04: This Prairie Chicken Will Make Your Heart Quicken: Fighting Species Extinction, with John Magera

Nivien Saleh
I'm Nivien Saleh, with Houston and Nature. A few months ago I heard a spokeswoman of the U.S. Fish and Wildlife Service give a talk.

It started out engaging.

Then she turned to the Attwater's Prairie Chicken, a critically endangered bird of the Texas coastal prairie whose mating call sounds like a deep holler. And her eyes lit up. She asked a question that went something like this: "Our Attwater's Prairie Chicken is every bit as charismatic as the California condor. So why does everyone pay attention to the condor and few focus on the prairie chicken?"

When I heard this, I wondered: She compares a chicken to a condor with a ten-foot wingspan and thinks the chicken stands a chance? Am I missing something? So, I decided to find out what's up with that bird.

Today's interview with John Magera, refuge manager at the Attwater Prairie Chicken National Wildlife Refuge right outside of Houston, holds the answer. John has spent his life fighting the extinction of endangered species, and he couldn't care less about wingspan or size. What motivates him is a set of deep-rooted principles he shared with me. And an admiration for the grit of his colleagues.

Oh and by the way, the Attwater's Prairie Chicken isn't a chicken at all.

Now, if you enjoy this interview and would like to know when a new one comes out – particularly since I don't have a regular posting schedule – sign up for the email newsletter at HoustonNature.com, and I'll be sure to keep you in the loop.

And now, welcome John Magera. John, on behalf of the U.S. Fish and Wildlife Service you manage the Attwater Prairie Chicken National Wildlife Refuge, which is owned by the U.S. Government. What brought you to this refuge?

How did you come to the Attwater Prairie Chicken National Wildlife Refuge?

John Magera
Well, I am a career Fish and Wildlife Service employee, and I've worked on National Wildlife Refuges my entire career. This is actually National Wildlife Refuge number seven that I've been on. Coming here was an opportunity to get back home for us. My wife and I are both from Texas, and we had traveled around quite a bit in the previous 20 years. And we wanted a place to finish raising the kids

that was closer to home. And that's one of the reasons we came back. But the other reason is the Attwater prairie chicken refuge: Refuges like this sort of align a little bit better with my personal interests and philosophies on conservation. It was a good fit for me.

Nivien Saleh
Tell me more about that - your personal interests and how that refuge aligns.

John Magera
Many of the refuges I worked on early in my career were focused on the recovery of endangered species. Not every refuge has that refined of a focus. I realized after 10 or 15 years of working on refuges that had a strong endangered-species purpose, that when I worked at other refuges that were not quite as focused on critical conservation that I felt a little bit lost in terms of what the goal was, per se.

Nivien Saleh
Is it more that you care about having one singular mission? Or is it that you care specifically about endangered species?

John Magera
Well, I think it's a little of both. Endangered species: It's easy for me to care about. It fits with my personal philosophies on conservation. But it also works well with my personality to have a little more refined focus in terms of what it is we're trying to accomplish on a daily basis.

Nivien Saleh
And how is it that you came to the U.S. Fish and Wildlife Service in the first place?

John Magera
I studied wildlife conservation at Stephen F. Austin University, which is a couple hours north of Houston, in Nacogdoches. And I had a few options coming out of college. But when I found out what the mission of the Fish and Wildlife Service was and particularly the refuge system, that really appealed to me and I knew that that was the kind of work I wanted to do. So I was very blessed to obtain one of the co-op positions with the Fish andWildlife Service. And I started my career down in the Lower Rio Grande Valley of Texas. It's been good ever since and I can't imagine working for any other agency.

Nivien Saleh
It seems that your interest in conservation goes back to a pretty early age.

John Magera
Yes, it does. And believe it or not, it started right there in Houston. One of my very earliest memories is in our backyard in Houston and there were a lot of birds in the backyard. And ... one of my very earliest memories was begging my mom for a slice of bread so I could take it out in the backyard and put it on

the picnic table for the birds. And I would stand at the window and watch, you know, watch the birds come in, come and get the bread.

But it wasn't it wasn't really until later that I learned about birding per se and the art of studying birds. Actually at Stephen F. Austin University our ornithology lab instructor was Cliff Shackelford. You mention his name in any birding circles in Texas, and people immediately know who he is. So I was very fortunate to have a mentor in the birding community like that to really give me that push.

