

TRANSCRIPT

INTERVIEWEE: Todd Merendino

INTERVIEWER: David Todd

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

David Todd [00:00:02] So thank you very much for taking some time to talk to us about waterfowl, duck, mottled ducks, ammunition questions. You're very kind. Thank you.

Todd Merendino [00:00:17] Sure.

David Todd [00:00:18] Before we get into it, I wanted to just read off a disclaimer and make sure I've got your permission to record this. So wanted to just make it clear that we are planning on recording this interview for research and educational work on behalf of the Conservation History Association of Texas, and for a book and a Web site for Texas A&M University Press and for an archive, at the Briscoe Center for American History at the University of Texas at Austin. And that's what we plan on doing. Of course, you would keep equal rights to use the recording if you chose to. And I just wanted to make sure that was okay with you.

Todd Merendino [00:01:07] Sure. Yes, sir. That's not a problem, even though I went to Texas Tech, it's not a problem.

David Todd [00:01:15] A fine institution. Well, so let's let's get started. Let's dive into it. I know you're busy and I don't want to eat up your day. It is Friday, May 1st, 2020. And we are conducting an interview with Dr. Todd Merendino, who is manager of conservation programs at Texas Ducks Unlimited. And we're doing this by telephone, but I understand that - are you in the Richmond area, or where exactly are you?

Todd Merendino [00:01:47] Yes, our offices in Richmond. I've been working from home in Bay City for like the last 45 days or so, 30 days anyway. It seems like forty five. But yes, that's where our offices in Richmond just on the west side of Houston.

David Todd [00:01:59] I see. Well we're all sort of out of pocket these days, so again, thanks for taking time to do this. This morning, I was looking forward to learning about your work with waterfowl, especially mottled ducks and the impacts of lead and non-toxic shot. And I had learned about your work in this area from this wonderful article from the Wildlife Society Bulletin back in 2005. And I was just hoping that you could kind of expand on that so that I could get a better grasp of what the whole issue is about. And I thought we might just start by learning a little bit about your background. We know you went to Texas Tech, but could you tell me a little bit more about your general training and your career, so far?

Todd Merendino [00:02:51] Yes. So I'm trying to think, let me see where could I start. I mean, you know, I guess in the beginning I kind of grew up just like any other kid right - hunted and fished, and that's all I wanted to do and ever do. And you know, I grew up in the Beaumont, over in the Beaumont ' Port Arthur area, and obviously lots of, lots of petrochemical plants and all that stuff. And that's where all of my relatives and my dad worked. Right? That's all they did. They were pipefitters, boiler makers, dozer operators, you name it, they did it. And I don't know, that just wasn't the path for me and I liked, I liked being outside doing fun stuff. So I just gravitated towards, you know, I guess, you know, wildlife management, natural resources. And that's how I ended up at Texas Tech. That's kind of where I got started, I guess, you know, completed my, I did a bachelor's degree there in wildlife management and then followed that up, rolled that right into a master's degree in wildlife science there at Texas Tech. That would have been in the early to mid-1980s.

Todd Merendino [00:03:53] And then from there, I did a PhD project on black ducks and mallards in southwestern Ontario and moved to Canada for three, almost four years and had a lot of fun and good times up there doing that. But you know always seems like in this, in this profession, you kind of end up back home. Seems like it a lot. And so I was you know fortunate enough in the early 90s applied for and got a job with Texas Parks and Wildlife Department here in the Bay City area. And so that's kind of where I've been ever, I guess, ever since 1992. You know, my first job, I guess a real job, if you will, was with Texas Parks and Wildlife Department in the early 90s.

David Todd [00:04:36] What were the origins of your interests in waterfowl?

Todd Merendino [00:04:43] You know, like like most kids, I guess, you know, most kids, you know, pile around with their dads and moms and their parents and kind of, you know, it kind of, I guess, you know, form those, form those same interests. And I guess fortunately for me, my dad was a big hunter and fisherman and my dad was a big duck hunter. We didn't do a lot of deer hunting when I was a kid. We did a lot of duck hunting. And I just loved being in the marsh. I loved the sound, the smells, the boat ride, the bugs, all the birds, all the stuff you see when you're out there going out early, you know, shining the spotlight around. And I just, that's just what I did. I played in the mud and water. That's what I did. And ducks, obviously, was a way to continue to do that as an adult. And so, yeah, we did a lot of hunting and fishing. And that just kind of formed really my overall interest in ducks in particular.

David Todd [00:05:33] You know, we did a lot of waterfowl hunting. You know, the things for me about waterfowl hunting, you know, I hunted deer and doves, all those kind of things folks hunt. But, you know, when you go waterfowl hunting, you kind of never know what you're going to get. Right? You might get bluewing teal or greenwing teal or pintails or whatever. And it's kind of like each day is different and all the birds are different and versus if you go dove hunting, you get a bunch of doves. Right?

Todd Merendino [00:05:58] And so I don't know, ducks. I just always thought ducks were really neat, really cool. I just, I just really like them.

David Todd [00:06:08] Well, fair enough. And so how did you first become aware of this problem with lead shot and how it affected waterfowl?

Todd Merendino [00:06:20] You know, probably on, probably on a personal level. I mean, I, I grew up on that. I grew up on the Texas coast, Beaumont, Port Arthur. We did a lot of waterfowl hunting. And, you know, back in the, back in the late mid- to late-70s, you know,

lead, lead shot, you know, lead ingestion in ducks was it was a really hot topic. Of course, I was just a kid was probably barely, barely in high school at the time. But I do remember, hunting at the J.D. Murphree Wildlife Management area in Port Arthur, when we would hunt, they would guild, steel shot was being slowly phased in. I can't remember the year. I want to say it was '78 or '79. It could have been it could have been as late as 1980, but I think it was '79 or so. And, you know, we were required to use steel shot in certain as I remember certain parts of the Texas coast, maybe it was coast-wide on the Texas coast, but the whole state wasn't steel shot only at the time. And so I remember hunting down there and when we would, you know, check out, all the biologists and the folks running the hunter check stations would ask us questions. You know, how many shots did you fire? You know, how many birds did you cripple or lose? Things like that. And it was gathering data on the effect of steel shot, right, in comparison to lead shot. And that was the first time I remember it, even being you know, quoted in one of the Parks and Wildlife magazines back at the time, you know. And that was really my first exposure to it.

