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Agriculture Committee
February 04, 2014

[LB673 LB882 LB1008]

The Committee on Agriculture met at 1:30 p.m. on Tuesday, February 4, 2014, in Room 2102 of the State Capitol, Lincoln, Nebraska, for the purpose of conducting a public hearing on LB673, LB882, and LB1008. Senators present: Ken Schilz, Chairperson; Norm Wallman, Vice Chairperson; Dave Bloomfield; Ernie Chambers; Tom Hansen; Burke Harr; Jerry Johnson; and Steve Lathrop. Senators absent: None.

SENATOR SCHILZ: Okay, good afternoon, everyone and welcome to the Agriculture Committee hearing today. Today on the agenda we have three bills and we'll get to those. I'll go ahead and introduce myself. I'm Ken Schilz, I'm from Ogallala, Chair of the Ag Committee, and I'll allow all of my colleagues to introduce themselves starting with Senator Hansen here to my right.

SENATOR HANSEN: Tom Hansen from District 42, which is Lincoln County.

SENATOR CHAMBERS: Ernie Chambers, of Omaha.

SENATOR WALLMAN: Norm Wallman, District 30.

SENATOR JOHNSON: Jerry Johnson, District 23, Saunders, Butler, Colfax Counties.

SENATOR BLOOMFIELD: Dave Bloomfield, District 17, Wayne, Thurston, and Dakota Counties, up in the northeast corner.

SENATOR SCHILZ: Thanks, folks. And we may have a couple other senators trickle in as we go along here. I'd also like to introduce today, on my right is Rick Leonard, research analyst for the committee, and on my left is Jamaica Erwin, who is the committee clerk. And we have two pages with us, or just one page today, right? Colton, was here wasn't he? We have two, one's here. Chandler from Scottsbluff, right? And Colton, who will be joining us, from Lincoln. And Senator Lathrop has joined us as we speak. Welcome, Senator. As we introduce bills, there's a sheet there to fill out if you're going to testify. Please fill those out. If you have cell phones, please turn them to silence or vibrate. And if you do have to take a call during the hearing, we would appreciate if you would step outside to do that. And if you do plan to testify, when you get to the table, please say and spell your name for the record. If you have any copies or exhibits to share with the committee, please let us know and we'll have the pages grab them. We need ten copies of that and if you need copies made, we'll get that done too. We won't have any time limit on testimony, but we do expect that everybody be concise and efficient with their words. Try not to repeat anything that anybody else has said, but do take the time to testify if you feel you want to. But if you don't want to testify but you still want to indicate your position on a bill, we have a sheet over there to sign up and tell us whether you are for or against the bill and that sits there as well. And with that, we will

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go ahead and get started with LB673, Senator Chambers' bill. Senator Chambers, you're welcome to open on your bill. Could I have a show of hands of how many people plan on testifying on LB673? Okay, very good. Thank you. Senator Chambers, it's all yours.

SENATOR CHAMBERS: Thank you. Mr. Chairman and members of the committee and for the record, I'm Ernie Chambers. I represent the 11th Legislative District in Omaha. I'm very cognizant of the weather, so I'm going to be concise also because people have to try to make arrangements one way or the other. What this bill does is to repeal what's known as that...the slaughter of prairie dogs, I think. Oh, Black-Tailed Prairie Dog Management Act. I'm surprised that this bill even became law when it did. Had I been here, it would not have happened. One of the big things that troubles me about it, in addition to what happens to the animals, let me take it a step at a time. This hit and miss method of saying that a certain species of animal is to be managed is contrary to every scientific principle that could be imagined. There are some neighbors who might have dogs encroaching on their land, but they don't want to rat out their neighbor. They don't want to get into that. So you have somebody else who may not get along well with the neighbor, and you have the conflict. So this is not a management bill. That's the kind of name that was put on it to take away from it how bad it really is for the ecology and the overall welfare of this state. These animals interact with others. They are a food source for some, there are things that they do that are beneficial to the overall ecology. They are a native animal, cattle are an invasive species, and everybody knows that. But the thing that surprised me, and people agreeing to this, is the right for the government to enter on people's land and do what they think is necessary under the circumstances described. They cannot be made liable for trespass, damage to the property, damage to crops, or any other thing. So it is not a good bill for a number of reasons and they are all substantive. I mentioned how I think it does not play into what could, by any stretch of the imagination, be considered a management program in the ordinary sense of that term. The entering in upon people's land is very distressing to me and even when they had bills for certain game wardens could enter people's land, I was opposed to that and it didn't have anything to do with prairie dogs. There are just some lines that I think should not be crossed unless you're going to go through certain legal procedures that will protect the landowner. Even somebody committed...I meant, accused of a bad offense has certain rights when the government is going to make a contact with that person. This process that people go through is so complicated. What I was going to do--except in the interest of time, I won't--is just go through all of the steps that are involved. The costs that can be levied. If they...the county ceases the program, if there are any outstanding charges, they can continue to try to collect them and liens can be placed against your property, just because of these little animals and somebody got upset. Ultimately, you can go to court after all of this. The courts can never be closed to anybody who has got a grievance. If I am using my land in a way that it impinges on the right of somebody in adjoining property, they can go to court, and see if under the rules of law that relates to me using my property in conjunction with how somebody else is

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allowed to enjoy their property, the court provides a remedy. This cannot prevent you from going to court if you're the one who is complaining or you're the one complained against. So since the court would be the ultimate destination anyway, all of this, I think, is a hoax. I think there were some people who just wanted to get rid of prairie dogs and that's why this law came into being. I think I've covered rapidly what I wanted to and that's why some of my comments may have seemed particularly blunt, because I didn't want to take the time to smooth them out and be diplomatic because I said I wouldn't take a lot of time. But if you have any questions, I will answer them if I'm able. [LB673]

SENATOR SCHILZ: Thank you, Senator Chambers. Any questions for Senator Chambers? Seeing none, thank you for your testimony. Thank you for your opening. [LB673]

SENATOR CHAMBERS: Thank you. [LB673]

SENATOR SCHILZ: At this time we'll take proponents to LB673, so the first one, if you'd step up and state your name and spell it, and we'll be off. [LB673]

JAREL VINDUSKA: Okay. Senator Schilz, members of the Ag Committee, my name is Jarel Vinduska, spelled J-a-r-e-l, Vinduska is spelled V-i-n-d-u-s-k-a. I'm here representing myself and also the Nebraska Wildlife Federation in which I'm a board member of. We're here supporting LB673 and we want to thank Senator Chambers for bringing this forward because, frankly, I'm surprised in today's world that this prairie dog management bill even passed because...I don't know how you can frame it any other way, but it's an embarrassment for Nebraska. If you look around the world today, you see wildlife species all over the world imperiled. And we live in an agricultural state and one of the states that probably, of the United States, that's most intensively managed for the benefit of humans to produce agricultural commodities, which is fine. But as a result, most of the natural world is gone in Nebraska of the natural ecosystem. So these little remnant pieces that we have left, I think it is imperative that we take a hard look when we pass something like this Prairie Dog Management bill and see what we're actually saying by this. What are we saying? We're saying that a native animal must be controlled on a person's property. We don't do that for any other animal in the state. It doesn't make any sense. Why...if a landowner right now has the ability if these animals cross over into their land and try to establish a colony, they're perfectly within their rights to kill all of them they want. By making this law, we've made it so effectively we're telling a landowner that we're usurping what he can do on his own private property. Because wildlife doesn't know any boundaries and we don't apply that standard to any other wildlife, why should we do it with prairie dogs? Because effectively, what we're saying is if a prairie dog crosses a boundary and offends a neighbor, how far back from the boundary do we...is that guy required to kill them? I mean, is it a half of a mile, a mile? How far back? Because they will move, they will continue to leave. So why shouldn't the standard be the property line? That is the only logical standard if they cross over and

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this guy doesn't like them, then kill them. So really, you know, from multiple standpoints, this should have never been made law. And I hope you, like we do, feel that it is an insult to proper wildlife management and that you do everything in your power to advance this forward and do what you can to make sure we end this atrocity. Because think about it, think about it, we've got...we as a country have spent millions and millions of dollars trying to bring black-footed ferrets from the brink of extinction. We've...even in South Dakota and places where we've let a few of them go to try to get them established again, the federal government has been paying \$12.50 an acre for people that will accommodate prairie dogs on their land. And yet here, at one point we're spending millions to try to bring an animal that totally depends on prairie dogs, and we're spending money to keep prairie dogs on the land, and then here in Nebraska we're doing just the opposite. We're saying somebody can complain, you have to get rid of them. It just doesn't make any sense. So I'd appreciate your help in ending this nonsense. Thank you. You got any questions? [LB673]

SENATOR SCHILZ: Thank you, sir. Any questions? Seeing none, thank you for your...is that a question? (Clapping) Excuse me sir, excuse me sir, I'm sorry but we don't allow any sort of outburst of support or disapproval of any bill, so I would appreciate it. Thank you very much. Welcome. [LB673]

BUFFALO BRUCE McINTOSH: Welcome. And thank you, Senator Schilz and committee members. This is to hand out and this is this. Thank you. I only have nine copies, I'm sorry. I'm going to read a letter from Rachel, a colleague... [LB673]

SENATOR SCHILZ: Can I get your name and spell it, please? [LB673]

BUFFALO BRUCE McINTOSH: (Exhibit 1) Buffalo Bruce McIntosh, M-c-l-n-t-o-s-h, from Chadron, Nebraska. This is a letter from Rachel Simpson, colleague and friend, who works for the Game and Parks Commission. She collects data...she records data in the Heritage...for the Heritage Program and so she's quite aware of many species that rely upon the prairie dog system: I'm writing to express my support for LB673, which would repeal the Black-Tailed Prairie Dog Management Act. The act authorized county governments to require that a landowner prevent the expansion of black-tailed prairie dog colonies to adjacent property if the owner of the adjacent property objects to such expansion. The model for the law was the noxious weed law. In the case of noxious weeds, the outcome universally recognized to be for the public good is to eliminate all noxious weeds, both individuals and entire populations, from the state. The noxious weed law is an inappropriate model, because the black-tailed prairie dog is a native, keystone species in the shortgrass prairie ecosystem. It is far from universally accepted to be for the public good to eliminate a prairie dog individual or a colony...a colony, or any amount of prairie dog habitat, from a property whose owner objects. It is far from universally accepted to be for the public good to authorize county officials to go uninvited onto a person's property to investigate a complaint about a native wildlife

species. It is not universally acceptable for county officials to go uninvited onto a person's property to poison animals or destroy their habitat and then to bill the landowner for the costs. Yet the Black-Tailed Prairie Dog Management Act has legalized all of these just in Nebraska, nationwide also. Because the model is the noxious weed law, the prairie dog law identifies no lower limit on the size to which colonies need to be reduced, no limit on how far away an offending colony can be to trigger a legitimate complaint, and no upper limit on the number of colonies or landowners, targeted in a county. Because the model is the noxious weed law, there is no standard for proving whose property an offending prairie dog came from. This is a big part. We can't prove where the dog came from. They travel quite a bit. By not setting limits, there is no way to prevent overzealous actions by county officials or weed control agents. Finally, the mere existence of the state law contributes to the already serious intimidation of people who have prairie dogs. A lot of folks have prairie dogs knowing the benefits for the beneficial of the system. This is analogous to the noxious weed law, which works through peer pressure to conform as much as it does through fines. By carefully avoiding references to poisoning, the law could naively be read as possible to enforce without individual or population-level impacts. The connection was that all a landowner needed to do to be on the right side of the law was to keep the prairie dogs from leaving the premises. With their four legs, prairie dogs can walk from one property to another, even across vegetation barriers, roads, or plowed land. The argument that landowners would be able to prevent any one prairie dog from moving to their neighbors without elimination of entire colonies is flawed. Because a single animal can trigger a complaint, what landowner would feel comfortable keeping any prairie dogs instead of eliminating them? By keeping prairie dogs at all, he or she runs the risk of community censure and a county fine each subsequent year. The fact that Nebraska still has colonies shows that there are many citizens who do not think it worth the expense to eliminate prairie dogs, don't have the money, or have reasons of their own to want them on their own property. If you are one of these people, current state law tells you that your government holds your opinion in low regard. This contributes to the already hostile environment for these prairie dogs. The bill in 2012 was presented as a tool to be used sparingly. Here are a few examples, leaving out names in order to protect people's privacy, that illustrate how the effects of the law are farther reaching than a narrow reading of the law suggests. A landowner in the Sandhills had his colony poisoned not long after the state law was passed, out of fear of persecution from the law. This is not even in a county that had enacted the law. I know several who have done this. A landowner in central Nebraska who has prairie dogs and opposed the bill publicly received quite a bit of heat as a result. The government's prior standing with those who do not want prairie dogs emboldens people who intimidate those with prairie dogs. A county weed control agent whose responsibilities would with passage of a county law, include prairie dog control said that it is not practical to restrict the use of poison to the fence line, because the colony would still be able to recover. Instead, the agent said that the entire colony needs to be poisoned regardless of the distance from the neighbor. The weed control agent said that the hope was that no one would need to

