

TRANSCRIPT

INTERVIEWEE: Rick Lowerre

INTERVIEWER: David Todd

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

David Todd [00:00:04] This is David Todd.

Rick Lowerre [00:00:07] Hey, David. This is Rick.

David Todd [00:00:09] Hey, Rick, you're so nice to call. Thank you.

Rick Lowerre [00:00:14] Yeah. You're welcome. Got a little rain there in Austin?

David Todd [00:00:16] We do. Yeah, I mean, it's, it's actually been thundering and lightning and coming down buckets. So very excited.

Rick Lowerre [00:00:27] Yeah, I'm sure you needed it. We all needed it. Yeah, there in Austin.

David Todd [00:00:34] Yeah. It's been mighty hot and dry.

Rick Lowerre [00:00:36] Yeah.

David Todd [00:00:37] That's a good thing.

Rick Lowerre [00:00:39] Yeah.

David Todd [00:00:40] All's well with you?

Rick Lowerre [00:00:41] I was gonna go outside and make the call and it started raining here, which is good because we need to do it. But yeah, things are good. Yeah. For both Mary and me. So, Mary says hi.

David Todd [00:00:57] Well, thank you. Likewise. Back to her. I don't want to take your, you away for too long from your nice stay up there with her, but I di't want to hear what you have to say about some things that I'm really curious about and that you know a lot about love.

Rick Lowerre [00:01:17] Happy to help. I've read both Mike's and Tim's transcripts and, yeah, I don't disagree with anything they said. They both got the, and we also have a, similar message. They just have the technical stuff down. So I'll do what I can do to help.

David Todd [00:01:43] Well thank you. Well, as you may have heard at the very beginning of the call, there was a kind of robotic voice that said that this is a recorded line and I did want to just recite a little explanation about that and make sure that that is, is okay with you.

Rick Lowerre [00:02:05] Sure.

David Todd [00:02:05] So here's, here's the gist of what I'm seeking, your approval, Mr. Lowerre. The idea is that we should be recording this interview for research and educational work on behalf of the Conservation History Association of Texas and for a book and a Web site for Texas A&M University Press and for archives at the Briscoe Center for American History at the University of Texas at Austin. And you have all equal rights to use the recording as well. So that was the idea. And I wanted to make sure that that seemed OK with you.

Rick Lowerre [00:02:42] Yes.

David Todd [00:02:46] Thank you. Very nice of you. Well, then let's dive into it.

David Todd [00:02:50] Maybe I can try to place when and where this is. It's July 31st, 2020. My name is David Todd. I'm here for the Conservation History Association of Texas. I'm in Austin. We are conducting this is as a phone interview with Rick Lowerre, who who's currently in a secure, undisclosed location somewhere near Boulder, Colorado. He is an environmental attorney who has been in private practice and has worked at the Texas Department of Agriculture, the Attorney General of Texas and the National Academy of Sciences, as well as other places I'm sure that I'm not mentioning. But one place that's maybe most relevant here is that he is the former president of the Caddo Lake Institute. And in that capacity, was, was really heavily involved in the restoration of the paddlefish, and improvement of environmental flows in the Caddo system. And I'm hoping that we can talk about some of that good work today.

David Todd [00:03:52] So. With that introduction, can I ask you about your background and how your interest in wildlife and environmental protection might have first begun?

Rick Lowerre [00:04:07] Sure. It's a long time. So I'm, it's hard to sort of pinpoint any one event or that got me started, though, my first camping trip, when I was in high school in the '60s, was at a new state park in Texas, the Lake of the Pines State Park. So that was my first experience of getting out into the outdoors, you know, overnight and like that. And that's kind of strange, since that's where I ended up doing a bunch of work later on in life.

David Todd [00:04:53] You've come full circle.

Rick Lowerre [00:04:55] Yeah, and it's just really the, between canoeing and hiking, rafting, and just, you know, getting outdoors, I've been, I guess I've been doing that since then. Since high school.

Rick Lowerre [00:05:13] And my interest in sort of working in this field probably started when I was at Rice University studying engineering and sort of thinking about working in the field of environmental engineering. And that led me to a different, different project and eventually back to law school, where I felt like I could work on the environment in a way that would be, you know, I'd feel good about.

David Todd [00:05:57] Well, I'm glad you did all those things and got directed in this orientation. So this is skipping many chapters, but how did you first become involved with the Caddo Lake Institute?

