

**TRANSCRIPT**

**INTERVIEWEE:** Terry Rossignol

**INTERVIEWER:** David Todd

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**Google Voice** [00:00:00] This call is now being recorded.

**David Todd** [00:00:03] Good morning. This is David Todd.

**Terry Rossignol** [00:00:06] Yes, good morning, David. This is Terry. How are you doing?

**David Todd** [00:00:09] I'm fine. I'm fine. I really appreciate you calling and look forward to visiting with, you.

**Terry Rossignol** [00:00:18] Now, likewise. I'm looking forward to this as well. Kind of slowing things down here this morning and making it all happen.

**David Todd** [00:00:28] Well, good. Well, thanks for setting aside the time, and I'll try to make this as quick and painless as possible so you can get back to your, your usual life.

**David Todd** [00:00:44] Let me just lay out a little bit of what we're trying to do, both for the record and to make sure that, you know, you understand what we're about and what our goals are. So here's, here's the plan that I've got: the thought is to record this interview for research and educational work, on behalf of a nonprofit group called the Conservation History Association of Texas. And that's to help build a book and a website for Texas A&M University Press, and to make contributions to an archive about environmental history, to the Briscoe Center for American History at the University of Texas here in Austin. And, and, of course, you would have all rights to use the recording as well.

**David Todd** [00:01:37] But that's our overall goal. And I want to make sure that sits well with you.

**Terry Rossignol** [00:01:43] Sure, sure.

**David Todd** [00:01:45] Oh, good. Well. Glad to hear it.

**David Todd** [00:01:50] Well let me lay out when and where this is all happening and some of our goals for our conversation of it is January 23rd, 2021.

**Terry Rossignol** [00:02:04] Oh no!

**David Todd** [00:02:05] My name is David Todd. Yeah, it is hard to believe. I'm in Austin and I'm representing the Conservation History Association of Texas.

**David Todd** [00:02:15] And we are very fortunate to be conducting an interview with Terry Rossignol, who is a wildlife biologist who worked for the U.S. Fish and Wildlife Service from 1985, I believe, through 2018. He had a 25-year tenure at the Attwater's Prairie Chicken National Wildlife Refuge, serving as refuge manager and recovery team leader for the prairie chicken for over two decades. And so he is based in Columbus, Texas. And this interview today is being done by telephone. And today we will be talking about his life and career, but maybe focusing in on some of his insights on the Attwater prairie chicken, its decline and then the efforts to breed it in captivity and release it to the wild and gradually restore this, this very rare bird.

**David Todd** [00:03:16] So that's, that's my agenda and I appreciate you joining in on this.

**Terry Rossignol** [00:03:23] Yep, sounds good. David, I appreciate the opportunity to be able to do this and I'm looking forward to it.

**David Todd** [00:03:33] Well good. Well, let's start with a question about your, your own beginnings. Maybe you could tell us a little bit about your childhood and if there might have been people or events that were a big influence in your interest in working with animals and wildlife in general, birds in particular, perhaps.

**Terry Rossignol** [00:03:57] Yeah, well, I guess taking it way back, my, my family moved to San Antonio when I was about five years old. My father was in the Army and had just retired after 22 years of being in the Army. And we were kind of, San Antonio was going to be our new home.

**Terry Rossignol** [00:04:22] You know, and it's funny, because I guess I can reach back and think probably the first influence that I had in regards to wildlife and nature and all was probably in the third grade. I became fascinated with Smokey the Bear and collected many of the, you know, the "Only You Can Prevent Forest Fires" posters and things like that. And, and the Forest Service had a program where you can sign in, or write in and become a junior forest ranger. And boy that just really appealed to me. And I did all that. And I think that's probably where things really got started for me career-wise.

**Terry Rossignol** [00:05:19] And over the years, you know, I have just always had that under my fingernails to want to become, to do something in the wildlife profession. At first it was, of course, I wanted to be a forest ranger, but I think as I grew older, I started realizing that, you know, I wanted to lean more towards the wildlife profession. And I don't know, I cannot really explain why, other than that I just was always fascinated with, with animals. I remember growing up watching the Mutual of Omaha Wild Kingdom on TV and all the stories about animals in the wild and just really enjoyed those. And it's just it's always been inside me. I can't explain it any other way.

**Terry Rossignol** [00:06:14] I remember when I told my parents, as a senior in high school, that, you know, I wanted to pursue a career in wildlife. And they kind of looked at me like, what are you talking about? What's that? What is that? Is that, is that really a job? You know, kind of a thing. And although they were very supportive of it, I don't think they fully understood what, what all it, it included.

**Terry Rossignol** [00:06:42] One, one thing I do remember, just kind of a bit on the negative side, I did have my high school counselor tried to discourage me from pursuing a degree in wildlife, she's saying that there are very few opportunities to find a job. And even if I did, the

chances of being able to survive on the salaries and all, that, you know, it would just, it'd make it very difficult to make a living from it.

**Terry Rossignol** [00:07:17] But I think the more people told me that that I couldn't do it, the more I really wanted to do it. And I don't know, it's always been inside me to do something with, with wildlife. And that's kind of how I got started and started really zooming in on that, and in my early college years of pursuing a degree in the wildlife profession.

**David Todd** [00:07:51] Well, and you mentioned college, I understand that you graduated from Texas A&M University with a bachelor's in wildlife ecology. Were there any particular lessons you recall that really stuck with you, or maybe colleagues, professors, fellow students that you met there who, you know, really were a important influence for you?

**Terry Rossignol** [00:08:17] I, I really, you know, I don't remember anything per se that, that stands out, or any, any mentors. I mean, I did, you know, very much enjoyed the wildlife professors there. Of course, I was in my element. Really, I was pushing to know more about, about wildlife and all, but nothing really stands out per se for a particular lesson or one event that really helped me along.

**Terry Rossignol** [00:08:57] One of the programs that I did get into while I was at Texas A&M was called the Cooperative Education Program, which was kind of like one of these learn and work at the same time kind of programs, kind of a hands-on experience while still being in school. And had the opportunity to intern with the U.S. Fish and Wildlife Service. And of course, this is where they really started being more, more of what I was zooming in on, of course. And I guess one of the lessons, early lessons that I learned from, from the Work and Learn program, where I'd work one semester, and then go back to school another semester, and then work another semester, kind of alternating from work to school. One of the things that I learned was basically the more I got into this profession, the more I realized, yes, this is what I wanted to do. And it just, just turned things up more and more, the more I got into it.

**David Todd** [00:10:22] And I understand that you interned with a number of different wildlife refuges, including Cibola, Buffalo Lake, Salt Plains, in different states - California and Texas, Oklahoma. Were there any experiences at those refuges that stayed with you?

