

**TRANSCRIPT****INTERVIEWEE:** Cliff Shackelford**INTERVIEWER:** David Todd**DATE:** July 29, 2021**LOCATION:** Nacogdoches, Texas, remotely recorded**TRANSCRIBER:** Trint, David Todd**SOURCE MEDIA:** MP3 audio file**REEL:** 4063**FILE:**IvorybilledWoodpecker\_Shackelford\_Cliff\_NacodochesTX\_29July2021\_Reel4063\_NoiseFiltere  
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**David Todd** [00:00:03] OK, well, good morning. With your approval, Mr. Shackelford, we plan on recording this interview for research and educational work on behalf of the Conservation History Association of Texas and for a book and a website for Texas A&M University Press, and finally for an archive, the Briscoe Center for American History at the University of Texas at Austin. And that's what we plan to do with the material on our end. But of course, you have all rights to use the recording as you see fit, and we'd make every effort to provide that to you when and how you'd like it. I want to make sure that that's what you understood and that that's OK with you.

**Cliff Shackelford** [00:00:53] That sounds perfect. Thank you.

**David Todd** [00:00:55] OK, well, let me lay out a little bit about what we're doing here, and when and where it's happening. It is July 29th, 2021. My name is David Todd. I'm representing the Conservation History Association of Texas and I'm in Austin. And we are really fortunate to be conducting an interview with Cliff Shackelford, who is the state ornithologist for Texas Parks and Wildlife. He's also an author of "Hummingbirds of Texas", and he's a frequent participant in radio and TV natural history shows. He holds a bachelor's and a master's degree from Stephen F. Austin State University. His master's thesis focused on woodpecker habitat.

**David Todd** [00:01:50] And indeed, he's also closely studied the ivory-billed woodpecker. He's managed to visit a lot of the museums where specimens of the bird are still stored. And, and I think one of the ways that that I was led to him was that I read a wonderful historical summary that he wrote of records of the ivory-billed in the state that appeared, I believe it was in in a 1998 Texas Ornithological Society Bulletin article.

**David Todd** [00:02:23] So with that little introduction, I wanted to just say that we'll be talking about his life and career as an ornithologist in Texas, and his views of the history of the ivory-billed woodpecker in the state.

**David Todd** [00:02:38] So we usually start these interviews with just a question about your childhood, your upbringing, and whether there might have been some early events or influences in your childhood that encouraged you to, to be involved with nature and, and its conservation.

**Cliff Shackelford** [00:02:58] Great. Sounds good. So, so I'll start off by saying that I'm an ivory-billed historian, and in no way do I claim to have seen an ivory-billed. So everything I talk about has been in print, or I've discovered somehow in talking to people. But no, unfortunately I've never laid eyes on an ivory-billed and not many living people today can say that they have either.

**Cliff Shackelford** [00:03:35] So I've been a fanatic for a long time on woodpeckers. You know, at about age nine, I saw a bird. We grew up, I grew up in Dallas and we had family property in Cherokee County about two hours away near New Summerfield. And we would go there and visit and walk around the woods and, and, you know, look at the plants and animals.

**Cliff Shackelford** [00:04:03] And, and all of a sudden this giant bird flew in front of me and landed on a tree and was clinging to the bark, the trunk of the tree and hitched up. And I was like, "Oh my gosh, I've never seen anything like that in Dallas." I mean, it was crow-sized! And I remember running back to the, our little cabin and telling my dad, who was not a bird watcher at all, and he said, "Oh, that sounds like a log God." And I didn't like that at all. I thought, what kind of bird is named a log God, l-o-g g-o-d?

**Cliff Shackelford** [00:04:39] And so when we went back to Dallas, we went to the Preston Royal Public Library, which was a favorite family field trip. And my dad introduced me to one of the librarians and asked, "Can you help this young man find a bird book?" Because, again, he was not a naturalist or a bird watcher. So she took me to the bird book section. And, and this would have been around 19, this was the late '70s, and there was a Peterson Field Guide to the birds of Texas. And she opened it up and there were the woodpeckers, and, and I said, "That was it. There's the bird I saw. And my dad said it was a log God." Well she said, "It's called the 'pileated woodpecker'."

**Cliff Shackelford** [00:05:25] And if you read more about it, which I did years later, one of the colloquial names for pileated woodpecker is "log God", you know, the, the God of the logs, the woodpecker God. And so it stuck to me. I thought that was really cool. Well, when you read more about pileated woodpeckers, you eventually hear about its slightly larger cousin, the ivory-billed woodpecker. And then the literature all said it's extinct, can't find it. And of course, that opens up, you know, this mysterious world of adventure. And, hey, how about trying to find one and learn more about it? And so it just at an early age, became a quest for me and an obsession.

**Cliff Shackelford** [00:06:10] And finally, you know, going through high school, I was always a birdwatcher and, you know, actually my nickname in grade school, in eighth grade, was "Tory". Somebody saw that I carried a Roger Tory Peterson Field Guide and someone thought that name, "Tory", was funny. And so that was a nickname for a short period of time.

**Cliff Shackelford** [00:06:34] And then I went through high school and I had inspiration, great inspiration, in high school. I went to a private high school in Dallas called Jesuit. And there was a biology professor there who was a big-time bird watcher. His name's Bob Lanier. And boy, did we become instant friends and, you know, even later traveled to Peru and then Brazil with groups together.

**Cliff Shackelford** [00:06:57] And so he encouraged me to go to college and he even encouraged me to go to Stephen F., because he knew it was a small enough university that I'd get a lot of attention. And there was an ornithologist there and it wasn't that far from home. And it also is in the range of the pileated woodpecker and former range of the ivory-billed woodpecker.

**Cliff Shackelford** [00:07:18] So I was hooked. I went to school there and, and just the rest is history. I got a bachelor's degree in biology and then went to graduate school and did a thesis on woodpeckers and got connected with Dr. Richard Conner and Craig Rudolf and Dean

Fisher. And they were all in my thesis committee and they were really instrumental in, in learning about woodpeckers in general. And, and that and that's pretty much a summary of my background with woodpeckers. It was a life, it's been a life-long pursuit. And the good thing is you can't learn it all in college, so I continue to be a student of birds and, and woodpeckers.

**David Todd** [00:08:08] Oh, that's that is a great introduction. Thank you. And I am curious, I know that you have pretty broad, catholic interests in birds of all kinds, but it seems like you have a special interest in woodpeckers, and it sounds like especially in these larger ones, the pileated, ivory-billed. What do you what do you put that to? Why is that?

**Cliff Shackelford** [00:08:33] I think that since the pileated was my gateway species, it's what introduced me to this big world of birds around me. I mean, I embrace all birds, and have interest in all birds. But there's just a deeper kinship to the gateway species that brings you into the world. So, so pileated woodpecker, and all of its woodpecker relatives, are what got me interested in birds. And then there's just something about that, that first time I saw a pileated, and how big it was, and how can a woodpecker be that big? And so, the larger the better, I thought.

**Cliff Shackelford** [00:09:10] And so actually I traveled to a dozen different Latin American countries in search of birds. And in all of those there have been different woodpeckers. And I am fond of the larger ones, especially in the genus *Campephilus*, which is the same genus as the ivory-billed woodpecker. And probably the, the, the bird that just made the hair on my neck stand up the most of all those in the genus *Campephilus* was, was the cream-backed woodpecker that I saw in 2016 in Argentina, down in the Chaco part of Argentina.

