How Texas Parks and Wildlife Protects At-Risk Species Across the State, with Ted Hollingsworth (Ep. 18)

https://houstonnature.com/18

Nivien Saleh: If a highway project destroys the living space of an endangered spider, must we stop construction?

[Jingle]

Nivien Saleh: I'm Nivien Saleh, with Houston and Nature.

If you've listened to episode 17 of this podcast, you know him already: Ted Hollingsworth of the Texas Parks and Wildlife Department. For the past 15 or so years Ted has served as the director of the agency's Land Conservation Program.

In that time, the Land Conservation Program has coordinated the acquisition of 150,000 acres of land by the state, increasing the state's wildlife management areas by 25 percent.

Perhaps you've been to Powderhorn Ranch in Matagorda Bay. Or the Palo Pinto Mountains State Park an hour West of Fort Worth. Or the Roger Fawcett Wildlife Management Area, one of the best remaining examples of cross timbers habitat in the State. These are just some of the areas that the Land Conservation Program helped acquire.

Which goes to show that Ted has the bird's eye view of Texas natural assets. In this segment he'll talk about how Texas Parks and Wildlife approaches the conservation of these resources. The key document is the "Land and Water Plan."

The Land and Water Plan

Nivien Saleh: On the website of the Department I found this nifty document called "The Land and Water Plan."

It seems to me like a mission statement of the Department. Would you say I'm correct?

Ted Hollingsworth: Yes. The Land and Water has a very important role for the Department, which is to articulate our goals and objectives. It is the document that we rely on as a roadmap. Everything we do should be able to tie directly back to that plan. Whether it's "conducting a controlled burn" or build a new playground" or a new social media campaign, we should be able to go back to that document and say, "Here we are in goal number three and objective number three, working to . accomplish that."

We put a considerable amount of time and effort into crafting that - not only so that we could look at it and measure our work against that plan, but so that other people like you, our elected officials, our friends over at U.S. Fish and Wildlife Service, can look at that plan and understand what our goals are and how we propose to go about achieving those.

It is a foundational document for the Department.

Who is responsible for drawing up the Land and Water Plan?

Nivien Saleh: Who is responsible for drawing that document up, which I think is an important question since it governs so much of the work of the Department? Is it the Department itself or is it the State Legislature? Who determines those priorities that are in that plan?

Ted Hollingsworth: We did not talk about this before the interview. So you would have no way of knowing that the original plan was written in the early 2000s and that the Legislature actually instructed us to come up with this document so that they could see what our goals and objectives were and so we would have a roadmap.

But in the year 2010 we had looked at that older document for a while. We knew its strengths and weaknesses, and we wanted to rewrite it newer, stronger, more holistic and more quantifiable than ever.

So the executive office picked a few people to write that plan that had very broad experience in the agency and who were just in tune with the philosophy of the agency because of how long we'd been here and the roles we'd played in the agency. And then of course it got circulated to the division directors and the executive office to confirm, edit or tweak.

And I was one of the lead authors of that document in 2010.

Science-based and forward-looking

Nivien Saleh: I had no idea. So I did not look specifically at the 2010 plan. I looked, I think at the most recent iteration, which I'm thinking grew out of the 2010 plan. And I would like to say it's an impressive document. It allowed me to understand the goals of the Department better.

Here's a quotation. "The goal of Texas Parks and Wildlife is to conserve, manage and restore terrestrial and aquatic ecosystems, and to protect the rich natural and cultural legacy of Texas." And importantly, the approach to do so is science-based and forward-looking.

So you're not just living in the past. You really want to anticipate the changes that face Texas and respond to them before they perhaps even take shape. And I think that is important, especially since we're in a state of flux and change, so: Well done.

The challenges of conducting strategic research

Let's see. The plan says, the Department has a commitment to “conduct strategic research on species habitats and ecosystems." What strategic research projects are currently underway?

Ted Hollingsworth: What I can tell you is that several of the divisions do conduct strategic research into species and habitats. Our coastal fisheries division does. Our inland fisheries division does. Our wildlife division does. I can also tell you that those are targeted research projects.

