

TRANSCRIPT

INTERVIEWEE: Richard Conner

INTERVIEWER: David Todd

DATE: October 8, 2021

LOCATION: Raleigh, North Carolina, by phone

TRANSCRIBER: Trint, David Todd

SOURCE MEDIA: MP3 audio file

REEL: 4069

FILE:

RedCockadedWoodpecker_DickConner_RaleighNC_8October2021_Reel4069_NoiseFiltered&SignalAmplified.mp3

David Todd [00:00:02] Good morning, I'm David Todd, and I'm very fortunate to be on the line with Dr. Dick Conner, and I wanted to explain a little bit about the the project that we're asking for his involvement with. And basically, Dr. Conner, we are planning on recording this interview for research and educational work on behalf of the Conservation History Association of Texas, a non-profit here in the state, and for a book and a website for Texas A&M University Press. And finally, for an archive at the Briscoe Center for American History, which is held at the University of Texas at Austin. And of course, you would have all rights to use the recording as you see fit as well.

David Todd [00:00:58] And I wanted to make sure that that is what you anticipated, and that it's OK with you.

Dick Conner [00:01:03] That's fine.

David Todd [00:01:05] Okay, well, good.

David Todd [00:01:07] Well, today is October 8th, 2021. It's about 9:30 a.m. Central Time. As I said, my name is David Todd. I am based in Austin. And again, we are very lucky to be conducting an interview with Dr. Dick Conner, who is a scientist emeritus in the Wildlife Habitat and Silviculture Laboratory, which is a program of the Southern Research Station in Nacogdoches, Texas, which, of course, is run by the U.S. Forest Service. And in this capacity, he has worked with red-cockaded woodpeckers, as well as other creatures, since the 1970s. He is near Raleigh, North Carolina, and so this interview is being done remotely.

David Todd [00:02:02] Today, we will be talking about his upbringing and education, and then take the opportunity to discuss his work and views about the red-cockaded woodpecker, its decline and then the efforts that he was involved with to protect and restore it.

David Todd [00:02:24] And with that little introduction, I wanted to again take the chance to thank you for participating in the project.

Dick Conner [00:02:32] I'm glad to do it.

David Todd [00:02:34] OK, well, our first question is just to ask you if there might have been any early events or influences in your childhood that might have introduced you to an interest and a concern for nature.

Dick Conner [00:02:54] Well, I basically grew up in rural Bucks County, in Pennsylvania, in southeastern Pennsylvania. At that time, it was very rural. It was mostly farmlands and

woodlots. And my mother was always very interested in birds and had bird books around the house. And then I just started being interested in birds and walking barefoot around the, the, the woods and the, the little dirt roads and stuff there, looking at stuff. I did farm work as a kid. So I was always pretty much outside doing stuff.

David Todd [00:03:38] You've mentioned that your mother had bird books. Did she go on birding outings with you? Point things out to you?

Dick Conner [00:03:47] She had a bachelor's and almost a master's in biology, but was always interested in nature and stuff. And the family had a large area of woodland near Sumneytown, Pennsylvania. And we would go up there during the summer a lot of times. That's where I saw my first pileated woodpecker, actually in the backyard, I got introduced to downy woodpeckers, hairy woodpeckers and flickers. And woodpeckers, even as a pre-teen, just started to fascinate me back then.

David Todd [00:04:30] What was it that first appealed to you about these, these woodpeckers that you encountered?

Dick Conner [00:04:36] I think their calls and the fact that they pecked on stuff and they'd let you watch them. And I'd put suet in - I'd make a little, get a little log hanging in a tree, but had drilled holes in it where we'd put suet in it and I'd watch them eat the suet out of it.

Dick Conner [00:04:58] I always had an interest in watching, watching wildlife. I liked to watch ants and a lot of things like that.

David Todd [00:05:08] Did, did you have any peers, or was this sort of self-guided exploration?

Dick Conner [00:05:17] Initially, it was pretty much self-guided and encouraged by my mother. And later on, when in college and graduate school, I had, had a number of people who really just kind of focused my interest.

David Todd [00:05:39] Well...

Dick Conner [00:05:39] First, first, one of them was at Rutgers University in New Jersey, and it was the Dr. Paul Pearson. He was a zoologist and an animal ecologist and took us on a lot of field trips, you know. He was a great educator.

David Todd [00:06:00] And were these field trips within New Jersey? Would you go down to the Pine Barrens, or where would you go?

Dick Conner [00:06:08] We went to the Pine Barrens one time. We went to the, to the coast and just a number of different places, but of course, a lot of in labs looking at specimens and learning, learning the different species. It's a lot better to see them out in the field than it is in a jar or in a museum drawer, but.

David Todd [00:06:34] And, yeah, of course. And was the education then mostly about the taxonomy and science and bird life history, or was it about conservation as well?

Dick Conner [00:06:53] It was conservation. It was life history, ecology and such like that.

David Todd [00:07:05] It sounds like you went on from Rutgers to get your master's in wildlife management from Virginia Polytechnic and then finally, your PhD in zoology, also from Virginia Polytechnic.

Dick Conner [00:07:22] Switched from the wildlife department where another person who really encouraged me a lot was Dr. Henry Mosby, who is well known for his work on wild turkeys. And he,, he saw my interest in woodpeckers and encouraged me to do a nesting habitat study.

David Todd [00:07:46] Tell me about that study.

Dick Conner [00:07:49] Well, it was, it did some, it looked at their foraging, what they foraged on - so I guess that was more my doctorate. But I went out and located woodpecker nests in the forest and made measurements on the dead trees or the live trees. And if it was a dead tree, this, this kind of extended into my doctoral work, when I switched from the wildlife department to the biology department, where I worked under Dr. Curtis Adkisson, and David West, and Dr. West, and Dr. Tom Jensen there, who was a behavioral ecologist. But they all really gave me a lot of support in what I wanted to do.

Dick Conner [00:08:42] And I studied basically how long each species of woodpecker spent using a particular foraging technique, and where they are foraging on a tree, so I could develop what habitat needs they had for foraging resources. And I did that I think for about five species. It's been a while ago and my memory is not quite as sharp as it used to be.

David Todd [00:09:16] Well, for just sort of lay people like me, could you maybe give an example of the different basic types of foraging that that woodpeckers might explore?

Dick Conner [00:09:30] Well, they do hunt and poke. And that's where they'll hitch their way on the side of a tree and they'll poke at something and they'll peer at something. And maybe, eventually, another technique is scaling bark. They'll pry pieces of bark away to try and find arthropods under the bark, which they'll snag and eat. Another technique is, they'll percuss the, the wood surface and they'll see if they can detect a hollow under the branch or under the trunk, and then they'll excavate in and extract beetle larvae or something like that.

David Todd [00:10:20] That's fascinating. They're, they're explorers.

Dick Conner [00:10:25] Yes, yes, they do. They spend a lot of time just looking, looking for food. Of course, they also will eat some, some vegetable matter. They'll eat dogwood fruits, they'll ... the little fruits that result after the, the tree has flowered, and berries sometimes. But, primarily, depending on the woodpecker species, they'll go for, for insects. Of course, red-headed woodpeckers and red-bellied woodpeckers, they'll eat a lot of acorns and mast, such like that, which sometimes they'll store in openings, in nest boxes actually, or in old cavities.

David Todd [00:11:15] That's fascinating.