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be cited by the county because once the law was passed, people throughout the county would take it upon themselves to come to him to control their prairie dogs. This is a far cry from the narrow application of the law that was presented to the legislators. Okay. Yeah, this isn't so much of a property rights issue and it may never be implemented. We don't know. So far Sheridan County is the only county that I know of who has got together a panel and group to do this. I want to relate a story that another colleague of mine, Jonathan Sharps, he's a retired biologist for the National Forest Service, he took out a reporter to the Smithsonian magazine to show him some prairie dog communities in the state of Wyoming. At the end of the day, the reporter asked the...I mean, yeah, the reporter asked the biologist, he said, if the grass grows sooner in the springtime and grows later into the fall in the prairie dog community, it always comes up more forage and the cattle don't break their legs in the prairie dog holes, why do ranchers hate them? And his answer was instant. He said, prejudice is hard to change. And that was...appeared in the Smithsonian. It is hard to change being prejudice on issues like this. Any questions? [LB673]

SENATOR SCHILZ: Thank you, sir. Any questions? [LB673]

SENATOR LATHROP: Can I ask just a couple? [LB673]

SENATOR SCHILZ: Yes, Senator Lathrop. [LB673]

SENATOR LATHROP: Do I understand from your testimony, do you want them to not have control, no control over the prairie dog population? Or you just want to stop the use of shooting them as a management tool? [LB673]

BUFFALO BRUCE McINTOSH: I never heard of shooting them as management. What are you talking about? This is not...this doesn't have to do with shooting them as a management tool. [LB673]

SENATOR LATHROP: You just want to have no one do anything with the prairie dogs and let them go roam wherever they want? [LB673]

BUFFALO BRUCE McINTOSH: Every... [LB673]

SENATOR LATHROP: I'm trying to understand your testimony. I don't have an agenda here. [LB673]

BUFFALO BRUCE McINTOSH: Every landowner...landowners have the right to poison and shoot them and control them now. That's fine. [LB673]

SENATOR LATHROP: You don't have a problem with that? [LB673]

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BUFFALO BRUCE McINTOSH: No. They can control them all they want on private property. They're allowed to. [LB673]

SENATOR LATHROP: Okay. [LB673]

BUFFALO BRUCE McINTOSH: And this bill, though, goes way beyond that. Trespass and private property rights is a big issue with this bill. [LB673]

SENATOR LATHROP: So the fact that they're being treated in the bill that was passed a couple of years ago, like weeds, for example, controlling the noxious weeds, that's what you object to. [LB673]

BUFFALO BRUCE McINTOSH: Yes, and even the thought of this bill when Nebraska, like I mentioned before, we are the only state in the nation that the state of Nebraska is not involved in this compact to create plans to make sure the prairie dog doesn't go extinct, and the species related to it. The health of the shortgrass prairie is read by how healthy the prairie dog community is. [LB673]

SENATOR LATHROP: Okay. [LB673]

BUFFALO BRUCE McINTOSH: The example of that is the only nest...ferruginous hawk nest in Sheridan County is on a lady's land, who...she doesn't poison the prairie dogs. They have to have healthy...there should be 100 hawk nests in that county. [LB673]

SENATOR LATHROP: I just...thank you. I appreciate that. I just wanted to understand your position. [LB673]

BUFFALO BRUCE McINTOSH: Okay. [LB673]

SENATOR SCHILZ: Any other questions? Senator Johnson. [LB673]

SENATOR JOHNSON: Yeah, again, a point of clarification. You mentioned certain counties have approved this. [LB673]

BUFFALO BRUCE McINTOSH: One county, that I know of. [LB673]

SENATOR JOHNSON: Okay. Okay, the one county, Sheridan County, I believe...okay. [LB673]

BUFFALO BRUCE McINTOSH: Yes. [LB673]

SENATOR JOHNSON: So in that county the U.S. government has the authority to do what the law says, without asking any questions to go out and kill all prairie dogs?

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[LB673]

BUFFALO BRUCE McINTOSH: Well, if it's...if...they have to go by the standards within the bill and within their plan. The complaint has to be filed and there's a process and the federal agent can go and trespass on somebody's property and poison, yes. [LB673]

SENATOR JOHNSON: So there's a complaint filed so that means somebody must want a prairie dog colony killed, eradicated? [LB673]

BUFFALO BRUCE McINTOSH: They haven't done it yet. They haven't... [LB673]

SENATOR JOHNSON: But they could. [LB673]

BUFFALO BRUCE McINTOSH: Yes. It's trespass, yeah. Well, it wouldn't be called trespass, but... [LB673]

SENATOR CHAMBERS: And maybe I can help bring a little clarity, but the point I was making if property owner (a) wants to keep prairie dogs on his or her property, and property owner (b) doesn't like prairie dogs and says, a prairie dog came on my property, then that triggers all of this action. And if it's determined that a prairie dog was over here, then they can go on property owner (a) who wants to keep the dogs, and kill every colony on that land. Doing it near the fence, the property line is not enough. They say the prairie dogs move, therefore, we want the entire colony here and any others on the land to be eradicated. And that's what I was trying to emphasize. And I probably went too fast in explaining why it was peculiar to me that Nebraskans who do so much talk about wanting their property protected, would go for something like this where somebody can complain about what's on your property and cause everything that you want on your property to be destroyed because they filed a complaint. [LB673]

BUFFALO BRUCE McINTOSH: And the health of the shortgrass prairie is measured by the health of the prairie dog systems, because the more birds within the system than outside the systems, and much more forage, but of course the prairie dogs eat some. But it's what the nutrient base within that community with the millions of more mites and nematodes, raising the grass faster. And it's much healthier, the grass grows faster, much faster by all studies. [LB673]

SENATOR SCHILZ: Thank you. Any other questions? Sir, thank you for your testimony today. [LB673]

BUFFALO BRUCE McINTOSH: Thank you. [LB673]

SENATOR SCHILZ: Appreciate it. Next proponent. Good afternoon. Welcome. [LB673]

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PATRICIA FULLER: Good afternoon. Thank you. My name is Patricia Fuller, F-u-l-l-e-r. There seems to be a lot of similarity between this bill and the cougar hunting bill. They're both called management bills but they seem to be more about eradication. Both of these species that we've talked about are keystone species that serve an important ecological function that I feel is totally ignored. Prairie dog colonies are clearly important for their contribution to both the short and mixed grass prairies. By 1960, an estimated 98 percent of prairie dog acreage had already been destroyed. Over 200 species have been observed on or near prairie dog colonies. There is a greater abundance of grassland birds where colonies exist. Among prairie dog colonies you'll find such things as brewing owls, ferruginous hawks, golden eagles, black-tailed jackrabbits, black-footed ferrets. When prairie dogs are poisoned, and I think that's the technique they're going to use here rather than shooting, death may take as long as three weeks and they become prey or scavenged by predators such as bald eagles, golden eagles, ferruginous hawks, swift foxes and badgers. And all of those in turn are killed. Forcing eradication of prairie dogs on private land where containment measures have been installed seems unreasonable and unduly burdensome on landowners and contradictory to conservation of imperiled species. I guess what we're wondering, is it even constitutional to force a private citizen to eradicate a native species at their expense and against their will. One example is, Kansas where reintroduction has been successful. They've erected miles of specially designed fence as well as electric fences to discourage dispersal of prairie dogs into surrounding pastures. Also vegetative barriers resulting in taller vegetation has been demonstrated to a discouraged prairie dog colony expansion. I think both this bill and the cougar hunting bill, obviously need to be repealed because I feel it will set Nebraska back to an outdated mind-set when healthy wildlife and healthy lands are not valued. Questions? [LB673]

SENATOR WALLMAN: Anybody have questions? Thank you, ma'am. [LB673]

PATRICIA FULLER: Thank you. [LB673]

SENATOR SCHILZ: Welcome. [LB673]

ANGELIKA T.L. BYORTH: (Exhibit 2) Hi. My name is Angelika T.L. Byorth. I live at 3027 Plymouth Avenue, Lincoln, Nebraska, 68502. My phone is 402-450-4024. I'm testifying as an individual concerned citizen who is not affiliated with any organization. [LB673]

SENATOR SCHILZ: Ma'am, excuse me. Ma'am, ma'am, excuse me. Could you please say and spell your name, please? Could you spell your name for us, please? [LB673]

ANGELIKA T.L. BYORTH: Oh, yeah. Oh, I'm sorry. I'm sorry. [LB673]

SENATOR SCHILZ: That's okay. No problem. [LB673]

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ANGELIKA T.L. BYORTH: Okay. My name spells A-n-g-e-l-i-k-a, middle initial T, middle initial L, last name, B-y-o-r-t-h. I'm testifying as an individual concerned citizen who is not affiliated with any organization. Please enter my testimony into the record as for LB673 which is Senator Chambers bill to repeal the Black-Tailed Prairie Dog Management Act. When I immigrated from Germany to Nebraska in 1972 and saw my first prairie dog colony and other native wildlife in western Nebraska, I was smitten. I felt as though I had walked straight into the mythical Garden of Eden. I cannot understand why the black-tailed prairie dog is by law treated as if he were a weed in need of being poisoned and killed. He is not only cute for tourists to look at, but also a very needed keystone species that serves as food for native Nebraska predators. As a real estate broker who has been in business for 30 years, I take offense at the law giving local government officials the right to go on private landowners' property and poison the prairie dogs if the landowner refused to do it himself. And adding insult to injury, the law authorizes these government officials to bill landowners who care about nature for this forced euthanasia of native animals. During the first five years of my life, I lived in communist-controlled totalitarian East Germany. I remember how police would enter my family's home without a warrant to make sure we were not watching West German TV. If caught, we were threatened with deportation to work camps in Siberia. Because of this early experience and because of my working in the real estate business, I am extremely concerned about government overreach into landowners' private properties. The present law needs to be repealed in a country like the USA that takes pride in personal freedom. Any questions? [LB673]

SENATOR SCHILZ: Thank you, ma'am. Any questions? Seeing none, thank you for your testimony today. Next proponent. Welcome, Mr. Hansen. [LB673]

JOHN HANSEN: Good afternoon. For the record, my name is John Hansen, J-o-h-n, Hansen, H-a-n-s-e-n. I am the president of Nebraska Farmers Union and I appear before you today as both their president and their lobbyist. The prairie dog management issue is one that has consumed enormous amounts of time down through the years during my stint as president. And we've been involved and engaged in joint efforts on the part of the ag and the environmental community to come to some middle ground on how to manage black-tailed prairie dogs, and I would tell you that my experience would indicate that there doesn't seem to be a lot of neutrals on the issue of prairie dogs. The folks that are for them are passionately for them and the folks that are against them are passionately against them. So the principles that we've used as we engaged have been developed in order to try to come to that middle ground. And as we've done that, the importance of being able to appreciate and respect the will of landowners has been one of our premises. And that allows folks who want them to have them, and the folks who don't, to not have them. And so the reason that we're in support of LB673 is the same reason we were not in support of the efforts previously to establish the law which LB673 seeks to repeal because in our opinion, it puts county governments and landowners both in an extremely awkward situation that both would be better served to avoid. And

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that we think that the current law, if it were more fully implemented, would do nothing but cause more hard feelings and cause, I think, some more liability for counties. So for those reasons, we think that the public interest and the private property rights of landowners and the management system that exists without it all trump the current law. So with that, I would end my testimony and be glad to answer any questions if I might do so. [LB673]

SENATOR SCHILZ: Thank you, Mr. Hansen. Any questions? Seeing none, thank you for your testimony. Appreciate it. [LB673]

JOHN HANSEN: Thank you very much. [LB673]