Todd Merendino [00:07:49] And then from there, you know, actually, when I went to school at Texas Tech in the early 1980s, steel shot wasn't required statewide. That requirement didn't come on until a little bit later, mid-1980s, I think. And that's when, that's when, that's when something when the whole country went steel shot. So, probably at that point, kind of late 70s, early 80s, when I became aware of it. Kind of more on a personal level, right, as a hunter and a college student, not for much as a wildlife professional. But when I moved back to, when I, and of course during that time, you know, there was a lot obviously, that was a lot of controversy, right, is steel as effective as lead? And what's the crippling rates, and compared to, say, the lead shot loss and all those kind of things.

Todd Merendino [00:08:38] But professionally, when I moved back to Texas in '92, the Texas Parks and Wildlife Department was doing, you know, they were collecting gizzards from mottled ducks, doing, doing lead shots, lead shot analysis, and that was obviously in the job I had, that was one of the activities I was a part of. So I think they started doing that in the mid- in the mid-1980s or so, probably a little bit before that.

David Todd [00:09:07] And what kind of impacts did you see on the birds from the lead ammunition exposure?

Todd Merendino [00:09:16] Yeah. It's kind of hard, like if you're looking at a duck, right, just any old given birds you shoot or whatever, or you know, birds that you harvest. You probably don't notice much. You know, you just don't, you know, it's not like they're, you know, I mean, we've all, you know, we'll harvest waterfowl. Some are fat and some are skinny. You know, it kind of all over the map at times. But from the standpoint of having a bird in the hand, unless it was, say, extremely emaciated, you know, extremely emaciated for some reason, you probably wouldn't notice any difference. And even then, you wouldn't know why they're emaciated, right? Maybe it had some other wound or some other underlying condition, outside of lead shot ingestion. So it's really hard to tell from a bird in the hand. And, you know, you can't really, you know, if you see, you know, again, you see you're driving down the, and you're driving down the highway or whatever, you see a pair of mottled ducks in a pond, or off in a ditch somewhere. It's hard to know whether they've, yeah, you don't know whether they've ingested lead shot or not. And so, you know, just from, you know, visually, I guess, holding or inspecting the bird. And so that's why, you know, they started, you know, with with the gizzard analysis that he's right. Birds, birds, you know, ducks eat seeds, right? Small, you know, small gravel, the, you know, to grind up, you know, grind up food items in their gizzard. So so birds are looking or, you know, these hardened objects, right? Whether it's seeds or

small gravel. And, you know, unfortunately that's about what a probably a shotgun pellet is, right, to a bird. It's like a seed or any other small bit of gravel, that they would ingest. And so birds, obviously, when they come across these items, they probably don't have any way to really discard them, you know, select well, this is not something I should have. Right? Versus versus the seed or small bits of gravel. So birds, just, you know, probably inadvertently ingest, ingest them as they would any other food or grit-type item.

David Todd [00:11:17] Well so, you, when you were doing these analyses, can you sort describe the process of going out to collect the ducks and then look at these gizzards, and so on?

Todd Merendino [00:11:27] Yeah. And yet and look at these closer to home.

Todd Merendino [00:11:31] Yes, so sure. So, the gizzards were, at least the ones that I was involved in, and I think Parks and Wildlife still does this, I think in concert with Fish and Wildlife Service. But but obviously, you know, the there's there there, there were several, you know, state-owned wildlife management areas on the coast as well as several obviously fish and wildlife refuges where hunters on the days that those units are open for hunting, all the hunters check into a central location, and check out through a central location. And so basically all of the birds that get harvested on that, on that piece of property, on any given day, are you know, observed by a waterfowl biologist or technician with Parks and Wildlife or Fish and Wildlife Service.

Todd Merendino [00:12:10] And in the case of mottled ducks, you know, the, the lead ingestion work started out collecting across a broad range of species. And I don't really remember what all those were. Mottled ducks was one. I think maybe scaup were another, maybe pintails and that kind of thing. But they really started honing in on mottled ducks, just because mottled ducks are here year round, right? Mottled ducks are, you know, non-migratory. So these birds are pretty much foraging in the same wetlands for 12 months of the year, if you will, versus birds coming and going in transit. And so they started focusing really just on mottled ducks. And basically what they'll do when a hunter, you know, brings, you know, brings his bags to the check station to be, you know, so they can record the species of duck and that type of stuff. If the hunter has harvested a mottled duck, you know, they will. They will collect the gizzard from that bird and from there, you know, and then basically once the, once when the hunting season was over, you know, that, you know, the gizzard would get labeled, you know, adult male mottled duck or juvenile female mottled duck, whatever it was, you know, frozen, you know, frozen in a freezer. And then after the hunting season was over, they would obviously get together and they come and they called it, they might have called it a gizzard bee or something like that. Like you would a spelling bee or or something like that where, you know, various, you know, state and federal individuals gathered and they basically cut open and looked at all of these gizzards for shot ingestion. And it's almost kind of like panning for gold, right? You cut the gizzard open. We rinse the contact, the contents into a pan and all the light stuff kind of, you know, starts, you know, starts, starts coming off with the water and comes in the pan in you are left with these hardened objects, you know, and then you can then you can tell whether they're, you know, lead pellets or steel pellets and things like that. And so it's kind of, it's fairly tedious.

