

TRANSCRIPT

INTERVIEWEE: Clifton Ladd

INTERVIEWER: David Todd

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David Todd [00:00:03] Good morning. I'm David Todd. And I have the privilege of being here with Clif Ladd. And with his permission, we plan on recording this interview for research and educational work on behalf of the Conservation History Association of Texas, a non-profit in the state, and for a book and a website for Texas A&M University Press, and finally, for an archive as the Briscoe Center for American History, which is based at the University of Texas at Austin.

David Todd [00:00:38] And I always want to emphasize that he would have all rights to use the recording too. It's his.

David Todd [00:00:45] And I just want to make sure that that's okay with you, Mr. Ladd.

Clif Ladd [00:00:50] Oh, yeah. Yeah.

Clif Ladd [00:00:51] Thank you, David. I appreciate this opportunity. I've read over several of the transcripts that you've already done, and I'm happy to be able to add to the project. So, yeah, I'm ready, ready to, ready to give you what I can on this.

David Todd [00:01:12] Great. Well, thank you very much. Really appreciate your help here.

David Todd [00:01:17] Well, so let's get started.

David Todd [00:01:19] It is Thursday, December 15th, 2022. It's about 10:20 in the morning, Central Time. And my name, as I said, is David Todd. And I am representing the Conservation History Association of Texas. I am in Austin and we are conducting a remote audio interview with Clif Ladd, who also is in Austin.

David Todd [00:01:46] Mr. Ladd is a certified wildlife biologist with a B.A. in biology from University of Texas at Austin and an M.S. in biology from Texas State University. He has worked as a consultant for a variety of firms, including Espey Huston, Loomis Partners, Blanton and Associates. And, he has also been heavily involved in endangered species conservation planning and permitting, habitat management, conservation bank development. And he has been especially engaged in efforts to study and preserve the golden-cheeked warbler in Central Texas.

David Todd [00:02:29] So, today we'll be talking with Mr. Ladd about his life and career to-date, and especially focus on his work with golden-cheeked warblers.

David Todd [00:02:42] So, just to follow on that introduction, I thought we might start by asking you to tell us about your childhood and if there might have been some family or friends or particular experiences that first got you interested in wildlife and conservation.

Clif Ladd [00:03:01] Yeah, sure. Well, I was born on Luke Air Force Base in Glendale, Arizona, but we never really lived there for very long. I moved away from there. I was an infant when we moved to Massachusetts to the North Shore, which is the area north of Boston along the coast, in a small town, I think, at the time that I lived there, it was about 2000 people. And it's still a small town, although, like so many other places, feeling the influence of larger urban areas, in that case, Boston.

Clif Ladd [00:03:38] But, I lived there until I was about 12 years old, and I loved it up there. I mean, where we lived was surrounded by woods. And, anywhere I went, I mean, I could be in the woods, like, in 5 minutes. And that's a lot of what I did was just go and explore in the woods.

Clif Ladd [00:04:03] My grandparents lived in Connecticut on a small farm and there were woodlands all around them too, and ponds. And so, a lot of what I did was just exploring in the woods. And, I think as far as influences on my life, having that opportunity to be in nature was really probably one of the biggest things.

Clif Ladd [00:04:32] The people around me, my parents, my grandparents, all kind of liked the same thing. They totally were encouraging me to go off and find things, and see what I could, and come back and tell them about it. And I can remember coming back, you know, with a lady slipper orchid that I'd found, for example, and showing my mom. She said, she knew what it was. That's a lady's slipper. Don't pick those.

Clif Ladd [00:05:00] You know, but, she was very interested in nature and wildflowers. My father was, was, too. He was more interested in hunting. My grandparents were gardeners. And we had huge vegetable farms that, you know, there, at their place. And, you know, grew everything.

Clif Ladd [00:05:25] So, I was always around nature and it was more just like my, my relatives that I was - my parents, my grandparents. And having that opportunity to be in or close to nature that were, I think, to me, the most important elements in my formative years.

David Todd [00:05:49] Do you remember any outings maybe with your parents to go explore, or were you sort of on a self-guided tour?

Clif Ladd [00:06:01] Yeah, good question. I was more on a self-guided tour. So, you know, I would just be out there, you know, flipping logs and rocks, and finding salamanders or whatever. And yeah, it was more of a self-guided tour, David.

David Todd [00:06:19] And were there, there any sort of jobs that your grandparents might have delegated to you to, you know, seed or weed in their garden? Or, was this more just sort of backwoods exploration for you?

Clif Ladd [00:06:39] Well, in the, in the garden, you know, yeah, I, I used to help my grandfather a lot on planting and weeding and, you know, so, I mean, whether it was, you know, planting the corn or, you know, we had, we grew popcorn, Indian corn, you know, sweet corn, all kinds of stuff, and, or, you know, weeding in the asparagus patch or whatever.

David Todd [00:07:08] And, you know, one time we found a turtle nest in the asparagus patch and that, that was interesting took the eggs to the University of Connecticut. And they hatched them out and told us what they were.

Clif Ladd [00:07:23] And, you know, but Grandpa, he was, he was interested in that, too.

Clif Ladd [00:07:30] But yeah, I helped him a lot, whether it was, you know, working the compost pile or, you know, planting or weeding or harvesting.

Clif Ladd [00:07:40] And my grandmother, you know, she did a lot of canning. So I maybe didn't help that so much, but I did watch and I kind of knew what she was doing. But yeah, I got involved in that too.

David Todd [00:07:56] Did, did anybody give you, or share with you, a guidebook or a pair of binoculars?

Clif Ladd [00:08:05] Yeah. Uh huh. Yeah. I have my grandfather's field guides still, and I have my dad's book on waterfowl, and my mom's book on Texas wildflowers. So yeah, I have all those things. Binoculars - I didn't have a pair of binoculars back then, so that's all right.

Clif Ladd [00:08:33] I had a few other things that you could use in the woods, and we did go camping a lot, but mostly that was just, you know, we'd be hiking or whatever, out on the boat, sometime like that. My dad had a boat. He had an inflatable raft too that he used to backpack. The thing was pretty heavy just for an inflatable raft. It was an old surplus army life raft that he would carry up to a place called Sawyer Pond, we used to go to a lot, up in White Mountains National Forest in New Hampshire. But he'd take that thing up there and we'd blow it up and we'd go out fishing on Sawyer Pond. Well, that was always a lot of fun. We had a lot of trips up to Sawyer Pond.

David Todd [00:09:31] That's great. Priceless.

Clif Ladd [00:09:34] Yeah.

David Todd [00:09:36] Well, so it sounds like you had a a family that supported and shared a lot of these kind of interests in the outdoors.

Clif Ladd [00:09:45] Mm hmm.

David Todd [00:09:46] When you got to school, were there any classmates or teachers that might have felt the same way, and encouraged that sort of interest in nature and conservation?

Clif Ladd [00:09:59] You know, I, I would have to say overall that I didn't really get that much from school in terms of appreciation of nature.

Clif Ladd [00:10:13] We had a very good science teacher when I was in elementary school, Mr. Winter. This was at Howell Manning Elementary School in Middleton, Massachusetts. And he was really good. But we didn't really have much in, in our classes about nature per se. It was, it was more in other types of sciences.

Clif Ladd [00:10:47] So, and my school was very close to woods. And we I mean, I could still be, you know, in nature practically, very easily. But, the school didn't really have any, any particular focus on nature or environmental studies.

Clif Ladd [00:11:17] And some of my classmates, yeah, and I mean we'd do the same kind of things sometimes. Some of them, you know, we'd go out and explore in the woods. But, I'd say, overall, that was pretty much that was, for me, a self-guided activity.

David Todd [00:11:38] Okay.

David Todd [00:11:40] So something else I'd be curious about is if you possibly, you know, picked up some of this interest in the outdoors through, I guess you'd call them cultural artifacts, you know, whether it was books or movies or TV shows, that might have kind of given you some exposure to this world.

Clif Ladd [00:12:09] I mean, I've always enjoyed reading, but, you know, we're going back pretty long time now, and it's like I don't remember all of the books that I read at that time. You know, I'm sure that there were some that were, you know, kind of about nature, traveling and things like that. But there's really nothing like that that I recall as far as a TV show or movie or anything like that. You know, again. And I guess, I'd just have to say, it was all pretty self-guided.

David Todd [00:12:52] Mm hmm.

David Todd [00:12:53] Well so, this may be jumping forward a little bit, but it sounds like when you got to college and grad school, you, you know, had a strong interest in biology. And in fact, I think your master's thesis at Texas State was on the golden-cheeked warbler. And it'd be great to hear how you came to that, and, and what you found and understood about the warbler in that thesis research.

Clif Ladd [00:13:27] Right. Well, I would say that, for me to go and study for my Master's at Texas State with Dr. John Baccus, who was my major professor, B-A-C-C-U-S, was really one of the most fortunate things that happened to me. And, after I finished my bachelor's degree at UT, I was looking for employment that was interesting to me - things that I wanted to do. And it, with a bachelor's degree, I seemed to only be able to find lab work, and I really didn't want to keep doing that because that kept me inside all the time. And I decided I needed to go get a master's degree.

Clif Ladd [00:14:27] And so, I started looking around and I went to, and because I was going to be paying for it too, just like I did my bachelor's degree, and that was all self-funded while I was working pretty much. But, getting my master's degree was also going to be funded by me. And so, I, I didn't really look much out of state.

Clif Ladd [00:14:53] But I, I did go over to Texas A&M University and see about going there. And Brenda, Brenda and I went over there, spent a couple of days and decided that wasn't really the place for us. For one thing, when I went, and I was talking with some of the professors there about projects that I could do. One that was offered to me was to study the effects of Compound 1080 on non-target species, and determine the LD-50, you know, of Compound 1080. So, what that means is that they wanted somebody who could systematically dose raccoons and other species to see how much it would take to kill half of them. And I just wasn't interested in anything like that.

