Natural Resources Committee August 31, 2018 Room 1525

Rough Draft

HUGHES: [00:00:00] Everyone, according to my phone we're at 1 o'clock. So welcome to the Natural Resources Committee. I'm Senator Dan Hughes, I am from Venango, Nebraska, and I represent the 44th Legislative District. I serve as chair of this committee. Today we are hearing testimony for LR387, an interim study to examine issues relating to the spread of eastern redcedar trees. The purpose of this hearing is to gather information for the committee. No positions of support or opposition are taken. I ask that you abide by the following procedures to better facilitate today's proceedings. Please silence or turn off your cell phones. If you are planning to testify, please pick up a green sheet, green sign-in sheet on the table in the back of the room. Please fill out the green sign-in sheet before you testify. Please print and it is important to complete the form in its entirety. When it is your turn to testify, give the sign-in sheet to the committee clerk or to a page. This will help us make a more accurate public record. If you do not wish to testify but would like your name entered into the official record as being present at the hearing, there is a separate white sheet on the tables that you can sign in for that purpose. This will be part of the record of the public-- the official record of the hearing. Written materials may be distributed to committee members as exhibits only while testimony is being offered. If you have handouts, please make sure to have 11 copies and give them to a page to distribute to the committee. When you come up to testify, please speak clearly into the microphone. Tell us your name and please spell your first and last names to ensure we get an accurate record. We appreciate all the representatives of various groups who have been working on the eastern redcedar issue that are here to provide information to the committee on this issue. There are-- these are the committees invited testifiers and each of them will have five minutes to present. After the invited testimony we will take testimony from the public and allow five minutes per testifier. When you see the yellow light come on that means you have one minute remaining. The red light indicates your time has ended. Questions from the committee may follow.

Another reminder, no displays of support or opposition to the bill vocal or otherwise is allowed at a public hearing. The committee members with us today will introduce themselves beginning on my left.

KOLOWSKI: [00:02:24] Rick Kolowski, District 31 in southwest Omaha.

QUICK: [00:02:29] Dan Quick, I represent District 35: Grand Island.

WALZ: [00:02:32] Lynne Walz. I represent District 15, which is all of Dodge County.

HUGHES: [00:02:36] And on my right.

BOSTELMAN: [00:02:38] Bruce Bostelman, District 23: Saunders, Butler, and Colfax Counties.

HUGHES: [00:02:42] To my left is committee legal counsel, Laurie Lage. And to my far right is the committee clerk, Mandy Mizerski. Our pages for the committee today are Heather Bentley and Greg Tracey. So thank you for coming. So with that, we will begin. We do have a list of invited testifiers and there is an order in which they will testify. And when we have gotten through those, I will open it up to anyone else who would like to testify. This issue came was brought to my attention by a few different groups that wanted to talk about this issue. And by the amount of people that have shown up on a Friday afternoon in Lincoln there it tells me that there is a problem out there that we certainly need to look at and try to see if we can find ways to mitigate the issue. So I appreciate everybody showing up and your willingness to participate and share the knowledge that you have. So with that, I will invite our first testifier, Dr. Dirac Twidwell. Did I get that? How bad did I murder it? Okay. I murdered it pretty good?

DIRAC TWIDWELL: [00:03:54] You did as well as you'd expect.

HUGHES: [00:03:59] Thank you for coming and welcome.

DIRAC TWIDWELL: [00:04:10] So it's Dirac Twidwell, D-i-r-a-c T-w-i-d-w-e-l-l. Good afternoon, Senators, Chairman Hughes, and the Natural Resources Committee. I'm Dirac Twidwell, an associate professor at the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln. My research program specializes in large-scale resilience science and understanding why regional transitions are occurring in rangelands and forests. I also work with national and international research teams to study the extremes of fire and drought and how they are changing in the 21st century. As a scientist, I report on how systems change so I have a neutral position on this issue. My role has been to provide input to diverse landowner and agency networks for informed science decision making. The conversion of grassland regions to eastern redcedar dominance is one of the most well understood changes in rangeland science. New rangeland inventory technology shows that the amount of rangeland converted to tree dominance has doubled in Nebraska since 2000. Trees in rangelands are now approaching one million acres and Nebraska is considered to be in the early stages of the transition process. Other states such as Texas, Oklahoma, and Kansas are dealing with this issue as well. All states show a continued inability to halt a trend where rangelands are lost to woody plant dominance. The consequences of this conversion have been an area of major scientific investigation and I will highlight the most important findings here. The science has established with absolute certainty the following when grasslands transition to juniper woodland: 75 percent declines in livestock production are consistently documented as a result of collapses in grassland productivity. Wildfire suppression tactics become ineffective. Virtually all grassland dependent bird, small mammal, insect, and plant species are displaced, increasing the potential for threatened and endangered species. Lost revenue generated for Nebraska public school funding for the Board of Education land and trust. Additional known consequences

include future decreases in water yield but impacts are uncertain in Nebraska and this is an area of current research at UNL. Preliminary estimates of the statewide economic vulnerability to grazing lands have also been developed and those are being refined at UNL. These consequences are primarily owed to two major challenges and changes in grassland systems: human to bird dispersal of trees into grasslands and the elimination of indigenous fire ignitions. Decades ago, many scientists considered eastern redcedar to be a species that could be introduced to a new area where the population would not be self-sustaining and spread. This is referred to as an inventive species. However, some inventive species become naturalized and then invasive. Eastern redcedar is one of those species. Thus, the risk posed by eastern redcedar have flipped over the past century. Tree plantings introduced into grasslands today serve as seed sources for the spread of new cedar trees into environments where they were previously foreign and the costs of mechanical removal have prevented this management practice from being practical on large landscapes and keeping pace with the rate of cedar spread. Many ranchers throughout the Great Plains have therefore turned to prescribed fire but there are sociopolitical barriers to its use and therefore has limited application as well. The outcome is that not enough land area is being managed with mechanical or fire treatments to keep pace and rangelands of the Great Plains with the rate at which they are transitioning to woody plant dominance. Where these impacts will be realized in Nebraska and when they will occur depend on management and policy and how it's adapted to sustain rangeland resources. Policy assessments have been conducted in the sites. They demonstrate how existing policies and management practices are not being implemented in a manner capable of halting the regional trend of eastern redcedar invasions. As a result, other states have underinvested at low levels of infestation and overinvested after environmental consequences have become realized. Key scientific principles from invasion-- invasion ecology encourage policies that do not distribute invasive species in areas where environmental consequences outweigh potential benefits. These policies have a track record of success and are shown to be more cost-effective. Only one group in the Great Plains has demonstrated the capacity to stabilize a region following the onset of exponential growth

in eastern redcedar. This is the result of a unique partnership in the Loess Canyons of Nebraska where landowners, scientists, and agencies including Nebraska Game and Parks, Pheasants Forever, and the Natural Resource Conservation Service have leveraged resources in new ways to attempt to scale up eastern redcedar control. And this region provides the first scientific evidence for sustainable rangeland management in areas where there's high amounts of eastern redcedar cover in the Great Plains. Last year, my research group released the most comprehensive resource on the spread and impacts of eastern redcedar to the public domain, the Eastern Redcedar Science Literacy Project. It's available on-line. An additional report has been generated from this information, along with new scientific information from Nebraska to answer many of the common questions people have known the causes, consequences, and challenges associated with eastern redcedar and its spread into areas where it was previously foreign. Many of the same questions are posed in this legislative resolution and I have provided that report to the committee for your reference. Thanks for your time and attention on this important natural resource issue. I see the end of my testimony.

HUGHES: [00:09:27] Okay. Thank you, Dr. Twidwell. Questions from the committee? Senator Bostelman.

BOSTELMAN: [00:09:32] Thank you. Thank you for coming to testify today, doctor. I guess initial question would be what are the practices that have been tried, that have worked? In what stage in growth, hasn't been tried and worked? What's reasonable to expect for an outcome to be successful at managing the problem or issue that you're addressing, that we're talking about? If it is a problem.

DIRAC TWIDWELL: [00:09:58] Yeah, thanks for the question. So since the 1950s in range management there was particular mechanical, chemical, and fire were your tools that were your brush management tools. Those were identified as best practices in range management. What we

have here is those best management practices work very well on small acreages. And until now we haven't had the technology to look at more regional and statewide trends. So when we look at success stories where we've done management, we're ignoring the regional trend and then that makes that mechanical or chemical or fire harder and harder to keep pace with invasions. So those best management practices we now know today are not the best management practices for sustaining regional and state resources. The science is currently working on what else can we do to scale up. So an example is preventative management, it has not been implemented at regional scales. So we introduce seeds into certain areas and the same time as we try to control them. That works for inventive species that don't self-propagate and spread. We're struggling to deal as a society with the fact that these are now rapidly changing. It took so long to get them established in places like the Sandhills and we now have lots of evidence that they're spreading well past where people previously thought, including scientists. So the answer to your question isn't how difficult, it is how to scale up to manage actual regions. There has not been a state that has implemented best practices or tried to identify best practices that worked at regional scales and prevent this from happening. As a result, they overinvest later. And there was no evidence until the Loess Canyons of Nebraska where you could actually see it exponentially increasing and then stabilize. It's the only place we know, and that's 330,000 acres. We're talking about a much bigger land area. So we are coming out with best-- not best practices, we coming out with technical guidance for policy on how to scale that up. What are things that could be tried?

BOSTELMAN: [00:11:58] One follow up question. I talked to an individual I met this summer who does logging and has done logging out in that area. One of the challenges he sees there is when you go in and log out an infested area that has large cedars that they're interested in then the problem you have is you have-- if it rains they've got all the soil is going away, there is nothing to hold the soils. Can you talk about that if there's anything in there that follows up if there is a logging or if a fire or whatever goes through an area? Now you've got these canyons and stuff that if you get

a lot of erosion happening once we have a rain that, you know, hopefully would come soon.

DIRAC TWIDWELL: [00:12:37] Right.

BOSTELMAN: [00:12:37] But there's a soil erosion problem on the backside of this thing too.

DIRAC TWIDWELL: [00:12:42] So that's been one of the major concerns throughout the Great Plains is that there are certain management treatments, mechanical or fire, that could lead to those erosion. What we see in the Great Plains is a very site-specific erosion type of challenges, like after the Niobrara wildfire there was that big flush of soil loss, mass soil loss that occurred. When we're looking at a lot of prescribed fires, including a lot of regional prescribed fires, even in more of the Loess Hills and Loess Canyons area where there's more topography, we now have data that shows how rapidly grass comes back. In fact, on the Niobrara Valley Preserve owned by TNC we just published this year showing that in our worst drought conditions recorded with the most intense fires there was a wildfire that happened. We saw no difference in biomass and there was not that soil erosion everybody feared for the Sandhills, which is considered to be the most sensitive of all the prairie regions and the Great Plains. Consistently we do not see that long-term soil erosion loss. Grass-- eventually grassland plants tend to come back and win. But there are places where you will get localized soil erosion and distribution of soil movement. But we don't see the large-scale destabilization type of fears.

BOSTELMAN: [00:13:57] Thank you.

HUGHES: [00:14:02] Are there areas of the state that you feel we shouldn't be planting eastern redcedar that is not already have trees-- have trees in place that would-- that can become a problem?

DIRAC TWIDWELL: [00:14:18] So as a scientist definitely, especially in a private land state, I definitely never tell groups what to do. But I give feedback on what the benefits or consequences could be. So one of the main scientific principles is that we should look at the scientific evidence and see if we're going to introduce this plant to an area what are the potential risks versus the potential gains? Because it was introduced initially for wind management and we're seeing all these other costs play out. In areas where people are most dependent upon rangeland resources and where there is not yet a lot of cedar, those are the areas where the spread of cedar is slowest, which gives us the best capabilities to manage spread. It also represents where there's the greatest risks because they haven't been hit with those changes yet. So there is full potential for cedar to reach those consequences long-term, whereas other places are already have some level of degradation associated with it in terms of certain consequences to other resources. So we can identify what those consequences of benefits could be to make more informed decisions across those areas. But that means that places like west central Nebraska and in areas, the Sandhills, there's a lot to lose relative to gains in associated with wind management. And we have those kind of science platforms coming out over the next year or two.

HUGHES: [00:15:38] Is there a different type of tree that would be as readily adaptable, adaptable to the environment that could replace eastern redcedar? Or is it just all evergreen in general would end up doing the same thing?

DIRAC TWIDWELL: [00:15:55] Yeah, there's definitely other people in the room that can answer that more, associated with representatives from Halsey and others. The challenge that we see as a scholar and historian of the science is that when you took so long to get cedar established and we had all those investments, and we're talking large investments since 1926 in the state of Nebraska. We've led the country with the distribution of eastern redcedar seedlings. So there's been so many decades of investments put in and it worked for wind. Now we see that it's not an inventive

species, that it's spreading. There's consequences. So the transition to something different, that's always a major lag. Usually, groups don't try those transitions until there's more major environmental consequences that become realized in the states at the early stages of this invasion process.

HUGHES: [00:16:48] Okay. Any additional questions? I apologize, did you spell your name when you started?

DIRAC TWIDWELL: [00:16:55] Yes, sir.

HUGHES: [00:16:56] Okay, thank you. Okay. Thank you for your testimony.

DIRAC TWIDWELL: [00:17:01] Thank you.

HUGHES: [00:17:02] The next testifier is Scott Smathers. Welcome, Mr. Smathers.

SCOTT SMATHERS: [00:17:18] Chairman Hughes, my name is Scott Smathers, S-c-o-t-t S-m-a-t-h-e-r-s. I'm the executive director of the Nebraska Sportsmen’s Foundation. However, today I'm here representing that Nebraska Conservation Roundtable. Excuse me. The Nebraska Conservation Roundtable consists of 24 organizations and agencies with a shared mission to improve the Nebraska conservation community through development of a more cohesive voice for conservation, create dialogue and foster collaboration, serve as a resource for policymakers, and recommend science-based sustainable solutions for complex conservation issues impacting Nebraska's natural resources, fish, and wildlife habitat. Conservation Roundtable works on common shared issues and acknowledges member organizations and agencies' independence, thus allowing each entity to determine if they will sign on to any documents or recommendations developed by the roundtable.

