

**TRANSCRIPT**

**INTERVIEWEE:** Jason Ahistus

**INTERVIEWER:** David Todd

**DATE:** July 24, 2021

**LOCATION:** Glen Rose, Texas, by phone

**TRANSCRIBER:** Trint, David Todd

**SOURCE MEDIA:** MP3 audio file

**REEL:** 4061

RedWolf\_Ahistus\_Jason\_GlenRoseTX\_23July2021\_NoiseFiltered&SignalReduced.mp3

**David Todd** [00:00:01] Well, today, we are working on the Texas Fauna project, and we have the great opportunity of interviewing Jason Ahistus, did I say that correctly?

**Jason Ahistus** [00:00:17] Yep. Yes, sir.

**David Todd** [00:00:19] OK. And we'll be speaking a little bit about his background and interests and particularly his work with red wolves. And just to sort of lay out the, the plan for this recording that we're making, this is what we're expecting. And it would be to create an interview record for research and educational work on behalf of a nonprofit group called the Conservation History Association of Texas, and for a book and a website for Texas A&M University Press and for archiving and cataloging for access and protection at the Briscoe Center for American History at the University of Texas at Austin. And of course, you to keep all equal rights to use the recording as you see fit as well. And with that little entree, I wanted to make sure that that's OK with you.

**Jason Ahistus** [00:01:24] Absolutely.

**David Todd** [00:01:27] Oh good. Well, thank you. We really appreciate your help.

**David Todd** [00:01:29] Well, let me lay out the when, and the where, and the why here. It is July 23rd, 2021. It's about a little after two o'clock. My name is David Todd. I am representing the Conservation History Association of Texas and I am in Austin. And we are conducting an interview with Jason Ahistus, who is a carnivore curator at Fossil Rim Wildlife Center, who works with red wolves and in their care and their breeding, and as part of this campaign to help restore a very rare animal. He is currently in Glen Rose, as I understand it. And this interview is therefore being done remotely.

**David Todd** [00:02:22] So we usually start these interviews by just asking you about your childhood and upbringing. I understood that you grew up in northern Wisconsin in Superior.

**Jason Ahistus** [00:02:33] Yep! One of the coldest cities in America.

**David Todd** [00:02:37] Well, you've definitely changed your climate. And so I am hoping you could tell us a little bit about your childhood and if there might have been any people or experiences that were a big influence in your interest in working in biology and ecology, and with predators in particular.

**Jason Ahistus** [00:02:57] OK, well, yeah, like you said, I grew up in northern Wisconsin. I grew up on the shores of Lake Superior. So kind of always involved with the outdoors, growing up on one of the largest lakes in the United States. Spent a lot of time fishing, hiking, being outdoors, just interacting with wildlife, just being out there and seeing animals in their

native habitats. And I really, really enjoyed that growing up. And as I, as I was growing, I really had the fondness for wanting to work with animals in some sort of capacity, not knowing exactly what that would be.

**Jason Ahistus** [00:03:36] I did end up going to college in Superior at the University of Wisconsin - Superior, where I majored in ecology. And, you know, I had some minor concentrations in geology and a few other things. And that really solidified my interest in this field. I really enjoyed the ecological side of things and learning about the, the way that animals and the environment are all connected, that each animal and each species plays a different role. And you take one out, then, you know, the unbalanced ecosystem happens and and everything gets kind of out of whack.

**Jason Ahistus** [00:04:18] So I really thought that was interesting and something that I kind of wanted to focus my career on.

**Jason Ahistus** [00:04:24] While doing so, I ended up volunteering and interning at a local zoo in my hometown, or near my hometown, and across the river in Minnesota at the Lake Superior Zoo, where I got experience working hands on with, with some animals in a husbandry setting, so taking care of the animals on a daily basis. And that really solidified my love for, for this line of work. And I moved a little bit away from the ecological side of things to the more hands-on conservation of caring for animals and, and involved with that ever since.

**Jason Ahistus** [00:05:04] So kind of what got me to that point was a couple of actual, or one main TV show, that really got me interested in animals was Mutual of Omaha's Animal Kingdom. If you recall, that was a great show. A lot of it was before my time when I could actually remember the show, but I watched it in syndication later on and, and really fell in love with the way that they promoted species and the environment and cohabitation and conservation efforts. Marlin Perkins was a host of that for a long time and kind of followed him throughout my career, you know, through his work with that and then later going on to found the Wild Canid Research Center in, outside of St. Louis, Missouri, which is now called the Endangered Wolf Center. So that was a big thing for me. And I growing up up north, we always had wolves around. And knowing someone that was very passionate about wolf conservation, you know, had a special place in my heart. So learning about him was great.

**Jason Ahistus** [00:06:22] Another big influencer was, was Jane Goodall, who is you know, world-renowned for her work with chimpanzees and, and, you know, being a big activist for animal conservation and animal rights, things like that.

**Jason Ahistus** [00:06:38] So those are, those are two big influences on me growing up. And that's kind of what brought me into the biology field, and here I am today.

**David Todd** [00:06:48] Okay. Well, that is a really good introduction. Thank you so much. Very concise.

**Jason Ahistus** [00:06:53] Sure.

[00:06:54] I guess a couple of questions that come to mind. One is, were there any companions as a, as a young person, or parents, friends who supported what you were doing? Because I know a lot of times it's hard to get out-of-doors. If you're a young person, you don't have access to remote places.

**Jason Ahistus** [00:07:21] Yeah, my parents were, they love the outdoors, too. We went on camping excursions almost every weekend growing up, so, experiencing different campgrounds and different lakes and rivers. And that was a big part of how I got to where I am. And my family's always been supportive. I have a sister who just loves the work I do and is very intrigued to hear everything that I do on a daily basis if I have the time to talk to her. So, you know, a good, good family support.

**David Todd** [00:07:56] That's great and that's great. Something else that occurs to me, I think that Wisconsin, if I'm not mistaken, has some timber wolves. Did you have any exposure or were there any stories being told about them when you were growing up?

**Jason Ahistus** [00:08:16] Not a lot. You know, there's, there's always the typical human reaction to wolves and predators in general that, you know, people are afraid of them. And it's you know, it's more of a lack of education on the species than anything. You know, they're not they're not the big bad wolf. And they're not out there to attack you and eat your children like some of our folklore will say. So, you know, a lot of that stuff, not as much the good that they do in the ecosystem or what their role actually is. You know, a lot of that came up more as I was growing up, as opposed to when I was a child.

**David Todd** [00:08:59] And then something that we often ask folks - I think you mentioned the Animal Kingdom with Merlin Park, Marlin Perkins. Were there any books that that you felt were influential or encouraging that had to do with wildlife, or conservation, that whole realm?

**Jason Ahistus** [00:09:21] There's a, there's a number of them that I've read over the years and you know, none that really stick out more than others. I was more of a hands-on learner. I wasn't big into reading a lot of texts and books. One that really did stand out for me, and it was later on, you know, while I was in college, was the Secret World of Red Wolves, which is a book by, I believe, T. DeLene Beeland was the author. And it was a book that focused on the conservation efforts and the history of the program for red wolf recovery. And that's something that I read after I found out what a red wolf was, which did not actually happen until I started working out Fossil Rim. And that, that really inspired me to take a bigger role in conservation.