Clif Ladd [00:15:54] So, I went down to San Marcos and I met John Baccus, who was one of my favorite teachers that I ever did have. And he had a project that he needed to do to look at nesting habitat requirements of the golden-cheeked warbler at Texas Parks and Wildlife Department's Kerr Wildlife Management Area. And he had the funding for it, and he was ready to start. And so was I. And it just sounded like, "Yeah, that sounds like that would be really interesting". And I knew what the bird was. I had seen it, but I wasn't really that familiar with it.

Clif Ladd [00:16:35] But Dr. B and I - and we, we all called him Dr. B - Dr. B and I hit it off pretty much right away. And I started there, at the time it was Southwest Texas State, and, and we just got started on the project and, and that was, for me, a very fortunate thing that that's what I was offered to do there.

Clif Ladd [00:17:05] I mean, it took a little bit of searching to come up with that. Like I said, I wasn't really getting very many good offers for projects at Texas A&M University, but this project interested me. And so I said, "Yeah, let's do that".

David Todd [00:17:22] And well, what did you learn about the bird's nesting requirements? Anything you could sort of summarize for us?

Clif Ladd [00:17:30] Well, I don't know that I really added a lot that was not known at the time. At the time I got started on it, the main publication that, that went into habitat requirements and the life history of the Bird was by Warren Pulich, a little book on the golden-cheeked warbler published by Texas Parks and Wildlife Department.

Clif Ladd [00:17:58] But what the Kerr Wildlife Area needed was they wanted to really study it on their Wildlife Management Area, before they did any kind of habitat management that might adversely affect that bird. They were looking at ways they could improve the land and habitat there at the Kerr Wildlife Area for white-tailed deer and for grazing. It's a demonstration area for a lot of land management in the Hill Country.

Clif Ladd [00:18:36] And they knew that there were golden-cheeked warblers, but didn't really know how many or exactly in what kind of habitat.

Clif Ladd [00:18:42] So, my research there really looked pretty hard at that, and identifying areas that were used by the bird and then characterizing those.

Clif Ladd [00:18:56] And the things that I found were, you know, a strong correlation between topographic roughness, I guess. I'd say, more like in canyons and slopes above, you know, the creeks. A very strong correlation, obviously, this is a, you know, it's a strong correlation with old woodlands, large cedars mixed with oaks and other deciduous trees. And that's pretty much it.

Clif Ladd [00:19:36] At the time it was, I think, in a lot of ways, kind of reinforced some of the things that Warren Pulich had written about.

Clif Ladd [00:19:48] I think there's been, since the time I did that, there's been a lot of research on golden-cheeked warblers, really looking at very fine details.

Clif Ladd [00:20:01] But, my research was, was broader than that. And I did go and look at warbler habitat in other parts of the warbler's range in Texas, outside of Kerr County, and tried to get a good sampling throughout the range.

David Todd [00:20:20] Okay.

Clif Ladd [00:20:23] Mm hmm.

David Todd [00:20:23] Well, so this might be a good segue way to just get acquainted with the bird, and maybe you can give us the, the 101 version of the golden-cheeked warbler's life history and the ecological niche that it fills.

Clif Ladd [00:20:39] Sure.

Clif Ladd [00:20:41] Well, Texas has over 600 species of birds and I forget the exact number, but it's a very high number. I think California has had more birds reported within its boundaries, but Texas is probably second. The golden-cheeked warbler is the only one of those species that only nest in Texas. Every golden-cheeked warbler is a native Texan. And, they've been reported from, I believe it's 24, maybe 25, counties in Texas where, where they have nested.

Clif Ladd [00:21:25] The bird was first discovered on the wintering grounds in Guatemala, and it wasn't until, oh, maybe four or five years later that it was found in central Texas.

Clif Ladd [00:21:38] But, every one of them's a native Texan. They don't occur statewide. It's only in a, like I said, about 24 counties out of Texas' 254 counties. And they're all, the habitat is always large Ashe juniper, mountain cedar, whatever you want to call it - juniperus ashei - with oaks, often plateau live oak. And they prefer the big old trees. They build their nests from bark of ash, junipers, and then those trees that they get the bark from have to be pretty old. The bark peels off easily.

Clif Ladd [00:22:27] But yeah, they're basically the central Texas version of an old-growth species. They are found in old-growth habitat. You know, the ideal situation would be, uh, cedars and oaks that haven't ever been cut, but that's really rare. You just don't find that much anymore.

Clif Ladd [00:22:53] A lot of the habitat is re-growth, but it takes 40, 50 years or so, you know, to, to grow some kind of decent golden-cheeked warbler habitat, if it's been cut. So habitat loss is a concern because it does take a long time for it to grow.

Clif Ladd [00:23:17] There are other species that, you know, that you hear about around here, like black-capped vireo. They're more of an early, successful stage species. They can, they can occupy a habitat that has been cut and it will regrow in just a few years.

Clif Ladd [00:23:37] And, but, golden-cheeked warblers are a species that needs an old-growth habitat.

David Todd [00:23:43] You know, that's a really interesting insight for somebody like me who's just, you know, kind of a neophyte to this. But that there's, you know, the golden-cheeked warbler is maybe a indicator of of old-growth woodlands that you find in central Texas. And, that may be there are sort of analogous species in woodlands in other parts of

Texas. And I was wondering if you can, you know, give us some examples. I mean, I think about something like a red-cockaded woodpecker. Is that, is that a fair comparison?

Clif Ladd [00:24:20] Yeah, sure. It's it is. Red-cockaded woodpeckers - they need big old pines, preferably long leaf, but they do live in a lot of loblolly pine. But loblolly pine, and maybe the long leaf too, would have to be something like 60 to 80 years old, usually, before it's big enough to, to be suitable for red-cockaded woodpeckers.

Clif Ladd [00:24:54] And, often that kind of habitat may be maintained somewhat by fire because they're, the trees may be bigger and more widely spaced without a lot of mid-story. So, you know, there will be, when you look at red-cockaded woodpecker habitat, you know, it's usually easy to see through the trees because there's, there's just not that much mid-story or, or even under-story. And the trees are widely spaced. But it's an old kind of habitat.

Clif Ladd [00:25:32] It is one that can be managed pretty easily into that kind of situation. And they have had a lot of success with red-cockaded woodpeckers for creating artificial nest cavities, where they can actually cut into the tree and put in a nest box. Or, in some cases, drill into the tree using the right kind of tools and create a cavity that they will use.

Clif Ladd [00:26:07] But they are essentially another old-growth species.

David Todd [00:26:13] Okay. Well, that helps. It's nice to have some sort of a little context like that. So, thank you.

Clif Ladd [00:26:22] Mm hmm.

David Todd [00:26:22] Well, so I interrupted and I apologize. Maybe you can tell us a little bit more about the life history of the warbler. I guess it is born here, but then winters in Central America - Guatemala and so on.

Clif Ladd [00:26:36] Yeah. Guatemala and Nicaragua, Honduras, a little bit in El Salvador and southern Mexico, Chiapas. So, they usually arrive here in the nesting, on the nesting grounds, in early March, and it could be right around March 1st to 10th, something like that. As far as I know, they haven't ever showed up around here in Travis County in February, and I have kind of been watching for that to happen some year, maybe like on a leap year. But I don't know of them ever being here in February.

Clif Ladd [00:27:27] But the males, when they get here, they're pretty much going to be vocal right away and starting to proclaim their territory. That's, there're maybe, I only know of a couple of instances where I found golden-cheeked warblers early in the season where they weren't actually singing yet. But generally speaking, they start advertising their territory as soon as they get here.

Clif Ladd [00:27:59] The females come in and they'll basically start building a nest by, you know, even mid-March. And, you know, the nests are like a small cup that's placed in the branches or maybe a fork of a tree, could be 10 to 15 feet up. It's maybe the size of a little teacup, stuck up in the, in the fork. They're very hard to see, made out of cedar bark, mostly held together with spider webs and, you know, like maybe lined with a few feathers and things like that.

Clif Ladd [00:28:42] But, typically, you know, they'll have that nest built by something like, you know, late March and laying eggs, four or five eggs, four is probably more common and maybe just three. But their young will be, you know, they'll hatch by early April, maybe even mid-April. They'll start, you know, getting ready to fledge.

Clif Ladd [00:29:24] Then they are parasitized somewhat by brown-headed cowbirds. That can be a problem because brown-head cowbirds are a species that has benefited from the settlement, you know, by, you know, and expansion of agriculture in this area. But it's not, it hasn't been as harmful to the golden-cheeked warbler as it has been, say, for the black-capped vireo, which often, if they're parasitized, they just really don't reproduce, you know, they'll only raise cowbird.

Clif Ladd [00:30:09] But the golden-cheeked warblers, they'll usually be here through, and very active, easy to find, up until mid-May.

Clif Ladd [00:30:19] By late May and early June, they're becoming much quieter and a little harder to find.

Clif Ladd [00:30:28] By July or early August, they're probably on their way south again, back down to our Guadalupe, Honduras, Guatemala, Honduras, Nicaragua, El Salvador and Chiapas. And then they'll do it again next year.

David Todd [00:30:48] That's a great summary. Thank you.

Clif Ladd [00:30:50] Uh huh.

David Todd [00:30:51] And, and so how were they discovered down in Central America? Was that a recent thing or have people known that that was their winter destination for a long time?

Clif Ladd [00:31:05] Yeah, that was where they were first found. And it was in 1860, I think it was, when there were just some ornithologists down there, Sclater and Salvin, who were, you know, they were just looking at birds and found these that they weren't familiar with, and collected one or two of them. And it wasn't until some years later that they were found, I believe it was in Bandera County. Pretty sure it was. So, and I'm not sure even who it was who that put it together that they were the same species. But that's what happened.

David Todd [00:31:57] And then, so this give us a kind of a picture of their annual cycle and their range. Tell us a little bit about what the niche is that they fill in the ecosystem, especially of central Texas.