Todd Merendino [00:14:10] You know, in some in some instances you can x-ray those things. I can't remember back in the back. It's been a long time since I've been associated with any of that. I can't remember why that wasn't widespread. It may have been cost and some other issues with it. And obviously, this was a way for people to get some kind of hands-on training,

get their hands on some biology, if you will. And then that's kind of the method that they used. I think they still use that today. I'm not sure. But the method was pretty consistent. And then once the, once you kind of had your sample down, you know, here's, you know, there's 8 pellet-type objects in here and you would look well, you know, six of them were lead and two of them were steel or whatever that was. And then at the end of the you know, at the end of looking at all the gizzards, you would come up with you know the percentages of how many birds had lead or versus steel and the number of pellets and that kind of thing.

Todd Merendino [00:15:02] You know with the lead obviously, lead is pretty soft. And so, you know, lead can get ground down in the gizzard pretty quick. So a, you know, if a bird had ingested say quite a few pellets, you could probably fairly recently, you could probably find those in a gizzard or at least parts of them. If a bird ingested a, you know, one lead pellet and maybe a month later you could cut that gizzard open for analysis. The lead may have already been ground up and absorbed. And so, you know, you can't use or certainly some error in it, but that's how they did it.

David Todd [00:15:41] Were you also doing bone analysis, wingbone-related research.

Todd Merendino [00:15:48] Yes, sir, they did. Yeah, they did. I wasn't really into too much involved in that. That was part of the part of the manuscript that we published. But that was kind of done by different folks that did that. And that was a way to again say, you know, here's obviously if a bird has lead, a lead pellet in its gizzard, you, you certainly know that it has ingested lead. But if the pellet has already been ground down to nothing and absorbed, the only way to tell that is through other means. Right. And that's where the bone the wingbone lead came in.

David Todd [00:16:22] So it sounds like when you're panning for gold, you were finding both some lead pellets and also some steel pellets, because what I remember, the nontoxic shot regulations were adopted in Texas in like '83, and

Todd Merendino [00:16:41] Yeah.

David Todd [00:16:41] And then nationwide in '91?

Todd Merendino [00:16:44] Yeah. Something like that. That is correct.

David Todd [00:16:47] So I'm curious, you know, as you were looking at these gizzards and looking at the data coming through, what sort of impact did you see from the adoption of toxic shock?

Todd Merendino [00:16:58] Well you get a replacement, right? I mean, the ingestion rate probably isn't, doesn't really change, right? If birds were ingesting, say, 100 per cent. If, if prior to steel a hundred percent of the pellets you found were lead, then after the adoption of steel, you're going to start finding this mix, right? Of of lead and steel, right? Because as I remember the ingestion rate overall of birds with pellets, of some variety, whether it be steel or lead, was pretty similar across all of the years. But with the with the lead shot percentages, what goes down over time, right? And, you know, the steel probably breaks down a little bit, obviously quicker in the environment, all that kind of stuff. So so overall, the overall ingestion rate of pellets, that certainly most likely declined and even the percentage of birds with shot, you know, that lead essentially gets replaced by steel pellets.

David Todd [00:17:58] The...

Todd Merendino [00:18:03] No, go ahead.

David Todd [00:18:05] Well, I'm curious, I've heard, and maybe you can tell me if this is true, that the lead can persist in the marsh, you know, long after it's been fired out of the gun.

Todd Merendino [00:18:20] Yes, it can.

David Todd [00:18:21] That there's sort of this hangover effect. Are you seeing that or not so much?

Todd Merendino [00:18:26] You know, I don't. Well, I mean, so. Yeah, so you look at kind of you know, and you know, I've been kind of removed from this portion of the biology for several years now. But the, obviously birds are still picking up lead. I think the last that I knew of the lead ingestion rate in mottled ducks just from, you know, visual examination of pellets in the gizzard, was still probably somewhere between 5 and 10 percent. And so and it just kind of flatlined, is that right? You think in theory, well, it's going to go to zero, right? At some point time it's gonna be gone or that or that kind of thing. But it doesn't, it kind of persists at some certain level. And so the question, you know, and so there's some residual amount of pellets out there. The birds are either picking up the residual pellets, right, from, you know, just, you know, years and years of hunting the lead shot or, you know, birds are picking this stuff up in areas where lead shot is still being used. Right? On other, on other species. I don't know what it would take to really, really key, to key down into that and pull that out. But, you know, the lead shot rate dropped fairly quickly over the first 10 or 12 years, if you will. But since then, it's just kind of bounced around probably, you know, 3, 4, 5, 7 percent. Kind of bounces around. And there is some of that, too, is a function of, you know, where mottled ducks live. Some of that is a function of, you know, overall, most of the studies have shown that hunter-shot birds are usually not, in as good a condition as the sample of birds at random. You know, so, not, not that. You know, not that all birds that you harvest have some kind of affliction, if you will. But, you know, if you randomly, it, depending on what you were monitoring on hunter-shot birds compared to just birds you went out and randomly collected across the landscape, there's probably gonna be differences in that. Right? There's a little bit of bias in some aspects of using hunter-shot birds for certain types of analysis.

Todd Merendino [00:20:47] So some of it could be that. Right? You're getting down to the birds you're harvesting are really those that are the most vulnerable. So you're never, never going to go to zero, right? It's just never because the birds you're collecting aren't randomly. You're you're not collecting those birds at random. You're relying on a hunter to harvest that bird.

David Todd [00:21:06] Right. Right. I think I understand.

Todd Merendino [00:21:09] Yeah. So, yeah. And so, you know, if you if you just, you know, say randomly, you know, snuck up on one hundred mottled ducks on the landscape and harvested them and examined their visits for lead, versus a hundred mottled ducks, that's say, hunters brought to you through the check stations. You're probably going to see differences just because those are hunter-shot birds. And, you know, maybe they've got some underlying conditions that makes them a little more vulnerable to harvest. Right. Whatever that is. You know, they're more, maybe they're not in as good a condition. So they're more likely to be gregarious and want to, you know, come into a decoy spread. Right. Hey, there's a bunch of

food there. That's where I need to eat versus a bird in really good condition might go, I don't know about all that. Let me just go find my own place to eat. I'm good for a while. And so there's you know, we kind of put it in those terms, but.