Dick Conner [00:11:16] Much foraging behavior that I did for. No, I did a lot of stuff at the same time. I also, when, when the nesting season was over, and I know it was somewhat destructive, but I brought, went out and brought the nest cavity back into the, to the lab and I would have to use a chainsaw, of course, to do that. But in doing that, I discovered an association between the, the trees and the snags that the woodpeckers were using with hardwood-decaying fungus. So I teamed up with the Dr. Orson Miller, who was in the biology

department at Virginia Tech, and he gave me a crash course in mycology. So I learned how to, in a sterile transfer room, extract out pieces of wood and culture, the species of fungi that were associated with the heartwood decay that the woodpeckers were using. And eventually, I guess it was in 1976, we published a joint paper on that. I've published probably 200 and some papers and books, whatever, over the years. I've always been fairly, fairly prolific in publications, and have been fortunate to have them accepted.

David Todd [00:12:50] Yeah, very impressive. Well, it's, it's fascinating to learn the roots of your work in the succeeding years, and I guess a lot of this is based in the formal classroom and lab and field work. Curious if there was also any sort of, you know, popular culture that might have influenced you, you know, books or movies that that were important to you?

Dick Conner [00:13:20] Not so much movies, but one book in particular which really fascinated me, initially, was a book by George Schaller, who I forget which school it was, but he studied mountain gorillas in Africa, and I think he wrote, I think the title of the book was "The Year of the Gorilla". And I read that early on and became fascinated with his work on individual species. He also wrote a book on the deer and the tiger when he was in India. And I believe on the snow leopard, he's done quite a bit of, quite a bit of really insightful work with individual species. He's a really good field ecologist too.

David Todd [00:14:10] Well, do you think that that connected with your focus over many years on the red-cockaded woodpecker, in the same sort of emphasis?

Dick Conner [00:14:23] I didn't work with as many species, or I didn't write a book on as many species as Dr. Schaller did. But I certainly did it for the red-cockaded woodpecker.

David Todd [00:14:37] Yes. Well, I guess there's so much complexity to any species you really have to focus to, to get enough understanding to really make a difference in their life history and conservation.

David Todd [00:14:55] Well, tell me a little bit about how you came to work at the U.S. Forest Service at the Southern Research Station, where you were for almost a generation.

Dick Conner [00:15:05] I interviewed at Cornell. They had me up there to interview and that that would have been a nice job, but I wasn't. There were some compatibility problems with the person who was the chair of the department at the time. A lot of other people ended up having problems there. Rocky... I forget his last name now. He eventually took that job and I did not take it. And three years later, he said, "I was smart in not taking it." He moved back to California.

Dick Conner [00:15:44] I was offered a job in Missouri, Kansas City, Missouri, and I turned that one down because there was a lot of internal battles within the department. And I was also offered a job at Ole Miss, the university in Mississippi. And I initially thought about accepting that position, but then I was primarily interested in research. And although I was had been teaching a bit, I really wanted a job that was primarily research.

Dick Conner [00:16:24] And since when I was at Virginia Tech, I had worked as a work / study student and with the United States Forest Service in the Southeastern Forest Experiment Station. So I knew there were jobs out there like that. And when I had heard that, I got on, I guess it was the Federal Register, for positions like that around the United States. And I did have an advantage because I was a first lieutenant in Vietnam and had served in a

medical unit there. And I had been wounded there, so I was a Purple Heart recipient, which gave me preference over non-wounded people. It was a veteran's preference, and I had published quite a few things by then, so that Lowell Halls, who was then the project leader in Nacogdoches, the Wildlife Habitat and Silviculture Lab, really would like me to come there, so I went down and interviewed and I accepted the position there, which I have never regretted. It was a wonderful spot to do research.

David Todd [00:17:47] And when did you arrive?

Dick Conner [00:17:49] It was, I guess in August or September of 1977. And I had been teaching biology at Virginia Tech, but when I got there, I found I could also, I got on the adjunct faculty at Stephen F. Austin State University and ended up teaching ornithology, animal behavior, oh, animal ecology. And in the biology department and in the Forestry Department, I taught a course on multivariate statistics and wildlife habitat management and such - I think that was the title of the course. But it's been a while.

Dick Conner [00:18:35] So it was really a nice place to do research and to teach. And I served on graduate committees of probably 30-some, several, several Ph.D. committees and almost like, like having children, it was hard to see them graduate and go away. But it was really, really good to be able to help what I, you know, you can, you can always look up information for rote memory-type things. But my big challenge was to get them to learn how to think - think critically, to ask questions, and ask the right questions. And I still keep keep in contact with a lot of them and which is really good. Cliff Shackelford, who works for Texas Parks and Wildlife, was one of my grad students.

David Todd [00:19:34] Who also went on to work and have a great interest in woodpeckers, so it's, it's fascinating to think of the influence that you've had, you know, down through the generations and, you know, through different students in different areas.

Dick Conner [00:19:51] I also got involved a little bit with the ivory-billed stuff, which I was convinced was extinct at the time. But a friend, his name was Martjan Lammertink. He was from the Netherlands, but he had done a lot of woodpecker research in Southeast Asia, and he stopped by the office to ask me what I thought about the ivory-bill. And I said, "I'm pretty sure it's extinct."

Dick Conner [00:20:17] And he was the one who went on to discover an unusually plumaged pileated woodpecker, which was probably what initiated the big search for ivory-bills in Arkansas. I forget what year that was. That may have been in the '90s or something, but there are a lot of people would come to me and say, "Well, we heard this, this special knocking," which, which turned out to be somebody shooting a firearm in the forest - sounded like the [knock-knock] that ivory-billed woodpeckers make, their particular drumming sound, which is woodpeckers' form of territorial announcement like birds. Most songbirds sing; well, woodpeckers drum.

David Todd [00:21:09] That is fascinating - these sort of red herrings that can often get people off the path without a lot of evidence.

Dick Conner [00:21:18] There were a lot of people who really wanted the ivory-bills to still be around. But probably, if they made it into the 1960s, it was very few of them. And then there was a population, a small population in Cuba, which a friend of mine, Dr. Jerry Jackson, went down to to investigate with Dr. Lester Short. And they probably saw the last ivory-bills

because it was shortly after that that Castro permitted the whole area to be clearcut, ending the ivory-billed woodpecker's existence.

David Todd [00:22:04] Yes. Well, let's talk about another woodpecker - this red-cockaded woodpecker. Could you please give us a basic lesson in the bird's life history and habitat, just as a way to get us up to speed a little bit?

Dick Conner [00:22:24] They are a fascinating species of woodpecker because they live in groups. The group has a breeding male and a breeding female, and usual members are males that remain at home after they're fledged, and they help raise their, their brothers and sisters who come along in subsequent nesting seasons.

Dick Conner [00:22:54] The, the reason this has probably evolved in red-cockaded woodpeckers because of the critical resource rarity of the cavity tree. Red-cockaded woodpeckers nest only in live pines, and they require live pines because they excavate small wounds around their nest entrance called resin wells, from which pine resin flows down the trunk of the tree, which serves as a barrier against rat snakes, which are significant predators of cavity-nesting birds throughout the United States.

Dick Conner [00:23:41] And sometimes you'll have a female stay as a helper, but it's usually the fledgling males, not fledgling, but males from previous nestings. Now, if the breeding male dies, one of his sons will take over his territory. But the breeding female who was his mother, she then disperses and he has to attract a female from another colony site (they call red-cockaded woodpeckers, "colonies"), and they usually have a number of cavity trees throughout the colonies for the group members to roost in and, and the breeding pair to nest in.

