

Bobwhite Quail & Environmental Cues – S1E1

Sandra Rideout-Hanzak [00:00:21] Hello, welcome to a Talk on the Wild Side, your biweekly tour of All Things Wild in Texas. I'm your host, Dr. Sandra Rideout-Hanzak.

Rebecca Zerlin [00:00:29] And I am your co-host, not a doctor. Rebecca Zerlin.

Sandra Rideout-Hanzak [00:00:33] I'm really excited because this is our first real episode of a talk on the Wild Side. We've planned and worked on this for months and it's finally here. So I hope we don't mess it up. Yes, but seriously, we have a great interview today with Dr. Fidel Hernandez. He's going to tell us all about his latest quail research.

Rebecca Zerlin [00:00:52] Yeah, and it's a rather unique idea.

Sandra Rideout-Hanzak [00:00:55] It is. It is really interesting. But before we get to our interview, we have Tre' Kendall with our first segment called, "What's Wild and New," where we discuss newsworthy events that are happening in the world of conservation. So, tell us what is wild and new right now?

Tre' Kendall [00:01:13] Well, this was a record breaking year for the Texas ShareLunker program.

Sandra Rideout-Hanzak [00:01:17] Really, what is the ShareLunker program?

Tre' Kendall [00:01:20] So, the ShareLunker program is a joint effort between Texas Parks and Wildlife Department, and Toyota, that is dedicated to maintaining and conserving big bass throughout the state. And anybody who catches a bass that is 13 pounds or larger during January, February, or March each year is encouraged to donate the fish to the ShareLunker program for breeding. ShareLunker has been around since 1986; so, it's about as old as I am, and Texas is the only state with a program like this.

Sandra Rideout-Hanzak [00:01:52] OK. And what what kind of record was broken this year?

Tre' Kendall [00:01:55] So this year, 23 Lunkers were turned into the program, which is the most since 1995. Anglers aren't required to turn over their large bass, but each donation helps to create more large bass for the future. Their offspring will be released into Texas lakes to grow into future Lunkers.

Sandra Rideout-Hanzak [00:02:13] Well, it sounds like a pretty successful program with such a banner year. Yeah, and I heard that. I think I heard that they are entered into a drawing for a \$5,000 shopping spree every time they turn in a fish. So that's a pretty good incentive.

Tre' Kendall [00:02:29] Absolutely. Definitely, though, that is absolutely right.

Rebecca Zerlin [00:02:32] I'd take that money.

Sandra Rideout-Hanzak [00:02:35] So, that brings us to our next segment in preparation for our interview with Dr. Hernandez. Rebecca is going to discuss some of the background that you might need to know. She's going to break it down for you in a segment called

Becca's Breakdown. And keep in mind, Rebecca is a graduate student, so it's perfectly normal for her to have periodic breakdowns.

Rebecca Zerlin [00:02:58] Have you ever just thought about why animals do what they do? If you have pets, you've probably wondered why your dog might destroy your perfectly good couch or why your cat loves belly rubs until that very moment that they don't love belly rubs. But what about wildlife? Have you ever thought about why wild animals do what they do? And more specifically, how do they even know when to do it? Let's take migration, for example. We think we know why birds migrate, and it's not just because the beaches in Cabo are amazing this time of year. We think they migrate to move from areas where resources such as food and nesting locations are low, to areas where these resources are more available. In North America as winter approaches, insects and other food may be in shorter supply than they were during summer. So the birds move south. In the spring, they will return and the flowers are blooming, there's more yummy bugs to eat, and there's plenty of places to nest. This all makes sense, but...how do these guys know when to leave without a calendar or phone notification? How does a bird decide, "You know what...today is the day that I'm going to start heading south." This is the type of question that a wildlife researcher might seek to find the answer to. It may not seem like an important question on the surface, but in order to manage a species properly, we need to understand why something does what it does. For example, if we want to minimize bird and airplane interactions at an airport, we need to understand why birds congregate around the airports. Take it from me, it's definitely not a restaurant and long security lines. So what is it that's so appealing to them? The answers will be what we use to make airports less attractive to them. This same concept applies to species we want to see more of; such as, game species. Understanding the important environmental cues for species behavior can help wildlife managers choose the right management tools. And what do we mean by environmental cues? All right, definition time. A cue just means a sign for action. Think, actors on a stage waiting for their cue to say their line. In nature, these cues tell animals and plants when it might be time to do something such as migrate, or mate. Environmental cues, fall into one of two categories, biotic or abiotic. Biotic cues, are those cues that come from other living organisms; such as, the movement of predators, or pheromones from other animals. Abiotic cues, on the other hand, are from non-living parts of an ecosystem; like rainfall, temperature, or photoperiod, (which just means, the length of daylight). So, sit back, relax, and get ready to learn all about the world of quail and the environmental cues they may be using to begin breeding.