**David Todd** [00:10:14] Well, you, you mentioned Fossil Rim and maybe we should jump ahead to that. I think that you mentioned that you interned at Lake Superior Zoo and then later at the Nashville Zoo, you worked as well. But you've been at Fossil Rim for, gosh, over 15 years, starting as an intern in the cheetah program and then returning in 2008 as a full time staffer in the Carnivore Department. How did you find your way to Fossil Rim and then decide that that was a good fit for you?

**Jason Ahistus** [00:10:47] Well, in, in college, growing up in the cold of Wisconsin, I decided I wanted to move away from there and I started looking for opportunities in the South to experience something different and get a different type of experience. As far as my career goals. I found Fossil Rim Wildlife Center on a website that was posting jobs, applied for it and got it. This was a carnivore internship and that was working with their wolves, cheetahs and coati at the time.

**Jason Ahistus** [00:11:20] And I came down here. After the first couple of days, you know, I knew it was where I wanted to spend my career. Just a very unique place. You know, it's one of those places where you have to see it to really, truly understand - just the land, the, the the

culture, the animal programs, just as a whole. It's just a really unique place. And I and I fell in love with it right away.

**Jason Ahistus** [00:11:50] So I did that first internship. I went back to school for a semester, finished my school, came back and did a second internship where I worked primarily with cheetahs. And for me, that was, that was what I wanted to do. That was the focal point of my career, is what I wanted, was to work with cheetahs in a, in a captive breeding center that could really make a huge difference in cheetah conservation. That's, that was the reason that brought me back here full-time. And, and that has kind of fueled my career since then. You know, along the way, I absolutely grown fond of many different species and conservation projects. And the wolves are one of those.

**David Todd** [00:12:35] Well, you know, it's interesting that you had this, this early interest and fondness for, for cheetahs.

**Jason Ahistus** [00:12:45] Mhm.

**David Todd** [00:12:45] And, and I think, like you mentioned, was a lot of people's reaction to wolves, it's one of fear and misunderstanding. And yet you didn't seem to have that baggage. Why do you think you were drawn to predators that, you know, are dangerous animals? And I think a lot of people would have a natural kind of reluctance to get close to them.

**Jason Ahistus** [00:13:09] Yeah, you know, I don't know the exact answer to that. I'd say that, you know, even as a young child, I, you know, just very fond of, of the big cats. I think a lot of people grow up that way. You know, they they're always attracted to tigers and lions, just, you know, just for their beauty in general. And for me, it was cheetahs because they were so fast. And, you know, I was focused on running as fast as a cheetah, which obviously I never did. But they've always just been kind of a species that I've really been interested in.

**Jason Ahistus** [00:13:47] And, you know, as I grew and learned more about conservation efforts and, and just kind of the general view of these carnivore species. You know, they get a lot of, a lot of bad raps for things that aren't necessarily their fault. You know, they're not necessarily the cause of a lot of bad information that's out there. And that was one of the reasons I really wanted to get into this, too, is just to try to make an effort and help raise awareness and education on these species and what role they really play in the ecosystem, because that's a big part of why we conserve these species.

**David Todd** [00:14:24] Well, maybe you can talk a little bit about that, because I guess it would carry over to red wolves and what, what is it that is so critical about a sort of apex predator, like a cheetah or for that matter, red wolf?

**Jason Ahistus** [00:14:38] Yeah, for, for a lot of them, they're, they're keystone species, which means that it's a species in the ecosystem that essentially is the glue. You know, it molds everything together. It keeps everything in balance in nature. So it's a species that if you remove it from the landscape, prey species get out of hand, the other populations rise, which in turn causes plant communities to change and eventually the land to change.

**Jason Ahistus** [00:15:09] You know, there's, there's been great documentation of some of these things in Yellowstone National Park where, when wolves were removed from the landscape, how everything changed and, and that's one of those things that most people don't

really think about when they think about a large cat or a wolf. You know, they think of it as this big predator. But in reality, it is the glue to the, to the ecosystem.

**Jason Ahistus** [00:15:38] And that's that's a really important thing to understand when you look at conservation efforts. And a big background of mine is the ecological side of things in looking at how everything relates to one another. You know, you, you take something out and everything changes. When you put it back in, you can restore that balance. And that's, that's what we're doing.

**David Todd** [00:15:59] I see. Well, you mentioned the wolves in Yellowstone, and I guess that's something that's had a lot of research and study done on it, both the removal and then the return of, of the timber wolf, gray wolf up there. Can you maybe fill in a little bit about what sort of impact the animals had in Yellowstone? And maybe that's a better way to understand the role of the red wolves that we might talk about later.

**Jason Ahistus** [00:16:31] Yes. And, you know, the role is very similar with what happened in Yellowstone and what we'll eventually talk about with the red wolf. You know, as, as wolves were eradicated throughout the U.S., you know, for a number of reasons, their populations declined and they were not keeping prey populations in check. You know, the predator eats the prey, maintains the adequate prey population for that area. When the predators are removed, those prey populations continue to breed and they live longer lives because there's no predators there to control the population.

**Jason Ahistus** [00:17:14] Thus, meaning there's more animals on the landscape, which means more animals are eating more of the plants. So, you know, deer and elk that are on the landscape are eating, eating more plants in all areas of, of the ecosystem. And, and as they're eating plants around, say, like a stream, it erodes the stream banks. So those, those plants and the roots are what's holding that stream bank together. And when you remove all that, when there's heavy rains, or the water levels are high in a stream, it's going to erode more, thus changing the course of the stream and eventually the landscape in general.

**Jason Ahistus** [00:17:56] So by having a predator on the landscape, in this instance, wolves in Yellowstone, they keep those prey populations in balance where the population does not skyrocket and get out of control. And the plant communities and, and, and the landscape in general stays the way it's supposed to be.

**David Todd** [00:18:18] I see. OK, well, this is a great introduction to talking about, I guess, the gray wolves' kindred spirit, the red wolf down in the southeastern United States. Can you talk to us a little bit about its life history and its ecological role in a, you know, different kind of habitat than what the gray wolf might have in Yellowstone, but, but I guess similarly important.

**Jason Ahistus** [00:18:51] Sure. Yeah. So typical red wolf lives in a pack. As with all wolves, they're very social creatures. You know, they need that social organization in their pack to really do what they need to do, whether that's eating, defending a territory, raising offspring. So a typical red wolf pack would consist of roughly five to eight animals or so, which would be a breeding pair and their offspring, which are, have not quite reached sexual maturity. So usually it's, it's yearling offspring and then newborn offspring from the following year. And that comprises the pack.

**Jason Ahistus [00:19:39]** Those yearling offspring really learn from their parents. They learn how to hunt, they observe breeding behavior and, and the whole breeding process from their parents, as they're seeing it in the wild. They're also learning how to take care of their younger siblings. So when those yearlings reach sexual maturity at around the age of two, they're equipped to succeed in the wild. You know, they've, they've learned proper behavior. They've learned parental care. They've learned how to hunt. So those animals then go off to be, you know, they disperse from the pack and find a new mate and start their own pack and the cycle continues.

**Jason Ahistus [00:20:20]** What role they play in their ecosystem? You know, in the southeast US, there aren't a lot of big predators, so the red wolf is, is one of the larger ones, and it plays a certain role. You know, you think of gray wolves in the north, or Mexican wolves in the southwest. They're larger animals. They're capable of taking down larger prey. The red wolf is not as large. You know, they're bigger than coyotes. They serve a different purpose than a coyote does, but they can't quite take down the prey that a larger wolf does. So their niche in the ecosystem is maintaining deer populations, but also maintaining a lot of those small mammals, those, those rodents and things like nutria that are kind of a nuisance to the southeast, rabbits, raccoons, things like that. That's what they control in the wild.