Dick Conner [00:24:31] The, the reason it's a critical resource: in an undecayed longleaf pine, it can take 10 to 12 years to make a nest cavity. And that's too long, so that the cavity that one breeding male uses may have been initiated by his grandfather, which is, it's really kind of fascinating. And if, if the tree has *Phellinus pini*, which is a heartwood-decaying fungus in pines, it can be shortened to maybe two, maybe three or four years. But those cavities that had the fungus in them can rot out in the bottom, become useless, whereas the cavities in undecayed wood will last for, for a decade or more.

Dick Conner [00:25:34] When females, young female nestlings, mature, they typically leave the group, and go searching for a breeding male who has lost a mate in a different colony. So they really are the dispersers of this species.

Dick Conner [00:25:55] And once a pair forms a pair bond, it's permanent. There is no polygamy in red-cockaded woodpeckers. And their, the fidelity of partners is uniquely true among many bird species for the red-cockaded, whereas other bird species will, males will often mate with multiple females.

David Todd [00:26:26] That's interesting. So they are unique in several respects, both in their fidelity to a tree and their fidelity to their mate.

Dick Conner [00:26:35] That's true. Absolutely.

Dick Conner [00:26:39] And it's really nice to be out there in the early morning, they'll all start making their little queer, you know, "chur-chur" noises, and they'll gather together and then they'll go off foraging as a group. Very, very noisy little woodpecker.

David Todd [00:26:58] Do you remember your first encounter with a red-cockaded woodpecker?

Dick Conner [00:27:03] Well, I think it may have been. Jerry Jackson, who was, I gave a paper up in Winnipeg, Manitoba, on the heartwood decay / woodpecker association. And at the time, Jerry was, had already started working on red-cockaded woodpeckers when he was at Mississippi State University. And I went to a meeting, I think there one time and he took me out and showed me a red-cockaded woodpecker. And I was already interested in woodpeckers in the first place. That was my introduction to the red-cockaded.

Dick Conner [00:27:42] And of course, when I got into Texas, their decline, it was obviously they were in severe trouble and it just became something that needed to be researched. And I was working on other woodpecker species, but, and continued to do that, but I ended up focusing on red-cockaded, probably in the early 1980s.

David Todd [00:28:08] Well, you mentioned that, that you were aware that the red-cockaded woodpecker was doing poorly, and I think I've read that their populations had maybe dropped to one percent of historic counts.

Dick Conner [00:28:27] That's debatable.

David Todd [00:28:28] It's, maybe not so?

Dick Conner [00:28:30] It's pretty close.

David Todd [00:28:32] Well, can you help us understand why?

Dick Conner [00:28:37] Historically, the red-cockaded woodpecker was the most abundant woodpecker in the southeastern United States. Now this goes back to Native Americans and longleaf pine was the real key to the red-cockaded's success. It's the premier species of pine for them to nest in. The reason is it's the greatest producer of oleoresins, the pine sap pitch that flows down the tree when they excavate the resin wells. Other pines produce resin, but nowhere near as much as that longleaf pine does.

Dick Conner [00:29:22] In the southeast United States, Native Americans used fire to open up the forest to help them with their hunting, and of course, lightning strikes were, from thunderstorms, started a lot of fires too. And it's kind of my opinion that the Native Americans said, "Hey, this place, this place burns frequently. It's to our advantage to set the fire when we know it's coming, rather than wait for lightning to do it and to burn us out." So there may have been some kind of an association there and a learning behavior, but it resulted in in a long and extensive longleaf pine forest in the Southeast that regularly had fire either put in it by lightning or Native Americans.

Dick Conner [00:30:14] And as a result, that burned up a lot of snags that other woodpeckers used for nesting. And as a result, the red-cockaded became a keystone species in providing cavities for other woodpeckers to include pileated woodpeckers, which would enlarge the cavity that red-cockaded made and many other things like the screech owls, flying squirrels.

Even the fox squirrels and all kinds of herps and insects that would use the cavities. They are a primary pathfinder for cavities, or were back then.

Dick Conner [00:30:58] But as time went on, fire suppression came in and longleaf pines were, they grew perfectly straight, the wood was absolutely sound and most of them, they made great masts for, for sailing ships. So the longleaf pine forests of the South were decimated down to probably, I think it's still only two percent of the initial forest, is actually left in longleaf pine now.

Dick Conner [00:31:31] And with that, the woodpecker began to decline severely.

Dick Conner [00:31:36] They were replaced by loblolly pine, which grows a bit more quickly for timber production than, than did longleaf pine. Plus, it was hard to get, to figure out how to get longleaf pine to regenerate a forest stand. The knowledge and the technology was not there initially, and as a result, most of the forest was converted to loblolly pine, which produces less resin and cavities didn't last as long in loblolly pine. Loblolly pine was also more susceptible to the red heart fungus.

Dick Conner [00:32:17] It's a long, complicated story, but it's largely impacted, the decline was largely impacted by the cut of forests and the age at which it is cut and the fire suppression.

David Todd [00:32:37] Can you help us understand a little bit about the thoughts behind fire suppression and, and maybe some of the, the kind of unintentional fire reduction due to fire breaks like roads and farmfields and so on?

Dick Conner [00:32:55] Well, that all adds up to fragmented habitat, where you have what is non red-cockaded habitat in an area that used to be widespread, continuous habitat, which was mature forest, by and large, with a well-burned understory of grass. In the western part of the range, that would have been bluestem; in the eastern part and south down into Florida, that would have been wire grass.

Dick Conner [00:33:34] As you put roads in, which serve as firebreaks, fire is not going to spread as extensively when it does get initiated. And a lot of people got, you know, you're out there, you're living in the woods, you don't want to get burned out. So you, you suppress fire, which as we see in California, is a lot of the problem. They try and suppress it, the flammable material grows up, and then what it does burn, it destroys a lot of houses, and a lot of structures, and can take lives. The same was true in the southeastern United States. So I can understand humanity's desire to not get burned out. I can clearly understand that.

David Todd [00:34:26] Sure. I thought it was interesting: you said, sort of in passing, that the Native Americans might have understood the risk of, of delaying fire and how that might play into really catastrophic, larger fires...

Dick Conner [00:34:41] Right.

David Todd [00:34:41] ...In the future.

Dick Conner [00:34:43] I think they almost burnt annually and they probably burned during the growing season, rather than during the dormant season. Some of the problem with longleaf regeneration is if you burn in the non-growing season, that's when the seedlings that

have come up have germinated and started to sprout during the growing season are most vulnerable to fire. You don't want to burn up your new forest. So if you burn during the growing season, that creates an open area where the seeds can then drop and germinate, then be big enough by the time the next fire season comes on.

David Todd [00:35:31] I see. OK, I think you mentioned that...

Dick Conner [00:35:39] One, one more point.

David Todd [00:35:41] Yes, please.

Dick Conner [00:35:42] I had mentioned that the young females were the dispersers. When the habitat gets fragmented with non-forest areas, that interferes with their dispersal and may force them to stay in the forest, which would direct them away from where other eligible bachelors are, or young male or male red-cockaded who need to find a replacement mate if they're, if their breeding female dies. So there's a demographics problem here also, which habitat fragmentation can create.

David Todd [00:36:26] I see. I think you mentioned that one of the consequences of burning the forests is that you have this forest floor of bluestem towards the West, and then towards Florida, wire grass. Does that lead to a different kind of insect population that that might help the red-cockaded woodpeckers find prey to forage on?

Dick Conner [00:36:58] Well, the males tend to forage higher in the trees if my memory serves females lower. And if you get too much hardwoods growing up in the area where the females tend to forage, it drives them up into the areas where the male forages and you can increase competition. So that's part of the problem. But I think innately red-cockaded just don't like hardwood mid-story. So they tend to leave areas where, when a more well-developed hardwood mid-story develops.

