, but we also call them wildflowers. And so we're planting wildflowers in our gardens around our houses and all this kind of stuff.

David Hewitt [01:06:20] And, we actually make some really good deer habitat in these suburbs.

David Hewitt [01:06:25] And we've taken a lot of the predation risks away. You know, there can be coyotes wandering through, you know, our neighborhoods at night, but probably not as many on the rangelands. Cougars aren't going to be able to exist a lot in our neighborhoods. You know, they're pretty well excluded. And we don't have hunters.

David Hewitt [01:06:43] And so, yeah, from a deer standpoint, it's actually a pretty good situation.

David Hewitt [01:06:47] And so these deer do what deer do: they make a lot of babies. And you get more and more deer.

David Hewitt [01:06:52] And now all of a sudden you've got situations, you know, where we've got problems. Because now it's not one cute deer in the yard that I see once a week. And you know, this is a neat way to interact with nature. This is really cool.

David Hewitt [01:07:05] Now you've got 15 deer bedded in the yard every day, and they're all out looking for something to eat, and you can't keep any of your landscaping. You know, they're eating all the shrubs. They're eating all the tomatoes off the tomato plants, whatever, you know. So, now we've got conflict.

David Hewitt [01:07:20] People are hitting them with their cars. Female deer with fawns sometimes can get aggressive. And so, we actually do have some deer attacks. Bucks during the rut, when they've got what I call testosterone poisoning, you know, they've lost their ... they've got one thing on their mind and it's to go out and find a doe to breed. And, they've lost a lot of their fear. So, there can be some situations where deer could actually be dangerous to people.

David Hewitt [01:07:48] Could be some disease concerns with ticks and Lyme disease.

David Hewitt [01:07:52] You know, those kind of things with real high deer densities. So, there's a variety of reasons why we probably don't want super high deer densities in our suburban areas and in our national parks and state parks and things like that.

David Hewitt [01:08:05] So, now we're to the place where we need to control these deer. And that's where we get into just as many of these different passions and ways that people feel deer should be managed as we've got with hunting and free range deer.

David Hewitt [01:08:21] You know, some people think, "Yeah, man, if I could go brain that deer right now that's eating my bush, I would go out and do it." That may be a little old lady with a frying pan.

David Hewitt [01:08:30] And then there's other people that, you know, are just super passionate about it: "No, these deer have a right to be here. I'm the intruder. You know, we need to adjust to the deer." And, you know, doing anything to those deer would be way out of bounds.

David Hewitt [01:08:43] So, you have these city managers and Texas Parks and Wildlife trying to negotiate around all those really strong passions of managing these kind of urban / suburban deer.

David Hewitt [01:08:56] There's some ways of doing it and some pretty innovative ways. It used to be that it was possible to trap these deer, and put them in a trailer and move them somewhere. Now in Texas, for two reasons, that isn't possible.

David Hewitt [01:09:14] One, nobody's interested in these suburban deer on their ranch, you know, moving them to their ranch. They've actually moved some to Mexico in the past, because there are places in Mexico that still have relatively low deer densities. And so that was a source for moving some of these suburban deer without having to kill them. You know, give them a new place to live.

David Hewitt [01:09:34] But, with these disease concerns now, even moving deer is not wise. And so that's not on the table anymore as a management option for these suburban deer.

David Hewitt [01:09:45] And so if you want to reduce deer densities, I guess there's two things you can do. The immediate way is to harvest them, to kill them. And that's possible. Some of these areas that have high deer densities are in unincorporated areas. The property lots are relatively big - you know, five or ten acres. And they can set up bow hunting programs in those kind of situations, or where there's greenways, green spaces. Many of the cities back east have kind of established well-regulated bow harvest programs to try to address some of these deer density issues in suburban areas, developed areas. So that's one way you could do it.

David Hewitt [01:10:31] Texas Parks and Wildlife has a permit. It's called a trap, transport and process permit. So, you trap the deer. And then you move them, transport them somewhere, and then you euthanize them and process them for meat. And there's been hundreds of deer in some of these cities that have gone into those programs. And they use that meat to feed needy people, people who need food. And it's probably some of the best food that any of us could get - you know, free-ranging local food.

David Hewitt [01:11:04] And so, I, you know, I see that as a really viable way of helping address some, some kind of critical societal needs and ecological needs and needs of people that are dealing with too many deer.

David Hewitt [01:11:19] That having been said, not everybody agrees that, you know, that killing deer is an appropriate approach to managing their populations.

David Hewitt [01:11:26] One other thing that's been looked at ... there's actually been quite a bit of work put in on it. You know, so you could kill deer or you can try to reduce reproduction. And that's not going to reduce density immediately. But if you can keep from making more babies, eventually that deer population, you know, it's going to quit growing larger and eventually it will decline. And so, there's been a lot of work done with kind of contraceptive approaches to managing these deer.

David Hewitt [01:11:51] And right now, the amount of effort, long-term effort - by long-term, I mean, you know, a decade or more of handling these deer regularly, and, you know, giving them these contraceptives and doing all this stuff, it just doesn't pencil out. You just can't keep that effort up that long. You know, financially, you know, people's time standpoint, all kinds of things, it's not a viable technique for a very large deer population.

David Hewitt [01:12:22] There may be something for 20 deer in a zoo. You know, there's some situations where those techniques are still applicable, and make sense.

David Hewitt [01:12:31] And they continue to work on it. So who knows? You know, somewhere down the road we may have a contraceptive that, you know, that can be fed. It's an oral contraceptive. And it is something that you can make work.

David Hewitt [01:12:43] Some of these cities have even gone to wanting to surgically sterilize the female deer and then release them and, you know, you could have a little bit of the best of both worlds, I suppose.

David Hewitt [01:12:55] But again, the amount of effort, the stress on the animals and everything else, there's just a lot to consider there to make that viable.

David Hewitt [01:13:01] So, those are kind of the options available for managing some of these urban deer situations.

David Hewitt [01:13:08] Just to add one other little thing: I think the fact that you have these deer living in those situations has value for all of us who care about wildlife, because you have people that, first, may have never experienced wildlife, and they get to see a deer in that situation.

David Hewitt [01:13:30] I've always looked at these strong passions, even if it causes conflict, as a valuable thing, because you have people who care. And I think our biggest threat to wildlife is people losing that connection and not caring anymore.

David Hewitt [01:13:41] And so, these suburban deer have that value of awakening that interest in wildlife by a lot of people.

David Hewitt [01:13:49] Even though it does bring these other problems with it. And there's places where it's certainly not appropriate to have deer. It's not fair for the deer. It's not fair for the people.

David Hewitt [01:13:57] But, yes, if you could manage that situation, where you could have a few of these deer around and kids could see those deer and, you know, I just see a lot of value at that. So throw that in.

David Todd [01:14:08] That's interesting. That's sort of a silver lining that folks may get exposed and have that connection that so many of us have lost that live in cities.

David Hewitt [01:14:15] Right.

David Todd [01:14:17] So, I think one thing that's interesting: we were talking about managing deer for deer and maybe for some of the people that are affected by those deer. But, what can you tell us about deer versus some of these exotic ungulates that have been introduced from Africa and other continents, that have done very well in Texas, but they're not native here.

David Hewitt [01:14:45] Right.

David Todd [01:14:45] You know, there's always that sort of predilection to help the natives and try to, you know, control the exotics. But, how do you come down on those questions? And what do you propose?

David Hewitt [01:15:00] Yeah, I guess if I owned a ranch, and it was up to me to make a decision on a piece of property, I would mess with them.

David Hewitt [01:15:09] There are some really interesting things about them. You know, from a hunting standpoint, there's a lot more freedom. You can hunt them year-round. And I have harvested nilgai and fallow deer and axis deer. And I have enjoyed it.

David Hewitt [01:15:30] But, I guess what I find most interesting, you know, with my background, is, you know, kind of the system of animals that are there, the native animals, and, you know, kind of how that works. And coming at it maybe a little bit more from a science standpoint, but also just kind of a personal interest standpoint, and where my passions lay.

David Hewitt [01:15:56] But that having been said, you know, I can understand why people enjoy having some of these other species around. And it's interesting to drive down the highway and see, you know, a gemsbok or an oryx, or see an axis deer. And, you know, I guess there's that novelty that people like having and all that.

David Hewitt [01:16:17] So, I certainly don't see myself be in a position to tell anybody else what to do. Again, this is kind of a freewheeling Texas system. You know, it's not for every state, but it works well here, because of the private lands and, you know, kind of cultural reasons, a whole bunch of reasons.