**Terry Rossignol** [00:10:45] You know, I remember the first thought I had: the first place that I was assigned to was Cibola National Wildlife Refuge, right on the Arizona / California border and started there in early September. And I remember driving in through town and seeing the thermometer reading on the, on the bank billboard there, reading 119 degrees. And my first thought was, what in the world have I gotten myself into? What is going on here?

**Terry Rossignol** [00:11:29] And, you know, other than that, it was a very enlightening experience, you know, again, I just reiterated the fact that this was the kind of job that I wanted to get into, the kind of career I wanted to get into.

**Terry Rossignol** [00:11:49] What made it really interesting was that when I was on the job, a lot of what I had learned in the classroom really came to life. You know, it wasn't just theory anymore. This was actual things that were happening in the field. I saw that come to life. And then vice versa when I was in the class classroom, I could relate back to the job experience that I had had, after that first work term and yeah, you know, I could, if a professor said such and such and such. Oh, yeah, I experienced that. That's true. It just kind of reaffirmed everything for me. It was very, very fulfilling, to say the least.

**David Todd** [00:12:39] That's interesting. So you really started to get this connection between being in the field and being in the classroom and, you know, real world experience and then the theory.

**Terry Rossignol** [00:12:49] It was all meshing together.

**David Todd** [00:12:55] That's great. Well, we'll see you then out of A&M in '85. And it looks like you began working for the Fish and Wildlife Service almost immediately and worked at Brazoria, and Lower Rio Grande Valley and Bitter Lake. Again, same sort of question - are there some experiences from those early jobs with the Service that, you know, were formative.

**Terry Rossignol** [00:13:22] Yeah, again, I guess we're digging way back in the cobwebs here, but I really can't think of anything that comes to mind. I'm sure there was something, but I can't think of anything that comes to mind in those early years that the. I'm kind of drawing a blank on it, actually.

**David Todd** [00:13:45] Well, it's intriguing to me that while you have had such a long and fruitful career at Eagle Lake, at the Attwater Prairie Chicken Refuge, you really had this diverse background among, what is it, five or six refuges before there. And I imagine that was helpful when you started focusing on the wildlife and the landscape in one particular refuge.

**Terry Rossignol** [00:14:12] Absolutely. I think, you know, one of the, one of the questions people ask me a lot also when I go into this is, which refuge did you enjoy the most? And, you know, that's not really a fair question. I think each National Wildlife Refuge is unique in its own way. And from that, I did pick up different things along the way. And it was some of the concepts are very similar from one refuge to the other. But then you have to look at the different habitat types and different animals and critters that use those areas. And obviously there's going to be differences in that, but in some cases, the basic, basic ecological concepts are very similar from one habitat to the next.

**David Todd** [00:15:17] Well, and then, to sort of bring us up to the Attwater prairie chicken era, in 1993, you came to Eagle Lake and started working at the Attwater prairie chicken refuge. I guess you began as an assistant refuge manager and then later served as the refuge manager and the recovery team leader for the prairie chicken, and were there for 25 years. How did you end up being hired there? How did you start there?

**Terry Rossignol** [00:15:52] But, you know, I think there's a little bit of luck there. I guess in growing up, I had kind of heard about the Attwater's prairie chicken. Obviously I was kind of in tune to all that, and it was one of those things that was like, you know, it'd be kind of cool to work there. So I always kind of had an eyeball, you know, at Attwater. And the way things worked was, you know, obviously when there's a position that comes open within, within the Fish & Wildlife Service, people have to apply for it and they go through an interview process and all of that. And what happened at my, my time at Bitter Lake National Wildlife Refuge in Roswell was, you know, getting to that point where I started getting the itch wondering, OK, what's my next step, when the position, the assistant manager position at, Attwater prairie chicken refuge came open. And I applied for it. It was, it was, you know, fairly close to home. I mean, it was just a couple hours away from San Antonio where I grew up. And even my, my wife was, had grown up around the Victoria area. So about an hour and a half away from her

family. And I guess family-wise, we were kind of ready to come back to Texas and this opportunity opened itself up and happened to, to get the position, and it worked out well for us.

**David Todd** [00:17:37] Well, clearly, it was a fit for you. Gosh, you, you put in decades there. Maybe you can tell us a little bit about the refuge that you came to work at. Maybe describe the history of how the refuge was, was purchased. And I guess it was also built out by gifts, as well.

**Terry Rossignol** [00:18:02] That's right. Yes. So the refuge was established in 1972 and it was probably one of the younger national wildlife refuges in the Fish and Wildlife Services system. It kind of came about, obviously there was some local individuals around the Eagle Lake area that definitely saw the need to set aside some coastal prairie habitat, primarily for the Attwater's prairie chicken, which was already in decline numbers wise, and saw the need to preserve its habitat at that time. There was some donations from local folks donating the land. And then the World Wildlife Fund came in and purchased or acquired those donations, which later then the Fish and Wildlife Service came in and acquired the property from the World Wildlife Fund. Back in, back probably in mid to late '60s was when all this was happening. And of course, the establishment of the refuge back in 1972.

**Terry Rossignol** [00:19:25] You know, the refuge, like I said, there was obviously interest in the local area, folks that were concerned about the decline of the Attwater's prairie chicken, and that's kind of how things got started. It started out about 30, about 35 hundred acres. And then over the years, during the '70s, it grew to about 8000 acres in size with just continuing to, to attach more lands to the basic 3500 acre hub that was originally established. Had an opportunity during the late 1990s, early 2000s, when I was there, to also add about another 2500 acres to the refuge to where today it's a 10,541-acre sized refuge.

**Terry Rossignol** [00:20:35] And a lot of this kind of came about, for every, you know, for every endangered species, there's what's called a recovery plan. And within this recovery plan, it lays out the, the things that need to be done for the species to start seeing the species increasing. And one of those items was enlarging the refuge to a larger size. Unfortunately for a grouse, prairie chicken, Attwater prairie chicken, 10,000-acre refuge sounds big, but it really isn't. We probably estimate that the refuge really ought to be three times that size, minimum, just to really be able to start making an impact on this recovery.

**Terry Rossignol** [00:21:40] So this is one addition of 2500 acres in the late 1990s was part of a plan to start growing the refuge in size. And again, that was kind of one of those opportunistic things, that being that the, having a plan in place at the right time allowed us to be able to accumulate those 2500 acres.

**Terry Rossignol** [00:22:08] Unfortunately, working with a government entity, it's about as quick as the money came up to purchase the lands, it pretty much dried up after about two or three years. And so that kind of squelched the, the growth of the refuge in that time.