**Cliff Shackelford** [00:09:51] This is a large, white, heavy white-billed woodpecker. It's black and white with red. It superficially looks very much like our ivory-billed. So I got really tickled when I saw that bird in 2016. And I mean, I couldn't stop looking at it and followed it around. We found a pair of them at Chaco National Park and I was with a couple of buddies and we followed them around and just watched them and they were not too wary. And I, you know, thought, wow, this must have been like what James Tanner did in the Singer tract of Louisiana in the 1930s when he followed ivory-bills around. And I just thought, what a treat.

**Cliff Shackelford** [00:10:34] So, so I am fond of the larger woodpeckers. I think they're just, they're just so cool to be so big and drum so loud and create these big cavities to nest in in a big tree. And, and I'm just, just very fond of larger woodpeckers.

**David Todd** [00:10:53] Well, I love this notion of, of your, your gateway species. It sounds like the first kiss, you know, being smitten. And, and is that something that, that birders often experience or is that something that, that just had meaning for you?

**Cliff Shackelford** [00:11:12] I think that's great. I've never heard of that. That's a great analogy - the first kiss. But I think various people come into the world of nature differently. And I do know a lot of bird watchers that have a gateway species. I have a friend that it was a certain species of tanager, or a bunting, or a warbler, and they saw it and thought, "What is that? And what? There's more birds like that that are colorful and that are different?".

**Cliff Shackelford** [00:11:40] But then there are others that, you know, they, they maybe became a bird watcher because they were, you know, predominantly a hunter. These are my favorite ones because they're out there hunting and there's, there's maybe not a deer coming

by the deer stand. So they're looking at birds that are shuffling around in October, November, near the deer stand. And so I think that's a really cool way - just anybody that goes to the outdoors and has some interest in the outdoors and then the natural development of, "Hey, what are these things around me?" And birds are usually rise to the top with most people because they're colorful. They're, they're very vocal. So they're easy, easy to detect. And you can't go anywhere really on the planet without finding a bird. I mean, you can go to the ice continent of Antarctica and find a dozen species of, of penguins. So you can't escape birds. And that's the beauty of a bird watcher, it's a global fascination.

**David Todd** [00:12:48] That's, it is a great pastime. And for some, it becomes a career. I understand that you are the state ornithologist for Texas Parks and Wildlife and have really become the voice for the state's non-game birds. Can you please tell us a little bit about how you came to that position and what it's meant for you.

**Cliff Shackelford** [00:13:15] Luck and being at the right place at the right time, and knowing the right people, and finding out that a position was opening up, and, and I just applied at the right time. I, I was, had just moved to Austin and the job was based in Austin. So I took another job with a consulting firm. And this Parks and Wildlife position came open within less than a year of me being in Austin. So I, I just, all these stars aligned, I think looking back to, to set me into this pathway that I've really enjoyed.

**Cliff Shackelford** [00:13:53] I've been in this position for almost 25 years. So I started in the late '90s in this position and have been, you know, really blessed to have a job that's full time birds. And it doesn't mean I'm out in the woods, or out in the field all day long. It doesn't mean that at all because a big part of the job is connecting people to nature and responding to, you know, development and, and how will that impact birds? And so, the people component is huge. And so, you're constantly responding to people, reviewing documents, publishing documents, or articles and peer-reviewed papers just to get information out, and, and working with others to, you know, be the voice of birds.

**Cliff Shackelford** [00:14:45] So I kind of think of myself as being the voice for our birds. And, and the thing is, if I don't know something, I know where to go to get it. And I know where the literature is, or someone out there who is, is more knowledgeable on a certain species and I can call them up, kind of like a phone- a-friend on a game show, and get that information. But, you know, 25 years of doing this, you learn a lot. And if your head's always in, in the bird world, you can really gain a lot.

**Cliff Shackelford** [00:15:20] And the fun thing is, I do this, my wife and I are both biologists, and so we do biology on the clock, but off the clock, we also do biology. So our, our vacations are to go to different parts of the country in the U.S., or a different country itself, to, to see a different part of the world, with its different habitats, and different birds that are found in those habitats. We just really find that that's relaxing where a lot of people think, "Well, that's your job, isn't it?" It's like, "Yeah, but, you know, it's a lot different when you're off the clock and you can really enjoy and absorb and learn a lot."

**Cliff Shackelford** [00:16:01] So it's, it's a pursuit of knowledge. It's a pursuit of, of seeing so many different things that is on this great planet of ours. And, and a big part of it is to try to see things before they're gone. And I hate to put it that way. And that's another reason the ivory-billed has been so keen to me, is that it's gone. It's not something I'm going to see, but what's next? And I'd like to help make sure that that next species doesn't become extirpated or extinct. But I'd also like to learn more about these things and see them on my own.

**Cliff Shackelford** [00:16:41] And so, I mean, there are some species that I don't think are going to be around forever - lesser prairie chicken for one. I mean, if you look at the data, they're declining precipitously. And I'm, I feel really blessed to have gone out and seen that species. And I think the, the challenge is trying to figure out how to save the remaining lesser prairie chickens, and that's really difficult when you don't control the land and your agency doesn't control the land where that bird occurs. So they're almost 100 percent in Texas on private lands. So then you've got this giant challenge of how do you make this work - this declining species on private land and make it equitable, feasible, achievable. It's very difficult.

**David Todd** [00:17:30] Well, it sounds like your job, if it was some kind of Venn diagram, there would be a circle that's sort of academic. There's another that's educational. There's another that's advocacy. There's another that, I don't know, is sort of a conservation mission.

**Cliff Shackelford** [00:17:54] Yeah.

**David Todd** [00:17:54] And you're right there in the middle where it all overlaps.

**Cliff Shackelford** [00:17:57] Yes. That's a good way to put it. Those are all different hats one has to wear. And you have to kind of bridge the gap. When you're, when you have scientific information, you can't spit out, you know, meters and slope percentages and things like these technical things when you're talking to a group of landowners. You have to make it more appropriate language that everyone can understand.

**Cliff Shackelford** [00:18:26] So it's, it's almost like two languages. Like you're, you're, you're basically a translator. And, you know, you learn Spanish, but everyone in the audience is English-speaking. And you've got to figure out how to translate everything. So that's a little bit of what my job is.

**Cliff Shackelford** [00:18:44] And, and then also try to figure out how, how people's livelihood can fit in, because that's a big part of this. That's a big part of why the ivory-billed's gone, is the livelihood of humans. What I mentioned about lesser prairie chicken, it's livelihoods of humans. So it's really tough to, to get the, to marry all that together and make conservation work where it also fits the livelihood of people.

**David Todd** [00:19:18] I hear you. Well, you mentioned, in passing, several times the ivory-billed woodpecker, and while you haven't been fortunate, yet, to see it, you've certainly studied it a lot. And, and I was wondering if you could do some of this translation for us and tell us a little bit about what you've learned of maybe the bird's life history. Is there something you can introduce us to there?

**Cliff Shackelford** [00:19:52] Yeah. So the one thing I have been privileged to see regarding ivory-billeds are a couple of different specimens taken in Texas. And the most perfect specimens of them all were definitely Vernon Bailey's two males that he collected near Gaylor Lake, not far east of Cleveland, Texas, where the Trinity River, where 105, Highway 105, crosses the Trinity River basically is where Gaylor Lake is. And, and he collected two male ivory-billeds in 1904. And those are in the Smithsonian, up in Washington, D.C. And I got to see those.

