**Mitch Lockwood CWD Bonus Episode Season 1.mp3**

**Andrew Lowery** [00:00:20] Howdy, howdy, everyone. This is Andrew Lowery, not a doctor, and not your normal host, but this is not a normal episode. Today we have an interview with Mitch Lockwood. He is the big game director for Texas Parks and Wildlife, as well as a white tail, deer and chronic wasting disease or (CWD) expert. This episode or bonus episode, if you will, does not follow our standard format. You're not going to hear a normal intro or beka's breakdown. We're just going to jump right into it. This is a very serious and to the point discussion about SeaWorld and its effects on North American, and especially Texas wildlife and land owners. This is a very, very important topic that needs much more coverage. So thank you so much for tuning in. And without any more delay, I will let Dr. Rideout and Mr. Lockwood get to it.

**Dr. Sandra Rideout-Hanzak** [00:01:18] We're here with Mitch Lockwood today. Mitch is the Big Game Program Director with Texas Parks and Wildlife Department. Thank you so much for being here with us today. Mitch, I really appreciate you.

**Mitch Lockwood** [00:01:31] Well, good afternoon. Thank you for having me, I'm glad to spend some time with you all today.

**Dr. Sandra Rideout-Hanzak** [00:01:36] Yeah, this I know you're I know you're really busy this time of year, well, this year, I know you're really busy this year, so I do appreciate your time. Why don't you start by telling people what you do and, you know, tell us a little bit about yourself and what you do at Texas Parks and Wildlife as the Big Game Program Director.

**Mitch Lockwood** [00:02:01] Well, I'd be glad to. In theory, or on paper anyway, my responsibilities...basically, I get to dabble in the research and management of all of our big game species. Whitetail deer, mule deer, pronghorn, desert big-horned sheep, javelinas...and even alligators. But in reality, what really I spend the vast majority of my time on, not just in the last few months, but really since 2015, (the summer of 2015) is is trying to manage this chronic wasting disease.

**Dr. Sandra Rideout-Hanzak** [00:02:41] OK. Yeah, you know, first of all, just an aside, I guess I didn't realize that javelina's are big game.

**Mitch Lockwood** [00:02:51] They're big game, at least in some circles anyway.

**Dr. Sandra Rideout-Hanzak** [00:02:57] That seems silly, but I just when you were listing them off, they all made sense and then you said javelina. And I was like, oh, I didn't even think about that guy, OK. Anyway.

**Mitch Lockwood** [00:03:06] They're alligators. Might be the more or some something that's a little strange.

**Dr. Sandra Rideout-Hanzak** [00:03:15] Yes! Yeah, that one's a little different, too. OK, so yeah, you mentioned chronic wasting disease and that that's been taking up a lot of your time lately. Tell us what you've been doing with that lately. What, what, what do you have to do right now?