Clif Ladd [00:32:15] Yeah, well, they're insectivorous. They eat a lot of, you know, just caterpillars and small bugs, spiders, things like that, that are in the cedar / oak woodlands of central Texas. And, as far as their niche goes, I mean, other than just being a woodland bird, warblers, the New World warblers of which this is a member, are just a small, usually brightly colored, lot of, you know, hues of yellow and green and black. This golden-cheeked warbler is one of those species.

Clif Ladd [00:33:04] There's another species, the black and white warbler, which is also common in golden-cheeked warbler habitat. And in fact, they, they go together pretty well - once described as going together like "waffles and syrup". And they just, you know, if you are

in golden-cheeked warbler habitat, it's not uncommon to find black and white warblers there, too. Black and white warblers are more widespread. But, around here I only see them in golden-cheeked warbler habitat.

Clif Ladd [00:33:38] So, it's, you know, they, I don't know how much they compete with each other. I suspect not a lot. But they are just both insectivorous birds in the Ashe juniper / oak woodlands, which, you know, again, that type of habitat is mature. So, it's usually trees that are larger diameter. They're taller.

Clif Ladd [00:34:08] And the canopy of the trees, the leaves and the foliage of the trees, is more, it's more complete. It's "higher percent canopy covers" is what we call it. The more closed it is, the better. If there's very little sunlight reaching the ground, if it's mostly a shady undergrowth, then that's better.

Clif Ladd [00:34:36] The golden-cheeks tend to forage up in the canopies of the trees, but they're not hard to find. And if you go to the right kind of habitat in the spring, you go from, you know, early March through early May, let's say, or mid-May, or maybe you can be even late May, if you find that kind of habitat and you just listen long enough, you'll hear them, and then look around a little bit more, and you may, you may see them.

Clif Ladd [00:35:10] And they're not that hard to see. They tend not to, they tend not to fly away. If you're just, if you're quiet and you listen to one, you hear it, you can go over by where it is and get maybe even right underneath it, and look. And, as long as you're not making a lot of commotion, they tend not to fly away. So, it, it makes them pretty easy to study in that in that way.

Clif Ladd [00:35:40] And people have, lately, in the last few years, maybe 20 years, there have been a lot more efforts to, to band them using color bands, so that they can, each one, be individually marked with a combination of colored bands on their legs that would help identify an individual. And people have learned a lot more about nesting, success and reproduction by being able to individually mark birds.

Clif Ladd [00:36:18] Yeah but, yeah, that's ... I don't know. Did I leave anything out?

David Todd [00:36:24] No, no, this is, this is great.

David Todd [00:36:27] You know, one thing I had heard, and like a lot of this stuff, I can't really substantiate it because I don't know much about it, but I had understood that the golden-cheeked warbler is sort of a, a bird on the edge, that it's, it's in a area that is drier and hotter than most warblers can tolerate. Is that, is that a true way of looking at bird?

Clif Ladd [00:36:56] Hmm. Well. I don't know that it's really living on the edge that much, although I am concerned that small increases and, or changes in the climate could lead to changes to habitat that would, that would not benefit this bird, and that may take years to even see that it's happening. It's not the kind of thing that you or I would be able to go out and say, "Oh, here's a change, or this, this just happened", unless it's something that is maybe due to a wildfire, which by itself could be made more common because of climate change. That's a big concern among many people, is that we have longer droughts, less rainfall, changes in rainfall then.

Clif Ladd [00:38:16] And we, and we have more people, and wildfires are, in something like 98% of the cases, are something that's caused by human beings. It may be a careless action - maybe a spark from a barbecue pit or a transmission line that, you know, causes an arc across and hits a tree and starts a fire. And that's happened. The big fire in Bastrop in 2011 was, was caused by a transmission line.

Clif Ladd [00:38:55] Now, as those things happen, those fires may happen and be worse because of changes in the climate, and then you lose a big area of habitat. Now, that area in Bastrop was not golden-cheeked warbler habitat. But, we did have fires at that same time, September 2011, that were in golden-cheeked warbler habitat. And there was one up near Spicewood. There was one on Steiner Ranch, and there were fires all around the place at that time.

Clif Ladd [00:39:32] And so, as the climate changes, it will affect habitat. And those effects, some of them, may be very small, hard to see that it's happening. But, it may be just a little less growth of the kinds of species that do take a lot of moisture, like, for example, Texas oaks, which is a major part of golden-cheeked warbler habitat. And if those trees are not growing as much as they used to, or they're, I mean, there can be changes in other ways, too. Maybe there's a higher deer population and they browse it more. And so, we kind of start to lose a little bit of the oak component of golden-cheeked warbler habitat. And those oaks may be important for the caterpillars that the golden-cheeked warblers depend on.

Clif Ladd [00:40:39] So a lot of these things are going to be very hard to see, but it makes a lot of sense. And the people who have looked at it, ecologists who study long term changes and climatologists who look at what the effects of climate change may be on golden-cheeked warblers, have come to the conclusion that it could cause the species to shift its range a little bit, and maybe it will not be as common in the southern part of the range.

Clif Ladd [00:41:11] Travis County may get to be a little bit more like, Austin may get to be a little bit more like, for example, San Angelo, with lower rainfall. Lower rainfall is going to mean less, less growth of Ashe juniper and oaks into the big trees that make the habitat the golden-cheeked warblers depend on.

David Todd [00:41:41] Okay.

Clif Ladd [00:41:42] Well, I hope I answered your question well enough. Did I?

David Todd [00:41:46] Yeah, yeah, yeah. No, absolutely. Thank you. Thank you. That's really thorough. I appreciate it.

Clif Ladd [00:41:50] Uh huh.

David Todd [00:41:51] Well, so, I guess you're, you're looking more into sort of current and future trends.

Clif Ladd [00:41:58] Mm hmm.

David Todd [00:41:59] Can you sort of turn back the clock and help us understand why the warbler has been, you know, challenged, I guess, over, over the past years. I think that in early days the warbler was in this category of protected non-game species.

Clif Ladd [00:42:19] Yeah.

David Todd [00:42:20] And, and I guess got some Migratory Treaty bird protection as well. Why was it, you know, originally listed under the Endangered Species Act? Can you tell us about those are early days when...

Clif Ladd [00:42:41] Oh yeah.

David Todd [00:42:41] When there were concerns about the bird and, and, you know, how that, how that shook out.

Clif Ladd [00:42:48] Sure. Um, I'm not sure when they first, when Texas Parks and Wildlife Department first added it to their list of protected non-game. But I know that that's what it was in the early eighties and mid-eighties, up until the late eighties. And that's what it was at the time that I was doing my, my research on habitat.

David Todd [00:43:19] Protected non-game was basically just a category that said, well, it's, it's not a game species and so you can't hunt it. But it didn't give any protection for habitat. It wasn't really much of a protection to habitat. But, you know, that's what it was.

Clif Ladd [00:43:40] The U.S. Fish and Wildlife Service listed it at that time as a candidate species in what they called, "Category 2". Which Category 2 just meant that, well, let's see, they had a couple of other Categories. I think Category 1 was something that was more likely that it should be listed. Category 3 was in some way, it maybe wasn't really a very good candidate anymore, either because it was now thought to be more common than, than it was before, or possibly even had gone extinct.

Clif Ladd [00:44:18] But Category 2 was a large category of species and golden-cheeked warbler fell in it.

Clif Ladd [00:44:31] The U.S. Fish and Wildlife Service basically had some people at Texas Parks and Wildlife Department do a status report on it, and that was led by Rick Wahl and David Diamond. And there was a woman named Denise Shaw who also was involved in that at the time. She, Denise, her specialty was in remote sensing. So she was able to use Landsat thematic mapper data to map golden-cheeked warbler habitat using the best technology that was available at that time, in the mid-to-late eighties. And that was all fairly new. But, I think that they all did a pretty good job of finding habitat using those tools.

Clif Ladd [00:45:30] And, came to the conclusion that a lot of, as a lot of people had suspected, that the warbler was losing habitat. There was a lot of agricultural clearing going on. That was one of the things that Warren Pulich was very concerned about. The Soil Conservation Service at that time (now it's the Natural Resources Conservation Service) had programs that paid landowners to clear their land of cedar. And that led to a lot of habitat loss.

Clif Ladd [00:46:14] There were reservoirs built that took habitat too; housing development going on that cost a lot of habitat loss. All of those things contributed to habitat loss.

Clif Ladd [00:46:27] And the authors of the status report, Rex Wahl, David Diamond, Denise Shaw, found their work supported that conclusion - that they were, that the bird was losing habitat.

Clif Ladd [00:46:43] And at the time, in the mid-eighties, and the late eighties, there was quite a development boom going on in central Texas, which, you know, people could see that happening all over the place. And, it was causing a lot of habitat loss in an area that people thought this is some of the best warbler habitat there is anywhere.

Clif Ladd [00:47:10] Now, we've learned a lot about where good golden-cheeked warbler habitat is. And it may be, it could have been an overreaction to think that, oh, we're losing the very best habitat that there is. But at the time, that's what people thought.

Clif Ladd [00:47:30] So, the Fish and Wildlife Service, when they got the status report, thought, you know, we're losing habitat every day. We need to do something now. And so, in May 1990, think it was May 4th, 1990, they emergency-listed the bird as endangered. And I don't know of any other species that has been emergency-listed. That's the only time I ever heard of it.

Clif Ladd [00:48:02] They did, simultaneously, publish a proposal to list the species through their normal process, and they did that and made that final in December 1990. But in May 1990, it was emergency-listed.

Clif Ladd [00:48:18] Now, I'm, kind of don't want to skip around too much, because I think you may be inclined to ask about it later - the Balcones Canyonlands Conservation Plan - but at the time that was going on and it was partly because we thought, you know, we're losing habitat for black-capped vireos. There are cave invertebrates, the golden-cheeked warbler that probably ought to be listed, so we had started that conservation plan in the late eighties.