David Hewitt [01:16:34] So, so that's kind of where I come down on that personally.

David Hewitt [01:16:41] I do think there's some, just like any animal on your property, whether it's a cow or a sheep or a deer, those exotics need to be managed so that you don't, you know, lose your options for the future. If you let something get way overgrazed and you lose species of plants and erode the soil and all this, you know, you've cut off the value of your land, you've reduced the value of the land, and you've reduced options for if you want to pass that land on to your kids.

David Hewitt [01:17:17] So, I still think there's that responsibility. Or, I would at least encourage a landowner to go into their management of their property with that, you know, kind of forward-looking thought. And exotics are going to be in that same realm.

David Hewitt [01:17:36] We do know pretty clearly that exotics can outcompete our white-tailed deer if there isn't any management of those species. The exotics aren't quite as constrained nutritionally as the white-tailed deer are. So, they can eat some things. They can eat everything a white-tailed deer can eat, but they can eat some other stuff too. So, as you get low, you know, less and less food out there, the white-tailed seem to struggle more, and have more problems than the exotics. Exotics can hang on in some of these areas longer.

David Hewitt [01:18:08] And, you know, I think what has made Texas special is the native wildlife. And if somebody wants to kind of supplement that with some exotics, they can do that. But it'd just be a shame to see us lose what brought us to the dance, basically, you know, lose our native wildlife and not, you know, not be able to show the next generation what Texas is. You know, you'd be showing them Africa, you'd be showing Asia. You'd be showing them something totally different. But that's, that's not, you know, again, what kind of brought us to the dance on our cultural interest in wildlife.

David Hewitt [01:18:48] Gotcha. So, another, sort of interplay with other wildlife that I've read about, and I'm sure you know more about, is that when you supplementally feed deer, you sometimes provide that same pellet-sized food or maybe food plots for other animals that we don't care for as much. And I'm thinking in particular of feral hogs.

David Hewitt [01:19:13] Yes.

David Todd [01:19:14] And I was wondering how you balance, you know, the desire to, you know, give it a little bit of an "oomph" to your deer populations. But you may have this sort of unforeseen side effect of boosting hog numbers.

David Hewitt [01:19:34] Yeah. And, yeah, so hogs, hogs are another kind of double-edged sword, just like the exotics. But, from the supplemental feed standpoint and the pelleted feed standpoint, most managers are able to take care of that, because most managers aren't interested in a lot more pigs. If they got a few pigs, that's really all they need for whatever needs they have, you know, to take somebody out and maybe hunt a pig.

David Hewitt [01:20:01] And so, what they'll do around the feeders that have the pellet feed is you can put a fence up that's, say, three feet high - sometimes you'll see them a little higher - that pigs can't get through, but deer can pretty readily jump over. In fact, all but the youngest fawns can jump over. So, pigs are pretty easy to keep away from the pelleted feed.

David Hewitt [01:20:24] Now, if you give a pig pelleted feed, they'll do just like you would expect. Yeah, they'll get really big and make tons of babies. And it really could, you know, accelerate their impacts tremendously.

David Hewitt [01:20:37] There are some species that we can't you can't keep out of those feeders. And one of those are raccoons. And so, there's always fights going on between deer managers and raccoons because you can't fence a raccoon out. Anything a deer can access, a raccoon can get to.

David Hewitt [01:20:56] There are some pretty creative feeders that can reduce a raccoon's ability to get to them. But you look at some of these game camera pictures, these raccoons are phenomenally creative and that stuff.

David Hewitt [01:21:07] So, there's often feeding of raccoons and then you get more raccoons and, you know, there's just the feed impacts. You never know about ground-nesting birds. Raccoons aren't just going to eat the feed. They're going to be out doing whatever else raccoons do. And there's other things they eat too. So, there could be impacts from that.

David Hewitt [01:21:28] One of the things that isn't on people's radars very much right now, but I predict is going to be a lot bigger deal in the future, and it's already starting, are black bears. So, anything you can give a deer access to, a bear is going to get access to as well with, with a couple of interesting examples.

David Hewitt [01:21:49] But, black bears are becoming more common in Texas out in the Trans Pecos and even up in some of the western parts of the Hill Country. And they've started, they figured out deer feeders are a pretty good place to hang out and are making use of that deer feed. So, there's going to be some evolution and thoughts in how to feed deer in the presence of bears in the future, which will be really fun because, again, there's a lot of creative people out there and they'll figure out ways and doing things.

David Hewitt [01:22:22] Just real quick - an intriguing way, I've heard it works. It works for spin-cast feeders, which are a feeder that typically holds corn and then goes off a couple times a day, spreads corn out, and acts more as a bait to bring deer in. But the bears love corn, too, and they'll go knock these things over and just eat the corn.

David Hewitt [01:22:40] But some of these, again, kind of entrepreneurs and creative people out there on the rangelands have got to where they'll put their corn feeder on some kind of rubber pads, hook it up to a solar charger, and if the bear touches that feeder, it gets zapped.

David Hewitt [01:22:57] So, it doesn't want to touch that feeder anymore, though, because it's a spin-cast feeder, the corn gets thrown out and the deer can still come eat the corn, but the bear just can't now tip this feeder over.

David Hewitt [01:23:07] So, like I said, there's a lot of creative people out there thinking of ways of handling some of these different situations. So, we'll see you in the future.

David Hewitt [01:23:17] Let me mention one other way that people have addressed, I guess, especially the feral hog raccoon and potentially, could bear issues too.

David Hewitt [01:23:27] So, pelleted feeds are one way of improving deer nutrition. Another way that used to just be a byproduct is with cottonseed. So, we grow a lot of cotton in Texas. It gets processed, they pull all the lint off. Now there's a seed left and that seed is high in protein. It's high in oils. It actually has a fair amount of fiber in it, because of the hull and a little bit of the cotton fiber that's left on it. So it's actually a really good deer food.

David Hewitt [01:23:53] And at the same time it has a chemical in it called gossypol. And this gossypol is part of the cotton plant that keeps insects from eating it, maybe certain insects, because there are other insects that can make use of cotton. But it keeps things from eating the cotton plant, I guess.

David Hewitt [01:24:11] And this gossypol can be toxic. Deer, like I said, they're a ruminant, and that rumen, and that rumen, that big complex stomach helps protect them against gossypol to a large extent. Deer probably could eat enough to cause problems, but they typically don't. They start feeling sick before they get big problems with it.

David Hewitt [01:24:29] But that gossypol can be really toxic to animals that don't have a rumen, like feral pigs, like raccoons. Bears, I'm going to predict to be susceptible to gossypol as well. And so, cotton seed is a feed that deer managers are increasingly putting out. They don't need a big fancy feeder. They can just get a basket. They fill it full of cotton seed. The deer can pull this cotton seed out and eat it.

David Hewitt [01:24:55] This cotton seed doesn't fall apart when it gets wet. With pelleted feed, that can be a big problem. It can get moldy, the pelleted feed will, if it gets wet. The cotton seed can sit out in the moisture because it's got that hard seed coat around it.

David Hewitt [01:25:06] So, that's another way that people have tried to reduce, you know, what we call the non-target impacts, the impact of pigs and raccoons, with providing this other supplement, just by doing it through cotton seed.

David Todd [01:25:21] I love this sort of race between people and animals, the better mousetrap you're trying to develop.

David Hewitt [01:25:29] Exactly.

David Todd [01:25:30] So, I guess one, aspect of managing deer, both to reduce them and to increase their numbers, has been to control hunting pressures. And I think that bag limits started in Texas, as I understand, back in the first decades of the 20th century. And I was wondering if that's a field that you've thought about much and could share with us - sort of this history of hunting regulation as one way to manage deer.

David Hewitt [01:26:05] Yeah. I'll have to admit, I don't have a lot of the specifics offhand, but no, you're right, because as I kind of talked about earlier, a lot of the push to change that trajectory of deer back in the early part of the 1900s, was from hunters because they enjoyed hunting and wanted to be able to keep doing that.

David Hewitt [01:26:34] And so, this idea of not overharvesting becomes pretty central to deer management. And there's a variety of ways of doing that. But the easiest way of doing it is through bag limits, so, just say, "Hey, everybody can take one deer a year." And, if you're trying to make the population grow and get more deer, you don't shoot the females. You can still shoot some male deer every year, and the population can still grow because one male deer can breed several female deer. And so, the breeding system allows for some harvest of male deer while allowing the population to grow.

David Hewitt [01:27:19] And so, the early bag limits, you know, would be a single buck. A lot of those were set at the county level early on, and up until, I'm going to say until the '70s maybe or so, a lot of this was all at the county level. So, you'd end up with a lot of different kind of bag limits, seasons, different things going on around the state. It got kind of chaotic.