**Cliff Shackelford** [00:20:36] And Vernon Bailey, I'm a big fan of him as well. He was principally a mammalogist, but he was also just a well-rounded naturalist. But he put those

specimens up and they're just really perfectly mounted, prepared specimens at the Smithsonian. So I got to see those.

**Cliff Shackelford** [00:20:55] There's another specimen at the Dallas Museum of Natural History when it was at Fair Park, but it was not on display. There, there are a pair of ivory-billeds on display at the old Fair Park that's been shut down. But those were from a private collection and they came from Florida.

**Cliff Shackelford** [00:21:10] But the one that was collected in Dallas County, Kaufman County line, in 1900, was in the back of the collection. So with my position, I've been able to say, "Hey, I'd really like to get a behind-the-scenes look at these things."

**Cliff Shackelford** [00:21:26] And, and same with the Smithsonian. The ivory-billeds that Vernon Bailey collected are not on public display.

**Cliff Shackelford** [00:21:33] So I've been fortunate to be able to see these things. And, and that really meant a lot to me to see these specimens. Of course, I'd rather see a live bird. But this is a bird that occurred in east Texas, in the east Texas timberland area where you've got big trees, pines and hardwoods. And so when, when settlers came across from the East, going west and hit east Texas in the you know, starting around the 1880s, it got really strong - cutting, logging and removing the big trees.

**Cliff Shackelford** [00:22:10] That, that was that was the first nail, and the primary nail, in the coffin for the ivory-billed throughout its range was, was the loss of big trees, and quickly, the loss of dead trees. They couldn't recover. Big trees don't grow in less than 100 years of some of these sizes, with, with the heart rot that allows the bird to create cavities and so forth. So it's not something that can be replaced overnight with new-growth trees. So that, that was really the major coffin, nail in the coffin, for the ivory-billed was the loss of big trees. A big woodpecker needs big trees.

**Cliff Shackelford** [00:22:52] And so most of our uplands got logged first. This is all before mechanical means of cutting trees down. So everything was cut by hand. So it was a lot easier to be up in the pines, in upland pine trees, in the pine forests to cut by hand. And, and so the bottomlands were, were kind of last. And that's where any surviving ivory-bills would have retreated or remained would be in the swamps, in the backwater areas where there are big trees down in the river bottoms.

**Cliff Shackelford** [00:23:22] And, you know, here come reservoir construction in, starting heavily in the '50s and '60s. And that certainly didn't help because some of the best ivory-billed habitat would be underneath Toledo Bend Reservoir, underneath Sam Rayburn Reservoir, underneath Lake Livingston and so forth. And so I think that was another nail in the coffin for the ivory-billed. So habitat loss by far is the number one reason we lost that bird throughout the southeast U.S., including Texas.

**David Todd** [00:23:59] So I gather they, these, these ivory-billed woodpeckers, were using these old trees to, to burrow in through their bark and find tasty insects. Is that, do you think that's sort of their basic use for those forests? Maybe you can tell us a little more about their, their...

**Cliff Shackelford** [00:24:21] Yes.

**David Todd** [00:24:21] Life history, you know, within the forests that once existed in east Texas?

**David Todd** [00:24:26] Well, from what limited behavioral information we have, foraging behavior by Tanner, James T. Tanner, who was a student at Cornell in the '30s, looking at our ivory-billeds, he determined that they were more of a bark remover. They didn't dig deep into the tree like pileateds do. Pileateds are big excavators. They'll go deep in the wood for carpenter ants and, and other beetles that are deep in the, in the wood, typically dead wood.

**Cliff Shackelford** [00:25:02] But ivory-billeds would be looking for recently dead or dying trees that were getting hit by beetles and they were pretty much just bark-scalers. So they have that massive bill, but it was more of a wedge to remove big slabs of bark off of a dead tree where the bark's already starting to detach and starting to slough off a little bit. And they'd use that bill to remove that bark and underneath would be tasty critters for them - various beetles, various ants and other favorite things that they would eat.

**Cliff Shackelford** [00:25:39] And some of the beetles would be, of course, larval stage. So not thinking about the big hard shell with legs and wings flying around: these would be looking more like slugs, white slugs that are juicy and tasty, full of protein. And they were really after all of that. So they would have to wander. If you're a bird that needs recently dead or dying trees, the ivory-billed was pretty much a wanderer. They had to cover large home ranges in order to find areas that may have gotten flooded, maybe by a beaver, created a little backwater area and killed the trees. Or there might have been a little spot fire and you got dead trees. Or there was a, some other disturbance - a wind storm or hurricane.

**Cliff Shackelford** [00:26:29] These, these things all create dead, dying trees, which the ivory-billed seemed to be really keen to and focused on. So we've eliminated not only these larger trees, but we have the wrong opinion of fire in most cases. I mean, certainly we're, we're correct when we're worried about our home and our barn burning up. But the woods, that's a different story. And we have, we have a hard time grasping the role of fire in the landscape.

**Cliff Shackelford** [00:27:04] So beavers, you know, a lot of people want to eradicate beavers. They, the beaver is the original corps of engineer biologist, creating all these wetlands that, you know, the wood ducks needed, and the marsh wrens needed, and the woodpeckers needed from the dead, dead and dying trees from the water backed up. And so those little ponds are great for herons and egrets and, and, but when people have problems with beaver, they try to find a trapper and get them out of there. And actually, some areas we have been beaver-free for a long time and they've slowly moved back in, in the last couple of decades.

**Cliff Shackelford** [00:27:43] So I think our perspective of how the wood should be is, is a little jaded or tainted, and in a lot of cases, just flat-out wrong. But the big one is that, that the only good tree is a tree that you can grow and harvest quickly and and get it on a lumber truck. And I mean, there is a role for that. But we can't think of doing that, you know, 90 to 100 percent of the landscape, because then you've got issues with wildlife and not just with woodpeckers, but if you're a hunter, you realize that you need big woods for a lot of the species you're hunting. If you're a bird watcher, same, same thing. And if you're, if you like botanizing, and you want to see trees get to their maximum size, you've got to leave a little bit of nature. And in my case, I'd say leave a lot of nature in its natural stage and in its climax stage so you can see what the community should look like at an old age.

**David Todd** [00:28:50] Well, to thinking a little bit about this ivory-billed, did it have, you know, a single mate, was it monogamous, was it, sort of promiscuous? Did it have multiple nesting cycles each year? Was it more sporadic? What, can you tell us a little bit about its reproductive side?

**David Todd** [00:29:15] So Tanner, again, Tanner was really it. We have most of our information from what Tanner did when he basically lived with ivory-billeds for a few years and studied them. And he did notice that they were in mated pairs and that they had a low reproductive rate, that they would typically have just one or two young and they might not breed each and every year. You know, larger birds typically need a little longer to figure out how to be an adult bird. And so ivory-billeds had a low reproductive rate and a slow reproductive rate. So, you know, for losing ivory-billeds to whatever cause, they were just not pumping out enough individuals. They couldn't. They're just not made for that.