**Jason Ahistus [00:21:20]** And when you take them away from the landscape, those small mammals are the ones that, their populations skyrocket and they start, you know, destroying crops and things that humans have used for centuries to live off of. And, you know, it's a prime example of what's happening right now is the nutria populations are just enormous and there's a huge issue with crops being destroyed because of that.

**David Todd [00:21:49]** It's like you said before, it's all connected. I think that's so fascinating and, and I just guess the red wolf's role just sort of helps reveal a lot of those connections. Well, I think you've touched on this a little bit about the eradication of the, the grey wolf. Can you talk a little bit about the, the decline of the red wolves, which I guess was maybe during some of the same decades, but in a different area, for different reasons. And maybe you can lay out how that happened.

**Jason Ahistus [00:22:28]** Sure. Yeah. So wolves in general in the US, you know, they, they were eradicated through extermination campaigns - trapping, poisoning, shooting in, you know, throughout the 1800s and early part of the 1900s. They were observed and, and everyone thought that they were, you know, a nuisance to everybody and danger to humans. Red wolf gets a really bad rap because they're smaller, they're, they're not as aggressive, they're actually a very shy, very, very shy species that, you know, 99 percent of the time is going to completely run in the opposite direction of any human. So, you know, they got, they got a bad rap for a long time and everyone thought they were a problem. So these extermination campaigns really wiped out wolves throughout the US.

**Jason Ahistus [00:23:31]** And then as as populations started to decline, human settlement kind of took over the whole United States and in the Southeast, or the historical range of red wolves which range from central Texas all the way along the, the Gulf Coast and the East Coast, up to Pennsylvania. If you think about it, that's about a third of the, of the continent, or the, of the nation. And that's a lot of states, and a lot of ground to cover for red wolves, and to have them eradicated from all that area, basically down to a small section in the Gulf Coast in Texas and Louisiana, is pretty sad.

**Jason Ahistus** [00:24:11] So the eradication was one thing and then another part of it was, was habitat destruction and fragmentation of populations. So as humans moved into the landscape, you know, larger populations of red wolves were basically separated from, from development, causing smaller, isolated populations where, you know, there was lack of mates and, and then just not enough animals on the landscape in general. So then you run into some of these hybridization issues with coyotes, which is detrimental to red wolf genetics and the species in general.

**Jason Ahistus** [00:24:52] So. Yeah, it was all, all bad stuff going on, and in the 1800s and early 1900s for carnivores, unfortunately.

**David Todd** [00:25:01] That's a really interesting and, and pretty sobering history. You mentioned one thing there that, that sort of caught my attention and that's the hybridization with coyotes. And, and I was curious if, if you think that the, why coyotes were advancing and spreading beyond their original numbers and range and why they became, you know, sort of a hybridization threat for the, for the wolf.

**Jason Ahistus** [00:25:35] Yeah, so, so the coyote is a very adaptable species. You know, they don't serve the same type of role in an ecosystem that larger canids do. So you know, they are kind of the scavenger of the pack, and will move in and adapt to any setting. So as wolves were eradicated throughout the U.S., coyote populations skyrocketed, especially in the Southeast. They didn't have very many predators in that area. And, and they found a good system for themselves and, and bred like crazy and expanded all over the U.S.

**Jason Ahistus** [00:26:14] When that happened, you know, the red wolf population was obviously very small and red wolves are looking for mates. And, you know, it's what a species does. They they're to survive, breed and create offspring. And when they couldn't find mates, they essentially were choosing the next closest thing, and that was a coyote. And, you know, breeding and pair bonding with them and then thus creating these, these hybrid animals.

**David Todd** [00:26:43] OK. So you've sort of outlined this decline, I guess, that began in the 1800s and accelerated into the early 1900s and my understanding is that the red wolf numbers dropped so low in the late '60s, that by the early '70s, the U.S. Fish and Wildlife Service had decided to do something pretty dramatic, and that's to capture all the red wolves that were remaining in the wild. And I think that's pretty extraordinary. I was wondering if you could tell us why you think that that was done.

**Jason Ahistus** [00:27:23] Yeah. So basically in the, in the '60s, there's kind of a conservation movement that occurred and, and a better understanding of, of an ecosystem and just kind of the role of what different animals play in in an ecosystem. And that started to change attitudes, just especially for wolves. You know, it changed the role of the thought of why they're around. They weren't just there to cause problems, that they're actually serving a purpose. And, and so, Fish and Wildlife Service decided to, you know, put their efforts towards doing some conservation work with wolves. You know, the red wolf was decimated. And with the remnant population that there was, it was listed under, under the Endangered Species Act as an endangered species. And that was kind of the beginning of, of the red wolf movement.

**Jason Ahistus** [00:28:23] You know, from there Fish and Wildlife did decide to, to capture what was left, to try to safeguard the species, you know, as a last ditch effort to, to do something good, to reverse all the bad that had been done over the last couple of hundred years.

**Jason Ahistus** [00:28:40] So they collected roughly around 400 different canids in the, the Gulf. And so by "Gulf", I'm saying southwest Louisiana and southeast Texas. So basically, that was the last known spot that red wolves existed in the wild at the time. So about 400 different animals were caught and most of them were hybrids or only partial red wolves of some, some extent or unknown. And, you know, they determined through morphological data and a few other things that, that only, only a handful of them were, were pure red wolves. So these animals were taken into captivity, in an effort to save them from extinction. So basically declaring them extinct in the wild to try to save them, which is the first time that had ever really happened for any species.

**Jason Ahistus** [00:29:42] And through that effort, you know, there was 14 animals that were identified to start a captive release program, captive breeding and release program with the idea of building numbers in captivity and then doing a large-scale release back into the wild, into their historical range. So these, these animals were, you know, like I said, 14 of them and only about 12 went on to breed. And those were the founders for the captive population and basically where all red wolves have been descended from since then.

**David Todd** [00:30:20] So there's lots more to discuss here, but I just thought at the outset it'd be interesting just to get your view about the, the diversity that can be, the genetic diversity, that can be represented or found in a population of, of a dozen animals. I mean, is there enough latitude within a group that small to, to provide some resilience and diversity going forward in their progeny? Or what do you think?

**Jason Ahistus** [00:30:56] Yeah, I mean, when you, when you first hear that, that low number, your first initial response would be there's no way. Right? But, you know, there's been a lot of advances in science and a lot of genetic understanding of, of a species and how to maintain gene diversity in a population. So, yes, it started at 12, which is a very small and alarming number. But when a species is brought to the brink of extinction due to eradication, you don't really have a lot of options to start with, and you got to do what you can with what you have.

**Jason Ahistus** [00:31:32] So since the captive breeding program started in 19..., around 1980, and then later becoming what we call the Species Survival Plan in 1984. We have used population, genetic advisors and, and basically population modeling software to get the best out of what we have. There's a program, it's called PMX, that we use for all of our population modeling, for any of our captive breeding components, for any species. And it takes into account a lot of different genetic factors, models it and then comes up with kind of this matrix of suitability indexes, so, you know, based on a 1-6 ranking, so 1s, 2s and 3s are, are ideal pairings. 4s are kind of neutral to the population, where 5s and 6s are, are detrimental to that gene diversity.

**Jason Ahistus** [00:32:35] So all of our pairings come from, from that. And we look for those 1s, 2s and 3s. Obviously, 1s are the way to go if you can do them.