Rick Lowerre [00:06:23] In about 1992, the president of the Caddo Lake Institute industry at that time, (it had just gotten started), Dwight Shellman, a lawyer from Colorado, had contacted me about serving to some extent as the lawyer for the Institute and giving him advice on Texas law and Texas environmental programs. So I probably went out to Caddo Lake in '92 and '93 and started doing work with, with the Institute on, you know, water quality, some air pollution issues, some oil and gas issues. And I served in that role until 2005, when I moved into the presidency at a, in a part-time position (I still carried on with my law practice during that time). And stayed in that role until 2017 when the Institute board hired a new president. Actually, I think they call called the new person, the executive director.

David Todd [00:07:48] Well, so Caddo Lake Institute, as you pointed out, was involved, has been involved in oil and gas issues and air quality problems and water quality. I think one of the projects is that's been on its agenda has been restoration of paddlefish, and I was curious if you could tell us about this kind of unusual creature and you know, lay out some of his characteristics for us.

Rick Lowerre [00:08:29] Sure, I can, and I'd, you know, be happy to go back. The focus of the, on the fish started in about 2004 when the Caddo Lake Institute decided that we needed to deal with the environmental flow issues and try to restore some of the ecological values of the system in the whole Cypress watershed, so it would be downstream of the Lake of the Pines to Caddo Lake, but also the streams that feed Caddo Lake, also Little Cypress and Big Cypress and a number of others.

Rick Lowerre [00:09:11] And it was really the contract we had with Texas A&M to do a survey of background on, you know, what the flows had historically been, what critters were there, that brought to light sort of the whole issue of the paddlefish. And of course, given such a strange fish as I'm sure you've been told, older than dinosaurs and very prehistoric-looking, you know, it obviously attracted attention and it became one of many goals. The protection or restoration of whatever we could do became a goal of the environmental flows work from you know, 2004-2005 period. We didn't quite really at that time have a good sense of what was possible or the role of the paddlefish would play in protecting the system. But everybody understood this was a strange and interesting looking critter.

David Todd [00:10:26] Indeed. And so it's got these sort of unusual characteristics, I guess, filter-feeding, and I guess reliant on a certain kind of flow regime that maybe you can tell us a little bit about.

Rick Lowerre [00:10:48] Yeah, you know, I'm not the scientist. And the ones you're talking with can tell you more about they're, you know, what they do and how they do it. I'm not sure I can tell a zooplankton from another kind of plankton, but that's what they're eating. They're filtering out small plant and animal, you know, life forms that are very small, just like whales and other filter-feeders. And obviously, they have to eat a whole lot of those to grow to the size they grow, which can be up to seven feet. So I think they're probably feeding all the time. My sense of it is, you know, they can be, you know, in one location and stationary and let the water run through them, big open mouth that they have. Or they can swim upstream and capture the plankton that way also. So that's, you know, that's a pretty strange situation for any kind of fish. And, obviously a benefit - they, they can filter out a lot of organic material that

might otherwise, you know, cause problems in the system. So they, they serve a benefit, just like in that system. They, you know, I'm sure their eggs and their young serve as a, as a food supply for lots of other fish also.

David Todd [00:12:42] Well, I'm glad you mentioned their eggs, because, you know, from what I understand, the paddlefish had become rare in the first half of the 20th century because of, at least in part, people collecting the roe and selling it as caviar. Is there truth to that?

Rick Lowerre [00:13:09] Well, I've had some. And certainly I know, you know, there's restaurants that sell paddlefish roe. I'm not sure they can call it caviar, but essentially that's what it is, the roe, just like out of the sturgeon. And yes, I know that it's, the roe, is harvested from paddlefish and it's a commercial operation. And obviously, also, they're, in some states legally and probably in other states illegally, paddlefish are taken both for their meat, for their fish steaks, and as well as the roe. And I think in Louisiana, you can get a permit to take one a year. Oklahoma it's a possibility, I think that's also possible. You know, most of the states where they used to roam, all through the Mississippi system, all that goes up, you know, connects to the Missouri, and up into New York. The fish was, was, you know, existed through all those states. It is now more limited to southern states, as I mentioned - Louisiana, Oklahoma, now Texas, some of the other southern states that feed the Mississippi.

David Todd [00:14:41] So I guess the harvest pressure was one problem, but from what I understand, the construction of dams, not just in Texas, but elsewhere, has been a challenge for the paddlefish system. Is that right?

Rick Lowerre [00:15:03] You know, again, that's certainly what the experts we've hired. And in the environmental flow process, essentially, it got started by the Caddo Lake Institute and pulled together quickly, you know, so many different interest groups. Texas A&M - we had four scientists working on doing this background paper. We had the Corps of Engineers, and, of course, their understanding of the dam works. And I can run through a lot of the other organizations that participated, and individuals. Nature Conservancy was a big player.