**Cliff Shackelford** [00:30:06] California condors, another one that, you know, we've realized that, that bird just, you know, for example, might not be eligible to breed till it's several years old. There's a lot of larger species like that. They might not be in reproductive readiness until they're four or five, six years old, some species. So that's a big problem if you're on the decline and you've got to wait that long. Where, whereas if you're a small passerine, like a warbler or sparrow, you're ready to breed that next breeding season. You're, you're one year old, and you're already a mom or dad.

**David Todd** [00:30:45] That's really interesting, so that, that can really cripple the recovery of a bird that's in trouble. It's a pretty delicate balance.

**David Todd** [00:30:55] Do you have any idea of how big a population the ivory-bill might have had prior to the changes in the forests - the logging and removal of these old trees?

**Cliff Shackelford** [00:31:09] Yeah, it pretty much had a southeast US range from, let's say, around the Trinity River, maybe getting a little bit west of there. Let's just say the Trinity River all the way east to the Atlantic coast. It would occur in, in that range and going north up to the Mason-Dixon line for sure, and up the Mississippi River up into barely Illinois. And so it was pretty much restricted to the southeast U.S., where you've got, you know, large swampy forests, bottomland hardwood forests. You've got upland pine, mostly longleaf pine, forests and other species of pine as well. But longleaf would have been the dominant upland pine forest that required fire and had lots of habitat for ivory-billeds. It had the large-diameter tree, perfect for excavating cavity. It had the bark off a dead and dying tree that they could have cleaved off to get food items underneath the bark and so forth. So pretty much a southeast U.S. specialist, or endemic, to that part of the world.

**David Todd** [00:32:31] And do you think it had a large population or was it always a pretty, if not rare, but it wasn't, it wasn't often seen?

**David Todd** [00:32:40] Well, so one of the calculations is that it probably needed, one pair probably needed a home range of 10,000 acres. And that doesn't, a home range isn't fully defended like a territory. So you could have had a neighboring pair of ivory-billeds with its 10,000 acres, and a little bit of overlap, and they probably would have been fine. But, you know, I think that was a bird that was in small numbers. And Tanner did that. He's, he's, and I don't have it in front of me, but he found, you know, X pairs of red-bellied woodpeckers before he found an ivory-billed. And it with something like, I don't have it in front of me, it was like

60 or 100 pairs of red-bellieds for every one pair of ivory-billeds. And they did that with pileated as well. And I forget what that number was.

**Cliff Shackelford** [00:33:29] So, but the point is, for every pair of ivory-billeds, there was kajillion other woodpecker pairs of other species in that same amount of real estate. So that suggests that it was a low-density species, that it wasn't easy to just find one pair and come across another pair, and another pair, and another pair in the same day. That would have been fairly unusual for a species like that, that was low density.

**David Todd** [00:33:59] OK, well, you know, you mentioned that, a lot about Mr. Tanner, who I guess, you know, really became an expert in the really sort of twilight of the bird's existence. But I think you've also looked at some of the earlier observations going back. What, was it as far as Audubon, maybe? Is that right?

**Cliff Shackelford** [00:34:25] Yeah, the amazing account, that I think the most amazing account, from all this ivory-billed information is, was that from John James Audubon in 1837. And he floated up Buffalo Bayou and it was wild country. And that's, you know, amazing today because there's refineries near the mouth of Buffalo Bayou. And as you go upstream, it's rooftop and pavement and Porsches and Hyundais driving all around. And it's not that wild. But when Audubon was there, he, he wrote about how wild it was, and, and bottomland hardwood forests. And so he collected several pairs. He didn't really give us a number. He just said several pairs, near the mouth of Buffalo Bayou, in 1837.

**Cliff Shackelford** [00:35:17] So that would be current-day San Jacinto Monument area. And it's hard to believe when you go there today, you'd think, "What's he talking about?" Well, that, that area had completely been transformed by humans. It looked completely different when Audubon saw it in 1837, than when we look at it today. So we've removed, you know, the forest. We've channelized the water. We've created just these different, this different look and feel that Audubon, you know, what he reported was very different.

**Cliff Shackelford** [00:35:52] But we don't have any idea what happened to the specimen. So I talked to several people that think that maybe his Texas specimens were lost when shipped to the Old World because, you know, in 1837, there was not a whole lot of U.S. connection with science. Maybe up in the Northeast there were a few. But, but most of the scientists and people like explorers like Audubon were European-based. So, so when you came to the New World and collected stuff, you, you took it home to London or Paris or wherever you were based. But the feel is that, the feeling is that all of our specimens were lost in transit. Somehow we'll never know.

**David Todd** [00:36:39] Yeah.

**Cliff Shackelford** [00:36:39] And I've queried all the collections around the globe and they don't exist. And so there's, there's quite a lot of specimens of ivory-billeds around the planet. Of course, you know, if it's in the museum in London, the ivory-billed didn't occur there. So someone had to collect it in say, Florida, Georgia, and ship it over there. So there's a good grasp of where all the ivory-billed skins are and Audubon's have never been located. So they've, they're lost and will never know what happened.

**Cliff Shackelford** [00:37:14] But, but if you believe what Audubon wrote about, and I do, he talked about Buffalo Bayou being just wild country. I mean, I bet it had Florida panthers, and red wolves, and probably Louisiana black bears, and passenger pigeons in the winter, and

Carolina parakeets, and, and it would have been thick jungle and pretty neat to think about that. And, and, and it's very different today if you go to Buffalo Bayou in the Houston area.

**David Todd** [00:37:46] Yeah, very different. Well it's interesting that, that there are these little bits of tissue. You know, these, these skins and, and taxidermied remains of these birds that were collected, you know, yeah, gosh, 100 years ago. I mean you think of the, the ones that you mentioned that, that Vernon Bailey collected. And I think it's fascinating that, that you've invested the time and effort to, to find some of these specimens and, and get access to them, when I guess, a lot of times, I guess, they're in archives and off display. Could you maybe talk about some of your adventures trying to find these, these specimens?

**Cliff Shackelford** [00:38:31] Yeah. So probably the, the one that means the most to me would have been the Dallas specimen, since I grew up in Dallas and, and used to go to the Dallas Museum of Natural History at Fair Park, and would quickly run to the diorama with the ivory-billed mounts that were on public display (that decades later learned that they were not even collected in Texas). They, like I mentioned earlier, they came from Florida, from a private collection that donated them to Dallas for public display. But, I, I found out later that the the collection included Mayer's, M-A-Y-E-R's, specimen that he collected in 1900 on the Dallas / Kaufman County line. And, but it was in the back, and it was not on public display, and you had to have special permission to go in the back. And so I called the collections manager and told her my interests, and told her my position, and what I was doing in researching this for a paper that you mentioned that was in the bulletin at Texas Ornithological Society. And so she, she let me go in the back and look at it. And she, she pulled that one out.

**Cliff Shackelford** [00:39:49] And she found also a really interesting what I call a "Frankenstein woodpecker". It was before the museum got the donated Florida birds. They were putting together a Frankenstein woodpecker that they were trying to make an ivory-billed, because they didn't want to put the Mayer collection, or collected bird, out on display. They wanted to have this other bird. And it was a pileated chassis. I call it a "chassis", because then they were, someone was trying to put snow goose feathers into the backpack to make the back look like an ivory-billed. And someone had carved out of wood a larger bill. But it was unfinished. It still had pins everywhere. And they were trying to again put together this Frankenstein woodpecker to be on display.