**Jason Ahistus** [00:32:43] But that's just from a genetic standpoint. You know, there's so many other factors that we look into when we do this stuff. And, and, you know, you look at the demographics, age of the animals, the likelihood that animal's going to breed, prior breeding success. You also look at behavior, husbandry and management - you know, logistical things to when you're, when you're making parent recommendations. So there's a lot that goes into



it. And, you know, surprisingly, the gene diversity has stayed pretty consistent throughout the last 30-some odd years and.

**Jason Ahistus** [00:33:21] It's, it is a worry, you know, knowing that right now we don't have any other genetics to bring back into this population. But as modern science keeps advancing, you know, we're getting more creative with A.I. and recovering ancestral DNA and different avenues. There is hope that maybe we can utilize some of these lost genetics that either have been banked or are, you know, out there somewhere in, in some sort of a hybrid animal.

**David Todd** [00:33:53] Oh, well, I guess a couple of questions come up that we might explore a little bit. This PMX software - I think you said that it produces this suitability index. What would be some of the major factors in saying that, you know, a male and a female were a good match for one another. Is there a lay person way to talk about that?

**Jason Ahistus** [00:34:21] Yeah, so it matches essentially the genetic value of each individual to the entire population. So, you know, animals that have genetics that are low, very lowly represented in a population are usually, are always the most valuable animals in a population. And so what this program does is it models these different numbers. It gives a value, a genetic value to each individual animal's genetics. And then the software runs this suitability index based on that.

**Jason Ahistus** [00:34:54] So, you know, if you you've had an animal that has, has never bred before and is, say, 5 years old and doesn't have a lot of siblings out there, it's going to be higher ranking in the population as far as the genetic value, as opposed to an animal that's maybe produced 3 litters and 15 offspring. That animal would be very low ranked, because their genetics are more, there's more of their genetics in the population and they're more over-expressed than the, the first animal I talked about. Does that make sense?

**David Todd** [00:35:31] Yes. Yes, it does. That, that helps a lot. And I guess there's never a full understanding of how these gene markers are expressed. But, you know, is there any way sort of sorting important parts of their chromosomes to the ones that are less important? I mean, you know, I guess there are genes that control their, their size and their color and their tooth size and how, you know, what their tail shape is, or I don't know.

**Jason Ahistus** [00:36:04] Sure, sure.

**David Todd** [00:36:04] Is there any way to sort of say these genes are important, not just because they're distinctive, but because they produce a certain kind of feature in the animal?

**Jason Ahistus** [00:36:18] Absolutely. You know, and, and to go along with that, there's also different genetic markers for hereditary disease. If, if an animal is, is prone to blindness, for example, you don't really want to spread that through the population. So there's a lot of different genetic markers that can be used, and are starting to be used more as as science and all these genetic components become refined and we learn more about, about this stuff. So, you know, a lot of it is way over my head. I'm not a geneticist. I'm an animal guy. I care for animals. So a lot of this is foreign to me, too. But I feel like I'm gaining a better understanding every single year.

**David Todd** [00:37:04] Oh, that's, it must be fascinating and neat to be in a field where the science is really advancing and making a big difference.

**Jason Ahistus** [00:37:14] Something else that did occur to me that I'd like to ask you about. I mean, you were talking about the, you know, the restrictions that you just can't avoid with a founder population of a dozen animals. And you know that you seemed intrigued from what I was hearing about the possibility of sort of prospecting for genetic diversity in other populations. Like, you know, I've heard, I'm sure you've read about, these, these hybrid wolf / coyote mixes that are down on Galveston Island that apparently weren't really represented in the animals that were collected in the, back in the '70s. Is that something that y'all discuss among red wolf breeders?

**Jason Ahistus** [00:38:03] Yeah, it's, it's a, it's a big discussion right now in, in red wolf recovery in general. You know, those Galveston Island animals do have what we're calling ghost alleles, which is lost genetics that used to be in the population that are no longer. And that's a prime example of something that is A) exciting which gives you a little more hope for genetic makeup that is lost and bringing it back, but B) is difficult to understand. And we need a lot more research and analysis to go into this stuff and, and also bringing in, you know, new technologies to be able to utilize these sort of genetics. You know, right now, it's, it's a pipe dream to be able to use this stuff because we're just not there yet with our, you know, technical advances in genetics work and populations and things. But at some point, that would be great to incorporate.

**Jason Ahistus** [00:39:08] You know, there's, there's been a lot of discussions recently. There's been some research on those Galveston Island animals. There's been research in southwest Louisiana, basically where the last wolves, red wolves, were captured and they're finding red genetics in some of those hybrid animals as well. So lots, lots to look forward to hearing more about and, and trying to figure out if we can utilize these in the future.

**David Todd** [00:39:37] Well, that's, that's encouraging.

**David Todd** [00:39:41] So I think we talked about kind of the general approach and issues that you deal with. But I was curious if you could talk a little bit about the role of Fossil Rim Wildlife Center, which has been involved for a very, very long time in red wolf breeding, I think, since 1989 with over 70 animals having been resident there and I think over 30 pups born. Can you talk a little bit about the red wolf program, how it got started and what some of the, you know, features and challenges have been there?

**Jason Ahistus** [00:40:21] Yeah, so as you said, yeah, we started in 1989. So at that point, you know, the captive program had, breeding program, had been going for about nine years. As I mentioned, it turned into the Species Survival Plan, which is run by the Association of Zoos and Aquariums and Fossil Rim was, was a member of that Association at the time and still is today. So this program is an AZA program that, that focuses on the recovery efforts for captive breeding for the species and, and to be able to create a population to help recovery efforts.

**Jason Ahistus** [00:41:03] Knowing that at the time and just having releases starting in 1987, the first wolves are put back on the landscape, which was really milestone, real huge milestone for any conservation effort. It was actually the, the first time that an animal was declared extinct in the wild and then reintroduced, which is not a fact that many people are aware of, but the red wolf was the first, first species to do that. So that had just, just been, been happening and just starting and really getting under way. And, and there is a need to expand the captive program to help more of those release efforts.

**Jason Ahistus** [00:41:47] Fossil Rim is a unique facility in the fact that we have the ability to manage animals in any way possible to, to help some of these recovery efforts. And we have a unique part of our park that is essentially closed to the public, only offering a few guided tours here and there. So it's, it's a good spot. It's, we call it our intensive management area. And that's a spot where we have some of our higher stress animals that are really in need of privacy and natural enclosures with limited public interaction where these animals can really show natural behavior and, and take part in breeding efforts.

**Jason Ahistus** [00:42:32] So we had just created this area of our park, and red wolves was one of the first species we put back there. And, you know, when we heard that there was a need for more facilities to take part, it was it was a no-brainer for Fossil Rim to step up to the plate and, and build this facility, this facility for red wolves. So we actually built five enclosures at the time and brought in eight wolves. So in February of 1998, we brought in four pairs of wolves and put them in these enclosures. And by May, we already had a litter on the ground. So, you know, it showed that, that we had suitable space for these animals and we could actually play a role in this program. And we've been involved ever since.

**David Todd** [00:43:20] Wow! Maybe you can talk a little bit about how it is that that Fossil Rim has managed to be so successful in breeding an animal that, you know, is rare. And, you know, you were talking about the diversity problems there and I guess is quite shy and, you know, may be difficult for them to follow their natural behavior and breeding patterns in captivity. How have you managed to, to do this and bring all these pups forward?