SENATOR SCHILZ: (Exhibits 3, 4, 5, 6, 7) Next proponent. Seeing none, we have two letters of support, one from Rachel Simpson from Lincoln, and the other one from the Humane Society of the United States. And with that we will move to opponents. Do we have any opponents to testify today on the bill? Seeing no opponents, we have one, two, three letters in opposition. One is from the Nebraska Cattlemen, the president Jeff Rudolph; one is from Jack Andersen, Sheridan County Commissioner; and the last one is from Larry Dix from the Nebraska Association of County Officials. Do we have any neutral testifiers? Anyone testifying neutral? Welcome. [LB673]

SCOTT TAYLOR: Thank you, Mr. Chairman, members of the committee. My name is Scott Taylor, S-c-o-t-t T-a-y-l-o-r. I'm the Wildlife Division Administrator for the Nebraska Game and Parks Commission and I'm testifying on behalf of the commission this afternoon. The commission holds a neutral position regarding LB673. Management of prairie dogs is a balancing act among the needs of our native prairie species and the needs of landowners and livestock producers in Nebraska. Our agency values prairie dogs and the important role they play as native keystone species that many other native prairie species depend upon. They are an important prey species for a number of native predators, including golden eagles and state endangered swift foxes. Their burrow systems also create important habitat and escape cover for other species in need of conservation such as burrowing owls and mountain plovers. The commission also recognizes that prairie dogs can cause serious problems for ranchers and livestock producers and can require significant cost to control. Prairie dog colonies often spread over time and can create conflicts between neighboring property owners who may or may not want prairie dogs on their property. In light of the balancing act between perpetuation and management of prairie dogs, and the expense of private landowners for their control, our agency holds a neutral position on LB673. On behalf of the commission, I would like to thank you for your consideration of our position and would be happy to answer any questions. [LB673]

SENATOR SCHILZ: Thank you, Mr. Taylor. Any questions for Mr. Taylor? Seeing none, thank you for your testimony. Appreciate it. Any other neutral testimony today? Okay,

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seeing that, Senator Chambers, would you like to close? [LB673]

SENATOR CHAMBERS: Briefly. Once again, I'm Ernie Chambers, I'm introducer of the bill. I do appreciate those who came to testify. And because there's not much time that I intend to take, I've got a lady that I bring from Omaha so I've got to make a way to get her back safely to Omaha. This bill that I'm bringing really could be called a property owner's rights bill. If I have my property here and I don't want prairie dogs, and you want them on your property, any that come on my property I can address that anyway that I choose without messing with your property. The way the bill...the law is written, anybody whom the county deems necessary to go on to this other person's property the complainer has complained against, go on to his or her property, they're not liable for trespass, they're not liable for damage, they're not liable to damage to growing crops. And to put this kind of almost blanket immunity indicates that they are going to do some things that are very destructive of property. Even if you say they're only going to poison, I think that's horrendous, not just because of the amount of time it takes for the animals to die, but as has been pointed out, even by the neutral speaker from Game and Parks, these are prey animals. Other animals consume them. If you eat that which is poisoned, you die also. This is not about managing prairie dogs. It's about creating Hatfield-McCoy type confusion. Neighbors can rat out neighbors. And as Mr. Hansen pointed out, if the law as it exists now were acted on to a greater extent than it is now, you would have much more in the way of contention, squabbles, and maybe physical conflicts between property owners and action taken against county officials who are involved in this. This can be nipped in the bud. Repeal this law and let people handle their own property the way they choose. And if they think that there's so much of an incursion from the neighbor's property, take it to court and let them each get their experts, get the testifiers, and let the court determine what is the nature of the damage, what is the extent of the damage, and how it should be rectified. And that's all that I will say. [LB673]

SENATOR SCHILZ: Thank you, Senator Chambers. Any final questions for Senator Chambers? [LB673]

SENATOR LATHROP: Oh, maybe just one observation. [LB673]

SENATOR SCHILZ: Sure. [LB673]

SENATOR LATHROP: As I look at this, whatever the system is that permits this going on to somebody else's property, it will still happen with all these other species listed here, just won't happen with the prairie dog, the way the bill is written. [LB673]

SENATOR CHAMBERS: It doesn't affect other species, because nobody owns wild animals. If deer leave your property and run on somebody else's property, they can't come after you. [LB673]

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SENATOR LATHROP: Your bill, though, it...and I'm just looking at what's in the bill. It lists other species like coyotes and foxes and things like that. [LB673]

SENATOR CHAMBERS: Well, I don't know what they say specifically about them, but what I'm talking about is the specific series of statutes and you can have these and I can get additional ones. [LB673]

SENATOR LATHROP: Okay. Maybe that's what I need to look at. [LB673]

SENATOR CHAMBERS: And it creates a system for dealing only with prairie dogs. They're the only ones dealt with in this manner. [LB673]

SENATOR LATHROP: All right. One more question for you. Do you think the constitutional amendment on hunting makes the use of poison unconstitutional? [LB673]

SENATOR CHAMBERS: I'm really not sure. I hadn't even thought of it, but now that you give me something to think about, I will. (Laughter) [LB673]

SENATOR LATHROP: I mean, if you look at it , I think that the constitutional amendment says that the hunting is the preferred management or that's what we need to be doing, and anyway. [LB673]

SENATOR CHAMBERS: And since...oh, if you don't have questions, it's not that I don't want to hear the rest of the testimony, I've got to try to get to Omaha or make some kind of arrangements. If it was just me, that would be one thing, but I'm responsible for somebody else today. So, if you all will excuse me, then I'm going to leave now. Thank you. [LB673]

SENATOR SCHILZ: No problem if there's no further questions for Senator Chambers. Thank you, sir, very much. That will close the hearing on LB673, and at this time we will move, and I want to do things...I see Senator Haar is here. We are going to go ahead on this one and put the testimony for both of these bills together. And to help avoid the confusion and record your position on either or both bills, when you fill out your testifier's sheet...well, let me wait until people clear out. We'll give them a second. Okay, let me just go through a little housekeeping here. When you fill out your testifier sheet, please indicate your position, if you're proponent, opponent, or neutral, on both bills on that one sheet if you plan to speak to both in your testimony. If you're here to speak to only one bill, please only indicate that position on the testifier sheet then. And then we'll take Senator Haar's introductory statement for both bills first, and then we'll depart somewhat from the normal order of testimony. And at the conclusion of Senator Haar's introduction, I'll ask witnesses wishing to speak either or both...either...for either or both bills to come forward. And when you begin your testimony, please state if you'll speak to one bill or both and your position. And with that, I'll turn it over to Senator Haar for the

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introduction. Thanks, sir. And I think we'll start with LB882. I think that's the one you've got. [LB882 LB1008]

SENATOR HAAR: (Exhibit 3) Thank you very much, Chairman Schilz and members of the committee. Just vote yes. (Laughter) What I want to do, I want to take a little time today. When we talked about this a year ago, it sort of revolved around, do you believe in climate change? And I put a ton of thought into that and today I'm going to talk--you know what you believe is up to you--but I'm going to go through the science of climate change with you. And I've prepared, basically, a power point here and I'd encourage you to follow through. And we'll go through this quickly. Now I'm going to give kind of a general overview of climate change, the science of climate change, and then there are some real experts here that you ask the tough questions for, like, well, what about the cooling in the 1970s and what about this cold winter, and do all scientists agree? Those kinds of things. We have some experts that can speak to those. Page 2, it's really important to understand climate versus weather, and this is right from Martha Shulski who runs one of the centers at UNL. Climate tells you what sort of clothes to have in your closet, weather tells you what to wear on a particular day. Science is basically, on page 3, comes out of this rather human part of us. We observe things, then we try to explain what we observe, and based on that, we predict. That's exactly what science is. Science is always a work in progress. It observes nature, formulates explanations, and makes predictions. And it's really important to say these next two things. Science does not prove anything absolutely. It's always a work in progress. And scientific predictions always contain uncertainties. So what do scientists observe? And usually we've heard about global warming and warming of the atmosphere. And so I want to run through, and I'm not going to read through these in detail, but these are basically from the National Oceanic and Administrative...Atmospheric Administration. Eleven indicators of a warming climate: The first one is temperature. The global surface temperature has risen 1.6 degrees over roughly the past century. Again you notice there is a slight dip in there. You might want to ask one of our climate scientists about that. Shifting seasons: Nebraska, for example, in 1990, half of Nebraska was in hort. zone 5 and half in hort. zone 4. If you've done any planning, you refer to those. As of 2012, 95 percent of Nebraska is in hort. zone 5. In other words, we have warmer planting seasons. Page 6: There's more water vapor in the atmosphere and, of course, if you have more water vapor in the atmosphere when it hits cold air, you get severe precipitation events. Glaciers and ice sheets: Glacier National Park once had 150 glaciers. It's now down to 25 and some people are predicting by 2020, there may be no glaciers in Glacier National Park. They're not sure what we're going to call it. Snow cover: Here's one that really is important to us. The average spring northern hemisphere snow cover has decreased. And this goes from 1967 on the left, each one of those bars is a year. There's some ups and downs, but the snow cover is generally decreasing and we get our water, primarily, from melting snow from the Rocky Mountains. Arctic sea loss is happening. Permafrost: Permafrost is basically up in Siberia and Alaska, and it's soil that's at or below freezing for two or more years. Permafrost is melting. Buildings are

starting to sink into the permafrost. Roads are degrading because what was once solid is no longer solid. And one of the main problems there is that as permafrost melts, it gives out methane and carbon dioxide which are trapped in the permafrost. Both of those are greenhouse gases. Sea level rise: And this interested me when I first read it too. The average sea level has risen 7.5 inches over the past century, 7.5 inches. Sea surface temperature is increasing, and then on the right hand side on page 9, the ocean heat content, and this is where most of the excess heat in the atmosphere goes, ocean heat content is increasing. And finally, one of the eleven indicators is the ocean is becoming more acidic. As you take carbon dioxide and you mix it with water, you get acetic acid. And that affects much of the marine life. And if you look at the first paragraph on page 10, it says, human society has developed for thousands of years under one climatic state, and now a new set of climatic conditions are taking shape. So what's the scientific hypothesis? Those are basically facts. Very few people...very few people anywhere are arguing over those eleven indicators. So what's the explanation? The explanation that science is giving us is that heat-trapping CO₂ from human activity is the main forcing for our warming climate. And I talked to one of the climatologists here and I said, well, what percent of climatologists agree with this hypothesis. And he said, well, 97 percent and maybe 3 are skeptics, 3 percent. Page 12, CO₂ helps warm the world. That's a scientific fact. It's a greenhouse gas. And if you look at page 13, our atmospheric temperature is driven by a delicate balance of factors. The greenhouse gases. Actually the main greenhouse gas that's kept our planet warm over the many decades and centuries, is water vapor. And then CO₂, methane, ozone. There are also influences from variation in solar energy that reaches your surface; the solar intensity, changes in the earth's orbit, and the tilt of the earth's axis. And aerosols: Volcanic eruptions are the biggest aerosols, except we have added the man-made ones like sulfur dioxide and soot. And the aerosols actually cool the atmosphere. Cloud cover is an important thing. It depends on how much radiation gets reflected. And finally, changes in the reflectivity of the earth's surface. A new word for me, "albedo." And here's where ice and snow really come in as well because ice and snow reflect heat. The less ice and snow we have, the more heat is trapped in the atmosphere. Page 14, humans are upsetting the balance. Since the beginning of the industrial revolution, our industrial economy has dumped--well, there are several ways to say this--1,543 billion extra tons of CO₂ into the atmosphere. And since I'm a number's geek, I tried to put that in some perspective and it turns out that if every person on this planet had 110 cars, that's the weight of the CO₂ that we've put into the atmosphere since the industrial revolution. A parking lot for all those cars would take up the whole western United States from the Mississippi River to the Pacific Ocean with no room in-between. So that now, page 15, since 1750, the concentration of CO₂ has increased by a dramatic 40 percent, it's highest level in 600,000 years. And that graph on the right shows...and this is from cores in ice samples from the Antarctic and so on. We have a good idea of what the CO₂ concentration, and just in that last part, you can see how we've departed from what's been a normal, even in the cycles of CO₂. Page 16 is my analogy adding all the extra thermal energy to the atmosphere is like loading children up with sugar. Kids get

