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David Todd [00:00:02] Well, good evening. I am David Todd and I am really fortunate to have Matt Fendley on the line. And with his permission, we are planning on recording this interview with him for research and educational work on behalf of a non-profit group called the Conservation History Association of Texas. And for a book and a web site for Texas A&M University Press. And finally, for permanent preservation and access in an archive at the Briscoe Center for American History at the University of Texas at Austin. And, and Mr. Fendley would have all rights to use the recording as he sees fit. And that that is our plan for this interview. I wanted to just make sure that's okay with you, Matt.

Matt Fendley [00:00:55] Absolutely. Absolutely. I'm excited to be here. And thank you. Thank you for for having me. This is wonderful.

David Todd [00:01:02] Super. Well, I'm really grateful.

David Todd [00:01:07] So,let's get started.

David Todd [00:01:08] It is Thursday, July 28th, 2022. It's about 7:10 p.m. Central Time. So, as I said, my name is David Todd and I am representing the Conservation History Association of Texas. And we are lucky to be conducting an interview, remotely, with Matt Fendley, who is based in the Houston area. I am in Austin.

Matt Fendley [00:01:35] Mr. Fendley is a long-time student and steward of Eastern purple martins. And so, today we will talk about his life and career and education and, and his interests and work with the purple martin.

David Todd [00:01:52] And so, with that short preface, I thought I might just jump into it by asking about your early years, and if there might be people or events in your childhood who might have influenced or encouraged your interest in animals and birds and purple martins in particular?

Matt Fendley [00:02:16] Oh, absolutely. You know, that's one thing that's definitely a common thing that a lot of folks that are really, you know, into purple martins, you know, as a hobby or even those that have gotten into like actually researching the birds. One thing that you find a lot with talking with a lot of the other martin enthusiast is, is how we got started. And a lot of that definitely goes all the way back to our childhood years.

Matt Fendley [00:02:55] For me in particular, I grew up in the, in the Houston area and the, going all the way back, I recall we had some neighbors that lived next to where I grew up in just a regular neighborhood, one of the, one of the Houston suburbs. And there was a couple that lived next door. And this gentleman built a very elaborate - it was a four-story, wooden,

purple martin house. And it was just, it was, you know, just grand and, you know, was just a great looking bird house, you know, in and of itself.

Matt Fendley [00:03:38] But, they attracted martins very quickly, and I recall, and this was going back back to about when I was about four or five years old, I recall just standing in the backyard. And one thing that made it even better was the house, this gentleman's purple martin house, was very close to the fence that, that divided our, our backyard and his backyard. So, I just really had a front row seat to this, to watching these martins.

Matt Fendley [00:04:11] And just watching the martins, just, you know, being in the swallow family, just the way that their wings are designed, I mean, everything about them is centered around, around this graceful, effortless flight. Along with their just, you know, just boisterous and just gregarious behavior and all their wonderful, you know, chirps and clicks and gurgles, and the colors, you know, the male martins especially, I was just really, really, I was enamored of them from the start. And I can recall just sitting out there for hours on end, just watching him, listening to them.

Matt Fendley [00:04:59] You know, it, I think it even added to the whole thing, the fact that they were nesting, you know, that they were nesting communally. There were a lot of them nesting together in this really wonderfully crafted, a really picturesque wooden, large wooden bird house. Just the whole thing for me, just, just really just all came together. And so,, that was that.

Matt Fendley [00:05:24] And I still recall those, those days. And that's what really that's what really got me, you know, put the hook in me with the purple martins. And that stayed with me from that young age, that stayed with me, that never left.

Matt Fendley [00:05:39] And kind of a neat story - that, once, once that, that particular gentleman and his wife, they moved, some years later, that house stayed up. And unfortunately, as a lot of martin houses do, once they are not, you know, take, actively taken care of, or actively managed, a lot of times they'll fallen into disrepair. A tree - they'll get, you know, overgrown by trees and then eventually you're not hosting martins. And it just kind of sat there abandoned for some time. And the, the gentleman that moved in to that house after they left, I got, I was, you know, a little bit older at that point, but still, you know, elementary school age. And I remember talking to him about it, and he obviously saw that I was a big martin fan and was interested in that house. So, he gave me that martin house. And then my dad and I kind of renovated it, if you will, and slapped a fresh coat of paint on it and put it up in my backyard. And that's what I used to attract and host martins all the way until my college years.

Matt Fendley [00:06:51] And so really it was, that was, that's, that's where it all started for me. That's where it all started for me.

Matt Fendley [00:06:57] And I, you know, I will add it was, was interesting growing up. I recall in the summer times, you know, right when summer started, right, you know, right before summer started, you know, I always from early on, I really liked birds, but I was definitely always hyper-focused on, on purple martins. You know, I can remember riding my bike around the neighborhood really almost like performing like reconnaissance, and finding all the the martin houses, especially the active martin houses especially, but all of them, around the neighborhood that hosted martins. And I would spend those early mornings right after school let out for the summer, just riding around the neighborhood and going from one

house to another. There was always one a couple of streets down that was just always just a full house. And I used to absolutely love just sitting on my bike and just just watching that.

Matt Fendley [00:07:55] And of course, you know, my, my friends always thought that was, you know, that was odd. And, you know, I'm sure I got, you know, kind of made fun of, you know, while they wanted to go and go swimming or go, you know, play football or whatever they wanted to do. No, no, no. Matt's not going to join us. He's, he wants to just, he wants to go ride around and look at those dumb bird houses.

Matt Fendley [00:08:15] So, that was, yeah, so that was, that was a, you know, that was, that was fun. You know, growing up, I remember a lot of that. So, but, yeah, that's, that kind of is how, how it really, how it really started for me.

David Todd [00:08:31] Well, you know, it sounds like you were self-taught, sort of an autodidact. That that just, you know, were your own instigator at this or was, sounds like your dad was supportive, helped you with building the, or at least erecting the old martin house in your, the new location. And then this neighbor who had built in the first place. Did either of them, did either of them talk to you about what they had done or, you know, what you might do with this, this interest?

Matt Fendley [00:09:06] Right. You know, there was not. There was never any interaction with that, with that neighbor that originally erected that martin house. There never was. And I don't, I don't think that, that either of them, this gentleman or his wife, had any idea that, that I was, you know, sitting for hours in the backyard, just, you know, watching, watching the martins and were really, were really that, you know, taken with them.

Matt Fendley [00:09:33] And so, it wasn't, you know, and, of course, my, my dad certainly knew, my parents, but both, certainly, certainly knew early on. And of course, my dad, you know, absolutely, he was, he was very supportive of it, you know, in helping me with what, you know, mentioned of, you know, renovating and refurbishing the old, that old martin house and putting it. He was always very, very supportive.

Matt Fendley [00:09:59] But that's correct. I mean, it was, this was definitely something that just kind of hit me, you know, just on, on, on my own, really. Just I had, one of the things I think about all the time, is I see a lot of, this really kind of is something I can really relate to. I see a lot of them, sometimes I'll see martin houses, like in close proximity to like elementary schools or something like that and especially active martin houses. And I often stop and think, yeah, I wonder how many of the kids are kind of watching those martin houses like I was, and becoming, you know, becoming, you know, big martin fans like I did and eventually becoming, you know, landlords and, you know, you know, just really, you know martin, you know, champions for the, for the species.

Matt Fendley [00:10:55] And so, yeah, so that's, that's right. There was, there are a lot of folks I do hear that, you know, there was, you know, you know, a relative, a grandparent, or, or a an aunt or uncle that, you know, that, that had, you know, a martin house or martin houses. And that's kind of how they got into it. But for me, it was just, it was just kind of a, a, a, a just kind of a solo, you know, thing that was that, you know, I really just, you know, just picked up. Yeah, you know, and really just, you know, fell in love with.

David Todd [00:11:39] That's great. Well, I guess the martins were their own, your own teacher. And so, that's great.

David Todd [00:11:49] Well, maybe we can move a little bit further down the line. I understand that that you went to the University of Houston at Clear Lake.

Matt Fendley [00:11:58] Mhmm.

David Todd [00:11:58] And majored in environmental management, got a B.A. there. And so, I was curious if any of your interests in martins kind of informed you taking that major, taking those courses, or if there were teachers there that might have encouraged this kind of interest that you've had for so many years since.

Matt Fendley [00:12:21] Right. You know, it not really. It was, the, my environmental management, it was, it was, it was actually a B.S. And the, you know, it was, there were certain courses. It definitely, I mean, the, the, the degree, the program itself certainly attracted me from a, from an environmental standpoint, you know, certainly from the standpoint of, you know, a, the wildlife connection that, that came with it and and certain, you know, certain factors or certain components of that, of that program.

Matt Fendley [00:13:05] But mostly not. It was really, that was just, I wish there was more, it was definitely more of an exciting story, or more of a you know, there was a lot of, you know, that involved in, you know, picking that degree and involved that degree. But unfortunately, there, there was not. It was just, that was a degree at the time that, you know, when I was, you know, going up through my, my college years, that was something that, you know, was a, you know, had some, you know, environmental conservation, you know, points to it, you know, some, some things that were involved in that. But, but not really. I mean, there was nothing that, that really involved in that, in that, in, in getting that degree or any sort of working with my, you know, the faculty there, you know, that was involved with, that, that really was associated or, you know, did or had any sort of reinforcing effect or anything when it came specifically to like the purple martins.

David Todd [00:14:15] Interesting. So, just following your own star. You were soloing from an early age, I guess.

David Todd [00:14:23] You know, some of the people that we talk to draw some of their interest and, and their enthusiasm and passion for wildlife from just things that are in the culture -you know, books, movies, TV shows. Was there anything like that, that, that sort of caught your interest and was encouraging to you?

Matt Fendley [00:14:50] There, there was not. Now, as far as films or TV shows, I would, I would say there were not. Now books, I definitely was, was quite frequently thumbing through the various, various encyclopedias and a lot of the, you know, various, you know, bird books. There were a lot of, you know, the "Birds of North America", you know, those kind of things that, that really delved into, you know, all the species in a particular part of the world, you know, just from A to Z.

Matt Fendley [00:15:31] But what's funny was if I look back, and I still have, I still have a lot of those, those books, the, if I set those books down just on the spine and let them open on their own, you know, a lot of times they will just open up to whatever pages were, were most frequently being pressed down and read. And pretty much all of them open up to the section about the swallows, and more specifically about the purple martins. So, that's definitely, I

spent most of my time for sure, really just reading and re-reading the information that was in a lot of those books about the purple martins specifically.

Matt Fendley [00:16:14] And I always loved the pictures, the pictures. You know, that was another thing that was so just, you know, the visual stimulation just of seeing the martins and just their, you know, the way, their appearance, you know, and then being, you know, on these, you know, most of time were very, very well-built, home-made, large bird houses. It just, there was just that, that, you know, the whole, you know, the visual thing was, was really, was really big for me as well, looking through a lot of those books. So, I would say, yes, definitely, a lot of, a lot of, a lot of the bird books for sure.

David Todd [00:16:58] Okay. Yeah. Well, and it is interesting that in, you know, what, are there 500, 600 species that come through Texas, but there was just something about the, the swallows, and the martins that, in particular, that just caught your fancy. And I guess there's sometimes, it's really hard to unpack that and figure out, you know, what it is.

Matt Fendley [00:17:24] Right. Right.

David Todd [00:17:25] It just clicks somehow.

Matt Fendley [00:17:27] Right. You know, and one thing I should, I should say, I guess the swallows, you know, of course, the purple martin being the largest of the North American swallows, I found that, you know, my original focus, you know, certainly was and still is on the purple martins. But I found myself, over the years, of kind of expanding my, my, my knowledge base a little bit to learning more about the other North American swallows.

Matt Fendley [00:18:01] One thing, due in large part, I know, to try to get, you know, get a better understanding. There's a lot of similarities, a lot of differences, but a lot of similarities between, you know, the, the, all these different swallows and their, their behaviors, you know, whether it's the, the barn swallows, or the cliff swallows, or the tree swallows, or the purple martins, you know, there's a lot of similarities.

Matt Fendley [00:18:28] And so, I know, I'll give you a perfect example. There's, one of the things that purple martins are known to do, some do and some don't, no one really knows for sure why, but they'll, they'll, when they're building a nest, one of the final things they do when they're building a nest in houses or gourds, they'll, they'll apply, they'll almost build like a little mud dam at the, at the entrance to the nesting compartment.

Matt Fendley [00:18:50] And I always thought that was amazing. You know, I think that's, a lot of that, I think a lot of that just behavior that you see amongst all the swallows, there seems to be a common, a lot of commonality, with the mud nest, and building mud building structures, building nests attached to structures using mud and, you know, those kind of things.

Matt Fendley [00:19:12] And so, I think, just that's one of the things I think that really got me kind of looking more into the, the other swallows in large part, was to try to learn more about the martins and kind of what makes them, makes them tick, if you will.

David Todd [00:19:26] Sure. Sure. I imagine it's a great way to have some insights into the martin by looking at some of their brethren and sistern, you know, the kinship that they've got with other swallows.

Matt Fendley [00:19:38] Right, right.