The Conservation Roundtable has prioritized seven key issues facing Nebraska's wildlife and natural resources, one of them being the eastern redcedar encroachment. A white paper was produced by a subcommittee with an expertise on the issue, reviewed by the full roundtable, and the signed support of 20 roundtable members which is being submitted as written testimony today. In your packets I handed out that you have our white paper and what we call our marketing sheet, if you will. Cedar, a tough and hearty native tree species, are rapidly expanding across much of the state, in part due to its adaptability to a wide range of conditions. The lack of fire on the landscape, both prescribed and wildfire, changes in farm and grazing practices, drought, lack of grassland and forest management, changes in land ownership patterns, and conservation plantings as a seed source Cedar has expanded much more than any other species across much of the Midwest and Great Plains. Many Nebraskans don't perceive redcedar encroachment as an significant threat until trees have overtaken an area and become too dangerous or expensive to remove. Now is the time for proactive cedar removal and management, while it can still be addressed. The rapid expansion of cedar trees is a current concern because of among the four major groups of birds, grassland birds have recently experienced the steepest declines. Studies show that grassland bird populations decline rapidly when cedar trees reach only 10 percent in a grassland. So if cedars spread in Nebraska's prairies and grasslands we will see continued bird declines. Cedar expansion is a problem for Nebraska livestock economy. Cedar expansion reduces livestock production by 75 percent when grasslands are overrun by cedar trees. Cedar spread is on the cusp of being beyond Nebraska's ability to control. Many landowners fail to recognize small cedars as a threat. Current land cover analysis don't necessarily capture all the grasslands and very small cedars that within 10 years will be substantially more expensive-- expansive and potentially dangerous to remove. Currently it is estimated that it costs landowners and conservation organizations roughly $15 million annually just to maintain existing grasslands. This is assuming that 25,000 acres will need to be cleared annually if the invasion in forests is included with grasslands where removal is often more costly. It would cost $23 million every year to mechanically clear 38,000 acres of cedar forest

just to stay even with the expansion that was observed from 2005 to 2010. Neighboring states have large tracts of land turned from grasslands to forest. Oklahoma is currently losing a hundred square miles annually to cedar expansion. Nebraska is in a position now to learn from other states and take action. As cedars become more dense there's an increased threat of wildfires, which is a threat to homeowners in agricultural. For example, in 2016 in Kansas the Anderson Creek fire burned 313,000 acres, killed 750 head of cattle, and destroyed at least 11 homes and 2,700 miles of fence. County officials-- county officially estimated the fire cost at least $30 million in total damage and that $1.5 million was spent on suppression efforts. In 2017 at the border of Kansas and Oklahoma the Starbuck fire burned 509,000 acres, killed one person and at least 4,000 head of cattle, and destroyed 26 homes. The official estimate caused by the fire was $50 million total damage and at least $700,000 to suppress. The Nebraska Conservation Roundtable recognizes many individual landowners, agencies, and organizations that are investing in controlling, managing, and reducing eastern redcedar. The roundtable has identified the following actions needed to combat eastern redcedar expansions to include but not limited to: expand control reduction methods, such as mechanical tree removal and prescribed burns. By using cost-share and technical assistance programs, conservation entities have demonstrated that landowners will continue to manage cedars into the future. Identified priority geographic areas for action. There may be areas in Nebraska where it's simply not feasible to reduce the cedar forest. Conducted targeted research, developed non seed-bearing cedar trees, educate Nebraskans that redcedar encroachment is a problem, and conduct extensive education and outreach activities so more landowners are aware of the proper responsibilities that will have to maintain cedar plantings that may negatively impact their neighbors. Explore development opportunities to promote economic incentives and drive for cedar removal, processing, and management. This may include, but is not limited to, finding alternative uses to remove cedar wood. All the statistics in the testimony are provided to you at the link that is provided and also the references are listed on the back page. That concludes the testimony of the Nebraska Conservation Roundtable.

HUGHES: [00:22:31] Thank you, Mr. Smathers. Are there questions? Seeing none, very good.

SCOTT SMATHERS: [00:22:36] It's too easy on a Friday, guys.

HUGHES: [00:22:40] Okay. Our next testifier is Craig Derickson. Welcome.

CRAIG DERICKSON: [00:22:55] Thank you. Good afternoon, Senator Hughes and the Natural Resources Committee. I'm Craig Derickson, C-r-a-i-g D-e-r-i-c-k-s-o-n, of the U.S. Department of Agriculture. I'm the state conservationist for the Natural Resources Conservation Service. Our agency has about 300 employees across Nebraska in 77 field offices. These field offices work directly with Nebraska's farmers and ranchers to conserve and enhance natural resources on privately-owned land. Our conservation programs are created and funded through the farm bill. They are strictly voluntary. Our staff provides one on one assistance developing conservation plans to meet each farmer-ranch operation's needs. One of those needs is the issue being discussed here today, managing eastern redcedar trees. Since the mission of the Natural Resources Conservation Service is helping people help the land, the ways we provide that help can vary from eastern Nebraska to western Nebraska and from operation to operation. Some operations want to plant cedar trees to protect for protection from wind and snow while other operations want to remove cedar trees to improve grazing land. The conservation programs the Natural Resource Conservation Service offers have the flexibility to provide assistance to both of those scenarios. The 1996 farm bill created the Environmental Quality Incentives Program, commonly referred to as EQIP. It provides financial assistance to farmers and ranchers to address a wide variety of natural resource concerns. Since 1997, more than 100,000 producers in Nebraska have received over $340 million through the EQIP program. Out of that amount, over $19 million or 5.8 percent of the total EQIP dollars spent has been used to either plant eastern redcedars, primarily in windbreaks, or to remove

eastern redcedar from grazing lands. Let's take a closer look at those two scenarios. The Natural Resources Conservation Service offers funding through EQIP to plant windbreaks on privately-owned ag operations. Eastern redcedars are used in many of the windbreaks planted in combinations with other species. Since 1997, more than $2 million dollars of EQIP funding has been used to help over 1,900 producers install 6 million feet of windbreaks. Conversely, since 1997 the Natural Resources Conservation Service has offered funding through EQIP to remove eastern redcedar trees on privately-owned ag operations. The two primary conservation practices used to control eastern redcedar are brush management and prescribed burning. Brush management provides funding to remove woody plants on all privately-owned land except crop land. The woody vegetation is removed by physically cutting it down, applying herbicide, or a combination of both depending on the site conditions. The amount of funding available to conduct brush management through EQIP varies from $15 to as high as $196 per acre. The funding level depends on the number of acres to be treated, where the area is located, whether or not it is next to a stream or in the uplands, the terrain, and the level of the infestation. For example, a site on rough terrain next to a stream with a high density of cedar trees would be much more expensive to manage than a small, level pasture with just a few cedars. Sites requiring the most difficult methods of brush management receive the highest level of funding. The funding provided through EQIP helps what is often an expensive practice for landowners. Since 1997, EQIP brush management, over $15 million was paid to more than 4,000 producers to remove eastern redcedars from more than 225,000 acres. Prescribed burns are planned, highly managed fires deliberately set by a land operator and a burn team. This controlled fire permanently kills the cedar trees, helping increase forage capacity for livestock and wildlife. Land eligible for EQIP funding includes privately-owned grasslands, wildlife land, or forest land. The amount of funding available to conduct prescribed burns through EQIP varies from $6 per acre to $16 per acre, depending upon the number of acres to be burned, how rough the terrain, and the fuel load present. The cost of conducting a prescribed burn is correlated to the level of risk associated with the burn. The higher the risk, the higher the cost. For example, a

large, steep pasture mostly covered by cedar trees would receive a higher amount of funding than a small, level pasture with just a few cedars. Since 1997, over$1.5 Million was paid to more than 600 producers to burn over 170,000 acres in addition to the EQIP funding provides landowners to carry out this practice. We also provide the planning needed to conduct a safe burn. Obviously this management practice comes with potential risk. The planning assistance given by the Natural Resources Conservation Service gives producers not only the financial feasibility but also the peace of mind to carry out this highly effective practice. The Natural Resources Conservation Service in Nebraska is concerned-- currently considering potential changes on how we provide funding to projects involving eastern redcedars. Factors under consideration include areas that are determined to be the most vulnerable to the spread of redcedar, could be considered a lower priority for EQIP funding to plant eastern redcedar, and we are also working to develop additional viable species for planting in windbreaks. The Natural Resources Conservation Service will gather feedback from a variety of partner agencies and organizations prior to making any changes to our EQIP policies. We have a strong conservation partnership in Nebraska and I look forward to further discussions report regarding this important subject. Thank you.

HUGHES: [00:30:10] Thank you, Mr. Derickson. Are there questions? Senator Kolowski.

KOLOWSKI: [00:30:14] Thank you, Mr. Chairman. My question is one of history. Would you go back a little bit and tell us about when the redcedars were introduced in Nebraska and the selection for their use? Why was that chosen and did we not foresee the possibility of what would take place in case they did spread the way they have?

CRAIG DERICKSON: [00:30:38] I will answer some of that but there's probably others here who are more of an expert in that than I am. But we know just from history records that even back to the 1880s the eastern redcedar was planted in and around homesteads probably throughout the state.

But certainly in the areas in the central and eastern part of the state. And it is a native species but I think there is just a combination of environmental and ecological factors going on that have allowed it to expand. It's almost this phenomena sort of situation that we're now seeing. So I don't know that there was enough foresight to see that that condition would exist. But, you know, as Dr. Twidwell and others have said, we're seeing the expansion and the invasion at just such a rapid pace that it really stands out to landowners as well as to agency officials. Was there another one?

KOLOWSKI: [00:31:39] No, I just wanted to comment that in my own travels back and forth between Lincoln and Omaha for all these years, within decades I saw the entire valley by the river become just filled with those trees. And it looked like there was no stopping them or no plan to do something about them. And now we're at this point of challenge: what we're going to do and how are we going to do it and how much is it going to cost because of the lack of foresight of maybe this should have been control. Severely controlled and at a different time and different place and a different situation. If that makes sense.

CRAIG DERICKSON: [00:32:30] It does. And I think that's one of the positive things about the discussions we're having now is what do we do with what we have and where it looks like we're headed.

KOLOWSKI: [00:32:38] Thank you.

HUGHES: [00:32:40] Additional questions? Senator Bostelman.

BOSTELMAN: [00:32:44] Thank you, Mr. Chairman. Mr. Derickson. I have several questions, here, you may or may not know. But those who testify after may have answers fort them. I'll get them out now and then we will kind of roll through them. You mentioned in your testimony here

this that redcedars are blended in combination with other species. And I think that goes back to what Senator Hughes and asked earlier about what other species are there available and a growth rate on those that could be replacing redcedar, eastern redcedar specifically. And follow up with that one is why do we continue to, if we have others, these other trees we can put on, why do we continue to allow funding for and distribute eastern redcedars? That would be the start of my questions.

CRAIG DERICKSON: [00:33:38] Okay, in terms of other species, you know, some of the first that would come to mind would be pine trees and other combinations of both shrubs and hardwoods like oaks and hackberry. Possibly a locust in some areas where that doesn't turn out to be invasive. But one of the desirable characteristics about the eastern redcedar is the very dense growth that it provides. And so there's no readily available exact replacement for those characteristics. A lot of persons would very quickly jump to presuming maybe that juniper could have those same characteristics but there's similar concerns, especially to the south of us, regarding Juniper. So I think there's reservations on going to that options. But I think from a windbreak design perspective we can try to duplicate the density and the protection that eastern redcedar provides with a combination of other species. The second part of your question, why continue to plant them? You know, the state is very diverse from east to west, not only in the amount of rainfall that we receive but in the land use and just the things that affect agricultural operations. So we have a lot of ranchers, particularly in the western part of the state who very much desire eastern redcedar for livestock protection for calving and another uses. And so we need to make a big transition in order to have a suitable alternative for them to get the kind of protection that they need out of those windbreaks. And so we're working with a number of the partners that you see in the audience to figure out how to make that transition because it will be a change from the history that we have.

BOSTELMAN: [00:35:30] The other question I have is a curiosity question. You may or may not

know the answer to this, which I can understand, but maybe someone else will is is there a difference-- have we seen a difference in resident landowners versus absentee landowners and those who control and those who do not control. In other words, if we have a large-- our absentee landowners is as concerned or aggressive with control with controlling invasive species as a resident landowner. If I've got-- if I'm a cattle rancher and I, you know, on my property I may take care of it a lot different than a person who's out of sight, out of mind.

CRAIG DERICKSON: [00:36:11] Well, I'll comment on that. But I don't have any specific data on absentee landowner control of the eastern redcedar but I would say anecdotally I think what you said is accurate. You know, persons who are away from the land and aren't the ones that are actually managing or working with it are less inclined to install permanent conservation practices or make these kinds of investments. And we see that as being true across the wide range of the conservation activities that we provide services for. But I'm always reserved to make generalizations that, you know, that applies to everyone because it certainly does not. But I think your point is well made that with, you know, a large portion of Nebraska's land being rented land that it presents an additional challenge where to find incentives for the person that owns and operates that land to make the investments that are going to be needed to control eastern redcedar.

BOSTELMAN: [00:37:10] Thank you very much.

HUGHES: [00:37:11] Additional questions? Seeing none, thank you, Mr. Derickson. Appreciate you coming today. Next up is Tim McCoy, Nebraska Game and Parks. Welcome, Mr. McCoy.

