



Prairie Pod Transcript

Season 6, Episode 58: Mni Sóta Makočé (The Land of the Dakota) Part 2: Prairie Stewardship

Hosts: Megan Benage, MNDNR, South Region Ecologist; Mike Worland, Nongame Wildlife Biologist

Guests: Gabe Miller, Environmental Program Manager, Prairie Island Indian Community; Ferin Davis Anderson, Supervisor of Environmental Science and Land Department, Shakopee Mdewakanton Sioux Community; Michael Kurtz, Cultural Interpreter/Naturalist, Shakopee Mdewakanton Sioux Community; Will Crawford, Manager of Dakota Language and Cultural Resources, Shakopee Mdewakanton Sioux Community; Deb Dirlam, Office of Environment Director, Lower Sioux Indian Community; Samantha Odegard, Tribal Historic Preservation Officer, Upper Sioux Community; Amanda Wold, Environmental Director, Upper Sioux Community

Podcast audio can be found online at mndnr.gov/prairiepod

Transcript:

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Megan: Hey Prairie Pod listeners, I'm Megan Benage, regional ecologist with the Minnesota Department of Natural Resources.

Marissa Ahlering: And I'm Dr. Marissa Ahlering, lead scientist with the Nature Conservancy in Minnesota, North Dakota and South Dakota.

Sara Vacek: I'm Sara Vacek, wildlife biologist with the U.S. Fish Wildlife Service, based out of the Morris Wetland Management District.

Mike Worland: And I'm Mike Worland. I'm a wildlife biologist with the Minnesota DNR Nongame Wildlife Program.

Megan: We are part of the Minnesota Prairie Conservation Partnership and we're here to help you discover the prairie.

Marissa: Discover the prairie.

Sara: Discover the prairie.

Mike: Discover the prairie.

((music playing and sounds of birds chirping))

Megan: Welcome back Prairie Pod. Mike, how are you today?

Mike: I'm great, Megan, thank you. It's wonderful to be back in the room with all these stories, great voices, all this knowledge. Yeah, I'm very excited about today's episode.

Megan: I am very excited too and for those of you who missed it, last week was part one of our Dakota Connections to the Prairie Series and we're very fortunate and extremely thankful to be here today with staff from the four Dakota communities in Minnesota and we're just going to jump right in, so we can keep the learning going and keep deepening our knowledge of traditional science. So let's go ahead and go around the room and have everybody introduce themselves.

Mike: Let's do it. Michael, do you want to start?

Michael: (Speaking Dakota) Háu! ȚašunȚka Ópi emaciyapi. Hello, my relatives, I am Michael Kurtz, the cultural interpreter and naturalist for the Shakopee Mdewakanton Sioux Community.

Will: Hello, everyone, my name's Will Crawford. I work with the Dakota language and our Dakota culture here on behalf of the Shakopee Mdewakanton Dakota Oyate.

Ferin: Hey everyone, this is Ferin Davis Anderson. I'm the supervisor of environmental science for the Shakopee Mdewakanton Sioux Community's Land and Natural Resources Department.

Deb: Haŋ - greetings, I'm Deb Dirlam with the Lower Sioux Dakota Community and I'm the director of Environmental Programs.

Samantha: (Speaking Dakota) Haŋ mitakuyapi (Hello my Relatives), I'm Samantha Odegard, a tribal citizen and the tribal historic preservation officer for Pezihutazizi K'api (The Place Where They Dig For Yellow Medicine) or the Upper Sioux Community.

Amanda: Hello, my name is Amanda Wold. I'm the environmental director for the Pezihutazizi Oyate (the Yellow Medicine Nation), the Upper Sioux Community, here in southwest Minnesota.

Gabe: Hi, yeah, this is Gabe Miller. I work for the Prairie Island Indian Community (Tinta Wita), Land and Environment department, as the environmental program manager.

Megan: All right, let's jump right in because we have a lot to cover today and we left our last episode, which you should absolutely go check out. It is on our website and we're calling it part one, and so this is now what we consider part two, and so at the end of that episode we left you with a cliffhanger where we asked Dakota people are considered the original stewards of the land and how are they continuing to do that work

today. So that's where we were going to kick this episode off and we're going to learn some of this right now and Ferin, we would love it if you would help share some knowledge with us.

Ferin: Yeah, thanks Megan. Thanks for having us here. This has been a really great opportunity to teach a lot of people about our different communities. So like you said a lot of our communities are at the forefront of stewardship of the land and so at Shakopee for example we've restored over a thousand acres of prairie since basically 1999 and we're continuing to add to that every single year. We've also restored 50 acres of oak savanna and several larger complexes or wetland complexes and yeah, that's, that's part of the SMSCs commitment to being a good steward and in our area especially, we don't have remnant prairies left. A lot of the land has been converted for other uses like agriculture. It's one of the fastest growing counties in the state of Minnesota, we're in Scott County. And so there's a lot a lot of housing development that occurs around us and so if the SMSC isn't actively purchasing land and restoring it back to the prairie a lot of that's just, you know, developed around us and so that's really important. I think that Sam talked about it last episode about having access to prairie and so if we're not doing this work now, you know, the future generations aren't going to have access to prairie or learn about, you know, cultural teachings through the prairie if there's no prairie around them.

Gabe: Yeah, you know a lot of the work that we do at Prairie Island has similar goals and objectives. Forefront of that is culture and getting that connection of culture back to the land. On Prairie Island, we've restored over 400 acres of prairie in and of itself but also have done work in our waterways along the Mississippi River. We have oak savanna that we've also restored and managing things like invasive species that compete against our native plants that are important to the tribe.