David Todd [00:19:40] Well, this might be a good time to, to just jump into the purple martin. And I was hoping that you might be able to give us a very brief, and I think for you, probably pretty simplistic, but an introduction to, to the life history and the ecological niche that the martin has, fills. Could you perhaps give us a little, little explanation of that?

Matt Fendley [00:20:09] Absolutely. Absolutely.

Matt Fendley [00:20:10] Well, you know, as I mentioned earlier, that the purple martins, they, they are the they are in the swallow family. They, they are the largest of the North American swallows. They are the, the family classification is Hirundinidae, which is, that is inclusive of all swallows and martins. And then you have the genus is, you know, the Progne, the species is subis.

Matt Fendley [00:20:39] And then you have three actually subspecies of purple martins. So, for the eastern subspecies, they're the subspecies is actually called again subis. So, their genus species subspecies is Progne subis subis.

Matt Fendley [00:20:52] But then you have a arboricola subspecies which are the martins of the Pacific Northwest, and the hesperia subspecies, which are the martins of the desert southwest.

Matt Fendley [00:21:02] Now, it's interesting to point, point out, to note, that the two other subspecies that are in the Pacific Northwest and to the southwest, those are pretty much still predominantly nesting in natural structures. And so, those, you know, they're, they are not like their, their, their eastern subspecies relatives that are predominantly nesting in human-supplied or, you know, human-made housing these days.

Matt Fendley [00:21:32] And with that, I should add that the Eastern subspecies, when I say, "Eastern", that is east of the Rocky Mountains, and in both, both the United States and all the way up into Canada. So, those are the, they just, those are the Eastern subspecies that we're focusing on, are, are, reside east of the Rockies.

Matt Fendley [00:21:57] They're secondary cavity nesters. So they, you know, even going all the way back to their early days, before they had made the shift in nesting in human housing, they only nested in cavities that had already been excavated by another animal or, for example, like a woodpecker or a cavity that had been formed in some other, some other fashion.

Matt Fendley [00:22:18] They're communal nesters. We talked about earlier. You know, you see the martin houses that are you know, it's not just a single, just one, usually not just one room, or not just two rooms, it's usually multiple rooms. They're, they love nesting in large groups.

[00:22:34] They are a neotropical species. They, they even though they are, you know, they are nesting. Their breeding season is here up in North America. They spend their winters down in the neotropical region, down specifically in South America. A lot, a lot of, Brazil is a large part of the area, a large, where a lot of them spend a lot of their time.

Matt Fendley [00:22:58] They are federally protected under the Migratory Bird Treaty Act of 1918. So they do, you know, benefit from, from having a good, good, nice, you know, federal protection.

Matt Fendley [00:23:11] And like I mentioned a little bit ago, they, they are completely, that eastern subspecies specifically, they are completely dependent on human-supplied housing.

Matt Fendley [00:23:19] So, yeah.

David Todd [00:23:23] And I gather they're they're largely insectivores, is that right?

Matt Fendley [00:23:28] That's exactly right. They, they are indeed. They are aerial insectivores, of course, to get even, even more specific. They, they only feed on flying insects. And that is, that, that can be something that really makes life, their, their lives difficult in certain situations.

Matt Fendley [00:23:58] You know, a lot, as some people may or may not know that, on average, flying insects, you know, when you get temperature down to around 50 degrees Fahrenheit or colder, most flying insects will kind of just, just kind of just park. They'll just kind of go, go dormant and just kind of lay low for a while until things start warming up.

Matt Fendley [00:24:21] And so, you know, that can, that can cause a problem, you know, you know. Cold temperatures, you know, something that all of us, you know, certainly in this part of the country, you know, we had that, that horrible week or week-long freeze not too long ago.

Matt Fendley [00:24:42] Or looking back at Harvey, when that came through the area, you know, you had, you know, what seem like weeks of just constant rain. That's another thing that will cause flying insects to stop, start flying, flying around in. And so, those kind of, those kind of occurrences are very, very hard on the martins.

Matt Fendley [00:25:03] It's unfortunate, but you'll see a lot of times there'll, there'll be, you know, a high number of martin fatalities just due to a lack of food. It doesn't take very long. You know, the birds can only last for about four, or maybe five days, tops, without food.

Matt Fendley [00:25:17] But yes, they are aerial insectivores.

Matt Fendley [00:25:20] And, you know, one thing, there is a sort of a, an ongoing debate, if you will, amongst the, a lot of the, the, the, the, the purple martin, you know, enthusiasts out there, is what, you know, of the flying insects, you know, how much of certain, you know, what types of flying insects constitute you know what percentage of their diet.

Matt Fendley [00:25:50] And there is little doubt that the larger flying insects, like dragonflies or wasps, things like that, certainly make up the majority of their diet. But it's interesting, in, you know, going all the way back to the to the '60s, there was a, there was a popular martin house manufacturer that really, really came out, came up and online and had, you know, they produced these aluminum martin houses, which were wonderful. And they popped up all over the country.

Matt Fendley [00:26:22] Well, one of their advertising slogans was that purple martins can eat up to 2000 mosquitoes per day. And you know, there are a lot of people, you know, that is

highly, highly unlikely. You know, there probably maybe very, very few the very rare situations where that would happen.

Matt Fendley [00:26:44] But you have some people that are convinced, you know, even to this day, one of the martins, one of their selling points, if you will, to, to, that people look at when they're going to erect martin housing on their property, and attempt to, to attract martins and build up a colony is insect control.

Matt Fendley [00:27:04] And you have some people that that are convinced that the purple martins do not have, you know, make any sort of difference at all in mosquito control, in the amount of mosquitoes or biting flies in, in the immediate area around their housing.

Matt Fendley [00:27:25] However, I'm, I'm, I'm in in the group that feels that, again, though, they don't make up a large part of their diet, there have been plenty of reliable reports from a lot of experienced martin landlords (I've actually seen it myself), of martins flying and feeding at low levels. You know, we're talking like, you know, 20 feet and lower to the ground, no doubt feeding on, you know, smaller insects, such as mosquitoes, such as, you know, biting flies, such as flying ants, you know, those kind of things.

Matt Fendley [00:28:06] And there are people that have also reported that, once they attracted more to their property, that, that and once they had an active colony, that there was no doubt in their mind that the number of mosquitoes in the immediate area surrounding their market housing dropped significantly. And I don't doubt that. I don't doubt that one bit.

Matt Fendley [00:28:33] Like I say, there are some people that, that just absolutely don't believe it.

Matt Fendley [00:28:37] But I've heard enough people that I consider reliable sources that I'm convinced that, again, you know, they're, they're, it's not, that's not their primary diet. And the whole 2000 mosquitoes per day thing is certainly not, not likely - highly unlikely.

Matt Fendley [00:28:56] But, but I think that is one of the many benefits that, of hosting martins is that I'm convinced that they do cut down on the number of biting insects, including mosquitoes, in and around the immediate area around where their housing is.

David Todd [00:29:14] Well, that's interesting. And, you know, maybe a little bit hyperbolic, but, you know, it's, it's, I guess it's possible.

David Todd [00:29:23] And well, while we're talking about, you know, the diet of these, these birds, this might be a good chance to start understanding more about people's support for purple martins by talking a bit about the kind of supplements of food that landlords sometimes supply. I've heard that's the case. Is that, is that true?

Matt Fendley [00:29:50] It absolutely is true. The, in the southern part of the martin's range, more specifically, I would say, you know, especially in the Gulf Coast states, having weather situations, you know, certainly, certainly having temperatures below 50 degrees for days on end, once the martins have arrived back, are rare. And as such, you don't see very many of the landlords in the southern part of their region that have taken up the practice of training their martins to supplementally feed.

Matt Fendley [00:30:35] You do see a lot more, and rightly so, when you move further north in their range, you know, because it's not uncommon, you know, when a lot of those martins are arriving back in the more northern states, you know, in March and April, that they're still having cold fronts. I mean, sometimes, you know, in March, you can see some of the states further north - Ohio, Michigan, you name it - they may still have some snow on the ground in, you know, in some areas or some, you know, cold fronts where there's really freezing temperatures.

Matt Fendley [00:31:08] But, you know, as I said, you train them to supplementally feed. You know, they're, instinctually, they, you know, they're, they eat flying insects, they eat on the wing. And so, the supplemental feeding - you see it, you see it performed one of two ways. Some people actually do both.

Matt Fendley [00:31:32] You will see people that will actually put out like just little trays, almost like, you know, conventional bird feeders. And they will stock those trays most often with with, you know, insects that are easily acquirable through, like, you know, pet stores or things like that. It's usually mealworms or crickets, that you can get from a lot of the, you know, various pet stores that people use to feed their reptilian pets or whatever. So, a lot of people will, will put food trays out for the martins.

Matt Fendley [00:32:08] But some people will actually train their martins to take this food on the wing. And I've, I've talked to people and read, you know, posts that people talk about, about, you know, getting, training their martins to, to, to feed to, to, you know, be supplementally fed on the wing. And they start out with, you know, probably the most common way of doing it, is these people get just like a, like a large plastic spoon and they're flicking crickets or mealworms up in the air. And for probably about the first thousand crickets or mealworms, the martins are just sitting there, just looking at them, flying through the air, they're thinking, what is that person doing?

Matt Fendley [00:32:51] But eventually, and, and this is usually what always happens, is one martin will, you know, fly out to investigate, see what it is, grab it in the air and that's it. The, once that, that first martin picks up what's going on, the rest see, you know, what's going on and will pick it up. And what the end result is, is you have people that are, can start, you know, almost like, you know, you when you throw bread or throw things in the air for seagulls, how easily they just come down and will just scoop it right out of the air, you know, with very little ease or very little difficulty, rather.

Matt Fendley [00:33:30] They train their martins to do the same thing with, with flinging mealworms or crickets. Some people actually have scrambled eggs, if you're in a place where there's, you know, you don't have access to mealworms or crickets. Scrambled eggs is another thing I know that have helped people, helped, helped landlords help their martins make it through times of where, where feeding naturally is very tough.

Matt Fendley [00:33:59] There are some people that, there are some critics of that, that say that, that is making the martins that are being trained to supplementally feed, making them more dependent on their human landlords than they should be. And some people will even go as far as to say that things like that, you know, providing that kind of supplemental feeding is, you know, could potentially cause martins to migrate back earlier than they should be otherwise. It's that, that, that, you know, that drive to come back too early and then hit inclement weather and ultimately starve to death, that natural process that is, is kind of

controlling the ones that, you know, want to come back too early, and, you know, along those lines.

Matt Fendley [00:34:49] I don't, I'm not a, I don't really agree with that. But, but there are some people that, you know, there are critics of the whole idea of supplemental feeding. But to me, I think it's, I think it's fantastic. I think no doubt it has saved countless numbers of martins and martin, their landlords, have absolutely saved their colonies by, by training their martins to supplementally feed.

Matt Fendley [00:35:14] And what's interesting is, you know, the martins, you know, I guess, we'll, I guess we'll never really know what kind of actual memory capacity the these, these little animals have. But one thing is for sure is that when, when landlords do train their martins to supplementally feed, whether it be from, from, you know, just feeder trays - landing and eating out of trays - which, that is not a natural, that's not natural behavior for a purple martin. They have to be really trained to do that. Or to take food that is being, you know, flung in the air by a human.

Matt Fendley [00:35:50] What we do know is whenever those same martins come back to those same colonies, those landlords, when they flick something in the air or put a feeder tray out, the martins immediately know what's going on, and pick it right back up. So, they absolutely remember what, you know, what they were provided with and their training and everything else from season to season. I've always thought that was fascinating. So, they don't have to be re-trained or re-conditioned to do that. So, that's how, that's been really neat. And then..

Matt Fendley [00:36:23] Go ahead, I'm sorry.

David Todd [00:36:24] I'm just curious if that kind of behavior is something that is taught by, say, say an adult sees the flying food, learns that that's something that it can eat, you know, adopts that kind of behavior, but then has a, a nestling in a subsequent year. Do you think that they might teach that kind of behavior or is that something that's hard to say?

Matt Fendley [00:36:55] I don't know. That would be really hard to say. I just, I just, I don't know. I really, that's a good question. I do not know. I, you know, I, I know another thing that comes up with the supplemental, you know, feeding or, you know, providing, you know, any sort of supplemental, you know, nourishment, are you have people that will supply oyster shells or egg shells.

Matt Fendley [00:37:23] That, that really falls into a different category from supplemental feeding. And what's interesting is, the reason, the reason that, that's very good to do that, and a lot of, a lot of people a lot of martin landlords do it, and this is, and providing oyster shells or egg shells is done completely independent of any sort of, you know, adverse weather conditions as far as like, you know, it's, they're doing it certainly not for a food source, but for supplemental nutrition, for the purpose of supplemental nutrition in particular, you know, calcium.

Matt Fendley [00:37:56] And the reason being especially, it's, it's, it's really, it's a good thing to do. It's a good practice, especially when the female martens are egg-laying. You know, the amount of calcium that is, is provided in the exoskeletons of, of, of insects, I would think, is, is probably negligible at best. And I suspect, you know, and of course, that probably takes a considerable amount of calcium for any, any of these, you know, female birds to to produce

those egg shells like that. And so putting out the oyster shells or the crushed, crushed oyster shells or the egg shells is really good.