**Mitch Lockwood** [00:03:34] Well, as I'm sure you're well aware, CWD has been detected in a number of cases or permitted their breeding facilities this year starting...well, on March 29, we received confirmation of this disease in three different deer breeding facilities, two of them in Uvalde County. They're actually located on the same property, and then one of them up on the Hunt-Kaufman County line up in northeast Texas. And so since then, well, I should say at that time, we began working directly with Texas Animal Health Commission in initiating an epidemiological investigation, trying to find out where this disease could have come from, and where it may have been transmitted to in the last few years. And unfortunately, we've seen a number of positive facilities increased from those three, to six now, as we're conducting this investigation. They're, clearly at at least three facilities that have received CWD positive deer from from one of those index facilities, if you will. So a lot of a lot of investigating. We're running lots of queries and trying to basically taken you know, we have the we have basically the transfer history, the location history of every breeder deer in Texas. In other words, if the deer breeder wants to transfer deer from one facility to another, or to release site, the transfer permit must be activated identifying those deer. And so that allows us to do this contact tracing and basically see what deer have been touched by deer by exposed to deer, or deer that were in a CWD positive facility. So, a lot of basically just a lot of data combing, if you will, looking at these transfer reports, and then in and then encouraging testing at what we call trace out facilities. In other words, facilities that received here from a CWD positive facility, to try and provide confidence that that disease wasn't transmitted to those those trace-out facilities. And that's not a that's kind of a slow process. In some cases, we're able to use live animal testing as opposed to having to euthanize some of those those exposed deer. And, you know, live animal test results are not as reliable, but we do think it is a really good tool, we think of animal testing is a very good tool for screening a herd, if you will, but not so good of a tool to clear an individual animal and say, "that animal doesn't have this disease." And so it can be a lengthy process because oftentimes two rounds of testing of lab animal testing would be required to provide that level of comfort that that certain deer aren't aren't infected with the disease. And, you know, a sufficient period of time needs to elapse between those two tests. And so that's why it can be somewhat lengthy. But this...as lengthy as that answer is it's just scratching the surface, really. But really strong team effort with Texas Animal Health Commission, and trying to do what we can as expeditiously as we can to contain this disease and not see it spread anywhere else. I should also state that our agency did enact an emergency rules here almost three weeks ago. There are rules that do affect permitted the operators that require some additional surveillance to provide additional comfort for additional confidence - I should say - that that the disease, if present, will be detected. And so, for example, under these emergency rules. Any deer that's to be released to be transferred to a release site, at least under the duration of these emergency rules, needs to have a not detected live animal test result within no more than six months prior to release. And so just to provide some additional confidence that we're not about to permit the transmission of this disease. And that's an important point to make, because we've heard a lot over the last six years when CWD was first detected in captivity and we've heard it a lot more in the past few weeks, that the surveillance that occurs within permitted breeding facilities far exceeds the surveillance that we have for free range in deer populations. And I think it's very important to distinguish between the two, the different objectives for conducting surveillance, for testing, for CWD. In my mind, there's two reasons to be testing for CWD. I may be leaving out something obvious here, but simply put, we're either trying to conduct general surveillance. In other words, try to try to implement or establish a surveillance intensity that will provide us some "X" amount of confidence that the disease will be detected at some level of prevalence. Or two, the second reason i to provide Texas Parks and Wildlife Department confidence that we are not about to permit the transmission of this disease from one facility to another. So two very, very different objectives. And that's what we're trying to achieve with this emergency rule is: yes, we do want early detection, but most importantly, we don't want to facilitate the transfer of that disease somewhere else.

**Dr. Sandra Rideout-Hanzak** [00:10:00] OK, wow, so you've been pretty busy and sounds like you've also become a detective in addition to a big game expert.

**Mitch Lockwood** [00:10:13] Well, go ahead.

**Dr. Sandra Rideout-Hanzak** [00:10:17] No, I was just going to ask you a question, so we sort of skipped over and we got right into what you're what you're doing lately, but I imagine there are some people who don't know, you know, what CWD is at all. So can we just start with that? Can you, you know, tell us what is CWD and tell us what kind of disease it is and everything.

**Mitch Lockwood** [00:10:41] You bet. CWD is a transmissible neurological disease. It's it's in the family disease that is commonly referred to as TSE, which rolls off the tongue a whole lot easier than Transmissible Spongiform Encephalopathy. Yeah, but just to give you an idea what a TSE is, some other TSE with the bovine spongiform encephalopathy, which some people refer to as mad cow disease, scrapie in sheep as a see Creutzfeldt-Jakob disease that affects humans, that's another TSE. There is no cure for this disease. There's no vaccine. And it is a fatal disease. If something doesn't kill the animal first, see that they will kill the animal. Now it's. It's an insidious disease, it's it's not something that is obvious out there. In other words, you have an anthrax outbreak over in southwest Texas and people can see that happening. You can lose a lot of animals in a very short period of time when you're dealing with anthrax. The same is true with EHD or Epizootic Hemorrhagic Disease, although Texas is pretty blessed to not have to deal much with the EHD in our free-range populations that you've read or heard certainly contend with EHD. But Texas free-ranging deer, with few exceptions, don't have to worry about it much. But you can ask the people throughout the southeastern part of the country especially, and find out that it can kill a lot of animals in a very short period of time. And it's obvious CWD doesn't act like those diseases. It's a much slower-moving disease in the early years. It's not one where you're going to see carcasses on the landscape. Again, I know no better term to describe this other than insidious. But if left unmanaged, CWD and the impacts of CWD do become more obvious, more noticeable to the term. And you know, another difference between this disease and some others, like anthrax, which is this disease never stops acting on a population. If you leave, an unmanaged anthrax will come in. It'll do its thing, which can be quite devastating. And then, for lack of a better phrase, I'll say it'll go dormant for some period of time until the conditions are right again. And then you may see a flare-up. But in the interim, you can see that whitetail population bounce back, sometimes fairly rapidly. But with CWD, it will especially, again, I'll say, if left unmanaged, it will continuously add to the population, it will never go to rest and it will only increase in prevalence. And the literature suggests that once that prevalence reaches about 15 percent rate, which takes in some cases could take years to get there. But once it gets to about a 15 percent prevalence, then you really start to see disease prevalence skyrocket from there. And then that's when you start to see a population that impacts such as effects on age structure, especially on bucks, where you start to see younger age population. And you can imagine that that's not something that Texas hunters are looking forward to but would look forward to. But effects that could be I mean, as devastating is this seeing population reductions. And that's something that has been demonstrated in whitetail annual deer populations, but again, only in areas where the prevalence got high enough to see those sorts of results. And so I think not managing the disease is not an option here. We can't see those sorts of population impacts of this disease. So we've got to try and respond and manage this disease and keep prevalence low where it exists and try to keep it contained to the areas where it exists.