Rick Lowerre [00:15:39] So the whole idea was to bring the scientists together with the locals, because the locals had knowledge and I mean they knew where the paddlefish had once been. They knew where other fish were. They brought a lot of knowledge to the process.

Rick Lowerre [00:15:57] And the, essentially, process was a science-based process that was, the goal was to find consensus within the communities.

Rick Lowerre [00:16:11] There is a Northeast Texas Municipal Water District that owned the water in Lake of the Pines, it was providing water to cities. The Corps that was obviously, had, had built the dam, were operating it to keep Jefferson from flooding.

Rick Lowerre [00:16:27] There was a lot of interest. And so it wasn't just how can we best restore the paddlefish and what do we know about them, or other fish, the many other critters, mussels and, and the whole floodplain. The cypress trees are another story, a big part of the flow work. How do we assure that we can, we have a new recruitment of cypress trees that are just the, the other major poster child, as people would refer to them, of the region. Just everybody loves the cypress tree and now everybody loves the paddlefish.

Rick Lowerre [00:17:12] So, you know, it was really the scientists who had brought the information together. And, you know, we were challenged by water operators like, like the Northeast Texas Water District and the Corps. I think they understood that it certainly could play a role, but it wasn't something, you know, that we just all sat and said, you know, that dams are bad. It was like, OK, this is what we think dams do. They reduce the flow downstream that allows the gravels that are required for reproduction to have a lot of sediment to grow up on 'em and mosses and things that, you know, you no longer have the hard rock surface for the eggs to attach to. So, you know, once the explanation was there from the, from the scientists, I think everybody pretty much agreed that, yeah, the dams were a, a significant part of the problem with the loss of the paddlefish.

David Todd [00:18:26] So I think that's one of the most interesting things about the project you worked on for the paddlefish and for the flows is this kind of scientist slash laypeople, agencies, public? You know, there were just so many parties that you managed to bring together and have this conversation about the future of Caddo and the Lake of the Pines, and Ferrell's Bridge Dam, it seems unusual that you were able to pull all this together. Maybe to talk a little bit about that process of trying to get everybody to the table.

Rick Lowerre [00:19:17] Yeah. You know, it really it started before we began the flow process because, for at least ten years, twelve years, I guess, the Caddo Lake Institute had worked in the area trying to build relationships and find ways that it could be helpful. It was, it was initially there in large part because of the proposal to build a barge canal from Shreveport up to Dangerfield which, which would have gone through, through the middle of Caddo Lake, up Big Cypress, through Jefferson, up through locks and dams into Lake of the Pines and then further upstream. And that was, you know, a Congressionally-approved project as part of the Red River project, which was, ended up, being built, with a lock and dam system, bringing up, you know, large ships up from New Orleans up into Oklahoma. And one arm was going to go through Caddo Lake. So we worked with a lot of organizations that were didn't think that was a good idea and eventually got the project stopped. At least that, that part of it, which was fine. And, you know, there was that kind of work.

Rick Lowerre [00:20:43] There was, there was a fight with the City of Marshall. The City of Marshall had a big water intake that, their water supply came out of the upper end of Caddo Lake. And they wanted to pump more water and sell it to some industries in the area. And that resulted in a lawsuit where the Caddo Lake Institute was involved. But it was, it was led by other organizations. The lawsuit was actually named the City of Uncertain versus the City of Marshall. We had City of Uncertain, and the Greater Caddo Lake Association and other organizations, all as plaintiffs. And that lawsuit went up to the Texas Supreme Court on whether those kinds of organizations could participate in decisions of the state agency at that time, I guess it was Texas Natural Resources Conservation Commission, on water right issues for the City of Marshall. And you would have thought that would sort of be, be, would have caused a lot of conflict, and it did at the time.

Rick Lowerre [00:21:59] But once it got through the case, through the matter, the Institute and the City of Marshall, which was another big player, since they, that's their water supply, we found solutions. We found a way to, once the law was cleared, clear, to find a settlement that was good for everybody. And those kinds of things, you know, helped the Caddo Lake Institute both have credibility that would be there in working for the environment, wasn't going to back down, but mainly wanted to be a partner with different organizations. And it was soon after that lawsuit that we started the Environmental Flows Project, because, in large part, that lawsuit highlighted a lot of the problems with the water supply issues in the region.