Matt Fendley [00:38:39] Now, one thing that I've seen, and this is, this is a little bit of a, of a, of something that's fascinating. I have seen people and have talked to people, and when they put out egg shells in particular, egg shells in particular, in elevated feeding platforms or in some type of container that's, you know, fairly close to the martin housing where the martins, you know, can see it, the martins will, without any, any conditioning or training, if you will, will fly down to those platforms or those trays and start eating the egg shells.

Matt Fendley [00:39:16] And so I think what that is, is taking advantage of - landlords have definitely seen this every, every single season if they're watching their martins fairly closely - is when the, when the babies hatch, and the remaining eggshells are in the compartment, the adult martins will go in there and get the egg shells and usually consume the egg shells. Eat them.

Matt Fendley [00:39:48] And so, there's, it's, I think it's very, it's probably comparable to a lot of animals, or a lot of birds in particular that know to, like dove, doves and pigeons come to mind, you know, how they'll fly down and pick up sand or small rocks to allow that, to, to take it into their gizzards, to allow those to be in there to act as like, you know, the, the crunching, the grinding mechanism, you know, when they're eating to, to help process their food.

Matt Fendley [00:40:15] I think the martins instinctively know that with egg shells, and are able to see that those are egg shells in a tray and then in turn will fly down there and start consuming them.

Matt Fendley [00:40:25] So, providing the, the, the egg shells, that's definitely a lot easier an endeavor, if you will, to get the martins to, to pick that up, because they seem to instinctively know, okay, that's what those are there for. We know what to do with that.

Matt Fendley [00:40:39] But the supplemental feeding with the, you know, the crickets and everything else, that's definitely ... a lot of people do it, and it is no doubt, I think it's a wonderful practice. I know it's saved a lot of martins. But it definitely, it definitely takes some work and some patience to get, you know, get one's martins, you know, trained to, to do that.

David Todd [00:41:00] You know, this this lesson you've given us about supplemental feeding and the possible risks that it, it encourages birds to fly north, maybe earlier than they should, makes me wonder if you could explain a little bit about this migration pattern that martins have, which seems to be pretty extensive and covering lots of miles. And, and, and it's intriguing to me how people figured out where they went. And I was hoping you could maybe talk about, you know, banding and geotagging and other ways that folks have learned about this.

Matt Fendley [00:41:38] Absolutely. You know, for, for many, many years, you know, researchers have had known, you know, you know, not only with martins, but really with any of our, of our migratory birds. You know, they certainly know where, where they're at, when they're, you know, during their breeding season, where they're nesting. And they certainly know where they end up during their, their non-breeding season, or their wintering, the wintering season.

Matt Fendley [00:42:07] But there was always a lot of, there was always just speculation as to, you know, the specific routes that they took, the amount of time it took to get from one point to the other, you know, how far they may travel in, you know, in the course of a day, a week, a month. And so, you know, technology, you know, caught up where these, the geotaggers, these little geolocators that were, you know, small enough, very, very small. I mean they're, these, they're really only about the size of like, not much bigger than, like a, like a, a pencil eraser. And they've gotten even smaller in recent years.

Matt Fendley [00:42:54] But they're, they're, they're very, very small, and they actually strap onto the martins as like a backpack. And they mount them in a similar manner on other small songbirds in particular, you know, these particular types of geolocators. But, you know, with purple martins, it was always known, you know, you know, certainly where they were nesting during the nesting season. It was known, there's a, you know, research programs that, you know, partner up with our friends down in South America, you know, in, in areas of Brazil. So, we, you know, we knew where they were during the, you know, our off-season, you know, during the winter season.

Matt Fendley [00:43:34] But again, not really knowing how specifically what path they took, everything else. Well, you know, the, you know, the use of these geolocators answered a lot of those questions. And it allowed researchers to finally see the track, not only the tracks that the martins were taking, you know, which you know, how long were they staying over land? You know, which if they were going over water, you know, what areas where they, where they, you know, where were they, where were they traversing, like in this case, the Gulf of Mexico, those kind of things.

Matt Fendley [00:44:11] And so, there were other things that, that it also answered, a lot of other questions that it also answered, were the rate, the average speed at which these these small songbirds, in this case martins, were flying. How long was it taking to make these, these, these treks?

Matt Fendley [00:44:32] And now keep in mind, we're talking about, for example, like here in the Houston area, you know, martins that are here, that migrate south, and there are a lot of them that Brazil, I, you know, I keep referring back to Brazil that, that's you know, there's a lot of areas in the Amazon basin that you'll have clusters of martins, that they'll end up in different areas in the Amazon basin. But Brazil, in particular, a lot of them sort of in the southeastern, or excuse me, southwestern area of Brazil around the Sao Paulo region, I know a lot of them, you know, end up and stay for the winter.

Matt Fendley [00:45:15] We're talking about distances of about around 5000 miles one-way. So, you know, these are, these are just, you know, just mind-blowing, you know, distances that we're talking about that these small birds travel. And a few things that were learned: you know, for example, the, did, you know, one might think that, OK, however long it takes them to get down there when they're done nesting, they're flying down there for the winter, it should, one would, you know, it would stand to reason that it may take them about the same time to come back. No, they actually found out that their return back north to, to breed, to nest - those average, those treks averaged about 2 to 6 times, the martins flew about 2 to 6 times faster during their spring returns than they did heading south for the winter, which was interesting.

Matt Fendley [00:46:12] Previous estimates for songbirds, in general, a lot of the smaller songbirds, you know, there's been not only martins, but there's other swallows, you have a lot

of other migratory songbirds like warblers - the previous estimates for a lot of the smaller songbirds was, you know, anywhere between 75 to 100 miles per day.

Matt Fendley [00:46:33] But once they got these geolocators, you know, little geolocator backpacks strapped to these little birds, there was one female purple martin that she was averaging coming back north, she was averaging approximately 350 miles a day. And so, these are the kind of things that just blew researchers' minds, and really just opened a lot of people's eyes, just, just how amazing these little birds are and just, you know, what, they're, the kind of, you know, distances they're able to, to cover, you know?

Matt Fendley [00:47:11] I'll say one other thing about that. There was one martin that was studied in particular that was banded, an adult female martin, that was banded up in Minnesota. And on her, her journey back north here to the states to nest, she made a trans-Gulf crossing from the Yucatan Peninsula, the tip of the Yucatan Peninsula, to the coast of Louisiana (we're talking about approximately 600 miles) in about 24 hours. So, just absolutely amazing.

Matt Fendley [00:47:45] Of course, that, that goes further into just these birds and their, their instincts. You know, they know - that was obviously with a strong tailwind. And, you know, that trans-Gulf crossing, you know, it just, you can, one can only imagine how perilous that is for these small animals. And they, they, you know, they've adapted to using the winds to their favor to help push them across.

Matt Fendley [00:48:09] And so, I suspect if they were trying to fight a headwind, that would be a much different outcome unless they were fortunate enough to find out. You see videos, or you read things about these little songbirds who will find like offshore oil platforms or boats and they'll, they'll rest on these boats. They are so exhausted, that humans can just walk right up to them, they don't even fly off. So, I think those were the fortunate ones that happened to find a resting spot.

Matt Fendley [00:48:33] But absolutely amazing. That's, that's some of the information that these, the geotagging efforts with these geolocators that have brought us.

David Todd [00:48:44] That's tremendous. You know, another piece of technology, which I think is, is, seems so fascinating and promising is Doppler radar. And I understand that some of these migrations, maybe from some of the pre-migratory roosts are able to, sort of, capture that visually. Is that something that you've, you've been interested in?

Matt Fendley [00:49:08] Yeah, I have. I haven't, you know, look as much into that as I should. But what a lot of people do, and now I have done this myself, is whenever the martin numbers, when they show up on these Doppler radar, whenever their concentrations in a particular area are, are high enough, and there's, you know, large enough of a number of them all concentrated in one spot to show up on these Doppler radars, is when these large pre-migratory roosts are forming. And, you know, you know, in the late summer, you know, really right now as we're talking, I know there's a couple of roosts in the Houston area, that one I think up near on the north side of town. It's a really, really massive one.

Matt Fendley [00:49:56] But what some folks do is ... a lot of times the martins will, will use the same area and this goes for all across their range. They'll pick certain areas for these pre-migratory roosts to form. And a lot of times they'll stay in those same areas. And it could be, more often than not, at least, at least from what I've seen, they are areas, well-lit, active areas

with human activity like that, or like in downtown locations, locations like at, like at shopping malls, things like that.

Matt Fendley [00:50:41] And once again, I, you know, I know that one of the reasons that those kind of locations are picked is, again, the martins, you know, you know, that, you know, behavioral tradition shift that they, that they went through acknowledging, you know, and realizing that humans were an ally, that, you know, any time that that that human beings are around, they, they, there're not near as many of their, of their natural predators around. And so, that definitely has a lot to do with, you know, the location that these roosts, you know, form at.

Matt Fendley [00:51:20] But a lot of times, year after year after year, these pre-migratory roosts will continue to form in the same spot. But sometimes they move. I know in Houston there was, there was a few years, about 10, 15 years ago, where they kind of, they, they did kind of a switcheroo, if you will, a few different times over, over a few years. They were at one of the, one of the well-known malls, kind of near in the downtown area. And then the next year, they moved to a, a large business. There was a large company that had a large campus, if you will, and they moved there. That was kind of a bummer because that, they were, that was on private property. So, it wasn't inaccessible for, for, you know, for the martin nerds to go, you know, go watch.

Matt Fendley [00:52:07] But when they changed locations, what a lot of folks will do is will look at the Doppler radar loops in the, early in the morning. And we're talking right at right around sunrise when the martins start to disperse from these, from these roosts. And the numbers are so, you know, the amount of martins we're talking about, you know, are unbelievable. And they're can be anywhere from 50,000 to probably several hundred thousand, depending on the size of the roost. But there's so many birds that at the time of sunrise, if you look at these Doppler radar roof, you will actually see the dispersal rings. They actually look like, on the Doppler radar, they actually look like small red donuts. And you're seeing the actual dispersal rings as the birds are dispersing out in all directions.

Matt Fendley [00:52:57] And so, that's one of the ways that I know, especially if, if, if they've moved, that people will immediately start looking at the various weather websites, you know, wherever they can find these, these Doppler radar loops. And will start analyzing those. I've done it myself to try to, you know, it's kind of fun. It's like, "Okay, where are they at now?" You know, and you're, you're scanning the radar loops and everything.

Matt Fendley [00:53:21] But, but, yeah, yeah. It's, it's, it's really amazing that you're talking about so many birds that are very small, but so many of them, that they show up in these distinctive loops, these distinctive donut shapes on Doppler weather radars. It just, to me, that's, that's, you know, that's mind-blowing.

David Todd [00:53:46] Yes. You know, while we're talking about these pre-migratory roosts, there's something I've puzzled over, and I'm curious if you've got some insights about, and that is how to sort of quantify how many birds are in one of these roosts to get a sense of, you know, what the trends are, what the patterns are. It just seems like there's so many, they're moving so quickly. Are there strategies for getting an idea of how many birds are in one of these pre-migratory roosts?

Matt Fendley [00:54:19] You know, I don't, I know there is. I know there is. I don't know what, what sort of calculation or algorithms or anything else. I'm not sure how they do that.

That's a very good question. I know, because I know like the Houston Audubon, they will you know, I know they have some, you know, ways that they estimate the amount of birds that are at, you know, like at one of the two roosts right now that are that are in the Houston area.

Matt Fendley [00:54:54] You know, that's a really good question. I, I don't know. I wish I knew. Because you're right. There, that is, they're moving around so much, and there's such a, a high, you know, such a massive number of them. You know, it's something that if you really don't, you have to see it, to, to really to really appreciate it. You'll see these trees and the branches in these trees are just, are bending down, are just straining under the weight of all these birds just inundating these trees. And, you know, you just see it, just more and more, just the group just coming in. Just, just coming in. Just, you know, minute after minute after minute, just mass amounts of them.

Matt Fendley [00:55:40] I really don't know. I really don't know how, how they, what, what they, you know, what process they use to, to come to those estimations. I need to find that out. I wish I knew, but I don't know.

David Todd [00:55:51] Well, it's, it's nice that there's still some, some puzzles left out there to decipher.

Matt Fendley [00:55:56] Right.

David Todd [00:55:57] Well, while we're talking about pre-migratory roosts, I think that aside from trying to be sort of academic about it and, you know, quantify, objectify, everything, I was curious if you just talk about the, the kind of phenomenon that it is, I mean, the spectacle, the, you know, the miracle it is, and how it draws people in. I think Audubon and other groups often have these purple martin parties at pre-migratory roosts and I imagine you've gone to them, and I was curious what, what they're like.

Matt Fendley [00:56:32] They're, they're, you know, they're amazing. I actually, I have yet to go to actually one of the Houston Audubon, their one of the, the roost parties. And that is on my to-do list because I know that they're, I've heard they're a lot of fun. They are really, really, really great, a great time, and that is absolutely on my to-do list.