Clif Ladd [00:48:51] You know, we can save that and talk about that more later. But I want to make sure I've covered your, your question about the status of the bird prior to that, in the, in the mid and late eighties.

Clif Ladd [00:49:05] And the Migratory Bird Treaty Act basically protects all native migratory birds. It doesn't cover things that are introduced like house sparrows and rock pigeons, but all species are protected, pretty much all are protected by the Migratory Bird Treaty Act. There's some that, you know, where there're exceptions for hunting and things like that. But the golden-cheeked warbler protection under the Migratory Bird Treaty Act doesn't really give it a whole lot of protection.

Clif Ladd [00:49:37] The Endangered Species Act, on the other hand, does give a little bit more protection, particularly in ways that protect habitat. And that, that protection is not as baked into the Endangered Species Act as a lot of people would like to see. But there are certain actions that, if they were done in habitat, that could affect individuals of that species, and that's the kind of habitat loss that is essentially governed or regulated by the Endangered Species Act. So that, that became important.

David Todd [00:50:26] Okay.

Clif Ladd [00:50:28] Well, let's see. Can't think of much more to add, but I may come up with something else.

David Todd [00:50:33] Well, so one thing I thought would be interesting to talk about before we get too far into some of the conservation efforts that I think you hinted at - the Habitat Conservation Plans and so on - is to just understand a little bit more about surveys and

models, and you know how you get a count on, on birds that, whose nests in particular can be hard to find, and, you know, where it can be a real patchy kind of distribution. I know that, that you've done territory surveys for the LCRA and, and then for other clients, and I thought maybe you can give us some insights about how that's done, maybe into the current day. And then also, you know, some of the controversies that have arisen about, I guess, how you model and extrapolate from surveys that are done.

Clif Ladd [00:51:35] Yeah. Okay. So, when, after I'd finished my master's degree and I started looking around for a job, one of the first things that came up was my friend Chuck Sexton worked at a place called Espey Huston, and he knew that they were thinking of hiring somebody who might have some experience with this bird because they had some projects that they needed to be able to evaluate.

Clif Ladd [00:52:09] So I went and talked with people at Espey Huston, including Chuck, who I think you may know, and he, basically, you know, he recommended them, or me to them, and I got the job. So, I started my career in consulting, which turned out to be another one of the good things that's happened to me, as I actually kind of like consulting. And I did try government employment for a couple of years when I managed the Natural Resources Program at Travis County. And that was interesting. But really, I only stayed there a couple of years and went back to consulting.

Clif Ladd [00:52:55] But because I had just finished my master's degree on the golden-cheeked warbler and then, like, you know, five years later it was emergency listed, and I was in consulting, I was kind of like one of the experts on it as far as being in a place, and available to, to do these, you know, studies, finding the bird, or looking for the bird, in potential habitat.

Clif Ladd [00:53:25] So, I did a lot of that. And, you know, I probably have done more golden-cheeked warbler surveys on more acreage than, than anybody else. It's just one of the things that I think I can accurately say, and I don't mean to be boasting, but that's just, you know, something I have done over thousands of acres.

Clif Ladd [00:53:53] And usually what we would do in that case would be we'd identify areas of potential habitat, and we'd just go out and look long enough, and thoroughly enough, that if the bird was there, you'd have a very high expectation of finding it. And we'd map where they are. And you do that several times, you could, say, go into a 500-acre patch of habitat and spend, you know, ten or 12, 15 days looking and listening for the bird and mapping it wherever you can find it. After a while, you can kind of piece together, well, this bird is always kind of, like, spending its time up here in the head of this canyon or something like that.

Clif Ladd [00:54:47] Or then you'd hear two birds singing at the same time, counter-singing. And so, you'd know that there are two in that area. And so, you can look at those kinds of things and be able to map a territory. And, those territories kind of shift and change. They're not, they're not fixed. They don't have a line that defines them. But, you can pretty easily look at a set of data of all your golden-cheeked warbler observations, and to people who are familiar with this kind of method can, they're usually going to come up with about the same answer as far as numbers of birds. This is called a mapping method.

Clif Ladd [00:55:32] And a lot of what people do nowadays is called occupancy modeling, where they actually spend a little less time out there. But they would just keep track of how often they find birds in, in an area and through, you know, some, a little bit more complicated formulas and theory, just come up with an estimate of the number of birds in a given area.

Clif Ladd [00:56:05] That's a little bit different and it's maybe a little bit, a little bit easier to cover a larger area, less field work involved. But, I think the mapping method is probably still going to give better results as far as how many birds are in an area and just what, what habitat they actually do occupy.

Clif Ladd [00:56:29] So, you know, I've done territory surveys for lots of different government agencies and, and worked on state parks, LCRA property, a lot of private property, for different kinds of projects. And some of them, potential housing development, others, transmission lines or highways, water lines, things like that.

Clif Ladd [00:56:58] And, I've also done quite a lot of that for entities that were considering setting up a conservation bank for golden-cheeked warblers, which would entail protecting an area so that you could use that as mitigation credit for some other place where somebody is going to do a development and they were going to take some habitat. They permit that, if they could protect habitat someplace else, such as in their conservation bank.

Clif Ladd [00:57:38] So I've been able to do quite a lot of that. Have I... I, you know.

David Todd [00:57:46] Yeah, yeah.

Clif Ladd [00:57:46] Is that what you're looking for?

David Todd [00:57:48] Yes. Yes. So there sounds like there's these mapping methods and then the occupancy modeling. And I guess maybe it's these occupancy modeling efforts that, that are more prone to challenge and controversy, because of the I guess, the assumptions in the...

Clif Ladd [00:58:08] Yes.

David Todd [00:58:08] The simulation, you know, efforts. Is that, is that fair to say?

Clif Ladd [00:58:14] Yes.

David Todd [00:58:14] I know that there was this whole dispute between Ms. O'Donnell.

Clif Ladd [00:58:17] Mm hmm.

David Todd [00:58:18] And Collier and Morrison over at Texas A&M. And I don't know enough about it to really comment, but maybe you can give us some insight about, you know, where the tension was there.

Clif Ladd [00:58:29] Yeah, I think that there's a lot of disagreement among the people who looked at it, about how they have done those more recent estimates, and what they considered habitat, and how they applied density estimates in areas that maybe don't support quite as many warblers as they're, as they think, as they think they do.

Clif Ladd [00:58:59] And, or they've developed density estimates based on one kind of habitat, but then they apply that more broadly to areas that maybe aren't quite as suitable, or they're smaller patches and therefore less suitable. So, it gets pretty complicated pretty quickly.

Clif Ladd [00:59:19] And I think there are a lot of people who are very well-intentioned, but they're still kind of talking past each other. And there may be some of the, the estimates that have come up with a much higher estimate of golden-cheeked warblers than ... I think that there really are not quite that many warblers. We're just using density estimates applied to small habitat patches, and there's a lot of those kinds of habitat patches, but the warblers are not there as much as they are in bigger patches.

David Todd [00:59:59] I see. So, they think

Clif Ladd [01:00:01] Even regardless of how many birds you think there are, we're losing habitat, and that's much easier to establish. We can look at remote-sensing data, and they're now, thanks to the USGS and their National Land Cover dataset work, you can look at trends over an area in terms of canopy cover of woodland species and see that there is a decline.

Clif Ladd [01:00:38] So, I mean, there are two things to look at: one is the number of birds. That's very hard to say. And then the other thing is how much habitat is there, and how it doesn't regrow as fast as we lose it. We're, we're kind of ... there's a net loss going on every year.

Clif Ladd [01:01:02] So.

David Todd [01:01:03] Okay. That's a really helpful introduction to something I'm sure is very complicated.

David Todd [01:01:11] So, one of the things I thought was, was super interesting about your background was your early work on the Balcones Canyonlands Conservation Plan, some of these efforts to kind of respond to the concerns about the bird and how to protect it and its habitat. And maybe you can help us get a little better picture of that.

Clif Ladd [01:01:36] Sure. Yeah. The Balcones Canyonlands Conservation Plan, or BCCP, is a plan put in place by Travis County and the City of Austin to, to do two things. One is it allows landowners or developers who want to do a project, and if they have golden-cheeked warbler habitat, it gives them a way of permitting that and getting approval for it, in compliance with the Endangered Species Act. The second thing that it does is it protects habitat basically by, you know, finding the best areas and putting enough protections in place, usually through acquisition, but some of it is by conservation easement, but they protect habitat so that it doesn't get developed and basically protect it in perpetuity.

Clif Ladd [01:02:39] Now, these, these plans, Habitat Conservation Plans, or HCP, is something that is provided for by the Endangered Species Act, in particular amendments that were put in place in 1983. Now the 1983 amendments amended, and maybe did other things, but the main thing and what's relevant here, is the changes to Section 10 of the Endangered Species Act, which gives people a way of "taking" habitat, to use the legal term, "take".

Clif Ladd [01:03:25] If they develop a Plan, a Habitat Conservation Plan, or HCP, that offsets that, that take. Now "take" can be, "take" can happen by a lot of different, a lot of different ways. And the legal definition is defined by what I call the 12 verbs - "harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, collect or attempt to engage in such activities". So "take" can mean you go out and shoot one.

Clif Ladd [01:04:05] But, it can also mean that you harm one, somehow. And that could be somehow changing the habitat in ways that affect breeding, feeding or sheltering of the birds. It's a little harder to prove.

Clif Ladd [01:04:24] Under the Endangered Species Act, "take" still has to be of an individual, not, you can't just say, "Oh, you took the habitat". That's not enough. You have to be able to demonstrate that it affected a particular member of that species.

Clif Ladd [01:04:45] But it may be hard to prove, but it's, you know, maybe a good way to, to, you know, protect the bird and still allow people to develop their land is to come up with a Habitat Conservation Plan.