David Hewitt [01:27:48] And then eventually, those decisions were made at the state level. You'd still have different bag limits in different parts of the state and different, you know, maybe options for harvest. But that kind of control came at the state level, not the county level eventually. Which I think was a good thing.

David Hewitt [01:28:11] And so, yeah, for a long time, through the 1900s, one, is the bag limit may be zero for some places, because there was no justification for hunting. Hunting would not be appropriate at the deer density that was there. There were just too few deer to justify a hunting season.

David Hewitt [01:28:28] And then the next step would be a bag limit of one, you know, and it'd be a buck - still allow the population to grow, but allow some, you know, some hunter participation and opportunity.

David Hewitt [01:28:40] And then, what's happened here over the last, I'll just say, 30 or 40 years, is an increasing liberalization of bag limits. So, we got to situations where it's like, "Wow, we need to shoot some does, you know, to keep the deer population in kind of balance with the resources that are there, and reduce deer damage and conflict and those kind of things."

David Hewitt [01:29:03] And for a while, it was hard to get people to shoot does because there was a cultural stigma from all the previous years of, "Oh my gosh, I can't believe you

shot a doe. That's the worst thing you could do for, you know, for our deer management right now."

David Hewitt [01:29:16] So, it took a while to kind of get people past that where, "Man, the best thing you could do for your deer management right now is shoot a doe. We need to shoot some does."

David Hewitt [01:29:23] And I think largely, we're there now.

David Hewitt [01:29:27] And then, you know, it became a point of, "Wow, we're not trying to really tamp harvest down. We need to allow people ability to harvest more deer and maybe even encourage them to harvest more deer."

David Hewitt [01:29:44] And so, you know, there's situations in some counties where the bag limits become more and more liberal. And now, when you buy your license, I think there's like five white-tailed deer tags on there. In some counties you could shoot all five deer off of your deer license. Other counties may still be a one-deer county.

David Hewitt [01:30:10] And you know, you need to kind of keep track of that when you're hunting. So, you need all those regulations as you move to different places around the state.

David Hewitt [01:30:23] And then it came to a point where individual landowners wanted a little more control. And this is probably ... well, no, it's true across the state now where instead of the bag limits and the harvests being given to each individual hunter, now these tags are given to landowners, and the landowners can figure out who is, you know, most appropriate to harvest deer on that property.

David Hewitt [01:30:56] And so, now there's a certain number of deer, bucks and does, that can be harvested on a property. But the state doesn't care anymore. Texas Parks and Wildlife doesn't care anymore about who does that. It just has to be somebody with a hunting license. And it could be one person could harvest all the deer on one piece of property, or, you know, if they've got 100 tags, it could be 100 different people, you know, that get invited or whatever, you know, pay to come hunt on that property, whatever the situation is.

David Hewitt [01:31:25] So, there's been a lot of control over harvest and bag limits that's gone from Texas Parks and Wildlife, that's being given to landowners. And in return for that, the landowners agree to do management, and monitor the populations, and turn in records of harvest, and things like that.

David Hewitt [01:31:48] So, Texas Parks and Wildlife actually gets a lot more information back. The landowners get this kind of freedom to harvest, and they can get kind of increased season lengths in exchange for this.

David Hewitt [01:32:02] So, it's kind of a partnership. And, I think it's been tremendously successful. It's got a lot of interaction between landowners and the local Texas Parks and Wildlife biologist. They get a lot more data and it's kind of put some trust in the landowners, recognizing that landowners don't have an incentive to over-harvest on their property. What their incentive is to kind of manage their harvest to meet their goals.

David Hewitt [01:32:29] And if the deer population starts looking too high from the survey data and from a visit by the Texas Parks and Wildlife biologist, they'll start working with that

landowner to encourage, you know, some higher harvest, to kind of keep that deer population at the right level.

David Hewitt [01:32:45] So, it's been a, I guess, you know, over the whole 1900s and into the early 2000s here, kind of a liberalization of harvest, and a transfer of who's making those decisions from individual hunters and the state to the landowners who are really in the best position to make some decisions on managing deer on their particular piece of property, because every piece of property is different.

David Todd [01:33:12] Yeah. That's so interesting. How do you put the decision point at the place where there's the most understanding and knowledge about that resource?

David Hewitt [01:33:22] Yeah. And if supplemental food is provided, that's a very different harvest situation than if it's not. And, you know, you can't write those into statewide regulations. You know, that gets really hard. And so yeah, so those decisions can happen between a negotiation with the landowner and the Texas Parks and Wildlife biologist.

David Hewitt [01:33:41] It's like, "Yeah, you know, you've given us 30 permits the last three years. You know, because we're feeding and things, we'd like a few more permits because we're seeing our population creep up." Or conversely, you know, the Texas Parks and Wildlife biologist kind of says, "Wow. Yeah, you guys are feeding. Your density's getting really high. I'd really encourage you to use all these doe permits, you know. Or, here's some more doe permits, you know, go try to make sure we're keeping a good balance on this."

David Hewitt [01:34:06] So, yeah, you're right. It's totally changed that conversation, but I think in a very positive way for all parties.

David Todd [01:34:13] Okay. So speaking of hunting, I think one of the things that was very interesting from a, I guess, sort of a cultural / political standpoint was the attitude about running dogs after deer. And, I understand that that got to be particularly contentious in East Texas. And I was wondering if you, you know, observed that and had any thoughts about it.

David Hewitt [01:34:42] Yeah. I don't. A lot of that happened, I think, before I got to Texas. But I'm aware of it both in East Texas and across the Southeast. And, you know, I think there's a variety of things that were at play, like all these situations.

David Hewitt [01:35:00] So there was a strong culture of running dogs and hunting deer. And, you know, some of it's the same as dogs and quail, and dogs and cougars, and dogs and bears. There's, you know, kind of some recreational interaction that happens with dogs, between dogs and people, that I think is really kind of at our core. You know, people have had dogs in domestication for, you know, over 10,000 years. So, it's been a long time. And, one of the things dogs can help us do is hunt and find wildlife and things like that. So, so there was a tradition and a cultural tradition of using dogs for hunting in a lot of these heavily forested areas where, you know, it would be, it could be difficult to harvest deer otherwise.

David Hewitt [01:35:56] And went along, you know, for a long time, I think. You know, I'm gonna say the 1800s through the 1900s, really, where there were deer. And then as deer populations began to increase again across the Southeast, dog hunting is still pretty prominent.

David Hewitt [01:36:11] I think some things that happened are property sizes and landowner patterns just didn't lend themselves well to dog hunting anymore because, you know, dogs start chasing deer, the deer start moving. You know, again, property boundaries don't mean anything to that deer. And that deer is going to go where they want to go and need to go to try to feel safe and get away from the dogs. And dogs follow the deer.

David Hewitt [01:36:36] Now you're going across different people's property. And I think there's, you know, some, when it was a cultural thing and everybody thought that was appropriate, it probably wasn't a big problem. The neighbors were probably involved. They were all as a group out hunting deer that way.

David Hewitt [01:36:51] But increasingly you get more and more landowners that think, "No, I don't want people chasing deer with dogs across my property." And so, it started getting more controversial.

David Hewitt [01:37:00] And then, I'm also guessing just kind of from a fair chase standpoint and what I'm guessing more people felt was an appropriate way of interacting with wildlife, you know, particularly, with deer. Just more and more people just felt, "Man, I'm not comfortable with this. I don't like that happening."

David Hewitt [01:37:23] Maybe more potential for overharvest: you know, dogs can get on a single deer that a hunter may never find, but the dogs could find it.

David Hewitt [01:37:31] I could see a variety of things happening in that way that maybe started building up with kind of a groundswell against dog kind of thing. But I'm reading that into, you know, a very general, cursory knowledge of that situation. There may be a lot more to it than that.

David Todd [01:37:53] Okay. Well, that helps me understand a lot. Lots of things at play there, that are cultural and social and traditional.

David Hewitt [01:38:04] Right.

David Todd [01:38:05] Go way back.

David Todd [01:38:06] So, you know, one of the things I think that's been really interesting about deer, and deer hunting, is that people do it for all sorts of different reasons. You know, some people do it for the trophy. They want that beautiful rack. Other people, you know, want to put food on the table. You know, have a nice venison sausage.

David Hewitt [01:38:27] Yes.

David Todd [01:38:27] And then others, it's really about the experience, you know, it's being with your child or your old friend and just being out in nature.