We have you know, decades and decades of baseline studies. We do gillnet surveys, deer surveys, quail surveys. We have for years and years and years. So we have a good baseline to where the vegetation, the habitats, the species are in Texas. Not for every single species - there are still a number of species where we do want more information. So the reason this research is strategic is because when we see that there is a problem, for example, when we see that there is a disturbing decline in Big Horn Sheep populations in the Trans Pecos, then we specifically say, "We need to know why, so that we can hopefully reverse that decline."

The experts in that area will define the scope of the need. We'll identify the resources and either conduct the research ourselves or partner with a university or other experts in the field to conduct that research. So it's targeted and strategic in that sense.

We've had a very successful effort in place for several decades now to restore the Desert Big Horn Sheep that was extirpated from West Texas in the middle of the 20th century. Before you go to a tremendous amount of trouble to identify the sheep that have the closest genetics to Texas sheep and to release those in the wild, you really want to understand the role that predators are going to play. Are we going to have an issue with mountain lions? You want to understand the role that invasive aoudad sheep are going to have. Do we have disease issues here? There's a lot of homework to do before you just start releasing wildlife.

You may have read that we've begun releasing captive-bred horned lizards back into the wild. The Horned Lizard was not as easy to breed in captivity as you might think. You don't just toss a male and female into an aquarium and say, okay, I'm going to come back in a month and collect a bunch of baby horned lizards. We've had to learn how to do that. And not only that, but we've had to then research what happens when you release a horned lizard that was raised in a cage into the wild. Does it know how to forage? What is it going to eat? Does it know how to protect itself from predators? What do you want to look for in that specific area where you released the Horned Lizard? Do you want to make sure that there's some flat rocks for them to get under and hide from predators? Do you want to make sure that there's carpenter ants or leafcutter ants around for them to eat? You want to know those things.

It's strategic in the sense that we are now in a phase, as an agency, where most of our research is for the purpose of addressing and answering very specific questions.

What kinds of perils does Texas wildlife face?

Nivien Saleh: You're saying to save specific species of imperiled wildlife, you have to know an entire context around the life of this species. Yeah, that makes a lot of sense. Now with respect to imperiled wildlife, the plan states that that is an area you guys are focusing on. It also says that several species of birds and mammals have vanished from Texas, and many more are imperiled. Talk a little bit about the kinds of perils that wildlife face.

Ted Hollingsworth: The issues that wildlife face in Texas are the same issues that they face around the globe. It's very, very fascinating as you look at species of wildlife to see how very diverse their needs are. And of course that's what makes an ecosystem. As they taught us in high school and college, you have species that fill niches. But some species are what I was taught to call generalists. Grackles. Okay. Grackles have done great. They've just exploded. Why? Because they're perfectly comfortable to build nests in those scrawny little live oaks that got planted in the medians at Walmart and eat the popcorn, hamburger scraps and French fries scraps that come from McDonald's, and they've adapted to that.

Grassland species have a hard time

On the other hand, some of our grasslands species of birds are so specific in terms of the structure of the grasses that they have to have, and the timing that they have to have for those grass seeds to eat, and the insects that live in those grasses. So specific, we talked about 1% of the tall grass prairie left in Texas.

In some cases we have 1% of the affiliated or associated grassland bird species left. If the habitat's not there for them and can't support them, they're not going to be there. They're simply not going to reproduce, their numbers are going to decline along with the habitats they depend on. It's different from species to species. What we're losing very quickly is our grassland-dependent species, especially grassland-dependent birds.

Animals with large territorial needs are disappearing

Some of our animals that have really large territorial needs, like the Attwater's Prairie Chicken that you're familiar with.

The Black Bear of course is extirpated from East Texas because they just have huge habitat needs. Everything from roads, impacts with cars to fences. There are certain kinds of wildlife that avoid fences. The Lesser Prairie Chicken is struggling because even where there's

habitat that at ground level looks looks good for them, they are very much subject to predation from, say, owls and hawks. When you put up high lines, when you put up towers for electrical transmission lines, you give those raptors a place to perch and watch the prairie below and see the prairie chickens when they move. We see that prairie chickens may stay a mile away from a transmission.