Rick Lowerre [00:22:51] But after that, really, once we pulled together representatives of the Farm Bureau, Soil and Water Conservation, state agencies, federal agencies, certainly Parks and Wildlife and U.S. Fish and Wildlife Service, the Corps, Northeast Texas was a very important partner and very helpful, Nature Conservancy, the National Wildlife Federation, Environmental Defense Fund. There were a lot of participants. I think we had the Cypress Valley Navigation District, the local navigation district for the area. We tried to get the counties involved, and they, you know, were all supportive once we kind of explained things, and we started the process that over really 2004 to 2011, before we got to what we, we believe is the consensus that allowed the paddlefish process to go forward. I should mention the utilities, Texas Utilities, Texas (what was it called?) Utilities and Southwest AEP. Can't remember the name of the company that's actually the subsidiary there. But the utilities and they of course, they had coal plants and needed water. They were participants.

Rick Lowerre [00:24:20] And I think as long as everybody understood, that it would be based on good science, and we'd bring everybody in to find ways to accommodate their interest, it just, it worked. And then it was, you know, the understanding that what we're trying to do was not, you know, stop anything that was going on, but figure out how we could best use what we had to help restore the wetlands, help protect the cypress and get regeneration of the cypress, which is not an easy thing, and improve the, the ecology with, you know, bringing back species that were lost or were being replaced, in large extent, by different kinds of species.

David Todd [00:25:21] And so there were a lot of these dependent species, I guess, some in the water, like the paddlefish, and some on land, or, you know, in the wetlands, like the cypress, that were reliant on the flow regime, and I guess influenced by how Lake of the Pines was operated?

Rick Lowerre [00:25:43] The cypress is a good example. You know, it, you see the cypress living in water. It, there's, you know, eight to ten thousand acres of flooded cypress in Caddo Lake. It's, you know, in a foot or two of water, but it doesn't reproduce in water. So you have, when the seeds fall, they can only germinate if they're in dry or moist soil. So you need a system where they're, the water rises and falls in, for certain significant time and in the case of the cypress, they've got to germinate, and they've got to get a foot or two high, before the water comes back or they won't survive. And that historically, because of droughts and floods, you had a system like that, and that's a real problem for Caddo Lake. There's, there's those cypress trees you find in Caddo Lake - a lot of them are 100 years old, which was, or now maybe 120 years old, and the result of an effort in the late 1800s, 1900s, early 1900s, to change the flow patterns in the Red River, remove some old logjams that drained Caddo Lake, the original Caddo Lake. And so for a while, Caddo Lake was way below what it is now. And that, you know, that was natural. Then in the early 1900s, the Corps of Engineers was convinced to put a dam at Caddo Lake, which raised the lake and made it a constant, more of a constant-level lake. Before that, it had been a natural system that was that would flood and dry. And that's why we had all these cypress trees that from, you know, ranged from 100 to 400 years old. And it was real, the Caddo Lake Institute did a lot of work with the U.S. Fish and Wildlife Service on, on how do we assure that generations down the road are going to still have cypress trees in Caddo Lake? And it's not an easy matter, but it really does have to do with the amount of water and the timing of water.

Rick Lowerre [00:28:21] So that's a different need than the flows, the pulse flows, that paddlefish need for their spawning. So it's, it's very complex. And when you look at, you know, things like mussels and what they need and alligator snapping turtles, and what they need.

It's, you know, it's a very complex system that, to some extent, doing something to help one can hurt another.

Rick Lowerre [00:28:55] And so we had to look at how do we best balance those matters and the flow needs. And the end result, really, is we needed to sort of mimic the historic flows. That's what gave us the diversity and protected all these species. And in some extent, you know, assured that some species didn't take over.

David Todd [00:29:24] And those would be some of the exotics that you had...?

Rick Lowerre [00:29:27] Yeah. I mean no. Well actually, even, there are some fish that do really well in slow water. They, that's their habitat. And there are fish that do really well in fast water. So when you build a dam and you reduce the flows downstream in the river, those slow-water fish, sunfish and some others, you know, they start doing better than the fish that need the riffles and the faster flow for issues of food, reproduction, a number of those matters. Again, I'm getting beyond my area of expertise, but that's basically the system. It's, it's very complex. And it changed a lot. And it changes a lot once you build a reservoir or you do other things to it, that, you know, alter the flow, pumping the water out of the system can do it, as well as a dam.

David Todd [00:30:36] Well was there a hope that changing the flow regime would help fight back against the giant salvinia or was this more about this about more natural, local, endemic stuff.

Rick Lowerre [00:30:49] No, I mean there clearly, I think everybody believes that with the historic flood patterns, Caddo Lake would not have, would not be suffering from some of the invasive species that it now has to deal with. And giant salvinia is an obvious one. It's a floating invasive fern. And, you know, it, you can still see when big floods come, big rainfalls come, even when Lake of the Pines is holding back the water, water coming down Little Cypress and Black Cypress will help push the giant salvinia over the dam, down into the Red River, where it eventually flows down to the Gulf. And it doesn't do well in saltwater. So there it dies. But, yeah, certainly those kinds of invasives. And it's not just obviously, plants, it's, it's animals, too. Especially certain kinds of fish that, yeah, the natural system would keep them in check.