**David Todd** [00:22:35] You mentioned at the outset of describing the history of the refuge that there have been some local individuals who'd been supportive of having a refuge. And I've, I've heard, I believe that one of them was a man named David Winterman. Can you tell us anything about his role in the growth of the refuge over the years?

**Terry Rossignol** [00:22:57] Yeah, obviously, it's all before my time, but Mr. Winterman was definitely a mover and shaker in the Eagle Lake area, a conservationist, I would say, very much. Saw the need and wanted to be a part of helping the, the Attwater's, keep them from becoming extinct. And he definitely had some real power in the area to be able to make things happen, had the right connections to see people come together that could make this refuge a reality. I never got to know him personally, but what I understand is definitely a go-getter.

**David Todd** [00:23:57] Yes. Well, and I guess part of his focus and yours was the Attwater prairie chicken. You know, for for lay people who may not be familiar with the bird, could you give us a quick introduction to the bird's basic life history, and maybe discuss a little bit about the mating displays that they're so famous for?

**Terry Rossignol** [00:24:22] Sure. Yeah. So actually, the Attwater's prairie chicken is, just to clarify, is not a chicken. It is a grouse species, one of several grouse species that are found in North America. Actually it is very closely related to the heath hen. The heath hen was a grouse that was located on the Eastern shoreboard of the United States, near Martha's Vineyard. Unfortunately, that species, that, that grouse became extinct back in the 1930s, I believe it was. And there's other, other grouse. There's actually the yeah, Attwater is a subspecies of the greater prairie chicken. And the other species that we have is the lesser great chicken. There's also ... The lesser prairie chicken is found up in the Texas Panhandle, eastern New Mexico, a little bit in the Colorado, Kansas area. And then, of course, we have the Attwater's, which historically was found all up and down the Texas coastal area from about Bayou Teche in Louisiana and skirted all the way through Texas on down to about the Kingsville area of Texas and all the coastal prairie areas there. And, of course, your greater prairie chickens are found up in the Kansas, Nebraska area of the United States.

**Terry Rossignol** [00:26:24] So the Attwater's, again, is not a chicken. It's a grouse, and grouse are basically birds that I guess you could, you could sort of call them, not, they're not really migratory in the sense that, like ducks and geese, are. They're more of a residential type bird that can kind of sits around basically in the same area. Now, they can migrate up to perhaps 100 miles or more, maybe 200 miles or so. But they're basically not migratory in the sense that we, we see ducks and geese migrate for, for thousands of miles every, every spring and fall.

**Terry Rossignol** [00:27:20] And these birds are ground birds. They will nest on the ground. And in the spring, each spring, the birds put on a very, and this is the Attwater's, now they put on a very elaborate courtship dance. Then starting mid-February or so, the birds will gather on these short grass areas in an attempt to try to draw a mate to, to establish themselves, first of all, as a dominant male that will have the opportunity to mate with several females in the area. So the males gather around, it could be anywhere from one or two males, up to, I've seen as many as perhaps 12 to 15 males on one particular area. It's called a booming ground. These are the low grass areas, short grass areas that the males gather around. First thing in the morning, right at sunrise, they will gather, I'd say starting about mid-February, and go on till about, about early May, mid-May, perhaps, depending on when really warm weather starts settling in.

**Terry Rossignol** [00:29:01] But these males will gather together and basically start to what's called "boom". And they will do a short little dance where the sound that they make when they they extend their neck sac out, it makes kind of an eerie sound, kind of a "whoo-whoo" sort of a note. And at the same time, there's their wings and feathers, their tail feathers are erect, and their wing feathers are kind of out and erect. And they're stomping their feet, and

they're kind of turning in half circles. And this is the courtship dance of the Attwater's prairie chicken.

**Terry Rossignol** [00:29:54] And of course, the, each male is trying to do this in hopes of attracting the females to the blooming ground, where mating usually occurs during probably the, the peak is during about mid-March or so of every year. After mating, the hens will go off to the, into the tall grass, generally within about a mile of the booming ground. And she'll dig out her little nest on the ground and lay approximately, oh, about a dozen eggs, sometimes a little more, sometimes a little less. But on the average, about a dozen eggs, about the size of a chicken egg that you'd buy in the grocery store. And they, she will raise the chicks. They incubate them for 26 days and the chicks will hatch out and she will raise the whole brood. By herself. No, no help from the males, at all. And then the little chicks grow fairly rapidly. Usually, probably within three months or so are kind of considered teenagers and then they grow up to form the next generation.

**David Todd** [00:31:35] OK. Well, and maybe we can sort of take the chronological view of these birds now. My understanding is that back in maybe 1900, there were, I think, a count of a million birds on some six million acres of coastal prairie in Texas. And, and then by, I guess that, by 1937, there were just 87000, already dropped, gosh, 90 percent. And then in 1993 the count had dropped to less than 500 and to just about 42 in 1996. A real collapse in the population. So can you tell us a little about why this bird declined so fast and so severely?

**Terry Rossignol** [00:32:29] I think it's probably a combination of a number of factors that all kind of started coming to a point all at the same time. One of the reasons the bird has been in decline, obviously, since 1900, and probably, in fact, prior to the 1900s, there seems to be, and that, you know, may be the beginning of the end that started then, but at that time was not a big issue. But there were reports of some hunters back in the late 1800s, early 1900s that would come out and shoot birds and just leave them rot. There were accounts that people, these hunters, would leave piles of prairie chickens as tall as a man. So, you're looking at the 6-foot high piles of prairie chickens just left to rot. So that that probably didn't help things in the early years, you know, in the early 1900s.

**Terry Rossignol** [00:33:48] Then with, probably with the, after World War Two, there was a big push to, of course, start in the area around Eagle Lake and pretty much throughout the of the coastal prairie of Texas, folks were starting to convert prairie habitat, coastal prairie habitat, into cropland. And of course, prairie chickens are not very adaptable, and you take their habitat away, they couldn't adjust very well to, to cropland. And so the combination of a big loss of habitat started occurring. Start combining that and also figure that this is also a loss of habitat.

**Terry Rossignol** [00:34:50] Probably by that time, too, historically, on the prairie, you would have natural wildfires that would occur. Basically, that was Mother Nature's way of keeping the brush in check on the prairie, literally clean an area out. Well, again, as you started having more folks start to live in an area, the suppression of fire became more and more prevalent, which then meant less and less fires, natural fires, which then started meaning that the prairie was becoming encroached upon by brush. And so you have that combination and loss of habitat there due to brush encroachment.