Deb: Well here at the Lower Sioux Community, the land that's undisturbed or undeveloped often remains a natural area. The natural areas are valued. The prairie areas within the community include a prairie remnant and also we've been doing work on prairie restoration for the past seven years. Much of the work does include removing invasive plants and shrubs unfortunately but then we plant native plants in those locations and they've done very well. I feel the plants fit the locations where we are planning this. Also we do the periodic prescribed burns and in a recent land use planning project, we've distinguished the prairie sites as protected areas.

Samantha: I think from my position as a THPO is a little bit different but allows me the opportunity to consult with not only other departments within our community like Amanda's bringing in that cultural component but we're also able to work with state, and even our federal agencies and bringing in that traditional knowledge.

Megan: All right, so in our last episode we also hear from, from all of you really, but Sam you had some really good things to say about unlearning some of the things that we thought we knew, I'm wondering if you could just share a little bit of that to give context to frame up this episode.

Samantha: Yeah, I can recap that. Basically, it's not only things to unlearn about what the population has been taught about indigenous people are Dakota people but even

how everybody views the land. Now, as more of, you know, a resource of what they get out of it and relearning a more cohesive approach of working with nature and with the land and being better stewards.

Amanda: Yeah, to Sam's point, this is Amanda. I just wanted to add that I think it's really interesting that this – we're having this conversation today. Recently, the current administration, the Biden/Harris administration announced that they're looking for more nature based solutions to fight climate change and strengthen communities and I think that we're starting to see on various levels of government and in our personal relationships that people are cultivating this idea of returning back to nature to find solutions to things that the challenges that we're starting to see today.

Mike: So thinking about the work you all are doing, so what I'd like to do now at this point is go around the room and just, and hear people's perspectives on prairie conservation and their communities' perspective on prairie conservation. Basically getting at what role does prairie currently play in your tribal community.

Deb: Well, the predominant land use in this region is farmland, and so Lower Sioux is surrounded by row crop farmland. The prairies within the community act as an oasis for wildlife in this region with all the row crops. Lower Sioux has both remnant prairies that have been untouched as well as a number of prairie restoration sites. Lower Sioux maintains the prairie remnant prairie by actively working to keep out these aggressive invasive species. And in the prairie restoration sites, some of those were former farmland turned into new prairies. One being in the Minnesota River flood plain. The tribe is forward thinking when it comes to our changing climate, and seeding plants that are both traditional and resilient for the new climate trends we have been experiencing with the recent droughts and flooding episodes. Another one of the main benefits to preserving and restoring the prairies in Lower Sioux is the importance of cultural and medicinal plants. Tribal members actively harvest numerous cultural and medicinal plants only found in the native prairies, and these are used in traditional ways as traditional food and for their health. The Office of Environment and the tribe's education department also integrates the prairie and native plant knowledge into educational programs and outreach initiatives. There's been more discussions on traditional indigenous food systems as well. Lower Sioux has installed a native edible plant garden area for community members to harvest in a one-acre setting near our Lower Sioux health clinic. The doctors and chiropractor harvest medicinal prairie plants right outside the doors to use in the clinic and many elders and community members harvest the native food, such as wild plum, sand cherry, groundcherry, wild strawberries, gooseberry, and many others. The accessibility of this site with a wide variety of important plants means that anyone going to the clinic has this available. Just an extra word on the remnant prairie. It's very exciting to talk about that we have a remnant prairie but also in a way to say that 15 acres is a big deal when once there was 18 million acres in Minnesota speaks to how much we should value this rare habitat. Since the remnant prairie have not been farmed and contain so many traditional native prairie plants, Lower Sioux harvests the seeds from these prairies by hand for other restoration projects. Also, I think it's worth noting that recent research shows that prairies help mitigate climate change with all of the stored carbon in prairies. And it should be considered more resilient than forests. When wildfires move through forests, the carbon

that was stored in the wood and leaves is now burned carbon and is released back to the atmosphere. Whereas the advantage with prairies are these are more resistant to the droughts and the carbon is fixed underground and stays in the roots and soils when a fire does happen. I find it's helpful to look at every component, every type of life as important as in soil health is dependent on the smallest microscopic component. So it's in this holistic approach that I feel is very important.