David Todd [01:38:35] And, I was wondering how you think about deer hunting personally.

David Hewitt [01:38:41] Yeah. And so it's interesting: I don't see any of those as mutually exclusive. And I get value from all those, all those kind of benefits of hunting.

David Hewitt [01:38:56] I mentioned my grandfather as being kind of an influential figure. He came through the Depression and all that kind of stuff, and so when we packed a deer out or an elk out, it wasn't just the meat, and it wasn't just every scrap of meat. We'd bring a lot of other body parts out. You know, heart and liver and some other things to eat.

David Hewitt [01:39:20] And so, food was always a big part of the hunting experience. And, I still really enjoy that part of it, of processing my own deer. And, you know, I haven't been to a processor in years. My wife and I'll cut up the meat. And our daughter, when she was little, she'd decorate the packages, she'd write what was in there and then draw a deer and different things on them, you know, and kind of make it a family event. And so, yeah, that's maintained, that kind of harvest meat part.

David Hewitt [01:39:56] I've really enjoyed just the time out, you know. So again, whether it's sitting in a blind in Texas, whether it's trying to stalk, you know, even a nilgai or, I still get out West to go out elk hunting every year. You know, that just being outside and all the different things that you see and experiences you have means a lot to me.

David Hewitt [01:40:20] The social part of it? The actual hunting, I actually like doing that by myself. You know, I don't want anybody videoing me or, you know, all the other things that come along with some people's experience with hunting now. I do like that part: being by myself.

David Hewitt [01:40:38] But I really enjoy, and this is from being a kid, you know, coming back to camp and everybody talking about the day and what they saw and sharing stories. And, you know, that social part of it is a big part as well.

David Hewitt [01:40:55] I don't do it as much, but I used to bring my 35 millimeter camera with me just because I enjoy photography. And, then you're always making a decision about whether you want to stop and try to get a picture, or continue sneaking through the woods or whatever. You know, in a blind, the camera is a wonderful way to, you know, again, kind of broaden that experience of hunting, because you can have the gun and the camera both sitting there. And, you know, if the roadrunner jumps up on a branch in the right place, you can get a picture, you know. All the deer behavior that you see from a blind, you know, I, professionally, I could use pictures of all that stuff and enjoy it, and then when the right deer comes out we can exchange those.

David Hewitt [01:41:34] So, all the things you mentioned are a big part of it for me. I am not super trophy-motivated, but if a big buck and a little buck stand out and they're both appropriate to harvest, yeah, I will definitely harvest the larger buck. And I do have some antlers on my wall and things like that because there's stories, there's memories. I've got a great big mule deer rack that my grandfather had shot in Colorado, back in the day. And again, that's just a memory, you know, kind of attachment there that has value for me.

David Hewitt [01:42:12] So, yeah, that's where I come at it from the hunting side.

David Todd [01:42:17] Okay. You know, something else I think is interesting about deer hunting is that, it's, as you said, you know, it's a sport for trophy hunters, and it's a source of food for people who are hungry, and it's a, you know, time to be together with the people you care about.

David Hewitt [01:42:41] Mm hmm.

David Todd [01:42:41] But I guess, in the aggregate, it has a huge economic impact, especially in rural areas where that may be one of the very biggest industries. And I was wondering if there are some insights you could share about the role of deer hunting in, you know, especially small town economies.

David Hewitt [01:43:01] Yeah, yeah. No, you're exactly right. You know, from a large societal standpoint, the big cities in Texas and elsewhere tend to suck in people, suck in money. You know, there's a huge amount of economic activity in Dallas and Houston and San Antonio and Austin, wherever else.

David Hewitt [01:43:28] What hunting does is it reverses that treadmill and it takes people with the means, and by "means" it may not be somebody that's super wealthy, but, you know, a good blue collar job, working in Houston, doing whatever. If they've got the interest, it takes those dollars and those people and brings them back out into these rural areas. And, you know, they're buying gas and they're get hotel rooms, they're buying corn and feed, and going to the grocery store. There's all kinds of things that they do when they go out to the deer lease to go hunting.

David Hewitt [01:44:14] And so that has tremendous value for a lot of these small towns. These small towns still put a big banner up across the main street, "Welcome, hunters!" You know, "We've got a dinner tonight on opening day. After you're done, come into town." You know, show our appreciation - those kind of things.

David Hewitt [01:44:32] So, that's a big, you know, kind of transfer of funds that happens every year from hunters.

David Hewitt [01:44:41] I think there's even a larger transfer, though, that happens. And I particularly see it here in South Texas. But I think it happens in other parts of the state where money from the big cities is coming and buying property for recreational purposes. And it's giving that property value for wildlife recreation. And that value will be competing with values for development, for wind farms, for solar, for all kinds of things. This value that is coming on that property because of hunting is compatible with livestock grazing and a lot of traditional uses of those lands.

David Hewitt [01:45:30] And then when you know these, I'm going to call them, a recreational ranch. It may have a lot of other activities on there, but a lot of the interest is in recreation and hunting. There's people that are hired. There's guides, there's managers, there's biologists, there's people to work in, you know, in the facilities, the houses there. There's construction work. There's all kinds of other activity that happens around that property that wouldn't have happened if it weren't for hunting, if it wasn't for deer (and quail come in on this too).

David Hewitt [01:46:08] Texas A&M University just got done with a big survey of landowners and hunters and tried to get their arms around this total amount of economic activity. And, I'd encourage someone, if they're interested, to go look up the specific numbers. I'm going to, from my recollection, give you a couple of those kind of take-homes, I guess.

David Hewitt [01:46:34] Hunters, about two billion dollars a year, they can quantify from expenditures to support hunting - you know, those are individual hunters' activities. And this is deer hunting. This isn't all hunting. This was specific for deer.

David Hewitt [01:46:51] Landowners then also make investments, you know, in things like supplemental feed and flying surveys and doing a lot of different things to help support that deer management activity. Together, there's about, so let's say about five billion dollars.

David Hewitt [01:47:08] And then, with some kind of standard, well-recognized ways of looking at how those dollars churn in the local economy, you know, again, because people buy groceries, now there's somebody in Freer, Texas, that has some money that they go spend somewhere else in Freer, Texas. So there's some kind of magnifying effects. And they're kind of estimating a ten billion dollar impact of hunting, deer hunting, in Texas from all those expenditures.

David Hewitt [01:47:41] So, it's huge.

David Hewitt [01:47:43] And this isn't money that's spent in Houston, where it really wouldn't have that big of an impact. This is money that's come from places like Houston, and it's being spent in Hebbronville and Kerrville and, in a lot of these little towns out there that might not have a lot of other economic options.

David Hewitt [01:48:04] I think it really is impactful for those towns. Yeah. Your observation that hunting has economic impacts, I think is spot on. And that study that Texas A&M had done recently would be a good one to look at.

David Todd [01:48:20] Great. Thank you for that tip. That's good to know. And thanks for sharing that.

David Hewitt [01:48:25] Yeah.

David Todd [01:48:26] So, you mentioned that one of the ways that money gets to some of these small communities is that landowners might do some aerial surveys, and I was wondering if, you know, with all your years of working with deer out on the, I guess, open range, monitoring deer must be a trick, a real challenge - from camera counts to helicopter transects, mark / recapture surveys. Can you talk a little bit about the experiences, things you've learned there?

David Hewitt [01:49:04] Yeah. And so, as a wildlife biologist, I'm going to say it pains me to say this a little bit, but we are actually not very good at counting deer. We've invested a lot. You know, there's been a lot of creative ways and efforts, you know, and just for an example, one of the really early ways that they would count deer were called Hahn lines (H-A-H-N). It was a biologist's name. And they would walk these lines, particular in the Hill Country and count deer and then had some ways of kind of mathematically figuring out how many deer in an area.

David Hewitt [01:49:50] Just a real quick kind of throwback to my grandfather on his mule deer work in western Colorado. He was looking into how to monitor these deer populations on the western slope of Colorado. And some of the work they were doing was of interest to the Texas biologists.

David Hewitt [01:50:07] So, the Texas biologists came up there and a bunch of the Colorado guys said, "Yeah, we're going to walk these lowland Texas people into the ground, you know, on these mountains in Colorado." Well, these Texas biologists had been doing these Hahn lines

and it was the Colorado folks who were huffing and puffing when they got to the top of some of these hills in doing stuff. So it was kind of a funny, funny little story that my grandfather had told.