**Rebecca Zerlin** [00:15:17] You mentioned whitetail and mule deer. Are there other species that are also impacted by CWI?

**Mitch Lockwood** [00:15:25] There are there some other cervid species. We know that red deer, and Elk are susceptible species, reindeer, sika deer, moose, are susceptible species. We don't know about, you know, some other cervids, some of which occur in Texas, like axis deer, for example. We don't know if they're susceptible species. Nobody's really worked on that. We do conduct surveillance of hunter-harvested axis deer and roadkill axis deer. But we don't know that we've ever tested one that's been exposed to the disease. And so that's just I give that example. That's a common exotic cervid in the state. There's been a little bit of work with fallow deer before. They were able to infect fallow deer when they inject the prions, which is the misfolded protein that we believe is the disease-causing agent here. When they check those prions directly into the brain of fallow deer, they were able to infect them. But another study in which they were trying to infect more natural means, they were unsuccessful with that. And so at this time, they're considered, fallow deer, I mean are considered to not be susceptible. But again, very little work has really been done on that. So the best we can say is the species that we know are susceptible. But for all others, we really don't know, fallow would be the least likely of. Well, I should say only slightly less likely than some other service, considering the little work that's been done on them. But again, for many species, it's just an unknown at this time.

**Rebecca Zerlin** [00:17:08] You said that CWD was first discovered in 2016 in Texas, is that right?

**Mitch Lockwood** [00:17:15] Well, we first discovered in captivity in the summer of 2015, but we we actually detected it in free-ranging mule deer way out in the Waco mountains near El Paso in June of 2012. What happened there was New Mexico Game and Fish, gave us a phone call, I believe it was February of 2012. And they said, "hey, we just want to give you a heads up. We tested four mule deer, hunter-harvested deer within a mile of the Texas-New Mexico border there in the area of the Waco Mountains, and three of them tested positive for CWD." And so that really got our attention and then we knew that there was some CWD in New Mexico. We knew it was even in the Organ mountains in New Mexico. We didn't realize the prevalence of it was anywhere near as high as it because it had gotten by that point in time. But when we heard that it was three out of four tested positive within about a mile of our border, we basically got with Texas Animal Health Commission, which we tested off our CWD management plan. Heck, we rewrote the CWD management plan. We reconstituted the security task force, which is a group of stakeholders that we lean on for input in our CWD management strategies. And we all came up with a game plan and we put together basically a strategic surveillance effort in the summer of 2012. And it wasn't very hard to find the disease. And so we do know it's in the Waco Mountains out there. We also now know it's in the Franklin Mountains, which is to the west of the Waco's. It's actually the, El Paso is basically in the Franklin Mountains and on the foothills. And we found the disease there. And we're really only tests and road kills out there. But it looks like the prevalence could be pretty high in that area. And it was in 2016 when we detected CWD in the northwestern panhandle and Dalham and Hartley counties and we actually have detected it and mule deer, White-tail and elk up there in those counties.

**Dr. Sandra Rideout-Hanzak** [00:19:41] So I have a question about the prions, are they just naturally found in the environment? Have they always been here? And I know "always" is a weird word to use there. But, you know, have they been here for a long time? Is it something new or what?

**Mitch Lockwood** [00:19:58] That's a really good question, because there are certainly people that speculate that the CWD is something that has been in the environment here for many, many, many years. Some speculate that it's a jump from scrapie. You know, I think there's a lot of possibilities here as to the source of it. I do not think that there are any data to support the notion that CWD has been here in Texas for many, many, many years. We have collected a lot of samples from hunter-harvested deer since 2002. If if the disease has been here long at all, we would have found it in a lot more places. OK, now it could have been a Waco Mountains for quite some time. But if you look at the research, I'd say it has been for several decades. But Waco Mountains, and that's probably where it's been the longest, which exists the longest anywhere. But we have it the state. But, you know, if this is the if this is a carryover from scrapie with all the samples that we've collected since, well, since 2002, you'd think we would have found a number of free-ranging positives throughout the whole country, you know, to the heart of the sheep and goats or I'll just say the sheep ranching industry.