Clif Ladd [01:05:03] Now, the HCP, you know, there's going to be some cost involved in doing that. The BCCP makes it a little more affordable and easier for somebody to, to pay the fee because part of it is the Plan is supported by changes in the amount of property tax that is brought in on a piece of property. The BCCP doesn't change anybody's tax, property tax, requirements, but if, if a property enrolls in the BCCP, that, it's then able to build something on it so that the improvements are there and those are going to be taxed at the normal rate. But, then a portion of that tax money goes to the BCCP.

Clif Ladd [01:06:06] So I kind of skipped ahead and I wanted to basically say that the BCCP is an, is a mechanism put in place to allow developers to participate in a Plan, stay in compliance with the Endangered Species Act, but it's paid for by the individuals who participate, the developers or whoever, and the community through, it's been paid for with bonds that were sold to buy habitat and then by this tax increment funding.

Clif Ladd [01:06:47] So, it's not really a TIF [Tax Increment Financing] like you might think of it in terms of, you know, some utility improvements or whatever in a particular geographic area. But that's kind of what we're doing.

Clif Ladd [01:07:00] And so, I hope I have answered the question that you're looking for. The BCCP, just to go back now ... I, always when I get involved in this and tell about it, I feel like I need to first say, like, "What is this thing? What is the BCCP?" And then I can tell you, well, how did this get started?

David Todd [01:07:26] Yeah, well, I'd love to hear that because it sounds like the BCCP was one of the very first in the country.

Clif Ladd [01:07:33] It was.

David Todd [01:07:34] And I imagine there were some, some, you know, bugs trying to work it out, figure out how it might work best.

Clif Ladd [01:07:42] Yeah. So I mean, you know, just one more point about what the BCCP is, is it's now, you know, one of the largest urban preserve systems, and maybe is the largest urban preserve system in the US, for the benefit of endangered species. And we have over 30,000 acres just in the Balcones Canyonlands preserve, which is administratively separate but biologically compatible with, and a component of a larger effort that includes the Balcones Canyonlands National Wildlife Refuge, which the U.S. Fish and Wildlife Service is doing up in northwestern Travis County, southern Williamson County, and eastern Burnet County.

Clif Ladd [01:08:33] But, the whole thing got started in the, in the late eighties when, before the golden-cheeked warbler was listed, but the black-capped vireo was listed, and there were several species of cave invertebrates that were also listed. All of these things are rare, or were rare, and at that time, the black-capped vireo in particular was, was thought to be much more rare than it's known to be now.

Clif Ladd [01:09:03] But people were very concerned about this, and there was a lot of land development going on in the western part of Travis County in particular. And a bunch of forward-thinking people got involved and said, "Well, you know, we can do something because now we have this, these 1983 amendments to the Endangered Species Act, which allowed people to get an incidental take permit".

Clif Ladd [01:09:27] And I should say that, "incidental take", that's a term that gets used a lot. It basically means "take" that's incidental to some other legal activity, like land development. Land development's not illegal, but if it incidentally takes golden-cheeked warblers, that's considered a violation or a potential violation of the Endangered Species Act.

Clif Ladd [01:09:50] So you can get this permit. And that's what we decided to do. The City and the County got together and put, put together basically an executive committee that included land developers, conservationists, and other interested agencies. TXDOT was involved in it, the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department. But we had an executive committee that oversaw the development of this Habitat Conservation Plan.

Clif Ladd [01:10:24] Now, by about 1988, early 1989, when it was getting started, they did decide that they wanted to hire a consultant to do that. Well, I was very interested in it, because I knew a lot about it. I was here. I was in consulting and I had been for a few years.

Clif Ladd [01:10:45] I'm a biologist and I don't know, or at least I didn't know at the time, a lot about that kind of planning for a community such as Travis County and the City of Austin.

Clif Ladd [01:11:03] So I started thinking like, "Hmm. Who else?" You know, we probably, you know, for a project like this, to write a Habitat Conservation Plan, you need to get some somebody else who understands urban planning.

Clif Ladd [01:11:20] So I called Kent Butler, who I hadn't met at the time, and Craig Sanders, who I worked with at the time, knew him. And so, we went over to Kent's office and, and talked about the possibility of writing a Habitat Conservation Plan. And, we decided to do that. And so, Kent and I wrote the proposal, which was accepted for us to write the Plan.

Clif Ladd [01:11:51] Kent, his responsibility mainly was in the coordination with the government agencies and trying to make sure that we were touching all the right bases as far as their planning and requirements were.

Clif Ladd [01:12:09] And my role was in the biology of it, and looking at the species, and what the habitat needs were, and how much habitat needed to be protected, and writing a plan to do that.

Clif Ladd [01:12:21] So we kind of had this division of responsibilities where Kent managed that part of it that dealt with the particular agency requirements, and, and I did the biology.

Clif Ladd [01:12:38] We worked on that through 1992. We did several drafts. And the plan itself had to be evaluated by the U.S. Fish and Wildlife Service under NEPA, the National Environmental Policy Act, which basically says that any federal agency, before they approve something that, or permit, or fund, or carry out, or whatever, if they are in any way going to approve something that is a major action that could affect the human environment, which means everything (it's not just the habitat, but the economy of the region, you know, everything involved in Travis County), that all had to be evaluated in an Environmental Impact Statement.

Clif Ladd [01:13:34] The Plan, when it was, the document, was finally approved in 1996, it was a combined Habitat Conservation Plan / EIS, which they don't do anymore. It's really kind of not a very good way of doing it. But that was the document that was approved in 1996.

Clif Ladd [01:13:53] And Kent and my involvement in it, was from the beginning, in 1988, through 1992, or possibly some of it extended into 1993, and then the City and County basically picked up on it and finished the work. So that's how, that's how the BCP got approved.

Clif Ladd [01:14:22] And, you know, it was approved in, in May 1996 at Riker Ranch, which is now a City of Austin preserve. It's one that I had actually done a golden-cheeked warbler survey on, in either 1988 or '89, when it was owned by the Catholic Diocese of Austin. I mean, they wanted to sell it and they thought it'd be a good nature preserve. And so they, they asked me to see if there were any golden-cheeked warblers on it. I did. And there were. And the City decided it was going to be a good place to, to get for, for a preserve.

Clif Ladd [01:15:06] But the BCCP was approved at that place on May, I think that was May 5th, 1996, like six years and a day after the emergency listing. But, and the BCCP has been functioning pretty well since then. We're coming up (it was approved for a 30-year term), so, in 2026, it will need to be either amended, re-authorized, or something, to continue. But the City and County are working on doing that now. So that's in progress.

Clif Ladd [01:15:55] So that's kind of the background on the BCCP, and my work with Kent, who, unfortunately, passed away in a hiking accident. Kent's, Kent's real passion was water, and he died in a hiking accident when he stepped off the side of a trail - I forget exactly where he was hiking. It was in California. It may have been Yosemite. But, he stepped off to the side to allow somebody else to pass, and he slipped and fell into the river and drowned.

Clif Ladd [01:16:39] And he was not at the celebration of the BCCP, I think that was the 10th anniversary, because he was there. And, you know, but that's, that's when we lost Kent. But he was a remarkable guy and did a lot locally for protection of habitat and working on the BCCP with me. But he also was very involved in the Barton Springs Edward Aquifer Conservation District, and pretty instrumental in them doing their Habitat Conservation Plan.

David Todd [01:17:27] Yeah. That's a big, big loss.

Clif Ladd [01:17:31] I wanted to put that in there, about Kent.

David Todd [01:17:35] So, but, thanks for, for, you know, introducing what your work with him entailed for building this Conservation Plan. You know, as one of the first out of the gate, were there any sort of philosophical or technical problems that you ran into to try to to create this Plan, since you didn't have a lot of models to work from.

Clif Ladd [01:18:00] Yeah. Yeah, that's a good question. So, the 1983 amendments to the Endangered Species Act were something that Congress put in place because somebody had suggested it for a potential development in California. It was the San Bruno Mountains HCP, where they're similar to the situation in Travis County, where there were people who wanted to do land development, but they couldn't because of protections of the Endangered Species Act in that area.

Clif Ladd [01:18:40] And so that was a project-specific HCP. The Balcones Canyonlands Conservation Plan was the first regional multi-species HCP that was approved. There were others that people were working on at the time, but the BCCP was the first one to get approved, and it covers several listed species and a bunch of unlisted species that people are concerned about enough that they thought, "You know, if these get listed, we want to make sure that we're doing good things to protect them, that will not only help, help them stay off the endangered species list, but we'll be ready for it, if they do get listed. We'll have a way of protecting them."

Clif Ladd [01:19:38] And so it's a multi-species HCP, and it's regional. It basically includes all of that part of Travis County that could have habitat for any of these species. Now I say "all", but there's the permit area itself does not include areas that we thought would be important for setting up preserves. Those are actually excluded from the permit area.

Clif Ladd [01:20:14] Now, this is, this is, you know, we're trying to invent the way of doing this as we, as we went. And we couldn't really see another way around it. We didn't want to identify every acre that we wanted to buy or protect as preserve land, but we wanted to have a pretty good idea of where we'd want to go to get what we thought we needed.

Clif Ladd [01:20:39] So, one of the things that, that my biology team did when we were working on it was to identify just what do we want for the preserve? How, how big this have to be? How close to other preserve units? How much edge, things like that?

Clif Ladd [01:20:58] So we defined criteria that would be important ultimately in the protection of the preserve. And we defined it and said, well, it needs to be at least this big, roughly 30,000 acres. But the area within which we were able to find this land was larger. It was more like 40 or 45,000 acres.

Clif Ladd [01:21:20] So, we weren't going to try to buy every acre within that preserve area, but we knew that there would be some. And so, we wrote, we wrote the Plan to say anybody who's in the permit area can participate. Here's the permit area. It's Travis County, except for this area of potential preserve land.

Clif Ladd [01:21:42] Now, some of the landowners in that potential preserve land didn't really like it. And I can see why, because that left them without a means to participate. And in fact, they were essentially identified as having some pretty good habitat. So, they went to the Legislature and said, "You know, we need to, we need to stop this".