Sandra Rideout-Hanzak [00:05:41] So! I'm super excited today, because this is our very first interview, with our very first expert. And we're talking today to Dr. Fidel Hernandez. Dr. Hernandez is the Alfred C. Glassell, Jr. endowed professor for quail research, and he's with the Caesar Kleberg Wildlife Research Institute at Texas A&M Kingsville. Welcome, Dr. Hernandez. I'm so glad you're here.

Fidel Hernandez [00:06:04] Glad to be here, Sandra.

Sandra Rideout-Hanzak [00:06:06] So, we're just we're going to start with the really tough questions here. Start off with letting us know, let the listeners know: what is a quail, and why should we care about quail?

Fidel Hernandez [00:06:17] Um, yeah, it is a tough one. "Laughter." Well, basically, a quail is a game bird that's actually very popular and economically, ecologically, culturally important game bird that occurs all throughout the United States here in North America. Well, in the United States we have about six species. In Mexico, we have about 15 species

of quail. They're all very...they occur everywhere from mountains, down to more low lands and from desert grasslands, to forests. And they're important because they have a long tradition of being hunted both in the United States and other parts of North America as well. And so they have a huge impact on the rural economies with people coming in to hunt them. Also, ecologically, they're closely tied to grasslands. And as many of you know, the grasslands of North America, about 73 to 80 percent of them have disappeared, due to...you know, plowing and brush encroachment and invasive grasses. And so they kind of serve as an indicator of the grassland health and with quail declining, it's indicative of the larger declines. And so you have conservationists, you have hunters, you have academics, you have a lot of people that are just really interested in their conservation for a multitude of reasons.

Sandra Rideout-Hanzak [00:07:30] So, I think...have I heard you refer to quail as an umbrella species before?

Fidel Hernandez [00:07:35] Yes, and so the term umbrella species is really just a term that conservationists use in the sense of you have many different species that have similar habitat requirements. And some of those species, because they're declining, they're rare species. And conservationists have tried to use these rare endangered species as, "Hey, let's make this the face of the plight of grasslands," for example. The problem is, that many people either don't know, don't recognize, or really just aren't familiar with those rare species, or don't care. They're not charismatic species like, say, the polar bears or wolves or something like that. And so what some folks have often said is, "why not use this umbrella species and let's make it a species that might be a little bit more popular?" And so bobwhite - more recently - had been championed as an umbrella species; where, instead of using these grassland birds, like sparrows, that nobody may even recognize...to use bobwhites as the umbrella species. Everybody loves and cares for bobwhites, and by conserving them, you conserve the habitat for all the other different species.

Sandra Rideout-Hanzak [00:08:37] Oh, thanks. That's interesting.

Rebecca Zerlin [00:08:39] So today we're going to talk about some unusual research you did. But in general, what do you do as a doctor of, 'quailology?' Is that the proper term? "Laughter."