Gabe: Prairie is of significant importance to the Prairie Island Indian Community. Many of our plants relatives for cultural and medicinal value and foods occur in the prairie, so and I'll just say our prairie management has five main objectives. First of all is being that connection to culture. Making sure that certain medicines and foods are available. You know, talking to some of our elders about the struggles that had gone through in the past with displacement and stuff, you know, as an example, prairie sage is a very, very important cultural plant. It's one of the main four medicines of Dakota people. They had to work with tribes to the north to be able to access that resource because it did not occur on Prairie Island anymore because like many prairies, it was predominantly converted into agricultural use. As we've restored prairies on Prairie Island and at this time we're at 400 acres that have been restored, with very little remnant prairie left, but we've seen this regrowth and, and reestablishment of prairie sage, and that's one of the things that we see from our community of the thankfulness that the prairies are back, and healthy and providing for the people. And, I can't talk about the cultural side of things as I'm an employee and not a community member, but to see that as an employee and that strong connection that gratitude is amazing. So culture is the number one thing. Number two is the habitat that it provides. We've been talking earlier about birds and, you know, these grasslands have significant importance to our native grassland bird communities, so we've had species with cultural value too like the meadowlark. There's an important meadowlark story that Dakota history and other species like the bobolink, savanna sparrow, all those have the ability to persist on our landscape now. So, the years that I've been working for Prairie Island for the last 13 years, I've seen the numbers of bobolinks and specifically meadowlark increase over the time as we've expanded our prairies and they become more established. We've even had the loggerhead shrike, which is one of the rarest species in Minnesota to nest, we have nesting on Prairie Island, which was to me was a huge victory. So another purpose for our prairies is our water quality or our protection of water resources. We're right on the Mississippi River, we have incorporated some of our earliest prairie restorations as buffers for runoff from our agricultural fields, so purposely restoring prairies to get that benefit and, you know, not just the water quality but also the cultural values that come with prairies. And I think one of the last things I'll mention is our bison herd. So back in the 1990s, Prairie Island began its story of bringing bison back onto Prairie Island. It started with one individual bison. There was an elders council to determine if they're going to keep this bison or if they're going to use it as a feast, and the decision was to keep the bison. Well, that's grown to now 300 head of buffalo or bison, I should say. So, one of those early purposes of our prairies was to serve as supplemental hay or feed for our bison. That's where Prairie Number One was established to feed our bison. So, you know, these are all things that have that direct connection to the culture of the people of prairie island. And then another purpose of our prairies is our archeological protection. We're on the Mississippi River. The whole river

valley, a lot of the river valleys in this part of the country, this part of the state were centers of Dakota culture. So most of the terraces, points, and overlooks have archeological significance, either it be village sites, hunting camps, and one of the more important ones is the fact that we have burial mounds. On Prairie Island alone, I think there might be over 40 burial mounds, and a lot of this area was converted to agriculture. And so for years and years, I mean we're talking probably 100 plus years these archeological resources were being plowed and planted and plowed and planted. So as we find evidence of these archeological sites, we use prairie as our mitigation to protect the archeological resources. So now, we're perpetuating saving the archeological resources while also perpetuating prairie-- continual prairie preservation.

Megan: I love that. It all comes back to the prairie at the end. (Laughter.)

Megan: Amanda, let's hear a little bit from you on the same question.

Amanda: Sure. So building off of what Gabe was speaking about earlier, which I think is really important discussion about the, the water quality, the protection of the land for archeological sites, and so on, it's sort of building off of this idea that everything is connected. All of the projects that we do, the work that we do, it's all connected. For myself as a project manager, I think that my job is to listen and to respond to the needs of the community as well as identify areas within the landscape that can be addressed in a respectful and appropriate way. I think it's really important in this work to collaborate with each other. So for example, Samantha and I work very often together on projects. If I know I'm going to be doing something, she's the first person to hear about it. And so I think that's, that's a big part of our success I think of both prairie restoration as well as project development is reaching out to the community, reaching out to our departments and saying what's already been done, what makes sense for your program, and how can we work together to see these projects through because everything is connected. For the Upper Sioux Community, it's a, it's a small land base, and a lot of it cannot be developed. We have over 600 acres in the wetland reserve program with around 2,000 acres total of land base. So that's a significant amount, and we spend a lot of time going into those spaces and looking at how can we improve this for both people as well as animals and plant life, and doing the best that we can to address the concerns that might be there and, and one of the things that we've talked about a little bit is this idea of displaced plant relatives or invasive species because these were plants that were brought here, and we've seen the effects of globalization, and it's not just in seeing different types of technology and what have you, but it's also in, in the plant life that we're seeing around here, and trying to understand why that plant life might be there, the benefits to us, and then how can we interact with that landscape in a respectful way, and then also to understand why those plants might have been there in the first place, and that's, it's a really interesting conversation to have, but as an individual land manager, I think it's important to think about these projects long-term, what they mean to the community, who has limited resources, trying to focus on projects that people can see and touch and connect with, we have two prairies that are close to tribal housing and to the government buildings, and they are burned regularly in collaboration with the BIA to stimulate prairie plant growth, and I think it's really cool and I would say even important for the community to have this opportunity to see these burns and to have this connection with them and see that it's not scary, it stims life, and, and cultivating that

same sort of relationship between the, the land management, what's in the prairie, just having the access to it, I think makes such a big difference. And I've actually been recently to Shakopee, and I think it's so incredible because micro prairies that you guys have in place because they are right there, surrounding people in a more urban environment, and connecting you to that space even as we said in the last episode, if it's a small area, it still has so much benefit even if it's just that educational component. But of course, we know it's more of that. So I think that's for, for me, it's really important to realize that all of our projects are connected. Bringing the prairie into the conversation is really important, whether we're doing housing development, solid waste removal, and restoration on a project, or just restoring cropland back to prairie.

Sam: I would actually like to go more personal but I know that the question was more about the tribe, but as a tribal member who lives near those prairies that Amanda mentioned, I can give firsthand experience about how that has impacted and the benefits. And I can literally walk out just past my front yard and I can go harvest the medicines that I need either for my spiritual health or my physical health, and that is because of the prairie restoration work that has been done by the tribal staff. Even going into, you know, I know we're talking about prairies, but we're also talking about this need to preserve whatever land we can, and even like the wetlands that were talked about or the river bottom lands, again, that's not that far away, and we're able to go there and, and harvest things that when I was growing up, were just stories. We'd hear these stories about oh, this grandma knew all the medicines and she knew the plants and oh, which ones? Like well, we don't know because we don't have access to them. And now we're relearning that we're able to use those again and one of the most, I think one of the most significant little interactions I had is we had an elder medicine person that came down to visit us from North Dakota and one of those little restored prairies is maybe a few acres, and he just kept going on and on and repeating over and over about how much medicine was there and how great that was, and, and this is coming from someone who lives in a community or reservation that has a thousand times more acres than we do, so, so those are, those are life experiences we can give examples of.