Nivien Saleh
So to you, your college education was a life changing experience.

John Magera
Yeah, certainly. And one of the things that I really appreciate looking back on the degree that we obtained at SFA, was the fact that it was a management degree. They really emphasized even when we were starting out that we would be getting degrees in forest and wildlife management, not just studying those things but learning how to manage them. And that has helped me tremendously in my career because on national wildlife refuges, we're about the management of lands and management of populations of species. We do take more of a hands on approach than a lot of people realize. Having that management education really helped.

Nivien Saleh
What's the difference between preservation and management? Don't you have to manage these days in order to preserve?

What does wildlife management mean?

John Magera
Well, most people's definition of preservation's tends to be: Put a gate around it and lock it up and not do anything to it. A lot of people mistakenly think that that's the answer for wildlife conservation and for the conservation of natural resources. But nature is not a static thing. And most people who study nature will begin to understand that nature is constantly changing, constantly evolving. And there are influences on every habitat that have shaped that habitat over time to become what it is. And so if you remove those influences, grazing, prescribed fire or natural fire, then you change that ecosystem. Locking it up and throwing away the key really isn't the answer to conservation. In some cases it can be beneficial. But you can't just forget about those natural processes that created that environment in the first place.

Nivien Saleh

When you say management, do you imply that the U.S. Fish and Wildlife Services tries to restore what used to be here before the settlers arrived?

John Magera
I think ultimately that would be a great goal. But we also have to understand that we don't have as much of the natural landscape to work with as we once did.There are places where we have to really work to optimize the amount of available habitat on smaller areas. And what that leads to are things like wetland impoundments that might provide habitat for birds that wouldn't otherwise have that. And in many cases, you end up choosing a suite of species to manage for that is a priority suite of species for one reason or another.

So a lot of refugees were established for the purpose of North American waterfowl. If you understand a little bit about the way national wildlife refuges are created, it'll help you understand the way that they're managed. Each one of them is created with a specific purpose, and it's legislated into the establishing language for that refuge. So for example, the initial acquisition to create the Anahuac Refuge and also the Aransas Wildlife Refuge and many others was specifically for the purpose of migratory birds. And even more focused than that was was waterfowl. So they did things early in the establishment of those refuges that were beneficial to the suite of species that were that were named under the purpose of that refuge. Now, over time, many refuges have broadened out and managed areas that have been added on for other purposes later or broader purposes. But you have to go back to that establishing legislation and look at the purpose for that individual refuge. And then that'll give you a little bit of an insight on why the refuge is being managed the way that it is.

Nivien Saleh
What's the purpose of the Attwater Prairie Chicken National Wildlife Refuge?

John Magera
If you look at our mission statement, our purpose statement, it specifically calls out the conservation of endangered species and obviously the namesake of the refuge, the Attwater's Prairie Chicken, has been our priority for the last 50 years.

How long has the Attwater's Prairie Chicken been endangered?

Nivien Saleh
So, obviously, the Prairie chicken is an endangered species. Since when has it been considered endangered?

John Magera
The Attwater's prairie chicken was listed on the original list of endangered species in I believe it was 1967. When the Endangered Species Act was passed they made a list of federally endangered species. So when you look at that original list, you'll see things like the bald eagle, polar bear, peregrine falcon. And if you look down the list, you'll see the Attwater's Prairie Chicken. And so it's been on the list since the very beginning.

Nivien Saleh
And ever since those days, the Attwater's prairie chicken was considered endangered. And how many how many chickens existed back then?

John Magera
If you don't mind, I'm going to correct you real quick. Something that I've been trying to get people to do, is understand that we don't have chickens on the refuge. We have prairie chickens on the refuge. So I try to make sure that we always say prairie chickens.

Nivien Saleh
So it's a prairie chicken. The prairie chicken was considered endangered in 1972 when the refuge opened ...

John Magera
When the refuge was formally established in 1972, there were somewhere in the neighborhood of about a thousand prairie chickens that remained on the landscape. And that's not just at the refuge. Eventually we got to a point where there were only prairie chickens left in three places: down near Goliad, Texas, on what we call the Goliad Prairie, at the refuge and then at the Texas City Prairie Preserve.

Nivien Saleh
So in around 1972, there was about a thousand. And today?