Fidel Hernandez [00:08:49] "Laughter." Well, I guess...I've never been called that, but I think it's fair given my position at the institute. And so, here at the Caesar Kleberg Wildlife Research Institute, we have roughly 17 to 20 scientists. And they all studied different things, everything from ungulates (like deer), and pronghorn to, you know, prescribed fire, like Dr. Rideout...reptiles, et cetera. And what falls under my, I guess you could say 'jurisdiction,' or area of research, would be upland gamebirds... And more specifically, quail. And the primary reason for that, is just a huge importance that we will have in southwestern rangelands, and specifically here in south Texas. And so what do I do? Well, I conduct research that would help landowners better conserve the habitat and manage the species. Not only for having them around, and preserving the hunting cultural heritage, but also for the other benefits ecologically and economically that they bring.

Sandra Rideout-Hanzak [00:09:44] So, I know you could talk probably for a couple of semesters on this, but if you could - in just a few minutes, traditionally, what kind of things have you studied...you know, that you found to be important with quail, particularly in South Texas, what you've talked to landowners about?

Fidel Hernandez [00:10:00] You bet. And so one thing that I really like about the Caesar Kleberg Research Institute, is that the research is very applied in nature, and that everything that we do is somewhat governed by how can landowners use it. And the importance of that, is that everything that we produce can then directly be translated to habitat on the ground. And so the traditional questions that we used or have studied in the past is, for example, maybe how do you better estimate quail populations? And by having a better handle of how many quail you have on the property, you can better manage their harvest. Or we've also looked at, you know, how does these non-native grasses, some of these old world bluestem stems, how are they impacting quail habitats such as even native species like tanglehead that have been increasing? How can you better manage them, control them, whether it's through fire or herbicides? And so a lot of our research topics have ranged everything from harvest to how to better count them, to how to manage their habitat through discing - or grazing - or something that landowners can use to more effectively manage their habitat; and at the same time, better conserve their populations. You need a large continuous tracks of habitat. Before we didn't know what that meant...you know, maybe 10,000 acres sounded like a big patch. We really had no idea. But with some of the research that a colleague here with us, Lenny Brennan, along with a few of the researchers, myself and other graduate students, really what that research indicates is that the size at which habitat needs to be conserved is in the thousands...hundreds of thousands of acres, three hundred thousand acres. And so it really puts in perspective that management and habitat has to occur at a large scale...much larger than we thought of before.

Sandra Rideout-Hanzak [00:11:42] Wow! That's...I'm surprised to hear those numbers.

Fidel Hernandez [00:11:46] Yeah. And it was surprising to us because, you know, when you think of large scale, we think of human terms and large scale to us, you know...to one human, you know...5,000 acres would be a lot of you're in the eastern United States, or, you know...10,000 might be a lot. But the genetics really show that it's a much larger scale.

Sandra Rideout-Hanzak [00:12:01] Oh, well, this brings us up to present times now. And you have recently just published a really interesting paper and we wanted to talk to you about that. It's got some really unique ideas on quail, and how they might be using color cues in their environment. Can you tell us, first of all, just...where was the background for this idea?

Fidel Hernandez [00:12:27] Sure. So, one thing that fascinates me about science is that, generally, you think it's a linear progression of: you read, you get an idea, and execute. But what I love about science is that - at least for me and my experience - is that you read something now, and you may not think about it until 5...10...15 years later, and you read - or observe something in nature - and that triggers-off a memory that you had. And you make links - or you make connections - between things that before, seemed like they were not connected. And so, for my graduate committee, I had this professor, Roger Ulrich, who was in landscape architecture, and his study...or his research and background, was an urban design, and how to better design hospitals. And he was doing research on hospital patients, how quickly they recovered, and how to improve hospital design. And initially, you would think that has nothing to do with quail...and it didn't at that time. And basically, what his research found - back then - that I found fascinating, but I had no real tie to quail research at the time, was that people that had views to windows, to nature, those patients recovered much quicker. They took less medication, had overall just improved mood, compared to people that had views to...say...another brick building. And whenever he was telling me about his research, I just cataloged it in my memory, didn't think anything about