David Todd [00:32:03] And so I guess your goal in making the old flow regime was to sort of get some of these spring pulses that might have been more typical in past years?

Rick Lowerre [00:32:20] Sure, sure, and that was always, I mean, you look at the historic flows, yeah, not every year, but every few years, you'd get a pretty good flood, and you'd have a fairly good pulse of water coming down the system, which, you know, would flood Jefferson, for example. And Jefferson flooded many times before they built Lake of the Pines. But it also did many of the other things that we needed. It cleaned off the hard strata, the gravel bars for all the fish that need that kind of surfaces for reproduction. It you know, would clean out species. It would it would keep the river banks stable because it would you know, it would actually cause movement in the riverbanks, but that's, that's a natural system also. And of course, it would then flood large areas of flood plain where a lot of fish need that kind of habitat for their reproduction. It provides, just flooding those, those wetlands above the banks of the river gives those fish access to nutrients and food that they would not otherwise have in the river.

Rick Lowerre [00:33:53] And obviously, the point was easier to make with everybody by talking about the paddlefish. Everybody, you know, once you, people started seeing what paddlefish look like, you know, so many people hadn't even ever seen one or had seen one when they were a child. And the idea of bringing them back and made it pretty easy to explain that here's a fish that needs that spring pulse flow to reproduce and we're not going to have them back in the system unless we can figure out a way to assure that we have those kinds of pulse flows periodically. They might live in the lake, they might live in there in the river, but they're not going to reproduce unless they have that, really almost a couple pulse flows every couple of years, one to help clean off the gravel bars and the areas they need for reproduction, their habitat. And another one to trigger their spawning.

Rick Lowerre [00:35:00] So, you know, at least that piece of the environmental flow process got a big boost when we started thinking that, OK, let's see if we can actually bring them back. And that was not, you know, and that was necessarily the Caddo Lake Institute's goal, plan, at the beginning. It was the scientists who were saying, you know, here's, here's what we might be able to do. We had U.S. Fish and Wildlife and Parks and Wildlife - Parks and Wildlife had tried to do some reproduction, some reintroduction, I guess in the '80s, that did not go well as far as we know.

Rick Lowerre [00:35:44] But, you know, by doing that, and even, you know, the Northeast Texas Municipal Water District, it's a, it's a water district that is made up of seven or eight cities. They helped pay for the dam. They helped buy the, they own the water essentially, and they take the water from the dam. So we had to give them a better understanding of why they needed to hold some water back and release it in the spring for something. And again, you know, it's the paddlefish and that board caught on real quickly and, you know, was fine with the whole idea of trying to figure out how they could do that.

David Todd [00:36:32] Well, so I guess you're showing that there was, there were a lot of different interests. I mean, there was the City of Jefferson, which I guess was concerned about flooding in the Northeast Texas, Municipal Water District that was concerned about water supply, and I guess there were some industries who were concerned about the same, you know, utilities for cooling water. How did you equally gore everybody's cow or or somehow get them to concede something so that these spring flows could occur?

Rick Lowerre [00:37:16] You know, it's, it was a process. And it was one where you first had to build some trust. You needed to deal, let everybody have their say and to raise their concern. We spent, the Caddo Lake Institute, kind of coordinated this whole effort. But we were really, you know, we relied on so many people to do work. But, you know, someone had to assure that this interest got heard. And if there was an issue there, we could find a way to study that issue and come back and have a good discussion about it.

Rick Lowerre [00:38:00] So, you know, Jefferson, you know, 'what, what level of flows coming out of Lake of the Pines could we have and still not, you know, create any damaging flooding in Jefferson?' So we had to study that issue. Some of the power companies that have coal or natural gas plants take water out of Lake of the Pines. And we, we know that in order to get these pulse flows at times, you know, we've got to move the water out of Lake of the Pines and drop the water level, the goal, of course, being a way that spring rains or fall rains will bring the water back up. But they all had intakes where they're pulling water out of Lake of the Pines at different levels. And we needed to make sure that what we were talking about wouldn't take water level out of the lake down below their intake as they pump the water to their cooling water lakes in different parts of the area.

Rick Lowerre [00:39:05] So all those things took months, if not years, of study and you know, Caddo Lake Institute's role was the kind of make sure that got done, raise the money if we needed it to pay for those studies. And that's one of the partners that I think is, was so critical was the Meadows Foundation. They really understood what we were trying to do. Mike McCoy, there, who had been just a real supporter of the whole idea of this kind of restoration work, was willing to, you know, support this effort with funding that was critical. So, I mean, it's not just like get everybody together and everybody says, let's do it. There's real work involved and money required.