**Jason Ahistus** [00:43:58] Yeah, so like I like I mentioned, you know, these higher stress animals that need the privacy and we have this intensive management area where we can really just let the wolves be wolves. And by doing that, we take a really hands-off approach. So our management style is, is, is unique. And in fact, already the Red Wolf Recovery Program requests that red wolves be managed the same way that we manage them, and which works out great for us because it's kind of the way we want to manage every species - being hands-off and letting them do the natural behavior in breeding and just kind of being wolves and doing what they're supposed to do.

**Jason Ahistus** [00:44:40] So, yeah, our, our program is pretty hands-off, we, we, the way we manage them as we're not interacting with them, we don't speak to them, we don't take part in any training of the individuals. We, we really only spend a few minutes a day with these wolves. We, we check out their enclosure every day to make sure everything is secure. We get a look at the wolves, make sure they're, they're healthy and behaving normally, and we throw some food out there and then we pretty much get out of the yard and leave them alone for the rest of the day. So it's, it's very hands-off. It's, it's, it's almost like having these wolves be in a wild setting where they're not around humans and not around cars. There's, there's not a lot of noise around the area and they're just there. So it's really worked well for this species and the management that is requested of the species.

**Jason Ahistus** [00:45:40] Some of the, some of the other things we do is, is, you know, a lot of captive animals get what's called enrichment, which is giving, giving just different objects, food items, different scents, smells, interactive toys and things of that nature to, to get animals to promote natural behaviors. You think of a lot of animals in captivity, they're not needing to go hunting. They're not needing to find mates and not needing to find shelter. So that's essentially what an animal does in the wild, that's, that's its life, right? So in captivity, these things are provided for it. So it doesn't spend the time every day doing these things. So with enrichment, what you do is you try to in rote, you try to get these animals to, to do those

behaviors. You want to get them having these natural behaviors and going through the motions. It's, it's what they're supposed to do.

**Jason Ahistus** [00:46:40] So for most animals in captivity, you can you can give them man-made objects. And, you know, you think of a giant plastic ball or something that you see a lion or a tiger at a zoo playing with. That's an enrichment item that's given to the animal to promote those natural behaviors. And with the red wolves, we're not allowed to give them man-made items because the way we manage it, we act as if any wolf, at any given time, can go back out to the wild. And we don't want wolves being attracted to those man-made items or human voices or cars, things like that, because it, it puts them at a risk in the wild. They are more likely to approach a human where they could get hit by a car or shot or have an interaction with a dog or something.

**Jason Ahistus** [00:47:36] So, so we want them to be wild wolves, and that's kind of how we do our enrichment items as well and everything is, is natural and we make, you know, a ball to interact with out of out of vines or, or something like that that they can still have things to interact with. We give them antlers. We give them hair from other species, you know, natural scents and smells from, from their native range, which, for us, is great because they were found in central Texas and, and this is, you know, all native land to them. So it's just a unique aspect of what we do and how we manage these animals.

**Jason Ahistus** [00:48:14] And then, and then to go along with, with our management of some of these wolves for release is we have that hands-off approach. We're not interacting with them. And in fact, our only interactions with them where we're actually close to them is when we do a yearly exam on them where we, we get hands on them and we give them vaccinations. We check their blood, you know, do a quick physical exam to make sure they're, they're healthy and there's nothing abnormal. When we do that, we are manually restraining the wolves, so meaning that we're not using an immobilizing agent to make the animal go to sleep while we do the procedure. We are catching the animals, cornering them in a yard or den and manually restraining them while we do these things.

**Jason Ahistus** [00:49:06] And that helps keep those animals wild. You know, they, that puts a natural fear in the wolves. And that is exactly what we need. If they go back out in the wild, we want them having a fear of humans because we don't want them to approach a human. So it all just, you know, it's all of our management is focused on that one thing, and that is returning wolves to the wild and trying to keep them as wild as possible.

**David Todd** [00:49:35] So, well, this is really interesting how you are trying to breed these animals by necessity in captivity, but the goal is to release them from captivity. And I was curious if you could talk a little bit about what's the trigger point when you say there are enough red wolves in captivity or there's enough space in the wild to release them.

**Jason Ahistus** [00:50:02] Yeah, it's a slippery slope for sure. And a tough conversation to really figure out what that is. Right now, with all the political pressures on the release program in North Carolina, it's, for a long time there wasn't releases happening. We went, we went for about six or seven years without releasing any wolves into the wild. Right now, our goal is to continue to support recovery efforts, and that is still putting animals back out in the wild. A big component of that is having the suitable space to do that. And the North Carolina population is on, where the wolves are released, basically on the Albemarle Peninsula in North Carolina, it's the east coast of North Carolina. There's a couple of wildlife refuges and, and government lands that the wolves are released on.

**Jason Ahistus** [00:51:01] But they also overlap with private landowners. And, you know, having support from those private landowners is huge, and if, if it's not a cohesive unit and everyone's on board with it, it makes it really difficult to put wolves back on the landscape. You also want to have a large group of wolves that you can release at one time and that, that would help with hybridization with coyotes, because if a red wolf has another red wolf mate, it's going to choose a red wolf every time. But if there's not suitable mates, it's going to find the next closest thing and that's going to be the coyote. So, you know, there's those factors that go along with it. And then there's in order to have a large-scale release where, say, we want to put 50 animals back out in the wild all at one time, we need to have the numbers in captivity to be able to support that while also not destroying our captive population, you know, the genetics, just the numbers in general,

**Jason Ahistus** [00:52:03] So, like I said, it's, it's a complicated subject. And, you know, we're trying to increase our space capacity in captivity to support that large-scale release. Right now, our SSP population has around 245 animals in it, at 45 facilities. Our goal is to increase to at least 330 animals, and really, up to 400 would be ideal, where we can support that large-scale release of wolves on the landscape and really do it right.

**Jason Ahistus** [00:52:39] So, you know, some things need to happen in the wild first before we can really get to that point in captivity. But we also need the captive population to be that high to support that release when it's ready. So it's, you know, which came first, the egg or the chicken and kind of that situation. But they kind of have to happen at the same time, simultaneously.

**David Todd** [00:53:00] I see. OK. Well, you know, while we're still talking about the captive breeding program, there are a couple other questions that I was hoping you could answer for me, if you don't mind. But I do see that it's, it's about 3[PM]. And I didn't want to go over your time budget.

**Jason Ahistus** [00:53:22] Oh, that's OK. Let's, we can finish up your questions. I'd love to be able to answer them, so.

**David Todd** [00:53:27] OK, well thank you. That's is really generous of you. So I think I've read that, that while y'all have been very successful with breeding these red wolves, sometimes you do run into stillborn animals. And do you have any sort of suspicions why that might be happening? And, you know, is it meaningful for the population as a whole or is that just kind of a risk that these animals run?

**Jason Ahistus** [00:53:54] Yeah, at this point, it's just a risk that, you know, it is something that happens every once in a while. And a lot of times you can't confirm if it's a stillborn or not. For instance, we, we had a litter that was born earlier this year that we unfortunately lost. Since we're very hands-off and we don't have cameras in our dens, we know the litter was born, but we don't know what happened to the litter. We were able to find remains to confirm that it existed, but we don't know if it was stillborn or if it was, you know, maternal neglect or if there was a health issue that, you know, they just weren't very thrifty and didn't survive past a couple hours.

**Jason Ahistus** [00:54:36] So at this point, it's not a, it's not a going trend. It's not something that happens often. It does happen with just like you see it in every other population. But, you know, for a lot of these wolves and these pairings that we make, if you lose that first litter, the

only important part is that those two animals reproduced. You know, in our case this year where we did lose our litter, it was the first breeding season that the pair was together, which means they pair bonded very quickly and produced a litter, which gives us better hope for next year.