David Todd [00:21:57] Do you think that some of the persistence in lead is because of hunting for other species? I think you'd mentioned something about that earlier. You know, maybe dove hunting or other uses of lead.

Todd Merendino [00:22:12] Yeah, it's certainly possible right there. There's certainly, I mean, there's a tremendous amount of dove hunting that goes on. Right. And that would obviously be a likely candidate versus, you know, for instance, I don't necessarily think that hunting waterfowl hunters are bootlegging lead anymore. Right. You know, steel shot has really improved. The ballistics of it are really good. Most people are most of the older folks that really grew up shooting lead. They probably don't hunt. That cohort's kind of aging out, right, or aged out. And now you've got folks like my son who's 23, all he's ever known is how to shoot steel shot. Right.

Todd Merendino [00:22:52] So I don't think that that would be a necessarily a big, tremendous source that you would ever be able to detect. But when it comes to hunting other species, I don't know. I don't know anybody, I mean, doves obviously - tremendous amount of dove hunting in Texas, probably parts of Louisiana as well. You know, then you have questions of, well, how? What is the likelihood of mottled ducks being in the environment where dove harvest occurs, right, where they would even be exposed to that, right, across the board? You know, if you're, for instance, if you're dove hunting in a cow pasture somewhere, right. Otherwise, an upland cow pasture along the brush line or something like that, mottled ducks don't feed in that kind of environment. Right? And so, you know, there's probably not, probably not a source. But, you know, if you're if you're hunting doves, you know, close to what you know, it's just hard to know. It's a possibility. But I don't know that anybody's ever really been able to figure that out, to know if that's where they're still getting this residual 5 to 7 percent or not. And I don't know. You know, that'd be a, that's probably a pretty arduous task to do. Can it be easy to try to figure that out? Because, again, if you take a, you take a, say, size four shotgun pellet, or maybe even six. Right. A lot of people hunt waterfowl with six shot. Doesn't take long for that to get ground down into some disc-type shape that you don't know whether it was a seven and a half that somebody was hunting doves, or whether it was a B.B. shot that somebody was using to hunt geese with, right? Um, it's just kind of hard to tease some of that apart. It's a possibility. I don't know across the board, just personally that I would think that I would think that that's a huge source of where these birds are getting it just because I don't know. You know, when you talk about dove hunting and where it occurs, it's typically more upland. Although there is some duck hunting in rice fields, right? But you know, when it's just hard to know what you'd have to do, you'd have to do a lot, a lot of sampling and a lot of analysis to figure that one out. You know, there is some there is some thought that from just a purely lead, you know, from some of pellets, um, it it's it's hard to know. They just have these, again, you look at, you look at some of the historic, or even some of the places, like most, um, probably state-owned or privately owned or, you know, refuges, those things were hunted long, long before they were refuges and all that. Right? You know, waterfowl hunting's been around for 100 years or better. And so, you know, in theory, there's a fair bit of lead out there in the environment. But over time, you would think that would settle into the soil and that kind of thing. But maybe there's some residual levels of it out there that haven't been covered over in organic matter and all that kind of stuff. So but yeah, it seems to persist at some some level of ingestion.

David Todd [00:26:02] You know, I think I've read that in recent years, there's there's there have been proposals to encourage folks who shoot upland birds, as well as as even big game, with nontoxic shot and I remember as a younger person, I think what you refer to as this kind of resistance to using lead in waterfowl hunting, and it was, I remember as a kid, it just seemed like a really hot-button issue. You didn't want to bring it up. Can you tell me a little about the hunting community's reaction to proposals to switch to nontoxic shot? Why it seemed to be such a controversial topic?

Todd Merendino [00:26:56] Yeah. You. From the water, from the waterfowl perspective, again, from what I guess I'll say, I can remember, right? I was, you know, a teenager then and early high school, even the college like that. And I don't think it went nationwide, like you said, until '91. By then I was working on my PhD research up in Canada. And it was. I just think, you know, when for waterfowl, when the early steel came out, right, I think, you know, people or most people are fairly resistant to change most of the time. Right? We've been doing the same old way. This way works. Let's just, let's just keep it this way. And obviously, when you're told or forced to do something, most people start resisting. Right? Digging their heels down or something. And I think, you know, hunters are no different. Right. We've been you know, we've been using these kind of, you know, these kind of tactics or whatever it is, ammunitions, for for for for years. And now you're forcing us to make this change to steel. And I can remember when the early steel came out, even as a kid, you know, the, you know, the powder was real dirty. Right. Your guns are always super dirty after shooting steel. And I do remember, you know, it seemed like the shells were not manufactured as good from a standpoint of not getting wet, misfires and all that. But I think for the most part in that, and that early on I think was true. And that was certainly some of my perception. And even I think when you're so used to hunting with a certain type of shot like, if you switch and you're not as effective, right, then it must be the ammunition. Right? It certainly can't be the shooter. Right? So, you know, and I just think you have these, I just think you have these kind of mental blocks you have to get over. But, but obviously in the last, you know, 20 to 30 years, you know, steel shot has really improved. The ballistics of it are really good. And, you know, I think, you know, and I think you've again, you look at, you know, steel shot was nationwide in 1991. You know, if you were, you know, let's just say five years old in nineteen ninety one, you'd never really shot a shotgun in your life. It's kind of like this cohort. It's like this older cohort of people that kind of had this, you know, lead shot / steel shot thing. That's that's probably kind of taking care of itself. Right? Just in hunter attrition and that kind of thing versus, you know, I guess you have this millennial group of hunters, if you will. You know, folks born in, say, the mid-1990s, all they've ever known is steel shot. And, you know, versus bismuth or some of these other non-toxic things. But that's all they've ever known. And that's just what they have to use. And they've obviously adapted to it.