David Todd [00:39:59] Well, it's, this may be circling back to something you said before, but it's just striking that you were able to build this level of trust and willingness to listen to people. But it all kind of grew out of a real crucible of, of conflict. I mean, you know, the Dangerfield Canal and, you know, some of the early litigation with Marshall, must have created some hard feelings and somehow you, you know, put that behind and moved ahead. It's really striking.

Rick Lowerre [00:40:41] And I you know, I don't want to say that everything is you know, great. There obviously are still differences in opinions. And we could still fight over, you know, other aspects of this. And, you know, exactly how to deal with giant salvinia. And the flooding that can result in Caddo Lake itself affects homeowners and marinas. So there's still a lot of issues to deal with going forward. This is not a, we haven't claimed success and gone away. But, yeah, you know, it really, it was a voluntary process. People could participate or not. I think the general thought was most of them, they thought, well, we've got something that we're concerned about here. So we're, we're going to participate. And I think, again, that just the combination of the, the, I guess the, well, the participation by so many different organizations made everybody feel like, OK, you know, they're not just doing this just as for environmental purposes and ignoring the interests.

Rick Lowerre [00:42:08] The one, the one group that probably had the most, still has the most difficulty with the work is the agriculture community, which has always been very, you know, throughout Texas is kind of secretive. They, they, you know, they, they're a source of a lot of nutrients into the system, and the water quality problems that can arise from too much phosphorous and too much nitrogen. And so to some extent, we have not really dealt well on the environmental flow programs with the water quality aspects of it. A big part of that was Pilgrim's chicken operation and the discharges from that facility in Mount Pleasant. That is, that was all kind of put on a sidetrack and eventually has become sort of a success, a success story, I think, in terms of getting a consensus and getting some real improvements there. But the effort to try to understand the nutrient loading resources and to, you know, work with the individual farmers to try to help them figure out how to avoid runoff that's negative for the system.

Rick Lowerre [00:43:39] There's a few great landowners in the area who participated. Bob and Kimmy Sanders, cattle raisers, were willing to do, well, not only allow us access to the river on their property, but put in work to help reduce nutrient loading and to help actually with a wetland system that we hope to use for, for paddlefish. But those who, they were, I don't want to say they were exceptions, but they were landowners that got involved, allowed the Caddo Lake Institute and others to get access to the river from their places so we could measure. You know, we needed to know how much floodplain was inundated when they did certain releases. If they released 3000 CFS in Lake of the Pines, how much of the flood plain did it get into? Did it get over the banks of the river, or did it stay within the banks? And we

needed to have access to land because it's hard to do it from the air because there's so many trees. We had to get actually on the land and put in measuring devices that would measure actually the elevation the river rose at different releases from Lake of the Pines, so we could we could tell if we had a thousand CFS, how much, how much of the wetlands would get inundated? Three thousand, how much? And so we had a sense of how much we needed, how much we could get, and where it'd be, because of a number of landowners. But as I said, some landowners, you, don't want you on their property, don't want you to know anything about their operations there, you know. That's was probably the one area we were less successful than I'd hoped.

David Todd [00:45:53] Well you've helped give some context, you know, who the different partners and players and interests were in the Caddo system. As I understand a lot of this environmental flows work that you're doing up in Caddo was happening, you know, along the same time and under the same kind of state laws, as efforts down at the Guadalupe and the Galveston system. Can you help sort of compare what you were doing there with efforts elsewhere in the state to try to return to a more natural flow regime?

Rick Lowerre [00:46:32] You know, there was there was an effort by a number of conservation groups, you know, trying to work with the river authorities and water managers to begin a discussion and a way to look at the environmental flows. And it started, I think, probably in '98, there was, there was a law passed that provided for some work trying to understand the relationship between flow levels and species. And it was focused on the Brazos, and I think the Guadalupe. And then there was a law passed that, that all the rivers that flowed into the Gulf, so from the Sabine, over to the Rio Grande, the state would start to do studies on the flow needs in those systems.

Rick Lowerre [00:47:38] And the bill, the bill that was initially offered, and did not pass (and this was in the early 2000s), and it was a, you know, it was something that the Caddo Lake Institute picked up on, said, "OK, we want to be part of that. But we're willing to start it even if there's not a law that that explains and develops this. We have kind of an understanding of what's going to happen." And we also understood that the Cypress basin, which runs into the Red River and other rivers, the Canadian, the Cypress, the sorry, Sulphur, those rivers were not going to be included in this environmental flows program. And then there was not going to be state funds available for those kinds of studies.