Clif Ladd [01:22:12] And the Legislature considered a law that basically would have said that any, any political subdivision of the state, you know, well, it amended Chapter 83 of the Parks and Wildlife Code, which basically says what a political subdivision of the state can do. And a political subdivision can write a Habitat Conservation Plan, and do a Habitat Conservation Plan, if it owns the land that it wants to regulate at the time it submits a permit.

Clif Ladd [01:22:49] That was the initial proposal, which at this time I was now working at Travis County, and I was the, I was the administrator of the BCCP when the Legislature was considering that. And that must have been the 1996 Session of the Legislature. We called that the Death Star because it would have just blown up the BCCP.

Clif Ladd [01:23:19] Well, what they did was they amended that in ways that said, well, I mean, it was going to make it okay for the City of Austin and Travis County to do it, but nobody else can ever do this. If any other political subdivision of the state wants to do an HCP, they have to, they cannot identify the land in that way that they would want to protect. If they do identify land that they want to protect, they have three years to do it or they'd have to release it from that requirement.

Clif Ladd [01:23:55] Consequently, all the other HCPs, or regional HCPs in Texas, including Williamson County, Hays County, Comal County, Bexar County, have not identified the area that they want to protect. They just say, "Well, we're going to buy, preserve land as we can. It's going to be something like 500 acres". That's pretty common, and we'll just do it as we go.

Clif Ladd [01:24:28] I think that those plans are not as effective for conservation as the BCCP. But that's, that's what, you know, that's the regulatory framework that we have. That's all that Texas HCPs can do.

Clif Ladd [01:24:49] Now, if you look at other states, and how they do their regional HCPs, it's common for them to identify preserve lands. They almost all do it. They also generally have county-level zoning authority, which we do not have in Texas. They also have mandatory mitigation fees, which we don't have in Texas. They have a lot of tools that we just don't have in Texas.

Clif Ladd [01:25:21] The BCCP, being the first, was able to do some things that made it a strong Plan and gave it very strong and meaningful contributions.

Clif Ladd [01:25:36] But, I think that, you know, we can't really do the same things now as we were able to do them. And that's, I think, a pretty big difference between the BCCP and all the subsequent regional HCPs is in Texas. And it's, kind of, it shows the difference between Texas HCPs, regional KPIs and those in other states. You know, I don't just mean California. I mean almost every other state - Florida, Arizona, California, Oregon, you know, Colorado, wherever, you know, they all use the regulatory and local authorities that are not allowed here.

David Todd [01:26:30] Okay. This is super helpful. And I think you've, you've ticked off a lot of the issues that I was hoping you could explore for us.

David Todd [01:26:41] And so, what I'm thinking about doing is, is just talking a little bit about some of the habitat management that is undertaken either on BCCP lands or on private folks' who are trying to do the right thing by the bird.

Clif Ladd [01:27:01] Mm hmm.

David Todd [01:27:03] And, I guess the reverse is, you know, what are some of the management practices that were problems for the warbler? Maybe you could talk a little bit about those two issues.

Clif Ladd [01:27:15] Yeah. Sure. So, let's start with what do you do to manage, to manage habitat to be good for the warbler. And the main thing to do is to find a piece of habitat, protect it and leave it alone. Okay. What we want is old-growth habitat. We want big, old, mature trees. And, you know, for that, you've just kind of got to wait, or you've got to keep it and make sure that you always have it. So, permanent protection is important.

Clif Ladd [01:28:01] Now, the things that could impact that habitat are wildfire, oak wilt, small nicks and cuts. You know, a transmission line here, you know, take a little bit of a strip of habitat, you know, here for, you know, a roadway expansion or, you know, open it up to a whole lot of heavy use that maybe affects habitat or creates a lot of disturbance during the nesting season. And, you know, that could be mountain biking in a preserve area, or something like that. So, you know, we're, we're always trying to protect against those things.

Clif Ladd [01:28:49] Oak wilt, you know, if that gets started in an area of golden-cheeked warbler habitat that, by itself, can do it. And you think, oh, you know, not a big deal. Well, it is, because golden-cheeked warblers - I've said several times that they need mature woodland. And so, I don't mean just mature cedar trees, I mean mature cedar trees and mature oaks. And, in much of golden-cheeked warbler habitat, the dominant oak tree is plateau live oak. And it's very susceptible to oak will.

Clif Ladd [01:29:27] It's happened a lot. It's happened here in my neighborhood where somebody, you know, prunes an oak tree and it creates a center of oak wilt infection, which, it's, oak wilt is caused by a fungus that can be spread from tree to tree, and it can spread through the root system of live oaks that are growing in an area, and they're all connected via the root system. So, it can kill the trees pretty quickly.

Clif Ladd [01:30:02] If you drive out, say between Fredericksburg and Harper, you'll see this a lot. And you can go in parts of Kerr County where you're just driving down the road and see lots of dead oak trees. That's oak wilt. And, you know, it can really destroy habitat. So that's one of the things we try to protect against.

Clif Ladd [01:30:31] Wildfire is another one. And so, you know, one of the big concerns here in Travis County is protection of fire in what's called the wildland urban interface, WUI, or "wooley". And, you know, so we've got programs put in place by the City of Austin and Travis County to try to help homeowners protect against wildfire. But also, we're trying to protect the habitat from wildfire that could be caused in the development adjacent to it.

Clif Ladd [01:31:14] I said a little while ago that about 98% of the wildfires are caused by human carelessness or it may, in some cases, be deliberate action. There was a big wildfire in the Chisos Mountains a couple of years ago, and that was evidently started by somebody who was up backpacking and started a fire up, you know, while they were camping and, you know, it burned a lot of land.

Clif Ladd [01:31:38] So, you know, that's the kind of thing that happens. It could be chains dragging on a trailer, or it could be somebody throwing a cigarette out of the window, or whatever. Wildfires are, more often than not, caused by human beings, and if it happens next to a preserve that could be devastating. It could create a big fire that's not only harmful to the habitat, but then that could spread to other, other subdivisions. And so, we're trying to find ways of protecting against that.

Clif Ladd [01:32:09] Those are the kinds of things, the management challenges, of maintaining good warbler habitat.

Clif Ladd [01:32:15] Now, in some cases, you know, and this may be more like private landowners trying to manage their ranch or, you know, whatever, and or maybe even a nature preserve where they just want to manage for different values or it could be, you know, that golden-cheeked warblers aren't the only important thing out there. There's lots of other species that are important, too. And so, you know, we need to kind of be mindful of all those things when we're managing areas.

Clif Ladd [01:32:49] Black-capped vireo habitat is important, too. So how do we manage for black-capped vireos and golden-cheeked warblers? Black-capped vireos like a more early successional stage habitat. So, it's not always the old growth. I have seen cases where both birds existed in the same habitat, and that's kind of rare, but it does happen. And, you know, so we may just want to manage for things where we know which species are there and what kind of habitat they're using, and try to keep it in there somewhere where you can have both of those species.

Clif Ladd [01:33:32] Or there may be other values. There may be, you know, watershed values. The City of Austin has a lot of land that they manage for recharge of the Edwards aquifer. I know that they do a careful job of looking for endangered species there, and, but they try and more often than not to keep it in a vegetative state where it's a little bit more open than typical golden-cheeked warbler habitat. It may be more grassland or savanna. But they do that with attention given to the presence of endangered species and, you know, try to do it in such a way that they're not harming an endangered species.

Clif Ladd [01:34:20] Those are the kinds of things that, you know, we look for in land management, whether you're trying to protect golden-cheeked warbler or golden-cheeked warbler habitat, or you're managing for something else. Hopefully, you know, I think it's more common now for private landowners to, to be mindful of this. And, I know a lot of landowners, you know, and they love having golden-cheeked warblers on their property. They want to make sure that they stay there.

Clif Ladd [01:34:49] But, they do it in such a way that, well, this area over here is not really good golden-cheeked warbler habitat. Maybe it's not going to be. That, that can be the case quite often where an area, because of the underlying geology and soil conditions, really is not going to make good golden-cheeked warbler habitat. But you can manage it for something else - and maybe for black-capped vireos, or white-tailed deer, or both or something else. Or maybe it's livestock.

Clif Ladd [01:35:17] So, I know a lot of landowners that are doing that kind of thing now and trying to keep their golden-cheeked warblers, but also manage for other land values.

David Todd [01:35:33] Well, this might be a good place to talk about some of the tools that private landowners are using. I think that there are some that you've been involved with, like the conservation easements at the Diamond K Ranch and then some of the protection that's been afforded by, you know, conservation credits that stem out of the Bandera Corridor Conservation Bank.

Clif Ladd [01:36:04] Mm hmm.

David Todd [01:36:06] Could you sort of help us understand what those sort of tools allow you to do, and maybe give us some examples?

Clif Ladd [01:36:14] Yeah, sure. Let's start with the conservation banks, because in the Bandera Corridor Conservation Bank is a good example of that. They have worked with landowners who, basically, they can go to the landowner and say, "It looks like you have pretty good golden-cheeked warbler habitat. We'll pay you to protect it."

Clif Ladd [01:36:42] And so, you know, a lot of landowners can look at that and say, well, you know, this looks almost as good as like getting mailbox money because I have the, you know, mineral rights and they're, you know, whatever, producing oil or gas from something, but, you know, if they just want to protect the land. And, again, I know a lot of landowners like this. They like their land the way it is. They like having, you know, the cedar and the, you know, on the hills and on the plateau tops. And, and they, you know, basically maybe do their livestock management in areas that are maybe down below, in valley bottoms, or maybe they are on the plateau tops.

Clif Ladd [01:37:36] But, they've identified places, they've identified places where golden-cheeked warblers can do well, and other places where it's not really going to be good habitat. And they just manage for that. But they, in that area of golden-cheeked warbler habitat, you know, it's nice if you can sell or lease something that you're really not using anyway. You know, so people can sell a conservation easement on their property and basically be paid for it. And, and really, all those easements do, is say that you won't ever develop it. You won't, you know, you won't clear the habitat, you won't develop it. You'll kind of pretty much leave it as it is.