John Magera
That's the twenty five thousand dollar question. With prairie chickens, you have to be careful when you answer that question because we take a snapshot each year to estimate the population in the spring. The reason we do that is because they're the easiest to locate in the spring. The males are out on the booming grounds. And we have the best chances of performing a valid census at that time. We'll go out and count all of the males. The male to female ratio is about one to one. So to get our estimate, we just double that number that we're able to count. This year our estimate was 34 males on the refuge and another 37 males down on the Goliad Prairie. If you double those numbers: Oh, what does that give us? 72, I believe we're looking at maybe 140 birds in the wild this spring. Now, you have to understand, when we do the survey, that's the low number for the year. So we've come through all of the winter mortality, and we haven't yet reached the breeding season.

Nivien Saleh
Yeah.

John Magera
Prairie chickens are a little different than some of the other endangered species that people are familiar with in that they naturally have a large growth period and then a lot of mortality all in the same year. So in the spring, you may be talking about one 140 prairie chickens. But by the end of the breeding season,

we may have 400. And then again, if you continue on through the fall and the winter, you may be back down to 200 next spring.

Nivien Saleh
When you look at the year 1900, I read on the website of the Texas Parks and Wildlife Department that in the region from Houston, Corpus Christi, Brownsville - that stretch of the Gulf Coast - and then all the way down into Tamaulipas in Mexico, there were one million prairie chickens. Then they went down to a thousand in the 1970s. And now you have one hundred, two hundred. That's that's a real decline.

John Magera
Yeah, it is. And people tend to look at that and get a little bit discouraged by that. But let's back up a little bit and talk about where we were in the middle-1990s. So in the middle-1990s, we were looking at fewer than 40 birds left in the wild. So we were within a year or two of complete extinction. And had it not been for some pretty heroic efforts on the parts of the biologists that are working with this bird and the captive breeding partners, we would've lost this bird in the 1990s. But they went in and they found nests in the wild and they collected eggs from those nests to start the captive breeding program. And that's the only reason we're still talking about Attwater's prairie chickens today.

The Importance of heroic efforts

Nivien Saleh
I hear "heroic efforts." Please tell me what was heroic about those efforts.

John Magera
You know, we in the conservation business and those that are interested in conservation, we often read stories or watch programs about people around the world that do these remarkable things to save species. What we don't realize is that we have people right here in our own area that have done some of these same things. And by that, I mean: Put yourself in the shoes of the biologists that were working with Attwater's prairie chicken in the middle-1990s. Watching this bird go down from thousands of birds to, you know, fewer than 50 birds in the wild hd to have been incredibly disheartening. Some people, they would've been so discouraged that they wouldn't have even tried to save the species. But when you look at what had to be done, they had to go in and find these nests of these hens and collect eggs to create the captive breeding program. When you're looking at a landscape of thousands of acres of native tallgrass prairie, and you know that you probably have fewer than 25 nesting hens out among those thousands of acres, how do you even know where to look?

Nivien Saleh
Wow

John Magera
The answer to that question is: These biologists used a technique that was developed decades earlier for waterfowl census in the northern Plains. They saddled up a couple of horses and they tied a long rope in between the saddles of those horses. And they walked these horses across the prairie and people followed along behind the rope that was being dragged through this tall grass.

Nivien Saleh
Aah.

John Magera
I can't begin to tell you how difficult it is to walk through tall grass prairie. I've worked in a lot of landscapes - mountainous, marshes, forests - the most difficult landscape there is to just walk through is tallgrass prairie.

Nivien Saleh
That's why that's why cowboys used to wear these - What's it called, chaps?

John Magera
Chaps. Right. You know, tall grass prairie fight you at every step. It drags you, and you can't see where you're putting your feet. It's difficult to walk on when you don't know where your feet are going to land. So just imagine this scene playing out across the Gulf Coast prairie where two men on horseback were dragging this long rope in between them, volunteers and biologists were walking behind this and waiting for a hen to flush off with her nest. The rope would drag over the top of the grass, so it wouldn't disturb the nest, but it would cause the hen to flush. So once the hen would flush, the volunteers and the biologists behind the horses would go to that location and carefully locate that nest. The timing for this had to be just right, because not all 20 or 25 of those hens would have been nesting at exactly the same time. So they had to do this repeatedly over and over, and it had to have been both mentally and physically just grueling work to do. In the spring the prairies are very wet and difficult to walk through. And so had it not been for this handful of people that went through this tremendous effort to locate these nests and locate the initial eggs that were brought into the captive breeding program, we would have very likely lost the species within a year or two.