David Todd [00:37:42] Something else that occurs to me, I think you said that, that, I guess this is during the 20th century, the former longleaf pine forest was converted to loblolly, chiefly. And I was wondering if you could talk about any other kinds of changes in the, in the management of the forest, the sort of shorter-term rotations and the clearcutting strategies that might have contributed to problems for the red-cockaded woodpecker.

Dick Conner [00:38:17] A lot of this relates to tree structure. The, the diameter of heartwood within the tree - a pine tree has heartwood, which is basically dead xylem tissue. And it has living sap wood, which is live xylem tissue. And of course, on the outside, there's cambium and then bark. The heartwood, the tree has to be old enough for sufficient diameter of dead xylem tissue, dead hardwood tissue, to be present for the woodpecker to excavate into. Now what it does have to do, it has to excavate through living xylem tissue or sap wood, and it has to learn how to deal with the sap. So it'll make a cavity start and then it has to wait a little bit till the resin hardens around that. Then it excavates more and eventually it can break through to the, to the heartwood of the tree.

Dick Conner [00:39:24] Now, if it finds undecayed heartwood, then it can, it'll take it a bit longer, quite a bit longer, to make a cavity for either roosting or nesting. And most roost cavities are old nest cavities, but a lot of them, a bird will make its own roost cavities, though I don't know the exact percentage there. If a fungus is present - again, there has to be enough heartwood - and the fungus usually gets into it by a dead branch stub, it grows in and then

spreads vertically within the heartwood column, the cavity can be excavated much more quickly.

Dick Conner [00:40:09] Let's see, what was I on? Forget what I was going to say.

David Todd [00:40:13] So if you don't have trees that are old enough, I guess...

Dick Conner [00:40:18] Right?

David Todd [00:40:18] Then maybe you don't have enough heartwood?

Dick Conner [00:40:20] The tree has to be sufficiently old for adequate heartwood to develop, and in particularly loblolly pines, it has to be old enough for, for fungus to get in there to decay the heartwood sufficiently for red-cockaded to be able to detect it and excavate in to make a cavity in the heartwood.

Dick Conner [00:40:43] And that that really - 120 years, over 100, definitely. And there's a direct conflict there with the desire for short rotations, particularly for pulpwood rotations, which can be 45 years or shorter, actually. So there's, there's a definite, definite conflict with economics and the desire to produce timber products and desire to have the red-cockaded. And that's where the two kind of hit head-on, and there for a long time, the red-cockaded was obviously the loser.

David Todd [00:41:31] That's really interesting. Thank you for explaining that.

Dick Conner [00:41:35] So will habitat loss - things taken out of, of forest habitat for, for conversion, conversion to agriculture, towns, roads, you name it. There's been a lot of things that have the forests have, land use patterns that have shifted from what was good for woodpeckers.

David Todd [00:42:02] And would that be the case even for lands that are kept in silviculture, but they're clearcut, and so for a period of time, there's, there's really no trees at all.

Dick Conner [00:42:15] Trees are not allowed to grow old enough and then stay around long enough for the red-cockaded woodpecker to use them. And that's why we came up with, well, I guess it was me, came up with the idea of shelterwood cutting where a pine can be kept a double rotation. In other words, if your rotation is 100 years, you will eventually have 200 year old pine trees out there, some 200 year old pine trees.

David Todd [00:42:52] Can you explain what shelterwood rotation is and maybe compare it with seed tree and clear cutting and selective...

Dick Conner [00:43:01] I'm not against harvesting trees for, for use. Let me get that straight. I think that's a necessary thing to do, for us. And now it's actually, silviculture is necessary for the red-cockaded because the habitat is so fragmented. And you don't, in a natural ecosystem, you have boom or bust. You can get an old growth forest which, which can all die off at once and leave a big opening, which will eventually regenerate from, from trees that come up.

Dick Conner [00:43:40] But now we don't have that ability, if you see what I mean with that. So, shelterwood - let's say if you get your, your rotation and you have to sacrifice some timber production to do this - up to 120 years, you leave a healthy number of good longleaf pine out

there when you do the harvest. You selectively harvest those trees around it. And then of course, you have to burn it and the shelterwood provide seeds for the next generation of pines, which will grow up under the shelter of the shelterwoods. Now, the seed tree cut is, is similar, but far fewer trees are left. So from a red-cockaded woodpecker's point of view, it's better to have a shelterwood than a seed tree cut. And you leave, rather than come back in later and harvest the shelterwood and the seed trees, you just leave them there until they die a natural death.

David Todd [00:44:56] I see. OK, that helps.

Dick Conner [00:44:58] And that way, throughout the landscape where you use these two forest management techniques, you keep an older growth component of the forest out there, as long as it's well burned, frequently burned, for red-cockaded to use, and there's no big gaps of, of non-forest habitat within your forest, which could interfere with dispersal and access to foraging habitat.

Dick Conner [00:45:35] See, when I, when I got there, they were actually, you'd have a red-cockaded woodpecker colony and they would cut everything around it except for what was in the colony. And that's supposedly a 200-foot buffer strip, but that meant the red-cockaded would have to fly over a clear cut to get to places to forage. They become more vulnerable to predators, to sharpshinned and Cooper's hawks, by doing that. Or they'd leave a little attachment to the forests, which again interferes with the birds' foraging patterns.

Dick Conner [00:46:15] And there were a lot of problems back then. There were people who were very much interested in Texas in wood production, and they weren't as much interested in endangered species management, shall we say. And I was examining population trends at the time, and I was out in the field pretty much all the time looking at what was actually around the woodpecker colony and saw that some of the buffer zones that they were required by law to leave through a, what is it, a negotiation with the Fish and Wildlife Service. They weren't doing that. And as a result, the woodpeckers were in decline.

Dick Conner [00:47:07] I wrote a paper on that, coauthored with Craig Rudolph, and send it out for review, which is what a scientist does. You send a paper out for peer review, and noting that populations on multiple national forests in East Texas were declining, and that resulted in a lawsuit, which is a long story.

David Todd [00:47:43] Well, that does seem to be a turning point in the management of the forest, and maybe you can talk a little bit about the consequences of this paper and the lawsuit that ensued.

Dick Conner [00:47:54] What, what happened there, eventually, it had, the story has a good end, but there's, there's also parts of the stories which are somewhat were somewhat uncomfortable for me in that certain individuals tried to get me fired. I was physically threatened. And it went up from Texas to the chief of the Forest Service, it went from the chief of the Forest Service, to Jack Alcock, who is a regional forester in Atlanta and came back through the southern station that they wanted to fire me.

Dick Conner [00:48:46] And I had, Dr. Stan Barras was our assistant director within the Southern Forest Station, what it was called at that time. He called me on the phone and said, "Can you document what you, you have in that manuscript?" And I said, "Yes." And I said, "Do I need to be looking for another job?" And his reply was, "No, no, no." And he said, "Let me start

working on it from from this end." And I also had people from the chief of the Forest Service office call me up on the phone and tell me, once they found out what was really going on in East Texas, tell me I did not have anything to worry about.

Dick Conner [00:49:42] I started, which I never expected to do, to work with a number of U.S. attorneys, one of which came to interview me and talk about what was going on. And his comment to me was, "This will change our entire approach to the court case that has been filed by Texas Committee on Natural Resources, the Sierra Club and the Wilderness Society." He said, "These people who are doing these types of things are the people we usually prosecute."