it until, you know...fast forward into pretty much the present. And I'm reading articles on human psychology. You know, a lot of times how you perceive the world is often very different based on your experiences. All that to say is that...down here in south Texas, you have quail that reproduce a lot during years of abundant rainfall, as well as during years of drought. There, there...reproduction really slumps. And what happens, is that people have generally explained that by well, it's the increased rainfall, more insects, and so therefore they're going to have higher reproduction. And that makes sense. I mean, during years of rainfall, you do see more...more insects. You can tell it by the windshield on your truck; you're driving in wet years, and your windshield is covered, and not on dry years. But what we observed in the field, is that it had been a really dry year (this is back in 2000)...really dry year, quail weren't nesting. It was in the middle of summer. It was July...around 5th or 6th. Nothing had nested. Quail were still in coveys; which was unusual, because here they began nesting...you know, between late April or May. And then all of a sudden, we get this rainfall that falls, it was about a five inch rainfall. And within two or three days, we start finding that the quail have started eggs. And to us, it was very surprising, because even if it blooms in two or three days, the quail still have to eat it, their nutritional plane has to elevate; so, it's going to be a lag of two or three weeks...before, if they were in a poor nutritional state before, you know, it's going to take some time before they're actually in good nutritional state. So, we thought it's got to be something else. And so I started looking into the literature...and lo and behold, one of the thoughts that came up is that it might be green vegetation. Another one, is that it might be rainfall itself. That rainfall is a trigger. And so I thought about Roger Ulrich, his study on how green vegetation was impacting humans and thought, "Why can't green vegetation impact quail as well?" And so, we're looking at research into how either rainfall - or green vegetation - may be triggering, or providing that cue to reproduce. Not so much the materialized effects of rainfall.

Sandra Rideout-Hanzak [00:15:46] That's really interesting. I love that it came full circle to, you know, down the road...and you go back to information that you learned from somebody on your graduate committee. That's, that's pretty cool.

Rebecca Zerlin [00:15:57] What cues do quail researchers believe influence quail behavior?

Fidel Hernandez [00:16:01] Well, I'm not so sure quail researchers have even thought about that. So, a lot of our research had been focused on more general ecological things. And one thing that I like about the institute here, is that you have freedom to explore maybe creative leads that you have. And so when I started getting into literature, a lot of this came for more of the human psychology side of things. There were early ethologist, animal ethologist study animal behavior that had considered some of these things, but not so much from quail scientists per se. But what are some of the cues? There are numerous. And what we don't realize, and this is not just for birds, but just vertebrates in general, is that we're perceiving a lot of stimuli from the environment. We perceive that through our senses, whether it's through visually or auditory, and those get incorporated into your brain, that are then projected into a behavior. So, your sensory system perceives stimuli and then that translates into a behavior. Photoperiod kind of turns on the light switch and says, "Hey, you're ready to reproduce." But the supplementary information, whether it's green vegetation, whether it's temperature, or maybe rainfall, or increased food supplies...those are the cues that that kind of say, "OK, start dropping eggs, right now. Conditions are great right now."

Sandra Rideout-Hanzak [00:17:16] I mean, when I was in grad school, a professor put it that photoperiod sort-of loads the gun, and then these local cues like temperature and rainfall and things like that, pull the trigger.

Fidel Hernandez [00:17:30] I think that's a very simple, and I hadn't thought about it in that context, but that's a very simple and accurate, I would say...description of how to think of these different cues and how animals process them.

Sandra Rideout-Hanzak [00:17:40] That was Monty Whiting.

Fidel Hernandez [00:17:41] Oh, good. Yeah! "Laughter"

Sandra Rideout-Hanzak [00:17:43] So tell us now, give us some details about this theory that you have about color. And you said you are already starting to study it?