**Terry Rossignol** [00:35:46] So all of this is starting to happen along with the expansion of human development. You know, you have roads starting to cut up these prairie areas, fences, electric lines, towns and cities growing out and everything, and pretty much the bird was was

losing its habitat. And not only just losing its habitat, but also having its habitat cut up into smaller pieces. Again, this is a bird that needs wide, wide open grass spaces in order to survive. And it is becoming impacted in that regard.

**Terry Rossignol** [00:36:26] So you throw all that into the mix, say, up until to about the 1960s, early '70s, and then comes along the red imported fire ant, starts showing up on the landscape. And these red imported fire ants, we have come to know, really affected the birds in two ways.

**Terry Rossignol** [00:36:51] One, obviously directly. Because these birds nest on the ground, fire ants directly attack the young chicks when they hatch out of the egg. They would, we even had a documented instance where an adult bird died from fire ants attacking while she was sitting on the nest. And so that was becoming an issue.

**Terry Rossignol** [00:37:19] But then they also, fire ants would also attack and diminish the birds' food supplies, insects, indirectly impacting the young chicks, who basically for the first three weeks of life, young chicks pretty much solely dependent on eating insects for, as their diet. And so you start impacting that recruitment into the population year after year after year, you know, you have the habitat loss, you have the brush and lack of fire, and human encroachment, and you start adding all of that into the mix and fragmentation of their habitat. Then you have these fire ants that start attacking the chicks, the nest, the adult directly and indirectly.

**Terry Rossignol** [00:38:18] And then, and then on top, all that off, it just seems like in the last 30 or 40 years, wetter weather patterns have seemed to really impact the birds negatively over the, during this period. You go from extreme drought conditions to intense floods almost overnight. And of course, the occurrences would happen at the worst of times, right at nesting time or something like that. And that would further impact the ability for the birds to add to the population from one year to the next.

**Terry Rossignol** [00:39:01] So I think that all of this was just kind of a worst-case scenario, that over time, the birds with all of these different factors affecting them just are unable to adapt as readily as other wildlife species. And that's why we started seeing the real heavy declines in recent years.

**David Todd** [00:39:31] Well I guess when things got really severe and the population crashed, I think you said the late '80s, early '90s, I understand that the Service decided to turn to captive breeding as a way to keep some birds extant and also out on the prairie. Can you talk a little bit about how the Service came to that decision, and, you know, some of the efforts that were put into breeding and then releasing these captive-reared prairie chickens?

**Terry Rossignol** [00:40:09] Yeah, basically, it kind of comes back to, again, the Recovery Plan that was established for the Attwater's. In addition to adding more habitat that I mentioned a little bit earlier in adding to the Refuge, there was another component of having the potential of creating a captive breeding program as well. And as was mentioned, numbers just continued to crash year after year. And that kind of set off the, the trigger point to, to initiate a captive breeding program.

**Terry Rossignol** [00:40:54] Like this is probably a little bit before I got there, but I think it got to the point where if we did not, the Service did not, establish a captive breeding program when it did (it was 1992 when we, when the Service established that program), well, we



probably wouldn't have any Attwater's prairie chickens today. That was how dire and severe the situation had become for the species. And so that was the, probably the triggering point was when either we do it or we don't have more prairie chickens. That's what got the program started, the captive breeding program, started for the Attwater's prairie chicken.

**Terry Rossignol** [00:41:46] And can you tell us a little bit about the mechanics of that? I gather there needs to be some eggs collected and breeding partners found, and then I guess the system of releasing the young birds once they're bred and ready to return to the prairie.

**Terry Rossignol** [00:42:04] Right. So it's one thing to say, oh, yes, we need to establish a captive breeding program. But like you say, there's a lot that goes into that. There's obviously the, the mechanism of how are we going to start the program? And, obviously, the only source that we had to start gathering and starting the program in captivity was to gather eggs from out of the wild. At the time, in the early '90s, there were still three different populations of Attwater's prairie chickens. One was on, on private land down in the Goliad / Refugio County area. One was obviously at the Attwater Prairie Chicken National Wildlife Refuge. And then there was a third population in Texas City. And so what we ended up doing was, was gathering up the eggs. Really the very first time that this was done, especially on the refuge, the only way there were not any, well. There was the opportunity to, to try to locate hens in the wild while they were nesting was the only time that we could essentially collect the eggs.

**Terry Rossignol** [00:43:38] And one of the first things that we started was literally, getting a couple of horses out on the, out on the prairie there on the Refuge and dragging about a 100-, 150-foot rope between the two horses and literally dragging that rope through the prairie in hopes of flushing up a hen that was sitting on the nest. And that was kind of our way of locating the nest. Sounds pretty, pretty crude, but that was kind of the way we sort of started things off.

**Terry Rossignol** [00:44:22] Now later on, we, we were able to trap some of the hens on the boom, when they were on the booming grounds and radio-collar the hens, and then we could find the nest with radio collars.

**Terry Rossignol** [00:44:41] But that's, you know, both methods obviously were a little bit intrusive. But, but, you know, drastic, you have to go to drastic measures in order to get your what you need to get things started. So that's kind of how we got the egg started.

**Terry Rossignol** [00:45:00] Now, we were in the process of trying to find breeding partners, breeding facilities, to be able to raise the birds. One of the big questions we always have is why didn't we start a breeding facility right there on the Refuge? And one, for one thing, the Fish and Wildlife Service definitely doesn't have the know-how or the personnel to really do such a program justice. You know, we are looking to our zoos and aquariums and such. They have more of that know-how. And that's kind of where we started looking for for breeding partners.

**Terry Rossignol** [00:45:50] And of course, Fossil Rim Wildlife Center had already established captive-breeding programs for other critters. I believe the white rhino was one. The cheetahs were another program. And so we started with Fossil Rim Wildlife Center and they pretty much were established in 1992 as the first captive-breeding program for the Attwater's prairie chicken. And then others began to, within their own, their own zoo community, they started talking things up and then we had interest by the Houston Zoo. They felt it important

to become involved and had the ability to do that, being that we were fairly close to Houston. Obviously, the refuge was only about 60 miles from Houston.

**Terry Rossignol** [00:46:51] And then other facilities - we had the San Antonio Zoo, SeaWorld of Texas in San Antonio, the Abilene Zoo, the Caldwell Zoo in Tyler. And then the latest addition is now the Sutton Avian Research Center up in Bartlesville, Oklahoma.

**Terry Rossignol** [00:47:12] And so all of these facilities came together over the years. You know, one, one like the Houston Zoo began in 1994 and other facilities were added as we went. And some of them have, have dropped out of the program since then. And so, yeah, there's been some give and take. And, but the ones that have really stuck it out so far have been the Fossil Rim Wildlife Center and the Houston Zoo.