David Hewitt [01:50:31] And then, yeah, you know, kind of moved in the spotlight surveys - a truck and a spotlight - in counting deer, which has some value. And you can get some density estimates off of those. It's quite a bit of work. And, you know, it's a long time driving around in trucks at night, you know, because you need to have a night, and often late at night. So, some of the enthusiasm for doing that wanes after a little while, even though, you know, they're pretty fun when you first get started - all the different things that you see in a spotlight at night.

David Hewitt [01:51:02] And then moved on to helicopter surveys, particularly in South Texas, and say, up in the Rolling Plains - some of that big open country that doesn't have a tall tree canopy lends itself well to these helicopter surveys. And at first, when people were up flying, you know, it's like, "Yeah, you could see everything. This is phenomenal. You know, there's a deer, there's a deer, there's a deer." And they'd count all these deer and assume a 100% count, you know, "We've counted every deer that we flew over. You know, we surveyed half the area. So, we're just going to double the number of deer that we saw. And that's how many deer are out here."

David Hewitt [01:51:38] So, Charlie DeYoung, who works here, and who I think you may be talking with later, he started doing some work and it became apparent with some marked animals that you're not seeing all the deer. You're not seeing three quarters. A lot of times, you're not even seeing half. It's usually, you know, between a third and a half of the deer is what you're actually seeing.

David Hewitt [01:52:00] And people just still have a tremendous time, or a lot of skepticism, that that's the case. But it's been proved time and time and time again.

David Hewitt [01:52:09] We did the same thing with mule deer. We had some collared and tagged deer. We'd fly helicopters. And that's, a lot of that west Texas country is a lot more open than South Texas. And we still were, most of the time, seeing a third to half of the deer. It's amazing.

David Hewitt [01:52:26] And sometimes because you just don't see the deer, you know. It'd be times you'd watch, a deer'd be running away and the person that's supposed to be watching over there, just never saw that deer. The other times, the deer just don't run. They bed down and they're almost invisible. You know, every once in a while you'll see one bedded, but I think that's, you know, the one in 100 or 1000 chance. So, you just fly over a lot of deer that you never see.

David Hewitt [01:52:48] And they've come up with some ways of accounting for those number of deer you don't see. And we've done some work on that. The more kind of intensive and mathematically intensive the analysis becomes out of these new techniques, the less likely a landowner is going to be to apply them, you know, because if you have to get on a computer and bring up a specific computer program and enter all the data in a very specific format, and then there's all this interpretation of the output, you can get better estimates. But, from a management situation, most people aren't going to put in that effort.

David Hewitt [01:53:26] And despite not being able to count deer very well, we've actually done a really good job monitoring and managing our deer. So, we're, I'd argue, we get good enough information that, you know, that we can make adjustments when needed, even though we don't know how many deer are out there.

David Hewitt [01:53:42] Some new things that are happening now, and you kind of referred to this, and particularly for small properties: these remote cameras are becoming really important in monitoring deer populations. Right now, it isn't so much for getting density estimates, but it's for monitoring individual deer, particularly for harvest, to say, "Hey, this deer, you know, from our pictures, looks like he's five years old. You know, he's got a really nice set of antlers. This would be a good deer to harvest this year."

David Hewitt [01:54:19] Conversely, here's a deer that looks like he's got some pretty good antlers, but he's only two or three years old. Let's not shoot him this year. So, there's that kind of activity that goes on, which I think has a lot of management value. It's also expanded greatly the amount of time that people are interacting with their deer, so you know, they're able to run these cameras and look at pictures. And there's just a lot of fun and joy that that comes from that.

David Hewitt [01:54:43] There are some ways of using these cameras now to get deer density estimates. And if people are able to put in the time of going through all the pictures and classifying them, and then again doing some kind of statistical mathematical calculations, there are some ways of getting density estimates. This is going to get increasingly easier going forward with artificial intelligence and using computers to classify photos, things like that. So, I'm going to bet ten years from now, a lot of the deer survey work, you know, will be kind of transferring over to camera-type stuff and, and not as much spotlights and helicopter surveys and those kind of things.

David Todd [01:55:28] That's so interesting, I guess. You know, this AI is going to change life in so many different ways. Hard to predict.

David Todd [01:55:38] So, speaking of doing these deer counts, I guess this is just one aspect of deer research, but I thought this might be a good chance to just talk about the wildlife research field, where you've been involved, you know, almost since the 1980s.

David Hewitt [01:56:01] Mm hmm.

David Todd [01:56:02] And it seems like it's really burgeoned and, you know, of course, the Kleberg Institute is a big part of that. But, you know, it stretches up to, I guess, University of Wisconsin and Aldo Leopold, and I was wondering if you could sort of tell us what you think about this trend of valuing and trying to study wildlife, in an academic kind of way.

David Hewitt [01:56:28] Yeah, yeah. Yeah, some of the trends I've seen are, you know, kind of an increasing specialization, which happens in all fields, because as a given part of, you know, a field like wildlife management, you know, gets more well-developed, the level of information you need to get your arms around, you know, the skill set that you bring to it gets kind of tighter and tighter of who has all those skills. So, it gets more specialized. And I don't think that's a bad thing. It just makes the field more efficient and effective. But you don't have a lot of the kind of general naturalists that, that we used to have, in the field. And, I think there's some value in people with that broad view of the natural world and thinking about it in a

broad way and not, you know, being real tightly tied to a specific species or field. But that's happening.

David Hewitt [01:57:39] The other thing that's happening, and kind of talked about it a little bit with this monitoring approach, is kind of the increasing quantification and, you know, importance of mathematics and computers and this kind of quantitative-type ecology. Certainly on the research side, it's just a blossoming of techniques and approaches and some really neat stuff that are way beyond me anymore. So, my job now is to hire people that can do that, and they can train the students to do that. And that continues to play out. So, it's really exciting.

David Hewitt [01:58:20] But, you know, I think like anybody's kind of getting along in their career, they I see a lot of their skill sets having been moved beyond, which again, is kind of a natural transition, and in a lot of ways really exciting to see play out.

David Hewitt [01:58:37] I continue to be really impressed with the quality and types of students that come into the wildlife programs. You know, there's at least ten wildlife schools in Texas. They're all thriving. And, job placement for our students is actually really high. So, there's a tremendous need for the people that we're training. And there's a lot of students that are, you know, are really passionate. And sometimes they don't know that they're passionate about it when they enter college. But once they learn about the field and then they say, "Oh, wow, that's what I'd been looking for. I just didn't know you could do that kind of thing."

David Hewitt [01:59:14] And so, yeah, interacting with the students over the years has always been a really rewarding and uplifting part of the job. And that continues. We got a great, great group of students here now. And it's just exciting to see the new cohorts coming in every year.

David Todd [01:59:33] That's great. Well, it's nice when you see a legacy, I imagine, through your students, carrying on this work and taking it to the next level.

David Hewitt [01:59:44] Yep. Yeah, for sure.

David Todd [01:59:47] Well, so, I'm just looking at some of our questions and trying to keep mindful of the amount of time I'm stealing from you. Well, I think we talked a little bit about trapping and restocking. Unless there's anything you'd want to add there.

David Hewitt [02:00:00] No, no, no. And the only thing I'd add right now is that isn't happening in Texas because of Chronic Wasting Disease. You know, this disease situation has changed the management landscape a fair amount in Texas. And I agree with the approaches they've taken. I think they're important. But yeah, that'd be the only other thing I'd add on the trapping and kind of transplant and restocking there.

David Todd [02:00:24] Okay. All right. That's helpful.

David Todd [02:00:27] So, as far as deer health, we talked, as you pointed out, about Chronic Wasting Disease. One thing I would love to hear your insights about is cattle fever ticks, because I heard that back in the '50s, that was a real sort of weight on the number of deer and their ranges in South Texas in particular. But I don't know if that's true. That's just what I've heard. Is that the case?

David Hewitt [02:00:53] So it isn't.

David Todd [02:00:56] Okay.

David Hewitt [02:00:56] There was a parasite in the '50s and it probably became important then as deer populations started to recover of the screw worm. Yeah. So there was a fly that would lay its eggs in the larva, a fly would lay its eggs on open wounds. The larva would get in there and cause some big problems, you know, for deer during reproduction, when does are giving birth,, you know, there's a lot of blood and things. And so that was a problem. And then again, just any cut that a deer would get, these screw worms would become a big problem.

David Hewitt [02:01:34] And so, anybody you talked to that was kind of familiar with situations back in the '50s, the screw worm is always brought up as a reason why deer populations kind of failed to thrive for a long time. They just didn't grow like a lot of people would have expected.

David Hewitt [02:01:51] The government, the U.S. government, got involved in a screw worm eradication program and actually, through some pretty innovative, big-scale treatments of screw worm flies that had been irradiated so were no longer fertile. They'd spread those all out across South Texas and were able to get rid of screw worms.