Todd Merendino [00:29:31] But to me, personally, I mean I shoot steel when I hunt doves. I just I always have I don't have to worry about, one thing is I don't like you. I'm not one of these big, you know, different shots and different load kind of guys. I mean, give me give me a one and an eighth ounce load, of two and three quarter inch sixes and you know, that's all I need. You know, I can shoot an elephant at 20 yards with that, it's that kind of deal. You know, I mean, it's just it's just one of those things where I like consistency in what I shoot. I'm not one these big guys while I'm shooting longer shots or shorter shots, or doves or waterfowl, you know.

Todd Merendino [00:30:09] And then I just, let me be consistent. That way I can, you know, pattern my gun. I can swing my gun. I can get my mechanics consistent. And that's kind of what I've what I've tried to do. And I think that, you know. Again, with the steel shot stuff, I

think a lot of that has moved itself out. Steel is certainly a very effective load. I mean, I hunt doves with it. Mainly because I don't want to have to worry about switching shells out? And next thing I know, I went duck hunting and I've got a box of lead shot in my bag. Right? That happens to people. Right. You know, that do a lot of crossover type hunting, if you will. I don't have to worry about that.

Todd Merendino [00:30:46] I think steel steel is faster than lead. Dove fly pretty fast. Those people swing shotguns pretty slow. I think in some ways, shooting steel at certain, at doves, would make folks have better success. Just because I think the speed of the steel can make up for, say, some of the poor mechanics that folks might have, and and that's that's just what I religiously shoot, is steel across the board.

David Todd [00:31:15] OK. Simplifies things.

Todd Merendino [00:31:18] You know, and so, when it comes to say some other, you know, other species. Say, you know, steel bullets from deer and all that, or I just I wouldn't have any kind of thoughts on that. I don't. It's just not something that I deal with, I guess.

Todd Merendino [00:31:32] But, you know, for the average, for the average bird hunter, right, whether you're, you know, shooting quail or shooting doves or, or certainly, you know, obviously waterfowl. You know, I think you know, I think you've you just, you know, shot, shot, steel shot. The appropriate load, whether it be probably something like sixes, is that you you have to have some really good results that you'd be pleased with it. You know, I hear, you know, we went through, we went through a real neat shooting workshop back in the late '90s when I was at Texas Parks and Wildlife. But Tom Roster. I don't know if you've seen or heard his name, but when you when you see the chart on the back of a shotgun shell box, he shows this is what ducks you're supposed to shoot at these range with this kind of shot. Have you ever seen that?

David Todd [00:32:20] I've heard of him. He's a great shot.

Todd Merendino [00:32:23] Yeah. Tom Roster's the guy that came up with all this ballistic stuff. Right. So we were fortunate back in the late 90s, might have been early 2000s to go to a workshop where, you know, he was you know, he was going through this stuff. And I and I will admit I will certainly admit I was like, man, I have been hunting my whole life, I know everything there is to know about shooting a shotgun. I know all the stuff. And about, I don't know, an hour into the course, I was like, man, I'm not even smart enough to ask a question here. This man knows what he's doing. And so he put basically. He put us through. Yeah, we we we did some classroom stuff. Then we went out in the field and we shot a pretty simple, you know, he just said, bring your shotguns, bring the shells you normally shoot. Blah blah blah.

[00:33:04] And so he put us through this workshop where there were probably 40 of us there and we were shooting trap going left to right at 20 yards. Pretty simple shot, right? You knew it was coming and it wasn't like sporting clays, it was like a trap where you say pull, he says it's going to come out here, it's going to cross your 20 yards, right. There were 40 of us and we went through this line. We got to shoot eight targets. Didn't know what we were doing. He just said here, you're going to shoot 8 targets. Everybody shoots. You said if you get six or more get back in line. There were five of us that got back in line. And then we went back to 30 yards and did it again. And I was only one one standing at that point. And I went all the way back to 50 yards before I didn't break the required number. And basically what he was trying to get us

to learn was that most people can't hit anything beyond 30 yards. And so because of that, you know, a shot shell like a six or whatever that has plenty of pellets in it: that's what most of us need to use. Right?

Todd Merendino [00:34:14] Very few of us are crack wingshots and 50 yards, regardless of the stray one that you do get. And so, you know, when you think of longer shots and things like that. I think that's where some of the lead/steel came in. People thought they were killing birds a long way out, and all that kind of stuff.

[00:34:29] It's been, it's really interesting that, you know, to know that to know that you could again, most of us. And when I did it, when I did it again, I'm not bragging. I was in line with the folks that if I was hunting with, and we had one shell left, I would have gotten them to shoot it. They were that good a shot. But, you know, just these little simple shots, were like, that really makes you start thinking. And even things like distance estimation. Right. You, you shoot a bird out there: man, that was a nice, solid 45- yard shot. You pace it off. It might be 20, 30.

Todd Merendino [00:35:00] You know, just kind of mentally trying to adjust yourself to shooting and harvest and it was a really cool deal.

David Todd [00:35:09] So, so, hunters, when they were being presented with the choice of steel or lead, they were, they were maybe thinking that as they shifted the steel that they were missing because of the steel and it may have just been the distance.