So you look at the habitat and you say, "Boy, there should lesser prairie chickens here. Why aren't they here?" Well, they're not here because they're afraid of those towers, because they know that those towers are where the hawks are gonna perch that are gonna eat them and their babies.

Fragmentation. The interesting thing about fragmentation, it's not the fact that

Nivien Saleh: Habitat fragmentation.

City folks who move to the countryside for quiet but end up recreating the city

Ted Hollingsworth: Not just habitat fragmentation, but ecosystem fragmentation and landscape fragmentation. I'm not officially a biologist, I'm officially a land conservationist. But I can tell you that if I have a hundred acres, and I'm managing it well for wildlife, and the wildlife is thriving on this a hundred acres, and I sell 50 acres of it to you, and you manage your 50 acres very well, the wildlife may not ever notice. On the other hand, what happens out here where I live - and it's a social phenomenon that I find disturbing - people will move out here from the city because they're sick and tired of the city. So they'll come out here, and they'll buy five acres or ten acres or 20 acres.

And then they will just lose it because they find a scorpion in the house or because they find a copperhead in the backyard. And they want to sterilize. And I don't mean this judgmentally. It didn't occur to them that if you live out in the country, you may get a scorpion in the house or even, and they may, and they probably don't even know it's a copperhead. It may be just a perfectly harmless a hognose snake.

Nivien Saleh: I'd be scared of a scorpion. I have to say I'd be a little scared. I'm not sure I'd want to sterilize the entire house, but I would think very closely about how I'm supposed to respond to a scorpion in the house.

Ted Hollingsworth: And my point is that if I take my 50 acres, and I build my cabin, and my mental image is that I really want it to look like a park, a golf course, and I have somebody come out and poison a large yard to get rid of the fleas and the ticks. And then I clear all the brush out because I'm worried about fire. Then I mow a couple of acres to try and minimize the snakes coming. All of a sudden, all of a sudden, this area that I've changed isn't really suitable for rabbits, white tail deer, gray foxes. Isn't really suitable for here, where I live on the hill for javelina.

So I've made changes that have altered that wildlife community. That's why fragmentation is a problem.

So much land in private hands creates special challenges and opportunities

Nivien Saleh: I think 95% of the land in Texas is in private hands. So there's a lot of potential for fragmentation.

Ted Hollingsworth: There is. But there's also a lot of opportunity. Maybe the biggest change I've seen in my 30 years in this career is that so many more people now they're not living off the land. They're not row crop farming it. They're not intensively cattle grazing it.

TPWD biologists will help you create habitat

And they really do want to see the hawks and the owls and the deer, the snakes. So we have a whole program of private lands biologists. You can find out who your local private lands biologist is. And whether you have five acres or 5,000 acres, they'll come out, and they'll look, and they'll say, " You have some wonderful habitat here. Here's some things you can do. And Nivien, for decades now we've had this urban wildlife program, promoting backyard wildscapes. Maybe I live in a community with an HOA, but I can take a thousand square feet in my backyard, put a little raised bed around it, plant a few native trees, a few native shrubs, some wildflowers. Even though that may not support a white tail deer, it may support some lizards, butterflies.

To me, all of this wildlife is important - all the way from the microbes that make the soil healthy to the pronghorn antelopes and the Attwater's prairie chickens and the black bears that take thousands and thousands of acres.

It's all part of the system. And it all needs to be conserved.

Nivien Saleh: Yes. And HOA, just for those who don't know, is home owners association.

Ted Hollingsworth: There are a lot of communities where the requirement is that you keep the grass mowed. Because Texas is 95% privately owned, the pressure points on wildlife are a little different.

The strategies and the opportunities are a little different. And quite frankly, we only have a limited amount of staff and money to manage land with. So

Private landowners can lessen the burden on TPWD

Nivien Saleh: If you find an ally who owns the land privately, then that person can do the management, relieving your staff of managing it directly.