Rick Lowerre [00:48:33] So the Caddo Lake Institute, that's when the Caddo Lake Institute said to the Nature Conservancy and others, "Let's just do a voluntary program." And we actually got a provision in the law that did, did pass in 2007, I believe, setting up all these other environmental flow studies. We got a provision that the systems that were not funded and not set up to study, we could go forward in a voluntary program, so there would not be any kind of objection to, you know, what are you all doing out there, this is not a state deal. What's going on? The law is clear that we could do that and we started it before the state program. But having said that, the state program, you know, brought in a lot of money for studies in these different systems that were important to advance our understanding also. And I think the Caddo Lake Institute and all the partners up there, we're doing things, studies that helped the state with their environmental flow.

Rick Lowerre [00:49:39] So it was a very, you know, a good system of working together. There was a state environmental flows advisory committee of scientists. They were trying to make decisions on how things would be made. We would make presentations on our, the results of our work. We would learn from the work elsewhere. The real difference is the state

programs basically set out a year to get a first cut, a rough estimate of what the system needed and you didn't have the time in a year to build the kind of consensus we built over seven years. You didn't have the time in a year to do the studies that we did to find out how much flood plain got inundated at different levels. Those, those systems, those environmental flow programs are important, but they didn't go into the depth and have the ability to sort of bring everybody together in the way that our system did. So nothing, you know, those, those other state rivers systems need a whole lot more work. They know that. If there were state money for that, and there is some continuing funding for that, they'll continue to advance.

Rick Lowerre [00:51:09] But I think, you know, it really was an excellent idea that we were able to get everybody together and say, well, we're just gonna do it on our own. We'll raise the money. We'll bring the people in that we need and we'll take our time.

David Todd [00:51:27] And build that kind of trust and confidence, I guess.

Rick Lowerre [00:51:31] Yeah. Yeah. Oh, yeah.

David Todd [00:51:34] So speaking of time, I mean, here you are, gosh, 15 years or more since some of these discussions first began at Caddo. What do you feel are like the, the sort of, I don't know, the big successes and the remaining challenges?

Rick Lowerre [00:51:57] Yeah. Well, you know, no one, I think, is ready to say, "all this has been success." It certainly is a success in terms, in terms of building understanding of the systems in that, in those communities, that whole Cypress basin. I think people now understand a lot more where the water comes from, what the system looks like, why certain things are important. And that's, that's, you know, for the long term, that's really valuable. I think the flow regimes are, and the work, you know, we've, we have gotten the Corps of Engineers to change their management plan for Lake of the Pines. It was originally set up for water supply and flood control, and now there's a third component - environmental flows, environmental aspects. It's not you know, it's not a congressionally mandated and supported piece of their puzzle, but it's in there - our environmental flows that were developed, the scientists recommended certain pulses, certain times, low-flow conditions. The Corps now tries to operate Lake of the Pines, to the extent it can, in some years, it has too much water and some years, it has too little water because you know, it's not we're not back to the old system, but to a large extent, it is willing. And the Northeast Texas Municipal Water District, which owns most of the water, doesn't need it all, most of the time, is willing to say, "OK, you know, we're going to allow you to use this water." So, that, that's a national first. I mean there's no other reservoir in the country that's got that kind of system in place. And it's being used and touted around the country as, you know, a way to try to do it, try to bring these environmental needs into the Corps' operations and not just Corps, but Bureau of Land Management and other reservoir operators. That's a success.

Rick Lowerre [00:54:14] Whether paddlefish will remain and, and repopulate the system, we don't know yet. But we're optimistic. Certainly the restoration of some of the wetlands now seems to be a real likelihood that, you know, these kinds of changes are going to really help restore certain types of vegetation, include, including cypress trees. Again, the long term, who knows, climate change could affect everything up there. But, you know, I'm, I'm optimistic. There's still work going on, on both the paddlefish, other fish, the flood plains.

Rick Lowerre [00:55:09] There's more attention now, too, for trying to figure out, is there a way to operate Caddo Lake itself to help this whole system, because all we have at Caddo Lake

is a weir, just a, you know, essentially a dam and the water flows over it. You can't release the water like you can from a lot of dams, you know, through gates. And if you could, you could obviously fluctuate the lake much more than you can now to do some of the more natural systems that mimic the more natural conditions out there.

David Todd [00:55:53] So the weir would have to be changed in some way, it would have to have a spillway or gates or something that it doesn't have yet.