Megan: Thank you, Sam, so much for sharing that perspective. I'm really glad that you mentioned access to the prairie and particularly for food and medicine, so I really appreciated that. Ferin, let's hear a little bit from you.

Ferin: So I guess from my perspective as a native person who works for a tribal community, I'm about building that reciprocal relationship back with the prairie and Robin Wall Kimmerer did a really good job of coining the term reciprocal restoration, and that's, you know, the relationship that you're building back with all of these different species, all of these different relatives. And so that's something that I really try to incorporate with the way that our prairies are restored and activities that are surrounding our prairies. So one of the ways that we're doing that obviously is bringing back these plant relatives, and that brings back a lot of other relatives in the process like the Ziŋtkála or the birds. And, and one of the plants that we were successful at bringing back was prairie turnip, and that's Típsiŋna in the Dakota language, and, and that's again access to these plants, right? So we have community members who've had to travel to South Dakota to harvest those plants. And so now they're actually able to harvest these plants in our communities and Amanda mentioned our micro prairies that

we have. And so we have prairies at like different sizes throughout our community, we have prairies as small as, you know, a quarter of an acre all the way up to 160 acres. And so having these micro prairies around the community in an urban environment also provides opportunities for people to learn more about their plant relatives to bring back that, you know, knowledge to provide opportunities to bring back that knowledge, and one of my elders told me too that if you don't talk to plants or if you don't acknowledge them, acknowledge their existence because they have a spirit, they'll think that we don't need them anymore. So that's something that I keep in mind too when I'm out in the prairie. I'll go and I'll look at a plant and something that I like to do is, you know, offer tobacco and that's something that is again reestablishing that reciprocal relationship because you're acknowledging that plant's spirit. Even if you're not going to harvest it, you can still acknowledge it and, and pay respects to that plant. And I think that's something that people outside of our community are like well, that's, you know, that's, that's not a sentient being, but they really are. And I think that's really important to acknowledge that, that, that their spirits are still there. And if we don't, they might go away and maybe that's why some of the plants that we don't have, have gone away too. And, and just also another thing that we can do for the plants is learning what their names are, so that's something that's really important to me, like in our community is having people come out on plant walks and, and going for walks and, and understanding their, their English names or their Latin names, and also understanding their, either their Dakota or their indigenous names. For me, I'm Ojibwe Anishinaabe; I'm an enrolled citizen of the Turtle Mountain Band of Chippewa. And so that's something that's I've been trying to learn and revitalize for myself is understanding like what their names are because she also told me my elder that sometimes these plants, they don't speak English, they speak our indigenous languages, and I think the same thing for birds too, right Will? There's some different birds that, that might speak Dakota instead of English. And so I'm always thinking of that when I'm trying to weave my, you know, traditional knowledge with western, my western knowledge too because I went to, you know, school in a western institution, and I have a background in western knowledge and that's something that's important to me is interweaving those two knowledge systems so that, you know, it's more holistic and, and there's different approaches to, to looking at prairies. And I think we talked about this earlier about not calling invasive species invasive species. They're, they're plant relatives, they were brought here by people, and it's, you know, not their, their fault that, that they're here, and there, there is some things that we can do to, you know, send them back, but to view them as like the enemy or, or to view them in, in that context is, is kind of wild to me. That's like well, you know, they have a gift too, it's just what, what's their gift that they're, they're trying to teach us. And yeah, so those are, that for me specifically, that's what I like to do in, in how I approach, you know, prairie management. And for the community again, they're just trying to be good stewards of the, of the, their, you know, their community, and then in, in the landscape basically, and they're also trying to be good neighbors to other people around them, so we get a lot of compliments from our neighbors and there's been a lot of birders that have sent us emails because again, like Gabe said, a lot of the birds are coming back to these areas and that's really good to see, and I think that's one of the most rewarding things for me is to hear when people in the community are able to harvest their traditional plants or they say like oh, I still have

this bird out here, like Michael told me the other day, or interpreter that he saw 15 meadowlark like out in one of our restored prairies and wow, that's amazing, so yeah, that's, that's how I approach some things.

Mike: I would really like to hear what your challenges are when it comes to prairie conservation. Clearly, there are some big challenges, and then also what are the most rewarding aspects of your work.

Amanda: Well, challenges certainly are that the community has a limited land base and it needs for additional houses and services grows as the community grows. Also, funding for conservation work is limited as well as the staff and time dedicated to prairie conservation work. And again, one of the biggest challenge in southwest Minnesota is the pressure from farming. Southwest Minnesota has some of the best farming soils due to the prairies that existed here, so there's a lot of pressure to farm these lands. Prairies do not generate income like farmland does, although the prairies are instead rich with biodiversity for both plants and wildlife and traditional native plants.

Megan: And people.

Amanda: And people.

Megan: Yeah. We have healthy prairies, we have healthy people because we're drinking the water they're filtering and breathing that air.

Amanda: Yes, yeah.