David Hewitt [02:02:14] And apparently deer populations really did respond to that change at that time.

David Hewitt [02:02:20] Yeah. The cattle fever tick deal: deer are part of that, and a really interesting part. But the only reason cattle fever ticks are a problem for deer is that there's an interest, and a legitimate interest, in the wildlife, or, excuse me, in the livestock industry, in the cattle industry of getting rid of cattle fever ticks. Deer can harbor cattle fever ticks even though they don't, deer don't get sick from the disease that the ticks carry. It makes it hard to get rid of the ticks because they can treat cattle, they can't treat deer.

David Hewitt [02:02:54] And so that's what's kind of put deer in this mix of trying to keep cattle fever ticks out of the country.

David Hewitt [02:03:02] And there's a fascinating kind of history on how that played out, and deer's role in it throughout the 1900s. It took about 40 or 50 years to get rid of cattle fever ticks from the southern and southeastern U.S., and there was a patch over in California, in southern California as well.

David Hewitt [02:03:18] And just from a deer standpoint, I might mention this, it is, say, mainly working with cattle. And this was again happening through the 1900s when there weren't a lot of white-tailed deer. So, deer weren't a big part of the picture early on. And they'd treat cattle and they could take all the cattle off a pasture. There weren't any other hosts for these ticks, because there weren't many deer. So, the ticks would die. And they could, you know, over the decades, got rid of cattle fever ticks.

David Hewitt [02:03:41] They got down to southern Florida and just couldn't get rid of the ticks. And they finally figured out there's a big swampy area that had white-tailed deer in it. And the white-tailed deer were maintaining the ticks. So it didn't matter what the USDA did with the cattle. The cattle'd just get re-infected with the ticks.

David Hewitt [02:03:58] So, they went in and killed about 50,000 deer in that swamp.

David Hewitt [02:04:03] And once they got rid of the white-tailed deer, treated the cattle, they got rid of the ticks. And then they could allow, they got deer restocked and the deer were able to come back.

David Hewitt [02:04:13] So, deer have been a part of this cattle fever tick deal.

David Hewitt [02:04:17] What their part is now is, is the ticks are no longer, I'm going to say, established in the U.S. I'm going to qualify that just a little bit. They are across the Rio Grande in Mexico, and they do come across the river on cattle and on deer. And so they're continually being brought back into Texas.

David Hewitt [02:04:41] The U.S. Department of Agriculture continues to do work with landowners along the river to find where ticks are being brought in and get rid of them. And one of the things that they do with that is they treat deer. And so they if they find ticks in a pasture, they'll work with the cattle. And then they'll also put out medicated corn to kill the ticks that get on the deer. And through that process, they've been able to keep those ticks from continuing to expand into Texas, you know, keep them basically just along the river. But it's an ongoing process.

David Todd [02:05:16] I see. Okay. Hey, thank you.

David Todd [02:05:20] So, I don't know if this is a connection that can be made, but I try to ask this of everybody who's working with wildlife, and to try to see if there are aspects of this climate change that we're all seeing and whether there's an impact on deer populations, their ranges, their numbers. You know, is water availability an issue? Do you see other kinds of concerns that people should be aware of?

David Hewitt [02:05:51] Yeah. So outside of Texas, white-tailed deer range is expanding north, you know, further north in Canada. And I think a lot of that is because of, you know, kind of the warming up there. The winters aren't quite as harsh. Agriculture's been moving north. And so, that's enabled white-tailed deer to move further north, you know, up into Canada.

David Hewitt [02:06:13] More locally here, I don't know that we've seen dramatic, I don't think we've seen dramatic impacts on deer yet. But going forward, you know, it's really going to depend on what changes in temperatures and rainfall patterns. That will dictate what some of the changes are from a climate standpoint.

David Hewitt [02:06:38] One thing that you might be able to argue, I think some have said, is that, you know, we're much more brushy in South Texas than we were in the '50s and in the early 1900s, and before then. South Texas used to be a lot more open grasslands, maybe kind of more savanna-like.

David Hewitt [02:06:58] There's some thoughts that because of warmer temperatures, maybe changing rainfall patterns, that there's an ability for brush to do better in places than it used to be.

David Hewitt [02:07:13] And that's probably had a couple of effects. One is probably made some big open prairies, more deer-friendly than they would have been before for white-tailed

deer. So, it might have had areas where deer could now live at higher densities than they would have if it was a big open prairie.

David Hewitt [02:07:29] Water, and, you know, people drilling wells and bringing water on to the landscape has surely changed deer density, enabled them to live in some places where they probably wouldn't have otherwise. I would imagine, you know, in the late 1800s, a lot of the deer were along, or let's say, early 1800s, along water courses, riparian forests along, say, the Nueces River, and certainly the Rio Grande and in places like that.

David Hewitt [02:07:57] As things have got more brushy, it's better white-tailed deer habitat.

David Hewitt [02:08:02] We talked about the importance earlier on of rain on deer nutrition and growing good deer food. If rainfall gets more erratic and we have longer droughts, more intense rainfall periods at specific times won't make up, I don't think, for those longer droughts. Our reproduction on deer, deer that don't have access to supplemental feed, can go from a fawn for every doe in a wet year, you know, that lives until, let's say, fall, lives until autumn. So most does have two fawns. They give birth, a lot of those fawns just don't make it through the summer.

David Hewitt [02:08:44] But in a really wet year, you could have 100 fawns for every hundred .does that are there. In a dry year, you might have five fawns per 100 does. And in some years, you can't find a fawn, if it's a really dry year.

David Hewitt [02:08:58] And so, if we end up with longer drought periods, you might have more of those really poor reproductive years and that could have implications.

David Hewitt [02:09:09] Deer can deal with it right now because you have enough wet years that they get that big pulse of reproduction coming in, and the population is fine for two or three years, even if they have low reproduction.

David Hewitt [02:09:19] But if those periods expand, those periods of drought expand, and maybe even the intensity of the drought, that really could be a problem. Then the deer become, really kind of are living on supplemental feed, which is really expensive. It's hard to do that at a big scale. That's not a plan going forward, I guess would be the thought. Maybe plan on individual properties, but you couldn't keep white-tailed deer on the landscape if you had to feed every one of them.

David Todd [02:09:49] Well, thanks for sharing your crystal ball.

David Hewitt [02:09:52] Yeah, well. We'll see.

David Todd [02:09:56] So, you know, I noticed that you had served on the White-tailed Deer Advisory Group at Texas Parks and Wildlife. And I imagine the state does many things regulatory, research-wise, incentives, you know. What sort of policy issues have you seen go through your advisory group that have sort of caught your eye and your imagination?

David Hewitt [02:10:24] Yeah. It's given me a lot more insight on the kind of various input that the agency needs and making a lot of these, decisions on managing deer in the state. And you know, some of them have been on this Managed Land Deer permit that we talked about before, where landowners work with the state to get a certain number of permits and what that looks like.

David Hewitt [02:10:47] And I got a sense of how much effort that is for the Texas Parks and Wildlife biologists. And, it was really overwhelming them. You know, these biologists aren't supposed to be just deer biologists. They're supposed to be managing wildlife, all wildlife, in an area of the state. And some of these deer programs are so popular that the biologists really just get swamped by it.

David Hewitt [02:11:07] So, one thing that got worked through, and that advisory committee helped provide some input on, was increasing and kind of changing the price structure and layout of that particular program. They were able to get more money and as a result, hire about 20 new biologists across the state, which helped, you know, kind of spread that load and help free up the Texas Parks and Wildlife biologists to do the variety of other things that, you know, they're supposed to be doing.

David Hewitt [02:11:37] A variety of things with this Chronic Wasting Disease. And some of those are playing out right now, you know, providing input on what kind of management approaches would make sense to the state to consider and what the impact of those approaches would be. One that just went through here, or just been discussed here recently, was, you know, should all hunters be required to do certain things with parts of carcasses of deer that they process?

David Hewitt [02:12:07] In the past, you know, it would have been easy just to put them out on the back 40, don't worry about it. But if you take a carcass from an area where there's CWD or a disease, bring it to some other area, process that deer, and then put the bones out on the back 40, you could potentially be spreading that disease in a very, you know, way that it's not going to happen naturally.

David Hewitt [02:12:29] But there's problems with that approach too. And so, these committees talk through a lot of those. And they're very diverse committees, a lot of representation from different stakeholders and a lot of different viewpoints get aired that then the agency can take into consideration as they're making some of these decisions.