Matt Fendley [00:56:52] I have visited the roost, sort of just as a normal spectator. And what's, what's funny is whenever I've gone to view the roost in the past, in past years, you get there, and, you know, the first thing you see is, you know, people that are, you know, getting ready. It's almost, it's almost like, almost, it's almost like, tantamount to like tailgating before a pro football game, if you will. There's people that have their hatchbacks up and they've got their, their chairs, their folding chairs out, and they're, you know, just, you know, just ready, ready for the show to start.

Matt Fendley [00:57:34] And I've talked to enough people that that have been there to know that there are, at least in my experience, I would say there are just as many martin people that are really, you know, martin enthusiasts, you know, whether they're, you know, actual martin landlords or people that are wanting to become more landlords, but, you know, either way are just specifically have a, have an interest in purple martins. I've seen as many of those, those folks visiting these roosts, as I have people that really are not, you know, you know, not necessarily interested in any particular species, not necessarily even interested in purple martins, but are just, have heard of this just massive influx of these small songbirds, that it's

just something that, you know, almost it doesn't even seem possible and they're just out there just to see it.

Matt Fendley [00:58:30] And so, it's you know, it's, it's really neat. I mean, it's really neat. It's, it's very, it's just it's a, it's a, it's a, it's a, it's a very electric, you know, atmosphere. I mean, just a lot of excitement. You know, it's, you know, for some people this might be, you know, strike people, some people as kind of gross.

Matt Fendley [00:58:52] You know, martin nerds, I think it's kind of, you know, to us, it's kind of neat.

Matt Fendley [00:58:57] But you get that smell. You get the smell. And it's not a bad smell. It's not like a gross smell. It's just that martin, purple martin nest, nesting, just, you know, feather dust, just kind of smell that hits you.

Matt Fendley [00:59:13] And it's something that you, the only other time you ever really smell it, is when martin landlords, if they are, if they, if they, they do conduct nest checks during, during the season. And that's a practice that's done all the time just to make sure that everything's okay, everything, there's no problems. And the martins are more than accepting of it. They, you know, the martins don't mind at all. If anything, a lot of times doing it, conducting those nests checks helps catch a lot of problems. So, it's really, the end result is a higher reproductive success rate, if you will.

Matt Fendley [00:59:46] But that's, that's the only time that you'll, you'll get that smell. And when you're out there, I remember the first time I went out there and a little bit of a breeze came from that direction, the main stand of trees there, and I got that smell and it's just, it's just, it's just neat. It's just really neat. It really hit you like, "Okay, you know, our little martins are out here.".

Matt Fendley [01:00:04] You know, the ones that, and this goes with a lot of the martin landlords or the martin, you know, people that are really into martins, the landlords especially though, that have sites that have successfully fledged babies. Your heart's kind of in it a little more because, you know, somewhere in that massive, massive crowd, you know, flock of martins are your babies, or the adults that, that, you know, that, that are nesting in your, your housing year after year and the babies that, that your housing has produced. And it's just it's really it's a neat feeling. It really is a neat feeling.

David Todd [01:00:42] That's a wonderful story. It's like certain home-cooked meals, I guess, are just really evocative of, of love, and, you know, I guess, really sort of deep engagement with a place or a group of fellow creatures.

Matt Fendley [01:01:01] Right. Right. Yeah.

David Todd [01:01:02] Well, you know, I think it's intriguing that these martins seek out these areas that don't seem like the most prepossessing kinds of habitat. You know, they're a lot of asphalt and concrete and, and buildings and light. And I was hoping that you might be able to sort of wind us back. I think you mentioned that one of the reasons they do this is that they understand people to be an ally or at least, you know, a creature that will dispel the other, disperse the other natural predators.

Matt Fendley [01:01:39] Right.

David Todd [01:01:40] Can, can you talk a little bit about this sort of long history of cooperation and, I guess, maybe in some sense, dependence of martins on on people?

Matt Fendley [01:01:52] Absolutely. Well, you know, it's, it all goes back to what's referred to as a behavioral tradition shift. And you know what that, you know, in the case of the martins, what that's referring to is the shift that they made from nesting in natural structures to only nesting in human-supplied housing.

Matt Fendley [01:02:22] And, you know, for that to have worked, for that to have, have executed, if you will, it had to have been obviously a symbiotic relationship. For the martins, there is no doubt that the, I suspect, and this is going back to approximately, you know, 10 to 12,000 years ago that, you know, when they were, you know, still nesting all in natural structures and everything else. You know, they did have, they were having to contend with, you know, a lot of, I'm sure, a lot of predators, and cavities that were probably far from, from ideal, maybe questionable at best, to, you know, the, when, you know, going back to the Native Americans, once this tradition shift started, uh, the realizing, you know, that I'm sure that they were, they were going to quickly realize that these purpose-built, these purpose-grown gourds that were hollowed out for them as homes just for them, were probably considerably safer, you know, probably structurally more sound, you know, everything else for as far as nesting compartments.

Matt Fendley [01:03:54] But they also no doubt realized that nesting in close proximity to humans also meant that their natural predators that they normally would see, you know, you know, moving in and predating on their, on their nests were not around. So, there - the big benefit for the martins - you know, one could argue, you know, they probably didn't realize that, or they probably, you know, they, they didn't think anything like that, you know. But the end result, no matter what, was an increase in reproductive success. So, that was, that was, that was the, the benefit for the, that eastern subspecies of martin, was there was a a marked increase in their reproductive success rate.

Matt Fendley [01:04:50] For the Native Americans, they would, you know, they would benefit in numerous ways from, and I know it was, you know, it's been documented before, that the Native Americans would attract martins to their, to their villages, to chase away birds that were depredating on, you know, their crops, their food crops or, you know, or, you know, other birds.

Matt Fendley [01:05:25] You know, for example, I know vultures have been mentioned that were, you know, were keeping them away from, you know, hides or meats that they may be, you know, processing, hanging out to dry, those kind of things. So, there was a benefit to protective airspace that was, you know, that, that is created automatically that martins defend whenever they're nesting in a certain area, provided you know, kept a lot of these, these, you know, pest birds, if you will, away. And so, that was a big benefit for the, for the Native Americans.

Matt Fendley [01:05:57] So, that's what really kicked off this behavioral tradition shift. And so, you know, over, you know, hundreds, even thousands of years that really took hold until, you know, you look at now, you know, it was, I would say probably, you know, it's, it's tough to say the amount of time, that it's been since, I would say probably the, you know, the very few remaining Eastern subspecies of martins still were nesting in natural structures. I think it

is safe to say that over the past, I'd say going back as far as 100, between maybe 100 and 150 years, I would say that that shift, that shift was complete.

Matt Fendley [01:06:58] So, I think, I think it's definitely safe to say that.

Matt Fendley [01:07:02] And of course, like I say now, it's, you know, that's all that's all they nest in.

Matt Fendley [01:07:07] And so, it's funny, some people will stop me and say, "Well, wait a minute. You know, I don't, I don't I don't always see martins nesting in martin houses. I've seen of nesting other places, you know, not just, not just the birdhouses." And you know, I'll be like, "That's interesting where, you know, where did you see them nesting?" "Oh, I saw them nesting in a broken streetlight."

Matt Fendley [01:07:30] Okay, well, you know, that's fascinating, but it's still a human-supplied, human-constructed structure that they're nesting in."

Matt Fendley [01:07:40] So, yeah. So, that's that's a very, it's very fascinating.

Matt Fendley [01:07:45] And, you know, and just to add, there are two other species of North American birds that have, that have experienced a similar complete tradition shift, as the martins have. And those are the chimney swifts and barn swallows. So, really, really fascinating, really, really fascinating how that all took place.

Matt Fendley [01:08:07] Well, you know, while we're talking about these other species, I think it would be interesting to, to just visit briefly, you know, why the chimney swift and the barn swallow have also become pretty reliant on people. But then on the other hand, these other purple martins, the hum, I guess, are arboricola and the hesperia that are more out west, have not shifted. Any, any sort of insights about what might be going on there with those four birds that, you know, have been similar to the purple martin in one case and then different in another case.

Matt Fendley [01:08:50] Right. You know, it's with, with, with the chimney swifts. I think, I think a lot of that, a lot of the, the, the tradition shift with the chimney swifts, I think, unfortunately, has been a lot of that may have been driven just by due to loss of habitat. Um, you know, I think a lot of the, you know, chimney swifts, if, you know, you can, one can envision what a, a, a, you know, sort of a rotted tree might look like that, you know, is open on the top. And it almost looks like, just like a, like a, like a chimney that that was, you know, they were nesting in structures like that probably, you know, that, you know, for thousands of years.

Matt Fendley [01:09:38] And I think a lot of, you know, I think a lot of habitat loss may have driven a lot of the chimney swifts to nesting in in chimneys in particular, like masonry chimneys.

Matt Fendley [01:09:53] But, you know, it's, I say that, but on the other hand, you know, really, when you look at it, I would love to know more about the chimneys swift. You know, I really hope I'm not misspeaking. If there's any chimney swift fans out there that are, that are listening right now that are, I may be totally wrong on this stuff, but, but, you know, it certainly stands to reason that structurally, masonry chimneys are, you know, much more structurally sound and, you know, inarguably safer than the natural structures that they were

nesting in for a long time, which is similar in a lot of ways to what happened with purple martins.

Matt Fendley [01:10:38] I'm sure the same goes with natural predators being kept at bay with, with human activity, compared to the way it was before.

Matt Fendley [01:10:48] So, you know, I'm sure there's a lot of similarities of why this behavioral tradition shift took place with these other two species, being that the human, the human structures provide just a better, stronger, safer nesting platform, nesting locations, along with being near humans, meant, you know, less natural predators that were there to threaten them. I'm sure that had to be a big factor in it.

Matt Fendley [01:11:20] It just doesn't, to my knowledge, you know, those, those, those tradition shifts, you know, I just, I don't think they are as well documented as, as the martins. I don't, I don't know that. If they are, I haven't seen it. I haven't read about it. But I think, I think it, again, is probably safe to say there are a lot of similar factors that that that contributed to those, those, you know, shifts in that.

Matt Fendley [01:11:50] So, you know, yeah, that, that's, that's what I would think on those two.

Matt Fendley [01:11:55] You know you talk about the other two martin species, the arboricola, the Pacific Northwest subspecies, and Hesperia, the desert southwest subspecies. Those, you know, why, why those didn't, have not made that same tradition shift, I don't know. I mean, I you know, it's, it's safe to assume that there wasn't, you know, a similar situation as far as, you know, I think it just happened to be that the, the early Native Americans, you know, that were, that were east of again, you know, east of the Rocky Mountains in their, in their nesting range, in particular. I know that Choctaw and Chickasaw Indian settlements, you know, had been pointed out. I think it just so happens that they, they were doing that and then quite possibly the ones, the Native American settlements west of the Rockies were just, were just not doing it. It's just something that just never that never took place.

Matt Fendley [01:13:07] Now, in the Pacific Northwest, the arbicola subspecies, there is, there are more and more, and this is due in large part to conservation efforts, because, you know, natural habitat is not near as abundant as it has been in years past. That combined with one thing, one thing that is, that has really been, two factors, if you will, that, that have done a lot to affect the overall purple martin numbers, have been the, the introduction - which this was back in the, you know, probably I think the late 1800s, the introduction of two non-native invasive species, which also happen to be secondary cavity nesters and those two are the English house sparrow and the European starling, very aggressive secondary cavity nesters.

Matt Fendley [01:14:16] And they have, they have been a huge factor in the martin numbers dropping, I know dropping in the, with the eastern subspecies. And I think that there is a similar, you know, similar drop in numbers taking place with the northwestern arboricola subspecies. And as such, I know there's, there's, in recent years, there's been a lot more conservation efforts with the Pacific Northwest martin subspecies, where you see those martins nesting, still nesting in a lot of natural structures, you know, old woodpecker holes, things like that.

Matt Fendley [01:14:59] But conservation efforts, you will see putting up housing on a lot of these, you know, on and around a lot of these, you know, these areas where there's a lot of their, a lot of their natural habitat that they still nest in. But just adding additional housing, these, a single nesting compartment, you'll see that there are various wildlife organizations are, are putting up on, you know, attaching to like large pilings, you know, out on the water or even attaching to, you know, trees that are out in the water. So, it's been there's been, you know, I know a big conservation effort out there.

Matt Fendley [01:15:35] So, the Pacific Northwest subspecies arboricola, I think there is a shift going on with them. It's certainly a lot more recent. And I think it, a lot of it, is being driven just by conservation efforts, you know, just a lack of, of, you know, a lack, some of their, some of their natural habitat is not, is going away. Combined with this housing that's being put up for them is, is being monitored and managed to make sure that, you know, sparrows are not trying to overtake the nest or starlings in particular.

Matt Fendley [01:16:15] As a matter of fact, those nesting apartments they have are referred to as starling-resistant entrances. It's a really neat little invention in of itself that goes back to the early '90s, but they're odd-shaped entrances that are too short for the starlings to squeeze in. But, but the martins can still squeeze in and out of them. So, that's been a big, big, big, you know, given the martins a big advantage in that fight.

Matt Fendley [01:16:42] Well, so, you've mentioned this influx of English house sparrows and European starlings, and I guess that's one challenge that the purple martins have faced. Are there any others that you could point to? Because I understand that the purple martin numbers have been in decline. And I was hoping that you could sort of give us an idea of some of the conservation challenges that they've faced.