Nivien Saleh
And then you have to also take into account the emotional investment. It must be hard to say we're taking a gamble on the captive breeding program. If we don't do it, the chickens will eventually die. But if we take their nests, if we take their eggs, then will it work?

And then you also have to take into account the emotional investment. It must be hard to say we're taking a gamble on the captive breeding program. If we don't do it, the prairie chickens will eventually die. But if we take their nests, if we take their eggs, then will it work?

Breeding the Attwater's Prairie Chicken in captivity

John Magera
Right. And nobody really successfully raised grouse, which is which is what a prairie chicken is. It's a grouse. Nobody really successfully raised grouse in captivity up to that point. So there wasn't really a body of knowledge on how to raise prairie chickens or grouse in captivity. So they had to develop that over time, and they had very few opportunities to make mistakes because of the small numbers of eggs that they were able to obtain. So there was 10 to 15 years - things were very touch and go. They were learning breeding techniques every year. They were having to learn from their mistakes. They were fighting a lot of issues early on that were created by a lack of genetic diversity in the flock. Things like disease that they just didn't know to expect. But, to their credit, all of those people persevered and brought us to where we are today: in a position to to release potentially 400 birds a year out onto the prairie.

We were at a point in 2016 where we had over 120 birds make it through the winter just at the refuge, and we were in a position to release over 400 birds.

Nivien Saleh
And then Harvey comes.

John Magera
Well, most people talk about Harvey, but a lot of people forget about what happened the year before that. The year before Harvey was the 2016 flood known as the Tax Day Flood. And the tax day flood hit the refuge really, really hard. The Tax Day Flood in 2016 actually put more water on the Attwater prairie chicken refuge than Harvey did. And we lost an entire nesting season because of the timing of that flood. And we lost a lot of adult birds as well. So we went from a high of 126 birds in the spring of 2016 - that was the highest that they had seen in over 25 years - to two years later, after the tax day flood and then Hurricane Harvey: We had 12 birds on the refuge and 26 total in the wild. So we actually went from the highest number in 25 years in the spring of 2016 to the lowest number in 25 years in the spring of 2018. It was a tremendous setback for the population. But having said that, we had our safety net in the captive breeding program. We were protected from extinction because of the work of our captive breeding partners.

Nivien Saleh
Wow. That is a story with cliffhangers in it.

John Magera
It is, it is.

Nivien Saleh
What you said just put me on the edge of my seat. It's amazing that the small prairie chicken can do that.

So over the first year, as you started the captive breeding breeding program, you had to learn a tremendous amount of stuff, right?

John Magera
Yeah.

Nivien Saleh
What are some of the things that you had to learn?

John Magera
Simple things like diet. What do you what do you feed adults, and what do you feed the chicks? They were using commercial diets at first and finding out that they were deficient in several nutrients that those birds needed. One of the one of the biggest landmark findings or breakthroughs that we've had recently was understanding the importance of insects in the diets of young chicks. Those chicks are seeking insects as soon as they're able to walk. That led us to another realization, which was the impact of the non-native fire ants on the landscape and specifically on the availability of insects for prairie chickens.

Nivien Saleh
Yeah, I did read about the fire ants on your Web site.' I think it said the fire ant reduces the amount of insects drastically.

The invasive fire ant

John Magera
Right. Right. So, you know, I think a lot of people understand that fire ants are not good. They're bad for us, they're bad for the landscape. But they don't always know exactly how. And through the research that we've done and some other folks have done, we've been able to really understand the impact of fire ants on the other insects in the landscape. They're out there influencing the availability and the size classes of insects for prairie chickens and for all other types of native wildlife. If you think about: Many of us who grew up in Texas, we would find horned lizards in places like vacant lots, even in city streets and things. I found horned lizards 12 years ago at the Attwater refuge when I first arrived here. I haven't seen a horned lizard in probably five or six years.

Nivien Saleh
Wow.

John Magera
There are other things. You look at some of our native snakes that depend a lot on insects. You look at reptiles and amphibians that depend a lot on insects, other ground nesting birds. So the impacts of fire ants on the landscape have been very broad. As a result of that understanding, we've been able to enact some management actions to address that. And so now we treat several thousand acres every year for fire ants to get rid of those so that the native insects can be abundant again.