TIM McCOY: [00:37:31] Good afternoon, Chairman Hughes and members of the committee. My name is Tim McCoy, T-i-m M-c-C-o-y. I am the deputy director at the Nebraska Game and Parks Commission, 2200 North 33rd Street; Lincoln, Nebraska. Appreciate the opportunity to share some

information about the impacts of redcedar on wildlife. The increases in eastern redcedar invading both grasslands and woodlands are having some negative effects on many of our Nebraska wildlife. I'm going to start and talk more from the grasslands side and then I'll get into some of the woodland stuff. In places where we do have intact grasslands and prairies, they are often being encroached with eastern redcedar, making a fewer quality acres available for species. And some of those are species that are important to us and especially important to landowners, like pheasants, prairie chickens, and other grassland species. What we've saw in research for grassland-dependent species such as greater prairie chickens, we've saw that lek sites, which is where they sort of get together and the males call and dance and try to attract females in the spring for breeding, they will they will either avoid areas with cedar or they will abandon existing sites as cedars encroach on the grassland. We also have documented in studies they avoid nesting near trees. So it really has a significant impact in terms of reproductive habitat, that you eventually lose those species moving out of those areas. We've found some interesting information in about the last five years looking at habitat suitability for pheasants across the state. We've found a clear connection between higher numbers of pheasants and areas of the states that have fewer wooded acres. So there is-- there are some other impacts there and I'll get to some more of those later. I'm starting with a lot of the statistics, hopefully that's okay with you guys. Overall, we see grassland bird abundance and diversity decline when eastern redcedar exceeds 10 percent in grasslands. So those impacts come pretty quickly. Work we've done in the Loess Canyons, which you heard mentioned earlier, an area of the state where we've had a long-running effort with a lot of conservation partners targeting redcedar. The federally endangered American burying beetle is in that location. The work we've done has identified that those beetles are much less likely to be found in areas where we have cedar-dominated grasslands. And the number of beetles that we were able to trap when we look at individual trap sites are much higher, about twice as high, when you are in an open grassland situation, which is really where they prefer to be. The other thing that we see is a small mammal species declines as cedar encroaches into grasslands. About-- what seems to be a tipping point, 25

to 30 percent eastern redcedar encroachment, you lose many of the native small mammals and you end up with in some states you end up with a severe reduction in the number of species and number of them. And in some of the southern states they've identified there really appears to be one species, the white-footed mouse, that really prefers that habitat. In our woodland riparian areas that are threatened by cedar there's a-- there are several impacts. We see a loss of natural regeneration when we look at oak hickory forests and also even in our cottonwood gallery forests. When you have an understory of eastern redcedar, we don't see the recruitment of new trees into those riparian forests and many of our oak woodlands that are in the bluffs. And that has some pretty important impacts. We see from a bird standpoint species richness changes dramatically when you don't-- when you have eastern redcedar. And part of that is once you get eastern redcedar under a forest, as those trees grow together and grow up they create a closed canopy. And really nothing grows under eastern redcedar trees. Once they reach that point, you're dealing with a bed of needles and needles and pretty much bare ground. So it does provide some cover for wildlife but the food resources that are there in terms of wildlife that are foraging through there get, you know, they get very minimal. They also create that ladder fuel in those forests. Most of our forests in Nebraska were historically fire adapted. So a lot of our trees can handle fire going through those areas. Normally, it's at a much cooler temperature. Many of those fires would have been, you know, early fall or very late fall or early spring historically. When you get eastern redcedar go in there and you have a fire, right now it's typically a wildfire where that would happen, you lose your big trees too. It's pretty devastating. When we look at those combined impacts, Nebraska we have what we call our Nebraska Natural Legacy Project. It's a statewide action plan targeted at conserving at-risk wildlife and keeping our common species common. Eastern redcedar invasions identified in a threat as 27 of the 40 identified biologically unique landscapes that we've identified are really important for biodiversity and in a wide range of wildlife. And that includes nearly all of the grassland and woody communities that we've looked at in our plan. We've spent millions of dollars over the last 15 years in trying to control cedar trees on our own lands and also with private lands in those priority habitat areas

within those wells across the state. And we've partnered with many, with NRCS, with Landowners, with some of the other landowner groups you've heard from today. And, you know, we see on a local scale we can have an impact but scaling that up regionally is difficult. The other thing that we know when you remove eastern redcedar is follow up is critical. You can do mechanical removal but you need to be prepared for the growth that will follow. From a larger standpoint, one of the things I'll try to hit quickly because I see my light is turning yellow. There are some secondary impacts we see as we see eastern redcedar impact areas, or as we've planted them. And I will say as an agency, historically we planted a lot of cedar trees. We've stopped planting them 15 years ago and are undertaking a lot of efforts to move those out. We get a lot of questions about that, it's like that's wildlife habitat for my deer, why are you taking out of there? Well, we see broad impacts on grasslands and grassland species. Several of those species I talked about earlier, they won't nest in these smaller patches that are remaining grassland. You lose reproduction of those species. That's devastating. That's what maintains our wildlife populations. And I tell people we get one chance a year to have more pheasants and quail. Survival through the winter is important but we have one chance, and that's a really important chance for us. Those trees create other issues. They're great travel corridors for things like nest predators like raccoons and possums and skunks and foxes and coyotes, will move through those. And then they can easily find animals that are in those patches. So that's one of those reasons that we really think it's an important issue to deal with from a wildlife standpoint. And I see my light is red, so I'll stop.

HUGHES: [00:45:04] Thank you, Mr. McCoy. Are there questions? Seeing none, very good. Appreciate you coming. Next up is Adam Smith, Nebraska Forest Service. Welcome, Mr. Smith.

ADAM SMITH: [00:45:22] Thank you very much. Good afternoon, Senators, members of the Natural Resources Committee and Chairman Hughes. My name is Adam Smith, A-d-a-m S-m-i-t-h, and I am the forest products program leader with the Nebraska Forest Service. And I'm testifying on

my own accord and not on behalf of the University of Nebraska. Eastern redcedar is a native tree historically confined to the deep ravines and north-facing slopes that are protected from fire. The lack of natural fire has allowed redcedar in some areas to mature, creating a scenario in which the use of fire for control can be unsafe due to the potential increase fire intensity, increased risks to prescribed fire practitioners, and negative air quality impacts. However, the use of prescribed fire as a proactive management tool is still a cost-effective and efficient option for managing the encroachment of small cedars. Once trees mature, the best option for management shifts towards mechanical management. Specifically, redcedar removal via chainsaw, skid steer equipment, and larger machinery. While mechanical management is expensive-- is effective, it is expensive and routine prescribed fire is still needed to maintain the area as a grassland. After management, landowners are often left with large brush piles which are disposed of by burning. However, the burning of redcedar piles or large dense stands of trees results in wasted economic opportunities and increases the environmental impacts of management. According to a survey completed by the Nebraska Forest Service and U.S. Forest Service in 2014, the Nebraska wood products manufacturing facilities such as sawmills used redcedar wood to produce 870,000 board feet of saw log products such as lumber and paneling, enough animal bedding to cover, Tom Osborne Field at Memorial Stadium with four feet of material, and enough fencepost to install a fence spanning from South Dakota to Kansas. Additionally, the Nebraska College of Technical Agriculture uses approximately 750 tons of redcedar woodchips each year to heat 200,000 square feet of building space. The manufacture of these products supports rural economies and provides jobs. Aside from traditional wood products, the Nebraska Forest Service has worked with partners to identify new strategies to utilize redcedar wood and decrease its waste. We have partnered with the Middle Niobrara Natural Resource District and the Department of Biological Systems Engineering at UNL to investigate using redcedar woodchips combined with livestock manure, both critical waste-management issues, as a soil amendment in the north central-- in north central Nebraska's sandy soils to improve soil health and soil moisture retention. During the project we have demonstrated

that woodchips combined with manure can decrease soil temperatures by two degrees Fahrenheit and increase soil water by 30 to 40 percent in the top 12 inches of soil, equivalent to an extra half-inch of rain. Researchers recently received a grant to expand this project statewide. More often than not, redcedar management residue is piled and burned. However, the environmental impacts of pile burning can be significant. Using the on-line pile burn-- pile fuels biomass and emissions calculator available from the University of Washington I was able to model the emissions from burning various sized piles of residues. For instance, a redcedar burn pile measuring 10 feet tall and 20 feet in diameter would emit 100 pounds of particulate matter less than 2 micrometers, 2.5 micrometers, which is small enough to inhale and cause health problems. Additionally, it would emit 10 tons of carbon dioxide, the equivalent to the annual emissions of two-passenger vehicles. To put this into more context, if we were to burn all of the saw logs which were used to make wood products in 2014, that burn when emit 19 tons of harmful particulate matter and 4,600 tons of carbon dioxide, equal to the annual emissions of 920 passenger vehicles. Utilization of these saw logs by Nebraska businesses has restored-- has stored these would-be emissions within the wood products themselves, reducing the environmental impacts of management while increasing forest health, restoring grazing capacity, and improving overall ecosystem health. With approximately 330,000 acres of redcedar forest in Nebraska, managing redcedar will be and is a daunting and expensive task. Fortunately, these forests are home to a relatively untapped resource of $18.1 million in potential saw log value, $18.5 million of potential fencepost value, along with 570,000 tons of limbs and tops suitable for biomass products. We will need all the tools in the tool box in order to effectively reduce redcedar impacts on the landscape and the utilization of redcedar wood and management waste provide economic opportunities for landowners in rural communities, fosters entrepreneurism, reduces the environmental impacts of redcedar management, and supports the state's forest products industry, all while addressing a key natural resource issue in Nebraska. Thank you for your time. I'd be happy answer any questions.

HUGHES: [00:50:12] Thank you, Mr. Smith. Are there questions? Senator Bostelman.

BOSTELMAN: [00:50:16] Thank you, Senator Hughes, Mr. Chairman. Mr. Smith, I had the opportunity for several years to work with Dr. Scott Josiah at the state forester. Specifically, we talked about this issue quite a bit. I think the challenge we have, although I don't disagree with a lot of things you say, I think the challenge that we have, especially with products I've seen over and over the years, is marketability. I mean, we can make really nice products, beautiful products, but the market just isn't there and it's hard to ship where it's located at. So part of, I guess, what I-- part of, I guess, my comment is on this is these are good. I guess, are there new areas that the Forest Service is working with, microenterprises, small businesses that are out there that are trying to do different types of wood products to make them more profitable? Because I know several that have tried and have failed because there's just market is not there. Like I said, there's a gentleman in my district who actually has tried, lived out in Chadron and tried to do work with logging redcedar and creating products and then it just doesn't work because of marketability of that. What type of things, if any, can or is the Forest Service willing to help those individuals become maybe more profitable, make this more realistic? It's a small part of a very huge product-- problem. But each piece put together, maybe we come to a solution at some point. So if you have any comment to that as to what the Forest Service is doing to help small businesses in this area.

ADAM SMITH: [00:51:47] Yes. Thank you for that, for that question. A couple of the barriers that we see on the supply side relate to general small business issues that natural resource businesses tend to have. Specifically, with vehicle weight limits, the ability to transport the material longer distances compared to other states in the area, higher insurance costs. And so some of these businesses struggle to get off the ground just because of the operational costs that they're running into and it scares them away from doing that. The Nebraska Forest Service offers programs to assist with product development so we have worked with producers out of Chadron to look at a project or

product called bio char, which is a wood-based charcoal solution. We have worked with Nebraska Public Power District to look at investigating coal firing redcedar woodchips and other wood with coal. We've also worked with a company who is trying to put up a facility in northeast Nebraska to produce torrefied wood pellets. Everything from a large 350,000 ton potential markets down to the person who wants to create a niche product such as wood vinegar or some innovative product. Just last week I received a phone call requesting 10,000 tons from a business in Hershey looking for wood products. And so these demands are out there. There are barriers on both the supply side and the demand side I would agree to really seeing this have, sort of take the lead as far as really impacting the landscape. But it is an option that we.

BOSTELMAN: [00:53:08] Thank you very much.

HUGHES: [00:53:09] Senator Kolowski.

KOLOWSKI: [00:53:13] Thank you, Mr. Chairman. Mr. Smith, thank you for your comments today and you're giving us another side in all these things that this is a consumable item that can be used and there could be profit from this and all the rest that goes with it. But what are some of the states that are ahead of us. They have the issue, it's happened, they're dealing with it. And what are-- what are some states we could look at and say they've got their total life together? It's not just going out and burning the trees down. But there is consumable uses of these redcedars that we could chop up and do different things with. And what model states are there? Give us two or three that would be something we would look at and say there's something there that we could do.

ADAM SMITH: [00:54:06] As has been mentioned in the past, this has been an issue in the Great Plains for decades going into the south. Redcedar as a species is similar to western juniper that you'll see states like Oregon and Utah. They have both seen an increase in utilization. Utah has a

company that is using redcedar material to produce cedar oil for as an essential oil for a market and that uses 12,000 tons a year of redcedar material. Another state, Oregon, has made a state push through some nonprofit groups that have really taken hold to replace common products that people use in the state with western juniper, such as landscape timbers, and really promoting fence posts, and replacing pressure-treated lumber and fences with western juniper products. And so some states have had the opportunity to find something that really grabs ahold and makes an impact, while others have tried things like very large OSB plywood plants that never really take off or large economic-- or economic development efforts to do landscape level specialty products that don't really seem to make an impact and haven't been successful. And so there are opportunities out there for us to learn from states maybe outside of the Great Plains that have taken benefit of this.

KOLOWSKI: [00:55:18] Models that can help us.

ADAM SMITH: [00:55:19] Absolutely.

KOLOWSKI: [00:55:20] Thank you very much.

ADAM SMITH: [00:55:21] Thank you.

HUGHES: [00:55:22] Additional questions? Senator Quick.

QUICK: [00:55:25] Mine is more of a comment but I know not far-- my dad lives around Hordville and there's a cedar products, they have a saw mill. And I know they've been really successful. I mean, and actually they had to quit taking cedar because they were so-- so they just had nowhere else to go with it. But they are taking it again. But there are businesses out there who have been successful too, right? I mean, they've been able to market the products that they're put out? And if

you want to comment on that.

ADAM SMITH: [00:55:53] Absolutely. We have redcedar products that make their way to China that are sent for export. We have a commercial shavings mill in Clarks that's been around for years. And what's interesting about the forest products industry in Nebraska is once one of those pieces goes down, because it is such a small group. Such as the fire, the shavings mill in Clarks. That whole central Nebraska area shut down. So everyone sits on their logs and then they struggle to get them to market. And so we know the impact that an individual business can have on the region. Developing more of those businesses can continue that so when one system or one facility shuts off, you still have some redundancies in there. The supply is not going to be an issue. It tends to be market site demand, which we can help with.

QUICK: [00:56:34] Okay, thank you.

HUGHES: [00:56:37] Additional questions? I just have one. Is there any research that you know of going on to breed a sterile eastern redcedar? Is that-- would that even be possible, that we could still have the benefits of the tree for windbreak but yet not have to have the concern of the spread?

ADAM SMITH: [00:56:57] There has been work done in Kansas to look at cloning redcedar. So the male-only species with limited, limited success. I think the issue that some people have considered this in this in Nebraska is the up-front costs associated with getting all that material ready for the germ plasm and the materials that you need to do large-scale production of sterile plants.

HUGHES: [00:57:21] How-- just background. How large does the tree have to be before you can determine if it's male or female?

ADAM SMITH: [00:57:28] Trees typically reach maturity between seven to ten years.

HUGHES: [00:57:31] So we're talking maybe 15 feet?

ADAM SMITH: [00:57:35] Probably. In the ballpark, 10 feet, yeah.

HUGHES: [00:57:37] Okay, thank you. Any other questions? Seeing none, thank you. We appreciate you coming today, Mr. Smith. Next up, Sue Kirkpatrick Prescribed Burn [SIC] Council.