**Dr. Sandra Rideout-Hanzak** [00:21:25] Yeah.

**Mitch Lockwood** [00:21:25] And there just hasn't been the case. OK, so I think there's some possibilities. And and I think, you know, a jump from scrapie is something that I would cross off the list. But but again. I just think if it's something that's been here for years, we would have we would have detected a lot more of it by now.

**Rebecca Zerlin** [00:21:48] You have talked a lot about testing for CWD. How exactly do you test for that?

**Mitch Lockwood** [00:21:57] Well, the accepted method by most is the postmortem test, so, you know, it's collected on an animal after that and you can test the obex, which is basically commonly referred to as the brain stem from the deer or the medial retro pharyngeal lymph nodes, which are lymph nodes in the throat of the deer. And so they're very easy to collect from a from a dead animal. And we'll send those into the diagnostic laboratory. And it would usually be it'll be at least three days before we get test results. But in Texas, we are proud that we're the well, just so we're proud to have to kind of jumped out in front and initiated live animal testing that would be applicable to our captive breeding industry. And I say that because we're the only state in the country that allows for antemortem or live animal testing outside of potentially some research that might be going on somewhere. We're actually using it to manage this disease or help identify this disease where it exists for standpoint. And to do that, you can take a biopsy either from rectal tissue or a tonsil biopsy. The biopsy is a more sensitive tissue. In other words, the disease will be detected there before it will be detected in the rectal tissue. But we believe both of those techniques are good for screening and heard if the disease is in the herd, it should detect it.

**Rebecca Zerlin** [00:23:48] So you you'll get you'll test harvested deer, correct, for some that the postmortems, if somebody were to bring in a deer and it test positive, what would that hunter then do or how would it work for them?

**Mitch Lockwood** [00:24:05] Another good question. So, when there's a positive test result, the lab will call Texas Parks and Wildlife Department, and they're called Texas Animal Health Commission, they'll notify both of us of that result. If it's from a hunter-harvested sample. And we will look into our database and find the contact information for that hunter and give that person a call and basically make an offer to that person to collect the deer from him or her if the hunter wishes. It's completely that person's prerogative. So sometimes the hunter chooses to keep the meat, sometimes it's already been consumed, but sometimes they do ask for us to pick up the venison and dispose of it. And in that case, we would need to take it to, we usually would take it to the diagnostic laboratory for incineration. We could take it to an approved landfill, but usually we would take it for incineration

**Dr. Sandra Rideout-Hanzak** [00:25:13] Are all harvested deer tested?

**Mitch Lockwood** [00:25:19] No. And a lot of Texas CWD surveillance is voluntary. We do have mandatory surveillance in areas that we have established as a utility containment zone or surveillance zone. So a containment zone is an area in which the disease has been detected, and then a surveillance zone basically surrounds that containment zone. We think it's still a high-risk area, but we don't know the disease yet to be there. And so for both of those types of zones, we do require every harvested white-tailed deer and mule deer, and Animal Health Commission, requires every harvested elk and red deer and sika deer, etc., be tested for the disease. And so they would basically bring the animals to one of our check stations where we would collect the sample and we would submit it at our expense for testing.

**Dr. Sandra Rideout-Hanzak** [00:26:16] So you mentioned that if somebody had a deer that tested positive and they already ate the meat, is that OK? Does it pose any threats to humans?

**Mitch Lockwood** [00:26:28] There's no known impact to humans. There's been some work, quite a bit of research trying to investigate whether or not humans might be susceptible to this disease. There has been one study in which macaques, which is, of course, is a primate, where they were infected, they were exposed to CWD and then later tested positive for CWD, and they actually were exposed by consuming venison from infected deer. There was another macaques study actually, prior to the one I just mentioned, that did not have the same results. And so a lot of people are quick to point that out, that there's conflicting studies, but they're not they're not necessarily conflicting studies. You know, we have we have deer in captivity in the same pen as positive animals. And some of those deer that have been exposed will also test positive and others won't. And so there's different reasons for that. But there was, again, that one macaque study that did raise the concerns, especially the concerns of the CDC who actually modified their recommendations at that. They recommended that any deer harvested within a CWD zone be tested for CWD and any deer that test positive not be consumed. But again, I want to be very clear that there's no evidence to date that people can get this disease.