Todd Merendino [00:35:26] Yeah. And plus that plus the thing with steel too. There was a lot of thought that steel, since it was faster. Right. And it doesn't. It doesn't. But it doesn't. It doesn't deform like lead. Right. That, you know, steel shot was getting through these birds quickly, right? And so birds were, you know, birds were basically, birds didn't know they were hit. Right. They didn't. You know, they'd flutter out, you know, they kind of fly off a hundred yards or so and all of a sudden fall dead. And I certainly have seen that over the years. I don't seem to see it much more. But, you know, the where there was just you know, and of course, your first job is when I was shooting my old lead shot, that wouldn't have happened. Right. That thing would have been floating in the decoys kind of thing. But you know, the way those pellets kills by hitting vitals, not necessarily by, not by shock. Right. You know, the spine, the heart, the brain, those kind of things. Right? And so that's what you have to hit, whether you're shooting lead or steel or whatever you're shooting. And so it really comes down to a function of where you're hitting birds, how your gun's patterning and all that. Versus, you know, versus the shot versus the shot itself. And obviously, you know, we've all been shooting steel for waterfowl now for, you know, 30 years or better. And you don't really hear much about that anymore. You just don't you just don't hear much about it in the waterfowl community. Obviously, in the dove community, its a big, you know, it's been a topic of debate. Right? You know, should dove hunters be required to shoot steel and all those kind of things? And that still kind of, still kind of rages on. Seems like it's it's out there.

David Todd [00:37:06] I see. So I just wonder if we could kind of circle back to this riddle about why lead may have been so persistent in the environment. And I'm curious if you think there's any role for the fact that there's been kind of a trend of reduced acreage in wetlands that, you know, there's been development and wetland loss, and so there's just more hunting going on in more restricted areas.

Todd Merendino [00:37:41] Well, there's been some talk over the years. I guess if you flip the clock back on habitat a hundred years. Right. There was certainly way more habitat around

here then than there is now. And as habitat has shrunk, you know, some of the, we've certainly lost some really good wetlands, we've lost some marginal wetlands. But obviously, you start, you know, winnowing down, if you will, to maybe places that have been historic wetlands. Right. Maybe think of some of the coastal refuges or state WMAs or maybe even a private hunting club. Right. That's been around a long time. That's, you know, still kind of in its state that it was a hundred years ago. So those places have obviously, you know, were hunting way back when and have continued to hunt. So, yeah, there's you know, the habitats probably become more, you know, more more concentrated in that regard, which obviously lends itself to. Well, the birds are, the birds of today are, you know, say almost more concentrated may not be the right word, but having to utilize, say, the most persistent of the habitat, that's been around for hundreds of years, right? Then they're more likely in those places were probably hunted and have been hunted the longest. Then you know, the probabilities say, well, yeah, that's there's, certainly it's had some kind of role in that.

Todd Merendino [00:39:07] You know, and I think there's been some talk too looking at, was the ingestion rate in mottled ducks higher, say in drought years versus really wet years, because then, you know, if you look at the Texas coast in a wet year, right, there's water, you know, pretty much scattered across the you know, across the landscape. Individuals can hunt, you know, a lot more different places. Whereas in a drought year, you, you're kind of back to these historic wetlands and marsh areas that are typically always wet. And so obviously, hunters would have hunted them in good, you know, when it was wet. Also hunted them during drought as well. So in theory, some of those wetlands would have, you know, more more elevated levels of lead. I don't know if anyone has really looked at that real close or not to really see if that, if that's true or not versus well, it kind of makes sense that it could be. But I don't know if anyone has really, really dug into that much.

Todd Merendino [00:40:01] But yeah, certainly. You know, you take, birds, you know, given the, you know, given habitat loss and those kind of things, that it makes sense that wetlands that are persistent, that persist, natural basins certainly would have been hunted for longer, you know, longer periods of time.

David Todd [00:40:27] So I think we have talked about waterfowl, mottled ducks and even dove. Did you ever see or hear of questions of sort of collateral damage outside of waterfowl? Whether they were, you know, raptors or scavengers that might have been picking up on this lead because they were feeding on the birds.

Todd Merendino [00:40:52] Yeah.

David Todd [00:40:52] Birds that are being killed.

Todd Merendino [00:40:54] Yeah. I mean, you hear that, you hear that in other things, too, right? Birds, you know, scavengers picking up. I don't know. You know, fish that swallowed lead, you know, lead sinkers and things like that. I'm sure those, those, probably those, probably those things maybe, you know, probably do occur. Right. Not, not, not to say that, you know, say a bird's got you know, bird's got lead in his gizzard or maybe even lead, you know, concentrated lead in some other tissues, body, in bones or other tissue, whatever that may be. And a predator eats that. Right. There's certainly probably the likelihood that that, you know, obviously that that transfer of concentration could occur. I don't know to what extent, I don't know what, what extent that is to whether that would be a significant impact on that species as maybe opposed to a isolated impact of that individual. You know, it's just, I don't know. I would say I'm sure it happens, David, but I don't know that it's. I'm trying to

think. Bald eagles, for instance, eat a lot of waterfowl. Right. And so. You know what percentage of, you know what percentage of say, mottled ducks there have lead in the gizzard or tissue or whatever, and what's the likelihood of that one being eaten by a bald eagle, or enough of those being eaten by a bald eagle?

Todd Merendino [00:42:22] Really cause these kind of, kind of accumulated impact. I don't know that would certainly be a certainly be a pretty good undertaking, I think. I'm sure there's isolated incidences of it. And, but whether that's an impact to, say, bald eagles and buzzards, or things like that, I wouldn't, I wouldn't know. I wouldn't necessarily think so, at scale, at least on the Texas coast.

David Todd [00:42:51] And just more sort of context for us. Maybe we can zoom out a little bit. We talked, you know, pretty precisely about waterfowl, mottled ducks and the lead in their gizzards. And what do you think about the, especially back in the peak days before the lead was phased out, was this a significant source of mortality and sickness for ducks or were there bigger factors that you might see - you know, viruses or bacteria or other kinds of disease?