Nivien Saleh
Is there a simple way to do that? I mean, you don't want to deploy a broad spectrum insecticide right?

John Magera
We had those concerns, as you would imagine. We do use a granular insecticide. Ultimately, what we learned through a small scale approach and then broadening that out was that the fire ants were so aggressive that they get to this insecticide and they take it down into their colonies more quickly than any of the native ants can do it. And so as a result of that control, we actually saw a release of native ant populations. We actually have more native ants on the landscape now that we're treating for fire ants than we had before.

Nivien Saleh
Wow, that is great. I got to tell you, I do not like fire ants. I've been bitten by them a few times ...

John Magera
Right. I don't think anybody likes fire ants. I talk a lot to our visitors. I meet a lot of people that come to the wildlife refuges and that aren't career biologists, and they don't spend a lot of time in nature. They tend to think of the impacts of things like fire ants on other animals the same way they think of those impacts on themselves. And I'll ask people, what do you think the issue is with fire ants? And immediately their answer is, well, they attack the prairie chickens. And that's really not the biggest impact that they have. That indirect impact of affecting the food supply is where the problem really lies.

Nivien Saleh
And how do fire ants affect the food supply of prairie chickens? Do they eat other insects?

John Magera
Yes. As small grasshoppers and other insects are emerging in the spring, the fire ants are there to consume them. So where you have fire ants, you just have a reduced abundance of native insects.

Nivien Saleh
And prairie chickens cannot eat fire ants.

John Magera
That's not what they're after. They're after grasshoppers and small insects of various kinds. So fire ants are not the answer to what young prairie chickens need.

Nivien Saleh
Yeah. So you learned how to breed prairie chickens in captivity, and you had probably a few failures and a few successes, and you've learnt a tremendous deal. And my guess is that after a few years, you could hand those efforts off to what you called your breeding partners. Is that correct?

John Magera
I wouldn't describe it as handing the effort off because they're really the ones that developed the techniques to begin with. We've never done any captive breeding on the refuge itself. People often wonder why. Well, it wouldn't be wise to have a captive population of prairie chickens that suddenly developed a disease right in the middle of 10,000 acres of native prairie chicken habitat. You need that separation to be able to contain disease issues.

So we have captive breeding partners like Fossil Rim Wildlife Center in Glen Rose and the Houston Zoo. We have the Caldwell Zoo and then the newest partners is the Sutton Avian Research Center in Oklahoma. And there have been others in the past, too. The Abilene and San Antonio zoos assisted with this effort at one time. There were some facilities up at Texas A&M University that helped the initial research on how to ... how to raise prairie chickens. They've all combined to get us to the point that we're at today.

Where does the funding come from?

Nivien Saleh
And do these captive breeding partners get funding for their effort? Because I imagine that that takes quite a bit of manpower and facilities, food…

John Magera
Yeah. That's that's becoming a real big issue. For a small time the Fish and Wildlife Service was able to help out some of these facilities through grants and other other types of funding mechanisms. But the refuge system budgets have been declining for probably 10 to 12 years now, and we're no longer in a good position to assist our captive breeding partners. So they're out there looking for grants, looking for donations. In the case of the Houston Zoo and the Fossil Rim Wildlife Center, they depend a lot on visitors. And that revenue from visitation, that helps support this captive breeding program. But at times like this, when we have facilities that are shut down because of COVID, they've lost that revenue stream. And they're really hurting for funding. Then you have facilities like the Sutton Avian Research Center that I mentioned earlier up in Oklahoma. They're not open to the public. That's a private

nonprofit facility that's dedicated to bird conservation. And so they're constantly having to go out and seek funding through grants and donations.

Nivien Saleh
I know that the Texas Parks and Wildlife Department gets some of its money from duck hunting, right? How does the U.S. Fish and Wildlife Service get its money, and why has it declined?

John Magera
I think what you're thinking of was the federal duck stamp.

Nivien Saleh
Yes.

John Magera
Right. So that is used by the U.S. Fish and Wildlife Service. It has been very successfully used for conservation, primarily for land acquisition. And some of that money does make it to the states as well. So there's some federal aid funding that goes from the Fish and Wildlife Service to each individual state agency like Texas Parks and Wildlife. And then there's congressional funding. The Fish and Wildlife Service is funded through Congress, through the budgets that are passed every year, just like a lot of the other executive branch agencies. The federal budgets were better through the 1990s and the early 2000s. And those have just gotten tighter and tighter. We've been we've been tightening our belt quite a bit over the past four to five years especially.