Matt Fendley [01:17:11] Yeah. You know, it's no doubt the, the, the house sparrow and starling competition for available nest sites has been, as you mentioned, has been a big factor. I would say probably one of the largest factors in, in the martins' numbers dropping.

Matt Fendley [01:17:31] But another one that's really, really big is the drop in, in, in just the number, the number of available housing that's out there. You know, it was, if you just look, you know, just in you know, just throughout, throughout, you know, the, the, the 20th century, you know, especially the mid part to latter part of the 20th century, you know, in the 1950s, 1960s, you know, you could drive around, you know, the eastern part of United States, and just see martin house, you know, everywhere. I mean, you know, yard after yard after yard, you know, you would see more houses.

Matt Fendley [01:18:22] You don't see that anymore. I think there is, I think there's, there's, there are numerous reasons for that. I think one of which is I think there there's an unfortunate, you know, I don't know what's to blame - technology or whatever else. I think there's some things that, you know, these modern times have, have diverted our attention away from nature and just enjoying the outdoors and attracting nature to our to our, our property.

Matt Fendley [01:18:59] And so, you see, there's been a definitely a stark decline in the amount of martin housing that's, that's, that's in the air. So, I know that's been another, another big, big thing. And it's one that, you know, one of the big things that I try to do whenever I give presentations is, you know, you have a lot of martin enthusiasts, you know, really hard-core martin landlords, that will just, right out of the gate, you know, tell people

that, you know, people that are maybe, you know, possibly interested in putting up, you know, learning more about martins and maybe even putting up martin housing, you know, on their property or in their yard.

David Todd [01:19:45] But right out of the gate, though, they'll say, "Okay, you know, you need to control sparrows and starlings, you know, by lethal means. And if you're not willing to do that and just, you know, don't even mess with it, everything else."

Matt Fendley [01:19:57] And that's really unfortunate because the state of, of, you know, the state of the purple martin and the state of the amount of martin housing that is out there is, is, you know, is at a point where we need to try to get as many, you know, potential landlords, you know, joining us as possible.

Matt Fendley [01:20:25] And so, whenever I give, give my presentations, one of the things that I always say in these presentations is, you know, just, you know, if you're interested in doing it and, you know, and you think, you know, you have, you know, the sort of the prerequisites, if you will. You know, a lot of times, you know, properties that are really, you know, have a lot of tall trees, may be very difficult to attract, and those kind of things. Go for it, you know, get, get, you know, get a martin house, put it up in the air, see if you can attract them.

Matt Fendley [01:20:55] And, at a minimum, you know, if, if you start, because one of the first things people talk about when they put purple martin houses up is they say, "Okay, great. Now there's house sparrows that are trying to build, build nests in it." And house sparrows will in turn drive away any investigating, any martins that are trying to investigate new housing. Well, just, you know, just start out with just, you know, just tearing out the sparrow nests. We're not talking about, you know, you don't have to kill off, kill anything. You don't have to do anything that maybe falls outside of your comfort zone. Let's just start with that.

Matt Fendley [01:21:26] And so, you know, what you find is, getting people, you know, not intimidating them, you know, not making it sound like it's just this, you know, monumental task that comes with all sorts of major responsibilities, and you're going to, you may have to do things that you're just completely not okay with to, you know, okay, let's, let's, let's look at it this way...

Matt Fendley [01:21:50] This is one of the things I always say in my talks: the majority of martin colonies in the eastern part of the United States and Canada, the majority of martin colonies that are producing martins every single year, are unmanaged colonies. They're, they're, they are houses that people have put up, you know, erected and that are not being actively managed.

Matt Fendley [01:22:12] They're, and most of them will have sparrows. You may see housing all the time. It's very common to see martin housing that has, you know, three, four or five pairs of martins and also one or two pairs of house sparrows nesting alongside them. And though that's not ideal, that's just is what it is. Those are the kind of unmanaged colonies that really are out there that are producing a large amount of our martins.

Matt Fendley [01:22:39] And so, I tell people anything that you can do, even if it's just tearing out the sparrow nest, nothing more, you're already ahead of the game. You're, you're, you're already doing more for the martin, just doing that alone.

Matt Fendley [01:22:53] And so, the end result is I really, I mean, I hate to say it, recruiting [excuse me], but it almost, it almost feel like I'm trying to do what I can to try to recruit people into becoming, you know, interested in the martins and especially into becoming potential martin landlords, just because the amount of housing that's out there is ...

Matt Fendley [01:23:19] The younger, the younger people, and when I say younger people, you know, folks that are in their fifties and below, there just is a lack of interest in nature and attracting nature to their yards or property. And, you know, it's kind of seems to be something that is dying off with a lot of the previous generations. And it's scary. It's scary.

David Todd [01:23:48] That's really interesting. So, that there's some kind of a parallel decline between the birds and people who, who care about them, or know about them.

David Todd [01:23:58] Well, you know, the intersection of these birds and the people who love them seems to crisscross in the design and evolution, the construction of, of purple martin houses and apartments and these communal nest structures. And I was hoping you could talk a little bit about how these things are made and designed and how their fabrication has evolved over the years. It sounds like they're always being tweaked and improved.

Matt Fendley [01:24:33] Absolutely. So, you know, for, for years, you'd still see a lot of - very interesting, in the southern part of the U.S., martins are really, are readily attracted to both, either the conventional apartment-style housing, if you will, and gourds. But further up in the more northern latitudes, the martins seem to be more geared towards conventional-style housing.

Matt Fendley [01:25:09] And you know, with that, you do see a lot, a lot more martin colonies in the southern part of the U.S. that are, where the housing rather that's offered is either all gourds or a combination of conventional houses and gourds. A lot of people offer both, which is a really good, really good idea to do if you're trying to attract martins for the first time because I'm, I'm sort of in the camp that of, that the theory of that whatever type of housing a martin is hatched in and grows up in, that that's the type of housing that they're going to be looking to nest in when they come back as their first year as an adult. And I, I firmly believe that as well.

Matt Fendley [01:25:56] So, again, you know, if you offer both, offer some gourds and conventional housing, it certainly increase your chances of attracting them. But what we have now, you know, what started out with just natural, you know, gourds, kettle gourds, that were cleaned and hollowed out and, you know, with holes cut in them, you know. Now what you see that the gourds have evolved. You still have some, some you know, some hard-core natural gourd enthusiasts out there that still grow their own gourds. And, and they're wonderful. I mean, the martins absolutely love them.

Matt Fendley [01:26:37] But a lot of people, I would say probably most people, just don't have the time or the resources or the patience to, to do all that. So, you see a lot of, a lot of plastic gourds out there. There are numerous brands that are really, have just evolved. They're really the cat's meow. I mean, they, you know, you don't have to worry about them, you know, rotting. They last indefinitely. There are some that are, that even have the way they're molded, it even has like a, like a, like a real gourd-like texture to the outside of it. And the martins absolutely, absolutely love them as well.

Matt Fendley [01:27:14] And now with the housing, the conventional apartment-style housing, what you've seen is the standard for, for a long time, you know, going all the way back to there was you know, there was a martin house, a custom martin house builder that that would sell martin house plans and martin house designs. I think it's, I think it's Warren Jacobs. But they were very, very ornate houses. A lot of times they were built, custom-built to look like a miniature version of the, of the house that their, their human landlords were living in.

Matt Fendley [01:27:53] But, you know, going all the way back when, you know, people were building their houses mainly out of wood, the kind of standard, if you will, was compartments that were approximately six inches by six inches in, in size, and of course, round, just regular round holes which, which, you know, could be anywhere from, you know, 2 to 2 1/4 inches in diameter. And that was really the standard for a long time. You know, even, you know, throughout the, you know, the forties, 1940s, 1950s, 1960s, even the 1970s.

Matt Fendley [01:28:30] And so, but what happened is in the '60s, there was a big, you know, sort of the, the uprising of the aluminum martin house. And it was, it was a revolution. It really was. And there was one company in particular that really, you know, just hit the market, really, you know, came on the scene and was mass producing these, these wonderful aluminum martin houses. And they had a lot of really great management-friendly features to them. They had these flip-up doors where you could easily access the compartments, everything else.

Matt Fendley [01:29:10] And one thing that, prior to this company, because I give, I give a lot a, lot of credit to this company for a lot of different reasons. And one of the reasons is that this company was one of the first ones to really bring to light how important it was to actively manage the housing while the martins were actually nesting, being able to raise and lower the housing vertically, and being able to have easy access to the compartments to check things and to see how things were going.

Matt Fendley [01:29:40] Prior to that, these, these, these wooden martin houses, which were, you know, a lot of them were beautiful and really well-made martin houses were not lowerable at all. And though some of the ones that were, I remember I recall seeing, I still see from time to time, are these, these tilt-down mechanisms. You see these large four-by-four wooden, wooden poles, and they're attached to this sort of tilt-down mechanism. So, at the end of the season, they can pull a pin and tilt the whole thing now. Well, obviously you can't, you know, check the, check a house during the, while the martins are nesting with that, because the contents are going to go spilling out onto the ground and it would just be mass chaos.

Matt Fendley [01:30:20] So, you know, it was around the '60s that it became more and more, you know, the idea of, the housing really evolved, and the housing standards started to evolve as well. In this case, it was making housing that was, that was, that was management-friendly, that could be raised and lowered vertically either by like telescoping poles or by systems that you use like a, like a rope and pulley where like you raise a flag up and down a pole, or winches and cables and all those kind of contraptions. So, that was a big, big leap forward.

Matt Fendley [01:30:57] But the six-by-six-inch compartments were still the standard. And so, the next thing you saw, really as far as the next evolution of martin houses after that was ...

Matt Fendley [01:31:11] And, again, the material - using aluminum. That was something that was new as well. And of course, what was wonderful about aluminum is that it would obviously never rot. I mean, you never have to repaint it. I mean, it was just, you know, as as maintenance-free as possible. They were lightweight, considerably lighter weight than the, the big wooden martin houses that could weigh in excess of, you know, 80 or 90 pounds or more. So, that was a big evolution. And that was that occurred like, you know, in the '60s and '70s.

Matt Fendley [01:31:43] And then you really didn't see much change until around '90s. And that's when it started becoming more and more obvious based on a lot of, you know, you know, research and some conservation efforts that the six-inch-by-six-inch compartment standard, the size, was, was inadequate. It was too small. You know, the martins, I mean, bless their hearts, they had readily used those for decades and successfully nested in for decades.

Matt Fendley [01:32:19] But at the same time, the reproductive success was not as good as it could be. And so, it was found that using a larger compartment vastly increased their reproductive success and for numerous reasons. One, keeping the nest further away from the elements, keeping the nest further back from, you know, predators, especially aerial predators that are, that are hanging on the side of the housing, reaching into the compartments, those kind of things.

Matt Fendley [01:32:50] So, you started seeing in the '90s other housing brands coming online that were, you know, a lot were using aluminum, but they were offering large compartments. And so, that was a, that was a big evolution right there was this, was the push to go to larger compartments.

Matt Fendley [01:33:08] And with that in the '90s as well is when you saw the, the birth of the starling-resistant entrance, as you probably heard me mention it briefly earlier. There was actually a gentleman up in New Brunswick, Canada, by the name of Charlie McEwen, and he was a big martin enthusiast. And he realized as, as a lot of martin landlords all over the range, all over the breeding range. Did as well, that European starlings were a huge problem. And so, he's the one that that really analyzed the, the structure, the bone structure, of the martins and the starlings, and realized that the starlings were, were deeper in their chest area from there, from their keel bone, you know, sort of their sternum-equivalent to their back. They were just deeper, larger.

Matt Fendley [01:34:07] And so, he's the one that developed these entrances. They were called crescent entrances. They're actually, actually not really a crescent. It's actually, actually a secant is like a part of a three-inch circle, but they kind of resemble the crescent. So, that's they were, you know, they were known they're still known as the crescent entities.

Matt Fendley [01:34:26] But the measurements were such that the martins could squeeze in and out of these entrances, but the starlings could not. So, that was another huge evolution in martin houses. You started seeing the starling-resistant entrances in the '90s you started seeing the starling-resistant entrances being made available, which was another big victory for the martins.

Matt Fendley [01:34:48] And then that's, you know, since then, the '90s and in the early 2000s. Since then, you haven't really seen much of a change. You know, there's a lot more systems out there, but they're all basically the same thing. They're set up for ease of vertical, you know, raising and lowering, the ease of compartment access and having starling-resistant

entrances on them. And so, that's that was that's kind of been the evolution of, of the conventional apartment-style martin houses.

Matt Fendley [01:35:24] Now the gourds, was basically it was in the '90s as well that you started seeing the plastic gourd come online. The earliest ones were abysmal. They were these tiny little, little plastic gourds that were about, you know, again, probably around six inches in diameter, which were grossly inadequate.

Matt Fendley [01:35:48] But around the '90s, you started seeing larger gourds because at the same time that, you know, the folks realized that larger compartments in the housing were safer and yielded higher reproductive success rates in conventional housing. They also realized the same thing was true with gourds. So, you start seeing larger gourds being produced, plastic, you know, with also with starting to employ starling-resistant entrances as well. And so, you know, that was in the '90s in the early 2000s.