Gabe: Yeah, so challenges. So at least on Prairie Island, I mean, we can talk about funding and all that sort of thing, and that probably would be touched upon by multiple people. So we live right next door to the Mississippi River, and because of things like climate change, we've seen more flooding issues, and so, you know, we've, we've tried to restore prairie on Prairie Island and so much of it is prone to flooding. Some of our restorations have just been lost due to these flooding issues, and that's all related to also what's being done upriver with tiling and, and that sort of thing. So we're seeing this, this challenge of, of flooding within Prairie Island. Another thing is just managing the biodiversity on our prairies. You know, trying to ensure that the forbs and the important cultural plants are persistent whereas, you know, a lot of times we have an issue with like the grass is taking over, so trying to find ways to ensure that we can keep that biodiversity without having to turn too much to things like herbicides, which is something that I think a lot of the other tribal managers staff will say is that use of herbicides is, it's a challenge. It's a tool that we have but it's not always something that we can turn to because we're trying to be sensitive to the land and the plants, so those are two, two of our main challenges on Prairie Island.

Ferin: Yeah. At Shakopee, we have similar challenges getting back some of those cultural plants like *Tipsinna* can be very difficult, especially if you're trying to grow it from seed. It's not—you know--a there's a lot of trial and error. But again, that's reestablishing that relationship with that plant and understanding that there's a process that needs to happen. We also have some challenges with prescribed burning in our, in our location. We have a lot of our prairies are micro prairies that are abutted right next to some housing developments. We have some sensitive communities. There's

elementary schools, there's hospitals nearby, and so we have to be very cognizant of where we put our smoke from our, from our burns, and that can be very difficult logistically to even get a controlled burn or a prescribed burn on the ground often a lot of times. Yeah, so we're just trying to bring back some of these natural disturbances, right? And another thing that we don't have on the landscape right now is, you know, one of our biggest herbivores that was here precontact, and now a lot of them are gone, but luckily some of those relatives are being brought back, and so hopefully in the future the Shakopee Mdewakanton Sioux Community will also bring back some of those herbivores and natural processes that were here historically. You know, are so beneficial for our prairies.

Megan: Absolutely. Amanda, let's hear a little bit from you.

Amanda: Sure. I think for myself, one of the most challenging aspects of a successful prairie restoration or conservation effort is consistent and continual management effort. It's really easy to start off strong, perhaps it's with funding, and then to maybe lose some steam at some point I think sometimes priorities may shift and the concentration may be on a different aspect of the many projects that we have as tribal communities. And so I think that that can be a challenge that a lot of prairie managers come up against is against is either the amount that needs to be managed or the type or consistency and I think that sometimes we think in terms of a number of years or career, and really things take time. We've spent so much time creating this poor relationship with the land and creating this almost distrust between plant communities I think that building up that relationship like Ferin was talking about with the plants and with the resources takes time, and we're not used to things taking time. So if it takes 10, 20-plus years to, to restore or more, I think sometimes the people can become discouraged, and that can be a challenge in prairie restoration. We have a great example of that with our oak savanna restoration site. We've been doing oak savanna restoration for about 15 years, and there's been various cycles of how to manage that project, whether it be with goats, with herbicide, with just cutting. It's a lot of trial and error, and I think sometimes people can feel discouraged when you see not the result you're looking for. And so I would just say as like a rallying call that there's no need to lose heart. I think that we should continue to build those relationships and that trust and the co-management and the communication. And so we're doing that, we, we will have more successful projects, and I really do think that that's true.

Ferin: Yeah, this is Ferin. I can talk a little bit more about the challenges of managing oak savannas too because I feel like the science, the western science also isn't at a point where we can definitively say like this should be how often we burn these areas, this should be the intensity. Obviously, there's a lot of nuances to that, but I often see oak savannas where there's these giant oaks right in there, but you don't see the different cohorts of oak, different ages of oaks, so we have these huge oaks, but what's going to happen when those are gone and we need to be thinking about, you know, the younger oaks and how do we promote their regeneration too, and I feel like one of the components that is missing is grazing too. And so again, thinking about things more holistically and bringing back these relatives, or even doing, you know, a lot of times you're burning, it would have been way different traditionally of how our ancestors burned. And so that's something that I often think about of like how did our ancestors

burn, what did they use to burn, and what are the different tools that were used, and I was just at a training in California with the Karuk tribe, and it was amazing because their community has kept a lot of their fire knowledge and the different techniques that their ancestors used to burn, but I feel like in the Midwest, some of that knowledge had been lost like specifically the techniques that were used, the timing of when our ancestors would have burned, but we do kind of know some timing of when they would have burned, like for specific things because that action was used sophisticatedly. And, you know, it was suppressed and that's something that, you know, because it was suppressed, that knowledge is kind of gone now too, so that's something that I think about often too is like man, I really wish I could go to an elder and ask like, you know, when would we have burned for this specific thing or, or what tools did we use for burning, and what were our, our traditional drip torches, you know, and, and I think even in like now, I work with a lot of different firefighters, I work with the Bureau of Indian Affairs, I'm trying to get, you know, qualified in the federal system, you know, and that in itself is very challenging because our lands are federal lands, so you have to have those qualifications to burn on our lands, and that's something that's a barrier too for cultural burning, because there's a very distinct difference between cultural burning and burning and using prescribed fire for cultural objectives. And yeah, I can get a soapbox about this for a long time. And again, this could be another episode. But yeah, that's, that's just something I think about a lot with oak savannas and, and I think we haven't figured out the formula. But again, that's your, it's our responsibility to reestablish that relationship and learn more as much as we can in, in our lifetime anyways.