Rick Lowerre [00:56:01] Yeah. Or, yeah, gates and big pumps. You know, Fish and Wildlife Service at one point thought about putting a fish ladder in that would allow fish to, that flow over the dam, to come back up. Of course, the problem with that is any fish can get back up, which includes, you know, some of these carp and other exotic species that we don't really want in the system that are in the Mississippi, and they could, they could come up the Red and they could use a ladder to get over the dam. That's not good. So these are, these are very complex issues, and again, that's making the changes to the dam, again, that's, you know, if ever, it's certainly going to take another five, ten years to get the science right and deal with all the issues. So it's still going on there up there, in a good way.

Rick Lowerre [00:57:06] And the good thing is what, once you bring the dam in, because the dam is in Louisiana, you start to bring in other interests. There's, on the Louisiana side of Caddo Lake there are half a dozen cities that take water out of the lake near the dam. They certainly don't want the water level of Caddo Lake dropped so they can't take their water. There's flooding issues downstream of Caddo Lake. So, you know, making changes upstream affects those in Louisiana. Louisiana was always interested and always would send, the State of Louisiana and some of the local organizations in Louisiana, would send people to our flows meeting, because they were interested and we were interested in what they could do, say, but we didn't really focus on changing conditions in Louisiana downstream of Caddo Lake, that would also be a benefit to the whole system.

David Todd [00:58:08] Well, it sounds like it was complex enough with the different parties and interests on the Texas side. And I guess one thing at a time. Well it's so impressive what you've done, and thanks for walking me through it, you know, just a brief introduction of what was years of work. But I really appreciate it.

Rick Lowerre [00:58:32] But, yeah, and years by, by many people, I mean, you know, the fact that Fish and Wildlife found money to do this. Parks and Wildlife found money to build tanks to bring the paddle, bring the paddlefish from Tishomingo. Fish and Wildlife didn't have it. They had the fish. They didn't have the tanks on trucks to bring them. Parks and Wildlife made them. So everybody. You know, I mean, it's just amazing how much of a joint effort, everybody pitching in. So, you know, the credit is to everybody that was in this thing deserves a whole lot of credit.

David Todd [00:59:15] Well, it's deserved. Do you have anything you'd want to add about the paddlefish and flows and what you've learned up in Caddo?

Rick Lowerre [00:59:26] Well, you know, I would say, you know, from my work at Caddo, which involved lots of issues, the giant salvinia, the whole issue of water quality. They're just issues involving the lake. And you know what kind of, kind of boat you can have on the lake that don't destroy or don't cause problems in the lake. But anyway, the flows stuff was certainly a highlight, and of that highlight, of course, I think the paddlefish project really was to, to be there when we're, the first introduction of the two-foot long paddlefish, some forty of

them, I think like 47 maybe, and having the school kids out there, you know, them grabbing the paddlefish and walking out to the lake and putting it in and seeing, you know, their expressions. And then the schools, you know, that could name it. Forty-seven schools named paddlefish, and watch them, you know, on their computers. They could figure out where they were, where they were going. You know, it was, that's, that's just, you know, that's a real highlight in terms of doing educational and environmental issues.

David Todd [01:01:01] Well, it's, it's nice because it's sort of like where you began camping at Lake of the Pines, I think you've helped introduce kids to appreciate the same place. It's a wonderful cycle.

Rick Lowerre [01:01:17] Yeah. Yeah. And I have, you know, tons of friends up there, tons of people that I really have a great relationship because of this whole effort. So it's been a great experience for me and I'm glad to pass it on to someone younger, with more energy, who's, you know, going to make it even a better project, a bigger project. But it was a great run for me.

David Todd [01:01:45] Well, good. Well. Thank you, Rick, for telling me about it. I wish you all the best up there in beautiful Colorado, but come back soon, we'd love see you.

Rick Lowerre [01:02:02] When it cools down there, we'll be back.

David Todd [01:02:07] That should be October.

[01:02:11] Yeah. Well, I hope you hope it cools down sooner. I hope you get a good, hope the rains help for a while there. Yeah. It was good talking with you, David, and thanks, thanks so much for doing this project. I mean, your stuff is so valuable and pull it, you know, just getting to read Mike's and Tim's pieces, I learned things I didn't know. So pulling all this information together and making it available is fantastic. I hope you think, you know, talk with more of the people involved, get their perspectives. And so if you need contacts, like the Sanders to talk with them, I'm sure you can find Northeast Texas Municipal Water District easily online. But let me know what I can do.

David Todd [01:02:56] All right. I'd love your help. Well, I'll, I'll definitely follow up and bother you, soon. But for today, just no farther.

Rick Lowerre [01:03:05] No bother.

David Todd [01:03:05] Have a good weekend, and say hello to Mary.

Rick Lowerre [01:03:09] See you, David. Thanks.

David Todd [01:03:11] Take care. Bye now.