Nivien Saleh
Yeah, you're working with real constraints here. And of course that raises the question: Why all the effort to save a bird. So what I'd like you to do is tell listeners who are unfamiliar with the prairie chicken: what is so cool about it.

John Magera
Well, you know, we ... we really try not to play favorites in our business. As professional conservation biologists we make the argument that everything is important. This is one species among many that deserve conservation and protection.

But if someone were to ask me directly about the Attwater's prairie chicken and like you say, what's so cool about it? Well, among birds, it has one of the most unique breeding displays of any bird that you'll see. If people aren't familiar with grouse species and prairie chickens more specifically, they may not understand that these birds have these large, colorful air sacs that they inflate on the sides of their neck and they strum along the ground and they make this really amazing booming sound that most people have never heard anything like before.

What does the Attwater's Prairie Chicken look like?

Nivien Saleh
Yeah. So let me let me make an effort at describing this prairie chicken...

John Magera
OK.

Nivien Saleh
... you know the best way I can.

John Magera
Can I ask you .... Can I ask you to do something?

Nivien Saleh
Yes, please.

John Magera
I want to challenge you a little bit here, so I'm gonna ask you to describe the Prairie chicken without making reference to a non-native species.

Nivien Saleh
So I cannot say it's the size of a chicken. I mean, because chickens are not native to here, and I don't want to knock chickens. Chickens are beautiful beings, too.

John Magera
Sure they are.

Nivien Saleh
All right. The Prairie chicken. The Attwater's prairie chicken is the size of a football? Can I refer to football?

John Magera
Yes, that's it. It's football size.

Nivien Saleh
It is brown. And the male has these yellow sacks on his neck on both sides of his neck that reminds me a little bit of Scottish bagpipes.

John Magera
Good analogy.

Nivien Saleh
The male also has these long neck feathers that stand up over its head. And from far away, it might look

like you're looking at something that resembles a jackrabbit. I mean, the feathers look like these big jack rabbit ears. And while it does its dance to attract the ladies, he tramples on the ground like a petulant child, like,“No, no, no I don't want to do this.” But instead of being petulant, he's trying to convey, "Choose me, choose me, choose me," and using his yellow back pipe sacks on the side, he booms and makes the sound. And what I understand is that he does it maybe twice a day. And if you imagine that once there were a million of these creatures on the prairies, it must have sounded like what I know from the Middle East. You know, when you have the mosque go off and they issue the call to prayer and it's not just one mosque. It gets picked up by all the mosques all over the city and you end up hearing this wave of calling for a certain amount of time. That must be a sound to behold.

John Magera

It is. It's like no sound you've ever heard before. And the distance that it can carry across the prairie is remarkable. We were conducting our surveys this spring, and the weather conditions couldn't have been any better - it was clear, it was calm. And I was hearing a male prairie chicken boom in a certain direction from the position that I was in. I kept scanning in that direction looking for this male prairie chicken, and I had a very good pair of binoculars and a very good spotting scope. I looked for probably 30 minutes, and I never could find this prairie chicken. Ultimately, I talked to another one of our biologists and they heard it, too. They were over a mile away from me at the time this prairie chicken was booming. We eventually figured out where this prairie chicken had been booming that morning because he did it again the next next morning and the morning after. But that bird was over a half a mile away from each of us. And both of us heard it. As you say, it doesn't take much of an imagination to envision thousands of prairie chickens on the native prairie landscape booming on a clear calm morning. I really enjoy talking to some of the folks that were around in this area in the 1940s and 1950s and listening to them describe this sound because they were able to hear it in its natural form. It really made an impression.

Nivien Saleh

That makes you think everyone should hear this, doesn’t it?

How to come out and visit the refuge

John Magera

Right. One of the good things that's happened, I think, through this COVID issue is that we've seen an increase in visits to the refuge. We've had more people coming out and finding out about the refuge because they're looking for ways to to get out into nature and be away from other people. We've had hundreds of people discover the Attwater prairie chicken refuge over the last month. And for people in Houston it's a lot closer than they think it is.