Fidel Hernandez [00:17:53] Yeah. And so that I find this this area fascinating, because more so of the breadth of the literature, I guess, that it includes. And the more that I dug into this, more that it became more interesting. I learned about some...you know, you really don't think of all the influences that you have, all the stimuli that impact your behavior, even your physiology. I was reading this article on how soccer fans this is soccer fans. This is during the World Cup in 1994, I believe it was Brazil against Italy. And there were some human endocrinologists (of all things) looking at, you know, how hormones changed throughout the course of the World Cup. And basically what they found is that. Italy and Brazil ended up winning, and that was a long fought World Cup, and they were taking saliva samples of these soccer fans all throughout the World Cup match. And it turns out that Brazil won, Italy lost. And even though I guess the fans obviously have no tie or were not in the games, their testosterone levels were way lower compared to Brazilian fans, which was way higher. So the mere fact of watching your team win influenced their physiology, either their home or levels. And there's numerous, numerous other stories. I'll tell you a very brief one before jumping into quail. And I found this fascinating that this is an ecologist. He was out on a remote island somewhere studying. I don't know what he was studying, but he was out there for two years and he would go to the mainland every so often to get supplies, check mail, visit his fiancée, etc.. And what he noticed is that on days right before he went to the mainland to do all these errands and visit his fiancée, his beard would grow much quicker. And being the scientist that he was, he started to collect the shavings and keep track of the weight of his shavings throughout the time that he was on the island and when he came to the mainland. And basically what he found is sure enough, as he anticipated, the amount of beard that was being produced while he was on the island was fairly low a day before he went to the mainland. And that in anticipation of, you know, I guess seeing his fiancée and going to town and all the benefits of being in civilization has the weight of his beard. Chabon's increased tremendously. It would stay up elevated for the two or three days he was on mainland once he got back to the island, then, decrease. And so we're basically a cocktail of hormones walking around and we don't even realize it. And so I find that fascinating. And applying it back to quail, it's it's the same thing. I guess it's, you know, if you look at a landscape during drought, it's dry, it's crisp. The views, the signals that you're getting might be just a very inhospitable environment. And quail might be processing that as soon as it rains. Even the rains that we just had recently, things are much greener now. If now that change from brown to green, that color difference, now it's signaling to the birds, "hey, it's time to breed." And that that signal comes through the hormones. Whereas reproductive hormones might be low during drought, it rains, the vegetation turns green. Reproductive hormones elevate. Like, you know, a couple of examples that we discussed that then pulled the trigger and

and start nesting. We did dabble a little bit into this in prior research. And we have found some evidence that quail that are in cages lined with green vegetation, they have higher egg laying production compared to quail that are in cages lined with brown or dead vegetation. We're going to further explore that and actually document their hormones and how they change. And basically what we want to do is we have cages that are lined with brown dead vegetation, monitor their hormones and then do a switch, lined them with green vegetation and see how the hormone spike and a big production increases. And if that happens, that'd be great. I don't know. We'll work out like that, but at the very least, we can test the idea.

Sandra Rideout-Hanzak [00:21:37] Well, that sounds like a great way to go.

Rebecca Zerlin [00:21:40] Do you do any research with quail's being able to see UV?

Fidel Hernandez [00:21:47] No, not that's another area, as you know, birds have very acute and good vision, part of the primary reason that you see all these colorful birds or males is because of that vision. And we haven't looked at that specifically. But believe it or not, in about the past month, we started looking into that literature to see if it's actually related to the to the vision and the cues that birds may be able to pick up, that other animals, invertebrates may not be able to.

Rebecca Zerlin [00:22:16] You know, they know it's big with flowers, especially with bees coming in to pollinate. But I wasn't sure if...

Fidel Hernandez [00:22:22] Yeah, no. As you know, with photosynthesis and dry plants and, or I should say plants during drought and plants during wet period, the level of photosynthesis differs. The pigments or the light waves that they're capturing somewhat differs. The plant may look green does, but who the heck knows what it looks like to the bird, you know? And so that's one thing to consider not only the vegetation as we see it, but as the birds are able to perceive it, given their vision.