Matt Fendley [01:36:18] And you haven't, again, you haven't really seen much change since then. You know, probably because there's really not much more that can be improved on. You know, you learn maybe little certain tweaks here and there, but, you know, otherwise, I'd say that was around the time that there was the last true evolution of what, what we see today.

David Todd [01:36:45] Okay. Well, you know, it's interesting to hear some of the strategies for trying to protect some of these purple martins - you know, removing the sparrow nests or trying to exclude the starlings.

Matt Fendley [01:37:00] What do you do as a martin landlord against terrestrial predators like cats, raccoons or rattlesnakes, and then the aerial ones like Cooper's hawks and owls or red-shouldered hawks that, you know, might prey on the martins?

Matt Fendley [01:37:19] Absolutely. The, the, the terrestrial predators, those, really probably for some time, probably the most, the most popular, the predator guards that are mounted on the pole systems or on the poles themselves. The one that's the most popular has been extremely effective are, some people refer to them as the stovepipe-style guards or just predator baffles.

Matt Fendley [01:37:49] But those are the ones that are cylindrical and they are, you know, usually always, you know, aluminum or sheet metal, very smooth metal. And the way they mount on the poles, they have actually, they're not fixed, firmly fixed to the poles, but they're mounted in a way where they're kind of hung. And so, they're, they're allowed to move. There's a wobbling action.

Matt Fendley [01:38:14] Well, it's a combination of the smooth surface with the wobbling action that has, that made them very effective at keeping the, the mammalian predators at bay. Namely, raccoons are probably probably the, the most infamous of those. Those are very effective at keeping raccoons off. A lot of people don't realize that raccoons can easily climb up and down smooth galvanized steel or aluminum martin house poles. And they absolutely can, with ease. So, those, those type of baffles, or guards, have been really good at stopping the raccoons.

Matt Fendley [01:39:00] However, for many years, many years, people were under the impression that, and it unfortunately was, this was perpetuated by a lot of big martin organizations as well, and to some degree still is, that these cylindrical-type, these stovepipe-

style predator guards, will also keep snakes from climbing up the poles. And one of the, of course, of the snakes that do that, probably the one that's the most problematic are ratsnakes.

Matt Fendley [01:39:41] Well, that's just unfortunately not the case. And too many martin landlords have had to learn that the hard way: that rattlesnakes can and will easily get past these conventional,, I say conventional, these cylindrical-style predator guards.

Matt Fendley [01:40:03] So, what, what we started seeing was, this really came online, this was an idea, if I'm not mistaken, that was taken from the from the Eastern bluebird gang, if you will. But they, the blue birders, you know, they, there are a lot of similarities between, you know, the, the, the martin, purple martin folks and the Eastern bluebird folks. There's, you know, housing and, you know, and a lot of times, they're, you know, mounted on little pole systems. Granted, the bluebirds are usually just single apartment housing and they're very, you know, not very high in the air, but very similar challenges as far as, you know, having to deal with, you know, sparrow, house sparrows or terrestrial predators.

Matt Fendley [01:40:50] They came up with the idea of, of adding, in addition to the conventional guard, the, the stovepipe-style guard, adding netting. And it's the kind of netting you can get from a lot of these various hardware stores or, you know, garden stores. But it's the kind of netting, it's a black, it's usually like a, a polypropylene plastic black netting that's used to protect like vegetable gardens or fruit from birds. And usually even if you see it up close enough, the pattern, they're usually squares. It's, it's a mesh in that square patterns and the squares are usually half-inch in size or three-quarter-inch, three, three quarters of an inch in size.

Matt Fendley [01:41:38] But they found that if this netting was affixed to the pole, in any way you can (and most time it doesn't look very attractive, it just looks like a wad of netting that someone has attached to these poles with zip ties). But what was found was when the ratsnakes go up the pole and if they get past the regular, the stovepipe-style guards, which they do, they go, they're forced to go through this netting, which stops them. They can only go so far. And then once, you know, the larger part of their body starts to try to go through it, they can't go any farther because the squares in the netting are too large. And they can't back out of it just due to the way that their, the direction that their scales are.

Matt Fendley [01:42:23] So, the netting has become, the bird netting, has become a very effective way of stopping the ratsnakes. And so, now it's become a lot more common, especially over the past ten years. More and more people are singing, singing the praises of the bird netting, you know, for, for its effectiveness in keeping snakes and trapping snakes that are trying to get up into their housing.

Matt Fendley [01:42:52] So, that's really the ideal, the ideal setup would be, is to have a conventional stovepipe-style, the cylindrical predator guard, and above that, a wad of this, of this bird netting.

Matt Fendley [01:43:08] And that, you know, is really a one-two punch, if you will, to keeping all of the terrestrial predators at bay.

Matt Fendley [01:43:17] You have some people that really go that go full-out, and will start using electric predator guards, using, you know, basically like the same little transformers that are used for like, you know, fencing to keep animals out of out of a yard or something, you know, low voltage, certainly nothing that would hurt them, but something that would

certainly keep them away. And some people have concocted these predator guards that are electrified.

Matt Fendley [01:43:43] But I've never, I've never dealt with that. I'm certainly not, not one that is handy enough to start messing with electricity. So, I really don't have any experience with those.

Matt Fendley [01:43:57] Now, the aerial predator you're talking about, there's one, one that you mentioned that, that really it just, it just sends chills. And that is the Cooper's hawk. You know, the main aerial predators that, that martins have to deal with, of course, are, are hawks, and also owls.

Matt Fendley [01:44:24] The owls, you know, of course, at night, you know, martins especially if you have multiple pairs of martins more in a colony, if people that are, martin landlords will tell you if you go out there at night, they make noise. You hear them chirping and making little chirps and then making noise and moving around and just, you know, they make noise.

Matt Fendley [01:44:43] Well, owls certainly hear that noise, and will go in. And, you know, they're very smart. They know what they need to do. They know they need to reach into the compartment and try to grab what they can.

Matt Fendley [01:44:53] That goes back to those deep compartments, the compartments that are larger and more in particular, deeper than the six-inch-by-six-inch compartment. There was one person that referred to martin housing that has six-inch-by-six-inch compartments as, "owl feeders". And unfortunately, you know that, you know, probably an accurate name in some cases.

Matt Fendley [01:45:19] But the deeper, the deeper compartments, you know, have helped out a lot with keeping owls at bay from reaching into the compartment.

Matt Fendley [01:45:27] Cooper's hawks, though ... I should say the smaller hawks are the ones that are the biggest threat. And in particular, the group of hawks that are in the accipiter group, and two in particular. They look identical from a plumage standpoint, but one just happens to be a little bit larger than the other. And that is the sharp-shinned hawk and the Cooper's hawk.

Matt Fendley [01:45:48] Well, for us, the area that we're in, our region, we don't have any sharp-shinned hawks and any that we do see are just transient. They're in the process of migrating further north, which is which is wonderful. That's, please just keep moving.

Matt Fendley [01:46:04] The Cooper's hawks, though have, we used to be just a little south of their, the very southern part of their breeding range. But over the past ten years, that has totally changed. And now, we have, Cooper's hawks have exploded in numbers over the past 10, 15, 20 years. And now we are fully in their breeding range. So, we have Cooper's hawks here year-round. And Cooper's hawks, have, their numbers have, are continuing to grow.

Matt Fendley [01:46:41] And in recent years, I have seen just, you know, just listening to some of the martin forums online and just, you know, kind of, you know, hearing what a lot of people are reporting. More and more people are having their colonies repeatedly attacked by

Cooper's hawks. And there are some people that are having their colonies just picked apart - attack after attack to the point of completely losing their colonies altogether.

Matt Fendley [01:47:12] It is, it is an, it is a upsetting, a sad, a maddening situation that is going on with, with, with the Cooper hawks.

Matt Fendley [01:47:29] And, and it's not just purple martin landlords, I should add. You're hearing about folks that are possibly that have homing pigeons that are having to deal with this massive influx of Cooper's hawks, people that are just attracting songbirds to their backyard, enjoying attracting songbirds to like regular bird feeders, are seeing their backyards get just, you know, turned into this, you know, just hunting ground for these hawks to the point where they're not even seeing any more songbirds in their backyards.

Matt Fendley [01:48:02] And so, that has been a much, much more difficult fight. Obviously, the hawks enjoy very strict protections as do the martins. But, you know, it's, you know, I have to be very careful when I say this, but, but I, really it's obviously the, you know, a lot of these laws are, you know, put in place to protect a lot of the species and to make sure that they're not, you know, you know, killed or, you know, things that are done that can potentially cause their numbers to decline or even disappear.

Matt Fendley [01:48:43] But the hawks, the Cooper's hawks in particular, have adapted, have adapted to a lot of these situations where all of these, these suburban backyards that have have produced these, you know, bird sanctuaries, where all these songbirds, you know, are, you know, have enjoyed for a long time of, you know, really not having to worry about, you know, predators coming through and taken, you know, on just, on a routine basis. The Cooper's hawks have moved in and taken advantage of that.

Matt Fendley [01:49:19] And, you know, I'm asked the question sometimes, and I've asked this before on on some of these forums, you know, obviously, the Cooper's hawks numbers are, have exploded. I mean, you know, it doesn't take an expert to see that. Their, their range is greatly expanded. Their numbers have exploded.

Matt Fendley [01:49:39] So, at what point does the various state DNRs, or in this case it would be the U.S. Fish and Wildlife Service, because they are federally protected, or in Canada, it would be, you know, nature Canada. At what point do they take a step back and say, "Okay, you know, we have one protected species in this case, the purple martins, whose numbers are declining, that are being heavily predated on by these other protected species of raptor, of these Cooper's hawks whose numbers are exploding. At what point do we reevaluate what's going on?"

Matt Fendley [01:50:16] Do we start allowing, you know, maybe for relocation programs where, you know, if a martin colony is under siege, you know, can the DNRs, you know, you know, send someone out to maybe trap and relocate?

Matt Fendley [01:50:31] I mean, of course, there's all sorts of, of, you know, problems with that. If the hawk is actively nesting, obviously, you don't want to remove, you know, adult hawks from, you know, from being able to take care of, of, of, you know, young hawks that are still relying on them, and everything else.

Matt Fendley [01:50:49] But, I don't know. You know, long story short, that, that, that that has become a big a huge problem, a huge problem. I'm seeing more and more landlords, as if

there weren't enough problems already with, with ratsnakes, with raccoons, with house sparrows, with starlings. You know, now we have a Cooper's hawk problem. And again, it's just really exploded over the past ten years.

Matt Fendley [01:51:14] I'm seeing there are more and more landlords that I'm seeing that are, that are either having their colonies completely destroyed, to the point where their, the martins aren't returning. There was one gentleman actually here in the Houston area up on the, I can't remember if he was on, on a north or northwest side of town, but he had posted martins for years. He was one of the ones that had, and this is what the Cooper's hawks will do. They would continue to move through. And in this case, it was probably one or two Cooper's hawks, whichever ones happened to be nesting in that particular area, would move through day after day. And a lot of times they were successful attacks.

Matt Fendley [01:51:57] And he kept just watching this helplessly, until he had no more martins.

Matt Fendley [01:52:02] And he has since been able to attract them. I mean, that's been a few years now, attract new ones.

Matt Fendley [01:52:07] You see those situations and then you also see landlords, [excuse me] that are so understandably distraught by what they're seeing happening to their colonies, that they just aren't, they've completely lost interest in hosting martins altogether. They don't feel like offering, I've heard some people refer to it as, "I don't feel like continuing to offer the hawks an open buffet. So, I'm just going to close up shop and the martins move elsewhere."

Matt Fendley [01:52:38] So, it's yeah, that's, that's, when you said, "Cooper's hawk", that's really the one that I would say is one of the biggest challenges facing martin landlords right now.

Matt Fendley [01:52:49] Wow, what a dilemma, what a puzzle you've got, as you've pointed out, two protected species. And, you know, how do you weigh the merits of each and, you know, when they're at each other's throats?

David Todd [01:53:03] You know, while we're talking about these sort of natural challenges, I think some of them are very small. I understand that there are feather mites that can be an issue for purple martins. What, what can you do about that? And what are some of the concerns that you've got?

Matt Fendley [01:53:24] Absolutely. You know, the feather mites - one thing that, that martin landlords will see sometimes are the early jumpers, which are just quite simply baby martins that are just, you know, taking the leap before they're really ready to fly. And so, they end up fluttering down into the, into the grass or the dirt or whatever else. And hopefully their landlords see them and rescue them before they become dog or cat food.

Matt Fendley [01:53:57] But there's always a reason why that these babies are jumping early. Because they don't just jump early, just out of accident. I mean, there's a reason why they're jumping early. And it's usually, it's almost always due to one of two reasons.

Matt Fendley [01:54:15] Extreme heat. The housing is getting so unbearably hot, dangerously hot that they're just jumping because the heat has just gotten unbearable.

Matt Fendley [01:54:26] Or. And I'd say this this, this second reason is probably the more common reason. There has been an infestation of, of feather mites. And you know, the feather mites, of course, are, you know, parasitic, you know, that, you know, are sucking the blood of their host and can you know, it doesn't take long for, you know, a feather mite infestation to kill babies, especially small babies. And it's not that uncommon. Unfortunately, it's not that uncommon.