Ted Hollingsworth: Exactly. We would become a partnership. We will still manage the state parks and the wildlife management areas. But we're accomplishing our mission of protecting and enhancing the stewardship of those fish and wildlife resources by working with landowners. And more landowners than ever do want to be good stewards of the land that they own. And this is increasing all the time. Some of it's increasing because of this new awareness of climate change. Some is ethical. Some is just " I really do like looking out my kitchen window and seeing a bobcat trot across the backyard once in a while." I mean, there are a lot of drivers, but I do see a shift towards ...

Nivien Saleh: ... greater consciousness.

Greater awareness among landowners

Ted Hollingsworth: We have more five acre tracks and 10 acre tracks and 50 acre tracks in Texas than we ever had. Historically, everybody either was an urbanite, and they had their ninth of an acre and a house on it, or, yeah.

Or they had a ranch right. They had a ranch or a farm. Lots and lots of people. And I fall into this category. I want the best of both worlds. I want air conditioning, be able to flip a switch and have the lights come on, jump in my car and drive to town.

But I also want to look out my kitchen window and see a bobcat once in a while.

We have a tremendous opportunity in Texas to educate. And really it's our role as the state fish and wildlife agency to set that example, provide that education, have those urban biologists and private lands biologists available to encourage the people who want to be encouraged to manage their land well.

Over a thousand Texas species are imperiled

Nivien Saleh: That makes me happy to hear that there is a change among the landowners, and the awareness changes. That is wonderful news. Now I want to ask you with respect to the imperiled species: What number are we talking about? How many species in Texas are imperiled?

Ted Hollingsworth: Of course, "imperiled" is a pretty subjective term. In order to receive all of our federal funding, particularly money from the Pittman-Robertson Act, which takes dollars from the purchase of sporting goods, guns and ammo and maybe licenses. I don't even know what all the sources are. But it then funnels it to the State.

The greater part of our budget for our wildlife division comes from the Pittman-Robertson Act. It requires that we produce what's called a wildlife action plan. Some years it's called a wildlife habitat action plan. We call ours, I think, the "Texas Wildlife Action Plan."

It's a massive document. And it contains everything really from raw data all the way to action items that parallel those that you saw in the Land and Water Plan. The Wildlife Action Plan is required to identify those species of greatest conservation need.

We call them SGCNs, "species of greatest conservation need". Those are species that we know are in decline. We know that without maintaining or preserving the habitats they rely on they could be headed for federal listing. Or they're species that we just really don't know enough about but have reason to suspect they may be in decline.

And I don't know the exact number, but I think there are about 1,300 species on that list in Texas.

Nivien Saleh: Wow.

Two reasons for not wanting species federally listed

Ted Hollingsworth: We have, of course, a number of species that are also federally, you know, listed, threatened, or endangered. One of our goals is to keep species from reaching that point where they get federally listed. There's two reasons, and they're both very valid and important reasons.

One of which, we don't want to see species threatened with extinction. We don't. But secondly, when a species gets listed, that carries legal ramifications, legal constraints, and nobody wants those. Nobody wants to have to say, we can't develop here, fence here, run cattle here, or extract oil and gas here.

One of the things we very systematically do through that Texas wildlife action plan, and then the followup to that plan is we try to be sensitive first of all, to those species that are in decline.

But if there's a species in decline, there's a reason for it. Typically it's because the habitats they rely on are in decline. And what does that mean? Does that mean that we need to maybe work more closely with some private landowners to limit the loss of that habitat? Does that mean maybe in some cases we need to acquire some habitat?

That's what we did with the Lesser Prairie Chicken. We created a wildlife management area in the lower Panhandle with some of the last really ideal habitat for the Lesser Prairie Chicken.

We want that species to survive and thrive. Period. But we also want to keep that species off of the, off the Federal Endangered Species List.

How do you choose which species to save?