hyper, they get frenetic, and that's what's happening when we put all this extra thermal energy from burning 15,000 billion tons of extra CO₂ into the atmosphere. Page 17 is really important in understanding the science. Scientists test their hypothesis in climate with complex computer models. And this is an actual one that was run at U.S. National Center for Atmospheric Research and this is not a prediction. This is based on existing data. There were four computer model simulations. The blue line shows only natural agents of climate change, like volcanic eruptions and solar. The red line shows those same factors, but factors in human influence, and the black line shows the real world temperature. There's no way with computer modeling to reproduce the most recent warming trend unless it includes greenhouse gases. There just is none. So what do computer models predict for Nebraska? Here's where agriculture comes in, folks. The average temperature rise of 5 degrees by 2050. My children will probably still be alive by 2050 and certainly my grandchildren. A rise of 8 degrees Fahrenheit by 2090. My grandchildren will perhaps be alive. I'm not even going to make mid-century, but this is kind of frightening stuff. Increasing the intensity of severe weather events. Higher highs and lower lows. And then this last one, less snowpack in the Rocky Mountains. These are predictions. And here again, if you look at the science of climate change, the greatest uncertainty comes in the predictions. So there are people who might argue with those predictions, but those are some of the best predictions right now. Society's response and that's where we come in: Some people just deny it, although the number of deniers is way down, just saying...there is no global warming, human's aren't a part of it, and nothings going to change. There are very few deniers even among...well, one group I'll mention because we got mentioned, (laugh) we got mentioned in the publication of the Heartland Institute. The Heartland Institute is generally what I would call fairly right-wing and we got an article in that. And even in that article the scientist said, who is pretty critical, but said, you know, yeah, we have to take human influence into account. And then there's, you know, some actually say, it's going to be positive. Nebraska is going to be warmer by 5 to 10 degrees. Our real estate may be worth more as people from the coast have to move off the coastline because of rising sea levels. Some consider it a mild danger, and some of us consider it a severe danger to the future. Page 20. What we must do, I believe, and that's what my bill has been about all along, get the best information. What does science tell us about climate change? I guess what everybody wants to believe about science change is their own business, but what does science tell us? And then we have to begin to plan on how to adapt. If indeed the temperature is 5 degrees higher by mid-century, we're going to have to adapt as an ag state. Certainly, if it's higher by 10 degrees by the end of the century, we're going to have to adapt. And then the ways, of course, of cutting greenhouse gas emissions: energy efficiency, wean ourselves off of fossil fuels, renewables. I believe we're going to need nuclear as part of that. Fund research, and then the old, reuse, reduce, and recycle. And then for me it is an emotional issue. Page 21, that's my family. And those three children that I have circled, Alicia on the left is now a sixth-grader. She will see the mid-century, maybe the end of the century. Jennie is going to University of Chicago next year. She's been accepted. She will be a part of our climate future. And Andrew is now

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just started as a freshman at Lincoln High School. This is really a question for all generations and for our planning. So I appreciate your taking the time to look at this with me because this is the science. And again, you can deny it if you wish or judge it as you wish. I've also handed out...this comes from the Extension Division. This is by Martha Shulski, the director of the High Plains Regional Climate Center. Some of the stuff in this power point comes from Martha. And so, now to the bill. As you are aware, last year we passed a bill. The Governor signed it. And in compromise we used the word "cyclical" climate change. And the CARC Committee decided that since we hadn't defined that well enough that that meant not to include human influence. And, of course, I hope you're aware that there was a flurry of editorials and letters to the editor. And UNL finally said, hey, we'll do the study. Don't pay us anything, we're going to do the study on a scientific basis. And the Governor agreed then. The Speaker and I wrote a letter to the Governor saying, please remove the funding from that committee and so there will be no public money spent on funding a separate study for a report. The new bills, first of all, LB1008 removes the requirement that contract for a study. That's the \$45,000 we did. The Speaker has said that if we pretty much agree on that, that that could be a consent calendar. We're just saying, you don't have to spend \$45,000 to do your own study. And LB882 doesn't remove the word "cyclical" but it adds these words "which shall include all climate forcings considered relevant by scientists, including human influence." And then it includes this: That CARC should accept reports from outside sources such as the university and use these reports when they prepare the final report required by LB583. So the requirement for that final report from the CARC Committee is still there, they don't have to spend \$45,000 to get another study done, but the final report in December is still due. I would simply say that in light of all that's gone on, if we...the report is still due and if we include this...or if we allow this idea to continue that that report will only include nonhuman influences, it's going to look pretty stupid. That final report in December is going to look pretty stupid. Senator Harms, I've already talked to him. He will use UNL's study in his planning committee and we're basically asking the CARC Committee here to do the same. They can...again they can include any other report, although it's getting harder and harder to find any report from any credible scientist saying that there is no human influence. So, two things again. LB1008 takes out the spending of the \$45,000; LB882 just says, hey, use what science finds relevant, which will be natural causing such as volcanos, and solar variation, but will also include human forces. And then finally, I'll just pass this around. UNL, they're...the school of Natural Resources, which is the College of Agricultural Sciences and Natural Resources is putting on a winter lecture series on climate change. The first one was held in January 26, and then there's one, two, three, four, five, six of them coming up. It's just coincidence that I will be speaking at one of them. So I'm going to pass those out. So thank you for your attention, and I'm more than happy to answer any questions you might have. [LB882 LB1008]

SENATOR SCHILZ: Thank you, Senator Hansen...or Senator Haar. Senator Hansen, you have a question? [LB882 LB1008]

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SENATOR HAAR: (Laugh) We look alike, so. [LB882 LB1008]

SENATOR SCHILZ: I'll get it straight. Yeah, yeah, it must be the hair. [LB882 LB1008]

SENATOR HANSEN: We sit close. The picture on page 6, and I don't have any idea where you got them. Those condensation trails from airplanes up there, is that a problem? Is that the problem in water vapor? Or is it the clouds? [LB882 LB1008]

SENATOR HAAR: The reading that I've done and I...let's ask that of...please ask that of one of the climatologists when they come up. [LB882 LB1008]

SENATOR HANSEN: Okay. Okay. [LB882 LB1008]

SENATOR HAAR: But the...there's a lot of uncertainty in this whole field right now, and the influence of aircraft and contrails and forming clouds is one of those areas that they're looking at. [LB882 LB1008]

SENATOR HANSEN: Okay. And then on page 8, I know you wanted it for effect but those two benches had to be on a lake because there's land on the other side and this looks like it should be out in the middle of the ocean. But if they raise so, do you have any idea of the origin of that picture? It's great effect, but it didn't even fool me. And thirdly, my last question was that of all the graphs and charts you have in here, then the (inaudible) and you say it's the fault of humans that all this is happening. There's no graph or charts or numbers in here about the total world population going up since Second World War, since 1700s, whenever it is. And certainly the economy is of some of the largest countries in the world, like China, that builds, you know...that doesn't have an EPA, that builds coal-fired plants one month or one week or whatever it is, and then comes over here and takes our coal plants. But I mean, some of those things, hopefully, will be in the big picture. The global population, I think, has a lot to do with this and then, you know, your economies are trying to keep up with each other. [LB882 LB1008]

SENATOR HAAR: Can I consider that a question and speak to it, a little to it? [LB882 LB1008]

SENATOR HANSEN: Yes, go ahead or as far as I'm concerned. [LB882 LB1008]

SENATOR HAAR: The picture of sea level rise, what I did is if you go to the resource, I quote this where it came from on page...it's really kind of neat, on page 4, the 11 indicators, it's an interactive look at the top 11 and you click on each...there's a nice graph, and you click on them, this is their picture. There are literally some islands in the Pacific now though that they're only inches above sea level and we keep seeing that rise. The other interesting thing I learned is that the North American continent is literally

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tipping. And so... [LB882 LB1008]

SENATOR HANSEN: From people, too many people? (Laughter) Too many buildings on the East Coast? [LB882 LB1008]

SENATOR HAAR: I think it's too many Democrats along the eastern...(Laughter). The eastern seaboard is actually tipping and so you'll find that the sea level rise some places along the East Coast is greater than it is along the West Coast, as much as 12 inches in some places, whereas, there are few places on the West Coast where actually you've seen a little bit of a decrease in the ocean level and it's because the continents are tipping. And then the thing of population, I agree with you. The number of people on this planet. It's only really recently, maybe the first reference I could get was maybe in the late 1800s where people even envisioned that we could be affecting our environment to the extent that we think it is now. Certainly the large number of people, as we've seen from pictures from...I was watching, something in Poland the other day while I was on my treadmill and the air was even worse than you see in China. You know, people could hardly see. So governments all over the world are looking at this whole thing of soot and pollution. I think by the time my grandkids hit 2050, we'll see a whole different world attitude about this. [LB882 LB1008]

SENATOR HANSEN: Well, living in western Nebraska, I come to Lincoln and I think it's polluted. And I go to Omaha and I think it's polluted. You go to Chicago and it's way polluted if the wind is not blowing. If the wind is blowing, it goes all away. But the metropolitan areas, and I'm not counting Omaha as even in the metropolitan area, but the bigger towns that would...it would really have an effect on me. I would probably be...feel more like you do. But living out in the...where the air is cleaner and the water is cleaner and the solution to pollution is dilution, in air and in water. [LB882 LB1008]

SENATOR HAAR: I have a good friend who is teaching in China and I forget the name of the city, but she's not going back because of that. She said every morning when they had the windows open, you could go to a...you know, by the window and run your finger and it was black with soot. [LB882 LB1008]

SENATOR HANSEN: Mr. Chairman, we can continue this conversation because we're seated next to each other. (Laughter) Thank you. Thank you for your patience. [LB882 LB1008]

SENATOR SCHILZ: Yes, Senator Bloomfield. [LB882 LB1008]

SENATOR BLOOMFIELD: Thank you, Mr. Chairman. Senator Haar on page 17 of your handout, you had the black line that shows the real world temperature. It looked like in this graph that it maxed probably in about '96, '97 and was headed down. Do you have any idea where that's gone in the last 15 years? [LB882 LB1008]

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SENATOR HAAR: As you can see in the last...on the...the average... [LB882 LB1008]

SENATOR BLOOMFIELD: I mean since '98, your chart stops at 2000. What's it done since '98 to 2000? [LB882 LB1008]

SENATOR HAAR: Oh, okay. Yeah, let's ask...if you'd ask that question to one of the climatologists, but the last few years have been some of the hottest on record, but they can give you more exact details. A very good question, though, yeah. [LB882 LB1008]

SENATOR BLOOMFIELD: Okay. Thank you. [LB882 LB1008]

SENATOR SCHILZ: Any other questions? Okay. Senator Haar, just before you go, I want to make sure that we understand each of these bills. So the first one, the one here...well, let's just take LB1008. Basically that bill is the one that is...I see that you don't...you don't have them do that initial report by September, but they have to have the final report by December 2014...or 2014. [LB882 LB1008]

SENATOR HAAR: That's correct. That's in the bill, yep. December 2014, yeah. [LB882 LB1008]

SENATOR SCHILZ: And then the other bill also references the same...is it the same report that it's referencing in LB882? Correct? Because the language is... [LB882 LB1008]

SENATOR HAAR: Yeah, the December report. And if we need to clean that up a little bit, we maybe need to do that. But both bills require the report in December of 2014 that talks about the impacts of climate change...of cyclical climate change, yeah. [LB882 LB1008]

SENATOR SCHILZ: And just to finish up here, just to clarify for everybody, what do you perceive would be the final product that comes out so that everybody understands here? When you've got that report, what...and maybe you've already explained it, but just for the record, could you just tell us exactly what you're looking for. [LB882 LB1008]

SENATOR HAAR: Yeah, what we're looking for that final...would be a final report where the CARC Committee from whatever sources, but includes those that are relevant to scientists, produces a report on the impacts of climate...of cyclical climate change in Nebraska, where cyclical includes human influence. [LB882 LB1008]

SENATOR SCHILZ: Okay. Great. Senator Johnson. [LB882 LB1008]

SENATOR JOHNSON: Maybe a little follow-up. So after that then, what do we do with

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that report? Do we put in legislation that's going to change and be more receptive to renewables and that, and we're going to get rid of fossil, or what do you...how do we move that report into reality and do something about it? [LB882 LB1008]

SENATOR HAAR: That's the politics. [LB882 LB1008]

SENATOR JOHNSON: That's scary. (Laughter) [LB882 LB1008]

SENATOR HAAR: Yeah, and that is absolutely the politics. I mean, this is my, like yours, we've got two and a half more years of this and depending on what that report looks like, and there may, you know, the CARC Committee could come out with legislation, you could come out, I could come out. We're simply...obviously, the CARC Committee is the world from an ag perspective and that's what I think the value of this will be. You know, looking at this through the eyes of agriculture, how is climate change going to impact Nebraska? [LB882 LB1008]