**Dr. Sandra Rideout-Hanzak** [00:28:11] OK, so you mentioned that box and larger box particularly are seemed to be, or I don't know what I'm trying to say here, but maybe they test positive more often than other age and sex classes. What's going on with that? Why? Why does that happen?

**Mitch Lockwood** [00:28:33] Well, there is some work, that's a good question, and I think it's one that a lot of people I mean, there's some different ideas floating around there, floating around out there, speculating as to why that might be the case. But most of the work that's been done suggests that bucks, the prevalence of CWD prevalence is going to be higher in books than it is in does. And you're going to see higher prevalence in older animals as compared to younger animals. But again, like you've seen a lot of wildlife research. Not every project returns the same results. So it's Dr. Edmonds with research in CWD in white-tailed deer in south eastern Wyoming where he found the prevalence was actually higher does than it was in bucks. But keep in mind that a lot of the work that is done and trying to surveil for this disease is choosing hunter-harvested animals. And a lot of cases, especially when we're talking about mule deer, usually, we're only getting samples from bucks. But there's a lot of mule deer populations in which doe harvest isn't even allowed. But it does look like it's been a number of research projects that do indicate that the prevalence does appear to be higher in the mature bucks than it is in does or younger bucks and. Some speculate that the reason for this deal with some of the social and social behaviors that you see in bucks is compared to those that might contribute to those differences.

**Dr. Sandra Rideout-Hanzak** [00:30:18] OK, so they're just coming into contact with other individuals more often? Is that what's happening?

**Mitch Lockwood** [00:30:28] That well, that may contribute to that.

**Dr. Sandra Rideout-Hanzak** [00:30:31] Uh. OK, so. What can hunters and deer managers do to protect Texas deer from D..

**Mitch Lockwood** [00:30:45] Well, number one, I think early detection is critical to, you know, to fight this disease and win this battle. And in order for us to get early detection, we need to test deer for CWD. And so while this is voluntary or testing deer is voluntary throughout most of the state. We highly encourage all hunters to find out whether their local wildlife biologist is going to be collecting samples and to allow us to collect a sample. And again, it would be at our expense and they would be able to get their test results online, you know, soon after. But something else that is very important. So the testing is just to help us find the disease where it exists. But more important than that is to contain the disease, to really exist so we don't have to find it to implement methods to contain it. And so what can hunters do to do that? They can whenever the regulations allow for this, they can leave the more risky carcass parts behind the parts are the more likely to have the prions, which would be like the head, the brain. So if you have a doe, for example, you don't have a need or desire to take that doe's head home when you take your quartered meat back home. And we would encourage them to leave the head, to leave the spinal column, basically to leave the unused part of the deer back at the side of harvest or at the property of harvest and not take it back home, which may be a few hundred miles away. Right now the head of an animal serves as proof of sex, and so we're actually working on a regulation amendment to allow for alternative forms to serve alternative means of methods for identifying proof of sex. And that's something that I think you can expect to see proposed here in the not too distant future. And if and when we're able to accomplish that, then that's going to give hunters throughout the state the ability to carry out this recommendation on leaving these unused carcass parts behind. There are ways they can do it today. I mean, if they're hunting on, say, a property that's enrolled in the MLDP program the MLDP tag serves as proof of sex. So they don't need to take the head in that case or anybody in Texas can get a landowner affidavit to serve as a proof of sex. So there are other ways that it can be done right now. But we're still contemplating some regulation changes to make this as convenient for the hunters as possible.

**Dr. Sandra Rideout-Hanzak** [00:33:45] OK, now, so this is a neurological disease, so I'm assuming it targets the brain and the spinal cord and that's going to have some you know, when when the as the disease progresses, that's got to have some implications. What does that look like? You know, if people are, if people see a deer that's acting strange, you know what kind of behavior should they look for and what should they do if they see a deer that they think might have CWD?