David Hewitt [02:12:46] So, it's been good for me to understand what the agency is struggling with and being able to think about all these issues in a lot broader standpoint than I would with just my, you know, my particular set of experiences.

David Todd [02:12:59] Okay. Well, so I imagine that a lot of the issues that Parks and Wildlife deals with, given that the state is, what, 95-plus percent privately-owned, has to do with private landowners. And I'm wondering how that kind of land ownership structure in Texas, which seems unusual, I mean, a lot of states have more public lands than we do, how that affects deer management and wildlife management in general.

David Hewitt [02:13:31] Yeah.

David Todd [02:13:32] Do you have some insights there you can share?

David Hewitt [02:13:34] Yeah. No, no, I think it's really foundational in wildlife management in Texas, because there's a lot of approaches here in Texas that are very novel and you don't see anywhere else. There's things they do here in Texas that you'd be thrown in jail for in Colorado, for example. So I, I grew up, you know, with a kind of different thought pattern on wildlife management.

David Hewitt [02:13:57] But as I've gained understanding of the, you know, kind of the political, cultural landscape here in Texas, it makes sense to me now the way that things are done here and that, you know, for example, the state agency, if they didn't work closely with private landowners, the agency wouldn't be able to manage wildlife. There'd be nothing really they could do, because landowners, you know, have land. And if you've got the keys to the gate, you basically have keys to managing the wildlife on that property.

David Hewitt [02:14:31] And so it's made the interaction between the agency and the wildlife biologists that we train, I'm going to say, you know, here at the university, it's made those interactions very collaborative. And that's not to say there aren't challenges and disagreements, but there's much more discussion there, and a lot of things that are done with carrots as opposed to sticks to try to encourage people to do certain things on their land.

David Hewitt [02:15:04] And what I've found really heartening is that usually the landowners, and I'm going to say almost entirely the landowners we work with, they come to that conversation with a strong conservation ethic. And a lot of especially new landowners may not, you know, have a deep knowledge of how to get where they want to get. They don't have the understanding. You know, have they just bought a ranch or have just got a lease. And, they're kind of getting into that world.

David Hewitt [02:15:35] And it's been really fun interacting with them, sharing information that we get, the research that we do and then watching them use that to meet their goals, whatever those goals are.

David Hewitt [02:15:46] And that's kind of the way we've approached our interface, both with the agency and with landowners is, you know, we're trying to produce information and knowledge and share that so that the people that can use it, have access to it and can use it to make the right decisions for whatever their standpoint is and whatever their goals are. And, I'm just really heartened that, you know, the great majority of the time, again, it's that kind of conservation ethic, and that interest in the outdoors and wildlife is what's driving that.

David Hewitt [02:16:16] So, I see a lot of good that comes out, not just for deer but for all wildlife, because of the decisions these landowners make.

David Todd [02:16:25] Well, that's encouraging. And I guess there's a whole new crop of landowners who are getting involved, and they may not have some of the baggage that some older landowners might have, and maybe they're more open to new ideas that you might share with them.

David Hewitt [02:16:43] Yeah, yeah, yeah. There are. Just a whole kind of a generational shift that's happening from, you know, not that there isn't of interest in livestock grazing and all that, but, which would I guess be the traditional use a lot of those lands, but that it's kind of an added, and I think even a lot of the previous generation had a strong interest in the outdoors and wildlife, but were coming at it from, you know, I got to put some food on the table, I got to make some money from this land. And, a lot of today's landowners maybe have a little more freedom in what they do and again, what their motivations are.

David Hewitt [02:17:20] So yeah, you're right. It's definitely a change in approach.

David Todd [02:17:26] So, you know, we talked a little bit about the state and about private landowners. And I guess another player in this field are these non-profit groups. And I know you've been active with the society for Range Management and with the Wildlife Society. And I'm wondering what sort of influence you think these organizations have, and their membership.

David Hewitt [02:17:49] Yeah. So, those two that you mentioned are both professional societies. So, they're made up of professional range managers and professional wildlife biologists. And there's some like myself that are part of both those because managing ranges is habitat for the wildlife side. So, those are kind of tied together.

David Hewitt [02:18:08] Those organizations, I think, serve several important purposes. One is kind of networking and educational. So, they both have meetings at the state level and at the national level, and just a great chance to get like-minded people together, you know, their biologists and kind of get up-to-date on the newest things that people are working on and thinking about and the issues and all that kind of stuff.

David Hewitt [02:18:33] They publish journals, which, again, kind of serve that same role of of providing that stamp of peer-review approval of the research that, yeah, this is passing muster, and, you know, needs to be shared. So those organizations do that.

David Hewitt [02:18:52] And then, this comes from a little more recent kind of experiences. The Wildlife Society, there's a Texas chapter of the Wildlife Society, and so it focuses on the state here. And one thing that many biologists end up in a situation where they are public employees. So, they may work for a university. They may work for Texas Parks and Wildlife. They may work for, you know, some other public entity. And as such, they can be a resource for information, but they can't advocate, let's say, for legislation. They can't address the state agency as a wildlife biologist on the public payroll. And I'm in that situation as well.

David Hewitt [02:19:47] But these NGOs representing wildlife biologists can, you know, let's say, lobby and provide information and speak on behalf of range managers and on behalf of wildlife biologists. So, there's an important role there for those organizations.

David Hewitt [02:20:10] Another organization that I've worked with here in Texas is the Texas Wildlife Association. And so, it's not a professional organization. It's primarily a landowner organization, although there's people like me that aren't landowners that are part of it. And the interest is kind of providing a voice for wildlife management, but not from the professional side, but from the landowner's side.

David Hewitt [02:20:34] And the Texas Wildlife Association serves a lot of those same networking, sharing information, kind of roles. And then they're also an advocacy group. So, if there's things that that organization sees as a threat to landowners in Texas, they will, you know, kind of mobilize to get that information and those viewpoints in front of lawmakers.

David Todd [02:20:59] Okay.

David Todd [02:21:02] So, I guess a lot of this work is not free. I mean, I know you do a lot of this for passion and curiosity and just that's where your heart is. But, I've been impressed by the fundraising that makes these entities go. And of course, I'm thinking particularly about the Kleberg Institute, where I understand the endowment is close to 60 million dollars, which is just amazing.

David Hewitt [02:21:31] Yeah, yeah.

David Todd [02:21:32] And I I'm wondering, you know, I guess, one of the hats you wear is is going hat in hand to ask for money to support these students and your fellow faculty and all the support services you need. And I was curious, you know, what the pitch is and what sort of reaction you get from these donors.

David Hewitt [02:21:58] So, you know, I came out of the biology world. I didn't come out of the fundraising world. So, a lot of this is totally new for me. And I've been a little bit of part of it since I've been here at the Institute, but in the past focused pretty heavily on research.

David Hewitt [02:22:14] And so, our scientists, like most faculty, do write grants. And so, some of the funds we get to support our work come from competitive grants through Texas Parks and Wildlife and the USDA and, you know, the National Science Foundation, wherever. So, that's kind of a typical way of generating funds to help support this research.

David Hewitt [02:22:38] But to your point, we've got a really unique model here at the Caesar Kleberg Institute, because we have been successful in getting private funding to support a lot of our work. And the reason that's been successful is our research is really applied. So, we work on questions that matter to the landowners and the people who are making decisions and are kind of charged with that responsibility of managing a piece of property. And it's property they've bought, they've invested in, they've inherited, you know, been a part of their family for 100 years, whatever. There's all kinds of ways people come into this.

David Hewitt [02:23:18] But they actually bring that passion for wildlife with them to our engagement with them and then talk about things that they're struggling with, need more information on. Sometimes we're able to address that with research we've done in the past. We could share that. Other times it's like, "Yeah, wow, that's an incredible problem. Nobody's cracked that nut. You know, here's something we could do to help, you know, maybe help push that forward, and give you some information so you can start making decisions on what you need to do on your property."

David Hewitt [02:23:52] And because of the applied work, and, you know, some of the literature that gets out into people's hands. I think they see that. There's some people that just send us money, which is super rewarding. You know, we don't have to work hard for it, at least with that individual landowner. Now, we're working hard all the time to try to be relevant.

David Hewitt [02:24:17] And then we get into this situation where, you know, we've been approached by a landowner, we've got a relationship with them. We understand their management. They tell us the things they are struggling with. We say, "Well, yeah, that is something that lends itself to research. We could do X, Y and Z. You know, here's what it might cost. You know, we'll approach our other partners, entities."

David Hewitt [02:24:39] But a lot of these landowners say, "Yeah, that means enough to me that I will fund that study." And, you know, so we get our student funded.