SENATOR JOHNSON: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Okay. Thank you. Seeing no further questions, thanks for helping. Will you be around to close? [LB882 LB1008]

SENATOR HAAR: Oh, yes. Thank you. [LB882 LB1008]

SENATOR SCHILZ: Thank you very much. At this point we will take the first...how many folks do we have going to testify as proponents? Okay. Thank you. We'll take the first proponent now. Welcome. And as I reminded you when we started, if you will please let us know what position you're taking on which bill, that would be very much appreciated. [LB882 LB1008]

ROBERT OGLESBY: Yes, I'm taking a position of proponent on both bills. My name is Robert Oglesby, O-g-l-e-s-b-y. I live here in Lincoln, Nebraska. I have a Ph.D. in climate science from Yale University. I'm a professor at University of Nebraska-Lincoln. Even though I am here testifying in behalf of myself, I am involved in the climate report that UNL is preparing. I wanted to talk to you briefly about the Nebraska regional climate change, but I'm also one of those climate experts that Senator Haar referred to, so if you have any questions like, for example, about water vapor, I can help you with that as well. Senator Haar referred to this to some extent, but I'll just go over it in a little more detail. Current projections are that due to increases in greenhouse gases as a result of human emissions, Nebraska will warm by 4 to 10 degrees Fahrenheit between now and the end of the century. Put another way, you could think of that as 7 degrees, plus or minus 3. That would be the range of uncertainty. Okay. So the exact amount of warming is uncertain, but it's already taking place. Projections for precipitation, rain and snow are much less clear. In fact, overall, here in the central plains, it looks like there will be little

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change projected for precipitation. I do remind you, however, that in a warmer world, even if precipitation stays the same, it translates to drier conditions, okay. But it's not local precipitation...that would be due to increased evaporative stress. It's not local precipitation that has me worried however. What keeps me awake at night is the reduced snowpack in the Rockies. This is both because all of the projections have reduced precipitation in the Rockies, but in addition to that with the warmer conditions, the mean rain/snow line will rise in elevation so that you'll get more wintertime precipitation as rain, and less as snow. I used to say that when you had rain, the problem with rain was, well, you know, it's now down to the Missouri in two weeks. With the big floods in Boulder last September proved me wrong. It took three weeks. Sorry, I guess I got that wrong. The point is, when it rains, it runs off very rapidly. What we need is that snowpack and that snowpack to slowly melt through the spring and early summer, otherwise the Platte River is going to be the Great Platte ditch. Okay. So that's the one that really has me worried. Now stream events are also likely to become more common. I loved Senator Haar's analogy of the sugar making the child more hyperactive. Okay. So droughts are likely to become more common. Heat waves are likely to become more common. Blizzards are likely to occur less often, but they're likely to be worse when they occur. And I've been keeping an eye out the window myself. Okay. Now another thing to note--I actually gave this testimony a year ago--this was prior to the latest series of Intergovernmental Panel on Climate Change, the IPCC reports that just came out. I didn't have to change anything in my testimony. All of these conclusions have changed very little between the previous IPCC reports and the one that was just released. One final note, okay, this has been talking about global warming due to the increase in greenhouse gases. Human activities local to Nebraska can also be important. In particular, the advent of large scale irrigation since the 1960s has almost certainly kept the summertime climate in Nebraska cooler and wetter than it otherwise would have been. Now if reduced water availability curtails irrigations in part or in whole, then the warming and drying that results, that will exasperate any warming due to greenhouse gases. And I just want to make one final comment I thought of as I was listening to Senator Haar. As somebody who is involved in the UNL climate report, the whole idea of doing a report just on natural variability versus the human effect, I can't do that. All I know is what the climate has done over the last 150 years. All I know is in toto. The only way I know what part is due to natural variability is to know what part is due to the human influence and vice versa. Okay. You've got to start with what you have and then carve it up. Okay. So it would be impossible, for example, to do a report just focused on natural climate variability. It's just impossible. Thank you for your attention. I'd be happy to take any questions. [LB882 LB1008]

SENATOR SCHILZ: Thank you, Mr. Oglesby. Any questions? Senator Johnson. [LB882 LB1008]

SENATOR JOHNSON: Question following up a little bit on the sea level rise. Are we creating more water, or where's this water coming from? [LB882 LB1008]

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ROBERT OGLESBY: Two ways, okay. First of all, while water is largely incompressible, it's not completely incompressible. That is when water warms it does expand slightly, okay, by a very little bit. But when you have an ocean that's several thousand...many thousand feet deep, even a little tiny bit of increase due to warming can still translate to a sea level rise of several feet. So that's due just to the warming of the ocean waters. The other thing that's happening is literally input into the ocean in the form of water that has been previously frozen as part of ice sheets, it's particularly over Greenland and into Antarctica. Okay. The concern there is really for Greenland and west Antarctica. East Antarctica is so large and so cold, it's probably not going anywhere anytime soon. But if we lose the west Antarctica and/or the Greenland ice sheets then instead of several feet rise in sea level, we could be talking several tens of feet rise in sea level. [LB882 LB1008]

SENATOR JOHNSON: Is the use and pulling the water out from our underground resources a factor? [LB882 LB1008]

ROBERT OGLESBY: No. The amount of water involved is simply too small. It would be negligibly small. [LB882 LB1008]

SENATOR JOHNSON: Okay. Thank you. [LB882 LB1008]

SENATOR SCHILZ: Any other questions? Senator Hansen. [LB882 LB1008]

SENATOR HANSEN: Can you overlay the question that I had, can you overlay the world population on that...on those charts that Senator Haar passed out? [LB882 LB1008]

ROBERT OGLESBY: I don't have the...I saw that...I did see the PowerPoint previously, but I don't have the charts right in front of me. [LB882 LB1008]

SENATOR HANSEN: But you can do that back at your office somehow can't you? Follow the increase in world population with the warming or cooling or whatever happens. [LB882 LB1008]

ROBERT OGLESBY: I think that the increase in population certainly is a large part of the reason for the increase in greenhouse gas omission, certainly. And yes, I...this is getting outside. I'm an expert when it comes to climate science, okay. So what I speak to the climate science, I'm speaking from my professional judgment. This is just a matter of my personal opinion. We're probably going to have to deal with the population problem. Nothing we can do to the climate problem is going to help if we don't deal with population problem too, but again, that's just my personal opinion. That's outside my area of expertise. [LB882 LB1008]

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SENATOR HANSEN: But it can be done, can be done. [LB882 LB1008]

SENATOR SCHILZ: Senator Wallman. [LB882 LB1008]

SENATOR WALLMAN: Thank you, Chairman. Yeah, thanks for coming. As regards to warming or cooling of the earth, have you ever studied drought issues as far as heating the same time as in drought? [LB882 LB1008]

ROBERT OGLESBY: Actually most of my own scientific research involves causes of drought. The thing is, heat and drought go hand in hand because dry ground all by itself leads to warmer conditions. [LB882 LB1008]

SENATOR WALLMAN: And London, you know, they used to be one of the worst polluted areas in the world. And has that city cooled or warmed up, do you know, in Great Britain? [LB882 LB1008]

ROBERT OGLESBY: England, as a whole, has warmed up. [LB882 LB1008]

SENATOR WALLMAN: Has it? Thank you. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Doctor, just like I asked Senator Haar, can you give me an idea of what this report will look like? What elements do you plan on including in the report and what do you...what will be that framework of that? If you could explain that to us so that we understand what we're getting ourselves into here. [LB882 LB1008]

ROBERT OGLESBY: I'm sorry, you're asking Senator Haar or you're asking me? [LB882 LB1008]

SENATOR SCHILZ: No, you. [LB882 LB1008]

ROBERT OGLESBY: Oh, okay. It's...we just began having our series of meetings last October and November and basically we're in the process right now. We have a part-time research associate, Deb Bathke, who is working half-time on it. So it's a little too early to tell you exactly what the scope is going to be. Okay? But I would assume it's going to be an assessment, first of all of the mean climate controls for Nebraska, then a look at how the climate has changed prior in the prehistoric period to give us some context. But then we will focus on what has happened over the last 150 years. [LB882 LB1008]

SENATOR SCHILZ: Great. And when you talked about that, first of all, to have that structure of what that's going to look like, do you have a time frame on that? Do you know when you would know? [LB882 LB1008]

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ROBERT OGLESBY: We are planning to have our report due in the August or September time frame of this year. [LB882 LB1008]

SENATOR SCHILZ: And then ready to come in December 1. Okay. [LB882 LB1008]

ROBERT OGLESBY: Yes. Yes. [LB882 LB1008]

SENATOR SCHILZ: All right. Thank you. One more time, any other questions? Seeing none, thank you for your testimony. Appreciate it. Next proponent. Proponents? Don't be shy. Come on up. Welcome. [LB882 LB1008]

CYNTHIA TIEDEMAN: Thank you. My name is Cynthia Tiedeman, T-i-e-d-e-m-a-n. As the natural resources director for the League of Women Voters of Nebraska, I'm here to speak in support of LB882. Defending the environment is a National League priority issue. Since the 1960s, the League has been at the forefront of efforts to protect air, land, and water resources. As global warming emerged as a key environmental issue in the late 1990s, the National League of Women Voters worked with scientists and science agencies to develop a tool kit for climate action. This was to assist leagues and league members throughout the country in the fight to combat global climate change. Our National League president has called the climate change the greatest challenge of our lifetime. The tool kit was developed because of the belief that society needs informed citizens who understand the climate system and know how to apply that knowledge in their engagement as active members of their communities. The overwhelming majority of scientific peer reviewed papers about global climate change acknowledge that human activities have a profound influence on the earth's climate. The educational efforts and policy recommendations of LB882 could have an important impact on developing an informed Nebraska citizenry. For this to happen the study must allow scientists to use the existing scientific facts about climate change, including the role of humans. Thank you. [LB882 LB1008]

SENATOR SCHILZ: Thank you, ma'am. Any questions? Seeing none, thank you for your testimony. Next proponent, please. [LB882 LB1008]

JOHN HANSEN: Good afternoon. Again for the record, my name is John Hansen, J-o-h-n, Hansen, H-a-n-s-e-n, and I appear before you today as the president and also the lobbyist for Nebraska Farmers Union. We supported this effort initially for the same reasons that we support both LB882 and LB1008, and that is that we think that it's important from a management standpoint for production agriculture to have the latest and best information that's available so that we can plan and that we can manage. Without facts and information, it's very difficult to look on down the road. We thought this was a...admittedly a more simple process than it has turned out to be, but we would like to have the latest information so that as we're thinking about cropping patterns and what

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kinds of agriculture we're likely to have in the future, it impacts our ability to make decisions today as we plan for tomorrow. So we are in support. And on an aside, I would report to those who might not have gadgets available that the Senate just approved the farm bill 68 to 32. And with that, I would end my testimony and answer any questions if you have them. [LB882 LB1008]

SENATOR SCHILZ: Thank you, Mr. Hansen. Any questions? Seeing none, thank you for your testimony. [LB882 LB1008]

JOHN HANSEN: Thank you very much. Good luck. [LB882 LB1008]

SENATOR SCHILZ: Next proponent. Good afternoon, Mr. Winston. [LB882 LB1008]

KEN WINSTON: (Exhibit 4) Good afternoon, Chairman Schilz and members of the Ag Committee. My name is Ken Winston, K-e-n W-i-n-s-t-o-n, appearing on behalf of the Nebraska Sierra Club. I'm providing you with a letter in support of LB882, but we're also supporting LB1008 as basically a cleanup measure. We're more interested in LB882 because we think there ought to be, as Dr. Oglesby indicated, we don't see how you can study climate change without considering all the factors. And we think that including the human elements of climate change is absolutely vital. I guess I was thinking about this on my way down here driving through the snow, it would be sort of like trying to determine, do analysis of automobile accidents without considering the human element. So we think that human element is very important in considering climate change. The primary focus of the committee and the primary focus of the study, as I understand it, is to think about the agricultural impacts of climate change. And, obviously, climate...what's happening, as Dr. Oglesby indicated, one of the things that we've experienced recently is more severe weather events. And we can think...we can all think of several that have happened in the last two years; the big floods of 2011; the drought of 2012. The fact that last fall there was, on the same day, there was the tornado in Wayne, Nebraska, that destroyed several buildings, and at the same time there was a devastating blizzard in western Nebraska. And Senator Davis, I think, has sent out messages to everybody about all the cattle that were lost as a result of that blizzard. And so we're having more freakish events that are just...that are having more impact on our agricultural economy. And I think one of the things that, as John Hansen indicated, one of the benefits of looking at climate change is that it helps in projection in planning. People can say, okay, these crops don't make sense to plant anymore or we're looking at, well, what is the best way that we can look? How can we forecast things going forward? And certainly I think one of the things that has struck me about some of the impacts is the fact that several...some of the events that we've experienced have been unprecedented and they've been things that nobody forecast. They were far worse than anybody forecast. I mean, nobody dreamed that the statue down on the riverfront in Omaha would be up to its neck in water. I mean, I think the base is several feet above the river in normal times. So and then the next year, we had this drought and we're still