Matt Fendley [01:54:58] There's two ways that those are that those situations are dealt with. There is the, the safe, safer, but maybe not as effective way, but legal, way. Then there is the arguably more effective, easier way, but not necessarily legal way.

Matt Fendley [01:55:21] So, the first way is landlords will, if they, if they, if they see the babies jumping, or if they, even if they don't see babies jumping, but they lower the housing and it doesn't take long to see an infestation of mites in the housing. You see, just they're crawling everywhere. It's, it's creepy.

Matt Fendley [01:55:41] They will replace the affected nests, pull those nests out and the babies, and then put fresh, just fresh nest material. Just get in there and wipe down the compartment with just some, some, some rubbing alcohol. Just wipe down everything. Put some fresh nesting material back in there, fresh, clean, mite-free nesting material. And then do their best to brush the babies off as delicately as they can, usually like with, like a very soft, like a little paint brush or something very soft, and put them back in. And hope that that, you know, is enough to keep the babies in the house, at least until they fledge. Or you may have to do the same thing all over again.

Matt Fendley [01:56:24] That's really the that's the safe, the safe way. Granted, it definitely takes more effort to do that.

Matt Fendley [01:56:32] The, uh, the other way that a lot of people, you know, love it or hate it, have gotten a lot of good results for it. There's no doubt that it works. But it's, you know, by the true letter of the law, it's not legal, but it, it does work.

Matt Fendley [01:56:48] At the first sign of mites, or some people even do this as a preventative step. They'll use a very low, for a Sevin Dust, with a very low percentage of the, of the main chemical, which is carbaryl, I think usually like a 4 or 5% Sevin Dust. And that is, some people, at the start of the season will sprinkle a little bit below the nest and I say below the nest, and some people might be saying, "Well, why is there already a nest in there if it's before the season?"

Matt Fendley [01:57:21] One of the best things you can do for your martins is to pre-load the nesting compartments with nest materials. And one of the best nest materials. A lot of people, you know, think that the apartment compartments have to be cleaned out or the martins will reject them. It's actually just the opposite. The martins actually welcome nesting material in there. And if you're trying to attract martins for the first time, that is actually considered an enhanced attraction technique is to have a nest, what looks like a nest, already in there. The theory being that investigating martins say, "Hey, hey, it looks like, it looks like martins have nested here before. This must be A-OK."

Matt Fendley [01:58:02] But the main benefit is you select what the primary nesting material is. Pine needles are probably one of the best there are, mainly due to the fact that they don't absorb and hold water, and gets soggy and, and nasty and that kind of thing.

Matt Fendley [01:58:22] So, early in the season a lot of people will preempt any potential mite outbreak by sprinkling a little bit of the Sevin Dust below that, that, that nest that they've already put in there, and that alone, people have done that and have reported not having any problems with feather mite outbreaks since.

Matt Fendley [01:58:42] Some people will wait until there is a feather mite outbreak, in which case they will lower the housing, remove the babies long enough just to sprinkle a little bit of dust down into the nest, you know, shake it down in there, because they never, even the people that do this, take care to never, never apply the dust directly to the babies. So, there's always that.

Matt Fendley [01:59:07] But they get the dust in there below the nest, and kind of shake it down in the nest, put the babies back in, and usually within 24 hours, the mites are gone.

Matt Fendley [01:59:17] So, you know, it's one of those things where I know the use of Sevin Dust has helped a lot of landlords, has kept a lot of, have prevented a lot of feather mite outbreaks that would in turn result in a lot of premature fledging, that would, that would then in turn result in, you know, babies being eaten or, you know, killed.

Matt Fendley [01:59:44] But at the same time, you know, at the end of the day, you are putting a a chemical pesticide in in the nest with the babies. And so, you know, that, you know, no one really knows for sure. You have proponents of it that will say, "Well, they've been using Sevin Dust in the poultry industry for decades, and there's not been any problems, and this and that, and this and that."

Matt Fendley [02:00:08] Well, you know, that may be true, but do they really know there haven't been any long term effects? That's arguable. Do they really know that?

Matt Fendley [02:00:15] And also, we're not dealing with poultry. We're dealing with birds that are substantially smaller than poultry and, you know, may be more susceptible to, you know, suffering negative side effects of these chemicals.

Matt Fendley [02:00:27] But, that said, the people that do use that, the Sevin Dust, have, have, have reported that they have not seen any negative effects, not seen any sick birds that they, that they know of from it, still have, you know, bustling, you know, successful colonies year after year.

Matt Fendley [02:00:46] So, yeah. So, that's kind of a a two-pronged attack, you know, with the, with the feather might be on that.

Matt Fendley [02:00:53] But, but again, one of the key things that the, one of the key indicators of a feather mite infestation, if you don't actually see it, is babies jumping prematurely. That is, that is one of the, you know, one of the key indicators that you're dealing with a feather mite outbreak.

David Todd [02:01:11] Okay, that helps. Oh, gosh. Thank, thanks for explaining both the, the problem, and these solutions that people have developed.

Matt Fendley [02:01:22] Sure.

David Todd [02:01:22] You know, you said that one of the, the problems that may cause these babies to, to jump prematurely is excessive heat. And I know we're into 45 days of over-100 degree temperatures here in Austin. And I'm curious if, if you see this as being a, you know, a pretty pervasive problem for the martins, this excessive heat.

Matt Fendley [02:01:55] Absolutely. This year, with, with this, with this, the terrible heat, the high heat we've been having has resulted, you know, there have been direct and indirect results.

Matt Fendley [02:02:11] The indirect being the excessive heat and lack of rain has led to, you know, a lot of the insects that the martins eat, you know, the dragonflies, a lot of those things. Which dragonflies are really one of the big, you know, one of the insects that, that makes up a large part of the martins' diet, are, you know, water-based to some degree. You know, they, you know, they lay their eggs in there, and when they're in the larval stage. You know, a lot of the stuff with new dragonflies, all relies on, it revolves around water.

Matt Fendley [02:02:51] And when you have times of extreme heat, and the subsequent, you know, you know, not very much rain or potential, you know, drought situations, you will in turn have a lack of food. Not a complete lack of food, as may be the case in, you know, what we were talking earlier, you know, extremely cold temperatures, things like that. But a, enough of a reduction in the available food that you will start, people have been reporting this year, this season, a much higher number of deceased nestlings than during years that the heat has not been so bad. And that's no doubt that's, that's, it's due to a lack of food, because the nestlings that they're finding, upon closer inspection are, are, are, are basically starving. They're extremely thin, extremely malnourished.

Matt Fendley [02:03:52] So, that has been absolutely the heat from sort of an indirect, you know, having an indirect effect like that on food source has been a big problem.

Matt Fendley [02:04:02] Now, directly it can be a problem as well. You know, the housing, you can imagine, how hot the inside of those martin houses or gourds can get. We talked about the aluminum housing earlier. You know, aluminum housing is wonderful. It's lightweight, it's robust, it lasts indefinitely. But it's the, its insulating properties, I guess it's referred to as it's our "R-values", are not very good. It gets cold fast and it heats up fast.

Matt Fendley [02:04:40] So, a lot of folks have gotten creative during the times of high heat to protect their martins from from, from, from it, by adding extra insulation to a lot of these aluminum houses. Some people will actually, they're sort of like these, will, will dismantle their martin houses and add layers of like foam insulation, like you'd normally used for houses, to the ceiling areas or the attic areas in their martin houses to provide more insulation from the heat.

Matt Fendley [02:05:18] Some will even actually provide a shade by placing a large, I saw one person, it was, it was, it was, it was funny, but, but very, I mean, it was effective and it really, I mean, the person was, you know, really, kind of, it was, you know, went with whatever worked on the fly. But one person put up, you know, a lot of the signs that you see that are made out of like that, that plastic board you see like, like campaign signs or realtor signs. They had a bunch of those that they had zip-tied over their, over each one of their gourds. So, they had one of the signs over each gourd, providing shade throughout the day for that particular gourd. And so, that helped out a lot, I'm sure, to keep the direct sunlight off, off of them.

Matt Fendley [02:06:05] The heat this year, this has definitely been, you know, been a problem throughout the season. But in even a normal year, at least here in the southern part of the U.S., where you really run into a problem? I think normal years where, you know, it's always hot, but where the heat is, is, is normal. Not, not, not, you know, not as brutal as what we're seeing this year. But where you run into a problem is a particular problem with late nesting situations.

Matt Fendley [02:06:34] And that is, situations where the martins, you know, normally in their nesting cycle, babies are usually fledging and you know, in May, maybe into June a little bit, but usually around in May. And as you know, you know, it's hot, but we really get into the heat the, you know, in, in July and August.

Matt Fendley [02:06:58] So,you have situations where martins, maybe their first nesting attempt didn't, didn't go as planned. There could have been a predator attack. One of the, one of the, either one of the mates may have got killed. Something happened that caused that first nesting attempt to, to fail. And if it's early enough in season, they'll re-nest.

Matt Fendley [02:07:19] Well, those re-nests, obviously, they are behind schedule, to say the least. And so, you'll have these late nests where you still have babies that are in the house, in the nest, throughout June and sometimes even into July. And those are the ones where you really, the landlords really have to be cognizant of the effects of that heat, and doing what they can to protect their martins you know, from the, from the blistering temperatures.

Matt Fendley [02:07:45] You have some, I would add this. It is very interesting. I was talking to a person about this today and it's interesting and exciting, but it goes along the same lines of late nesting. It's in the same, you know, the same subject of late nesters.

Matt Fendley [02:07:59] You have martins that will actually have two, have two nesting cycles in a season. And that is, that's rare. I personally have never witnessed at any of my sites or the sites that I help with. Usually there's one nesting cycle. They, they, they have their eggs, they raise their babies, and then that's it. They're done until they come back for next year.

Matt Fendley [02:08:24] But there are some people that have martins that will re-nest. Actually, once their, their first set of babies fledge, they will go back and re-nest, and go through a second nesting cycle. That's super exciting, just from the standpoint of we are, you know, we've already talked about how martin numbers are not doing well. So, anything that can help, you know, add, add, you know martins, you know, more martins to the numbers is great and certainly two nesting cycles is, is wonderful from that standpoint.

Matt Fendley [02:09:01] Plus, I also think the person I was talking to today actually had martins flying over his, his houses. And I'd seen them flying over there before. And you could tell they were still actively nesting. And I mentioned to him, I said, I said, "You know, you still have martins around. I'm jealous.".

Matt Fendley [02:09:17] And he was, he was enough of a kind of an involved landlord where he knew that, and he told me, he goes, "Yeah, this is a lot of them, they're on their second nesting cycle." I was like, "Wow," I said, "That's, that's fantastic." So, it's, it really is exciting, you know, you know, again, because, you know, you get just more, you know, more martins being, being produced and adding to the overall numbers, which is wonderful. The martins are around longer, which is always nice, you know, for, for all of those of us that just love

watching them and love having them hosting them in our yard, they are just around that much longer, which is wonderful.

Matt Fendley [02:09:51] But you have the, as we talked about earlier, with any sort of late nesting, you have the added risk of the intense heat that comes with, you know, July and August. And so, you have to be a little more careful with these late nests, kind of, you know, keeping an eye on things than, than you would say with the, the, the earlier, the first round, of, of, of nests, of nesting cycles.

David Todd [02:10:18] You know, this tale you're telling about the indirect effects of great heat on martins that, that, you know, can really reduce the prey, species, the insects that they rely on, the dragonflies and so on. I wonder if, if there are sort of other, larger trends going on. I've read that we are in the midst of a pretty broad-scale insect decline. And, and I'm wondering if with a bird like a purple martin, which is, you know, reliant on these insects, if you're seeing that, you know, year-in, year-out, regardless of heat waves, but that there's a, you know, a wider trend there with insect populations.

Matt Fendley [02:11:12] You know, I personally, I have not. I have not seen any sort of a trend myself. I have not seen any sort of, like a, any sort of trend that would indicate an overall decline in the amount of insects. The only time I do see it is when we have specific cases like we were talking about like this with, you know, with the heat-related effects or inclement weather effects.

Matt Fendley [02:11:41] But thankfully, thankfully, I have not seen that. I've not seen a trend of, of, of, you know, lowering, a lower amount of numbers of, of insects.

Matt Fendley [02:11:55] But, you know, it, it certainly doesn't mean that it's, it's something like that is not occurring. You know, I always get a little concerned, you know, whenever I hear the, you know, this time of year, the mosquito-spraying trucks driving around at night, you know, through the, through the neighborhoods and everything else, you know, and I always wonder, as, as do probably a lot of people, you know, great, it's killing mosquitoes. But you know, what else is it taking out? What, you know, what, what beneficial insect is that, is that, you know, just mass amount of spraying also potentially doing. What effects is it having?

Matt Fendley [02:12:36] So, you know, I, I thankfully, I have not seen any, any sort of trends like that. But at the same time, I'm actually surprised that we haven't, as many pesticides as we, as a society, continue to spray out into the, into the atmosphere and, and into our environment, I'm actually surprised that I have not seen those kind of trends.