Nivien Saleh: Now with about 1,300 species on your list and other species potentially moving towards inclusion on that list, the number of species is huge, and you only have so many funds. So with your strategic forward-looking approach, I wonder: How do you choose the species that you want to focus on? Is it the charismatic species? Or is it the keystone species that are important for an entire ecosystem? How do you choose?

Ted Hollingsworth: Well, Nivien, that's a really interesting and problematic question, because with a charismatic species, like the Bald Eagle, it's a lot easier to get buy-in from the public than it is for the two inch long snail darter.

The U.S. Fish and Wildlife Service is in the process of ... They've posted for public comment a proposal to list five or six freshwater mussel.

I mean, we're talking about clams that live in the mud that nobody ever sees. And yet in terms of their uniqueness as a species, the genetic diversity that they bring to the ecosystem, they're just as unique and diverse as the Bald Eagle. When you talk about a blind spider that lives in a couple of caves in San Antonio and you talk about, as we did 10 years ago, shutting down a highway project because that spider got found in a cave, that becomes a public policy problem. I don't want to ever create this impression that it's an us versus them. It's not the tree huggers versus the capitalists.

Nivien Saleh: Even the tree huggers would like to use the highway to get to work.

Ted Hollingsworth: And even the capitalists for the most part really don't want to be responsible for a species going extinct. So there's a lot of work to be done in terms of education. There's a lot of work to be done in terms of identifying where those most critical habitats are. Because if you've impacted the habitat for a cave spider, you've impacted the habitat for a cave cricket and a cave salamander.

We used to use a term that I just don't like. We used to use the term "best of the best." It was this idea that "Well, we can't save everything. So we're going to find that ranch, or we're going to find that thousand acres, or we're going to find that cave that's just the best of the best and at least try to save that." And there's validity in that. But the problem is that if you're not careful, you can end up with a best of the best over here and another best of the best over yonder. And the best of the best was the beautiful, spectacular, charismatic landscapes.

And we missed the creosote flats, which are nobody's favorites. We missed the prairies. To this day, I encounter a lot of people who understand forest. They look at forest, they see the big trees. They see squirrels jumping from branch to branch, and they can embrace that. You show them a healthy prairie and it's, I respect your opinion, but all I see is tall grass."

Our appreciation for landscapes is learned

Really, some of our appreciation for these landscapes is learned. I've seen overgrazed prairie. There's still tall grasses, but they're not native grasses. And if you look down in between the grasses, there's fire ants as the dominant species.

Then I've seen healthy prairie with the Switchgrass, the Indian Grass and the Big Bluestem. And no fire ants. Once you have an appreciation for that, you're never the same because you drive down the road, pass a pasture and you say, "Wow, what a shame!" You pass the next one., and you say, "Wow, look at that. That person is a good steward of that. Look at that fence line. It's still got Eastern Gamma Grass growing in it."

Nivien Saleh: It's the same as it is with wine or with beer or with tea - I've recently been exploring loose leaf tea. So as you get to know something better, you develop a much more nuanced understanding and can tell the really good staff from the sort of good stuff from the, ah, and it's the same with the prairies.

Ted Hollingsworth: It's the same thing. And it goes back to your question about picking your battles. It's just easier politically, socially, culturally, when the battle is the Bald Eagle than when your battle is the Crawfish Frog, or I guess it's the Crayfish Frog. In Texas it's the Crawfish Frog, right?

Nivien Saleh: So confusing.

Ted Hollingsworth: It only occurs in wet prairies. And it occurred across much of the Texas Gulf plain when I was a child. Now it's only found in two or three counties. It's a secretive species, difficult to find, difficult to study. Being an advocate for species like that is more challenging than being an advocate for a Pronghorn Antelope.

Nivien Saleh: Or the Ocelot.

Ted Hollingsworth: Or the ocelot or the mountain lion.