David Hewitt [02:24:48] And you know, we talked about one of the things that's, you know, what's changed in the wildlife field. One of the things that changes the price of doing wildlife research. It's gone up tremendously. There's incredible tools, both, you know, for collaring

animals, for monitoring animals, for doing things in the lab. But it's all, you know, the price goes up as those tools get more and more refined. So these studies do get expensive. You know, they can be hundreds of thousands of dollars.

David Hewitt [02:25:13] And so, there's that kind of cycle where we have that discussion with the landowner, we find the funds, we do the research, and then make sure to close that loop, report back out to them, get them that information. And whether they fund something in the future or not, you know, we helped them and they talk to people. They have friends. You know, our publications get out.

David Hewitt [02:25:38] And, you know, we just had our 40th anniversary a little while ago. This has been a 40-year cultivation of landowners in South Texas, but increasingly across Texas, of developing trust and meeting needs and delivering on promises and doing those kind of things. And with that, it's made the fundraising part, I'm going to say, almost freakishly ... it's not scary to go to somebody and have that conversation. And it doesn't have to be a hard pitch at all. It's more like, you know, again, kind of a long-term cultivation, and when the time's right, it happens. And it's not like, "Hey, you know, we need this money today. And if you're not available to do it today, you know, sorry, you know, we're going to have to move on to something else." Again, it's kind of long-term cultivation.

David Hewitt [02:26:34] So, it's not what I envisioned this fundraising would be, necessarily. And we do have some times it's like, "Wow, you know, there is a really specific need for equipment or for something to really finish out a project." So, we will go to some individuals kind of quietly to say, "Hey, if you're interested, here's a place you could really help." And then sometimes they're like, "Yeah". And other times they're like, "Nope. That's not right for me right now." And that's fine too.

David Hewitt [02:26:59] So, that's kind of how a lot that's played out. A lot of the endowments, again, there are people that we've had interactions with for decades sometimes, and they say, "Wow, you know, I can see we're helping fund that program, that kind of position, graduate students doing work in that world, you know, that particular field would be really valuable. And I've got some resources to do that now. So, let's talk." And then you kind of put together something that, you know, that works for both of us.

David Todd [02:27:27] Well, it sounds like a win-win.

David Hewitt [02:27:28] Yeah.

David Todd [02:27:28] And when there's that kind of open discussion and high level of trust, you get a lot more done, I imagine.

David Hewitt [02:27:38] Yeah.

David Todd [02:27:38] Well, so we've, we've talked about institutions from, you know, the Kleberg Institute to Parks and Wildlife to the Wildlife Society. How about, as we close out, we can talk a little bit about, you know, your personal view on things. You've established quite a career, as a wildlife biologist, a professor, a researcher. How do you think about that career as you look back on it, to date? What's your take-home about what you've learned along the road?

David Hewitt [02:28:13] Yeah. It's been rewarding and enriching, you know, to be involved in something that I've got a passion for. You know, I didn't have to have anybody convince me this was something that was important. I saw the importance myself. And that makes it, you know, not getting up to go do a job every day. It's getting up to go to do something that you would probably get up to do anyway. You know, go spend time outside with wildlife and with people who care about wildlife. And to be able to find a role to help push that forward has been just really, really something I valued. And, the opportunities I've been given, I actually feel tremendously, grateful for the people that I've been able to interact with and the trust they've put in me and the opportunities they've made available for me.

David Hewitt [02:29:09] And, I've enjoyed the opportunity to try to kind of pay that forward to other people now, you know, and try to give them opportunities and help get them into the places they want to be professionally and, you know, in their lives, whether that's recreational or just a passion for the outdoors or professional, all those kind of things, and fun to be in a place to help, help push those things forward.

David Hewitt [02:29:41] So, yeah, that's a big high-level overview. That's sort of been the kind of things that I've got the most out of the opportunities that I've had available in the amazing, amazing career I've been able to pursue through this field.

David Todd [02:30:03] It's nice when it's not strictly a job; you know, it's more something that you love to do.

David Todd [02:30:11] So, I just have one more question that has to do with the white-tailed deer. And I know that you work with many different kinds of animals, but, when you think of that deer, you know, how do you value it?

David Hewitt [02:30:31] Mm hmm.

David Todd [02:30:31] You know, is it a kind of a research target? And it's, you know, intellectually interesting. Or do you see it as sort of an animal has a really important ecological function out there? Is it an economic driver?

David Hewitt [02:30:43] Mm hmm.

David Todd [02:30:45] Is there's a sort of ethical charge, you know, to take care of our fellow passengers on the planet. How do you, how do you think about deer?

David Hewitt [02:30:55] Yeah, yeah. I think the way I see it, it's a bit like hunting, you know, and why you hunt. They're not mutually exclusive. You know, there's a whole bunch of value. But I think my primary value is, and I've always had this as a kid. There was sort of a connection that I'd get when I'd see an animal out in the real world, and was kind of fascinated with its ability to live there. And how can it do it? You know, trying to understand that, and just kind of the appreciation, you know, for the animal itself and, and seeing it in its context. And, I haven't lost that. It's still, you know, I drive down the road and will definitely take note if I see a deer in the pasture next door. You know, I haven't been jaded by having seen too many deer yet.

David Hewitt [02:31:51] And so that, I guess, is kind of a foundational part. That's what I would say about my personal interaction with deer is that, you know, it's a part of the natural world that I still derive, you know, great value from personally, in interacting with, and again,

whether it's seeing them, it's photographing them, it's hunting them, and it's eating them. You know, it's that whole range.

David Hewitt [02:32:20] And then, I think from a professional standpoint, that then grows a bit, to have the resources and the ability to follow up on that interest in understanding that animal's interaction with its environment and how it makes that work. You know, there's all kinds of ways.

David Hewitt [02:32:39] And we'd spent some time with raising some deer so they were comfortable around us, and then taking them to some enclosures out in the real world, kind of 200-acre enclosures. And then we released them in, and those deer lived out there. And you could follow them around and watch what they hate. And some of those deer were in those enclosures for two or three years. And so, you got a lot better understanding of their challenges and how they met those challenges.

David Hewitt [02:33:15] And they were really creative. You know, there's times like when the females are nursing, they need a lot of calcium. And they were eating mouse skeletons. You know, they were crunching up bones of mice, dead mice, and eating snail shells, you know, and they were finding ways of making a go of it. And that fascinates me, you know, on kind of how they're wired, how they learn these things and how they find a way of living in the world that they were born into.

David Hewitt [02:33:46] And so that kind of gets at a lot of my interest in the deer and the research and kind of where they fit in my broader life pattern or interests.

David Todd [02:34:02] That's fascinating. And it's great that, you know, this animal still holds your interest after 30, 40 years of thinking about it. What a perfect sort of thing to think about is something endlessly interesting. You know, what are they going to be eating on next? Not shells, not mice bones. Something new.

David Hewitt [02:34:23] Exactly.

David Todd [02:34:24] Well, great. Well, I'm all done. I asked you so many questions. You've been so cooperative.

David Todd [02:34:34] Is there anything else that you wanted to mention that we might have skipped over somehow, that I may have given short shrift to?

David Hewitt [02:34:42] No, not really. You know, just the last thing that comes to mind, and we touched on this a little bit, but I love the idea of people getting exposed to wildlife in some way. And, you know, the more we can do that, I think the better our, you know, our long-term ecological situation is going to be. And I think white-tailed deer are an initial touch point for a lot of people with the natural world. And so, you know, just kind of maintaining that ability for people to interface with deer in the future and looking for ways of, you know, getting kids that exposure and all that kind of stuff. And I think that's going to be important part of of all our jobs going forward, to make sure we've got a world that we can all live in in the future.

David Todd [02:35:29] That's nice. I like this idea of it being a touchpoint, that maybe this is the gatekeeper for a lot of people to, you know, appreciate wildlife.

David Hewitt [02:35:43] Yeah. Yeah, yeah.

David Todd [02:35:44] Well, great. Hey, thank you so much. You've been, as I said, just very generous with your time, and I greatly appreciate it.

David Hewitt [02:35:52] Yeah, I've really enjoyed your thoughtful questioning, and, you know, the ways you've brought up things and allowed me to help tell a story. Anyway, so it's been a wonderful experience from my standpoint too.

David Todd [02:36:06] Well, good. Well. Thank you. I hope you have a great Memorial Day weekend, and see some deer very soon.

David Hewitt [02:36:16] You bet. I really appreciate it.

David Todd [02:36:17] You bet.

David Hewitt [02:36:18] Take care. Yeah.