**Cliff Shackelford** [00:40:41] Which I, I don't know that they could have pulled it off. I think you'd have to be pretty far away from the diorama to say, "That looked real." Because if it was close, I think most people would say, "Hey, that doesn't look real. Those look, those feathers don't look like they came from that bird. And the bill looks wrong", because it was made of wood. Somebody whittled it out of wood and tried to attach it over the beak, the smaller beak of a pileated.

**Cliff Shackelford** [00:41:08] But so they abandoned that. But I got to see it. And I thought it was really cool that someone was going to take the time and put together a fake ivory-billed to put on display, not to, not to fake people out, but just to put something on display to demonstrate what an ivory-billed looked like.

**Cliff Shackelford** [00:41:25] But luckily, they got these specimens from a private collection in Florida, and put those on display. And I would go up there as a kid. And I remember if, if six months went past, I'd be like, "Mom, dad, let's make a trip, the family trip to, back up to Fair Park", because there are other things to see at Fair Park. But I would camp out in that collection just standing there, staring at the ivory-billed diorama, that's, that's no longer there.

You know, the Perot Museum moved all the emphasis in the bird collection away from Fair Park. And now it's at the Perot Museum of Science, down in downtown Dallas. But I don't know whatever happened to those ivory-billeds on display. But that was, that was really fun to look at those specimens and see that Frankenstein woodpecker, but really neat to see the bird that Mayer collected in 1900. And it looked great.

**Cliff Shackelford** [00:42:26] And, you know, the Smithsonian birds that that I saw in the '90s that was collected 80, 90 years prior to my seeing them, that Vernon Bailey collected, they were fantastic looking. And partly because they're not on public display, not for public to handle, and they're in typical museum drawers where they're not diluted by light and faded by light. And they're, of course, monitored for insects because dermestid beetles or drugstore beetles can, can just decimate a bird collection. So they have people monitoring that to make sure there are no pests. But those, those all those specimens look great because they were handled with care.

**Cliff Shackelford** [00:43:12] Of course, I'd rather see these birds free-flying and out in the field, in the wild, but that is not going to happen. So museums are, in my opinion, museum is the best place to go see an ivory-billed. And that's unfortunate to say that, but I don't know what else to tell you.

**David Todd** [00:43:30] And when you managed to burrow in, and get permission, and open the drawer, and you, you find this skin, what, what do you look for? What, and what does it make you feel it?

**Cliff Shackelford** [00:43:46] For the specimens at the Smithsonian in D.C., it was just amazing to me to think that the, that this bird I was holding had, had traveled that far, by train, to get to the Smithsonian in 1904, and just remarkable, and sad at the same time, sad that it was dead, sad that it wasn't at home or near home. But, for science, the point is to have these specimens for study, for proof that they exist.

**Cliff Shackelford** [00:44:23] You know, there's, there's an obsession for, for finding Bigfoot. And we don't have any Bigfoot specimens in a museum. And there's no good solid evidence of Bigfoot existing. But ivory-billeds, we've got evidence. We have specimens. This is, you know, before video, before cameras. There, there was no other way to do it. And so when people, when biologists documented the occurrence of something, they collected it. And if you were a plant leaf or a fruit from a plant, that's one thing. But, but sadly, with a bird, you took the whole bird, you took the bird's life, and you, you stuffed it and put it in a collection. And that's just the way things were back then.

**Cliff Shackelford** [00:45:12] Nowadays, we have technology that we can document things with, with video and camera in digital formats where you can take a picture and email it within minutes and it can go viral, you know, all in the same ten-minute period, it can be global and being seen by others.

**Cliff Shackelford** [00:45:35] But back then it was all the shotgun era of ornithology, unfortunately. But fortunately, we did have a way to show that we did have ivory-billeds and those specimens do have value.

**David Todd** [00:45:51] So I think you mentioned that the, the big impact on ivory-billed woodpeckers was the cutting of both the upland pines, these longleafs, and then I guess these bottomland hardwoods, and the reservoir construction later on into the mid-1900s. But I'm

curious, I've heard, read, that some people feel that after some of the woods were cleared, and there was just better access, that one of the factors in the bird's decline was actually this specimen-collecting. Do you think that's so or?

**Cliff Shackelford** [00:46:38] Yeah. I think when, when, you know, in the old days of what I mentioned, shotgun era of ornithology and that specimens were king. They were like trading cards, like baseball cards. And, you know, the upper elite would collect these, these things. There were people that collected eggs from birds and they had oological collections. There were those that had the specimens and, and when once it got out that this bird was rare, the price got higher for hired guns to bring those in.

**Cliff Shackelford** [00:47:14] There was a famous guy in South Carolina named A.T. Wayne, and he, he made part of his living that way, in seeking out the last few ivory-billeds to collect to sell to these collectors that had them in their private collection. And his name is on a lot of labels. And he collected them in South Carolina. He went to Florida and collected birds there. And I think that was a big problem. I think, you know, the last 200 birds, I bet a big chunk of the last few hundred birds ended up in collections.

**David Todd** [00:47:57] You know, while we're talking about decline, I also read something which I'd love to hear your views about, was that sometimes we don't really understand the extent of poverty and hunger during the Depression in the South, east Texas included. And that, you know, that might have been another motivation for folks to, to shoot these birds that, you know, anything edible or vendible, was, was a fair target. Is that something that you would give credibility to, or not?

**Cliff Shackelford** [00:48:39] Yeah, I do. And I mean, the ivory-billed was apparently fairly approachable, easy to detect when someone in the woods would hear the toy trumpet sound, which was the call of the ivory-billed. They could go over there and collect it and get, you know, enough meat to feed a family of four. I mean, it was, in some cases, larger than a duck. So you could get a lot of meat off an ivory-billed.

**Cliff Shackelford** [00:49:06] And so you'll read about that, and people tried to eat pileateds, but they, there was a big distaste for the meat of pileateds. And that's because if you look at what, the primary food is for those two different woodpeckers. Pileateds didn't taste good because a big part of their diet were ants and so they had an acid taste because they're eating the formic acid of these Camponotus ants and several other genera of ants. So that probably made their meat taste a little acidic and not very flavorful.

**Cliff Shackelford** [00:49:45] Now I ivory-billeds ate, like I mentioned, a lot of larval stage beetles - very tasty and not acidic at all. And so their, their meat probably tasted really good. And so you can read about that where old timers would know not to try to collect that pileated and put it on the table for dinner tonight because no one's going to eat it. It didn't taste good at all. You couldn't put enough spice to get rid of that, that ant acid, formic acid taste. But if they saw an ivory-billed, they knew that tasted good.

**Cliff Shackelford** [00:50:19] And so that's based on experience. And so that, that means that people looking for food in the woods during times of poverty, they knew what to eat, what not to eat. They knew what to try to strive for, and what to avoid.

**Cliff Shackelford** [00:50:36] Well, and you can see, you know, we've, we've had to, Parks and Wildlife, has really had to figure out how to maintain the number one game species in our

state, which is white-tailed deer, that, in a lot of places, were extirpated because people were collecting them any day and every day of the year for food. And so we quickly realized that wasn't going to work. It's not sustainable to do that. So that's why we have seasons and bag limits. So the season is when is it best that you can collect something. And the bag limit is how many can you take where you won't make an impact.