Dick Conner [00:50:19] And eventually, of course, we went to trial. It was, I can't remember, the trial was one or two weeks, but I had people, certain individuals within the agency, who did not like what I was saying. One of them accused me of perjuring myself on the witness stand, and they put that in the newspaper. On the other side, the, the quote unquote environmentalists accused me of foisting false information on the public. And he did that in print, too. And it came down to the fact that, you know, they were the managers, they could do what they wanted, but if they wanted to have red-cockaded, they needed to adjust their management.

Dick Conner [00:51:15] Eventually, I got a call. I was in my office one day, and I got a call from the clerk of Judge Robert Parker and she said, "Are you Dr. Richard Conner?" And I said, "Yes, I am." And she said, "You will remain in this office, and on the phone." And I said, "Okay." And the judge, Robert Parker, came on the phone and of course, asked me, you know, who I was. And he said, "I have the attorneys from the Justice Department and I have the attorneys from the plaintiffs here in court with me, and I want to ask you some questions." This was after the trial that we had. And he said, "What do we need to do for the management of the red-cockaded?" And I tried to sidestep and say, "Well, I'm not really a forest manager," but basically ended up saying, they need to adjust their management to allow older growth trees to be out there and basically described shelterwood and seed tree cutting to him, which he kind of put in a court order, I think.

Dick Conner [00:52:30] It was a very, very stressful time in my life, as you can imagine, to be physically threatened. And oh, well. Eventually, though, I had Jack Alcock, who was the regional forester, come up to me at a meeting and say, "I'm sorry, I apologize. We shouldn't have been doing what we were doing. We were in the wrong. We should have listened to you and we would have, you know, had a lot fewer problems." And actually, he ended up giving me (very unusual for, for forest management people), a researcher, a certificate of merit and a thousand dollar cash reward for what I had done to help them out of the problem they were in with the red-cockaded woodpecker.

Dick Conner [00:53:27] And eventually, a lot of the, well, certain people left the Forest in the upper echelons of the national forests there, and there was replacements. And I became very good friends with Ronnie Rohm, who was the forest supervisor there. And I had multiple silviculturists come to me and say, "We should have listened to you. You know, we see we were wrong now, and it would have been a lot easier had we just listened."

David Todd [00:54:01] I guess it's hard to change.

Dick Conner [00:54:03] Well, it's. You needed to be out there. At one time, the chief of the Forest Service came by and said that we need to take the bull by the horns on this stuff and

not have our research people, like me and Jack Ward Thomas with the northern spotted owl, ending up fighting for what we should have been doing in the first place and fighting against this.

Dick Conner [00:54:34] You know, science. You try to choose to remain objective in science. You look at data, you test hypotheses and you do experiments and you come up with theories. And when the results come in, that's what the results are. You don't lie about it for political reasons, and I'm not going to get into the politics of the modern times here, but I'm a scientist. And science is a constant argument, and it's a constant testing of things. It's a constant questioning. Not blind acceptance.

Dick Conner [00:55:26] Sounds like I'm back in class lecturing.

David Todd [00:55:29] No, no, this is so interesting, and I think it, your, your thoughts about this sort of constant questioning, and trying not to just accept things on faith, makes some people who are maybe not in the scientific realm believe that that's, that's a weakness, that there's not firm belief and commitment and conviction about ideas. But what you're saying is that there's really this requirement that it's, that there's a constant inquiry and a testing. Is that right?

Dick Conner [00:56:03] And if if you're wrong about something that you've thought in the past and the data show that you're wrong, you have to change your opinion. That's the way science works. It's the way it always has worked. It's a constant argument. You see that in the world of physics about particle physics and stuff, of people make suggestions: maybe it's this way, or maybe it's that way. Well go out and do some experiments and test it and get new information so you can revise the science to a more precise focus.

David Todd [00:56:43] Well, you know, I'm sorry you were put into the breach when you were, I guess, trying to just do science. But I guess you were sort of..

Dick Conner [00:56:57] I made a lot of friends in the Justice Department, both in East Texas, the Office of General Counsel within the Department of Agriculture and a lot of D.O.J. U.S. attorneys in Washington.

Dick Conner [00:57:13] And there was another trial down in Beaumont, Texas, later on (the first trial was in Tyler, Texas). And I was pulled into that one. But the plaintiff, as soon as the plaintiff saw that I was going to be there and able to testify, they dropped the red-cockaded woodpecker part and just were focusing on something else. I remember the, one of the plaintiff attorneys asked me - I was on the witness stand there - and they asked me, "Does the U.S. Forest Service management provide enough habitat snags and such for other woodpecker species?" And..

Dick Conner [00:57:56] [Are you still there?]

David Todd [00:57:59] [Yes, I am. Listening.]

Dick Conner [00:58:00] [I heard a weird sound and wasn't sure what it was.]

Dick Conner [00:58:03] And I looked at her and I said, "No." And the judge kind of all of a sudden perked up out of his chair and looked at me. And the attorney who'd asked me the question kind of was surprised and looked at me. I said, "No, they don't." I think they were

expecting a witness who would give some kind of a policy answer or something. But that's not what you do as a scientist. You say what you understand the facts are, and they weren't. So the answer is, "no." They weren't doing the best optimized habitat for other woodpecker species. Pure and simple. It was an easy answer for me, but apparently it surprised a bunch of people in the courtroom. But after that, the judge paid a lot of attention to what I was saying.

David Todd [00:58:58] Yeah, I guess it's a sign of integrity when you say the thing that's not expected.

Dick Conner [00:59:03] No, I don't believe in the sell-out. I'm never going to. I never have done that.

Dick Conner [00:59:09] And I had been in confrontations, situations before. And in Vietnam, I was, as I said, I was wounded, and I have two bronze stars, one for V for valor in combat. And I was, I was in the 1st of the 505th Infantry battalion, 82nd Airborne. And saw a lot of stuff over there, so a lot of fantastic good people, and I saw a lot of people who I'd classify as pure evil too, on both sides. But let's not go there.

Dick Conner [00:59:44] But, I don't, I don't like conflict. I don't like argument with people. But I won't back down when I see something's wrong.

David Todd [00:59:59] Dr. Conner, I think you talked about this sort of, of watershed, the lawsuit and then how management of the forests changed, and I was wondering if you could talk a little bit about some of the interventions that were done in more recent years to, you know, for example, install artificial cavities and cavity restrictors and the translocation efforts.

Dick Conner [01:00:34] Let me make one comment about southern pine beetles.

David Todd [01:00:37] Yes, please.

Dick Conner [01:00:38] Because longleaf pine produce a lot of pine resin. Pine resin is the pine's first line of defense against bark beetles. They literally, to use a pun, "pitch the beetle out." They produce so much resin that the probability of a southern pine beetle attack is successful is way reduced. Loblolly pine, on the other hand, especially when they get older, they're beetle food. They don't produce enough resin, so large areas of the forest can be taken out by southern pine beetles and reduced to, you know, a pine plantation, whatever.

Dick Conner [01:01:28] So the change in species greatly changed the dynamics of bark beetle infestations in the South and in great, greatly increased the prevalence of southern pine beetles, and the magnitude of the damage that they could do. That was the result of conversion to loblolly rather than, than trying to keep the forest longleaf.

Dick Conner [01:01:55] Now, the technique which came up for pileated woodpeckers in large red-cockaded woodpecker cavities and the frequency of pileateds is higher in area where you have more mid-story, hardwood mid-story growth. And a pileated can destroy a cavity that's taken 12 years to excavate. They can destroy it in an afternoon. They are incredible excavators. So I forget who the individual was who developed the restrictor plate, but it's a metal plate that's put [excuse me] around the cavity entrance that greatly deters enlargement by pileateds and red-bellied woodpeckers also.