It's a challenge. I think for the most part as the state fish and wildlife agency, we try to be as holistic as we can. And while we do want to know those species in decline and where they are and what they are, more importantly, we want to know why they're in decline, what habitat is it that's in decline, because it's not just going to take out one species. It's going to take out a suite of species. Organisms we don't even know exist right now. So if we can think in landscape scales, get private land owners on board with us, if we can get significant

acrages conserved at some level, whether it's just through management plans, tax incentives, conservation easements or whether in some cases it's through public land ownership.

We're trying to think in terms of those landscapes that will have a long-term lasting ability to ensure that those species don't continue to decline to the point where they have to be listed.

How does climate change figure into the Land and Water Plan?

Nivien Saleh: Earlier you mentioned the work "climate change." And the Land and Water Plan also says that you are very much driven by scientific consensus. Of course, scientific consensus is that the temperatures of the globe are increasing. In Texas, as in any state, the impacts depend on what area you're in, if you're on the coast or if you're in a drier area. My guess is that very much challenges the forward-looking approach of Texas Parks and Wildlife, because you have to anticipate something that we haven't experienced very much, and you have to figure out how to respond to it before it happens.

How does climate affect your work?

Ted Hollingsworth: It very much affects our work. As an agency we don't for better, for worse, we don't really concern ourselves with the causes of climate change. What we have in front of us is facts. And facts are that, in Galveston Bay, for example, the sea level relative to the land mass has risen about eight inches in the last century.

We also know that at San Jacinto, for example, because of the withdrawal of hundreds of thousands of acre feet of water and oil and gas, the land has sunk. Those fluids have been withdrawn out from under that land, and it has subsided. We can look at those trends over time and anticipate with much confidence that relative to land that the ocean is going to be is going to be rising. I've just invested a great deal of time and energy in acquiring on behalf of the Department some coastal barrier island and coastal barrier peninsula lands. I have to ask myself, am I wasting my time? Is this barrier island going to be gone in 50 years? What we do know is that because of the way barrier islands form during storms, sediment is picked up from the near continental shelf out of surprisingly deep water, and as those storm surges roll towards the mainland, they slow down when they get to shallower water. And as they slow down, they drop sediment. And that's what's formed these barrier islands. So we know that the barrier islands continue to maintain an equilibrium with sea level.

We know they're going to grow. We don't know how fast. And we don't know the rate of relative sea level rise. Having said that, we have 6,000 acres of Matagorda peninsula that is one of the best examples of what we call a strand prairie, a specific type of coastal prairie that occurs on barrier islands and barrier peninsulas and near salt water.

We have one of the best examples on the planet there. And we know that hundreds of thousands of shorebirds and wading birds rely on the peninsula either as a residence, as a place to nest and raise young, or as stopover habitat in their migrations.

I can't just pretend that they don't need that habitat. I can't live in such fear of sea level rise that I'm going to say, "No, I'm never going to preserve anything on the coast." But what I do have to do is I do have to look and say, okay, if we do have a meter of sea level rise,

Nivien Saleh: Which is like a yard for you, Americans.

Ted Hollingsworth: Yeah. 39.8 inches. Yeah. If we have a meter, three feet of sea level, if we have five feet of sea level rise and my barrier island doesn't migrate, what is going to happen to those birds? So that's where a place like Powderhorn comes in. Powderhorn straddles what was a barrier island thousands of years ago.

The elevation there reaches 10, 11, 12, 13 feet down the ridge of this property. So even if that barrier island goes away, those habitats, those lagoons, those salt marshes, those intermediate marshes, those occasionally inundated marshes, those washover channels, those dunes, all of those habitats will migrate.

So we want to make sure that the inventory includes properties where, as sea level rise occurs, these species hopefully have a place to go. Obviously in West Texas, the issues are different. I'm looking at a desert, but I'm looking at a desert that typically gets 15 inches of rain a year.

I'm looking at a desert that typically sees a severe drought once every 15 years. What happens here if we start having severe drought every other year, if the annual rainfall goes to eight inches a year, or what happens if the rainfall goes to one inch this year and 30 inches next year and one inch the next year?