**Cliff Shackelford** [00:51:16] But that never happened for the ivory-billed. None of those laws and regulations were in effect, and no one was even paying attention to people that were taking their toll on the last remaining ones by collecting them for museums, for private collections, or collecting them to eat for dinner. And so it unfortunately took a while for conservation to come around and figure these things out. And that's what we have today. And it works. We have a lot of species that are, you know, like white-tailed deer that are thriving, and actually in some places over-abundant, because we have figured out that you can harvest them, but you have to do it at certain times of the year, in certain numbers, and it doesn't impact the species. But unfortunately for the ivory-billed, that, that technology had not come around, that knowledge, had not come around until it's too late.

**David Todd** [00:52:16] So much of what we've been talking about with the ivory-bill is maybe 100 years ago, you know, both when the, the bird was, was more common and then as it suffered a big decline. But in more recent years, there, there have been observations that were alleged to be ivory-bills. And I was hoping that you might be able to talk about some of those. I think there are two that have been pretty celebrated. One was John Dennis, who I think had some observations back in 1967. And then David Luneau's videotape from 2004 was, was also a, you know, pretty exciting event too. Can you tell us a little about those observations? And then the kind of follow-up searches that, that came afterwards?

**Cliff Shackelford** [00:53:20] Yeah, so. So Dennis didn't live in Texas. He visited here and he was paid to search for ivory-billeds and he never got that slam-dunk photograph. And that's not easy to do today with wary birds. And certainly in the '60s, it was super tough. He did get a recording of, of something banging in the woods and it oddly appears on an album for "The Birds of Cuba" by Garrido. But I bought that album and listened to it. And I don't know what it is. It's very distant. It's, you know, it could be the double knock. That's one interesting thing about the ivory-billed, it had a distinctive double knock, like a BUP-BUP, where it would pound its bill just twice. And that was a form of communication. And no other woodpecker in the Southeast did that. So when you hear that BUP-BUP, you knew it was an ivory-billed. Pileateds didn't do it. None of the other woodpeckers did it.

**Cliff Shackelford** [00:54:27] So the problem with a sound recording like that is there are all kinds of things that make that sound. And the 2004 sighting in, in Arkansas has brought a lot of people into the woods and they've heard what they thought were double knocks that, you know, one observer said, well, it was actually a group of ducks coming down and dropping into this wetland and, and, and the cupping of their wings and the way they hit the air made a double knock sound was one example.

**Cliff Shackelford** [00:55:05] Another was a bridge off in the distance that was a wooden bridge. And every time a car drove over it, the tire would hit this one spot in the bridge and make this BUP-BUP.

**Cliff Shackelford** [00:55:17] So and there's trees that crack and rub up against each other in the wind and bang each other.

**Cliff Shackelford** [00:55:24] There's so many things that can make that sound that it's just not conclusive. And that's, that's the important word here, is, is unfortunately, in my opinion, John Dennis didn't get anything conclusive in Texas.

**David Todd** [00:55:42] Well, and it seems like these birds, if they still exist, are certainly rare and elusive. What, what would it take for an experienced birder like you to be convinced that they existed?

**Cliff Shackelford** [00:55:59] Well, there are, there are people today, I communicate with a few people in Texas that are on the hunt and do say, "I think I heard one", "I thought I heard one." And, you know, I've heard that my whole career. And so I don't really, if it were me, and if I had found one, I wouldn't even tell another soul until I got super good documentation, a conclusive report with, or conclusive documentation like a photograph or, or a sound recording, or a video, or something that was a slam-dunk, you know, to put it in easy terms, for everybody to identify. It's just got to be conclusive, or it's just another possibility. And that's what a lot of these sightings have been, is maybe, you look at it, and you hear it, or you look at the picture, it's fuzzy. You're like, "Maybe." You know, it's just so far away and fuzzy.

**Cliff Shackelford** [00:57:07] So I think that the key is if someone thinks they've got one today, they need to be super convinced. And then because they have to convince the naysayers. And I I have to be objective. And that means I'm going to be a naysayer because there hasn't been any proof or evidence in Texas since 1904 of that bird's existence. So I'm going to be really tough on and scrutinizing of whatever documentation's brought forward. But again, I wouldn't come forward. If, if it were me, I'd make sure I got that, you know, solid photo or recording, and it wasn't going to be scrutinized or said "Maybe", "Possibly." These words don't help.

**Cliff Shackelford** [00:57:54] And so I don't know that anybody's going to do that in Texas. I don't think anybody's going to bring forward proof that is going to convince me. And I don't like saying that, but I also know the history of that bird and what it required for its livelihood. And we have removed that very well across Texas, unfortunately. And so I just don't think that bird is sneaking around. I think before Sam Rayburn and Toledo Bend, that would have been maybe the place that some could have hung out up until the '50s and '60s. But once those got inundated with, with water, it was all over.

**Cliff Shackelford** [00:58:38] And so I just, I'm not hopeful. I just don't think we have enough woods left. We have lots of people in the woods. We have game cameras up, taking pictures of all kinds of stuff. And people even use game cameras on birds. And I just don't see the evidence that ivory-billeds still exist. I don't like saying that, but that's how I feel.

**David Todd** [00:59:02] OK, well, I guess one silver lining to, you know, the suspicion, the hope, that there are ivory-bills lurking out there, from what I understand, is that people have, have used that possibility that the ivory-bills persist as a reason to protect lands that would be good habitat for them. And, you know, I've heard that mentioned about the Big Thicket National Preserve, and apparently it's, that argument has been made for other tracts. Is that something you're familiar with?

**Cliff Shackelford** [00:59:41] Yeah, you can read about that with The Big Thicket. If you look at, you know, in the late '60s and early '70s, that was a big driver for protecting the Big Thicket. But it isn't the only one. I mean, there were, there were so many other reasons to protect the Big Thicket. And, you know, it, there's unique plant communities all coming

together there so the botanists all agree that the Big Thicket is, is interesting. For the bird person, it's, it's, there are several units that are separated by some miles. And so it's unfortunate there's not just one giant chunk of Big Thicket National Preserve. It's, it's several units separated by some miles. And the good thing is that they've captured different plant communities, thus different birds.

**Cliff Shackelford** [01:00:36] But there's definitely not enough of that 10,000-acre minimum for just one pair. And you can't expect protection of one pair's habitat to keep a species in existence for very long. They've got to have neighbors. They've got to have, you know, when, when one of the pair dies, there's got to be a neighboring bird that moves in, or a young one floating around, that becomes the new male or female in that territory. So you have to think of it as a community of, of woodpeckers. You can't just protect, you know, the onesies and the twosies. You've got to protect the whole thing. And we just can't do that with a bird that if one pair needs 10,000 acres and then he says he needs a community, what does that mean, 10 or 20 pairs? Yes. Well, look, look at the acreage you're getting up to. It's just massive.

**Cliff Shackelford** [01:01:30] And, and, you know, we just don't have that availability in Texas. We've settled it. We've whittled it up. You know, the average land ownership, private land ownership, in east Texas is about 110, 120 acres. And everybody has different ideas about what they should do with the acreage they own. And if you drive around East Texas, you can see what's been done. People don't, maybe don't want forests on their property. They clear it and they plant non-native grass and they run cattle. And that's not natural. Or they put in a pond, or these reservoirs we built. But none of those are natural. Those are all manmade and indications of how we've changed this landscape that doesn't benefit a woodpecker.