Dick Conner [01:02:50] [Getting a drink of water.]

David Todd [01:02:51] Sure.

Dick Conner [01:02:55] When you're in an area where you have insufficiently aged pines for natural cavity excavation, pines that may have, not have quite enough heartwood, the technology was developed by a very insightful person, who I forget the name now, to, to make like a little nest box, cut out a rectangular space in the pine and insert the nest box and putty it in, and put a restrictor plate on it and you have instant red-cockaded woodpecker cavity.

Dick Conner [01:03:33] Now this, this provides cavities for those needed at the immediate time, but what it also did was give you the ability to put one of those little cavities in and then, if say, a breeding male is missing a breeding female, to take a young female and, in the middle of the night, put her in that cavity and cover with it with a screen-type thing. Then when the breeding male comes out in the morning, you've got this screen-like thing on a cord. You pop it off and they both come out and high probability of a pair bond forming. So you end up replacing the lost breeding female and solving some of the demographic problems, of the difficulty of a young female finding a male who needs a mate.

Dick Conner [01:04:40] And we took that a step further at the lab in Nacogdoches. I forget whether it was me or Craig. We came up with the idea. We'd go to lunch together and discuss this kind of stuff and design research studies. And I think, I think it was me, but I gave the Craig the lead on this, I think, to why not go to a forest area where there are no woodpeckers? Put in a bunch of cavities and during the same night, introduce a first-year male and a first-year female at the same time, where they can both come out and potentially form an entirely new breeding unit in an area where red-cockaded woodpeckers had been extirpated. And that worked.

David Todd [01:05:34] And just to make sure I understand, would you put the male and female in the same cavity?

Dick Conner [01:05:39] No, no, no. Two different cavities. OK, but so they could see each other, and hear each other, is probably more important. Sometimes, of course, it won't work, but. I think, I forget, it's been sixteen years since I since I wrote a woodpecker paper. I'm over my mid '70s now, so.

David Todd [01:06:09] Well, it is part of the the effort here with the translocation to avoid inbreeding? Is that part of the idea?

Dick Conner [01:06:20] Some of that could be, but mainly to keep breeding going - to replace the lost female, which, which habitat fragmentation might be interfering with his acquisition or of a breeding female, her finding him because he has high fidelity to that tree. That tree is a magnet for him. So the female has to find him, if he has lost his mate.

David Todd [01:06:59] So it's, it's keeping breeding going to do this translocation, and I guess it's also to make sure that there's, you're protecting the range of these birds.

Dick Conner [01:07:11] Trying to expand the range.

David Todd [01:07:13] Expand it. I see.

Dick Conner [01:07:15] Yes. To build back what has been lost if the trees are sufficient age and the understory condition is sufficiently appropriate. Ideally, it would be back to a fire-maintained understory, but in an instance where you've had an absence of fire a long time, but you could go in, they have these machines where you could go in and just grind up all the hardwood stuff and create sort of a herb..., well, it's not exactly herbaceous. You have to get fire back in there pretty quick and the grasses reestablished. But you can make kind of like a, I call a "shake-and-bake colony."

Dick Conner [01:08:09] The habitat has to be prepared ahead of time. You have to have the cavities in ahead of time before you do the simultaneous translocations of, of a young male, of an unpaired male and an unpaired female.

Dick Conner [01:08:29] That means you have to, I guess, do the mechanical or fire work to reduce the hardwood competition.

Dick Conner [01:08:38] So, so I think you've written extensively about the importance of fire and, and I was hoping that you could talk a little bit about how these prescribed burns are done and, and how you figure out, well, you know, the location and the frequency for them.

Dick Conner [01:09:03] Well, you don't want a holocaust fire because pine resin is extremely flammable. And if fire gets too high because there's too much fuel, you can catch a red-cockaded woodpecker tree on fire and it will burn up the tree. It may kill the tree. And it will definitely be, have a potential to burn the cavity out and make it unusable. I have multiple pictures of that that I took after, you know, this was back at a time when they weren't raking flammable material away from the base of the tree before they put fire in. And there was a bit too much, too much fuel. Fire frequency wasn't high enough.

David Todd [01:09:56] Well, what was the size of some of the typical burns and how often were they done?

David Todd [01:10:04] I really don't have a good handle on that, but you prepare. We had an experimental forest, have an experimental forest, south of Nacogdoches where we've, we had done some fire in the pine uplands. And you basically, you make some fire breaks around the area where you want to burn. And then typically you go on the, the side where the wind will not be pushing the fire - you back the fire through the area. And actually, that burns the area more effectively, keeps the flame on volunteer hardwood stems longer than you do with a head fire. So back fires are what's really ideal for, for fire management. Then it creeps, creeps through. And if there's not a lot of fuel, it won't get very high and it restores the area to, to what was more like the original pine ecosystem.

Dick Conner [01:11:14] There's other, on, on the, on National Forest lands, sometimes they'll use helicopters that drop these little ping pong ball like things, which injects a chemical in it, which then the ball drops down to the forest floor and then ignites. And they can start a wall of fire that way. Or you can take a drip torch, which is basically kerosene, and walk along the firebreak and start, start a wall of fire going through the landscape.

Dick Conner [01:11:53] But you have to watch your humidity. You have to watch the, the wind rate, wind speed very carefully, it's, it's a tricky thing to burn correctly. And when it goes bad, plus there's smoke management, too, along highways, which is a problem because you don't want to cause a vehicle accident. If you smoke out a highway and as a result of an accident and somebody is injured, you don't want to do that. So it's, there's a lot of problems

with, with fire in a populated landscape, people-populated landscape. Plus, you don't want it to escape the area you're trying to burn and go on private land or land where there are structures.

Dick Conner [01:12:45] There's, it's a difficult management thing, and I'm, you know, you don't envy the manager who needs to put fire on his landscape because it's a tricky business.

David Todd [01:12:57] And I guess in the early days, the, the theory behind it was controversial. I was really struck by some of the debates that you had with Ned Fritz and TCONR about, you know what the burn frequency should be and...

Dick Conner [01:13:15] And I really liked Ned, but Ned, he needed to listen and look at science a bit more. He really did. I liked Ned. His heart was in the right place. But he's the one who accused me of foisting false information on the public. But his, his heart was in the right place. It's just I wish he had listened more to science than, than opinion.

David Todd [01:13:44] Well, how did you figure out what the, I mean, I could see that fire likely would have been part of the ecosystem, and yet how did you figure out what was the right frequency?

Dick Conner [01:14:01] I didn't figure that out. It needs to be put on the landscape at a frequency that maintains a herbaceous understory of grasses and forbs under, in woodpecker habitat. Now I'll let somebody else, who's a fire management expert, determine what they need to do to create that habitat. That's, I'm really not an expert on that. And I don't know.

Dick Conner [01:14:32] I'll just tell them the desired end condition and show them pictures of, of the past, from the 1800s and early 1900s and what was out there. And it's up to them to try and reproduce it.

Dick Conner [01:14:48] And that's a hard job. I don't envy, you know, the people who have to do that.

David Todd [01:14:56] So, so your goal, then, was to bring this back to what would have been the appearance, make-up, the structure of the forest before the big cuts began in the 18, what, 1880s, 1890s?

Dick Conner [01:15:13] Particularly in the understory, the ground-level vegetation and get as close as we could for old tree, a significant, or let me better put it - an adequate number of old-age trees out there for woodpeckers to make cavities. That's what's important.