**Mitch Lockwood** [00:34:21] Well, so CWD shares symptoms that a lot of diseases have, these symptoms would include things like weight loss, excessive drooling, kind of a blank stare, if you will, a decreased awareness, just some other behavioral changes like circling. So, again, we do get a lot of phone calls for here that have these symptoms. And we will remove those animals. We will have them tested. And fortunately, in all except one case, actually all except two cases now, they're not. They don't have CWD. But actually two of our detections in Texas were a result of somebody, someone from the public making a phone call saying, hey, we think we're looking at a deer that has these symptoms. What should we do? We responded in both cases when one was in Del Rio and one was up in Lubbock, just on the east side of Lubbock. And we responded. We had the animals tested. And sure enough, unfortunately, they did test positive for CWD. And so to get to you to get to your question, if somebody sees a deer with these symptoms, know that it could be any number of diseases that could lead to the symptoms you're seeing. But we certainly encourage you to call Texas Parks and Wildlife Department and let us know about it. And we do want to have that animal sample. If you know your local wildlife biologist, give, give him or her a call, or your game warden, or if you don't know that you may just go on to the Texas Parks and Wildlife Home Page and call the one 800 number that's on, on the on the home page to report that there are appropriate staff will be notified and can attempt to collect the sample.

**Dr. Sandra Rideout-Hanzak** [00:36:29] OK, yeah, that's good. That's good advice. So they could easily find numbers online if they're not familiar with a local game warden.

**Mitch Lockwood** [00:36:38] Or local biologist, biologist.

**Rebecca Zerlin** [00:36:41] So you mentioned the history of CWD moving throughout the state. How widespread is it now?

**Mitch Lockwood** [00:36:51] Well, so we know of it and again, in the Waco and Franklin Mountains, out in the Trans-pecos. We know it in the northwest panhandle and we know that in the Del Rio area, in that particular area, we think that we have a really isolated case there. We've done intensive surveillance in that immediate area, and it appears that the prevalence there is very, very low and the geographic extent of the disease is very, very small. That happens to be in an urban setting and we think that the management, the management plan that's been put in place there is going to be quite effective at keeping it contained there. Other than that, we have detected CWD in some captive facilities, most of which we're in. We're in the south-central Texas area, that Medina Uvalda County area. But we've also had one up in Kimball County, which is near Segovia, a little bit South of Junction. And we've detected it in Lubbock. And we've detected in a captive facility in northeast Texas. There were a couple of other captive facilities where it was detected in Mason and Matagorda counties. But we believe that we were able to respond quickly enough there to prevent the disease from getting established in either of those areas. We've had extensive surveillance throughout central Texas, east Texas, south Texas, north Texas, north central Texas, and we have yet to detect the disease and free-ranging populations in any of those regions.

**Dr. Sandra Rideout-Hanzak** [00:38:44] Oh, this may be a silly question, but Texas is a pretty big place and we've got a really rainy region in the piney woods all the way out to desert and everything in between. Is there are there any weather effects on these prions? Are they more likely to stick around in dry areas or wet areas? Any idea about that?

**Mitch Lockwood** [00:39:09] I don't think I've had that question before...

**Dr. Sandra Rideout-Hanzak** [00:39:14] I said it might be a silly question.

**Mitch Lockwood** [00:39:17] Well, no, no, not at all. I'm just thinking about this geographically of where celebrities are known to exist when we know it exists from Wyoming and Colorado all the way back to Virginia, West Virginia. And so taking some other eastern states, really, it is more limited in the east, but I think we definitely have seen it in areas of both high and low precipitation.

**Dr. Sandra Rideout-Hanzak** [00:39:53] That was just I was just something I was wondering if off the top of my head

**Mitch Lockwood** [00:39:57] There are very prevalent actually in Tennessee over the Tennessee and northern Arkansas, a very high prevalence there, and just like very high prevalence in Wyoming, so and in Colorado. So very different climates, obviously, as you go from Wyoming, Colorado, back to Arkansas, Tennessee, all those areas have a high prevalence.

**Dr. Sandra Rideout-Hanzak** [00:40:21] OK, now we do have a lot of deer breeders in Texas. Do you have an idea how many deer breeders there are and how has CWD affected them?

**Mitch Lockwood** [00:40:36] Well. There's last count was somewhere around 980 permitted breeders in the state. They exist somewhere around 7,000 or 8,000. There is the facilities in this disease certainly has a very big impact on them that affects their ability to release animals to the world or to transfer to other breeders. I mean, obviously, I'm talking about if the disease has been detected there. But even where it hasn't been detected, we're learning that our confidence that CWD is being detected anywhere where it exists is, our confidence in that is much lower than what we thought it was a year ago. And there's good reasons for that. And so this affects all deer breeders because obviously nobody wants to see this disease released to the wild and or to be transferred to anywhere, for that matter. And so to do that, we've established some rules to provide some more assurance that our program is not going to result in transferring this disease to the wild or other breeders. And so the rules in place to try and provide that assurance obviously is going to affect every permanent breeder who wishes to move deer around the state.