**Terry Rossignol** [00:47:45] And so, of course, when you, when you establish a captive-breeding program, the idea, of course, is to try to release as many birds as possible. And we began to test the how we were going to release birds into the wild. One of the things that, that is really important to understand is one of the goals of the captive-breeding program is to ensure the program's integrity is kept intact and at a very high level, because without a captive-breeding program, pretty much the Attwater's becomes extinct. Right now, it's, it's kind of the lifeline for the species.

**Terry Rossignol** [00:48:33] So, so basically, this means that not every chick that's produced is released. There's, there's importance in trying to keep a stock of genetically important birds for the needs for the next year's released chicks, and then the following year to produce chicks. And so there's this, depending on, on the number of factors such as the space at a given facility, the pairing method, the age structure of the captive flock, it depends on how many birds that are produced that year that will be kept within the captive-breeding program.

**Terry Rossignol** [00:49:15] And essentially then, maybe it sounds bad, but all excess birds after that are the ones that are released into the wild. So we have to take care of the captive-breeding program first, and then the excess birds are the ones that are released into the wild.

**Terry Rossignol** [00:49:36] And it took probably about three years back in '92 with Fossil Rim. It took about three years before we had any excess birds to, to really be released. And I believe at that time, it was about a dozen birds. So it wasn't that big of a, of a, of a number that were being released.

**Terry Rossignol** [00:50:00] So one of the things, once the birds are ready for release, of course, they are radio-collared and they are placed and the birds are about three to four months old. And there's about a, about a dozen birds are placed within what we call acclimation pens at the release site. These are roughly 30 foot by 50 foot by about six feet high, chainlink fenced pens, with netting inside.

**Terry Rossignol** [00:50:38] And, you know, during the first few releases, the refuge personnel conducted these kind of on-the-ground studies to kind of determine, number one, the best time of the year to release the birds, and the best period, how long of a period to hold the birds in the acclimation pen?

**Terry Rossignol** [00:50:55] And just to make a long story short, it was determined that the best time of year to release the birds was during the summer months, July and August, even into early September, well, before the migrating raptors arrived in the area in October. And it

kind of makes sense. It kind of went along the same lines as your birds that your hens that would raise the chicks, you know, they were pretty much, the young chicks could pretty much duck, fend for themselves by the time they're about six to eight weeks of age. And so for a bird that, the chick that perhaps hatched out in, let's say, May, well let's see, May, June, early July, before they're, they're ready to go in the wild. So this kind of correlated to the same time period that the birds that were hatched out in the wild as well.

**Terry Rossignol [00:51:57]** So there was also studies conducted that tested the acclimation and in time and we tested for birds that were in these pens for three days, seven days and 14 days. And it was determined that the birds that remained in the acclimation pens for a period of 14 days had better survival than birds left in the acclimation pens for three days or seven days. So the protocol that we used for the release of these birds stayed at about 14 days for all future releases.

**Terry Rossignol [00:52:41]** And I guess that kind of makes sense too, that, that when you think about it, for a young chick, when we when we go to, to get the birds at the captive breeding sites, they go through a kind of a last physical screening, make sure they're, they're fit and ready to go, to get dewormed one more time. You know, they get the radio collars placed on them and then they're placed in a wooden box with hay inside roughly about one foot by one foot by one foot. And unless, you know, that's their transport box, they, we use to to bring, transport the birds from, from the captive breeding facility to the release sites.

**Terry Rossignol [00:53:36]** Well, when you think about it, that's probably pretty stressful for the birds. So when we release the birds within the acclimation pens, it probably takes the birds a few days before they're kind of figuring out, huh, so this is my new home. This is my area that I'm going to be in for, at that time, they don't know, of course. But for a bird, that's only in there for three days, they're maybe just now starting to figure out the ins and outs of that acclimation pen, and then they're released again. And so, for them, they may not have quite gotten it all together before they're actually released into the big world. And so that's why the 14 days allows them to get more acclimated to the sights and sounds and smells of the prairie before they're actually released.

**Terry Rossignol [00:54:30]** So on release day, basically what we did was, and still do, is the pens have two gates at either end of the acclimation pen. And we basically go in in the morning, open up those gates and just let the birds out on their own. We've seen everything from the birds flushing, all flushing out at one time, seconds after we open the gate, to, in some cases, the birds kind of meander, still meander around in the, in the pen and are in no hurry to leave. By the end of the day, though, we do go back and ensure that everybody is out of the pen. And then we lock the, we close the pen back up, so that, you know, predators don't, aren't able to get into the pens and perhaps corner a bird somewhere in the acclimation pen that, that night or something.

**Terry Rossignol [00:55:31]** Well, that's kind of the whole captive-breeding or release program, in, in a nutshell.

**David Todd [00:55:42]** Well, that's really helpful. Thank you so much for walking us through the, the breeding and release process. And I guess another big part of your work at the Refuge is to ensure that the refuge landscape is, is one they can receive and protect and host these birds. Can you talk about some of the efforts of brush control and predator control and fires, you know, and other measures that you might have taken to try to make the refuge a quality habitat for the birds?

**Terry Rossignol** [00:56:20] Absolutely. And that, and that's really where the refuge comes into play, just to ensure there's, there's, it makes no sense to release birds into the wild if the habitat is not up to speed. And by that, basically, it's ensuring that the grassland habitat that these birds are used to is in prime condition. And we use several tools to make that happen.

**Terry Rossignol** [00:56:52] One, of course, is prescribed burns, which I mentioned earlier. One of the, one of the reasons for the loss of habitat is that a prairie habitat will eventually, naturally become encroached upon by brush just due to natural succession. You know, you'll start getting some of the woodier brush species come in first. And, you know, if left unchecked, totally unchecked, within 15, 20, 25 years, you're going to have trees start to grow there. And as mentioned earlier, the Attwater's prairie chicken is definitely not a very well, adaptable bird. They like that, that prairie grassland feel, they don't like brush, for fear that predators could be lurking around inside the brush or sitting on top, such as hawks and owls. The, so there's a real need to keep that brush under control and by conducting prescribed burns, this kind of keeps that prairie habitat in check.

**Terry Rossignol** [00:58:11] And again, it acts as what was done historically, either through Mother Nature with lightning strikes - large fires had occurred on the prairies in the past. Also, Native Americans with the fire as a tool to help them hunt big game like bison or deer, or to green up the place where the large mammals would go to and kind of assist them in being able to help in their, in their hunting.