Nivien Saleh
It is close to Houston, but I've noticed about these national wildlife refuges is that they're really not that designed for visitors. Can people who come to the Attwater Prairie Chicken Wildlife Refuge see something there?

John Magera
Yes, they can. The thing about visiting national wildlife refuges is that most wildlife is is active early in the morning and later in the afternoon. So around sunrise and sunset. That's the most active time for most wildlife. And it's also not a very active time for most human beings. So what I've noticed throughout my career was that we get the bulk of our visitation right around lunchtime. People come out once they've taken care of breakfast and things that they needed to take care of, and then they come out midday. And if you visit a national wildlife refuge in the middle of the day, really, you're going to miss most of what you came to see. So I always encourage people: Just take the effort to be there at sunrise or soon after because you're going to see many times more birds and other wildlife right after sunrise than you will in the middle of the day.

Nivien Saleh
Sunrise is about six thirty, correct?

John Magera
Well, depends on the time of year you're talking about. It could be anywhere from six thirty to almost eight o'clock in the morning, depending on the time of year.

Nivien Saleh
Let's say the sunrise is at six thirty and people were adventurous enough to come out there, would they be able to get in or would they find that it's closed?

John Magera
No, we're open every day of the year. And our auto tour or our driving loop for automobiles that's open every day of the year, from sunrise to sunset. Even if the visitor center isn't open, say, on a weekend or after hours, people can still come out and drive around the four-mile auto tour. And we also have two walking trails that are a mile each and another connecting trail. So if they were to walk all of the trails, that's two and a half miles of trails that we have to walk. There are places for folks to go on their own without having the visitor center have to be open or a staff person with them. But by far, the best way to see the Prairie chickens is to get on one of our monthly van tours. Those are guided tours that are driven by one of the staff. And you'll be taken all throughout the refuge. Those are early in the morning and there's limited amount of space. But if you call ahead and reserve a spot on those van tours, that's going to be your best chance to see the Attwater's prairie chicken.

Nivien Saleh
And for a good experience, what would you say people should bring with them?

John Magera
You want to make sure you bring some water and stay hydrated. You also want to make sure that you bring some sturdy shoes. Now we mow our trails. So you don't necessarily need hiking boots. But good, sturdy shoes helps. If you're susceptible to insects, you'll want to wear long pants and shirts and have some bug spray available. If it's sunny, you want to bring a hat so that you don't get sunburned. And also, we would encourage people that when they do come out that they take home with them whatever they brought in. So if they I f they choose to bring a lunch out, for example, it helps us out if they can take care of that when they leave, too.

Nivien Saleh
Do you need binoculars? Or can you enjoy it without binoculars?

John Magera
Well, you can certainly enjoy it without binoculars, but a good pair of binoculars is always going to enhance your experience. And so I would encourage people to bring those as well. And in the springtime, when we do have the booming males out on the prairie, if you have a good spotting scope, that'll also give you a much better view.

I think what people really need to know, too, is that even though they may not actually see an Attwater's prairie chicken because the numbers are still low right now: When they come to the refuge, one thing that they'll always be able to see is true, undisturbed virgin coastal prairie. And in the state of Texas it is so incredibly hard to find true native habitat in its natural condition. A lot of people, when they go to, say, the National Forest or they go to the coast, they think that they're seeing natural habitat in its original condition. And very, very rarely is that the case. If you come to the Attwater refuge, you'll have a chance to see thousands of acres of native tall grass coastal prairie, and it's never been plowed. We did not have to plant it. It is there the way God made it. And you can enjoy it for what it is. Which is true, native undisturbed habitat. That's something we can always show people.

Nivien Saleh
Yes. I got to say to this point that I went to Big Bend National Park once. I was so excited to go there, and then I go out and walk around, and I'm like, this is all creosote. And the visitor center talked about the pristine, the pristine nature in National Park. I'm like, this should have been prairie. This should not have been creosote. So yeah.

John Magera
I tell people it takes a little bit of time and effort to really appreciate prairie.

A lot of folks will drive by on Interstate 10 or on a highway, and they'll look out and see an open field and they'll think, "oh well that's prairie." When, in fact, what they're looking at is most often non-native invasive grasses or something that's been planted there by the land owner. If you want to see thousands of acres of native prairie, Attwater refuge is the place to go.

What lessons does the Attwater's Prairie Chicken hold about species extinction?