We don't know the answers, but we certainly ask the questions. There's a lot of research into species that rely on these - we call it, call them, desert islands - these mountain ranges that poke up out of the desert. Where the desert floor may be at 1,500 feet, this mountain pokes up to 7,000 feet, and there's trees at the top. There's more rain at the top because of orographic effects of climate. It's cooler. And there are species that can't leave the mountain because they can't survive in the heat and the dryness of the desert floor. And it's clearly documented that what's happening with many of these species is that they're moving up the mountain.

So what happens when they run out of mountain? Or another way to look at it is, we own a thousand acre wildlife management area at 5,000 feet. So we think, okay, we're going to acquire a thousand acre wildlife management area at 7,000 feet. So these species have somewhere to go. They still have to be able to get there.

So now we're talking in terms of corridors, right? One of the things that weighs heavily on all the land conservation professionals I know is this whole issue of connectivity. We've collected the best of the best.

But if that means one state park or wildlife management area in each county and these conserved lands become islands, are species is going to be able to get from one island to the next?

Nivien Saleh: That's fragmentation.

Ted Hollingsworth: That's fragmentation. And now we're having to think in terms of climate corridors. Can I get to higher altitudes? Can I get to a wetter area?

If I'm a snake in Brewster County, Texas, and I live within a fairly narrow habitat and climate constraint and it changes too much, am I going to become extinct? Are humans going to come along and collect a whole bunch of my species and move them somewhere where they think I can survive and keep up with climate change?

It's a real challenge. We do take it into account in our conservation and acquisition planning. We don't have the answers. The science is such that we're learning more every year, but we are very aware of it.

How is TPWD dealing with climate change in its artificial reefs?

Nivien Saleh: Yeah. I have a specific question related to that, and that goes to the impact of climate change on the oceans. As humans emit carbon dioxide, oceans absorb more carbon dioxide in the water, and that leads to ocean acidification, which has a detrimental impact on marine species that have hard shells, because the acid in the ocean erodes the shells. That affects oysters, but it also affects corals. And of course we have a coral reef in the Gulf of Mexico, which is the Flower Garden Banks National Marine Sanctuary. And I don't know to what extent Texas Parks and Wildlife is at all involved in that, because I think that's a federal project. Yeah, it's federal. But you guys manage over 60 artificial reefs that are the result of, I think, old oil rigs that have been converted into reefs.

So I wonder how is ocean acidification affecting those reefs? And what are you doing for that?

Ted Hollingsworth: Uh, Nivien, we're getting outside my area of expertise. I'm a land conservation professional. We do have people absolutely monitoring the development of wildlife on those reefs. But there are going to be folks in that artificial reef program and our coastal fisheries program that would be able to answer that question.

I'm not one of them.

Nivien Saleh: Okay. That's perfectly, totally legit. I will find somebody else to answer that question. Thank you.

We have arrived at the end of this episode. You may know that the world, not just Texas, is facing a crisis of wildlife extinction. Over the coming decades more and more species will become endangered. In the United States we have a legal process for documenting, and trying to halt these extinctions. It is contained in the Endangered Species Act. And as you have heard, it dictates that threatened or endangered species be federally listed. That in turn may trigger restrictions on land use.

Texas Parks and Wildlife has been mounting a valiant effort to keep animal species off the federal list. Partly to protect these creatures, and partly to avoid antagonizing Texans who want to do with their land what they see fit.

But with well over a thousand species statewide at risk, I wonder: Can this effort succeed in the long term? Or will the Endangered Species Act impose more and more restrictions? Here is why this is important: Stories similar to the one in Texas are unfolding all over this country. And as more and more people become inconvenienced by the Endangered Species Act, pressure will grow to either defang the Act or to eliminate it entirely. The best antidote to this, I think, is to profoundly improve our society's respect and love for nature.

This is just something to think about.

You can find the episode resources at https://HoustonNature.com/18. That's HoustonNature.com, a slash, and the number 18 for episode 18. If you liked this episode, please tell a friend. And tune in for the third and final part of this interview, which you'll find in the next episode.

For Houston and Nature, I'm Nivien Saleh.