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feeling the impacts of that. And if you don't believe it, go out and look at the ground. The ground is still dry. And so, so...and talk to people in production agriculture, it's still having an impact. So we need to make sure that we're using the best science to make the decisions about which way to go. And then, I guess, as an advocate for energy solutions in front of the Natural Resources Committee, and I talked to some of you about those issues in other areas, I think it also behooves us to think about some of the other policy decisions that we make. And it can help us make better policy decisions throughout the realm, including better energy decisions. So with that, I would advocate that LB882 be advanced to the floor for discussion by the Legislature. [LB882 LB1008]

SENATOR SCHILZ: Thank you, Mr. Winston. Any questions? Seeing none, thank you for your testimony. [LB882 LB1008]

KEN WINSTON: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Next proponent. Good afternoon. [LB882 LB1008]

HELEN GREER: I speak as a citizen. My name is Reverend Helen Greer. My family was very prominent in Nebraska politics, William Aitken, Taylor Greer. Perhaps you've met my family at different points. I represent myself, but I am the Pastor of the Elmwood Christian Church in Elmwood, Nebraska. I have a bachelor of science in geology and I am currently studying climate at the University of Nebraska at Lincoln. In 1978, I had the terrible experience at the age of 27 to be called by a dermatologist and to be told that I had cancer. I had no idea how serious it was. It was a melanoma. And in those days, we didn't know as much about melanoma as we do now. The pathologists at St. Elizabeth Hospital availed themselves of the Mayo Clinic to get the best reading of the pathology reports, and the biopsies that had been taken, and they came back with their estimate in examining the large cells that were present that I indeed did have a melanoma at superficial level two spreading. A large excision was taken and I'm still alive today. I think there's certain areas of our lives where we don't think twice about seeking the best information we can in science. We want the very most thorough, the very most careful observation analysis through hypotheses and then theories. We seek that information and we wouldn't think twice about going for it. I'm saddened that in this area these two bills need to correct the fact that we did not go for science in full to check the human influences in climate conditions. I agree with Dr. Oglesby's points that we can't separate out too easily the natural from the human. And we absolutely need to study as much material as we can, paleoclimatically, as well as in the present, to get an understanding of what may happen in Nebraska based on what has happened and is happening now. I firmly support bill LB882 and LB1008. And I thank you for listening to my testimony. [LB882 LB1008]

SENATOR SCHILZ: Thank you, ma'am, for your testimony. Any questions? Seeing none, thanks. [LB882 LB1008]

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HELEN GREER: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Next proponent, please. [LB882 LB1008]

JOHN POLLACK: I'm John Pollack, J-o-h-n P-o-l-l-a-c-k. I'm speaking in favor of LB882. I am a meteorologist. I was a forecaster for the National Weather Service from 1978 until 2009, but I am no longer a forecaster for that organization and I am representing myself. I do remain professionally active in keeping up with the research and Nebraska's daily weather. I was in Omaha that entire period, so I am pretty much aware the last 35 years' weather in this state. The...I am in favor of LB882 because as a forecaster I know that you don't always get things right, but you don't get any better unless you're willing to look at what's really going on and to try to advance your understanding. And you can do that by learning from your mistakes, but also by increased scientific understanding and increased observations. And I think that's what we need to do here in order to make any sort of forecast of where Nebraska is headed in the future. I will also note that with the earlier testimony that roughly 7 degree temperature rise by the end of this century, if you look at about where the temperature is 7 degrees warmer today than Nebraska, you would find yourself somewhere down in northern Oklahoma. And you know that in northern Oklahoma, their main crops are not corn and soybeans. They're growing cotton, they're growing some other things, but if things are going to change that much, the Corn Belt is not going to stay in Nebraska. And it's something that we need to be thinking about because it's headed for the Dakotas. One thing that I wanted to particularly touch upon today and is the reason I passed around this chart, is that there's another problem that I think that the state legislators in particular need to be aware of that's a rising danger. And that is the possibility of a mega flood going down the Missouri River due to a dam break. This was not even on my radar until the 2011 flood. So let me explain a minute why I would make such an incredible statement. As you can see from that chart...and this, by the way, is...works with the idea that as you...as the atmosphere warms up, it holds more moisture, and when it has more moisture under the right circumstances, it can dump more moisture. So the magnitude of the river flow, it represents that all the precipitation essentially above Sioux City has been going up gradually. The droughts are just as bad as they always were, but the wet periods have been getting wetter with more and more flow. Two thousand eleven, so far, was a blowout year. That forecast turned out to be pretty accurate. They moved about 62 million acre-feet. In the process, however, we've got...you'll be familiar with the bottom dam in the system, Gavins Point Dam, Lewis and Clark Lake, that's the pipsqueak lake in the reservoir system on the Missouri. The biggie lakes are up north. That one holds back a half a million acre-feet. The three northern ones are more in the vicinity of twenty million acre-feet. That's a lot of water. In the aftermath of the 2011 flood, Fort Peck Dam, some of the repairs that they need on that dam, six contracts were awarded, they include repair of the gates, the spillway slab, plunge pool recreation area, spillway access road and associated drains, rehabilitation

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of eight emergency gate controls, and the repair of relief wells and horizontal outfall pipes. In other words, there was so much water that they had to let go over the dam because they cannot hold it back, that it damaged the concrete spillway that's supposed to take care of all the water flowing out of that dam. The reason they can't hold it back is that if you ever let the water get high enough so that it starts eating into the earth on either side, you have your mega flood. You have something that's a combination of tsunami and of Big Brother, the 1889 Johnstown, Pennsylvania, flood where the dam breaks, 20 million acre-feet of water are released in a very short time; that lake is 200 feet deep, plus. Actually, the top three dams are all between 210 and 250 feet and there is no way to stop that water coming down stream. We already had a situation where we did serious damage. They had to let so much water through that top dam that it was eating back at the concrete apron. That whirlpool at the bottom was chewing up the concrete. If you have more water to come over the top that they can't do anything with, you might lose one of those dams. If you lose one of those big dams, my best...and this is just a crude estimate. You've got fifty feet of water bluff to bluff going through the Omaha area and that's not just water that rises gradually. That's the wall of water that's charged with fast moving debris. And by debris, everything from houses, grain bins, cottonwood trees, you name it; battering rams. Now as far as I know, there's no contingency plan whatsoever. There's no thought that has even been given to the idea that there might be enough water falling in the upper reaches of the Missouri River to conceivably do something like that. Unfortunately, I think that we need to have that conception. I think we need to look at what would happen because if it did happen, we wouldn't have an Interstate system to service the area from the east. Our relief would have to come from Denver. We wouldn't have an airport. We wouldn't have power plants along the river, including a couple of endangered nuclear power plants. Any of the communications, pipes, whatever going under the river would probably be excavated. In other words, completely different disaster scenario than anything we've ever contemplated for Nebraska. Along the lines of a major war fought in the area, I would say. So what do we do about this? I think that this is one of the issues that you can start looking at. Can't give it a definite answer. None of us can, but you can say...you can start asking, how much water would it take to do this? How close were we to it? How likely are we, since we are seeing more rain...and I can tell you one more thing before I go here. The 1993 rains that caused the flooding in the central and the southern part of the basin were greater than what we had up north in 2011, and we're lucky that we didn't have those kind of rains of that magnitude. We got by with 6 to 10 inches of rain over eastern Montana and North Dakota. A couple of really wet months in May and June which were the main cause of it. We had more rain than that in central and southern parts of the basin in 1993. So that's what I want to say. Are there any questions? [LB882 LB1008]

SENATOR SCHILZ: Thank you, sir. Any questions? Senator Johnson. [LB882 LB1008]

SENATOR JOHNSON: Probably more of a thought. Maybe I just thought of it when you

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were making some of your comments and I don't know that you would know the answer or maybe we don't know. I'm just wondering what effect science is having on climate change itself, science being dealing with agriculture where we change our crops. We used to have open pollinated corn, as an example, and now we've adapted with the hybrids and less tolerant and more tolerant for different things. We put different things into the seed in order to make more efficient. We don't have to go out three or four times to spray a field. And I'm just using corn as an example. I'm sure other crops...is that a factor at all in your mind in climate change? [LB882 LB1008]

JOHN POLLACK: In my mind, the big factor that goes with that is the overall land use and irrigation because we're using plants, in the case of agriculture, to grow something, but they also put water back out into the atmosphere. And that makes a real change in things, as Professor Oglesby said. There's actually an area in this part of the Great Plains where the summers have not been warming up as rapidly and that's because we're irrigating. The corn and soybeans are putting out extra moisture and yes, it does change the regional climate. It also has the capacity to change the severe weather patterns in the summer because once you've heated that air and charged it with moisture, wherever it goes, it's got more potential to create large thunderstorms. There's more energy in the atmosphere. [LB882 LB1008]

SENATOR JOHNSON: I know one of our challenges is that we're the breadbasket for the food for 2050 when we get 9 billion people out there and is that going to just emphasize the problem? [LB882 LB1008]

JOHN POLLACK: Yeah, no, it needs to be considered, I agree. [LB882 LB1008]

SENATOR JOHNSON: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Senator Wallman. [LB882 LB1008]

SENATOR WALLMAN: Thank you, Chairman Schilz. Yeah, thanks for coming. I...in the '50s, they had about a foot of rain in here, Lincoln. And then they built a few structures around the city. Do you do that to other cities like Omaha if they had a foot of rain up in north Omaha? Do the scientists and the university have actually what would happen? [LB882 LB1008]

JOHN POLLACK: Well, we actually had a storm that was pretty close to a foot of rain back in the late '90s, and we...you know, it basically depends on how fast and over what area. [LB882 LB1008]

SENATOR WALLMAN: Sure. [LB882 LB1008]

JOHN POLLACK: The faster it is, the worse the flash flood you get. The larger the area,

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the worse flooding in general. What we did where all the streams that were developed and covered over became streams again. The water went down into the Papio Creek. The dams held back some of that waterfall, but actually most of the rain fell east of the dam system. And there was some fairly substantial flooding in east Omaha when that happened. [LB882 LB1008]

SENATOR WALLMAN: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Any other questions? Seeing none, thank you, sir. [LB882 LB1008]

JOHN POLLACK: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Next proponent. Proponent? Come on up. Good afternoon. [LB882 LB1008]

MARK WELSCH: Good afternoon. My name is Mark Welsch, W-e-l-s-c-h. Mark is M-a-r-k. I'm here just representing myself today. I live at 5611 Howard Street in Omaha, Nebraska. I come from a farm background. I'm now...tomorrow, I'll be 57 years old and I grew up on a farm 20 miles from here between Milford and Crete, Nebraska, a dryland farm. Farmers...my brother, my younger brother has now taken over my family farm. I hope that his children will take it over from him. It's been in the family for several generations and I worry about my brother and his children who may take over the farm from him and all other farmers in Nebraska because of the climate that is changing. I've watched it change in my short life of 57 years. Farmers, especially dryland farmers, need weather at certain times. You need a dry spell in the spring. As probably a lot of you know, you need a dry spell in the spring so that you can get in and plant. And then you need rain, and then you need dryness, and then you need cool temperatures to pollinate the corn. And then you need dry spells at the end of the season so that your crops can dry. But that's changing. That's changing. It's...and we need to try to slow that change down as best we can and I think this study is just one step in the right direction to make that happen. You know, my brother has been an organic farmer for quite a few years, my father before him. And it was interesting going from Omaha in 2012 during the drought and seeing dryland farms just toast, corn just toast all the way until we got to my brother's farm, organic farm, and it was green. It was withered, but it was still green and I asked him, you know, what's going on? Why is your farm green and nobody else's is? And he said, well, it's just because I'm taking care of the land. I'm taking care of what's underneath there and just the process of putting...instead of chemicals, in putting organic matter back into the soil. Apparently that made a huge difference to his farm that year. Thank you. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Any questions? Sir, before you go, could you please fill out a testifier's sheet? [LB882 LB1008]