Clif Ladd [01:38:28] Now, there's a lot of different ways that you can do that. And conservation easements may be more specific about just protecting it from development and not specifying what you do with the habitat so much. But the conservation easement that are most often put in place for conservation banks will have some specifications for the actual land management and habitat management because the conservation bank, as I said earlier, is something where they can sell credits to somebody who wants to be able to develop some place else and they need to offset that take. And the conservation banks are a way of doing that.

Clif Ladd [01:39:22] Those are set up and approved by the, or not set up, rather, but they are approved by the U.S. Fish and Wildlife Service, and allowed to sell credits. So, in the Bandera, in Bandera County, in the area of the Bandera Corridor Conservation Bank, there are a lot of land owners who've signed up with the Bandera Corridor Conservation Bank, which is a privately operated enterprise, to sell them a conservation easement where they protect their habitat. And then the Bandera Corridor Conservation Bank can sell the credits of that bank to a developer.

Clif Ladd [01:40:05] And it maybe includes Bexar County, which under their Habitat Conservation Plan, the Southern Edwards Plateau HCP, which I manage the consulting team that wrote that one too, Bexar County, you know, buys a lot of their conservation credit from the Bandera Corridor Conservation Bank.

Clif Ladd [01:40:30] So, if a developer is in the permit area of the Southern Edwards Plateau HCP, and they pay their fees to Bexar County for their participation, the county may then use

that money to buy credits from the Bandera Corridor Conservation Bank. That's the way that's working.

Clif Ladd [01:40:52] Now, as far as like other conservation easements, you know, there are a lot of people that sell conservation easements that do protect warbler habitat too. The City of San Antonio has protected well over 100,000 acres to protect land that's in or upstream of the recharge zone or the Edwards Aquifer, because San Antonio is the largest urban area in the U.S. that gets its water from groundwater.

Clif Ladd [01:41:27] And the City, the City of San Antonio, the voters there, have approved at least three times, an additional 1/8-cent sales tax, which is used to raise money to protect land for water quality and recreation. So, a lot of that land is designed to, or the land is preserved, to protect water quality. But there's also golden-cheeked warbler habitat there. And so, you get both.

Clif Ladd [01:42:02] So, there are a lot of good reasons to do conservation easements. But, for the landowner, often, it's just like, "Hey, you know, we can sell an easement on this. We like it the way it is, and they'll pay us to keep it that way." So, you know, it's a win-win. Definitely.

David Todd [01:42:22] Yeah, I think I follow that.

David Todd [01:42:26] So, this is sort of a philosophical question ...

Clif Ladd [01:42:31] Mm hmm.

David Todd [01:42:31] But maybe you can help us help us understand it. I've heard some folks criticize the sort of theory of mitigation and these conservation banks, thinking that there's something always unique about every bit of habitat and that it's, it's difficult to translate conservation of one tract of land for the, you know, environmental benefits that it might garner in some other place being developed. You know, that it just doesn't translate as easily as it might on paper.

Clif Ladd [01:43:13] Mm hmm.

David Todd [01:43:15] And I was wondering, as somebody who's spent a lot of time in the field, and has, gosh, been deep into this, what do you think about that kind of critique?

Clif Ladd [01:43:24] Well, that's a good question. You know, you could take a couple of hypothetical situations: somebody who's got 500 acres in one county, and they want to, say, they want to develop that 500 acres and they need to get some mitigation. Now, obviously, the closer it is better, the better. If you, if you could say, well, here's 500 acres that's right next door and it has kind of marginal habitat and it could be improved by protection and doing certain things.

Clif Ladd [01:44:05] And so, you could say, "Well, in this case, yes, it's a pretty good deal that way." You know, you'd lose some habitat on the one tract, but you'd be able to protect habitat on another tract and make it better than it is. And so, you know, ideally, you'd have a situation where you can really make the habitat better long-term in the mitigation tract than it is.

Clif Ladd [01:44:31] Otherwise, if you just said, "Well, we have two 500-acre tracts and we're only going to develop one of them." It's kind of like saying, "Well, you know, we have this loaf of bread, but we're only going to eat half and we'll let you keep half."

Clif Ladd [01:44:44] That's not quite as good of a deal.

Clif Ladd [01:44:46] So, the more you can protect habitat in a way that is going to improve over the long term, then you can build a better case for saying, 'Well, you know, you're really going to keep the situation relatively equal in terms of the overall habitat availability and quality in a given area.'

Clif Ladd [01:45:11] Now, if you, for example, said, "Well, here's this 500-acre tract, but we're going to go out and buy habitat out in Val Verde County because the land's a lot cheaper and we'll get 500 acres over there."

Clif Ladd [01:45:28] Well, that's not a really good example for golden-cheeked warbler habitat. But, at one time, when we were starting on the BCCP, we were thinking more about black-capped vireos and we knew that there were a lot more black-capped vireos in Val Verde County and that, maybe, you know, we could protect more habitat out there. And, we asked the Fish and Wildlife Service about that. And, they basically said, "No, it needs to be closer to where you're actually losing the habitat."

Clif Ladd [01:46:01] All right. So, we had that discussion. And, we came around to the position that, "No, we, we're going to do all of our mitigation in Travis County." So, we're protecting as much as we can here, where the impacts are.

Clif Ladd [01:46:15] And, I think that's what you're asking. It's like, you know, is it really fair to lose habitat in exchange for some other habitat?

Clif Ladd [01:46:25] There's a lot that can weigh into that consideration. And I think proximity is one thing. Habitat quality is another one. And, the degree of management may be another thing.

Clif Ladd [01:46:37] So, all of these things, you know, if we can, if we set it up right, we have things, and I think that this is what the BCCP has, has largely done. We've got the proximity issue. We've got a very coherent preserve design situation where all of our preserves are close to each other, too. And we have an effective management strategy that involves multiple partners. It's not just the City and the County. There are others as well, too. Travis Audubon is one, you know, the Nature Conservancy. There are others.

Clif Ladd [01:47:16] But, you know, we've really worked hard to come up with a way of saying, "Well, you know, we're going to lose it here, but we're going to protect it here."

Clif Ladd [01:47:27] And that's, when it's done right, it's all pretty well documented and agreed to by all the parties. And the Fish and Wildlife Service has to approve it.

Clif Ladd [01:47:38] Is that kind of the thing you're looking for?

David Todd [01:47:40] Yeah. You know, I like that. There's just a lot of factors and trying to make sure that there's, the mitigation / development equation works out, nets out in the best way.

David Todd [01:47:55] So, you were talking about sort of this hypothetical 500-acre loaf. And I was wondering if you could talk a little bit about another scenario that I'd be curious about.

Clif Ladd [01:48:07] Mm hmm.

David Todd [01:48:07] You know, it seems like some land is developed just for, you know, residential, commercial, industrial use. And it's, it's just within the bounds of that particular property. But, but then there are other tracts that, you know, may have a water line or a power line or a road or, you know, some piece of infrastructure that, but for that development, you couldn't develop lots of other things. You know, that there's lots of downstream impacts from developing that piece of, in this case, golden-cheeked warbler habitat.

David Todd [01:48:45] And I was wondering how you've seen...

Clif Ladd [01:48:48] Mm hmm.

David Todd [01:48:49] That sort of be taken into account, where there's all these knock-on effects from developing one piece of land where in some cases that's just not the case, you know?

Clif Ladd [01:49:00] So, let me make sure I understand the question. Like we're talking about a situation where you may get approval for some kind of utility that then that enables or provides a way that it's more economically feasible to do some other kind of development that also takes habitat.

David Todd [01:49:19] Yeah. Yes, sort of secondary impacts.

Clif Ladd [01:49:22] Secondary impacts.

David Todd [01:49:23] Sure. Sure.

Clif Ladd [01:49:25] So, yeah, that definitely happens. And, you know, I think one of the other good things about the BCCP is that we really tried hard to think all that through, long-term, for Travis County, including utility impacts. And we've put a lot of effort into developing an infrastructure corridor component of the BCCP, where we identified utility infrastructure that could be permitted and approved under the BCCP. And then anything outside of that was going to have to go through a little bit more of a detailed process.

Clif Ladd [01:50:13] So, I would not say that that's perfect by any means, but we did think that through. I think what you can see in other areas where, you know, it may be more of a situation for, for example, where there's some additional road construction going on. And it's not uncommon, in fact, for roadway improvements to be made, maybe just shoulder expansion, or maybe adding a lane or some turn lanes or something, where it takes a little bit more habitat. And TXDOT does a very thorough job of looking at those kinds of changes, even measured in just feet, of additional right-of-way.

Clif Ladd [01:51:15] And we may be looking at ... you were asking about red cockaded woodpeckers earlier, and I can recall a project that we did for TXDOT on a highway in East Texas that had red-cockaded woodpeckers around it. And so, we looked very hard at where TXDOT wanted to take additional right-of-way and where were the red-cockaded

woodpeckers. They're, they're a colonial nester that kind of nest in clusters. And, and then there's habitat around it we can see it is foraging habitat. All these kinds of things. We all factored all that into our analysis of how much they were taking.

Clif Ladd [01:52:02] But, that analysis didn't really factor in those kinds of secondary effects, such as, you know, widening or improving this road is going to allow additional development that might then take red-cockaded woodpeckers.

Clif Ladd [01:52:27] It was just a very exhaustive analysis of those kinds of primary impacts, or direct effects, of the roadway improvements on red-cockaded woodpeckers that ... I mean, it covered that really well, but didn't really look at secondary impacts.

Clif Ladd [01:52:49] I think the only way we're ever really going to get to a good consideration of secondary impacts is would have to be a little bit more of a kind of a fundamental change in how we protect habitat in Texas.

Clif Ladd [01:53:06] I wish that we could get to a point where we would have a better funding source, for example. There are a number of other states, and I looked at this once and found like 36 other states that had some kind of a funding mechanism for land conservation that was based on real estate transfers.