David Todd [02:13:04] Okay. Well, I guess another question I guess that's about seeing these purple martins as indicators of some kind. With climate change progressing, I think most people would agree, are you seeing effects on the migratory schedule of purple martins coming and going? You know, are they arriving earlier, leaving earlier? Any, any sort of change like that?

Matt Fendley [02:13:41] So far, I have not. I have not seen that, at least where I monitor. And that's another thing right there. I totally agree with you. I am, in spite of what definitely seems to be happening, I'm, I'm, I'm thankful that I have not seen any sort of significant changes in as far as, like, you know, migration times, arrivals, departures, things like that.

Matt Fendley [02:14:09] I, I, you know, primarily, there's a lot of these scout reports that with, you know, some of the, you know, martin, you know, organizations where, you know, people report in, you know, whenever they get their first arrivals. And I would say, I mean, I have not seen really any noticeable change in that over the, over the course of the, the amount of time that they've been taking, you know, recording this data, having people report in, which is probably about ten or 15 years now, I have not seen any, any major changes. I've not seen any noticeable changes. Thankfully, I have not. Which, you know, again, I say, "thankfully", because with everything going on, you know, that's certainly something that we may, we may be seeing sooner rather than later. But fortunately, at this point, I have not.

David Todd [02:15:07] Okay. Well, you know, you have taken a good deal of time to explain all these incredible nuances of, of purple martins and their care. I, I know we're not the only ones that have benefitted from this. You've, you've talked to a number of groups, including the Galveston Bay Master Naturalists and the Houston Audubon membership. And I'm curious why you do this, you know, why you take the time to reach out, and then also what sort of responses you get.

Matt Fendley [02:15:46] You know, well, you know, it's I really enjoy doing it. It's, I think one of the main reasons I do it, is, and this, you know, this really is kind of cliche, but, you know, it's the whole thing of, you know, if I, if these, these talks that I give, you know, if I can just get one person, you know, to become interested enough in martins to, to maybe erect some housing and, you know, and, and attract some martins, and to get into them, then I feel like it it's a success.

Matt Fendley [02:16:23] And that's one of the big reasons that, that I do it, is to, to try to, you know, plant that seed, to try to get people interested in these birds, interested enough to erect some housing and to try to attract them, because I'm convinced that if they do, and they successfully attract some, they'll, they'll be hooked. I'm convinced of that. I just, I have that much faith in the martins, you know, with just how enjoyable they are to watch and to host and everything else, that, that, that if folks can get to the point where they're actually attracting that first nesting pair, they'll be hooked.

Matt Fendley [02:17:08] And you know, the main reason for that is, we talked earlier about the decline in in housing that's being offered, that's being provided to the martins over the past, you know, 50 years - the stark decline. And so, I really feel like it's something that just, that needs to be, that people need to understand. It's one of the things I really, I really hit on multiple times during these presentations is how important it is for, for, you know, for, for our, you know, for generations right now, but for our, our children, our children's children, the following generations, to make sure that there is available housing out there, out there for these birds.

Matt Fendley [02:17:50] Because all too often ... I was watching a video just the other day, a YouTube video. It was very sad. But it's, it's, it is, it is, it's happening all too often. Where there was a once-huge colony up in up in, I think it was Illinois, and it was the, the couple, elderly couple, the gentleman in particular was the one that, you know, was the one, the big martin fan, if you will. He was the one that that that grew that colony and maintained it and everything else. And it had like, had like around 100 pairs of martins - a massive martin colony.

Matt Fendley [02:18:31] Well, he passed away. And what happens all too often is that the colony ends up dying along with, with the landlord. You know, his spouse, you know, did not,

you know, continue with it. And so, you see that all too often that you know, someone, whoever the, you know, the, the martin landlord that builds up the colony and takes care of the colony, manages the colony.

Matt Fendley [02:18:57] There's no one there to, to, to, to pass the baton to. And so, you see these once-bustling colonies just wither away and die. And there's no one there to, to pick it up. There's no one there to, to, to, even if it's a totally different site or location, there's no offset. There's no there's no, like, okay, a colony, we lost a colony here, but there's a new, there's a new colony being formed over here that will help offset that.

Matt Fendley [02:19:25] You're just seeing colonies disappearing and you're not seeing very many, you're seeing a lot of colony disappearing, a lot of housing disappearing, but not a lot of colonies or housing up here.

Matt Fendley [02:19:37] And so, that's one of the big reasons why I give these talks is just to try to encourage people, you know, to, to let them know just how fascinating these birds are, that these little birds, you know, I start the presentation all the time, one of my the questions I start with is, "How many of you have seen at one point or another these large apartment-style bird houses that are mounted high atop of, of these of poles? How many of those how many of you have seen those?" And pretty much everyone raises their hands.

Matt Fendley [02:20:11] And then the second, my follow-up question is, "How many of you know what species of bird those houses are designed for?" And pretty much every hand goes down. And so, that just sets the stage for me to explain to them, you know, and I always say, "I'm not, I don't want to take anything away from our, from our year-round residents - our cardinals, our blue jays, our mockingbirds - are all wonderful, but they are just, they are not, they, they're not in the same league as these martins that we host in our backyards that migrate every year to the basically the other side of the planet and then come all the way back just to nest and make their home in our backyards. And there are so many things about them that are fascinating."

Matt Fendley [02:20:55] So, that's one of the big reasons why I do it is, again, just to try to get more and more people interested in it, to the point where they, where they put up martin housing, and, you know, attract martins and really get interested in it, and to help, you know, help further the species, you know, to help, you know, just keep, keep it going.

Matt Fendley [02:21:14] Even from the standpoint of, you know, in addition to the preservation of the species, the hobby itself - it's such a wonderful hobby. It, I know it brings so many people joy, I mean, myself included. So, it's not only for the benefit of the species, but for it's just, you know, trying to get people interested in a wonderful hobby that, that, you know, really connect you with the outdoors. And it's just a lot of fun and everything else.

Matt Fendley [02:21:47] You know something else I was intrigued about that you do in a sort of educational, I guess, attempt is, you manage a purple martin colony in a public place - U of H - Clear Lake. And that colony has a, as I understand it, a live streaming camera. And I was wondering why you do those two things.

Matt Fendley [02:22:16] Well, you know, it's, the colony there, it's at, it's at the University of Houston Clear Lake campus. And it's actually, the colony in that area is actually owned by the Environmental Institute of Houston, which is based there at the Clear Lake campus - absolutely fantastic organization and group of people.

Matt Fendley [02:22:38] And some years back, I saw that they were trying to attract martins. And they were, they were you know, I could tell they kind of needed some help. You know, the housing that they were using was, was probably not the best choice to try to attract martins and and they hadn't attracted any yet.

Matt Fendley [02:22:59] And so, I got in touch with some of the, some of the people there and they were all too welcoming. And that was like back in 2007, I think. And so, I helped them, you know, pick some, pick some housing and, you know, got them, you know, going with attracting some martins and we just slowly but surely built up that colony. And, you know, I actually, I haven't, I have not been as involved with it over the past few seasons as I would have liked to have, just everything going on with, with, with COVID and all sorts of other factors that came in.

Matt Fendley [02:23:36] But I am planning on getting, getting much more plugged back in with it this fall because there's a lot of maintenance I need to do on the housing. And I'm actually going to be switching up some of the, some of the actual style of housing that we're offering there.

Matt Fendley [02:23:49] The camera, the camera, it was great when it worked. It was a, a, little web camera, well, a little nest camera, rather, that was mounted inside of one of the gourds. And would actually film, you know, what was going on inside the gourd. At night, it would switch over to sort of like this infrared night vision, like you see a lot of the cameras do. And it was really fun to watch.

Matt Fendley [02:24:21] However, I'm not the most you know, even though I'm in I.T., this kind of falls out of the I.T. stuff, and more into like the audio visual, kind of AV field, which I am not a, any sort of expert in at all. And so, there was a lot of hurdles that we ran into with a lot of the, the infrastructure of the camera. And so, unfortunately, it went offline a few years ago. And I have yet, I need, there's been, I've tried to get, you know, some quotes for having contractors come out, but some of, you know, there's, you know, some, some, you know, cost, you know, obstacles that are there. That's another thing I'm going to be looking at to try to get back online again.

Matt Fendley [02:25:07] That kind of stuff is hard. You know, these web streaming, web cameras, whenever folks see those that are being streamed on YouTube or whatever online, you know, a, you know, site that's out there, they're fun to watch and they're really educational and entertaining. But the infrastructure and the equipment and the knowledge that goes behind setting those things up and keeping those things running, they can be kind of labor-intensive.

Matt Fendley [02:25:35] And so, I've kind of learned that the hard way. So, unfortunately, right now that that web camera is not up, but I'm hoping to get it get something back in place here before long.

Matt Fendley [02:25:44] But while it was up, you know, again, it was just, it was very entertaining for the folks on campus would be able to view it, knowing that that was some martins and that was a bird nest that was there on the campus. So, it was, well, it was a lot of, it was it was a lot of fun.

Matt Fendley [02:26:01] Oh, I love this whole sort of culture of being willing to try things that aren't a sure thing, to experiment and, you know, try to, to learn more about these birds, and how to help them and understand more about them.

Matt Fendley [02:26:19] Well, I had just one more question, if you don't mind, and that is just, as you learn from what you've seen in the past, and then you look towards the future, what do you anticipate about the purple martins', you know, coming days?

Matt Fendley [02:26:42] One thing that I'm, I'm, one thing that I am cautiously optimistic about, is through a lot of, of, of outreach and education and, you know, on a very, very tiny scale, one example of that could be like some of the things that I'm doing. But on a much more substantial, and I think more of an effective scale, much larger scale is a lot of these, some of these organizations. One of the big ones, the Purple Martin Conservation Association, a lot of educational programs and a lot of the information that's out there to educate people. I think that, you know, being, being presented on a, on a, you know, on a large scale and more and more and more frequently, I'm hoping is going to get more people interested in the martin hobby and, you know, being and becoming a martin landlord and hosting martins.

Matt Fendley [02:27:51] So, I'm cautiously optimistic that, that maybe we we had hit, had hit a low point, if you will, but that may be we're, we're, there's, there's going to be sort of a, an increase maybe in the interest out there, and the amount of people that are, you know, and not just with, with, with purple martins, but just, you know, the environment, wildlife all together.

Matt Fendley [02:28:20] Like at our campus, you know, there's, there's been a big, you know, of the sustainable sustainability. And when it comes to, you know, a lot of environmental concerns and everything else. There's, there's been, we've had an entire department that is, you know, a sustainability group. And I'm just hoping that, you know, this, this increase in just, you know, our overall, you know, environmental awareness, in, you know what we're what, what we have done to the environment and how we can, you know, prevent further damage, and, and just being good stewards in wildlife management and conservation, everything else, that the martins are going to, to, to be, be a part of that, that movement and ride that wave. And so, there's going to be an increase in, you know, hosting wildlife, including birds, you know, martins, things like that.

Matt Fendley [02:29:14] Another thing on a more of a, I guess, more of a, of a, of a martin-specific thing: you know, we talked about sparrows and starlings, you know, earlier. And one thing that, that, you know, has been horrible, the effects that those two species have had on the martin numbers. But one thing that seems to have happened. Is, you know, their numbers, the numbers of the two species that exploded at such a high rate in such a short period of time, that it almost appears and I'm not sure of this, but just kind of based on a lot of reports that I hear, and things that I've read, that, at least in the, in the area, in the part of the, the Canada and in the United States that the martins, the Eastern martins nest in, and even the Western martins, that the numbers of these English house sparrows and European starling has almost reached a saturation point. They have exploded to the point where they can't explode anymore.

Matt Fendley [02:30:19] There's not, there's not, there's no more room for them to continue to increase at the rate that they had been increasing.

Matt Fendley [02:30:28] And so, now that, hopefully, their numbers have kind of plateaued, I'm hoping that, you know, the martins, you know, are not going to continue, we're not going to continue to see a decline due to the increasing numbers of those two species. But maybe a leveling off, an increase in the martin numbers just, just due to advancements in the housing. We talked about the starling-resistant entrances, those kind of things that, you know, we're going to see an increase in martin numbers from that standpoint as well.

Matt Fendley [02:31:02] So, I have, I'm hopeful. I'm cautiously optimistic about the future of the purple martins, you know, right now.

David Todd [02:31:15] That's great. It's encouraging to hear.

David Todd [02:31:19] Well, that's all I had to ask you. But is there anything that you would like to add that we might have skipped over, or given short shrift to?

Matt Fendley [02:31:29] You know, no. This has been, this has been wonderful. I really appreciate the, the invitation and the opportunity. And, you know, it's, you know, I, I really appreciate it. And I'm, I'm very appreciative that you felt that I was an important enough, you know, delivering an important enough message and an effective, you know, enough presenter to to have me, to have me on, to have me a part of this. So, I really appreciate the opportunity and the invitation.

David Todd [02:32:09] Well, it's, it's super that you were able to participate. I really appreciate it. And I know, I, for one, have learned a lot. And I'm sure that others who will hear this interview will, will feel the same way.

David Todd [02:32:21] So, thank you so much, and I hope you have a good evening.

David Todd [02:32:26] I have a button on my end which says Stop and I will hit that and we will cease recording.