Rebecca Zerlin [00:22:53] Tie dye plants. Yeah, we just can't see it, right?

Fidel Hernandez [00:22:56] Yeah, you know, and what's interesting is that you often hear (we're focusing on birds), but you mentioned plants and flowers and plants. It's not quite the same phenomenon. But you hear about, you know, the purple sage, the cenizo. They call it the barometer plant and ranchers and people will say, well, hey, you know, right before it rains, they'll start blooming. And sometimes that occurs for sure, right after it rains. Purple sage, you even see it here in town. All this rain then to have a lot of flowers, some of that. It's more related to humidity and people thinking that when a storms come in, humidity increases and it might not be the rainfall itself that triggers it. But I mean, this phenomenon of other cues being provided to whether they're plants or animals is out there. But I guess we, as humans, think that all the other animals and organisms perceive the world as we do. And, you know, that's not the case.

Sandra Rideout-Hanzak [00:23:52] So with your with your work, suppose you are right and you find out that, you know, these quail are really tied to lush and green color. And that's what's like pulling the trigger for them to start that reproductive process. Are there implications then for management?

Fidel Hernandez [00:24:11] I don't know if specifically for management, Sandra. Obviously, you know, the green vegetation color is caused by a change in by the

occurrence of rainfall. And so, you know, outside of landowners going out there and trying to sprinkle, you know, rangeland or those kinds of things. I think that the primary implication, one for me as a scientist and maybe just for the broader audience, is that even though most of our research tends to have some type of an application for me, it would be more of there's some things that we can control. There's some things that we cannot. And this is one of the things that we cannot control. And then maybe the implication is for management is, let's quit worrying about providing extra protein or extra food or controlling predators during drought, because that's not what's causing the reproductive failure. Maybe we can then relax and divert those resources into better managing the habitat during that time rather than how do we how do we try to increase the reproductive effort by all these means that really aren't the cause of why they're not nesting? So maybe that would be on the ground implications for that?

Sandra Rideout-Hanzak [00:25:12] Yeah, that makes sense. And and I mean, certainly it's going to be better just to understand more. But, yeah, I hadn't thought about, you know, spending resources elsewhere.

Rebecca Zerlin [00:25:23] So what are you interested in researching next?

Fidel Hernandez [00:25:26] What the next study is that triggered the study that I now have a new PhD student, Kristyn Stewart, that's tackling it. And at that class got me into this whole idea of networks in general. We hear networks in the social context theory of the social network, and that certainly is the case. But networks are everywhere. I mean, networks are within your body. And all of that network is is you have these actors or these objects and they have relations to other objects, whether that be through friendships, if it's a social network or maybe it's through pathways of it's two cells and you know, how they communicate and passing nutrients from one cell to the other banks or a network. I mean, networks are everywhere. And you really want what that set off for me is that all all ecosystems are all conservation occurs within the social ecological network. And what I mean by that is that there's the habitat network. Habitat fragmentation causes habitat patches, which are your objects that are related or connected to other habitat patches by corridors. So there's this habitat network on that habitat network. You have the wildlife population. Those are the species that are inhabiting these islands. And through dispersal, they're connected. So there's these wildlife that is also a network. But then even on top of that, you have this human social network, all the people, whether they're academics or researchers or conservationist, hunters, whatever the case may be, they're their own network. And so we want to see is for Kristyn's project. We're tackling not only seeing each layer as a network and quantifying the level of connectivity, but how does information flow from one level to the next and relating it to quail. As you know, as I mentioned, quail are declining, they're not quite declining evenly across the United States or across Texas. Some areas are doing well, some are not doing well. And what we want to do is go to areas where they're doing well, quantify the amount of habitat connectivity. You would expect that in areas where there's high habitat connectivity, quail populations would be doing well and areas where there's low habitat connectivity, you would expect populations to not be doing so well. We want to do this and make that final link. Do humans and inhabit these landscapes where there's high habitat connectivity, there's good healthy populations? Are there belief systems or perceptions about quail conservation to decline? Are they different fundamentally than people are inhabiting more a more fragmented, declining populations? And one idea, one, I guess, hypotheses that we have, you know, you get all different kinds of ideas of why are declining the ultimate reason as habitats gone, there's more agriculture, more humans, more urbanization. So that's the ultimate reason why they are declining. But then there might be also local factors that are