Clif Ladd [01:53:37] And so, it's been talked about here, but not in a long time, not seriously, where, you know, if, if a land transfer just generated a small fee, like \$100 or whatever, with all of the land transfers and land deals that are done in Texas, that would raise just millions of dollars every year, that could be used for land conservation.

Clif Ladd [01:54:11] But what's really happening is it's not just it's not just that, oh, there's this highway that they widened by, you know, adding five feet of shoulder. And that caused new land development down the street. You know, we have to be able to look and see, like, you know, what's happening on a broader level with land use in Texas. And how do we like find a way of, for that to pay for the habitat loss.

Clif Ladd [01:54:48] Other states have done this, you know, like I say, there there's a bunch of them. And they just, they have set up a funding mechanism to allow the state government and local governments to use funding that's based on real estate transfers.

Clif Ladd [01:55:11] And, maybe that, maybe that's what we need here, David.

Clif Ladd [01:55:13] It's just, you know, because we're trying to say, well, if you're taking endangered species, and if you have an HCP approved, and if that's done by a local government that is buying all their preserve land as they go and not identifying things upfront, you know, all of these if, if, if, if, then it's okay.

Clif Ladd [01:55:37] But, you know, I think we need to look at things a little bit more comprehensively and say, you know, Texas is primarily a private land state, and that's okay. But we can work with private landowners who want to protect their land the way it is, so that they don't have the, you know, the economic pressure to sell it, and maybe can keep it protected for the next generation, if they had a little bit of help protecting habitat that really does benefit us all.

Clif Ladd [01:56:16] And, you know, I mean, there are a lot of landowners out there, who, yeah, sure, they'd like to be able to protect their habitat. But, you know, they've got to think about their future and their kids' future, too. And if they just had a little bit more help on protecting the land, they may be more interested in doing it.

Clif Ladd [01:56:38] So, I think we just need to look at some other, other tools that can be used here that they do use successfully in other states.

David Todd [01:56:47] Okay.

Clif Ladd [01:56:48] That's I think, how we may be able to get to those kind of secondary impacts, not just by on a project-by-project basis. I hope that's clear. That's, it's a good question. And it doesn't really get talked about enough. So, I hope I answered your question.

Clif Ladd [01:57:06] Yes. Yes, you have.

David Todd [01:57:07] And so, this, this thought about not just the loaf of bread, the 500 acres, but who owns it and who bears the cost for trying to figure out how to protect habitat that benefits us all, I thought it might be good, in the limited time we've got left..

Clif Ladd [01:57:30] Mm hmm.

David Todd [01:57:30] Because I know I don't want to overrun the time allotted, but I think you've been involved with Travis Audubon. And I thought it was really interesting that Baker Sanctuary was, was, had an important role, and an early role, in protection for the golden-cheeked warbler. And maybe you can tell us a little bit about that.

Clif Ladd [01:57:55] Yeah. Yeah, sure. So, you know, Travis Audubon has a 715-acre sanctuary in the northwest part of Travis County. It's Baker sanctuary, named after Chell Baker, C-H-E-L-L Baker. Travis, before Chell got involved, Travis Audubon started in the mid-fifties. By 1962, had decided that they wanted to protect a sanctuary for golden-cheeked warblers. And they basically got together enough money through donations that they were able to buy, I think it was 94 acres that's up there now. This is up off of Lime Creek Road, just west of Anderson Mill Road.

Clif Ladd [01:59:00] And so they bought that sanctuary and got to know the neighbors. Chell Baker lived next door and he didn't have any heirs, but he was very interested in protecting the land. He and his half-sister that he lived with there on, on the preserve, the sanctuary, decided that they would like to give it to Travis Audubon after they died.

Clif Ladd [01:59:28] And they did. They, they put it in their will. They gave it to Travis Audubon with a deed restriction that Travis Audubon would only use it as a wildlife sanctuary. And if we ever didn't, that it would, the property, would go to National Audubon, which is actually a different organization. But, you know, that's the way it was set up.

Clif Ladd [01:59:52] That gift of 500 acres is mostly what the sanctuary is today. So, thanks to Chell Baker and his sister, half-sister, Lena, that is now protected land.

Clif Ladd [02:00:12] When the BCCP was getting started, and we were trying to think of, like, where can we have a preserve? And Travis Audubon was always one of the first ones to say,

"We, we have this land. We'll, we'll be happy to have that be part of the sanctuary." So, you know, to preserve it in preserve system, the Balcones Canyonlands preserve.

Clif Ladd [02:00:36] That was always kind of a handshake deal. You know, we were always willing to do it. But a few years ago, as Travis County, and the City, have a permit obligation to protect land in perpetuity.

Clif Ladd [02:00:57] Well, Baker Sanctuary was protected by Travis Audubon, but only insofar as we were, as we were able to do at the time. And if it doesn't have a conservation easement, then there's nothing in perpetuity about it.

Clif Ladd [02:01:13] The County asked us to work with them to develop something more permanent. What we ended up doing was selling a conservation easement on most of the property, all but 43 acres that surrounds our headquarters area.

Clif Ladd [02:01:32] And the rest of it we sold a conservation easement on it to the County, which gave us the financial means to set up an endowment that we could manage the land in perpetuity.

Clif Ladd [02:01:47] And, we were able to build some new facilities on the property, like the Sanctuary manager's residence, which prior to us building anything there, we had a little old mobile home that, you know, it was falling down. And, you know, we had some other things. Baker cabin was falling apart, a couple of other things.

Clif Ladd [02:02:12] And, we wanted to fix all that and make the repairs and improvements that we'd been planning and delaying for years. But, we were able to do all that, and set up an endowment to manage the land permanently in perpetuity. So, we only use a part of the endowment every year to manage the land, pay the sanctuary manager's salary, etc.

Clif Ladd [02:02:36] You know, without that, without that conservation easement in place, if, for example, Travis Audubon ever got sued, and that was our major asset, we could have lost that. And, you know, there's no protection for it. But now the land is protected by a conservation easement that basically prohibits any development on the property.

Clif Ladd [02:03:00] And so, as a board member, and I was a board member for about 11 years, and that was one of the things that I wanted to make sure got done. Valarie Bristol worked on that a lot with me. She at one time was president of Travis Audubon, and we kind of worked on this together for a number of years.

Clif Ladd [02:03:19] And I wanted to stay on the board until I saw that the whole thing was done: that we had the conservation easement, that we had an agreement with the BCCP, that we were able to plan and build the manager's residence, the shop, and make improvements to the Jackie Arnold Education Center, and do all these things that we wanted to do and finally get it all done.

Clif Ladd [02:03:44] Now I'm off the board.

Clif Ladd [02:03:46] So that was, you know, a good thing. And I'm glad I was a part of it.

Clif Ladd [02:03:52] But, Baker Sanctuary was essentially the first wildlife preserve anywhere in the world for golden-cheeked warblers, specifically for golden-cheeked warblers. And now it's permanently protected and well-managed and part of the Balcones Canyonlands Preserve.

David Todd [02:04:12] Well, that's a great legacy.

Clif Ladd [02:04:14] Yeah, I'm pretty happy about it.

Clif Ladd [02:04:16] Well, so I think we should probably figure out how to sew this up. Let's say we have two or three minutes left.

David Todd [02:04:31] Mm hmm.

David Todd [02:04:31] Is there anything that we have missed, that I've somehow given short shrift to, that you would like to address before we close this down?

Clif Ladd [02:04:42] You know, I think we've talked about a lot of important issues, and I think you've had some really good questions. And I'm glad to have had this opportunity to, to help you on your project and be able to answer some of these questions.

Clif Ladd [02:05:01] You know, I think the one thing that I'd really like to see would be, you know, more attention paid to the, those kinds, the thing that I told you when you asked a question about secondary impacts, what else can we do? You know, it's good that we have an HCP in Travis County, and that Williamson County and other counties around here have one too - Hays, Comal, Bexar County. Bastrop County has one for the Houston toad. But, they all need a little bit of more funding, I'd say.

Clif Ladd [02:05:40] And there are other areas that don't even have an HCP, but they have a lot of land that could be protected or, you know, important things about it that could be protected.

Clif Ladd [02:05:54] A better ... I know that there's a lot of funding needs in Texas, but this is one of them that I think, you know, could be addressed through a fairly nominal fee for real estate transfer. You know, when you do a real estate deal, you're going to end up spending probably \$100 or more on just FedEx's, so, you know, shipping documents around. Maybe not so much the case anymore because you can do things electronically. But the point is, still, there's a lot of different fees. And if there was just a minor fee put on real estate transfer that could be used for conservation purposes, I think that would be a very good start.

Clif Ladd [02:06:44] And that maybe isn't the only way of doing it, but I think we need to have some better way of protecting land permanently for the benefit of, you know, natural resources and future generations. And just, I think it's a thing we can do. I think we just need to, you know, we just need to figure out a way to do it, and do it.

Clif Ladd [02:07:10] You know, we didn't know how to do the BCCP when we started. We didn't really have any good guidance. There was, the Fish and Wildlife Service now has an HCP handbook that tells you everything you need to know, maybe.

Clif Ladd [02:07:24] But, at the time we were doing it, there was a skinny little thing that somebody up in California or Oregon had put together, but it wasn't really very good

guidance. So we figured it out. I think we need to do that again. I think we need to do it on a bigger level. So that's my suggestion.

Clif Ladd [02:07:45] Okay. Well, thank you so much for your memories and, and these good insights and recommendations. I really appreciate it. And just thanks for your help.

Clif Ladd [02:07:57] Yeah, sure. Glad to do it.

David Todd [02:08:00] All right. Well, I hope that our paths cross soon. Always learn a lot for you. Thank you so much.

Clif Ladd [02:08:06] Yeah. Thank you.

David Todd [02:08:08] All right, you take care. Bye now.

Clif Ladd [02:08:09] Bye.