**David Todd** [01:02:21] You know, with so many, I guess, sort of counts against a bird like the ivory-bill - the habitat, the land use just doesn't seem suitable. Why do you think people continue to search for them? I mean, is it, is it this sort of scientific urge to have a complete understanding of the world, or is it some kind of, you know, long-odds hope to find the Holy Grail? Or what, what do you think's going on there that, that keeps the interest focused on this bird?

**Cliff Shackelford** [01:03:02] It's a great question. And I think there are a lot of people that, you know, they're optimistic and they have a lot of faith and hope. And I don't want to knock them off from thinking that way. I think that's a great thought. It gets people out in the woods. They might see something else that they would have never seen, you know, other species. For example, in Arkansas, with the search and bringing all those people in to the big woods area of Arkansas after the 2004, around 2005 and '5, they found that brown creepers were nesting in, in some of those bottoms there in Arkansas. And that was never seen before. So, a neat discovery, but not an ivory-billed.

**Cliff Shackelford** [01:03:48] But I also think that part of it, for some people, it's, it's going back to the Bigfoot. There's this mystery of some mythical creature like Bigfoot that they just have to see. Or, or maybe that's how they explain the noise they heard that could not have been anything else, so it had to be Bigfoot. Or they see damage that was done maybe to property, or to the forest, that couldn't have been done by anything else but Bigfoot. So I think a lot of people are just obsessed with this mysterious creature, like Bigfoot.

**Cliff Shackelford** [01:04:26] And I think ivory-billed - it fits that as well. There's this mystery of, "Hey, there, the literature tells me and these experts tell me there're no ivory-billeds, so I'm going to prove them wrong." Well, we'd love you to prove, prove us wrong, but you've got to

do it and it's not happened. But I think there's just this interest in finding something that shouldn't be there. And it's just a mystery.

**Cliff Shackelford** [01:04:54] But, you know, that's fine. Again, that's, that's an adventure that you might discover something else of interest. And so I don't want to knock people from, from going out in the woods and trying, but be prepared to be scrutinized. Be prepared for the naysayers. If you can't just come out of the woods and say with a verbal report that you had an ivory-billed. No one's going to believe you.

**Cliff Shackelford** [01:05:18] And, and that was, after the Arkansas sighting, the Fish and Wildlife started a recovery team, a national recovery team for the ivory-billed woodpecker. And I was fortunate enough to be selected to be on that team. And that group - it was a large group - and they were split pretty much 50/50 between those that said, "Oh, yeah, that was a sighting. And from what they found in Arkansas. Yep, that's it." And the other half of the group is like, "That, that's fuzzy. I'm not convinced. We need more."

**Cliff Shackelford** [01:05:54] So even the experts are split in half on whether ivory-billeds are still around, were still around in 2004, or not. And so, I think the point is, you, if you're going to be searching and you want to prove something, you've got to have evidence: that your word is not, is not going to be solid. It just doesn't happen that way, especially with a bird like this. If you went out in the woods, and you said I saw cardinal, Carolina wren, a crow and red-bellied woodpecker, no one would doubt that because those are expected species. But for the unexpected, you better have some good evidence.

**David Todd** [01:06:38] You've had a lot of experience in talking about wildlife, and birds in particular, in Texas and trying to explain their lives, and their niche in the world, and how they overlap with people? You know, from your book, "Humming Birds of Texas", to, I guess, 80 some publications on birds, being on videos for Parks and Wildlife, radio shows for the agency. And I think you have a live radio show now called, "Bird Calls".

**Cliff Shackelford** [01:07:14] Yes.

**David Todd** [01:07:16] Can you talk a little bit about what drives you and what hopes you might have for these kinds of outreach?

**Cliff Shackelford** [01:07:26] Yeah, I think that there are so many ways to reach out to people. And, you know, in the old days, it was a newspaper. That was the way you got the word out. And everybody read the paper, and it was really the only way that anyone found out anything was through the newspaper. And, you know, at Parks and Wildlife, early in my career, it was print media. We were printing booklets and newsletters and articles and everything was on paper.

**Cliff Shackelford** [01:07:56] That really shifted in the last, you know, 15 years or so. And print is phasing out and shifting to more of the social media, online-type ways of communicating. And I've always thought we, we need to keep communicating with all the possible means of reaching people. And that means don't put all your eggs into Facebook. You know, we still need to have video. We still need to have in-print. We still need to be on the radio.

**Cliff Shackelford** [01:08:32] And we have plenty of people that are passionate to tell the story of nature. And that's where I feel I'm in that camp, and I feel like we've got to do it by all

means possible, because with 29 to 30 million Texans, we are, we are losing. A lot of these new folks are not touched by nature. They're not impacted by the outdoors. And, and it shows. And we're losing the battle of trying to at least tell people to have respect for your feathered neighbors and your bug neighbors, not not just the human neighbors, but all these birds and butterflies and beetles around you have value, and the squirrels and everything else.

**Cliff Shackelford** [01:09:20] And so I just think that right now we're at a crossroads with how we get across to people. And it's, and it's a variety of means of communication. And all of them still have relevancy. There's, there's private landowners that drive around in their pickup truck in the middle of nowhere and they still get radio. And that's how you're going to reach that person, that, that old timer might not be on Facebook. He or she might not be on Twitter. So that they're still listening to the radio, they're still watching the TV. And so we have to- and yet they own a big chunk of land - so if you want to reach the landowner, where the impact is, you've got to, you've got to still be using the means that they're connecting to the outside world, getting their information.

**David Todd** [01:10:14] So you think that you may have like two audiences, you've got the 85, 90 percent of us who live in cities. But then there's this, who knows, maybe it's one to three percent who own large private tracts who could really have an influence on how wildlife could be managed. And the ways to reach those two groups may be very different.

**Cliff Shackelford** [01:10:39] It is. It is very different. The younger crowd that lives in the cities, you're going to reach them through social media. They're going to read about it on their cell phone. And the, the old timer that might own the land, you know, Parks and Wildlife has a really good history of working with our private lands. We have biologists that are based out in each county and they are working with private landowners, some of which have large acreage. And, and we have access to those properties. And we can talk to those landowners. They're asking for help and recommendations for whatever they're trying to do with wildlife, whether it's to bring back a natural habitat type like a tallgrass prairie, or if they want to focus on bringing back Northern bobwhite.

**Cliff Shackelford** [01:11:32] And so we have a good history of working with those, those landowners that own the land and, and like I mentioned earlier, though, you have you have to figure out where economics come in, because that's the big driver, because that landowners got to pay the electric bill. He's got to, they've got to put their kids through college. So economics are the driver.

**Cliff Shackelford** [01:11:56] And so it's, it's just difficult with something like an ivory-billed where you're trying to tell them, "Hey, we need to leave 10,000 acres of mature forests that can't be cut." That's not economically feasible for 99.9 percent of landowners. They, they just can't operate that way. They can't pay taxes on a property that just sits there and doesn't bring anything in return. Now, there are other means of bringing return without cutting. They could lease it for hunting. They could offer nature tourism trips and so forth. But most of them get, they get, you know, 10 to 100 times more money by harvesting the trees.

**Cliff Shackelford** [01:12:40] And so you can't knock them for that. So it's just, it's a challenge to figure out how to make conservation work, especially for rare declining species on private land. It's a super-duper challenge.