SUE KIRKPATRICK: [00:58:03] Good afternoon, Senators. My name is Sue Kirkpatrick, S-u-e K-i-r-k-p-a-t-r-i-c-k, and I am here representing the Nebraska Prescribed Fire Council as a private landowner and a board member. The Nebraska Prescribed Fire Council is a coalition of landowners and prescribed fire practitioners with over 750 members across the state and growing. The council aims to promote the safe and responsible use of prescribed fire and act as an advocate for those who currently use or want to use prescribed fire to manage their land. These objectives are realized through a series of partnerships and programs designed to help educate the public on the importance of fire, the implementation of adequate private land workshops and training, and through the practice of using safe prescribed fire techniques. We are here today to bring to your attention the need for an increase in the use of prescribed fire to combat the threat of the spread of eastern redcedar trees across our great state. Our membership has many reasons why they use fire on their land, from increasing forage to conserving wildlife. But the one that virtually every member uses it for is to control invasive woody species, especially cedar. Our members recognize the threat of cedar and also recognize the easiest and most cost-effective method of control: fire. The cedar tree is a fire-sensitive species easily controlled through the use of fire, especially when it's small. It is in fact so fire sensitive that the plant was considered rare prior to pioneer settlement. The reason the

cedar tree was rare was because for thousands of years periodic fires had swept across every corner of our state, transforming it into one of the most iconic and beloved landscapes in the world: The Great Plains if you travel across our state in the months of March and April you may have realized in recent years that there seemed to be more and more smoke plumes dotting the landscape. These prescribed fires, conducted by many of our members, are becoming more and more frequent. Over the past few decades we have seen a significant increase in the use of prescribed fire. However, even with the increase between state and federal agencies, private landowner groups also known as prescribed burn associations, contractors, NRDs, and others using prescribed fire we average fewer than 50,000 acres a year in Nebraska. According to historical fire cycles, this represents only a fraction of what we should be burning on an annual basis in order to maintain our prairies, wetlands, and forests. Prescribed fire is such an incredible tool. The question might be posed, why aren't we using it more? There are many reasons as to why the use of fire is not more widespread. There are policy barriers that limit cedar control through prescribed burning. Future policy changes could further restrict landowner ability to manage their rangelands. And we feel that landowners should be a part of the decision-making process. Landowners who, by the way, have a proven high safety record comparable to any state or federal agency. The Nebraska Prescribed Fire Council is looking forward to working with the Natural Resources Committee, state senators, and state and local stakeholders in the future to identify and overcome the challenges and barriers to getting more fire on the ground. Senators, the time is now to be putting more fire on the landscape. The time is now for more landowners to act. The time is now for local, state, and federal agencies to act before it's too late. Our organization does not want to be here in another 25 to 50 years in front of another panel of senators being asked questions as to why we weren't burning more and why the barriers were not broken down before it was too late. Let us begin now, today moving forward together because this is a problem for all Nebraskans. Will we be able to tell our children, grandchildren, and future Nebraskans what we did to save the last parcels of prairie from being swallowed up by the eastern redcedar or will we have to tell them that we failed to take this opportunity to support and

increase the use of prescribed fire? What will our legacy be? I come before you today as a citizen and board member of the Nebraska Prescribed Fire Council and ask for your help to ensure the future of Nebraska's landscape. Thank you.

HUGHES: [01:02:14] Thank you. Questions? Senator Bostelman?

BOSTELMAN: [01:02:18] Mr. Chairman. Thank you for your testimony. Appreciate it. I do prescribed burns on our place so I know exactly what you're talking about. And not only does it take care of our woody plants and our cedars but also rejuvenates the growth we get back out of the landscape is phenomenal. One question, I guess, part of the question I have, is more of a solution question. What solutions do you have for this body to look at? In other words, where I'm at, I'm responsible for my burn, I'm responsible for the-- for the plan, for the protection, for the execution, for all that. In other areas maybe there's a group like yours that comes together and shares in that responsibility where there's not something similar across the state. Do you have some solutions that you've thought of to introduce statewide that would help us to get have more people burn on our lands, make it easier. Because if I go to my local volunteer fire department, they won't touch it. Other places here, they will. So do you have some suggestions?

SUE KIRKPATRICK: [01:03:21] Well, that's a very good question and I appreciate that. The thing I would like to do is see more landowners or see landowners in general be attentive to their land and not let the cedar tree creep up on them. And if they are watching that happening, getting involved in prescribed burning and getting in touch with the prescribed fire associations that are intact right now. Further solutions would be up to policymakers and the agencies and the landowners to work together and really, you know, investigate the possibilities what we can do in the future. And this is kind of new to me how these things happen. So that would be up to Natural Resources Committee, policymakers, landowners, everybody to work together and communicate

and try to get more people involved.

BOSTELMAN: [01:04:14] Do you think it's an education? Do you think it's a training? Do you think it's a financial solution?

SUE KIRKPATRICK: [01:04:20] Yes. Yes.

BOSTELMAN: [01:04:26] Thank you very much for coming. I appreciate your testimony.

HUGHES: [01:04:29] Okay. Senator Walz.

WALZ: Can you speak a little bit about environmental impacts on the fire, fire burning? For example, the amount of carbon dioxide just from your point of view?

SUE KIRKPATRICK: [01:04:42] That is not data that I have in my in my box right here right now. And I would defer that question to somebody, you know, in the natural, you know, natural resources agencies that they have those right up here. So that's not my-- I can't speak to that right now.

HUGHES: [01:05:01] Additional questions? I've got just a couple. What resources are available to Prescribed Fire Council? Where do you get funds to operate from? Does it just come from members and landowners or are there governmental agencies, taxing authorities that give you help?

SUE KIRKPATRICK: [01:05:20] Well, we have membership-- nominal membership dues and the rest of that question I'd have to turn over to our treasure.

HUGHES: [01:05:28] OK. Thank you very much. Any other questions? Thank you. We appreciate you coming today. Shelly Kelly, Sandhills Task Force. Welcome.

SHELLY KELLY: [01:05:54] Hello. Thank you very much. Hello, senators in the Natural Resources Committee. My name is Shelly Kelly, that's S-h-e-l-l-y K-e-l-l-y, and I'm the program director for the Sandhills Task Force. My goal today is to share with you how eastern redcedars impact private landowners. The Sandhills Task Force was formed 25 years ago with the goal of enhancing the Sandhills' wetland grassland ecosystem in a way that sustains profitable private ranching, wildlife and vegetative diversity, and the associated water supplies. We have accomplished that through partnering with Sandhills ranchers and conservation organizations and agencies to implement practices and management plans that address resource concerns, which include eastern redcedar invasion and many other issues. We also host meetings tours and trainings to help educate ranchers and the general public about the Sandhills, about resource concerns, successful ranching practices, wildlife and birds, and range management. In recent years, the majority of our projects have shifted to address cedar invasion and the main topic of our outreach efforts are also around controlling cedars. The Sandhills of Nebraska comprise one of the largest contiguous tracts of rangelands remaining in the United States. We believe that eastern redcedar invasion is a major threat to the Sandhills ecosystem and rangelands throughout Nebraska. Rangelands cover approximately 50 percent of Nebraska as a whole and cedars are invading these rangelands at an alarming rate. Ranchers and landowners depend on grazing forage as their main source of income on those acres and it requires careful management to create a profit. When cedars invade pasture land they displace all other species in their canopy because nothing can grow under them and cattle do not graze cedar trees. So the invasion has a direct negative impact on available forage. Once cedars invade and nothing is done to control the invasion ranchers can either decrease the number of cattle or shorten the time that they have them in a pasture, or they can keep stocking rates the same as they were before and the invasion-- before the invasion, which leads to

overgrazing. Overgrazing allows the rancher to maintain their income for a couple of years but it mines the rangeland resource, which in the long-run will reduce the total forage production for many years, reduce the wildlife habitat, increase erosion from wind and water, and reduce the ability for the land to withstand drought. My husband and I are ranchers, and I've had the opportunity to work with many other ranchers all across the Sandhills, so I'm comfortable that to help them deal with their cedar invasion as well as their grazing management. So I'm comfortable putting numbers to the cedar invasion impact on ranchers. Sandhills rangeland that produces about 1,800 pounds of forage annually has been receiving a grazing lease of about $30 an acre. The property taxes are around $6 an acre in Lincoln County for upland pasture and the remaining money is used to pay the mortgage with a little left over to cover labor costs, overhead, and a small profit. If cedars have a 10 percent canopy and the rancher reduces their stocking rate appropriately the income would be reduced by $3 to $5 per acre, which in most situations makes it so you cannot make any money grazing cattle. What's more disturbing is the cedars will not remain at the 10 percent canopy level. Left untreated, they will exponentially increase their coverage and we've seen that take place. Cedar invasion reduces income for ranches but it also causes problems with accessing the property, checking cattle for illness, gathering and moving cattle, erosion, lack of plant diversity, and impaired wildlife and bird habitat. Ranchers have relied on established cedar windbreaks to protect livestock for decades and those cedars, when they're in the right spot, they provide excellent protection. The need for livestock production has not gone away but we need to be mindful of what options exist. There are alternatives to cedar windbreaks and conservationists across the state need to be well versed in what they are. If a rancher decides to plant cedars, it would be my sincere hope that they clearly understand that windbreak will require maintenance in the future. Thank you for taking time to learn about how cedars are impacting Nebraskans. The Sandhills Task Force is actively waging war against their invasion and we're very willing to help you ensure that property rights are not negatively impacted by policy that may be proposed in the future. Thank you.

HUGHES: [01:10:49] Thank you. Questions for Ms. Kelly?

BOSTELMAN: [01:10:53] Yes.

HUGHES: [01:10:55] Senator Bostelman.

BOSTELMAN: [01:10:55] Thank You, Mr. Chairman. Thank you for coming in today. I want to ask you a question I asked before. Maybe you have a better answer or have something that you can speak specifically to it. What percentage-- or do you see a problem or a difference in those who are absentee landowners versus resident landowners and how does that affect the control of redcedar in those parcels of ground?

SHELLY KELLY: [01:11:18] Sure. And that's a great question and one that I hear a lot, too, because people want to know about their neighbors. So that's a wonderful one. I have seen absentee landowners that do better than their resident landowners, their resident neighbors. I've also seen it worse. So I've seen both sides, and I have not seen a trend one way or the other to say that absentees are worse or better at it. Sometimes absentee landowners have more available funds to be able to put into controlling cedars than somebody that's making their sole income based upon that landscape. And, you know, when we cost share on projects they'll kick in more funds than somebody might be-- somebody else might be able to afford. Other times, they're just completely not engaged. So we see the whole spectrum.

BOSTELMAN: [01:12:14] So would you happen-- I appreciate that. Would you happen to have-- is it a financial, is it education? You know, come back to the question I asked before, what is it really a part of that solution. I know there's a little bit of both, but I mean in your area if you go help

other ranchers with a prescribed burn, what are the things that make it attractive or make it useful for those individuals to start using that tool that aren't using it today?

SHELLY KELLY: [01:12:42] Absolutely. And that's a great question. I think-- I think we're really struggling education-wise. The outreach is huge. We still have a lot of landowners and a lot of citizens of Nebraska that do not understand that cedar trees are a problem. There's a lot of people that I hear talk about how beautiful the cedars are; and if only those hills south of North Platte could be completely covered by cedars we would have like mountains in the Rockies and we wouldn't have to go so far. So there is an education gap that we really need to address. And people are working hard on it but we need to do more. On the financial standpoint, it is going to take a lot of dollars to be able to have these landowners control the invasion that's occurred on their place and be able to maintain ranching. And so there is some financial need as well. And I'm going to go back to education a little bit again because prescribed burning is something that's been a challenge in the Sandhills because there is a long-held belief that fires are bad. There's been campaigns, you know, talking about how destructive fires are and it really took hold. People really understand that. But so it's hard to get past thinking that fires are bad to thinking that fires can be beneficial and helpful. And that's the paradigm shift that we're facing and we're working on. And we're gaining traction but we have a long ways to go. And so education becomes something big there. But technical ability is a problem too because some people aren't trained. The Nebraska Prescribed Fire Council does a great job, as well as other organizations, on putting on trainings. We do some hands-on prescribed burn trainings in the Sandhills which helps. And so people knowing about those trainings and going to them I think will help us in the future too. So I think, just like Sue said, all of them, you know, are issues but each of them have different ways we can work on them.

BOSTELMAN: [01:14:54] Thank you. Other questions? Seeing none, thank you very much for coming in today.

SHELLY KELLY: [01:15:00] Thank you very much.

BOSTELMAN: [01:15:01] Next is Kelly Sudbeck from Educational Lands and Funds. Welcome.

KELLY SUDBECK: [01:15:14] Good afternoon. Thank you. My name is Kelly Sudbeck, K-e-l-l-y S-u-d-b-e-c-k. I'm the CEO of the Nebraska Board of Educational Lands and Funds. The Board of Ed Lands and Funds presently owns approximately 1.3 million acres across the state of Nebraska. Of that, approximately 965,000 acres of that is grassland. My agency has been battling cedars since the mid-1980s and we continue to do so at significant cost. I thought I would give you some sense of what we're doing on the ground trying and what our concerns are as far as being Nebraska's largest landlord and landowner. Our primary concern when it comes to burning cedars is liability. We are essentially relegated to three options when trying to battle cedar trees. One is mechanical removal, another is to burn with all of our neighbors, and another is to burn on our own but only with licensed contractors that have liability insurance. One of the issues with burning with our neighbors is to try to convince those neighbors that this is something they need to do. We encourage our lessees to become members of burn associations and to rally their neighbors to the cause. But some people just don't like fire. We also, my agency in particular, has an issue that most neighborhoods when they burn require that to include your property you need to have someone on the ground to assist with the burn. We can't force our tenants to do so and we're not allowed to allow our employees to put themselves in that situation. So that's another concern that we have trying to battle cedars. As far as mechanical removal and contractors, this is an extremely expensive option and is cost-prohibitive on most of our land. We have cooperated with many of the local burn associations and have encouraged our lessees to do so also. We thought something this committee could consider would be to promote the formation of local burn associations, perhaps with a framework or some suggestion of how those could be structured so that we promote those in other

areas of the state in Nebraska. Also perhaps through funding for the local burn associations. We would also like to see more cooperation between the local fire districts and the burn associations. The burn associations we know are in great need of qualified, trained people. They also have, as Senator Bostelman had mentioned earlier, issues with local fire departments not cooperating because of their insurance coverage. That their insurance will not cover any loss as a result of the fire department being out there assisting with the prescribed burns. One local burn association we are very familiar with is the Loess Canyons Rangeland Alliance. They are doing, as far as we can tell, an excellent job and we believe that they would be a fantastic resource for this committee in determining what you can do. We know the specific situation where the local fire department requested assistance from the LRCA to control a rangeland fire and that was very effective. Other issues we have with burning is of course environmental issues. You have a very small window in which to obtain an effective fire. Even humidity can affect that, temperature, time of year. One other issue we've run into that you may not be aware of is the Migratory Bird Treaty Act. That also restricts our ability to, as far as timeline, as far as burning our properties. We thought some solutions that would be helpful, again, encourage local burn associations and fire districts to cooperate. Perhaps provide for the formation of a quasi-governmental agency similar to local irrigation districts out in the western part of the state. Those irrigation districts were formed by local landowners that were benefited by a certain irrigation ditch and they can assess property for the cost of maintaining that irrigation ditch. So everyone benefited by that ditch then pays a cost to help maintain it. That could be an option perhaps establishing districts where all the landowners pitch in and everyone takes care of their property. Perhaps, if a certain percentage of neighbors have agreed to burn their properties, perhaps that then requires other neighbors who are not willing to burn their property to be required to burn their property. Finally, perhaps we have a let-burn policy. For instance, when a rangeland starts on fire. Of course the duty of the local fire department is to rush out and put that fire out. Perhaps we allow landowners to opt out of that and say let my property burn until it has burned a sufficient amount of the property to alleviate some of the cedar tree

problem. And finally, we would like to see perhaps the local fire department personnel receive training regarding prescribed burning. Not only for their response to range fires but also then have an understanding of why those could be potentially beneficial. My agency has in the last year spent $426,000 on trying to remove cedar trees from our properties. And just this last Wednesday I was in Brady, Nebraska, we have a property south of Brady that we had to sell because we could not lease it as a result of the spread of eastern cedar on that patch. Thank you.