influencing the decline. And what's interesting is whenever we have all these different either conferences or symposiums or field days, you often get people kind of pull you off to the side, and give you their own idea as to this is why quail are declining. And you hear everything from chiggers are responsible for the decline to its roadrunners, to its ticks to I mean, you name it, and everything besides Bigfoot I think has been suggested. Yeah. As a decline. And so one thing that we wanted to, to kind of test is do people that inhabit these landscapes that are more connected with populations doing well, do they have more traditional explanations for the decline of, hey, it's the habitat and that's weather compared to areas where the population is more fragmented? Are declining? Do they have more extreme and more unconventional ideas? And so that's basically we want to test and to see how information flows across the social ecological network also has the connectivity of the social network. And you might be thinking, well, you know, why study this? What's the implication? How can we use this? And the reason for it is that if the human social network is very well connected from a from an extension standpoint of all the hunters and landowners and academics, they're all very well connected. Ideally, or in theory, you could just drop the information anywhere on the network and quickly diffused throughout the whole network, but if you have these clusters of isolated human networks. That would have huge implications from disseminating information, because you would have to go to every individual cluster to do it, or conversely, if you identify that there's one big hub, this organization or this group of people or maybe an individual that is very well connected to everybody else, you would just go to that organization, association or entity, drop that information there, and that would get to everybody else. And so, anyway, that's the next, I guess, frontier, so to speak. And there's research for me trying to connect all three levels and make it a more holistic view of how to better address conservation, a more unified framework than either just looking at the habitat or the population or just the humans themselves.

Rebecca Zerlin [00:30:18] So we're going to be asking everyone this to get a feel. We've all had those days in the field where just things don't go well for whatever reason. And we want to know what your biggest Biology Blunder is.

Fidel Hernandez [00:30:38] I got to be careful not to say something that's not going to come back and haunt me. There's one that comes to mind. And I don't know if it's a blunder, but it is something that I recall from time to time. So this was during my Masters and for my Masters, one of the chapters of my Masters was trying to study a non-lethal way to reduce nest depredation on the wild turkeys and quail. And one of the ways that we were trying to do it at the time, this idea, it's not an idea. It's a it's a phenomenon that occurs of conditioned taste aversion was really big. And basically that idea is, I don't know if it has happened to you or maybe somebody in the audience where you eat something, you get sick from that and then you never, ever want to eat that again.

Rebecca Zerlin [00:31:22] Mushrooms.

Fidel Hernandez [00:31:25] For the longest time for me was black coffee. I was probably about seven years old and I got up too quick from bed and I got motion sickness and I just had this terrible nausea. And my mom gave me a cup of very dark, dark, black coffee so that I could, I guess, vomit and but that got away all my dizziness. The bad side is that for the longest time I could not smell or drink coffee. I'm over it now, you know, 20 whatever years later. But so for me, I guess the the blunder was I was back in my masters, I was testing this condition taste aversion. We had to place these eggs that had been laced with lithium chloride. So we would take some of the yolk out of the egg. We inject it with lithium chloride. Lithium chloride is something that when coyotes or raccoons or something, eat it,