Megan: Absolutely. I say we're still learning oak savanna, prairie, all of it, right? I wish these are, there's so many pieces that we, we don't know about. I mean, I just think about there's one billion organisms in a teaspoon of soil. Okay. Do we know all of their names? Do we know all of their interactions? You know, that's, there's just so much that we're still learning about and trying to puzzle out, which is why I think we're going to be better served if we can work together, learn from each other, which I'm cueing us right up for our next question.

Mike: Yeah. You guys did a good job of highlighting challenges. How about rewards? I don't think you touched on rewards very much. Amanda, would you give us some rewarding parts of your, of your prairie management?

Amanda: Sure. I think that there's really no downside to the aspects of prairie conservation, even the challenges can be really rewarding because as you're addressing those, you're learning and you can incorporate the information that you receive from others and to other projects that you're, you're doing within the community. I think as a person for me, I love seeing a beautiful, diverse, and open prairie that people and animals are able to visit and utilize. I mean, I have a really great time in the spring seeing baby turkeys running through the oak savanna, through the prairie. It's just a really fun experience and so as a person, I enjoy seeing the animals utilizing these spaces, seeing the goldfinches eating the thistle, still joy, and, and then just knowing that at some point I'm going to run into an elder or two down picking some choke cherries. It's just a really fun time for me and I, I like all aspects of prairie restoration.

Gabe: This is Gabe from Prairie Island. I concur with everything that Amanda just said, and I think it's also important to state just what we've been able to do for the community. So to have that gratitude from the community, knowing that the work that we're doing is making that difference. And on top of that, I mean, just knowing that even in our little world of Prairie Island, which is a little 5,000-acre island in the middle of the Mississippi and Vermillion Rivers, that the work we're doing is improving water quality, it's providing habitat for native birds, and all that, so yeah, it's just knowing that we're making a difference with what we're doing on the larger scale.

Deb: Well, for me, to know that there are real, on the ground improvements that I know are happening because I see the butterflies, the bees, and other pollinators thriving on the plants and the prairies. Also, having a source for rare traditional plants in a remnant prairie from pre-farming time, and then having that native seed source to harvest from. But by far for me is the elders' excitement when they can see plants that they gather for traditional ways, seeing community members out in the prairies harvesting plants, then hearing, then get so excited about the sage, the sweetgrass, and other plants that are in these new prairie areas that we are restoring.

Ferin: Yeah so for me, it's really rewarding to be able to interact with the community members on the prairie, and people from the, well, people from Shakopee specifically and being able to see them able to harvest plants that they haven't had access to in over probably 75 years. So like the Típsiŋna that I mentioned earlier, we had an event where it was a plant identification with Hope Flanagan who works with Dream of Wild Health, and she's awesome if you haven't heard of her, you should look her up. But she looked down and saw Típsiŋna and she's like Ferin, is that what I think it is? And I was like yeah, Hope, that is. And so one of our community members is named Cyndy Milda, she's our public education coordinator at Hočokata Ti, she was able to show people how to harvest that plant and, and what it was and, and we all got to taste Típsiŋna and that was the first time I ever got to taste it too, so that was really rewarding. And then yeah, like, like they said, being able to provide all these, you know, in a western context, all these services back to the community, right? Like clean water, clean air, and yeah, like Gabe said, there's not really anything that's a bummer about working with prairies, right? It's like it's awesome to go and, you know, you can see an area that you seeded like five years ago and now you've seen what's come up and you can say like yeah, like I helped those, I helped those plants come back. So, so that's something that for me I really enjoy and I really enjoy seeing the different processes and different stages of these prairies and bringing them back.

Samantha: I think for me, I touched earlier as everyone else has been saying is seeing things come back but also knowing that it's, it's changing thing for, changing things for the next generation and seeing it become a place where our communities interacting with the prairie again. And not only the older ones that maybe haven't seen or had this opportunity for, for decades, but also the other generations coming up that now this is their norm. I mentioned earlier about the prairie that's outside my house. Well, my niece just lives a couple houses down and she randomly one day was telling me about I like how I can just go across from my house and get sage, and I was like that's amazing. Also, like I mentioned that I would get to work with more agencies and places outside of the community and now through that work and this consultation work that I do, I have a

better idea of where things are, so I can help people get the plants that they need. Other community members or elders that say, I'm really looking for, I need this, and like oh, I know where you can find that. And I can make that connection for them. That's one of the most rewarding things.

Mike: Very nice.

Megan: I love that. It's always so exciting when you know exactly where something is and you can show somebody else and you're like, and Ferin said it earlier, we were offline, she was like I know right where that is, which is always so great. So we're talking sort of around this, this bigger concept, right? But we, we're talking about how little prairie we have left and how important it is to keep it diverse and connected and resilient. Another way to think about that is healthy. But we know this is going to take all of us working together to do this, so how do we work together--how are we going to do this?

Deb: We can work together and share our knowledge and share local and native seed sources for restoration work are a few of the ideas that would help our work.