BOSTELMAN: [01:21:47] Thank you very much for your testimony. Are there any questions from the committee? Seeing none, thank you very much for coming in for testimony.

KELLY SUDBECK: [01:21:57] Thank you.

BOSTELMAN: [01:21:58] Appreciate it. The next will be Kent Miller from the Twin Platte NRD. Is Mr. Miller here? Kent Miller? Welcome, Mr. Edson.

DEAN EDSON: [01:22:27] Yeah, thank you. Thank you, Senator Hughes and members of the committee. My name is Dean Edson, D-e-a-n E-d-s-o-n. I'm executive director of the Nebraska Association of Resources Districts have presenting comments on LR397. Apologize for the little mix-up on the sequence order. We had a meeting before this, before this hearing, and I drew the short straw and was told that I was coming up to summarize what you're going to hear from all of the districts come up behind me. Again, thank you for the time to learn more about this issue. The summary of the policies in eastern redcedar from the 23 districts, again, following me you'll hear from all these individuals on their specific policies and unique management approaches they have. Each NRD sets policy that works for that local area. These are areas of the state where it's a problem and there are other areas of the state where this is not a problem. The focus is on proper management. Education and resource materials are provided to landowners through various venues.

Some districts hire foresters and or work directly with the regional Nebraska Forest Service to provide educational materials and management practices. I'd like to echo what senator-- what Adam Smith mentioned about working with the Forest Service in the Middle Niobrara district to provide some other management options up there and also provide some economic opportunities for individuals. That's one thing we really like to stress throughout all 23 districts. These policies for cost-sharing for planning cedar, there would be some with cost-sharing some without cost-sharing. Where cedars have become a problem or is a management issue, there is no more cost-sharing available for cedars. In areas where it's not a problem, some districts still allow the cost-sharing. Some districts are going to provide cost-sharing for removal, either manual or through prescribed burn. Other districts won't because they feel it's the landowner's responsibility to manage their property. All of this just depends upon the needs and desires of the local landowners that work with the NRD, what their policies are. I want to stress the most important part of the management is the duty of the landowner to be actively involved in the management. Local NRD can do that for them, for that landowner. In closing, I would just ask the committee to continue to allow the NRDs to provide management options to landowners whether that be cost-share for planning or removal. So end of my testimony and I would be glad to take any questions.

HUGHES: [01:25:18] Okay. Thank you, Mr. Edson. Are there questions? Senator Kolowski.

KOLOWSKI: [01:25:22] Thank you, Mr. Chairman. Dean, thank you for your time today and for your testimony. When I look at something like this issue, I go back with my eight years with the Papio NRD, three of those as chairman as well. The use of-- and I flashback to water conservation. When we found our streams coagulated with phragmites and other issues that were sucking water out of the ground like nonstop, we had to act. We were doing something about that. Is this the same kind of temperature on an issue that will get us acting and put money in to different resources to be able to get this done? Because it's-- they're only cedar trees, you know, we don't worry about them

very much. Takes a decade to fill a field.

DEAN EDSON: [01:26:22] Yeah.

KOLOWSKI: [01:26:22] We have a different attitude it seems like, and would you comment on that?

DEAN EDSON: [01:26:28] Okay. Well, trying to compare it to the phragmites might be a little bit more difficult because from what phragmite problem was is that was actually growing in the river channel itself. And so that was plugging up the channels. You don't have that problem with cedar trees in the river channels. Matter of fact, I've got some property where I grew up on the Platte River and when we get-- we've got cedar trees in there but if you got smaller cedar trees and we get a flood that runs through there, it'll kill those cedar trees. So high water will kill a cedar tree. So it's a little bit different management. The different things that people have tried and have worked with the NRD to do certain things like the mechanical removal, Central Platte has a burn boss. And they work with the landowners in the Loess Hills and other areas to do the prescribed burns. He's licensed and certified to help with that. The NRD pays his salary. So, you know, we're taking those little smaller steps. I can honestly-- you know, there's also we can't forget what the private sector is doing. And I am very proud to say that I am part of a group of about four landowners back in the Gothenburg area that we pooled some money together, didn't ask for any government assistance, and bought some milling equipment, saw mill equipment, and bought some other tree removal equipment, and gave a guy a job. And we let him use the equipment and say, here, the trees are ours. You cut them. We don't want any money for it. You make what you want out of it and earn some dollars. Now, it didn't provide him a full-time job but it would provide a secondary income for him, him and a couple other people. And they made dimensional lumber and built little cedar buildings and built cedar decks. And, you know, they made some money. It wasn't anything where,

you know, they could do that full-time. We weren't at that level. With the assistance that we can get maybe with help with market development, you might see more of that.

KOLOWSKI: [01:28:52] Thank you.

HUGHES: [01:28:54] Okay. Other questions? Seeing none, thank you. Okay. We're going to change it up a little bit. Eric Hansen, Twin Platte. Thank you for coming.

ERIC HANSEN: [01:29:11] Thank you for having me. My name is Eric Hansen, E-r-i-c H-a-n-s-e-n. I'm a rancher from Lincoln County, also cover Keith County and McPherson County, mostly operating in the Sandhills. I'm glad to be able to sit here today and tell you that I don't have a huge cedar tree problem at this time. We do have cedar trees on approximately 10 percent of our pasture ground. That being said, over the last ten years I've spent about $50,000 to control the cedars that we do have, mostly mechanically. I also sit on the board of the Sandhills Task Force and I sit on board of the Twin Platte NRD. And as chairman of the land resources subcommittee in July I started the discussion on our relationship with cedars and our history of planting them. And we don't plant, we haven't for probably the last 10 to 15 years, planted many of the cedar trees. We've switched more to the junipers. But in those discussions we forwarded to the board recommendations that we will no longer plan for the installation of eastern redcedar trees within the Twin Platte NRD. We will not provide cost-share assistance for the eastern redcedar tree stock, machine planting, or associated practices such as drip line or mulch. But we will allow for the sale of eastern redcedars for farmer hand plantings and existing windbreaks. That recommendation passed unanimously and has become our policy at the Twin Platte NRD. That's all I've got for you today. I do appreciate this opportunity though.

HUGHES: [01:31:23] Thank you, Mr. Hansen. Are there questions? Senator Walz.

WALZ: [01:31:26] Could you just repeat those recommendations one more time. I'm sorry.

ERIC HANSEN: [01:31:30] We will no longer plan-- we have an employee that goes to landowners creates a plan for windbreaks and plantings. We will no longer plan for the installation of those eastern redcedars. We will no longer provide the cost-share for anything to do with those: the planting, the associated practices which would be the drip lines to water or the mulch.

WALZ: [01:31:59] Okay, thank you.

HUGHES: [01:32:03] What type of mechanical control are you using? What type of machine?

ERIC HANSEN: [01:32:09] We've done the sheer and pile, and we've also done the shredding and mulching both.

HUGHES: [01:32:19] So just attachment on the front of a skid steer?

ERIC HANSEN: [01:32:22] Yes. Yeah. Different attachments. But I foresee this as being a problem for as long as-- it's going to be a continuing problem forever until everybody in the area removes all their existing unused windbreaks or whatever, you know, as long as there's the seed source there it's going to be an issue for us for a long time. Hopefully we've got ahead of that enough to keep it contained and now it's just a maintenance thing.

HUGHES: [01:32:54] Okay. Thank you, Mr. Hansen.

ERIC HANSEN: [01:32:56] But it is expensive. Thank you.

HUGHES: [01:32:58] Thank you. Curtis Gotschall. Welcome.

CURTIS GOTSCHALL: [01:33:13] Thank you, Senator. My name is Curtis Gotschall, C-u-r-t-i-s G-o-t-s-c-h-a-l-l. I come to you as a landowner and also a member of an NRD board. Keep my testimony simple and short. But being passed around to you is my mechanical means of taking care of cedar trees. Myself and my children each, being a son and a daughter, each carry that in the pickup. We see a cedar tree, we cut it. My wife is probably our best cedar tree controller. She can cut about 50 cedar trees an hour with those little nippers if you catch them at that size. And she takes a four wheeler and a four wheeler cart and collects them as she cuts them. And with that practice we have been able to at this time maintain control. I will agree it is an ongoing problem. I guess I'm opposed to any help from the state in any more money or funds being poured into something to do that. I believe as a landowner it's my duty as a good steward of the land to take care of it. I know it costs a lot of money because they purchased land or whatever that have a cedar tree problem. I've done that myself. And I've taken upon myself to control those cedar trees myself. My son has also purchased some land that has a large grove of cedar trees on it that have encroached out into the land. He has spent $3,000 to $4,000 the last three years machine-- hiring a machine to come in and remove those because they were so large. And he was a little upset when he heard that there might be some incentive coming from the state for others to remove their cedar trees and said, what about me? I've already paid myself to get it done. So where's my money? So I guess I would be in favor of rewarding those that have already done something rather than those that need to do something. And if that type of policy could be worked out. But I appreciate you looking at the problem. I appreciate you taking your time to listen to each and every one of us. And I just wanted to keep it short and simple for you this morning. But I did want to say that I think it's that's my problem and I need to take care of it. And I think we all need to be better citizens, better stewards and take care of the land we're entrusted with.

HUGHES: [01:36:00] Okay, thank you. Are there questions? Seeing none, thank you for taking the time today. Dennis Sheehan [PHONETIC]?

DENNIS SCHUETH: [01:36:07] Close. Good afternoon, Senators. Dennis Schueth, D-e-n-n-i-s--D-e-n-n-i-s, last name is S-c-h-u-e-t-h. And I do have my testimony written out here. On behalf of the Upper Elkhorn Board of Directors I would like to inform the committee about our thoughts on the eastern redcedar issue. The Upper Elkhorn NRD believes that the eastern redcedar plays a vital role in a well-planned windbreak I am including charts of the Upper Elkhorn NRD tree sales for your review. Average tree seedlings ordered during this time period is approximately 85,000 trees and approximately 38,500 of them over that time period or 45 percent of the trees ordered are eastern redcedars. The last five year average of machine or hand plants of eastern redcedar is approximately 25,000. Total tree sales, as you can see on that chart, are on a downward trend in the Upper Elkhorn NRD Since 2002. The majority of the trees that are planted are for various windbreaks such as livestock, field, homestead protection, or wildlife plantings. Approximately 70 percent of the real estate in the Upper Elkhorn NRD is rangeland or pasture land and livestock production is a vital part of the economy of that district. To be a successful livestock producer in Nebraska windbreaks are a necessity against Nebraska's cold, wintery, snowy winters, windy winters. Eastern redcedar is the tree of choice by the livestock producers in our NRD for many reasons. Survivability is usually in the 80 to 90 percent rate after planting, adaptable to various soil types, winter-hardy, and grows fast for a quick shelterbelt establishment. This species is not managed properly by the landowner these characteristics can be troublesome. The Upper Elkhorn NRD will assist producers in their windbreak design and discuss the positive and negatives of the species for a particular windbreak. Due to the characteristics of the Eastern redcedar, the majority of the producers prefer to have them as part of their multi species or maybe two-row windbreak. There is no other tree that the district can offer that is as durable as an eastern redcedar. The Upper

Elkhorn NRD does not provide cost-share to producers-- does provide cost-share to producers on all tree species and that does include the eastern redcedar. The Upper Elkhorn NRD will not cost-share on the removal of the volunteer cedar trees. The board feels it is the responsibility of the landowner to bear that cost. If that landowner allowed eastern redcedar to become a problem, why should taxpayers have to pay for their poor management? Potted ponderosa pine is being promoted as an option to replace the eastern redcedar. Ponderosa pine does not have the characteristics as the eastern redcedar. End cost to the producer is going to be higher, handling and storage of potted trees is more difficult for the district. For some reason, that eastern redcedar is not a viable tree species anymore and we substitute them with potted ponderosa pine. The district will have to figure out another way to get the trees out to the job sites and probably have to expand our tree cooler at a cost to the land taxpayers. Stating all of this the Upper Elkhorn NRD hopes that eastern redcedar will continue to be a viable tree species to be offered for various windbreaks. Information and education plays an important role when designing and planting a windbreak. Just as equally important is getting landowners to eliminate volunteer eastern redcedars early on. Economically, it is a lot cheaper to manage than when they are small than when they are two feet or larger in size. Eastern redcedar that are not in a designed windbreak did not get to be 10 feet tall in one year. It probably took eight to 10 years of no landowner management to get to that size. Questions?

HUGHES: [01:40:16] Thank you. Are there questions? Seeing none, thank you for your testimony today.

DENNIS SCHUETH: [01:40:20] Thank you.

HUGHES: [01:40:23] Terry Julesgard. Welcome back.

TERRY JULESGARD: [01:40:39] Thank you. Thank you, Senator Hughes and members of the

Natural Resources Committee. My name is Terry Julesgard, T-e-r-r-y J-u-l-e-s-g-a-r-d. And I appreciate this opportunity to come before you. Most of my comments and the first part my testimony have been covered. It's definitely a management issue. I do appreciate what the Fire Association has stated that we didn't have this problem when we had massive wildfires that kept at bay. Currently at our natural resource district we still do cost-share on eastern redcedar but we promote the practice of the right tree in the right place. We work closely with NRCS for the design of our windbreaks and make sure that the landowners know that there is responsibilities that come along with planting eastern redcedars for maintaining those. I've also included a white paper from the Nebraska Forest Service out at Halsey. They are our major supplier of eastern redcedars. In the 1970, late 1970s there was over-- they sold over around 2 million cedar trees. That number has dropped down to around 230,000 and only 131,000 of those are actually sold in Nebraska. They are actively, like we are, looking for alternative species to use in in windbreaks. We've seen good success with the potted ponderosa pines but there's going to be some extra expenses in handling them also. I've also-- Anna Baum was not been able, wasn't able to be here today there. Their district has a similar to the Twin Platte has eliminated the cost-share on their eastern redcedar so we feel it's important to let the natural resource districts deal with the cedar issues as they see all are conservation-minded and want to make sure that our lands are not being taken over by the eastern redcedar. So with that, I would take any questions.

HUGHES: [01:43:21] Thank you, Mr. Julesgard. Are there questions? Senator Bostelman.