**David Todd** [00:55:08] I see. OK. You know, Fossil Rim is, is certainly a leader in the field, but y'all have, what is it, 40-odd sister facilities that are also maintaining this red wolf population. Can you talk a little bit about the, the relationship between Fossil Rim and these other breeding centers and, you know, how you sort of dole out the responsibilities in the work?

**Jason Ahistus** [00:55:37] Yeah. So, you know, there's, there's 45 facilities and we're always looking for more to join the cause. It's a collaborative effort with any captive-breeding program. You know, one facility isn't going to do all the breeding. One facility isn't always going to be recommended to breed. We, we have gone through periods of time where we've just been a holding facility to allow other facilities to take part in breeding. And when it's our turn to take the call and have breeding animals and attempt to breed then, then we will.

**Jason Ahistus** [00:56:12] And, you know, we usually are involved with the captive breeding efforts. But, but it's not always. So it really is a team effort and everyone plays their part. There's a lot of communication between the facilities just on different management challenges, you know, husbandry techniques, because really what we want is, is to have these animals in captivity to support release. But we want to care for these animals the best we can, and we want them to have the best, most natural life they can, you know, showing and exhibiting natural behaviors, being healthy, getting proper nutrition, proper health care. All these things go into our everyday care and management of every species.

**Jason Ahistus** [00:56:59] So there's a lot of collaboration with all the different facilities involved in the SSP on that. The SSP in general is, is run by a coordinator and a vice coordinator and then a group of, of individuals that represent their facilities and sort of serve as a management team, which, which helps with these husbandry challenges and, and advancing husbandry and, and management and, and also assisting the coordinator with recovery efforts.

**Jason Ahistus** [00:57:31] So right now, I actually serve on that management team, and have done so for the last few years. And it's, you know, it's an opportunity to, for me and Fossil Rim to play a larger role in the program, help out where we can, you know, kind of put our expertise in certain areas and help educate, help, help raise awareness for the species, improve those husbandry efforts, things like that.

**Jason Ahistus** [00:58:00] So it really is a group effort and, and, you know, Fossil Rim's role in this is is whatever the program needs, whether that is holding animals, breeding, taking part in cross-fostering into the wild, you know, managing wolves for release and training staff at other facilities as well.

**David Todd** [00:58:21] Well, say you have 45 breeding centers and some are, are working is holding facilities and others are actually engaged with the hosting animals that are breeding. Can you give me an example of why a breeding center would be chosen to foster a breeding animal pair?

**Jason Ahistus** [00:58:46] Yeah. So, you know, it comes down to the, that PMX software we talked about earlier. When we make pairs, you know, we always want the best genetic pairs to

be made. And in some situations, you know, an animal might be at, let's say, Fort Worth Zoo, that is recommended for breeding at another facility. You know, sometimes those recommendations are made based on the history of the animal - if it's had success at a facility or not, if it's been there a long time, say it's been in a situation where it's had breeding wrecks the last couple of years and hasn't reproduced. You know, we then, we consider finding a new mate because maybe they're just not, they're not, they're not going to bond, and they're not going to breed. So mate choice is a thing and we, and we do need to think about that. And so sometimes it requires moving that animal to another facility.

**Jason Ahistus** [00:59:46] Sometimes in animals, just not as comfortable as some other animals would be in a certain location. And, and it varies. You know, you see that in the wild as well. It's not just the captive thing. Certain habitats and enclosures and things like that make a difference.

**Jason Ahistus** [01:00:03] So as we make these recommendations, we take all those factors into account and, you know, one facility could breed 10 years in a row and then not breed for three. It just, it just kind of depends on the animals and what's needed from the program at the time.

**David Todd** [01:00:17] I see. OK, got it. Well, I guess one last question about, about breeding. Were there challenges when Fossil Rim was first endeavoring to get these animals to breed in captivity that had to be overcome? Were there any big, you know, hurdles that that were just puzzles for animal curators to figure out?

**Jason Ahistus** [01:00:52] I mean, absolutely. You know, any time you bring a new species on board at your facility or, or even into captivity for the first time, like what happened with the red wolves in the early 80s or late 70s and early 80s. You know, at that point, this species had never been in captivity. It had never really been part of a breeding program. We, you know, you have to learn how to manage it. You have to learn what its needs are and the needs of the program. You know, in any program you start from the beginning, there's there is a trial and error. You can only know so much about a species until you work with it for a while and really become an expert at the care and management of it.

**Jason Ahistus** [01:01:35] So, you know, there's hurdle after hurdle when you first start. That's part of the challenge, and, and some of the fun, of, of being involved in animal husbandry is, is those challenges to perfect what you're doing and, and provide the best care that you can.

**David Todd** [01:01:54] Well, it sounds like whatever hurdles you encountered, you found like the best solution was just maybe to do as, as little as possible to be as, I think hands-off, as you could be said. Is that fair to say?

**Jason Ahistus** [01:02:11] Yeah, absolutely. And another part of this, too, is, you know, these animals breed seasonally. So, you know, they, they, they pair bond in the fall and they breed in the spring and produce offspring late spring. So knowing just that the natural history of the species plays into our management. We know we have to have these animals paired by a certain time so they can bond. And then we know when to expect breeding. So, you know, we're, we're observing their behavior and trying to pick up on, on behavioral cues to say that they bred or didn't breed. And then you're also knowing when these animals are likely going to give birth. So you're looking for behavioral cues on that, too, denning behavior, nipple development, you know, larger abdomen forming - things like that, that really plays into your

management. And and just, you know, learning that natural history, knowing it makes a huge difference.

**David Todd** [01:03:06] OK, that helps me understand. Well, we took a little tour through breeding. I understood that in some cases, and I may be mistaken about this, but that young red wolf pups have been released to be raised or fostered in the wild. Is that correct?

**Jason Ahistus** [01:03:34] Yeah, actually, earlier this year was the first time that had happened since 2014. So some puppies went from a captive facility into a wild den. So that is called cross-fostering. And that is a technique that was created by the Red Wolf Recovery Program in the 80s, where you take puppies from a captive litter and put them in the den of a wild litter. And then those puppies are raised by wild wolves. It's a really, really unique technique. And it's tried and true and works really well. You know, what we've learned through that is that these animals, you get your new genetics out in the wild, which is great.

**Jason Ahistus** [01:04:23] And then these, these puppies are raised by wild wolves, so you eliminate a lot of that, that human / wildlife conflict. Those animals are raised by a wolf that has already been living in the wild. It knows to avoid cars. It knows not to approach humans. It knows what the dangers are and it can pass it on to those puppies. Whereas if you take an adult, wolf, from captivity, it doesn't know those things. And it's a learning curve. And a lot of them, unfortunately, don't survive that learning curve. So the cross-fostering is just a really great tool that we have. And, and it was developed here, here in the red wolf community and has been passed on to other populations.

**David Todd** [01:05:11] So it sounds like it's pretty treacherous out there in the wild. I mean, do you, I think, as you mentioned earlier, there's been a lot of political pushback in North Carolina, with many red wolves being shot. Do you think that the likeliest scenario for red wolves, is a future of captivity or do you think that they will be found in the wild?