[00:43:36] Yes. Yeah. So. And I can't remember, David, the, kind of where, there were studies done back, I want to say, in the 50 or 60s, I think with one of the I want to say it was with mallards. And where they were, oh, then I want to say it was that, this would've been research done in Illinois. I think in, can't remember, I can do some Googling. Probably send you some articles or some links or names or whatever, but where they basically dosed mallards with different levels of lead pellets, right? Let's feed a mallard two lead pellets. Ten lead pellets. All these, you know, these different trials, if you will, right? Because I think there were, there were concerns, obviously, that they, like you mentioned, maybe in these, you know, really heavily hunted environments, right, where there's just tremendous numbers of lead deposition from shotshells and tremendous concentrations of waterfowl that birds are picking up, this this this lead shot. And they were. And so I think, you know, there was certainly some some reasons to do that. As you kind of expand that. But, you know, and so with that said, I think if you know of things that are. You know, some things are easier to focus on than others, right? So, let's just say you look at a pie chart of what effects duck mortality, right? All different factors. Let's say one of them is lead pellets. You know, hunting in general, habitat, whatever that might be, right? Predation, all these different factors. Some of those things you can control. Right? And some of those things you can't control. And so, um, you know, on some of these things that are, that are impactful or potentially impactful, that you can, that you can affect. I think you know that those are, those are obviously things that you should try to, that you should try to impact. Obviously, we could switch from, you know, lead with having an impact, certainly at least at local levels of birds when they did these studies and who who who really knows maybe at national levels. Obviously, that's why, you know, we went we went to steel shot for waterfowl hunting. And in the course of that, I'm sure we have, you know, some some percentage of waterfowl and who knows, other water birds or species have benefited. Right? And so we've been able to make this switch. It wasn't like, well, we can't shoot lead shot at waterfowl, hunting's going to go away. Right? We were able to switch to some alternative source and continue, continue the tradition of waterfowl hunting without, you know, 30 years later, not a whole lot of fanfare. But obviously back when it was happening, it was big fanfare. And so, you know, some of those things you can you can focus on and make changes. And, you know, again, let's just say it's. I don't know, rainfall, right? If rainfall is a big driver of waterfowl distributions whatever you can't really impact that much, right? You just have to deal with it. And so but you know, some of these things, hunting regulations, steel shot, lead shot, all those kind of things, you can make some tweaks here and

there to, you know, to be more beneficial to the resource and still benefit, you know, hunters. Those are, those are certainly worthy decisions to make.

David Todd [00:47:04] That's a really interesting perspective. So, so much of, of wildlife and habitat, are sort of beyond most people's control, and of course, it does put more focus on the things that are done, you know, through regulations, you know, both for support and opposition.

Todd Merendino [00:47:27] Well, yeah. Yeah. So even I mean, even like with mottled ducks? Right. [00:47:30] There's a lot of concern over the mottled ducks. You know, the, you know, the habitat is certainly declined from where it was historically, due that, you know, urban sprawl and, you know, changes in agricultural practices and sea level rise and all those kind of things. And, you know, if you look at where mottled ducks live, man, they, those birds fight a pretty good battle every day. [21.1s]

Todd Merendino [00:47:53] You know, and so you throw in, you know, you throw in hunting and some other things and you go, you know, there's there's just a lot of concern about them. But you're look at, well, you know, I don't know. I mean, I'm not a I'm not one of these waterfowl hunting purists, I guess, if you will. I mean, I've certainly harvested my share of mottled ducks over the years. And I tend to tip my hat out now more than I did when I was younger when they go by, you know.

Todd Merendino [00:48:17] But I certainly don't begrudge anybody that harvest one when they have the opportunity. But from a, you know, from a perspective of let's just say, of course, our bag limit's one, right? It's not, you know, but if you if you reduce that bag limit to zero, what kind of impact is that going to have for mottled ducks? You know, in reality, probably probably not beneficial to them, right? Hunting is not a significant, probably a significant source of their mortality, right. You know, there's a lot of thought that by, you know, by you know, say, you know, hunting species, right. People tend to manage habitat for those species. Right. Which is good. Not just for that species, but a lot of other species. Right? But whether you are on your own private lands, or on public lands. And so but, you know, a lot of times hunting is the one thing we can control, whatever those parameters are. Right? How long the season is, how high the bag limit is. You know, we can make those tweaks.

Todd Merendino [00:49:14] [00:49:14] But if the biologists all of a sudden said, mottled ducks in Texas, we need to double the amount of habitat for mottled ducks on the Texas coast. Where do you even begin, right, to do that? You've got to have places where you can do that and willing landowners, or state or federal areas, money. All these things. Right? [17.9s]

Todd Merendino [00:49:32] But, you know, there's certain things that regulatory-wise you can control. And that's true with any species really. But so when you,

Todd Merendino [00:49:41] [00:49:41] You know, mottled ducks are, mottled ducks are pretty persistent on the landscape. You know, they don't, I always joke that mottled ducks don't need much, but they need something. Um, you know, you see them in ditches. You see them in little ponds. Right? [13.3s]

Todd Merendino [00:49:54] [00:49:54] There's a really interesting, I don't know if you've traveled the 59 corridor much, but right there at Williams Way in Richmond, where, they're, you know, they're kind of getting on 59, there's there's four wetland retention ponds in each

corner of the intersection right there. And for the last three years there has been a pair of mottled ducks raising a brood on one of these wetlands. [20.4s]

Todd Merendino [00:50:16] [00:50:16] And, you know, it's just again, those birds, they need, they just, they need habitat. You know, we, they need, you know, they need kind of across the landscape, right, wetland basins, grassland cover. And when you look at the things out there on the landscape, they've got a pretty heavy lift. [19.9s]

David Todd [00:50:40] Well, I really appreciate your time today. I feel like we should probably try to wind things down, but I'm curious if you if you have any closing thoughts about mottled ducks, and waterfowl in general, and what conservationists can do, whether it's the regulatory kind of approach you know, with the shot controls or maybe through protecting habitat or other means. Is there anything from your many years of working on this that comes to mind.