**Dr. Sandra Rideout-Hanzak** [00:42:03] OK, so you're working with the deer breeders, what about just ranches that have, you know, deer hunting is an important part of the program, maybe bring in a, you know, nice, expensive buck every now and then. Are you working with them? What recommendations are you giving them for controlling WCD on their property?

**Mitch Lockwood** [00:42:27] It's similar to similar to what we're talking about a little while ago, we certainly encourage them all to have deer tested that's harvested from their ranches, but we also encourage them to leave unused carcass parts behind. Basically allow the hunters to quarter an animal and take the quartered carcass back home with them and leave everything else at the site of harvest. Again, there are some challenges with that when it comes to maintaining proof of sex, but there are ways to do that. And again, we're contemplating some rule changes that will make that even easier for the hunters. But that's the number one piece of advice that we have for trying to contain the disease if it happens to be somewhere that we don't know it exists yet. As far as working with these landowners and hunters, we have different advisory committees, stakeholder groups, if you will, that we call in and try and bounce some ideas off of, get their input on different management strategies. One would be our Chronic Wasting Disease task force. Another would be our greater use of food. Another would be our White-tailed ldeer Advisory Committee or Mule Deer Advisory Committee and our Private Lands Advisory Committee. And so there's representatives from different stakeholder groups on these committees, not the least of which are landowners in this state. And so far, we've received quite a bit of input from them, especially from landowners and from affected holders as well, on trying to establish the most effective containment strategies that we can. OK.

**Rebecca Zerlin** [00:44:23] So if CWG were to become more widespread and common in Texas, you kind of touched on what would happen for the deer if it becomes really bad. But what are the implications for our economy, maybe other wildlife and other natural resources in the state?

**Mitch Lockwood** [00:44:44] Well, I don't know about other natural resources, persay, obviously, it could be very detrimental if we left this disease on, managed and allowed the prevalence of this disease to increase to a rate that would be not palatable to our hunters. Through human dimension studies, hunters have told us that they will avoid areas where CWD prevalence gets beyond their threshold. Now, my threshold might be different than yours, right? So that's going to that's going to be hunter dependent. But they have a threshold, whether that's at a five percent prevalence or 30 percent prevalence. Again, that's going to vary from person to person. But the bottom line is, if they do begin to abandon areas where they've hunted for years, generations, and they go somewhere else in Texas to hunt, obviously that could have a horrendous impact on those local economies. There's many, many local economies in this state that depend on that hunting revenue. And so we're committed to prevent that from ever happening. And it's going to take an effective CWD management program to prevent that from happening, to prevent the prevalence from increasing, to try and keep it stable. If not decreasing in those areas where it exists and most importantly, to keep it contained to those areas in which it exists and not transmitted anywhere else, because I think the potential impacts to the economy is a big unknown. But it doesn't take a brain surgeon to realize that hunters who tell us they will start avoiding areas where the prevalence gets too high. It's pretty obvious to see what kind of devastating economic impact it could have to those areas that they're starting to avoid.

**Dr. Sandra Rideout-Hanzak** [00:51:51] I can't imagine how hard it is to try to prevent something that's just coming that's just getting started. And, you know, you don't really know all the rules yet and how it's going to behave and that sort of thing. And like you said, I mean, it's not I use the word behave. It's not something alive. But, um, when you don't know how to deal with something, it's got to be pretty hard to prevent.

**Mitch Lockwood** [00:52:19] Well, you know, you hear some people say that, I heard somebody last week say, "this disease has been around forever. It was first detected in 1967." Those are two conflicting statements, 1967, was not forever ago, 1967 tells us this is a very new disease compared crapie and other diseases that have been around for hundreds of years that we've known about for hundreds of years. And, you know, that's one of the challenges with this. It's an unconventional disease, and the late Dr. Bob Dittmar, used to say this a lot, and pound it in our heads that you cannot use conventional means to manage an unconventional disease. it is just it is just that these aren't livestock. These aren't animals that we can just round up, treat, remove certain ones and eliminate the disease. There is no known way to eradicate this disease from the landscape where it becomes established. And so it's different than any other disease that we're familiar with. And I'm going to say the most challenging of all diseases to manage wildlife populations.