it'll make them nausea and sick. And so the idea was, as we place this area with these lithium chloride eggs, the coyotes or the badgers or whatever, it will eat them so that when they stumble across a wild quail nest or turkey, they won't eat it because they're associating the sickness with the egg. Long story short, it was about a, I don't know, about a thousand acre pasture that we were doing this treatment back in those days. This is before we had these huge grants where you have technicians and ATVs and all this other stuff that goes with it. And so I had to walk to all these different places to drop all these eggs. And at the time, again, unlike today, which I'm very grateful for student stipends, I did have a small stipend, but I had to work part time to pay rent and those kinds of things. So I was working at a dry cleaner. I would go and deliver and pick up clothes. I wasn't the one that was cleaning the clothes, but I worked at the dry cleaner. And long story short, I had to go and check my nest and put out more eggs, but they had called me in early to work and so my time was more crunched. And so I went to the pasture. I drove up there, parked. I had to start, you know, checking my eggs and lacing and all that. So I had my backpack on with all the laced eggs. And I was short on time and I thought, there's no way I'm going to make it back by three o'clock, and so usually I just walk through the rangeland. But there was this agricultural field that was, you know, to the side. And I thought if I could have crossed that, that'll cut my time. I won't have to walk around and I might be able to make it back in time. And I had never gone across that ag field. Well, I go to go across the ag field and not being very familiar with things. It was back in July. It was you know, it probably noon, one o'clock. I was sweating because I was running from place to place and trying to make it before three o'clock. So it was really hot. And I go to jump the fence and all of a sudden all I feel is this like electric shock going through my body? And I'm thinking, oh, my goodness, I'm having a heart attack, I'm having heat stress. And so all I feel is like my myself go back. And as I'm falling back to the ground, I'm thinking that I'm having a heart attack. But the thing is, is that whenever I jump over the fence and I feel this and I'm falling back, I let out a very unmanly yell. I won't imitate it here. But it was like, yowww, something like that. And I fall down and I'm literally thinking that I'm having a heart attack or heat stress and I'm laying there. And after about five or 10 seconds, I'm like, "hey, I feel fine." You know, I can still see and everything. And so I start to get up and I start noticing that it was an electric fence and I didn't realize it. And once I realized it was an electric fence, I start looking around to make sure nobody I just see what I just done. But anyway, and so that was probably one of the ones that my first introduction to electric fences and probably one of the things that I won't, maybe not a blunder, but it's definitely stayed with me all these years and I still recall it from time to time.

Rebecca Zerlin [00:35:08] So that is a shocking story.

Rebecca Zerlin [00:35:15] Sound effect there.

Rebecca Zerlin [00:35:20] Well, is there anything else you'd like to share with us today?

Fidel Hernandez [00:35:24] No, not not so much from the quail perspective, but I think it's really nice. Thank you for the opportunity, and having the opportunity to get some of this research or just let folks get to know you a little bit better. A lot of times we stay in the office or, you know, outside in the field. And so having a venue to where, you know, beyond either articles or scientific journals or even popular articles to be able to engage it at this level, I think it's great. And, um, yeah, hopefully it's it's been enjoyable for you all as well.

Rebecca Zerlin [00:35:52] Oh, it's been terrific. I really enjoyed learning a lot about quail today. And I think our listeners are going to really enjoy it, too. Thank you so much.

Sandra Rideout-Hanzak [00:36:02] Well, that's a wrap for our first episode.

Rebecca Zerlin [00:36:04] Yeah, we did it.

Sandra Rideout-Hanzak [00:36:06] We did. I learned a whole lot about quail and "quailology."

Rebecca Zerlin [00:36:10] Very interesting subject.

Sandra Rideout-Hanzak [00:36:13] Yes. Well, our next episode is going to be about dolphins, so I hope everybody will tune into that because it's really interesting.

Sandra Rideout-Hanzak [00:36:22] So we hope that you guys will listen next time. And remember, don't feed the wildlife.

Sandra Rideout-Hanzak [00:36:29] A Talk on the Wild Side is a production of the Caesar Kleberg Wildlife Research Institute of Texas A&M University-Kingsville. Funding for this project is provided by the Harvey Weil Sportsman Conservationist Award by the Rotary Club of Corpus Christi. Editing was completed by the talented Gaby Olivas, Andrew Lowery and Tre' Kendall. We thank the TAMUK Distance Learning Lab for all their help and cooperation.