**Terry Rossignol** [00:58:47] And then and then there's also the benefits with fire of the nutrients within the soils and all being regenerated. There's, there's just so much plus in the, in the using prescribed fire in a prairie regime that go on and on.

**Terry Rossignol** [00:59:07] Of course, one of the other factors that is used on the refuge is grazing, and grazing with, with cattle. We did have a time where we did have bison on the refuge to also help mimic the historic use of, of, of, of bison in the past. But through a really well-managed grazing program in conjunction with the prescribed burns, there is a real benefit to being able to manage cattle and, and prairie chickens. They definitely go hand in hand. So we use grazing. We use prescribed burns.

**Terry Rossignol** [01:00:10] We did use measures of, of predator control as well. One of the things that we ended up using, of course, with, with grazing, there's a need for having some some pastures fenced off. And with that, comes posts that hawks and owls like to sit on them, and that gives them a perfect vantage point to be able to swoop in and pick up a prairie chicken or two every once in a while. So what we've done is made the fence posts a little bit more difficult for the hawks and owls to sit on and put what we call perch deterrent spikes on them. When they, when they come to land, they're going to get their behinds are going to get a little bit poked. And basically through the fact that, you know, it's so important for the hawks and owls to be part of this ecosystem, but it's kind of our way of telling them, hey, we still love you, but go perch somewhere else, go perch, you know, on those big trees along the river or something, where, where there's hardly any prairie chickens, versus out here in the open prairie where, you know, we all know they like chicken. But it's one of those things that we prefer that they not deal with.

**Terry Rossignol** [01:01:34] And then with, with other natural predators, we did use, here towards the latter part of the time I was there, we ended up really just taking care of what we call nuisance animals. Every once in a while, we would have a bobcat or a coyote that started

really zooming in on, on perhaps the acclimation pen sites or something that they knew, "there's some awful good lunch in this area." And we would, we would end up removing those animals to kind of help control the predation and all.

**Terry Rossignol** [01:02:22] And then if you want to throw in there the control of predators, I would probably kill fire ants, red imported fire as being predators as well. As mentioned earlier, you know, they obviously attack the adults and the chicks and then they would also impact the food source for the chicks as well. So with fire ants, some of the things that we, we ended up doing was treating about half of the refuge, about 5000 acres, mostly in areas, of course, where prairie chickens were more likely to use with fire ant bait.

**Terry Rossignol** [01:03:05] And we did a lot of research to ensure that this would not impact other species of ants. And we worked together with the fire ant gurus at the University of Texas and Texas A&M University. And pretty much what they told us was, as we applied, this it's called Extinguish Plus, I believe is the name of the product, very similar to the, the granular Amdro that, that people use in their, in their backyards for fire ants. Basically, this was a product for large pasture use. And so we ended up really wondering, well, how is that going to affect the other, the other species of ants out there? And what they told us basically was you apply this, this granular formulation and with the type of infestation that we had, the fire ants would go out and pick up these granules way before the other ant species would pick them up and take it back to their den, of course, to help control the spread of the fire ants and the number of fire ants in a particular area.

**Terry Rossignol** [01:04:38] So with, by doing that, it really did not impact local fire ant we did a little, I remember one day as we acquired this with the, with an airplane, as the airplane dropped the, the granules of Extinguish Plus we could see it had fallen on the ground and within minutes we could already see some of the fire ants starting to pick up the granules and carry them off. And then we came back about two or three hours later. And you know what? All that, all those granules were gone. And so it was pretty true that the fire ants would come in, wipe things out so very quickly, to where the other species didn't have any, any access to it, essentially.

**Terry Rossignol** [01:05:33] And so by, by doing that, what we started seeing was more success at the nest sites, prairie chicken nest sites and more hens were being able to raise their chicks half way to a very critical two-week period in areas that were treated for fire ants versus areas that were not treated for fire ants.

**David Todd** [01:06:02] I see.

**Terry Rossignol** [01:06:02] And so it was really a big plus, I think, in helping chicks survive, you know, during any given nesting season.

**David Todd** [01:06:16] I see. Well, and so a lot of your effort was right there at the prairie chicken refuge near Eagle Lake. I understand that the Recovery Team and Plan was also focused on work down in Goliad area with some of these private landowners through the Safe Harbor program. Can you talk at all about how that worked?

**Terry Rossignol** [01:06:42] Yes, I'd be glad to, because really that, that is really the backbone of the whole recovery of the Attwater's prairie chicken. You know, we can we can have this 10,000-acre National Wildlife Refuge, which is very important. And, yes, we need it. But, you know, the recovery of the Attwater's is really keyed on private landowners in Texas, with the

state being over 97% percent privately owned. There's just no other way of recovering the species without their help. And one of the things that that we realize, of course, one of the populations that we have of the Attwater's is down in the Goliad / Refugio County area. So a lot of good coastal prairie habitat down there. But what we realized was we needed to make sure that that habitat was not becoming encroached upon with brush. And sure enough, you know, with time that was starting to happen.

**Terry Rossignol** [01:07:50] And a lot of the times a lot of the, the ranchers down there did have, you know, obviously had some concerns of working with the, the federal government and, and their properties were these large 10,000-, 8000-acre pieces of property of coastal prairie habitat. But they were running into the same problems we were running into with the encroachment of brush. And so what we ended up doing is kind of working with folks through the, I think it was with the Natural Resources Conservation Service and the establishment of a Safe Harbor program on private lands. What that ended up being was essentially an agreement that we would cost-share and help the private landowners in knocking back their brush. They had an interest in doing that to provide more forage for their cattle operation. And of course, we had interests in doing that to provide more coastal prairie habitat for the Attwater's. And so really a hand-in-glove type of, of a partnership.

**Terry Rossignol** [01:09:19] But the Natural Resources Conservation Service have already had an in with, kind of connection with private landowners. And so we can worked sort of behind the scenes, but then the private landowners knew who we were and what we were trying to do. And of course, with their concerns about the Endangered Species Act and the liabilities that were involved with that, which really weren't 100% true, but that was the perception, we came up with this Safe Harbor program, actually the second of its kind in the nation at that time.

**Terry Rossignol** [01:10:01] And basically had an agreement that, if your property had zero prairie chickens on it, when we signed this agreement and you do good things to the property and then all of a sudden prairie chickens start occurring on your, on your land. You know, either we release them on the property or your neighbor releases them and five miles away down the road and they come to your property because they like it. And there's no way of controlling where these birds go, that essentially if you had a zero number at that time of the agreement and unfortunately, if the numbers increase, hey, great, good for everybody. But if they do creep back down again, that you would not be held liable as the landowner, you would not be held liable for this decrease. And that was, I think, a big, a big plus that helped us really work with the private landowners in this area. And and to this day, there's still several who are, who enjoy working with us. And that's one of the one of the release sites that we have is on private lands in the Goliad County area. And so this is, this is definitely a program that has been a big plus for the recovery of the Attwater's and needs to continue.