Nivien Saleh
Very cool. Now, the prairie chicken is important in and of itself, but it also tells us something about the larger picture of species extinction. In preparation for this interview, I read Elizabeth Kolbert's book, "The Sixth Extinction," and she argues that humankind is causing a global extinction of species so enormous in magnitude that it can be compared to the extinction of the dinosaur. You have spent many years working to stem this trend. How do you view our society's relationship to these endangered species?

John Magera
Oooh, boy, that's a complicated question. Early in my career, I spent a lot of time trying to convince people that we needed these endangered species - WE needed THEM. What I like to do now is to get away from placing a value on species in human terms - that knee jerk reaction that people have of saying, "Well, what's it worth? What's its value to me?"

We talked earlier in this interview about effectively the entertainment value of the Attwater's prairie chicken, right?

Nivien Saleh
Yeah.

John Magera
The way the prairie chicken is described to a lot of people is in glamorous terms or in terms of how it can entertain you, and that's why you should come and see it. I have found myself getting away from describing endangered species in that way, because it trivializes that species and the evolution of that species over tens of thousands of years. And to just say its value is whatever its value is to human beings, that's not appropriate. I just don't think that's the right way to view them. They have intrinsic value. You know, when I was working in southeast New Mexico, I was working with an endangered snail, an endangered amphipod, and a group of endangered desert fishes. The largest of any of these things was three inches long. So if you think something that has the name chicken associated with it is a challenge to manage, try managing an endangered amphipod or an endangered snail.

Nivien Saleh
Yeah.

John Magera
I would lead tours at that refuge and collect a small sample of these snails and amphipods in a glass jar. And I would pass it around to the people on these tours. And invariably someone in the group would ask, "Well, what value do these have? Why should we save them?" One of the things - and this fits very closely with my personal philosophy - one of the things that got through to our visitors was the fact that

they believed that God created the heavens and the Earth. I believe that as well. And so what I would ask them is to take a look at this species in terms of something that God created. And I would ask them: If God took the time to create this species, who are we to cause it to go extinct?

Nivien Saleh
One argument that I heard made was, well, these species, they have perhaps enzyme or something that we could use later on in medicine and if they disappear, we don't have access to them.

John Magera
Right. Those things are true. My sister passed away from cancer years ago, and one of the treatments that they were trying with her was chemotherapy that was developed through the bark of the Pacific Yew Tree. And there are all sorts of medicines that come out of nature, millions of things that we haven't even discovered now. But again, when we talk about nature in those terms, I think we trivialize it, we just put it into this box of what can nature do for me?

Nivien Saleh
Yes

John Magera
It saddens me to hear people describe it in that way. Of course, nature gives us joy, but we depend on nature. And we depend on nature not just for the material things that it can do for us, but for the emotional well-being and for the perspective that it offers us.

Nivien Saleh
It seems that what you're saying is that nature is not a tool for us. When you look at nature and see how magnificent it is, it becomes clear that it is valuable in and of itself. Perhaps if you come at it from a Christian perspective, you can say, "God created it." An example of your view, I think, can be captured by the encyclica, from a Catholic point of view, of Pope Francis ...

John Magera
Pope Francis, right.

Nivien Saleh
He wrote the encyclical "Laudato Si'," in which he says, creation is God's masterpiece. It is the way he manifests himself and shows his glory. And if you want to honor God, you honor his creation.

John Magera
That's right. That's right.

Yeah. And I think … I think over a lot of years, people have pointed to the word "dominion" that's used in the Bible in terms of our relationship with nature. The way I see it is stewardship. And I believe that we are called to be stewards of God's creation, stewards of nature; and the way that you're a proper

steward is you're responsible with it. You conserve it in a responsible way. As long as we have that approach - the approach of being a steward rather than someone who has forcing their dominion over something - I think we're going to be OK.

Nivien Saleh
Wonderfully said. Thank you so much for the work that you do, and, you know, I just have you in front of me and not the rest of the U.S. Fish and Wildlife Service. But I would like to say thank you to all you great men and women for maintaining these beautiful habitats and working on leaving their beauty to our children and grandchildren.

John Magera
Absolutely.

Nivien Saleh
This is it for today. I hope you enjoyed this episode. If you did, tell a friend, and have a great week. For Houston and Nature, I'm Nivien Saleh