**Jason Ahistus** [01:05:39] Yeah, I'd, I'd, I would absolutely love to think that there is a future for them in the wild. And that is something that we all hope for and strive for. I, I don't think that there will be a point where they're only in captivity. I think that time has come and gone. And I think there's always going to be some sort of wild component and hopefully in the coming years we'll, we'll really expand on that.

**Jason Ahistus** [01:06:07] You know, the program has a lot of people and organizations that are dedicated to it. And it just keeps expanding, you know - different NGOs, different governmental organizations, different

**Jason Ahistus** [01:06:20] zoo associations, individuals that are doing research. There's, there's a university, Arkansas State University, that that has jumped on board. And they're really promoting conservation and getting involved. And, and they, they have the specimen bank for tissue samples and blood. And it's a really multifaceted approach to conservation. And there's so many organizations involved that there's so many people that are really, really passionate about it, including myself, that, you know, we're not going to give up on it no matter what. And, and I do really see a future for the species in the wild.

**David Todd** [01:07:04] That's, that's good to hear, as I see, to be part of a team that's growing and has passionate, smart people involved.



**David Todd** [01:07:15] So but for the time being, the you know, the, there are animals at Fossil Rim that I, I guess offer the opportunity for, for some education and promotion. And I was hoping that you could talk a little bit about what these, I think you do tours behind the scenes at Fossil Rim. And I was, I know these are probably done with a lot of delicacy to keep them discrete and not threaten the animals. But what is, what is the goal of these tours and what sort of reactions and impacts do you think there have been?

**Jason Ahistus** [01:07:56] Yeah, so we, we have two different aspects of, of our educational messaging. And one is we do have an enclosure that is at our overlook area. So it's kind of our halfway point of our park. For some listeners that might not know, Fossil Rim is a drive-through park where you drive through in your own vehicle, or you take a guided tour similar to African safari experience. At the halfway point, we have an area where you can get out and go to our gift shop and go to our restaurant, our children's zoo.

**Jason Ahistus** [01:08:30] And we also have an enclosure at that area with red wolves in it. So any guests can go and visit these red wolves and see, you know, get a glimpse of the wild, you know, read our signage, learn about some of the conservation efforts. And then there's always staff around that are available to help answer questions.

**Jason Ahistus** [01:08:50] But, you know, the big, the big part of what we do is through our tours and getting on a behind-the-scenes tour to go back into our intensive management area where you not only learn about the red wolves and our, our captive breeding efforts for that species, but for cheetahs and, and black-footed cats and Mexican wolves and maned wolves and Attwater prairie chickens and black rhinos. You know, there's lots of great programs that the general public doesn't get to see unless you go on these guided tours. And, and that's a great way to, to learn about them too. You, you have a tour, tour guide that that knows the programs, that knows the species, that can help answer questions and, and really educate and raise awareness of our, of our species.

**David Todd** [01:09:38] I see. And what sort of reaction do you get from the public, from these tours or from just, you know, stopping at the children's zoo or the overlook?

**Jason Ahistus** [01:09:48] Yeah, I mean, the tours are really well received. You know, time and time again, people comment on what they've learned. And, and a lot of these people, a lot of people in general, just don't know what some of these species are. I didn't know what a red wolf was before I started coming to Fossil Rim. And I have a background in biology and really enjoy, you know, predators and large carnivores. And I didn't know what one was until I came here. So the red wolf is one of those species that unless you go to a facility that has them, you're, you probably don't know much about them. And it's a great way to to learn. And I think people leave our tours and leave our facility really engaged, and, and appreciative of the opportunity to see some of these species and learn about them.

**David Todd** [01:10:38] I see. I think you mentioned earlier that there was a lot of encouraging support for, and interest in, research on the red wolf from individuals and agencies and nonprofits and, and even Arkansas State. I think it's interesting that also there are some companies that have tried to raise money and awareness. I have read that Hop Fusion Ale Works has gotten into the game. Is that right?

**Jason Ahistus** [01:11:13] Yeah, my favorite brewery. Yeah. So they're, you know, it's, it's a ... the zoo field has been collaborating with a lot of breweries and wineries, and it's a great way for those facilities to get involved with some sort of conservation effort. And it allows our

zoological facilities to reach a different crowd that's not necessarily coming to our, our facilities. You know, once you're here, you're learning about stuff, but to, to reach different, different backgrounds and different people that are at, you know, different areas of the world and interested in different things, the brewery concept is, is a great collaboration.

**Jason Ahistus** [01:11:58] The owners at Hop Fusion are, are great guys. And, and we've, you know, formed this collaboration to have a series of, of conservation beers where we pick a program and, and we work with Hop Fusion to pick a program and a species to highlight and, and they create a beer that somehow relates to that species, you know, the red wolf, we did the Red Wolf Ale, which is our first beer we did together and opened the door for our collaboration. And it was a red ale, you know, just a little, little spin on the beer that can relate back to the wolf. And it was, it was a great effort. It allowed Hop Fusion to get involved. It provided us some funding to expand our capacity for wolves. And we were able to put that money towards our new enclosures that we built last year, along with a couple other along with a grant and some fundraising of our own. And, you know, it allowed Hop Fusion to play a role in conservation. And, and that's why we do it. And it's something those guys are passionate about. And we look forward to continuing that partnership.

**David Todd** [01:13:07] It's nice. There's a little companionship in all this, and collaboration.

**David Todd** [01:13:15] Well, you know, I think a lot of this must be so ingrained in you by now that it may be hard to talk about, but can you help explain to somebody who's really not familiar with conservation, and about wildlife and particularly rare animals, what the point is of restoring an animal such as a red wolf that, you know, is, is so, so beleaguered, and is in such small numbers that it really doesn't have a role to play currently. I mean, do you, do you see it as a kind of a legal mandate, or is there some sort of ethical principle at play, or is there some ecological reasoning that's going on? What, what, how would you explain the reasoning for, for all the work that you're putting into bringing this animal back?

**Jason Ahistus** [01:14:13] Sure, yeah. I mean, I think you hit it on the head there. Everything you said was, was relatable. You know, I do think that there, there is there's a legal mandate to do it. You know, this is an endangered species. You know, there's a lot of controversy about if the red wolf is a real species, if it's a distinct species, or is it actually just a hybrid. In 2019, a group of researchers were requested, or Fish and Wildlife Service was requested by Congress, to dive deeper into this and do a taxonomic assessment of the species. So some researchers did that. And, and the results were that the species is a species. The red wolf is a distinct species and not a hybrid. So that kind of gives it a legal mandate under the Endangered Species Act that this animal has to be conserved and protected. So that was a big win for red wolf conservation in general and kind of solidified the fact that what we've been doing for the last 30 years was, was not to save a hybrid animal, but in fact a distinct species, which we all thought, and knew. But it's good to have that backing and that scientific paper behind us in our efforts so that the legal mandate is there.

**Jason Ahistus** [01:15:36] You know, the ecological rationale is to me is is one of the most important parts, because this species played a certain role in the, in the wild. And that role is not being met right now. And there's time and time again, you can see examples of this just through the change in the landscape, the invasive species of nutria and things like that that are that are destroying crops and changing plant communities and things like that. You know, this role needs to be, this wolf needs to be conserved. It needs to be out there. It needs to be doing what it was created for. And that is to be that keystone species in its environment.

**Jason Ahistus** [01:16:23] And, and yeah, I think there is an ethical part of this, too. You know, we, the wolves are in this spot because we put them there. They were a healthy population that played its role in the ecosystem very well until humans moved in and eradicated them. You know, between the eradication and the destruction of habitat, we put the species in its in the current position. And, you know, it's, to me, it's, it's our job to fix that. And, you know, too it gives us an opportunity to right our wrongs as human beings. And I think it's for a good cause to help the environment.