**Dr. Sandra Rideout-Hanzak** [00:53:46] Yeah, and as opposed to like with mad cow, when cows are being moved around, we're doing that. We're moving them around on trucks, so trucks can be stopped and inspected and facilities can be shut down or shut down for a while and completely cleaned out. But these guys are just out there running around on the landscape doing their thing. So it's really hard to prevent movement from one place to another with a wild animal.

**Mitch Lockwood** [00:54:15] It's an excellent point. The livestock industry has slaughter facilities at surveillance points, we don't have that safety net. Basically up until now, we've only been able to collect samples from, say, we put the and we're the to animals that were animals that died in their facility. But about 40 percent of their inventory gets released every year. So those are animals that are not tested to this point, haven't been tested, are required to be tested. And they never will be. Because they're released and once they're hunted they're not required to be tested at that point. So here you have slaughter facilities and livestock where you can test as needed compared to release deer, where we currently don't have any sort of serious requirements on those animals. So it's very, very different scenario.

**Dr. Sandra Rideout-Hanzak** [00:55:13] Mm hmm. But at least I mean, it does sound like there are some hopeful things. You are you're making some hopeful changes. I think, like you said, not requiring the head to prove the sex anymore. That's coming up. Will that be in place by this fall, by deer hunting season this fall?

**Mitch Lockwood** [00:55:38] No, we won't be able to have that effect by this fall, but I think we can start with a pretty good education campaign to tell hunters what they can do this fall under existing rules to achieve the same objective.

**Dr. Sandra Rideout-Hanzak** [00:55:50] OK.

**Mitch Lockwood** [00:55:53] And then I think some others, you know, some other components of all this that try and. For that added safety, if you will, would be our current requirement to not release an animal unless it has been detected in the lab animal test result in advance. Yeah, and I think that could provide us a whole lot more confidence that we're not transmitting the release of that disease into the wild. So I think we've got some stuff in place to protect going forward. But we still have many discussions to have with our different stakeholder groups to try and make sure that we're not missing something.

**Dr. Sandra Rideout-Hanzak** [00:56:39] Well, it's going to be a constantly changing landscape for you, but it does sound like you're working hard at it.

**Mitch Lockwood** [00:56:47] Well, we're trying. We have good partners with the Texas Animal Health Commission and Texas A&M diagnostic laboratory and of course, all of our various stakeholder groups and it's been just tremendous partnerships to help us through this challenging time. But, yeah, I'm confident that we're going to come up with a very effective plan, move forward.

**Dr. Sandra Rideout-Hanzak** [00:57:29] I really appreciate appreciate your time. I know you have your hands full otherwise right now without us asking for a little bit of your time. So thank you very much.

**Mitch Lockwood** [00:57:43] No, you bet, no problem at all. I appreciate the opportunity.

**Rebecca Zerlin** [00:57:53] That was a lot of information.

**Dr. Sandra Rideout-Hanzak** [00:57:55] It was.

**Rebecca Zerlin** [00:57:56] It's a lot of information, and I know people may have been a little overwhelmed by that. So what we'll do in our information, we'll make sure that we have links to CWD resources. So if you want to catch something again, if you want to get the information of a biologist, if you see a suspected case of CWD, we'll have that linked in our bio for you and on our social media. And for our listeners who may not be Texas-based and are still concerned about CWD, and want to know more. You can always look up that information for your state Fish and Wildlife Agency as well.

**Dr. Sandra Rideout-Hanzak** [00:58:33] Yeah, it's definitely not just a Texas issue now. Also, just want to remind listeners, if you have ideas for us, you can, if you want to hear more about CWD or something else, you know, related or not related to this, you can email us at wildpodcast@tamuk.edu. So "wildpodcasts" is one word and "tamuk" is tamuk.

**Rebecca Zerlin** [00:58:54] And that will also be listed in our bio section.

**Dr. Sandra Rideout-Hanzak** [00:59:01] Yeah, and be sure to subscribe wherever you are listening to this podcast today and like us and leave us a review if you are so inclined. We would appreciate that, too. Yes. If you really like it, we are Dr. Rideout and not a Dr. Rebecca, if you don't like it. My name is Andrew Lowery and I am the technician. He has an arrow! It's chaos here! Remember, don't feed the wildlife!

**Dr. Sandra Rideout-Hanzak** [00:59:30] 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 Gabby Olivas, Andrew Lowery and Tre' Kendall. We thank the TAMUK Distance Learning Lab for their help and cooperation.