**David Todd** [01:12:57] You are not one of the Johnny-Come-Latelys. I think that, if I've read this correctly, you're a seventh-generation Texan. And I was wondering if you could sort of

compare what you know and love about this state with all the places that you visited. I think earlier you mentioned that you've been down to Argentina to go birdwatching, and I think you've gone many other places as well. Is there something that that you could convey about what, how Texas fits into this larger world of wildlife?

**Cliff Shackelford** [01:13:39] Yeah. So the neat thing is for, for lots of our birds that are migratory, Texas might be an important part of their annual lifecycle for just part of the year. It might be that it's that summer tanager that comes here to nest. And so we're, we're important for, for the nursery, for when they're trying to raise young in the warmer months. But when things start to get cool in the fall, summer tanagers migrate to the tropics, and all of a sudden, they're in a different country trying to survive the winter and hopefully get through and come back to Texas the next year, next breeding season.

**Cliff Shackelford** [01:14:22] So to me, it's really interesting that that we're all connected and the birds really connect us. So, you know, something like a bobolink that winters down in Central South America and migrates through Texas, it doesn't even winter here. It doesn't breed here. It's only using Texas as a, like a gas station to refuel on a long journey. I think most people can relate to that. If you've done a long car trip, you know, that the car is not going to make it all the way across the country without stopping for fuel. And your stomach isn't going to either.

**Cliff Shackelford** [01:14:58] So I think that migratory birds show us that that we're, we're all connected. We all have a piece of the puzzle as land owners, as property owners, that, that we have a duty to maintain some of this natural Texas, and natural features, and natural habitats of Texas, because of these birds that are needing this, this kind of community type, this plant community type. So I've really learned that about birds, and that, that makes, that fits Texas in when I'm going to Mexico, or if I if I'm in Panama and you know, you're watching Swainson's hawks migrating through Panama in the fall. And just to think that maybe a few weeks earlier they were passing through Texas and, you know, I got down there on an airplane and these Swainson's hawks are doing it with, with the wings and the feathers that, that they have on their body. And it's just remarkable.

**Cliff Shackelford** [01:16:01] And so I've just been impressed with birds and they've showed me the connection of Texas to various other parts of the country and how it needs to be seamless because these birds have to get through their annual life cycle. And Texas is a big part of that for so many species that we have a duty, we have a role to to maintain area, and space, and usable space for a lot of different species.

**David Todd** [01:16:33] That's, that's a nice insight about how these birds, as you say, are kind of our connection, or part of the Worldwide Real Web.

**David Todd** [01:16:48] Well, you've talked to us about not only the wildlife in general and birds, but also the ivory-billed woodpecker. Is there anything you'd want to add about, you know, what you've learned after, gosh, decades of thinking about wildlife, and habitat, and conservation, and how you persuade people to, to be involved?

**Cliff Shackelford** [01:17:14] I think that, that what I've learned is that people with the knowledge and the interest in these things also should have the passion to get it across to the rest of the world, to our neighbors. And I'm not talking about reaching millions of people, but even if you just touch someone next door to you, or down the road, and give them something, something to think about that makes them, you know, do something differently with their

land or the way they live their life, that that would benefit wildlife and especially birds. I think we all have that role to share that and to get people interested in nature.

**Cliff Shackelford** [01:17:59] Because it's, it's, it's bothersome to me to think that there are kids out there growing up in the city and you hear about how they've never seen the Milky Way. They don't hardly see any constellations when, when the lights go out because the lights never really go out in an urban setting. There's so much light pollution, they can't see the dark sky. But to think that that they can identify, driving down the main street, the commercial main street, they can identify all these signs of, you know, "I know what that golden arch means, what store that is, and I know what that blue and white red sign means." They can identify those billboard signs, but they can't identify 8 or 10 species of plants or birds that are in their backyard every day.

**Cliff Shackelford** [01:18:49] And I think that's unfortunate because for me, I'm super allergic to poison ivy. And if I get into it, it's a, I'm going to suffer for about 10 to 14 days. And so you don't have to be doing yard work to get into poison ivy. You might be a kid that's playing ball and you kick the soccer ball or threw the football into the brush. And it's a big patch of poison ivy. And you didn't know it. And you didn't just gingerly grab the football and get it out slowly and quietly. You just jumped your whole body in there and you kneeled down and you grabbed it. You also tied your shoe and you're just rubbing all over it. And I think if you knew, if you knew what poison ivy looked like, you would avoid it. And I think that's important.

**Cliff Shackelford** [01:19:38] And then with birds, you might be like, what is that bird that keeps waking me up in the morning? And, you know, it's before school and the alarm clock hasn't gone off. And why is it singing? I think that once people learn that, "Hey, that's a Carolina wren. They occur in our backyards and that's the male. He's trying to tell neighboring males that, 'Hey, I'm George, I live here and you keep out of my territory'." And that's, you know, a big way of birds maintaining a territory is singing. They're letting other males know that, "Hey, this is occupied. No vacancy. Keep out."

**Cliff Shackelford** [01:20:11] And that that little bird is eating insects around the house. And, and it has a, has a role to play. And so I think people need to know that. It might annoy you. It might be loud, but that bird is maybe providing you a service. A lot of the birds in our backyard are insectivorous. Well, we didn't have a lot of these birds, we would be overrun with bugs.

**Cliff Shackelford** [01:20:36] And, you know, a lot of our predators, our raptors. They're, you know, they're eating rodents, pesky rodents that we would be overrun with if we didn't have owls and hawks and bobcats and foxes and other things. So if you don't like these, knowing that there's carnivores out there, you better think twice that if we didn't have them, we could be overrun with things that would really annoy us.

**Cliff Shackelford** [01:21:05] So I think that did a little bit of knowledge, starting off with a little bit of knowledge, a little bit of interest, you can all of a sudden enter this big, impressive world of nature that you'll never, in the next 80 years of your life, you'll never learn it all. And that's, I think, the beauty of it. You can't learn it all. You can't know it all. And the life quest to try is just a wonderful way to live.

**David Todd** [01:21:34] Wow. Well, thank you so much for, you know, sharing your life quest and encouraging others to, to follow suit. This has been really helpful.

**Cliff Shackelford** [01:21:47] Great.

**David Todd** [01:21:49] Thank you.

**David Todd** [01:21:52] Is there anything you'd want to add?

**Cliff Shackelford** [01:21:55] No, I just want to thank you, David, for what you're what you've done in the past with interviewing folks. And that you're continuing doing that, and you're doing it with audio. I think it's fantastic and I'm very honored and privileged that you've included me. So thank you very much.

**David Todd** [01:22:13] Well, it's been a pleasure. And I hope that our paths cross sometime soon in the woods or the prairies or someplace with lots of birds and other creatures roaming around.

**Cliff Shackelford** [01:22:29] That sounds great. Or maybe we can both show up with an ivory-billed is found, and there's the nest hole and everybody's got their binoculars pointed at it. Maybe we can be standing there together and I can say, "Hey, I was wrong. Ivory-billeds are here." I'd love to be proven wrong with that. So maybe that's where you and I will see each other next.

**David Todd** [01:22:50] OK. That would be a happy day.

**Cliff Shackelford** [01:22:51] Yeah.

**David Todd** [01:22:52] All right. Well, thank you, Cliff. I hope you have a good day. Thank you very much again for your time.

**Cliff Shackelford** [01:22:58] You bet. Thank you, David.

**David Todd** [01:23:00] All right. Bye now.

**Cliff Shackelford** [01:23:01] Bye.