BOSTELMAN: [01:43:30] Thank you, Mr. Chairman. How is the redcedar spread?

TERRY JULESGARD: [01:43:32] How is the redcedar cedar spread? It's basically spread by the seed. I mean, as-- it's your birds like your robins and different ones like that that that's their winter habitat. That's where they-- my place, I live right on the Niobrara River. And we, yeah, around my

property is completely infested with cedars in amongst the oaks. The landowner that has that is working on them but there's still a lot of work there. And I get hundreds of thousands of robins in there that move out.

BOSTELMAN: [01:44:10] Sure. And I'm not. I guess I'm playing into the term devil's advocate a little bit. So my neighbor has redcedars and I don't. Now I get redcedars because my neighbor has them. The birds fly over and drop the seed and I have them. But now I don't have a way to manage them per say if there's no tools out for me. So that's part of the problem too, I think. It's just how it does. I'm not--

TERRY JULESGARD: [01:44:34] Yeah, I have, well, one-- yeah. One of my directors the other day, he says, well, I've been tilling this field for the last 15 years. I've got a cedar windbreak along the one side of it. He says, I'm not be able to no-till any longer because I'm going to have to go in and this to get rid of the cedar trees. It's just, that it's just a problem.

BOSTELMAN: [01:44:59] I understand. Thank you very much.

HUGHES: [01:45:01] Other questions? Seeing none, thank you. And our last invited testimony is Russell Callan. So if you are-- want to give testimony, why, get prepared. We're getting ready. Welcome, Mr. Callan.

RUSSELL CALLAN: [01:45:22] Thank you, Senator Hughes and the committee. Appreciate you being here. I handed in some testimony to kind of keep this a little shorter. And you heard some of the testimony from the NRDs. I kind of wanted to talk a little bit about the diversity, diversity from NRD from one end of the state to the other. I've got similar diversity in my district at the Lower Loup NRD. Excuse me, I did not spell my name. Russell Callan, R-u-s-s-e-l-l C-a-l-l-a-n. Sorry. So

in the Lower Loup NRD I have Sandhills to the north and west, I have urban city of Columbus to the east, I have Loess Hills, I have rolling irrigated ground. So a lot of diversity within the my own district, like the state of Nebraska. So when we start throwing a wide brush at where cedar trees are should be or shouldn't be, I got to be a little cautious. We do provide cost-share on cedar trees but through our cedar tree-- excuse me, windbreak planning with the NRCS, with our own staff, that's when we can be with producers and say, you know, where are you at? What is it you want in a windbreak? So that that planning activity then can be managed. A producer that doesn't want cedar trees on their property, you don't have to plant cedar trees. There are other species, they probably aren't going to perform the cedar tree. Just because of the way a cedar tree is built they make a very good windbreak. Some of the pine plantings that you heard earlier, we're looking at some container stock with the Nebraska Forest Service. Our NRD, one of the Forest Service employees actually in our office we pay a portion of his salary and he is doing some research on container stock and how those perform. So I guess what I'm saying is that as we look at the cedar tree itself, it is a good tool and it makes a very good windbreak. And it's with the diversity of our state. In some places, it's a very good tool. Some places, maybe not. I kind of say that old analogy: a cedar tree in a windbreak is a good thing, a cedar tree where you don't want it's a weed. And that's kind of the way it lays. So I'm going to let you read my testimony, which is pretty close to what you heard before. But I would take any questions, Senator, if that's--

HUGHES: [01:47:48] Thank you, Mr. Callan. Are there any questions? Seeing none, thank you for your testimony.

RUSSELL CALLAN: [01:47:49] Thank you.

HUGHES: [01:47:50] Okay, public comments.

MARK BROHMAN: [01:47:55] Mr. Chairman and members of the committee, my name is Mark Brohman, I'm the executive director of the Nebraska Environmental Trust. It's M-a-r-k B-r-o-h-m-a-n. The Nebraska Environmental Trust has funded over $26 million in cedar tree control across Nebraska in the last 25 years. So we are one of the major players when the question was asked who is funding some of these burn associations, providing equipment, training, working with the NRDs, private landowners. It is us, along with Game and Parks, NRCS, and other groups like that. We work with landowners, livestock groups, conservation groups, local state federal agencies, burn associations, the university, and others. What are some of the things that we fund? Burn workshops, education, burn equipment, controlled burns, mechanical tree removal, and then use of wood products. Some of the things were mentioned earlier: wood chips, wood mulch, lumber, wood fuel, making pellets, and biochars sort of the latest thing that's being talked about. We held an eastern redcedar seminar at Halsey earlier this year, back in April, April 25th. And we had about 75 people attend that. We had a lot of the NRDs from across the state giving their perspective, we had a lot of landowners. The one thing we did hear over and over was we didn't think it was coming our way but it has. There are people in the far Panhandle that don't think it's a problem and it's not going their way, but it is. You know, I grew up in the Custer County area on the edge of the Sandhills and in my lifetime I've seen the trees come in, especially like in the Calamus area where there were very few trees. Now there are a lot. So we had a couple of landowners there were from that part of the state and they came in and they said, when they grew up, and they were a lot older than I was, there was no problem. But now there's a problem. So we're here today to let you know that we're committed to funding projects such as we have in the past. I don't know policy-wise what this group of folks can do but I do think we need to examine what's going on. The question was asked about research of male or sterile eastern redcedars, and I did have a quote from Ryan Armbrust with the Kansas Forest Service and Kansas State University. We had invited him to come up to Halsey but he was unable to. So he had sent me a note and said the economics of producing rooted male eastern redcedar is poorly understood but will clearly cost at least two to three times as much as traditional

seeding production. Part of that is trying to, you know you can't tell the sex of a cedar tree, and some people think that it may even can change over its lifetime. So it's going to be really difficult to get a handle on that. But we've indicated we're more than willing to help do and fund research with the university, the Forest Service, whoever might be interested in doing that. It was just mentioned, the speaker before me, that they're looking at ponderosa pine. They're finding that if you have more soil on the root that you can get a lot higher viability. And that's been part of the problem with some of those species in the past, you haven't been able to get the growth out of them and the number of success rates. The success rate percentage is a lot lower, which is true. But that's what makes the eastern redcedar the problem, it is so hardy. And once it gets established in an area, we don't have those wildfires that we once had, they do spread. And it was also mentioned by a couple NRDs, it is their number one tree that they're still selling. Whether they're providing cost-share or not, they're providing them. One of my board members said, when you get in trouble you got to stop digging. And so I think that's part of the problem is we have to really look hard, especially in central and eastern Nebraska where trees are still being provided. We've got to try harder and not be providing that seed source on the landscape. So with that, I'd be glad to answer any questions.

HUGHES: [01:51:20] Okay. Thank you, Mr. Brohman. Questions? Senator Bostelman.

BOSTELMAN: [01:51:23] Thank you, Mr. Chairman. Going back a little bit to some of our testifiers before with the prescribed-- Sandhills Task Force, Prescribed Fire Council and that. Something come to mind was yours as we're talking about this. Have you thought of or is there anyone has discussed having the equipment: drip torches, shovels, flappers, tanks, water tanks, those type of things? Or even systems you can, you know, fire-- grass fire rigs you can put on the back of your UTVs, your pickup and that to have those purchased and set in a place similar to what we do with no-till? And so we have individuals throughout the state that would coordinate and people would have to be trained and stuff in order to use it, if you will, but then it's available for

them to come rent?

MARK BROHMAN: [01:52:11] That's exactly what we do with Pheasants Forever, Quail Unlimited and other some of the burn associations. They get what they call trailers from us and they're just like we've provided funds for no-till drills for years at the Environmental Trust, probably the largest provider of no-till drills for NRDs and groups like that across the state. We're also probably the largest provider of equipment at this time to, you know, mostly Pheasants Forever and Quail Unlimited chapters. We've got several of these burn trailers on the landscape and they're used by conservation groups but anybody can come in and get them. And the same thing with prescribed, you know, controlled burn units. They've got some of this equipment they've purchased from [INAUDIBLE] the trailer with the UTV in it and the walkie-talkies, the burn jackets, the flappers, the oil drip torches, all those kinds of things. So it's kind of a ready-made package. I think there are nine or ten controlled burn units across the state in Nebraska and burn associations. And it's mostly based on landowners helping landowners. But there is problems with liability. People are afraid of the liability. You get one landowner next to an area that doesn't want to burn, we ran that with our ranch recently. We had two out of five land owners surrounding our ranch that didn't want to participate and were afraid to have fire. And so it made everybody uneasy about burning the other parts of the properties. So we are participating and I think that's a good way to get started. But we're maybe just keeping even. I think Dr. Twidwell mentioned that, you know, there's 30,000 acres of these things coming on every year. And we have to burn at least that many to keep even. And so that's what we've been able to do maybe the last couple of years. But it's going to take a lot more money, a lot more effort.

BOSTELMAN: [01:53:39] Thank you.

HUGHES: [01:53:42] Additional questions? Seeing none, thank you, Mr. Brohman.

MARK BROHMAN: [01:53:44] Thank you.

KATIE TORPY CARROLL: [01:54:02] My name is Katie Torpy Carroll, K-a-t-i-e T-o-r-p-y C-a-r-r-o-l-l, here today representing the Nature Conservancy. Mr. Chairperson and respected members of the committee, thank you for the opportunity. The Nature Conservancy is a conservation organization working across the world to conserve ecologically sensitive land and waters for nature and people. We've been working in Nebraska for over 50 years, specifically along the Niobrara River. We have a complex of woodlands and grasslands, 56,000 miles in that area that we manage for conservation purposes. It's also a working ranch. All of the impacts of eastern redcedar that have been described today touch down on our property, perhaps none so devastating to our mission than the loss of biodiversity and land productivity. We definitely feel the impacts of reduced grassland birds; the impacts to beetle species, including the federal endangered American burying beetle and small mammal species. Now, with the 2012 fire, wildfire, the Fairfield Creek wildfire, we got an unexpected toehold. Forty-six square miles burned on our preserve that day, an area about half the size of the city of Lincoln. Now the cost to the state in Nebraska was about $3.2 million. And that was in a year that saw $12 million in damages from wildfires. For us at the preserve, our impacts were primarily to lost grazing, lost grazing income. And we also had to replace 60 miles of fence line. It gave us an unexpected demonstration opportunity, however. The areas that we had conducted spring burns on did not burn during that wildfire and in fact abated the spread of wildfire during that incident. That fire really incentivized us to double down on our existing redcedar control management tactics. We, between 2014 and 2017, were able to leverage $750,000 in federal, state, and private funds, mostly in the form of cost-share, to remove 1,400 acres of eastern redcedar. During this time we also intensified our fire training exchange program where we train burn officials-- burn professionals to provide burns safely and to communicate effectively to during those burns, as well as to communicate to the public the benefit of those burns.

In 2018, we added a burn boss and we are moving our burning off TNC properties where we conduct about 4,000 to 5,000 acres of burning, controlled burns annually. But we're moving that off TNC grounds to public and private lands and our targets are 7,500 acres annually. We couldn't do this of course without the support from the Environmental Trust and Nebraska Game and Parks Commission, the National Park Service, Fish and Wildlife Service, Sandhills Task Force, Pheasants Forever, and volunteer fire departments, among others. However, in spite of all these positive and productive partnerships, much remains to be done. The program and the continued viability of our fire training exchange hinges on continued and enduring funding that is anything but certain. And really to get truly to scale on cedar control and to restore our grasslands and woodlands we must mechanically remove approximately 13,000 acres on the preserve, at a projected cost $8.3-- or $8.2 million. Yet, we realize that we're very fortunate to receive the funds we've received to date and to have the resources to apply for those funds. That said, we're highly aware that there are many landowners less equipped to do so which is what makes it so essential that we achieve-- that there be greater statewide coordination to systematically address this issue. We need a consensus on priority areas and we need to match that with expanded and new sources of funding. And we also need to support prevention efforts for prescribed fire is essential to both preventively addressing new growth, as you've heard, as well as maintaining mechanically cleared areas. And lastly, we ask that you consider addressing the seed source or control of sale. In closing, while we think our approach is a good model, without that comprehensive statewide coordination individual efforts will not accrue fast enough or at a large enough scale to address the problem. If you wish to visit our preserve and see these efforts firsthand, we invite all of the senators of the members of the Natural Resources Committee to visit us up at the Niobrara Valley Preserve. Thank you.

HUGHES: [01:58:56] Thank you. Are there questions? Seeing none, thank you for your testimony. Go ahead, sure.

KATIE TORPY CARROLL: [01:59:07] I forgot to mention the crux of it. So the mechanical removal is about $600 I think as was described per acre to remove. So that's how we got to that figure. Our prescribed burning efforts were doing that at anywhere between $30 to $40 an acre, so it's a huge difference.

HUGHES: [01:59:26] Very good, thank you. Thank you for sharing that. Welcome.

JOHN ERIXSON: [01:59:36] Thank you. Good afternoon, Senators. Members of the Natural Resources Committee, Chairman Hughes, my name is John Erixson, J-o-h-n E-r-i-x-s-o-n. I am the director of the Nebraska Forest Service and Nebraska state forester. I am here today speaking on my own accord not on behalf of the University of Nebraska. Eastern redcedar is a native tree to Nebraska. By definition, native determines it cannot be labeled as an invasive species. However, eastern redcedar is a species we've seen a dramatic increase in the population over the last several decades. In 1972, 25,000 acres of Nebraska was considered eastern redcedar forest. Today, that number is slightly over 330,000 acres. If I can draw your attention to figure 2, the blue bars represent acres that were considered eastern redcedar forest five years ago during the last inventory cycle. And through management we've seen those acres convert back to their traditional land use. In contrast, if you look at the orange bars there, those are acres that were not eastern redcedar forest five years ago and they are today. So the uncontrolled spread of eastern redcedar into our grasslands has several negative impacts from an ecological and environmental standpoint as well as an economic standpoint. Cedar often grows as wide as it does tall. Occupying space and out-competing other natural vegetation. This results in less grass being available for grazing animals and nesting wildlife. Across Nebraska it is easy to find examples of areas where cedar once or now dominates the landscape and these areas were once dominated by grasslands. In our forests eastern redcedar often grows in the shade of our pine and our deciduous trees, resulting in changing the function of these forests. When eastern redcedar occupies the understory of the stand you no longer get

regeneration of our desired plant community: our pine trees and our hardwood trees. And the stands will eventually become eastern redcedar forests over time. Eastern redcedar must also be recognized for the benefits it provides in the form of windbreaks in shelterbelts, as well as with manufacturing. In western Nebraska, west of the 100th meridian, eastern redcedar is one of the few species that survives and is still today used by land managers for windbreaks. In my recent travels to Kimball County, eastern redcedar is a common windbreaks species. There's often one to three rows of eastern redcedar. Most of the windbreaks or new windbreaks in that area have a cedar component. I asked land managers, you know, why are we using eastern redcedar in these areas? And what the most common response is, it's the best tool or the only tool we have in our tool box. It survives. That's a big thing. It grows well, it grows fast. It does not spread naturally in those areas. It provides the shelter we need for our homes and protection for our livestock. The Nebraska Forest Service is currently sampling windbreaks across the state as part of a greater effort to characterize all windbreaks from North Dakota to Kansas. As part of this effort, Nebraska Forest Service staff are sampling windbreaks. We've sampled 1102 windbreaks across the state with some in each of our counties. In the sample, 70 percent of our windbreaks have a significant component of eastern redcedar or eastern redcedar is the dominant species of those windbreaks. The Nebraska Forest Service provides cost-share to landowners to assist with the management of forest lands. As part of this effort, landowners work with staff and other natural resource professionals to remove encroaching cedar from our pine and our hardwood forests. They manage their eastern redcedar stands for future forest products and they remove eastern redcedar to reduce the risk of wildfire and improve the rangelands. In conclusion, eastern redcedar is a tree in Nebraska that is important but it must be managed. As natural resource professionals, we have a responsibility to utilize all the tools that are in our toolbox. This includes prescribed burning, mechanical treatments, and harvesting timber for economic gain. So thank you for your time. I would be happy to entertain any questions.