Todd Merendino [00:51:13] Yeah, I think yeah. To me it's more of um, it's you know, it's probably been it's probably been that way through time. Right. This kind of a, I don't know, an awareness of what you know. In this case, I'm biased towards waterfowl, right, because that's that's what I do for a living, I guess, and I always enjoy. But, you know, I guess an awareness of the amount of resources those birds need. It's not you know, it's not just, you know, birds come, birds have always, they come south for the winter. Right. And they fly back north. And, you know, these these birds are, you know, migratory waterfowl start showing up in Texas in late August or early September.

Todd Merendino [00:51:58] Right. You know, mostly blue wing teal, but pintail start trickling in and um birds keep arriving, you know, arriving, arriving, arriving. And then, you know, birds start trickling out about the end of January, 1st of February. And then you've got this big push of birds that comes back across the Gulf from Mexico and you know, Central, South America kind of thing. And those birds are traveling through in March and April. So, you know, waterfowl in general are on the Texas coast for a long time, September, probably through April. And you just don't really think of that. Even as a hunter, it was hard for me to think of that. I think of waterfowl from a couple weeks in September for teal. Let me let me let me have my 70-day hunting season and then everybody's happy again. And that's not really the case. Right. Those birds are here for long periods of time. They need a lot of habitat. They need a lot of food. You know, whether it's in the form of an agricultural grain or a moist-soil wetland plant or an invertebrate, and that kind of thing.

David Todd [00:52:56] And I just think we, the numbers of waterfowl that we have, and that we, you know, try to support, sometimes I think, you know, the average person may not understand. It's not just about my hunting club or where I hunt. Right. It's bigger than that. And you need a lot of habitat at the landscape scale if you're going to have a lot of, a lot of waterfowl, you know.

Todd Merendino [00:53:22] And mottled ducks. Obviously, they're here, year-round. It's dry, it's dry. It's wet, it's wet. If it's hurricanes, it's hurricanes. They just kind of suck it up and go with it. And that's what they have to do. And they. But yeah, that would be the big thing. Just an awareness of the amount of habitat that's really needed for these birds and to hold birds and, you know, distribute birds across, across the landscape.

Todd Merendino [00:53:49] I would add that, David, you know, there's there's certainly better experts out there than me on this issue. I don't know if you've talked to.

Todd Merendino [00:53:57] I'm gonna give you three or four names of people to contact.

David Todd [00:54:00] Yes please.

Todd Merendino [00:54:00] That are certainly a lot that are certainly a lot more engaged since I got, since I've been at Ducks Unlimited. It's 12 years now. I really haven't been a part of this. Right? So I'm kind of drawing a lot of my past experiences and knowledge. But there's three or four individuals that Parks and Wildlife and Fish and Wildlife that have continued with the with the lead ingestion stuff and different research parameters and maybe even some of the other aspects of where these birds might be getting some of this lead, you know, whether it's just kind of naturally occurring in the environment. And because these birds are here year round, they just kind of accumulate, you know, they accumulate over time. Right. And so I can I can email you those names and their contact info, and I would certainly suggest you reach out to them.

David Todd [00:54:47] Yes, please. I'd love to.

Todd Merendino [00:54:47] For the current, the current state of the state. Most of them are probably too young to remember some of the historical stuff I gave you. So maybe that's a good mix. But I'm not there. But they're certainly aware of stuff from where I would have left all until, you know, up until today. And now a lot more in touch with different research on those birds and again, a different type of you know, they're I'm sure they're still doing the lead shot stuff, ingestion in the gizzards, and then they've probably spun off onto some other stuff as well. But.

David Todd [00:55:22] Well, that would be a great help, but I look forward to visiting with them. And I really enjoyed talking to you too and learned a lot. So thank you very much.

[00:55:32] Yeah, yeah. Same thing, David. Reach out, reach out, reach out. Any time I'm usually not too bashful about telling you what to think. And, you know, I mean, you know, some of. I mean, I just you know, I'm very fortunate to be able to you kind of started off this interview, right, how I got into this. And I've been very, very fortunate and blessed to, from what I grew up doing, hunting and fishing, right, to to be able to work first, you know, worked at Texas Parks and Wildlife for 15 years and then transitioned into a role at Ducks Unlimited, done research in Canada and Texas and all that kind of stuff. And I've been very fortunate to be able to work with birds, specifically waterfowl, that just as a kid, right, was really what just drew me, drew my attention, right? That was kind of, and that's just, I just love, love being out the marsh with ducks and loved duck hunting and to be able to do what I've done as a careers has been, it's been really, it's been really, really rewarding. Right? I feel very fortunate that I've been able to do that.

[00:56:34] And, in some way, in some ways, and to me in some ways, as a hunter, right, give back right through not just through buying hunting license or being a member of Ducks Unlimited, things like that. Right, which most, you know, most people can do. Right? That's how most of us can, that's how most of us can give back and support conservation, conservation. But kind of as a career, you know, either manage habitat or build habitat, or work with hunters or whatever, that's been really, really, really rewarding for me to do that.

David Todd [00:57:01] Well, I think people appreciate what you've done. You know, you've helped a lot of us in the bigger community. So thank you.

Todd Merendino [00:57:12] I kind of always say, well, I mean, the birds will tell us it's important, right. We need to go out to a project where there's a bunch of birds and go, man, I helped, I was part of that in some way. Right? I was part of that in some way. And that's really, it's really, really rewarding. And those birds appreciate that.

David Todd [00:57:31] Well, I hope they do. And I know that we do. And I appreciate your time today. So, thanks very much, Todd.

Todd Merendino [00:57:38] Yeah, and David, so I'll send you those names of two or three other folks that work with Texas Parks and Wildlife or the U.S. Fish and Wildlife Service, and they'd certainly be better the last 15-year experts than I am, for sure.

David Todd [00:57:53] Well, it all helps. And that would be a big boost. So thanks so much.

Todd Merendino [00:57:57] OK. David, just call any time.

David Todd [00:58:00] All right. Take care. Bye now.