David Todd [01:15:40] You know, I think it's kind of counterintuitive that an ecosystem might need management rather than a sort of hands-off, preservationist approach to bring a creature back to where it was before. I bet a lot of people have a hard time understanding that.

Dick Conner [01:16:05] They do. But the reason a hands-off approach will not work is you don't have a continuous forest landscape anymore. You don't have a landscape where a fire can burn unchecked for days. And that's what happened in the past. It would burn for, for days on end and just keep burning until it hit a river or a stream or a rainfall came. Don't have that anymore. And there's, there's so much fragmentation out there of non-forest habitat which won't burn or you don't want it to burn. So you use in order to create patches of endangered species habitat, you have to manage it.

David Todd [01:16:58] I think you said earlier that, I guess this may have been in the Beaumont case, somebody asked you, "Well, is the management of the forests good for other species of woodpeckers besides red-cockaded woodpeckers?" And, and I think you, you answered, "No." And, and I was wondering if, if you feel...

Dick Conner [01:17:25] Is, is...

David Todd [01:17:25] Did I get that straight, or no?

Dick Conner [01:17:27] Was the Forest Service providing optimal habitat for other species of woodpeckers? In other words, were they providing adequate number of dead trees for downy woodpeckers, hairy woodpeckers, red-bellied woodpeckers, et cetera? And had they been managing for woodpeckers, sure. But they don't manage just for woodpeckers, they manage - it's a multiple use forest, required by law to be multiple use. So you can't, you can't optimize for anything. And I took the question as, "do they optimize for woodpeckers?" And the answer is, "No", because they have other management requirements.

David Todd [01:18:15] Well,.

Dick Conner [01:18:17] See, I'd be out there. Oh, we need a few more snags here. And I'd be, you know, run a thing around and create a snag, dead tree for a woodpecker to make a nest cavity in. But I like woodpeckers, so ...

David Todd [01:18:39] Well, do you, I just, I've heard some folks critique the management of the Southeast forests and those in Texas that that sort of target on the red-cockaded woodpecker saying, "Well, this disregards the effects on other species." And then other folks say, "Well, no, the red-cockaded is a really important keystone-type species, and."

Dick Conner [01:19:05] Absolutely.

David Todd [01:19:06] And which end would you end up on?

Dick Conner [01:19:09] Oh, it's, it's clearly a keystone species in the southern pine ecosystem. In the fire-maintained, southern pine ecosystem, it is a keystone species because it is the cavity, initial cavity excavator, that other species of woodpeckers, squirrels, amphibians. I even found an opossum in one red-cockaded, one enlarged red-cockaded woodpecker cavity.

David Todd [01:19:44] What did you find in that cavity? I'm sorry.

Dick Conner [01:19:47] An opossum.

David Todd [01:19:48] Oh, really!

Dick Conner [01:19:51] And in other ones that have no longer used by red-cockaded - bees! So they create, they create cavities for smaller cavity-nesters and pileated woodpeckers will come along eventually and make a larger cavity for larger cavity uses. But it had to be in the live pine, it had to be the red-cockaded woodpecker who was there first because they're the only species that can make a cavity in the southeastern United States in a live pine tree. They will not nest, or very, very, extremely rarely even roost in a dead pine, but then only when there's an extreme shortage of cavities.

David Todd [01:20:53] I guess another sort of critique I've heard is that, say you put a cavity restrictor up around a, one of these artificial cavities and the pileated woodpecker can't dig it out. Or you put one of those plates so that a, a rat snake can't attack a red-cockaded woodpecker. Did you ever feel like this was upsetting some sort of natural balance?

Dick Conner [01:21:29] Well, the, the cavity restrictors will not stop a rat snake. What stops a rattlesnake is the resin barrier. They'll try to climb the tree, and then they start to get sticky resin on their scales and you'll see them arch away and eventually they just fall to the ground and crawl off.

Dick Conner [01:21:49] But there's as far as pileateds, they can excavate pretty much anywhere they want to. I have, when in Virginia, I studied a lot of, I studied pileated nesting habitat along with the other species. And they would excavate through totally sound oak wood. And by percussing the tree, they could detect that there was heartwood decay in the heartwood of the oak, but they'd have to excavate through undecayed oak in order to get into the decayed heartwood section. So their excavation ability is absolutely phenomenal. And I've seen one go after carpenter ants in a hardwood and have to excavate through a couple inches of sound oak to get to the carpenter ant colony within the, the hardwood's, the oak's tree.

David Todd [01:23:03] Interesting. Well, sort of bringing us up to recent days, I noticed that in 2020 there was a proposal that was circulating to downlist the woodpecker to threatened status. And I was wondering what you thought of that. And I guess a second, maybe lead-on, question would be how do you, how do you determine if a restoration is, is reliable if, if it depends on interventions like the artificial cavities and prescribed burns and so on, that are, you know, require a lot of effort on human part?

Dick Conner [01:23:49] I think it's ill-advised to downlist them. It should only be downlisted if the habitat in which it is an adequate number of woodpeckers are maintaining their population through natural processes. And I don't think that's going to occur. I don't think there's enough red-cockaded woodpecker habitat out there. Now, maybe on some forest, but because the Forest Service has multiple-use, I think there's always going to be the potential for a problem. And it does get political. Let's face it. We don't live in a vacuum and a lot of sound ecological solutions can be thrown aside very quickly, depending on the politics of the situation.

David Todd [01:25:09] Yeah, I guess a lot of these, these decisions, even if there's good science, they they have to go through that political gauntlet.

David Todd [01:25:17] And that was actually one of the things I wanted to ask you about, and you touched on this earlier, but I'm curious how you think about having served as a scientist working for the government, which is, you know, subject to a lot of political pressures.

Dick Conner [01:25:36] One, one of the questions I was asked at the trial in Texas, one of the U.S. attorneys said, "I'm going to ask you this question." This was before we got in the courtroom. "Were you put under any political pressure to testify to something that was incorrect?" And I said, "Don't ask me that question." I said, "What you need to ask me is, 'have you adjusted your testimony under the duress of political pressure.'" So that I could answer, "No, I have not." To the other, I would have had to have said, "Yes, I was put on, people tried to pressure me to say something that wasn't straight with the science." And he understood immediately what I was saying.

Dick Conner [01:26:50] So there was pressure, but there's, there's always going to be multiple sides in, in a situation like this. People have multiple, different, differing desires of the outcome they want. And when it becomes opinion and political, that's where the real problems come in and people try to excoriate you. So I said I had people they wanted, they said they were going to take me out in the woods and emasculate me, emasculate me, and they used a more direct language, shall we say.

David Todd [01:27:32] And what, was most of the pushback coming through the Forest Service ranks, or more through the industry, or just people in the communities?

Dick Conner [01:27:43] I'm glad you asked me that. I had forgotten about that. I had, initially, better luck talking science to people in the forest industry than I did some of the forest managers in the U.S. Forest Service. They would come to me and say, "What do we need to do? We don't want to lose our woodpeckers." Whereas in the past, certain individuals they'd, actually, go out and put a prescribed burn in. Well, they'd pile dead wood around the base of the cavity tree to try and burn up the cavity tree, and get rid of it. So there were a lot of things going on initially, and there are some people out there who I didn't think very highly of, let's say.