HUGHES: [02:04:25] Thank you, Mr. Erixson. Are there any questions? Seeing none, thank you

for your testimony. Welcome.

MATTHEW HOLTE: [02:04:55] Good afternoon, senators, members of the Natural Resources Committee, and Chairman Hughes. My name is Matthew Holte, M-a-t-t-h-e-w H-o-l-t-e. I serve as the fire operations team leader for the Nebraska Forest Service. I'm here to share information on LR387 and testifying neutral on my own on my own behalf, not for the university. I have over twenty years of experience in wildland fire prescribed burning with the United States Forest Service and the Bureau of Land Management. Prescribed fire can be an exceptional tool for managing the vegetation on the landscape when used correctly and under the appropriate conditions. Utilizing prescribed fire in eastern redcedar stands, particularly mature stands, is tricky. One of the unique fire behavior aspects of eastern redcedar is that it is a species that unless the trees are abnormally dry they can actually be used as a firebreak if the conditions are right. This poses a significant challenge for prescribed fire managers when they try to utilize fire as a tool for managing these larger mature cedars. In order to run a fire through the larger trees a burn boss needs high winds, high temperatures, and low humidities. This approach to burning is counterintuitive for wildland fire managers as these conditions are often the same that you'd expect in wildfire conditions where full suppression of a fire would be expected. In contrast, using prescribed fire to manage smaller young cedars is a very viable and effective tool. In stands where significant grass refined fuel component is present, cedar is killed by fire due to the heat of the flames and individual trees torching. In stands with larger trees or stands with many trees per acre, another approach for prescribed burning is to do prep work before burning and using mechanical treatments prior to a prescribed burn is an effective method to increase the fuel load on the ground to carry a fire. This method provides more ground fuel to carry fire to consume the unwanted tree while allowing for lower intensity fire and a more manageable burn. BehavePlus is a fire modeling system used by prescribed fire managers and burn bosses to predict how fire will act under certain conditions. This modelling system can help provide a reasonable estimate of expected fire behavior given the

particular fuel type, weather conditions, and terrain. If you look at the chart that I included there, you can see a low-risk, moderate, high-risk, and extreme risk runs there. And the actual runs are in the back with your packet. But you can see there's not a whole lot of difference between low-risk and moderate. By just increasing the winds a little bit you double-- you almost double the flame lengths. So the margin of error with prescribed burning is extremely small. Table 1 in the back includes a list of escaped prescribed fires, along with their incurred costs and the repercussions of suppressing that burn that escaped and were converted to a wildfire. The state of Nebraska is in a unique situation as none of the state agencies have a true suppression or prescribed fire force. Burn associations have developed to perform the burn themselves, use contractors, or rely on volunteer fire departments. There's roughly 200 hours of classroom training needed to become a qualified burn boss using the national standards. It also requires individuals to work on a position task book and to have competency at several other positions before initiating said task book. So it is difficult to become or to find-- it is difficult to become or to find a qualified burn boss to conduct these burn operations. In Nebraska we only have one national wildfire coordinating group qualified burn boss within the state agencies and that is myself. Secondly, asking the volunteer fire departments to assist seems reasonable. However, many of their insurance policies do not allow it. Most of the volunteers have day jobs and are not able to assist. And prescribed fire is not considered an emergency and with limited staffing of volunteer fire departments it could result in a delayed response for a life-threatening emergency elsewhere. Finally, burning without qualification and experience is a huge risk. If something were to go wrong, whether it be loss of property, loss of life, the first place that any investigation would center would be over the qualifications of that burn boss. The burn boss is responsible for every person, action, decision that happens on that prescribed fire, not to mention the additional costs of suppressing the fire. Prescribed fire is a valuable tool in addressing redcedar encroachment. However, improper use and lack of training can and has led to the loss of life and property, including here in Nebraska. Thank you for your time. I'd be happy to answer any questions.

HUGHES: [02:09:19] Thank you, Mr. Holte. Are there questions? So are you located here in Lincoln?

MATTHEW HOLTE: [02:09:24] I am.

HUGHES: [02:09:25] Okay. And so if a burn association wanted you to come out and supervise or train that's part of your job? Or is there an expense?

MATTHEW HOLTE: [02:09:35] I would be more than happy to assist as far as like training capacity or being the Type 2 burn boss if anybody were to reach out.

HUGHES: [02:09:45] So that is part of your job description? There's not a cost of that to the local group?

MATTHEW HOLTE: [02:09:50] No.

HUGHES: [02:09:50] Very good. Thank you for your testimony.

JERRY STILMOCK: [02:10:03] Chairman, members of the committee, my name is Jerry Stilmock, J-e-r-r-y S-t-i-l-m-o-c-k, testifying on behalf of my clients: the Nebraska State Volunteer Firefighters Association and the Nebraska Fire Chiefs Association. Mr. Holte hit on a couple things, and one of the most important ones was there are no firefighters within state agencies or government units that go out and fight wildfires. It lands on the hands of volunteers. So in 2012, when almost half a million acres burned, they were predominantly firefighters of the volunteer nature on the scene until federal representatives came in on a couple of fires. Think in terms of

Ainsworth, Nebraska where one of those huge fires was. That was a 10-day fire. And so the significance of what's happening is tremendous with eastern redcedar. Senator Kolowski was a member of the Legislature when Senator Davis introduced LB634 in 2013 as a result of what happened in 2012. And others of you obviously followed along what was happening, not as a legislator but in your own personal lives, perhaps. Of significance during that period of time we learned several things. One of it, we had 16 testifiers come into that hearing and many of the same people or organizations that were represented at that time. And what was the major focus of it? Eastern redcedars. So it repeats itself for five years later. I think the senators at that time included-- not I think. I know senators at that time included funding in order to help the reduction of fuels which Mr. Erixson as the State Forester spoke of already. My only other comment, because others have covered the items very, very well, a little bit about what happens when a burn plan is submitted. That falls on that burn plan is reviewed by the fire chief or the designee of the fire chief having jurisdiction. And that designee has to be within the realm of the fire department, it can't be the village clerk for example. Senator Wickersham first had legislation in its original form in the latter part of the 1990s that had his first attempt to legislate-- legislators' first attempt to set out parameters of what that plan should include. Senator Annette Dubas at the time then, during the early part of the 2000s, took on a two-year study on her own independently, and looked at several factors. What about the agencies coming in that want to organize responsible plans? What is their liability coverage? What is their training? There's a gentleman just Testified, Mr. Holte, is part of the crux of it is is what training should Nebraska require for those that are going to be burn bosses? Should it deviate at all from the national standard? And at that time Senator Dubas, in doing the research, and then the upgrade to legislation through Senator Dubas' legislation was ultimately passed, was no, the deviation should not be made from the national standards. I'm just thankful that you brought it again, you're looking at it. We need to keep on it. And most importantly as when those fires hit us the volunteers that are going out to answer the call. Not having a state suppression team, it puts a tremendous strain on the volunteers. That concludes my comments. Thank you for

the opportunity to come before you.

HUGHES: [02:13:18] Thank you, Mr. Stilmock. Are there questions? Senator Bostelman.

BOSTELMAN: [02:13:22] Thank you, Mr. Chairman. Mr. Stilmock, thank you for coming today to testify. Our other problem or issue at what I hear it, and it falls under your wheelhouses as well as the previous testifiers, we have large redcedar now. We're not talking about small ones that we can burn and [INAUDIBLE]. Because we have these large trees that are out there. When there is a fire in an area and it's hot enough to ignite them that becomes a huge fire risk because that allows that fire to get hotter. Plus it allows it to move quicker or to heat areas. Plus, you're going to have the winds create that firestorm, if you will, to go across. And that goes back for volunteers pretty much while they're are out there trying to fight these fires. Ainsworth fire, I had friends up there that were involved with that, so I know what, you know, a little bit what you're talking about. So I guess my comment is, and I really can't speak to it or maybe you can speak to it, is I understand where there's benefits with this. But also what we're hearing is, is we're at a point now where it seems to me is we have not done our due diligence as landowners. And that due diligence is, is controlling the redcedar that we plant or have planted placed on our property. Now we're at the point of the time where we have a significant problem because we have these large trees. And how now-- how do we now best address that? Fire not being one of them is where I'm kind of going with this, so we have to look at either chemical or mechanical. Because the risk is way too high potentially in order to get that, the environmental conditions: the humidity; the wind; the dryness; the fuel for that large trees, those large stands to go to burn. We're creating a huge potential for that to spread and get out of control. To do a controlled burn with that is pretty dangerous or risky. I don't know if there's a question other than the comment and that I don't see-- we do have some aerial resources and other resources with that but I think we're beyond the point of in some sense of management. That's what are we going to doing now with these large trees in these large areas. I don't know if you have a

question of that.

JERRY STILMOCK: [02:15:37] It's 3:15 or 3:15-ish. You ask the questions and I did the best I can respond politely and quickly because there's others that want to testify. But you broach an area that merits a nice, long conversation. But I'll be as brief as possible. Marketing was something that LB634 brought in a component. But you asked the question. So we have-- we have a question of one of the other testifiers is what do, you know, we don't really have a market. We have a product but we don't have a way to market it or the location of it. And the transportation of their product is so far it defeats the whole purpose, so we're stagnant in that regard. I don't know. I was intrigued by the manure mixing with the chips. It's like really that's a possibility. So the industry is thinking and the Nebraska Forest Service is thinking and working hard on that issue in terms of the marketing part of it. You said an important thing, and Senator Kate Sullivan at the time said the same thing, she said I know what I do on the weekends because we're a farm family, we're a banking family. The bank is tended to by my husband Mike. My part is done, I do what I can. But I'm also a landowner so I go out and clear the redcedars when I'm at home. So why are people coming in asking for money? And that's an observation, that's a lot of personal account because you all heard what the NRD said. It's like where do we get the money from, you know? It's not so dissimilar, if you allow me to digress for a moment, is the city of Omaha when they annexed properties and the roads were in an unsatisfactory position. So those people bought the property, they have less than up-to-standard roads. So all of a sudden the question is, well, what about my subdivision? I have this house, I own a $300,000 house and my roads are substandard. City, you annexed me, make the city taxpayers pay for my road to be improved. Well, and that's the question that you've heard this afternoon framed a different way. My land is inundated with redcedars, make somebody pay to clear them. And you saw what the city of Omaha did on a much smaller scale is they withdrew. They would not spend-- my recollection, we wouldn't spend the tax dollars to correct a problem in one single area because of what happened when those people bought that area that was, you know,

"malmaintained." So you're wrestling with the same question of do we use NRD dollars to pay for somebody because they were lax in caring for their pasture and their grassland? Wow. That's huge. That's huge. So I didn't answer your question, all I did was comment back at it. And I think I'm wasting your time, so I better be quiet.

BOSTELMAN: [02:18:03] Thank you.

JERRY STILMOCK: [02:18:04] Thank you for the opportunity.

HUGHES: [02:18:05] Thank you, Mr. Stilmock.

JERRY STILMOCK: [02:18:05] Yes, thank you.

ED HUBBS: [02:18:19] Thank you. Good afternoon, Chairman Hughes, committee members. My name is Ed hubs, I'm representing Audubon Nebraska and our centers and sanctuaries within the state. My name again, Ed Hubbs, it's E-d H-u-b-b-s. I would just try to keep it to the point and short and sweet, since most people have already covered my main points. I just want to say that Audubon does recognize that there are many ecological and economic impacts caused by this cedar tree invasion. Prairie birds in particular, which is what Audubon is focused on: bird life and wildlife in general. But prairie birds have shown the most consistent population declines of any bird species in North America and our grasslands within the state of Nebraska are a vital breeding and migratory range for many of these birds. Audubon would support any effort that allows the grassland, the stewards of our grasslands, mainly private landowners, to do whatever is needed to sustain both profitability and sustainability for wildlife on their own lands. We think that proactive efforts are important and essential from the landowner to think forward and think ahead in order to reach these goals. Especially considering cedar. In that regard, I would like to comment on some of the things

people have said regarding the prescribed burning and some of the training that is required. Myself, at the Audubon center that I work at just southwest of Lincoln here, we rely almost entirely on volunteers. I'm the only paid staff. When we do a prescribed burn, I rely on some of the people in this room, but many other people who are private landowners doing-- donating their time and resources to help me burn my land. If we were to-- it has been recommended or mentioned that maybe the training that's required to become this high level burn boss is hundreds of hours and lots of paperwork. If we were to require that kind of training to my volunteers, I would not have any volunteers. And as one person I cannot burn by myself. So I think it is very important that we consider that the landowner still needs to be at the root of the solution to this problem. With that, I'll take any questions.

HUGHES: [02:20:57] Okay. Thank you, Mr. Hubbs. Questions? Seeing none, thank you for your testimony.

ED HUBBS: [02:21:01] Thank you.