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MARK WELSCH: Oh, yeah, I've got one in the back. [LB882 LB1008]

SENATOR SCHILZ: Very good. We'll just...when you get done, you can just leave it on the table there. Next proponent. Seeing none, any opposition? Seeing none, is there any neutral testimony? Come on up. [LB882 LB1008]

BUFFALO BRUCE McINTOSH: My name is Buffalo Bruce McIntosh, M-c-l-n-t-o-s-h. I'm from Chadron, Nebraska, researcher ecologist with Western Nebraska Resources Council, formerly with the Smithsonian. I'm here to address a couple of questions that weren't answered. Population, that was one of the questions on how that's effecting the climate change. Every parameter constituting the elements that create climate change are by-products of the loss of biological diversity. And the human kind is a big part of that biological diversity. That's pretty universal. And we rely on...mankind relies upon the health of the natural ecosystems, intact natural systems for the benefits of...for everything as far as cleaning air and all the products we make, in cleaning the water supplies using as filters. And it's the degradation of these natural systems that are a big part of this climate disruption. Okay, we're learning about all the different types of droughts throughout history on the causes of them, like we figured out how to...in the drought of the '30s, we figured out the cause of that and captured the problem and rectified that. We figured out the drought of the 1950s and '60s, from that...what that was killing off of the beavers. Getting beaver pelts in the Rockies and Pine Ridge and the Black Hills. Before that the beavers created thousands of dams in all these different valleys and it was lush. Ecosystems are lush and wet with the aspen and birch forest up there, all the way in all the valleys, which put off precipitation, moisture evaporation which caused...you know, created lots of rain. We killed the beaver off, got dry pretty quick. Anyway, Dr. Schultz, the past curator of Nebraska Hall, the State Museum, told me once that the ice age, the next ice age was going to start in the 1960s. Well, we know from science reports now that that model is gone. We...because of man's intrusion, man's...we...there's no formula to predict the next ice age because it's out the window. It's not even going to happen until, well, we change a lot. Let's see. And they talked about the climate change across Nebraska, it's measurable. It measures about 25 feet a day. That's in the nursery catalogues we get every year. That's result from that. And, well, the mass of humans, that's quite a bit of the problem. It's been 20 years since Dr. David Suzuki made the statement--he's a biologist, world-known biologist--that we had more humans on earth than rats. (Laugh) But that was a...just an analogy there. On the rise of the oceans. There's been science reports out now that it's unstoppable for at least 1,000 years. We know this, the rise of the oceans. Okay. That's just...wanted to point those figures out. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Any questions? Seeing none, thank you for your testimony. Next, please. Good afternoon, welcome. [LB882 LB1008]

MATT JOECKEL: Thank you. Mr. Chairman, members of the committee, folks in the

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gallery back here, I couldn't possibly be more nervous than I am right now, so I'm going to preface all this with a humorous comment, hopefully off the record, and as a citizen and I'm not speaking today as a citizen. [LB882 LB1008]

SENATOR SCHILZ: But before you do that, could you give your name and spell it, please? [LB882 LB1008]

MATT JOECKEL: Oh, yes, I will do that. [LB882 LB1008]

SENATOR LATHROP: And you are on TV. (Laughter) [LB882 LB1008]

MATT JOECKEL: Oh, yeah. My name is Matt, M-a-t-t, Joeckel, J-o-e-c-k-e-l. I have a Ph.D. in geology from the University of Iowa and I'm a professor at the university. So if you'll permit me to make one simple comment as a citizen, not as a scientist. And that is as an old Big Eight man, a Nebraska native, I'm personally against anything that makes us more like Oklahoma. (Laughter) So take that as you will. All right. From now on, everything I say, I hope, will be taken seriously because that's certainly my intent. I want to make some off-the-cuff comments first and then go to prepared statements, something I normally loathe to do. My off-the-cuff comments basically encompass three points. Number one, I want to thank everyone in the room for paying my salary as a professor at the university. I'm pleased to be here. I'm pleased to weigh in on this. I consider it an honor and part of my duty. Number two, I want to make an observation that I as a scientist, I'm terribly distressed by the overall distrust of science on the part of the American people. And that's been documented to some degree by statistics. In fact, it's been said that perhaps Americans trust individual scientists but they don't trust science in general. That's the main reason why I'm here. I'm here ostensibly to speak about LB882, but more than anything else, I want to emphasize the importance of science and the importance of our reliance on science to make informed and unbiased decisions in the public good, in the public interest, in the short term and in the long term. First of all, science is not a belief system. I don't intend to offend anyone at all by making that statement, but a statement was made earlier about whether or not we believed in global warming. It's not a matter of belief. It's a matter of examining facts, stacking them up, and making an intelligent decision accordingly. And therein may lie part of the problem. Science may just be too much work for many of us. Well, and I can testify that it does require a good deal of work, but science is not beyond...good science, is not beyond the understanding of the average American. I'll stand by that. We need to make informed and largely unemotional decisions about major issues like this. Why? That brings up my third point. We have a long history as a society, as a civilization of failing to deal with major problems. We started talking about issues like water supply and food supply, overpopulation, soil conservation, decades ago. We didn't make any strides towards those. That realization adds all the more impetus to a drive to employ science in decision making. Those three points made, I'll go to this prepared statement. You'll have to excuse me, the opening part is a little bit repetitive.

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My name is Matt Joeckel. I'm a professor in the conservation and survey division of the School of Natural Resources at UNL. The Conservation and Survey Division or CSD is Nebraska state geological survey and among other duties, it is charged with researching, monitoring, and archiving data relevant to Nebraska's groundwater. The existence of our groundwater reservoirs and their use and overuse are linked directly to past, present, and future climates. CSD geologists also engage in research that illuminates Nebraska's past climates. And in that regard they provide a unique, very long-term perspective on the certainties of climate change on the Great Plains. From the perspective of the geologic record alone, namely geochemical, physical, and biological records of climate change in sedimentary deposits, it is clear that our civilization if it is to persist, must be prepared to deal with deviations far beyond the norm of the past century and a half. Anthropogenic climate change, that of which many of our speakers have been speaking, which is now accepted as fact by the vast majority of professional geologists--and I might add to that, including geologists in the oil industry--renders much more imperative than the necessity of data collection, analysis, and dissemination in the public interest. The effectiveness of these activities will ultimately be determined by our overall commitment to objective scientific research, by the enlightenment and open-mindedness of our elected officials and of our citizens, and by coordination according to a well-informed plan. Take those comments as you will. I'll conclude by saying that I'm a proponent of science, I'm a proponent of good science, and I'm a proponent of its effective use in the public interest. I'd be happy to entertain any questions. [LB882 LB1008]

SENATOR SCHILZ: Thank you very much. Senator Lathrop. [LB882 LB1008]

SENATOR LATHROP: First of all, I couldn't agree more with your comment about science and the use of science in policy. I do have a question though about doing the study on climate study. This doesn't need to be a referendum on whether we recognize the science or believe it, but do we have enough studies on the science? Do we already know? Is there something that's going to come out of this that's going to be beneficial to Nebraska farmers, Nebraska ranchers, people that live in and inhabit the state? [LB882 LB1008]

MATT JOECKEL: Well, first of all, I need to point out I'm a geologist. I'm not involved directly in the study, per se. The latter part of your question, is there something from the study that will benefit that list of Nebraskans? [LB882 LB1008]

SENATOR LATHROP: Yeah, because everybody...every science person comes up and they've said, we've done all kinds of studies and 97 percent of them show there's climate change as a result of human activity. Here's my question. Is there something we're going to learn that we don't already know from doing this study? [LB882 LB1008]

MATT JOECKEL: I suspect there is when one boils it down to the specifics of effects in

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Nebraska, absolutely. But again, I'm not directly involved in that study. [LB882 LB1008]

SENATOR LATHROP: To what extent does climate change affect...since you are a water guy, right? [LB882 LB1008]

MATT JOECKEL: I'm a geologist. I do indeed deal with groundwater in some of my duties, yes, absolutely. [LB882 LB1008]

SENATOR LATHROP: Then the survey department does deal with the water issues. To what extent does climate change affect the use of groundwater in the state? [LB882 LB1008]

MATT JOECKEL: Oh, my, in so many ways. [LB882 LB1008]

SENATOR LATHROP: In two minutes or less. (Laughter) I don't want to take everybody's time. There is a storm and I want people to be able to get home. [LB882 LB1008]

MATT JOECKEL: I understand. I think the most powerful statement I could make is that if everything about climate were amenable to the kinds of agricultural yields that we seek, we wouldn't be using groundwater. Therefore, if there is any deterioration of climate, and I'm sort of imposing human values on that, but let me clarify deterioration of climate relative to what we want for optimum yields, particularly in terms of rainfall, it will only further stress our groundwater systems, which are for our purposes in a human time scale and the time scale of a human civilization nonrenewable. Certainly over a geologic time scale they are, potentially. But over the time scale that really matters for us for our...well, I'll go beyond the earlier statement, for our great-great-great-great-grandchildren, etcetera, they're not renewable functionally. So I would say there is a huge impact. [LB882 LB1008]

SENATOR LATHROP: In other words, we're going to be using more and more groundwater if the temperatures rise to the level... [LB882 LB1008]

MATT JOECKEL: If we indeed we have less and less rainfall and we expect the same results, I don't think we can count strictly on advances in plant breeding alone to bring us out of that. And anyone who is an agronomist, I'm certain could weigh in on that statement. But I suspect that someone like that would agree with me. [LB882 LB1008]

SENATOR LATHROP: Thank you. [LB882 LB1008]

MATT JOECKEL: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Senator Wallman. [LB882 LB1008]

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SENATOR WALLMAN: Thank you, Senator Schilz. Thank you for coming. You don't have to be nervous in here. [LB882 LB1008]

MATT JOECKEL: No, I'm over it now, I'm done. (Laughter) [LB882 LB1008]

SENATOR WALLMAN: Have you ever read the book Collapse? [LB882 LB1008]

MATT JOECKEL: Yes. [LB882 LB1008]

SENATOR WALLMAN: And, you know, that makes us be pretty skeptical about what we're doing. And how long will our aquifer last at today's pumping? As a scientist, do you have any idea? [LB882 LB1008]

MATT JOECKEL: That's a loaded question. Okay, we can't continue to use our aquifers to the degree that we're using them now indefinitely past the time scale. You know, a few centuries maximum. But I would like to make a comment about, you referenced a particular book. [LB882 LB1008]

SENATOR WALLMAN: Yes. [LB882 LB1008]

MATT JOECKEL: And I think in that vein it's important to state that, yes, I'm speaking as a scientist, but I have children too and I hope to have grandchildren some day. And I like people in general, people from Nebraska in particular. (Laughter) As a human being I have to love the fellow members of my species and I have to have the best faith that somehow we can sort all of this out. The irony, if I might use that term, that misused term, is that we have the means. We have the means in front of us to improving our standing in the natural world. We have the means to make our society more sustainable. We just choose to ignore it. I suppose largely because it's a little bit difficult and not a lot of fun. That would be my assessment as an individual person rather than a scientist. [LB882 LB1008]

SENATOR WALLMAN: And then the unusual drought in California, and the ocean temperature, do you think it has anything...correlation there, those two? [LB882 LB1008]

MATT JOECKEL: I'm a geologist, recall, but as an earth scientist in the general sense, I'll stand by what I usually tell people which is associating any particular weather event directly with global warming is something of a mistake. That's oversensationalization because climate is indeed the net picture, weather is not climate. Weather over a period of time is. There is evidence that there have been very large droughts, very long-term droughts, mega droughts as it were in California prior to your American settlement. Things of this magnitude that lasted on scales of decades, maybe even hundreds of years. That doesn't in no way negates a hypothesis of anthropogenic forcing of some

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aspect of climate change. [LB882 LB1008]

SENATOR WALLMAN: And I find it interesting that climate change in the ocean is not the same as the land temperature change. [LB882 LB1008]

MATT JOECKEL: Well, that's an astute observation, but I think it's well to keep in mind that the ocean and the atmosphere are intimately linked. Let's consider this, ladies and gentlemen, the average residence time of a water molecule in the atmosphere is about 14 days. In a groundwater reservoir, it's probably on the average maybe up to 10,000 years, but probably a lot less. That water doesn't just carry itself through our hydrologic cycle. It also carries energy and that's why we have storms, hurricanes, etcetera, a relatively equitable climate as well across the surface of the earth. If I may make one additional point relative to that, and I promise I'll shut up unless there's another question. It exemplifies the need to make people unafraid of science. Merely understanding their hydrologic cycle could go a long way towards allowing people to make more informed decisions about global warming, water conservation, etcetera. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Senator Johnson. [LB882 LB1008]