Dick Conner [01:28:35] But all that changed. All that changed. As I said, and then people started coming to me and thanking me. I think initially they thought that I was a flaming environmentalist who were like the people who wanted to sue them all the time. And I had a personal agenda. The only agenda I had was to use science to do correct forest management for an endangered species, as required by law. And eventually, I think pretty much everybody saw that and the other people dispersed, shall we say, or were dispersed.

David Todd [01:29:30] You had to persuade them that you had that, that sort of rationality and objectivity, I guess that came with being a scientist?

Dick Conner [01:29:39] Being consistent about what I kept trying to say, and going back to the science and the fact. And what you know, this is what's required by law.

Dick Conner [01:29:53] And, of course, the U.S. Fish and Wildlife Service jumped in on some of this also and actually wanted one of them who was also on the witness stand in the Tyler trial, he said, "I don't know why they're suing the Forest Service. They ought to sue us for not making the Forest Service do this."

David Todd [01:30:16] That's right, I guess they had to file consultations and..

Dick Conner [01:30:20] Right.

David Todd [01:30:21] And coordinate.

Dick Conner [01:30:22] And there was a recovery plan, which is in essence, the law of what you need to do. And they were, they were breaking the law.

Dick Conner [01:30:35] There was a lot of stuff going on at that time and timber management, timber sales and stuff, which some of which turned out to be illegal sales to buddies and I think I heard that some people ended up in jail. I don't know that for a fact, but some people, Fish and Wildlife Service, came and told me that.

David Todd [01:31:00] I wonder if this might be a chance to just reel back a little bit and talk a little bit about the red-cockaded woodpecker and forest management in the, the sort of bigger context. I understand that the controversies in the Southeast about the bird and the forest were happening at roughly the same time as the northern spotted owl controversies up in the Northwest, and I guess there's another spotted owl down in New Mexico...

Dick Conner [01:31:33] Yeah.

David Todd [01:31:33] That wasn't doing well.

Dick Conner [01:31:37] Jack Ward Thomas, who was a friend, he was in the middle of the spotted owl stuff and I was in the middle of the red-cockaded stuff in the Southeast.

David Todd [01:31:47] What do you think the connections were between these, these conflicts in very different parts of the states, different kinds of forest, different bird?

Dick Conner [01:31:58] Well, I think it's basically what's, what is, the question is, if you ask the question what is needed for this species survival and someone comes up with this is what is needed for that species' survival and there's a recovery plan involved and and people are supposed to enforce that recovery plan. And people who don't do it, don't go through consultation, or don't end up doing what they were supposed to do after consultations, that's when things end up in the court. And that's kind of where it ends up, where the rubber hits the road, so to speak.

David Todd [01:32:45] So I guess it's the Endangered Species Act that's sort of central to this, and...

Dick Conner [01:32:50] Yes, and that's why there's always been a lot of pressure to get rid of the Endangered Species Act because it interferes with exploitation. You know, there's three basic strategies here. There's preservation, conservation or exploitation. Science suggests that conservation may be a good idea. Preservation, well, that's nice in some areas and probably necessary in some areas, but exploitation usually seems to win in most situations because it's involved with greed, and some people are very greedy. Some people accumulate masses. How many billionaires do we have? You know, when I was younger, it was a miracle if someone was a millionaire and now we have billionaires. Not saying that's bad, but gee whiz. How much does one individual need? And jobs are important. So I'm not, I'm not, you know. That's why I support some level of timber management, but if you, if you want to have an endangered species, say the red-cockaded woodpecker, then you have to make some economic sacrifice to perpetuate the species.

David Todd [01:34:26] Well, you know, as you look back on many years of working with red-cockaded woodpecker and, and the forest issues, is, are there any sort of highlights that pop up, any questions that, you know, have been persistent for you, or truths that you have found?

Dick Conner [01:34:50] Oh, I made a lot of friends. I think that's the, the best part of it and the fact that a lot of people who viewed me kind of as an enemy initially would come around and say, we should have listened to you, you know, you were you were correct. And another one of the people on the forest when I retired, he wrote on a note. I forget exactly what the words said, but something, you showed me how sticking to the truth and continuing to stick to the truth is the way to go and the right thing to do. This is what people need to do.

Dick Conner [01:35:35] And you feel really good when you, when people come back with comments about you like that. Another graduate student, actually, I worked with, I was on her master's committee for studying cardinal behavior. I did a lot of work with Northern cardinals and their vocal behavior. Name is Mary Anderson. She still lives in Texas, and she wrote this little thing and embroidered it on a little plaque that she gave to me and said that I represented a person who, rather than following a path, I made a path for other people to follow.

Dick Conner [01:36:25] Things, things like that, you know, that still chokes me up a bit when I think about that. But I must have done something right.

David Todd [01:36:36] I would think so, yeah.

Dick Conner [01:36:40] It's not easy being an endangered species researcher. Because you're always going to end up in a situation where somebody wants to exploit something.

David Todd [01:37:02] Yeah, I imagine it's like having the, the snipers out for you. You know that at some point you're going to irritate somebody.

Dick Conner [01:37:15] Oh yeah.

David Todd [01:37:18] Well, is, is there anything you'd like to add, as you look back at, you know, your life and work and particularly your efforts on behalf of the red-cockaded woodpecker?

Dick Conner [01:37:33] Made a lot of friends, and another one I'd like to mention is Dr. Jeff Walters, who is, he has an endowed chair position at Virginia Tech now. He was initially at North Carolina State University when we started on our book, and he was primarily the one who's, who's done the, the seminal work on red-cockaded behavior - cooperative breeding. And when Craig and I, I was asked to write the book and asked Craig to join me in it and wanted him to emphasize the foraging behavior, and I knew Jeff had the, the cooperative breeding and behavior part down. So I talked to Jeff and he agreed. That's why there's three authors on, on our red-cockaded woodpecker book. I haven't talked to Jeff in a while. He's a real good person. Real excellent scientist, excellent scientist.

Dick Conner [01:38:37] But you made a lot of friends and, and of course, I have to mention Dr. David Ligon. I have not heard from Dave in a long time and we dedicated our, our book to him. He was one of the early researchers on the red-cockaded woodpeckers, and probably, initially noted that there were some real problems. He and Jerry Jackson. And Dave invited me to be on the American Ornithologists Union committee to write a report on what was going on with the red-cockaded woodpecker. I think that was back in 1982 or something. It was eventually, it was published in the Auk, some, at some time or another, which has now changed its journal name.

Dick Conner [01:39:32] But there's a lot of people I met - a lot of really good, hardworking people with, with interests, sincere interests in conservation and endangered species management, preserving that of the past for people in the future, not sacrificing the eternal for the expedient.

David Todd [01:40:05] Right. Well, you put it very well, and I must say that this little bird was very fortunate to have not only yourself, but this whole community of researchers, you know, looking out for it.

David Todd [01:40:26] Thank you very much for your time today. I really appreciate it. I learned a lot.

Dick Conner [01:40:31] I hope I have been helpful.

David Todd [01:40:33] You have indeed, and I hope that our paths cross in the future.

Dick Conner [01:40:39] OK.

David Todd [01:40:39] But in the meantime, again, thank you so much.

Dick Conner [01:40:46] I'm just glad I figured out how this headset works.

David Todd [01:40:52] You did well.

Dick Conner [01:40:53] When the red light is blinking, it's not working.

David Todd [01:40:57] Got it!

David Todd [01:40:58] Well, I'm glad you cleared that hurdle and again, thank you for your participation.

Dick Conner [01:41:05] It was good talking with you, Dave.

David Todd [01:41:07] Likewise. You take care.

Dick Conner [01:41:09] You too.

David Todd [01:41:10] All right. Bye now.