**David Todd** [01:11:39] Well, that's interesting to hear. And maybe you can tell us about another private partnership, which I think the refuge has been involved with, and that's with the Wildlife Habitat Federation and Jim Willis and Garry Stephens, in the Cat Spring area. How has that sort of co-venture worked for you?

**Terry Rossignol** [01:12:01] Well, that has been another big plus. You know, and that, and that strikes a little bit closer to home, to around the Refuge. So one of the, I think one of the goals of the Habitat Wildlife Federation is basically bringing back the bobwhite quail, and of course, bobwhite quail and prairie chickens pretty much use and have the same needs, habitat-wise, in order to survive. And basically, what the, what the Habitat Wildlife Federation has done is

work with private landowners up in the Austin County, Colorado County area, that is a little bit closer to the Attwater's Prairie Chicken Refuge and in trying to, for landowners there to improve their properties for, for bobwhite quail. And again, many of the things that are done for bobwhite quail are done for, for Attwater's prairie chicken. And so by being able to do that for quail, then it also benefits Attwater's prairie chickens.

**Terry Rossignol** [01:13:17] And as I mentioned earlier, these birds go wherever they want. Just because we have a refuge boundary, they're not going to respect that. They're going to go next door to the neighbor if they like that kind of habitat over there. We've had several birds that have nested off-refuge, and it requires, obviously, some coordination with the private landowners to be able to say, hey, we know we have a nesting bird over here, can we go check it out? And especially when the chicks hatch out, you know, being able to, to monitor them is very important. And for the most part, a lot of these landowners don't have a problem with that.

**Terry Rossignol** [01:14:01] In fact, there, this, this provides an opportunity for refuge personnel to let them know what we're doing and why. And a lot of times it's a very positive communication.

**Terry Rossignol** [01:14:14] But the Wildlife Habitat Federation group is basically doing their part in helping improve the habitat around the refuge, which just makes it, the habitat, the coastal habitat for the Attwater's, providing that much more in the area.

**Terry Rossignol** [01:14:38] And as I mentioned earlier, the, the need to grow the refuge kind of got stifled there in the early 2000s. And so programs like this are definitely a plus in order to, in a, sort of a unofficial way, provide additional habitat not only for the bobwhite quail, but also for the Attwater's prairie chicken.

**David Todd** [01:15:18] So we talked a little bit about the Safe Harbor program and then the Wildlife Habitat Federation. And I understand that the refuge has one other significant private partner, and that's the Friends of the Attwater's Prairie Chicken Refuge, and I was hoping that you might be able to give us a little insight about how that relationship works.

**Terry Rossignol** [01:15:38] Sure. Well, this is the Friends of the Attwater Prairie Chicken Refuge's is basically what it is, it's a friends group, a non-profit friends group that assists the Refuge with anything it can to further the, the Attwater's prairie chicken recovery and/or the native coastal prairie habitat protection. And right now, one of our goals, obviously, is education and trying to provide opportunities for people to be able to enjoy the Attwater's prairie chicken. There are opportunities where we help the Refuge, basically with, every year there's in the springtime is the Attwater's Prairie Chicken Festival, and we assist with putting that festival on. Of course, last year it got derailed because of covid-19. And I don't, it's probably not going to happen again this year, but those are just one of the, one of the main programs that we have.

**Terry Rossignol** [01:16:56] We also have, in conjunction with that, a, an art contest for the local high school, elementary through high school kids can enter into this art contest and we provide scholarships to the winners for that. And so that's kind of an educational component of all of this. But in the past too, this Friend's group has also assisted with perhaps acquiring equipment for the refuge that otherwise would be very difficult with the clamping down of federal budgets in the last several years has made it difficult to be able to get some of this

equipment. And so it kind of provides an opportunity for a friends group to step in and help in that regard.

**Terry Rossignol** [01:17:48] I see, well, you've covered a lot of ground in this past hour. I was hoping we could maybe zoom out a little bit and talk about, you know, endangered species protection and recovery just in general. And I think one, one question I had for you is that, you know, some critics have said, gosh, you know, this Attwater prairie chicken is a wonderful creature, but a) it's just a subspecies of the greater prairie chicken, and b) it just doesn't seem to have been responding to all the wonderful work that it's all been doing at the refuge and elsewhere. You know, maybe those moneys and time could be better spent on other creatures that are in decline or are already rare. And I was hoping that you could talk a little about what that, you know, what your response would be to that kind of critique.

**Terry Rossignol** [01:18:55] So I have pretty much heard it my whole career, so that's not really new. You know, on one side of the coin, I, I can understand. There's some cases with stuff going on, especially here in recent years, that, you know, maybe the Attwater's prairie chicken was definitely at the bottom of the list. And, and I understand that.

**Terry Rossignol** [01:19:22] On the flip side of that coin, though, there's a need. I feel that, you know, a lot of the, the impacts that, that have impacted the species have basically been spun upon by us humans and as a result, feel like that we need to rectify that issue.

**Terry Rossignol** [01:19:49] You know, is the Attwater's really that big of a deal? Are we going to save the world if we save it. Eh! For the average person, probably not. And I, and I respect that.

**Terry Rossignol** [01:20:02] But who knows what, you know, I always use the example of you have some of these endangered plants that have been used to help fight cancer or something like that. Well, how do we know that there's not something, say within the (and I'm going way out here), but something like, you know, within the digestive tract of the Attwater's prairie chicken, there might be a cure for, for, for cancer or something like that. We don't know that. As long as there's the ability to keep this species from going extinct, I think it's on humans, needs to be able to do that and keep it from going.

**Terry Rossignol** [01:20:55] And then and then, you know, I guess I can say this, I know that the Fish and Wildlife Service has a mandate through the Endangered Species Act to be able to keep these species from becoming extinct.

**Terry Rossignol** [01:21:14] And to just say, oop, you know, we gave it our best shot, let's just walk away now. To me, I think we're right on the cusp of really seeing some increases with this, with the species and getting them up over that hump. So when you, when you say enough is enough, I don't think we're there yet.