**David Todd** [01:17:14] That's really helpful. Thank you.

**David Todd** [01:17:18] So I think you touched on this just a moment ago that this dilemma that I think was, was hard to resolve for a number of years. But finally, I think it's, it's gotten answered, that that the red wolf is indeed a species and not a hybrid mix of, of other animals. And I guess the roots of the whole captive breeding program go back to when I suppose it really wasn't clear how to determine the genetic qualities of an animal. And, and so, you know, a lot of zoos had animals that looked, that had the conformation of, the shape and size, and, you know, they appeared to be red wolves, but they weren't. And to get started with the, you know, pure-bred breeding population, a bunch of these animals needed to be euthanized. And that must have been a terrifically difficult decision, I imagine. But could you sort of walk us through what the thinking was there?

**Jason Ahistus** [01:18:35] Sure, yeah. I mean, you know, with, with every conservation effort, your, your goal is to focus on that species. And if it's not helping that species, then it's a detriment to recovering it. You know, early on in the program, there was a, there were several facilities that, that thought they were exhibiting red wolves and these animals turn out to be hybrids with some level of coyote genetics in them. You know, when you're, when you're looking at recovery and you're trying to build a population, space is always a challenge. And you need more space to be able to support the recovery efforts. And if you have animals that are, are hybrids and not actual red wolves, that's a detriment to the, to the program and, and essentially kind of halts all efforts going forward because there's nowhere to put the animals.

**Jason Ahistus** [01:19:38] So, yeah, a lot of morphological data was put into that. And there was a vetting process for, for all canids that were in captivity at the time. And those animals that were not deemed pure red wolves were removed from the program. And that was the only way for the conservation efforts of the species to really move forward.

**David Todd** [01:20:02] So part of it, I guess, is, is logistics, just having the space in these limited number of facilities. And the other is the possibility of contaminating the bloodlines that need to be kept distinct from the hybrids?

**Jason Ahistus** [01:20:21] Yeah, yeah, you know, you want to safeguard those genetics of the red wolf. I mean, that's one of the reasons why the recovery program was even started, was to safeguard that species because of what was happening in the wild, due to it being the population being decimated, and the hybridization starting. So you definitely don't want to keep those coyote genes in the population where, where it's going to further cause problems. So, yeah, in order to do it right, then those animals had to be removed from the program and, you know, protecting that genetic red wolf line was so important.

**David Todd** [01:21:01] Yeah, I see. Well, maybe we can sort of go up to the 30,000-foot view. We talked a lot about the red wolf, but I know that you work with many other predators. You

know, you mentioned your interests in cheetahs, but I think you've also worked with black-footed cats and maned wolves and Bengal tigers, and cougars and lynxes and leopards.

**Jason Ahistus** [01:21:26] And the list goes on and on.

**David Todd** [01:21:29] The list goes on and on. And, and I was curious, I mean, given that these animals are of different sizes, and they have different prey. They come from different parts of the world. Do you see any sort of common threads in the, the problems and opportunities that they face?

**Jason Ahistus** [01:21:45] Yeah, absolutely. You know, I think for any, any conservation effort, you know, a key component in having these programs go is, is really understanding the species, each individual species, you know, their role in the ecosystem and really determining the value and need for conservation efforts. You know, there's so many levels of conservation, whether it's just, you know education and awareness in the wild, or if it's restoration or recovery, things like that. So that's, that's a key component to every conservation effort, regardless if it's a predator or, you know, a prey species or a bird or anything. You know, those, that's kind of the bottom line when you're looking at these things.

**Jason Ahistus** [01:22:33] As far as, as the predators and, and things across the board, you know, specifically for carnivores, I think the major common denominator is that these populations are declining in the wild, some at alarming rates, some at slower rates. But there's nothing in the wild that is growing without a conservation effort. You know, there's, there's habitat fragmentation and loss, there's poaching, there's, you know, poisoning, trapping, traffic collisions (which is a big one for a lot of species now).

**Jason Ahistus** [01:23:12] You know, thinking about these things and figuring out what, what are the major threats to each program is the way that you start a program and learn how to change that, to protect it. You know, these, these carnivores all have those same threats. And, and combating some of that stuff is, is really hard to do. But it you know, if you're going to do it, it needs to be done right. And it means taking action and not just discussing and thinking about it or what could possibly be done, but, but actually putting into motion and, and making some changes, so. And there are similarities with, with every species you look at and, you know, it's just all about time, effort, funding and support.

**David Todd** [01:24:06] Well, I think we we've covered a lot of ground here, and I just have one last question, if you can indulge a little bit. I usually like to ask, as a closing question, is there just anything that you might want to add about your overall view of the red wolf recovery effort to date and what you foresee for the future?

**Jason Ahistus** [01:24:31] Well, I, I think, you know, a good way to sum it up is it's, it's been a roller coaster of a ride, you know, filled with mixed emotions, lots of ups, lots of downs, lots of major breakthrough milestones and, you know, just heartbreaking setbacks. It's just kind of the, the way that conservation is. But the red wolf, in particular, it's been a, it's been a tough run. You know, there was a lot of great success early on. Political pressures, you know, a handful of, of vocal naysayers can really put a wrench in a program.

**Jason Ahistus** [01:25:09] And it just solidifies the fact that proper awareness and education is, is needed and really just public engagement in general. The general public needs to understand why these things are happening and what is happening on, on all accounts, you know, good and bad to really, really grasp the concept of what is happening. And I think if

people have a better understanding of everything, you know, they're more likely to lean toward supporting a conservation effort, especially one of, one of the carnivore species. Like I said, this, this species needs to be protected. It serves a role that nothing else is serving. You know, it's our, it's part of our natural history and heritage of this country. You know, this species is only found in the U.S. and was ever only found in the U.S. and it's got that sense of American pride to it. And I think that's something that we really need to back and put our effort into, into saving it.

**Jason Ahistus** [01:26:12] You know, moving forward, I, I do have a lot of hope and confidence that we can improve this program. You know, there's some really great things in the works right now, including the formation of a brand new recovery team that is going to put forth a new recovery plan, which is due the early part of 2023. And, and that's going to set a precedent for everything moving forward. Hopefully that will also include identifying a new release component, a new area and historic range to go along with the North Carolina population.

**Jason Ahistus** [01:26:51] And you know, this and pretty much closing statement is, is this program is just filled with great, passionate people that that want to do well and do right by the red wolf and, you know, have been sticking it out in this tough haul of a conservation effort for decades. And, you know, we can do this. This, this group isn't going to give up on this. And I definitely see them on the landscape in a healthy population without conservation efforts at some point.

**David Todd** [01:27:26] Well, that's, that's a great note to end on.

**David Todd** [01:27:30] Jason, thank you so much for your work on the red wolf and these other predators and, and your kindness and generosity to tell us about the work and your life and career to-date. I wish you the best.

**Jason Ahistus** [01:27:46] Yeah. Thank you. I appreciate the opportunity to kind of share some messaging about this amazing species. And I've enjoyed our chat today.

**David Todd** [01:27:54] Well, it's been a pleasure.

**David Todd** [01:27:56] I'm going to stop the recording, and if you could just stay on for just a moment.

**Jason Ahistus** [01:28:02] Sure.

**David Todd** [01:28:03] It allows the recording to upload so we can save it.

**Jason Ahistus** [01:28:07] OK.