Ferin: I think we talked about this a little bit earlier, but one of the things that I think about that we can, you know, do to ensure that prairies persist is just be lifelong learners and willing to learn as much as you can about the prairies, especially, you know, as ecologists and biologists or whatever "ist" you are. Understanding that, you know, your perspective is just your perspective and, and you know, having some humility and understanding that there are other ways of being and that can be incorporated in how we look at the prairie and manage the prairie, but also developing relationships with other people to cross departments like specifically in Shakopee, I'm always looking to work with people at Hočokata Ti and bring their knowledge systems and incorporate that into the way I'm thinking. And then even working collectively as Dakota communities and, you know, like we said, our land bases are really small and how can we, you know, think about connection and, and interconnecting things together and interconnecting prairies and, and working with different agencies, that can be difficult sometimes, but just having an open mind and, and reaching across and understanding that people are coming with different perspectives I think is really important.

Megan: I love that. I think it's also super important for us to remember that relationships are two-way streets and they are reciprocal, and so we need to remember not just to ask of each other but also be ready to give to one another. I think that's a super important part of it.

Gabe: Yeah, I don't know if I can add a whole lot to what Ferin said because I'm in the same boat, you know, it's about those relationships with other people, you know, we're a small tribe, small capacity, have a lot of responsibilities within the tribe, so knowing that we can count on our neighbors, you know, we're right next door to a WMA and being able to work with that land manager to benefit from each other's work. You know, I look at one of the biggest ways to help prairies I always think is connectivity and, you know, we have this massive land base that was once but no longer, and we need to get some semblance of that back. So having these partnerships between the tribes and the

state offices and the federal agencies and, you know, and I always like when you have farmers who are committed to better stewardship of the land and can incorporate that, and then you start making that connective, mosaic across the landscape that benefits, you know, not just the prairie itself, but the services that it provides.

Amanda: Yeah, speaking of that, I think it's important to invest in prairies, to invest your time, to invest some funding, to invest seed collection. There's so many different things that we can do to cultivate an active relationship with the various plants and animals that use these areas as well as the people. I'm just going to circle back to that even like the micro prairies, they create this sense of belonging, but this is what life looks like and we can see it everywhere or anywhere, and I think that that's something that we start to lose sight of at times, and it's really important to invest in having more areas of prairies and, and not seeing it as an, an area that needs to be mowed or needs to be converted to be quote unquote productive in some way that it is productive and that it is important and so when I say invest in prairies, I don't just mean financially but also cultivating that connection that we've been circling back to. Prairies thrive with disturbance. You know, having the bison having people and, you know, going out and disturbing the plants and collecting them, like there is, there's a great relationship building that happens and in the fire disturbance. So just keeping that in mind too is that the relationship isn't a hands-off experience, it is definitely getting in there and, and working in those spaces.

Ferin: Yeah, I think, this is Ferin, I think that people often think that, you know, humans are, are the enemy of the, of the prairie, which, you know, we can be really destructive, but we're also like for our ancestors, you can think of them as keystone species too in those systems because they had that relationship and because they did so many things to manipulate the landscape. Yeah, that's, that's something that I think that in western science, that's not really talked about, that we were, we're often viewed as destructive where for us, our ancestors were there for a reason and, and they weren't destructive. They had good relationships with those areas and understood that they needed to do certain things to have them persist for survival.

Mike: Let's, let's, let's go to our kind of, we're wrapping up these questions, getting at the future goals of, of your, of, of prairie and prairie management for your, for your tribal communities.

Gabe: Yeah, so one of our future goals and something that we've considered for a long time, and then also which is getting back to some of what Amanda and Ferin were talking about with the disturbance aspect is incorporating bison back into our prairies, and I know this is being done within the state at certain areas. But, you know, the wallows that buffalo leave, the, the grazing within the oak savannas, there's research that states that grazing stimulates more biodiversity through that grazing and that disturbance. So, you know, I think that that's the missing piece within prairie management, so to incorporate that grazing aspect with that keystone species, that's a goal that we have, and I hope to see it in my lifetime.

Ferin: So for us at Shakopee, our goal is just to continue restoring prairies and, and bringing back, you know, our plant relatives and providing opportunities for the community to, you know, revitalize some of that knowledge that's been lost. And then working with the Dakota language manager and with Michael to provide those

opportunities and, and just building more relationships with our department so that, you know, our community members have those opportunities to, to go out and, and harvest medicines and foods and, and other sources of material.

Mike: Ferin, I think it's a really good point that when you're talking about future goals for prairie conservation, it's not just management, it's not just getting more prairie on the landscape, it's working with people and, and Will and Michael, people in their position are crucial for that. We're not going to get there just doing work on the land, it's working on people.

Amanda: Yeah. Those are all great points and that's very similar to what the Upper Sioux Community is also working towards is continuing to restore and manage prairies, and then also to bring in more cultural plant experts who can give us a better idea of what plants we might be able to reintroduce into these spaces, and bringing more folks on to the prairie and we, we have a language specialist now we can come out with us and, and teach us the names, the plant names, and Dakota, which is so important. We're touching on that earlier in that relationship building is, is knowing the plant names and so those are some of our goals is to, to bring the people into these spaces and then to bring more of the plants back into these spaces, and it's really important for this relationship building, but I think it's also important when we start looking more broadly at climate resiliency and knowing that there's going to be so many changes on our landscape, and there already have been. So we've, we've seen this year we had flooding in the spring, and then we've had a summer of drought and I think we're going to continue to see the pendulum swing from one extreme to another, and that's why I think it's the, this is one of the most important thing that we can be doing right now is, is working with the landscape and understanding how we can contribute our best selves to relearn what the plant communities should be like now.

Mike: Well said.