JULIE BAIN: [02:21:14] Good afternoon. My name is Julie Bain, J-u-l-i-e, last name, B-a-i-n, I'm a district ranger at the Bessey Ranger District of the Nebraska National Forest and Grasslands. We are part of the USDA Department of Agriculture Forest Service. I did have prepared statements but I might go off script a little bit, just because a lot of people have already said things. I would like the committee to know that National Forest System lands comprise nearly half of all public land in Nebraska. They're a priceless resource for Nebraskans or anyone wanting to experience Nebraska's wild places. The Sandhills units of the Forest Service comprise over 200,000 acres. We have the Bessey Ranger District near Halsey and the Samuel R. McKelvie National Forest southwest of Valentine. In the last two years alone we've documented visitors from all 50 states and a lot of countries from overseas. So one of the reasons I think that people need to be concerned about the

Bessey Ranger District near Halsey is we have a gigantic seed source. We have the world's largest hand-planted forest. It was originally 30,000 acres. In the 60s there was a fire and we're down to 22,000 acres and one of the main species of the species that were planted, ponderosa pine, jack pine, and eastern redcedar have survived. What we're working on very hard now is keeping the grasslands grass. So in terms of other people have spoken to the fact that getting rid of the larger trees is-- we're doing it but it's cost-prohibitive. We do do the prescribed burning. The our forest was an order of magnitude less than any of the other prescribed burns that happened across the rest of the country. We've had since 2015 we've had help from partners, livestock grazing permit holders, supplemental funding sources. We've conducted prescribed burns and mechanical thinning on over 15,000 acres of public land and we've assisted with the prescribed burning on over a 1,000 acres of neighboring private land. Our partners have been the U.S. Fish and Wildlife Services, Partners for Fish and Wildlife, Rainwater Basin Joint Venture, the Sandhills Task Force, the NRCS, Nebraska Game and Parks, National Fish and Wildlife Foundation, and the Joint Chiefs Landscape Restoration Partnership. The Forest Service also has a master good neighbor authority agreement with the Nebraska Forest Service. It was signed this May, May 22nd, 2018; and we are willing to work in partnership with the state to combat cedar encroachment and protect native rangelands. One of the things I feel like the federal agencies could be very helpful is some of the technology transfer and because we are such a private land state we do have-- I've got two burn bosses on my district that could go out and help. We've been able to help through MOUs with volunteer fire departments but there is that question of liability and whether the federal government can help on private lands. But that's probably an area that would be rich to look into in terms of ways that we could help and go out there and do that kind of burning. In addition to physically removing cedars, the Forest Service has contracted with our National Geospatial Agency to look at the rate of encroachment in the last 20 years. And that should be able to be used for other landowners to estimate how quickly they might be experiencing the problem. And. I think another thing for us too, some people have spoken about product and we have received the call about the person looking for 10,000 pounds of

piles. We've got piles sitting out there. One of the problems we have is our roads. So our roads are so sandy that you can't get a log truck down there. So getting it out, you know, we've got the trees and the product for anyone who needs it and we need them cut. But that's one-- I feel like it's a relatively small block because humans have figured out so much. But that is-- that is a block that we have. So that's I have to say. Thank you very much for paying attention to this issue. I really think it's important for the grasslands. Thank you.

HUGHES: [02:25:44] Thank, Ms. Bain. Are there any questions? Seeing none, thank you for your testimony. Welcome.

TELL DEATRICH: [02:26:00] Thank you, senators, for being here today. My name is Tell Deatrich, T-e-l-l D-e-a-t-r-i-c-h. We've heard a lot of talk today about the Loess Hills, Loess Canyons. I'm here representing the Loess Canyons Rangeland Alliance. We are a very large burn association. Our area that we are tasked with affecting is 300,000 acres. Obviously, not all the landowners in that area are on board with what we do. But to this point we've burned approximately 70,000 acres and we have several 3,000-acre burns slated for the next couple of years. We were formed out of just a basic need. We didn't have a market for the trees we had, we didn't have a viable option of mechanically controlling them long-term. And so in conjunction with a couple government agencies, we got the idea and got started. My dad was one of the first ones on board in 2002, so I've been doing this as long as the association has been around minus a couple of years in college. There's been some talk about using trees for posts and whatnot, and again, that's a marketable issue. But my grandpa planted cedar tree posts for corners and, subsequently, I pulled them out. You know, they're not a long-term solution and that's a different discussion. But you're looking at, if you're lucky, 20 years, 15 years on planting a post like that. And our burn association would disagree with people who say that you can't burn big trees and that it takes extreme conditions to burn big trees. We burn big trees on steep slopes in large burn units fairly regularly.

And by large, 600 acres is kind of a slow day for us. We have 85 members, we're regularly getting 60 to 70 people come to every burn depending on-- sometimes we'll have some down days if we have a smaller unit. But we have a very committed membership group. If you want to know more about being able to burn big trees in extreme conditions, you need to do to talk to Dirac. He knows the science. And I probably shouldn't even use the word extreme conditions because you can get it done with the state mandated parameters. The benefit of a burn group has on our community is something that we've seen time and time again. A couple of years ago we had a wildfire break out within Sight of my house. And it happened to be during our normal burn season so conditions were right for this to be quite the wildfire, and it was. It did a nice job killing a lot of trees. But our fire department in Curtis has two grass rigs and we showed up with more than eight units plus the water tenders that we had full of water on-hand already. We more than doubled the response to this fire and we learned a lot in that. Yeah, you can't take somebody that's good at prescribed fire and have them start putting out fire. It's different-- it's a different process but we have still learned to work with our volunteer fire department and our volunteer fire department has been helpful working with us. Now, problems to growing burn associations in areas that are not excited about fire, they have to see the need. If you're going to say that-- they have trees, they have a problem, they're going to have to perceive that they have a problem. And that's why we were successful was because our problem became very real to us. We would love to help other units. And if you want to see other associations-- excuse me, if you want to see us burn, we have people come and help us all the time. And that's where our training has come from is within the group. I grew up doing this. A lot of young producers in my area, we grew up with fire and it's helped to grow. Are there any questions?

HUGHES: [02:31:05] Any questions for Mr. Deatrich?

WALZ: [02:31:08] I just have a quick question. So do you also rely on the volunteer fire department to come and help? Or where does your manpower come from I guess?

TELL DEATRICH: [02:31:17] It's mostly all landowners and their employees. The volunteer fire department has supported us. We've never had to call the volunteer fire department and we've never had a breakout big enough that we thought, oh, we'd better get this cleaned up. We keep them small. If you involve your volunteer fire department, if there is a problem somewhere else because it's a good burn day, if you have a fire somewhere else, they're tied up and it lengthens their response times. So we wanted to be self-sufficient. We do have a few volunteer members that will come to a burn and help. And that's been beneficial for everyone.

WALZ: [02:31:57] Thank you.

HUGHES: [02:31:58] Okay, any other questions? Thank you for testimony and your insight. Welcome.

FRANK ANDELT: [02:32:13] Hello, and thank you for the opportunity to provide some comments. My name is Frank Andelt, I'm speaking as a landowner with property in Saline County. As a retired-- semi-retired farmer and a retired wildlife biologist--.

HUGHES: [02:32:29] Excuse me, could you spell your name please?

FRANK ANDELT: [02:32:30] Oh yes. Frank, F-r-a-n-k, A-n-d-e-l-t.

HUGHES: [02:32:36] Thank you.

FRANK ANDELT: [02:32:37] I am also a member of the Tri County Burn Association for about ten years, since that group formed. This is a group of about 50, mostly landowners that work

together using prescribed burning to improve grasslands. I support LR387, as I recognize that eastern redcedars have become a big problem in many parts of Nebraska. In my specific case, I remember about 45 years ago traveling some 50 miles from our farm to dig eastern redcedars that we're growing in a pasture in northwest Lancaster County so we could plant them in a wildlife shelterbelt and windbreak on our farm. By digging the trees, we could get a quicker start than planting smaller seedlings. We had to travel that far because eastern redcedar at the time were quite rare in most of Saline County except where they had been planted, mostly in farmstead windbreaks. On our farm nowadays, we're removing some of the eastern redcedar that we planted back in the 70s and 80s. And in other cases, I have even been selectively removing female trees from some of our plantings to prevent their spread. Here in southeastern Nebraska, eastern redcedars can be kept in check if landowners keep on top of the situation. Prescribed fire is the easiest and most effective method of removing eastern redcedar from grasslands if they're not allowed to get very large. If eastern redcedars are not controlled at an early stage, the cost of removal can easily exceed the value of the land on a per acre basis. Some thoughts on possible solutions to eastern redcedar, to the eastern redcedar problem. First, I would say it would be good to discontinue planting eastern redcedars in counties where they are the biggest problem until the time when the sex of seedling trees can be determined and only male trees planted. Address liability issues that might be preventing landowners from making use of prescribed fire to control eastern redcedar. The third thing is to support efforts to identify alternative species to use in wildlife windbreak and other plantings. For example. I've found pfitzer type junipers to be a good substitute for eastern redcedar in wildlife plantings. Also encourage efforts to find new uses for eastern redcedars, as you've heard people talk about here before. In summary, eastern redcedars have become a big problem in Nebraska but we do have options to deal with them. Once again, thanks for the opportunity to give some comments.

HUGHES: [02:35:25] Thank you, Mr. Andelt. Are there questions? Seeing none, thank you for

your testimony and your patience. Welcome.

DENNIS OELSCHLAGER: [02:35:38] Thank you. Chairman Hughes and members of the Natural Resources Committee, my name is Dennis Oelschlager, D-e-n-n-i-s O-e-l-s-c-h-l-a-g-e-r. We have owned and managed a little over 500 acres in eastern Saline County on the eastern edge of the Rainwater Basin. The land is mostly pasture, dryland row crop, and wooded drainage areas. We have land enrolled in a conservation reserve programs and our land adjoins an NRD flood control and recreational area. We manage our land with an emphasis on conservation and wildlife habitat. We have a big problem in continuing management challenges with the spread of eastern redcedar in our area. Without constant control efforts, ERC, eastern redcedar, will overtake idle areas and grow into and destroy fences. Control is a big problem along county roads where birds on wires are a constant source of eastern redcedar seeds. History now available from Google Earth, photos in our area showed clear farmland transformed to a thick eastern redcedar forest in less than 20 years. When it became apparent I was going to spend most of my free time cutting eastern redcedar out of our pasture and conservation and reserve ground and was not going to be able to keep up, I started learning about prescribed fire about 20 years ago. And a big thank you to the Nebraska Game and Parks people who came out and provided some hands-on training to get me started. In 2009, we organized the Tri County Prescribed Burn Association that Mr. Andelt mentioned. Landowners and volunteers, neighbors helping neighbors focusing on prescribed fire in Lancaster, Saline, and Seward counties. We have extended that into many other surrounding counties and the smoke from our burns has been readily visible from the higher floors of this building. As Frank mentioned, we've grown to now regularly over 50 paying members and a contact list of more than 100 people who help with our burns. We have now helped landowners with prescribed fire for nine years, more than 4,300 acres and more than 150 burn areas. We have never had a fire escape that required assistance. Thanks to prescribed fire and our burn association, I personally went from not having enough time to keep up with eastern redcedar to having time to help others, planning and managing

their prescribed burns. Of course we receive help from those members when we do our burns and that's a big benefit to us. There are clearly a lot of people in Nebraska who are part of this growing community. People who recognize the need to control eastern redcedar, as well as those who understand the benefits of prescribed fire. I know I speak for many of them today when I say we appreciate the Natural Resources Committee and elected representatives who recognize a need to consider public policy in support of efforts to control eastern redcedar. I thank you for your time and service as our elected representatives and the opportunity to be here today.

HUGHES: [02:39:15] Thank you, Mr. Oelschlager. Very good. I got one fight, finally. Any questions? Seeing none, thank you for your testimony. Welcome.

ALLAN MORTENSEN: [02:39:41] Thank you, senators. Allan Mortensen, A-l-l-a-n M-o-r-t-e-n-s-e-n. I'm here today as a landowner born and raised in southern Lincoln County, and a member of the LCRA, the Loess Canyon Rangeland Alliance, which you've learned today is a prescribed burn group. I've seen the encroachment of the redcedars be more and more prevalent. For the last 40 years I've spent countless hours during the winter days chopping cedars by hand, only to have them replenished to be thicker than before within a few short years. I watched the grazing lands become smaller and smaller with return revenue becoming lesser as years go by but the taxes on that land continue to rise. I've passed out or handed some pictures from a neighbor that had the foresight to take over the years, starting back from 1965 through one of the burns that we've done, we did in 2017. With use of prescribed burn to reduce the spread of eastern redcedars in our area of the state, working with the LCRA we have started to regain some of the economics of our land back. Being part of the LCRA have given me and the 85-plus other members a strong training of the use of fire and fire safety to be able to conduct prescribed burns on private lands. Since 2002, the group-- the group has burned over 70,000 acres without any major escapes or having to call for the fire department for help. Average size now as we conduct our burns is approximately 1,500 acres per

burn. With the success of burn, burning these acres, we as the LCRA have learned the respect of local fire department-- have earned the respect of local fire departments, even to the point of being available for a second respond help with large fires and in uncontrolled burns. These burns are possible with assistance and partial funding from such organizations as the natural resources districts, the Pheasants Forever, Quails Forever, and the Environmental Trust. Through prescribed burns that we have accomplished to date, we as landowners in the LCRA have seen a deafening decrease in the redcedar, eastern redcedars, resulting in gaining some back of our grazing acres, which is an economic increase to the landowners. We also see more mule deer, quail, pheasant, bobwhite, prairie chickens, and these birds that have burned along with the other many natural grasses. I appreciate your time today. Thank you.

HUGHES: [02:42:38] Thank you, Mr. Mortensen. Are there questions? So what can-- or what would you like state government to do to help you in your control of eastern redcedar? Anything?

ALLAN MORTENSEN: [02:42:52] Some of our-- some of our issues are the windows that we have to be able to fight regulations, the windows that we have to operate within. We have-- we can only start-- if we can start burning in January, that's awesome. Great. But a lot of times you have snow on the ground, you can't burn that fast. But when the tree act-- Bird Treaty Act goes into effect, we have to shut down. We cannot burn. And then with the 80-20-20 the wind speed, humidity, and humidity regulations that we have to abide by. With the help of Dirac, with some of his research and the success that we've had and the manpower, we feel that we possibly could push that window a little further.

HUGHES: [02:43:44] So just giving you a little more flexibility in the requirements to burn, that's--.

ALLAN MORTENSEN: [02:43:52] That would be a good start. They've talked about they call them the red cards for-- but we feel with the training in the years, the excess that we've had, we feel that we have some in-house training that we do. Nobody gets put on a line that hasn't been there with us and had burned. We don't-- we invite people to come in and help and train with us. But they don't get put in an unsafe environment.

HUGHES: [02:44:29] Okay. Thank you for coming and testifying today.

ALLAN MORTENSEN: [02:44:31] Thank you all.

HUGHES: [02:44:35] Anyone else wishing to testify? No one else? With that, we will close the hearings. I'm sorry, we have letters for the record from Patrick O. Brien, Upper Niobrara White NRD; Roger Suhr, Chadron, Nebraska; Kelsi Wehrman, Pheasants Forever; Mike Murphy, Middle Niobrara NRD; Annette Sudbeck, Lewis&Clark NRD; and Anna Baum, from the Lower Loup NRD. So with that, we will conclude our hearing. Thank you, everybody, for coming on a Friday afternoon. I appreciate it. And very clear this is a timely topic.