**Terry Rossignol** [01:21:37] You know, when the last couple of years that I was working at the Refuge, we experienced the 2016 Tax Day flood. Couldn't, a flooding that on the magnitude that pretty much, I think about a third of the refuge was totally underwater. I mean, I'm talking about with a foot or more of water was covering the whole, entire Refuge. And it happened right at nesting time, April of 2016. Couldn't have happened at a worse time. We had, I believe, a record number of hens that were on the ground. Of course, all those nets were wiped out. We essentially had no reproduction on the Refuge that year and thought, OK, another bad year.



**Terry Rossignol** [01:22:35] Well, 2017, we had Hurricane Harvey hit, if you remember that. That's probably one of the worst hurricanes that's hit the Texas coast. Well, that hit, I believe, it was in August of 2017, right at a time when we were releasing prairie chickens from the captive flock. And, again, all of our efforts for that summer pretty much went down the drain with many mortalities of prairie chickens, you know.

**Terry Rossignol** [01:23:11] And, you know, after those two years, we're sitting here going, you know, what's it going to take to see some, some real positive stuff occur with this species?

**Terry Rossignol** [01:23:26] And it to me, it was pretty apocalyptic at that time. It was like, OK, you know, what do we do?

**Terry Rossignol** [01:23:34] Well, obviously, the following year, I believe in 2019, prairie chicken numbers in the spring dropped to an all-time low, I think, don't quote me exactly, but it was something like 26 birds estimated in the wild. That's about as low as you can get without pretty much going extinct. And we knew that was going to happen because of the past two events at a really bad time.

**Terry Rossignol** [01:24:01] And you know what? This past spring, in 2020, we had a spring count, we had the highest number of prairie chickens, just what, two years later or so? At the highest number of prairie chickens we've had ever in the spring since the mid-1990s. So these birds can really rebound quite rapidly, even after being down in the dumps. Within a couple of years, a couple of good years of weather, really sticking to the, being able to to bring, work on captive breeding. We had some, enough record number of releases in those couple of years. I mean, things can go the other way, just can go in a positive way, just as fast as they can go in the negative direction.

**Terry Rossignol** [01:25:00] And so I think we're just not quite, I mean me, personally, I don't think we're quite ready to pull the plug on this species. I think there's still hope. And I think there's still, there's still an ability to bring these guys up, out and over that hump to get them going in the right direction and start really seeing some positive stuff.

**David Todd** [01:25:23] I see. Well, that's heartening. So from talking to you and others, I have got the impression that one of the problems with the effort to recover the prairie chicken was that the intervention was pretty late in the game. You know, that, that the bird was really in kind of free fall, you might say, when, when the refuge was bought and certainly when captive breeding was, was begun. You know, it's interesting to me because it seems like the Legislature recognized with hunting limits 120 years ago and then Val Lehmann's work in the '30s, that the bird had been in trouble for a long time. And I was curious if there's any kind of lesson you take from that kind of experience that, you know, sometimes action is, is slow to follow knowledge.

**Terry Rossignol** [01:26:26] Yes, I agree. I think, you know, I really feel that too oftentimes action, it does occur too late. I mean, things should have, you know, it's easy to look back in retrospect and point fingers and all, but it's, it really, when you start seeing something occurring that, the action needs to be immediate and that, that's one of the frustrating things of working with an endangered species. Oftentimes, the action doesn't come until it's that, that dire eleventh hour need to push the panic button type of reaction. But I think with this species, you know, it's just kind of plodding along, and next thing you know, it's free-falling. And at that point, then, everybody is scrambling, trying to wonder what to do. And if we had

not implemented a captive-breeding program earlier or you know, done some of the other actions earlier, that we wouldn't be in the state than we are today with this bird. And that is definitely something that I would, looking back over my career with this, with this bird, if we can do things earlier, the better. And, and I think in the long run, it definitely helps, helps things out.

**David Todd** [01:28:13] Well, this is all been really helpful, thank you. Can I just ask you one last question?

**Terry Rossignol** [01:28:22] OK.

**David Todd** [01:28:22] You know, from many years of working with the Fish and Wildlife Service biologists and particularly with these refuges and endangered species, is there anything you want to pass on, kind of insights that you've gotten from working in this field?

**Terry Rossignol** [01:28:44] Yeah, I, I guess probably as I kind of just mentioned, unfortunately, actions probably need to be taken sooner rather than later. Just to reemphasize that point that you know it, we have come very close to losing the species. And, you know, we're just a bad year away from losing them and still losing. And so we're definitely not out of the woods yet, by any means, but it is, it does need to be able to do things at a critical time of doing them.

**Terry Rossignol** [01:29:44] I guess one of the other things also is basically, I guess and this is probably in any profession, any decisions that are made, you're always going to have the, the naysayers, the negative. And I guess for someone, say, a young refuge manager or a young person working with endangered species right now, I would just, I would just encourage them to, yes, you need to listen to all sides, obviously. But basically, the decisions need to be made according to what you feel is important to do. You know, don't, don't let the naysayers pull you down and talk you out of things when, when there's a feel that, hey, you definitely need to do this, that, or the other. It comes with consequences. It's not easy. Obviously, there's, you know, decisions you're going to get, you're going to get laughed at, and cussed at and everything else. But if you feel like it's the right thing to do, at that time, then you need to do it, kind of thing.

**David Todd** [01:31:07] Good advice. Just take courage and have patience.

**Terry Rossignol** [01:31:12] Yes, yes.

**David Todd** [01:31:13] Well, I wanted to thank you for your many years of service, and, and for telling us about your experiences. It's really nice to know that are people like you who invest so much of their thought and time and energy in a good cause. So thank you so much.

**Terry Rossignol** [01:31:32] No problem, David. You know, and I guess it's, one thing just kind of comes to mind right now. You know, when we, when my family and I moved to Attwater's Prairie Chicken Refuge in 1993, I really had no intentions of staying as long as I did. You know, it's just kind of one of those things that, you know, we moved here and the next thing I know, I look up and 25 years have gone by and it's like, wow, that was a fun ride, you know? And it just I guess when you're really involved and care about something, it's a lot of fun. There's a lot of heartache that comes with it. But it's, it is a lot of fun. And I just thoroughly enjoyed doing what I did. And you just have to take it one day at a time. And that's, I guess, my, my last little bit of advice there.

**David Todd** [01:32:37] OK, well, well, well said, and I wish you the best in your next chapter, and thanks so much for your time today and I hope our paths cross sometime soon.

**Terry Rossignol** [01:32:49] Sounds good. Again, thank you for the opportunity to be able to share all of this and I wish you the best as well.

**David Todd** [01:32:56] All right. Thank you, Terry. Take care.

**Terry Rossignol** [01:32:58] Thank you, David. All right. You too. Bye, bye

**David Todd** [01:33:00] Bye.