SENATOR JOHNSON: I'll defer mine to closing. (Laugh) [LB882 LB1008]

SENATOR SCHILZ: Any other questions? Seeing none, thank you for your testimony, sir. Appreciate it. [LB882 LB1008]

MATT JOECKEL: Thank you all. [LB882 LB1008]

SENATOR SCHILZ: Next testifier, please. Welcome. Good afternoon. [LB882 LB1008]

RICHARD KOELSCH: Good afternoon. Afternoon, Senators. My name is Richard Koelsch. I'm with the University of Nebraska-Lincoln extension. I'm an associate dean there. I also sit on the CARC Committee as a representative from the university. And I'm here to speak in a neutral form. I'm sorry about the last name. Koelsch is K-o-e-l-s-c-h. The resilience of our businesses, our communities, and our natural resources in this state I think are going to be dependent in the future on our understanding of the impacts of changes in our climate. And that's going to be important to the future of our state. Understanding what those impacts are and the types of climatic conditions that are going to affect our resiliency will help us understand what we need to invest in in the future. I'm not sure if it's going to be in the dams along the Missouri River or other infrastructure or agricultural systems, but understanding the changes that are occurring and the anticipated changes will help us address the resiliency that we need to build into our state. The most recent congressionally mandated National Climate Assessment Report described implications from climate change resulting...impacting human health

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and well-being; infrastructure; reliability of our water supplies; crops and livestock production; and even our natural ecosystems. In addition, this report not only talked about the things that impacted climate which we may or may not all agree upon, but it asked us to focus on issues such as adaptation. How do we address and prepare for those impacts? I think it will be important to our future to understand those implications for Nebraska as well as our opportunities to build resiliency into our systems. And having spent my entire career working in agricultural issues, I think there are several ways which we have an opportunity to build that resiliency into the system if we anticipate the changes. The clarification that is being made in LB882 about cyclical climate change, I think is going to be helpful. The original language appeared to suggest that human-induced changes were not to be included in the original proposed CARC report. The language caused a lot of concern for our faculty involved in climate-related research and education at the university, including this language...this change in language will allow our faculty to include research findings related to human-induced causes in a discussion of issues associated with climate change. The clarification of the definition to include all climate forcings considered relevant to science, including human influence, should allow us to provide a very thorough evaluation of our available...of available resources for producing a comprehensive report that will be shared with the CARC Committee. I think the university can offer a lot of important services in this discussion that we're going through. As our state tries to improve its resiliency, the resources of the Institute of Ag and Natural Resources, including the resources at our drought...National Drought Mitigation Center and our High Plains Regional Climate Center provides some really invaluable assets for reviewing the literature looking at it in depth at climate patterns that had occurred here in Nebraska and analyzing that in terms of what it will mean to our future. In visiting with Don Wilhite, who is leading up the preparation of that report, that literature review, that review of our resources that we have, our weather resources, data sources that we have here in Nebraska and using that information then to look at what will be the impacts on agriculture and our natural resources, I think are going to be quite possible with the group that he's assembling and the plan that he's put forward. The report...let's see. It is anticipated that this report will engage a number of faculty outside the climate change to look at implications and to understand how we will need to build resiliency into our future systems. We look forward to sharing this report with CARC to help that organization's ability to understand how to prepare for these extreme events, and this report will also be guiding our own institution. It will serve as an important reference for deciding what future research needs exist and how we need to engage our stakeholders and our students in the education, and in the preparations for, are the future for this state. Thank you for the chance to share this. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Any questions? Senator Johnson, did you? Senator Hansen. [LB882 LB1008]

SENATOR HANSEN: Thank you. It's good to have you here again today. Is there like

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an ag economist on this committee? [LB882 LB1008]

RICHARD KOELSCH: On the CARC? [LB882 LB1008]

SENATOR HANSEN: When we're talking about where we need to go, what changes might be needed, it sounds like there's a lot of economics going to be involved in this. Is there one even on the panel? [LB882 LB1008]

RICHARD KOELSCH: You're talking about the climate assessment? [LB882 LB1008]

SENATOR HANSEN: Right. [LB882 LB1008]

RICHARD KOELSCH: I am not certain that there is an economist on that committee. [LB882 LB1008]

SENATOR HANSEN: Would that hurt? Would that be a detriment? [LB882 LB1008]

RICHARD KOELSCH: I don't think it would hurt because economics will be a very important part of this discussion. [LB882 LB1008]

SENATOR HANSEN: It's driven what we've done up to now. [LB882 LB1008]

RICHARD KOELSCH: It certainly has, yep. [LB882 LB1008]

SENATOR HANSEN: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Thank you. Any other questions? Seeing none, thank you for your testimony. Appreciate it. Any other neutral testimony? Seeing none, Senator Haar, you're welcome to close. [LB882 LB1008]

SENATOR HAAR: Thank you very much. My involvement with this whole issue over the past year, at some points I wish it would have just gone away. (Laugh) Although in the process we're no longer spending public money, the university is going to do the study and I think as we just heard, the university will also use this study to direct its future, and that's an interesting thing. The future research that they do and so on, I think that's really important. And I've just learned tons and tons about climate change that I didn't know a year ago. A couple of things then, I want to remind you once again that science is always...science is always a work in progress. And one of the challenges in talking to some of the climatologists, there are a lot of challenges yet around especially the prediction. And one of the things that a lot of people are trying to see now, is there a connection between...we believe that there are more severe events coming, but can you like connect Hurricane Sandy to climate change? I think nobody has a good answer for that yet. Now the way I tried to present this paper power point at the beginning, first of

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all, that the climate is changing, and secondly, that humans are a part of it. And then what are the predictions? And just the first two points are really not much in question anymore and again I...here's the Heartlander, this is from the Environment and Climate News, a national monthly publication of the Heartland Institute devoted to sound science and free market environmentalism. So these are not roaring liberals. But in this article, this comes from one of the people they quote: The appropriate course in my view--referring to the study--is to include what we know about anthropogenic effects, including land surface changes as well as the effects of greenhouse gases, but with a healthy dose of uncertainties involved with forecasting the future using models, said David Legates, a Ph.D. climatologist and professor at the University of Delaware. I share that. I think we need to be skeptical. There needs to be a healthy dose of uncertainties about forecasting the future and I think every climatologist would agree with that. Nobody is saying that they know precisely what's going to happen. So really, yeah, the facts are there. The climate is changing. There is human influence. You may find a few people here and there who say there isn't, but as I just read, very little discussion on that. What the predictions are is something that climate scientists will keep working on. The issue of population, you brought that up, and that's a very good one to think about. I would also believe that since 1750 and the industrial revolution that our world population would not be anywhere as great as it is without the industrial revolution. So the fact that we've been using electricity and burning coal and so on, has been a reason that the population has grown. So those two are really interconnected. Without population growth, if we still had a population of a billion people, we wouldn't have nearly the CO₂. We wouldn't have needed it. The recent temperature changes, Senator Bloomfield, I'll get that for you from my chart of 2000 on up. I'll find that out for you. I, too, would not like to be like northern Oklahoma, (laugh) seven degrees warmer. And then we really get back to the question that you asked, Senator Johnson. So now what, you know? And the answer to that one is political. And you could say sort of like if, you know, you're in the woods and a bear comes running at you, the facts are there. There's a bear, he's running at you and then the realization, this could be harmful and then you have to make a decision. And I'm not sure what I would do if that happened in the woods, by the way. But the decision of what we do with this information...I'm not sure whether you climb a tree or just run or run faster than your partner, I've heard is the best solution. But what we do with the information is political and it's up to us. But I think...what I wanted originally in LB583 is, let's get the best information we can. As it was suggested, we're going to have to learn to adapt to the change that's going on, but first of all, we need the information. I don't know what the outcome is. We don't know yet. We don't know yet. And a lot of the outcome is going to be what we as politicians as policymakers, decide. So I really appreciate all the time you've spent on this today. It's an important issue. Thank you so much. [LB882 LB1008]

SENATOR SCHILZ: Thank you, Senator Haar. Senator Johnson. [LB882 LB1008]

SENATOR JOHNSON: Yeah, since you talked about what do we get out of this, I'm

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going to follow up and I'll be like our cohort here, Senator Chambers, this is for the record, you don't have to answer it. In the last year you've learned a lot about climate change. And this last year, I've learned an awful lot about water studies. We have studied water. We've studied it from recent changes, the history, how we've tried to preserve it and all of these things and we had the study this summer. And so we've analyzed it again. And we spent some money doing that and the committee and Natural Resources is going to ask for funds to help what I think make water more sustainable. And I think there's direct value to Nebraska on that. I think I'm going to be a little more frustrated when we do this study on climate change and realize it's global and we're going to learn maybe what the world needs to do and we found out that groundwater is a small part of that. To me, Nebraska is a small part of that. And, you know, what can we do at that point? Hopefully, somebody believes this and it's worldwide and you get, you know, the Nobel Peace Prize for climate change or something, stand behind Mr. Gore, but I mean that's my frustration. And we're going to learn facts, scientific facts, but how...what effect is it going to have on global climate change? And I use the word "global" because I think we can solve it for Nebraska. It will help Nebraska be more friendly toward global change or climate change, but will we have an impact? That's my frustration comments. [LB882 LB1008]

SENATOR HAAR: Well, sort of in response to that, you know, sometimes when I get frustrated with Congress and the inaction, I think, you know, but I can do something here. And for me that's the crux of it is that we can do something here that will make a difference. Well, I think as someone said, you know, we're going to have to adapt and I would certainly buy into that. We're going to have to adapt. And even if we don't make great changes now, we're going to have to be aware of how we're going to adapt. And as the last testifier said, the fact that they're doing a study now is going to help direct where they need to go with their research and so on. So I'm a great believer having...well, just a great believer that knowledge is a good starting point. And sometimes it's very frustrating though, like as you say, especially if you just don't do anything. Like with the water study if we just say, yeah, we know it's a problem, but we're not going to do anything about it. That's the most frustrating. So that would be my response. [LB882 LB1008]

SENATOR JOHNSON: Thank you. [LB882 LB1008]

SENATOR SCHILZ: Senator Bloomfield. [LB882 LB1008]

SENATOR BLOOMFIELD: Thank you. What would I do if the bear was chasing me in the woods? I'd shoot the blooming bear, make me a nice fur coat and have supper. That's what you do with the bear, but I'm interested to hear you say that you think this is going to have to involve nuclear energy going forward, and I agree with you. But 30 years ago the scientists were telling us we couldn't do nuclear energy, it was too dangerous. Are we at risk of doing things now to try to protect the climate that would

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appear to be nearly as erroneous as what we are now learning the scientists of that day were on nuclear energy? Because we're going to have to get there sooner or later. [LB882 LB1008]

SENATOR HAAR: Yeah. Well, first of all, it depends on what kind of weapon you're carrying. If you have a .22 pistol and you shoot the bear, it's just going to make him madder. [LB882 LB1008]

SENATOR BLOOMFIELD: If we shoot it. (Laughter) [LB882 LB1008]

SENATOR HAAR: So I'm not sure I want to be with you (laugh) if all you've got is...well, a .45, maybe. There's always risk in going into the future and we will make some mistakes. We will make some mistakes. That's part of the risk of going into the future. I think the greatest risk with climate change is that we do nothing because...I'm going to use this word, it ain't going to solve itself. The risk is to do nothing. Certainly we hope that there are new technologies down the road so that we begin to retire our fossil burning capabilities and so on and so forth. And it can happen and I've said this to public power, who I have an ongoing discussion, we can't just flip a switch and stop burning fossil fuels, but we have to work towards that gradually. And in that process, we'll make some mistakes and I'm hoping for some great technological breakthroughs. Because on the other end, some people are saying, hey, climate change is just going to happen. The earth is going to warm and so some people are talking about geoengineering, which would mean like to purposely put something like soot into the air that will reflect the sunlight. Wow. If we have to get to that point, then I think we're going to lose the game. [LB882 LB1008]

SENATOR SCHILZ: (Exhibit 5) Thanks, Senator Bloomfield. Anyone else? Okay. Senator Haar, thank you so much. Before we move on, I'd just like to say we do have a letter from Department of Agriculture signed by Bobbie Wickham as a neutral letter here. And so with that, that will end the hearing. [LB882 LB1008]