Deb: Well, there's been an interest to restore more prairies with traditional cultural and medicinal plants. They're helpful for the environment and also the tribal community. Lower Sioux has been working on education and outreach to preserve and spread this knowledge. We've developed a cultural and medicinal plant guidebook and a field pocketbook that's specific for Lower Sioux, and we developed an app that is based on those guidebooks of the cultural medicinal, and it includes the Dakota name and uses for the plant. The app is available for community members and includes a feature where one of our Lower Sioux language teacher pronounces the Dakota name.

Megan: Deb, I have that book and it's fantastic.

Deb: Oh, excellent. Great, great. I should send you the, the link to the app so you can, you actually get to hear the person say the Dakota name.

Megan: I would love that.

Deb: And I also like in the front of the book how we talked about, you know, it is an oral language, and so different people are going to have different names and different pronunciations, so we're open to including more of those, but I've just kind of taken it as, you know, there's just different variations out there.

Megan: - - it's okay. There's maybe slight unique variations.

Deb: Yeah, for sure.

Megan: Because people, and wildlife and plants are all unique.

Mike: Those, those, those are wonderful and gives me hope for prairie. Megan, should we, should we move on to the Let's Science section?

Megan: We should. It's hard to move on when I'm having so much fun with what we're talking about, - -

Mike: I know.

Megan: - - but I guess we can. So it's one of those things where limited time, so many conversations that we need to have, so we're moving on to our Let's Science, and this is the part of the podcast where we share a book, a blog, a paper, or other resources where you can learn more about the amazing traditional knowledge and science that we've been talking about today. And so we're just going to go ahead and go around the room and hear some of the resources that you all would like to share. And Ferin, let's start with you.

Ferin: So before we begin Let's Science, I think we should talk about, about how to approach indigenous people, tribal nations, about traditional ecological knowledge. There definitely has to be a relationship that's established before you have a, you know, have an ask, because a lot of times like for me specifically, I've had some people reach out to me and ask, you know, about traditional ecological knowledge or about our traditional knowledge, and sometimes that can feel very extractive. And so again, that's, that's that reciprocal relationship that what's your intention. For me, it's all about the intent, right? What, what's the intention of what you're going to do with this information that I give you because historically for us as indigenous people, some of the information that we had given has been misrepresented, has been misused, has been used against us in some ways, and so that's again where for me I need to trust somebody to be able to share knowledge with them. And, you know, again, it's, it's that relationship. And so I think that's really important that we discuss that before we, we get into it. And also, a lot of our knowledge is passed down orally, and so sometimes that, that process has been disrupted, has been lost because of all the stuff that we talked about in that first episode, everything that our people have gone through, and so some of that knowledge again might not be there. And so it's just important to keep that context in mind when you do reach out to, you know, a tribal community, tribal nation, or even indigenous person in general, and ask, it's like kind of think before you ask and, and what, what's your intention and, and be really upfront about that too. You can say like, you know, well, this is why I'm interested in this topic and, and that can start a really good conversation. So for me, I have two books that I recommend people look into and, and one of the books is called *Our Knowledge Is Not Primitive* by Wendy Makoons Geniusz. Sorry, I might be pronouncing or butchering her name. But basically, that's a book that kind of does a really good job of describing how our knowledge is, has been viewed as, you know, not scientific and in different contexts or different lens through a western perspective, and so I really like that book. And the second book I recommend is called

Fresh Banana Leaves: Healing Indigenous Landscapes Through Indigenous Science. The author is Jessica Hernandez.

Deb: I mentioned earlier that Lower Sioux has a cultural and medicinal plant guidebook and also a field pocket guide, and these are available through Amazon. The guidebook is, is like 300 plants listed in there, so there's a lot of information, and the pocket guide is a smaller book that fits in if you wanted to take it outdoors and have it on your prairie hike, be able to take it in your pockets. But those are both available online or you can contact the Lower Sioux Office of the Environment directly.

Michael: The book that I would suggest would be Braiding Sweetgrass by Robin Wall Kimmerer. That is a book that many of my staff have utilized in how we approach some of our not just restoration, but our, our work in cultural plants and community connectiveness, so.

Amanda: I kind of think that it's my job to listen and learn and the more that I learn, the more I feel it's my responsibility to create spaces that respect the knowledge that has been shared with me, kind of speaking to Ferin's point of it's important to, to create these relationships with other people and to continue to foster them over time, and it does take time and understanding that and not being offended by or challenged by that experience I think is really important. But it is also our responsibility to go out and look for resources. So I would, I put that on the listeners to go out and, and start looking at the resources that are available out there. If you're interested in this information, there's so much available. One thing that I'm going to bring up, and it's, it's not related to, to Minnesota, but that I think is really exciting and interesting because as we are all connected, so is the world is that to go out perhaps look at the Landcare Australia and to read up about and watching the videos about traditional aboriginal burning in modern day land management because I think that this is something that we can all learn from is how to think differently about fire on the landscape.

Samantha: Only thing I can add to that is remember to not only spend time learning from people, but from the environment itself. They say traditional knowledge but it is really a science. We, we learned what we know because of literally thousands of years of interacting and that's the most important thing you can expect to know anything about anything without actually immersing yourself in that environment.

Michael: Just like Sam said, I want all listeners to know to get out there, go out listen to the meadowlands, go and watch the bumblebees. This is the Let's Science section of this podcast, so not just us here, this is going to be up to you guys to save our prairies. I know a lot of you guys are listening to the Prairie Pod; you guys love the prairies, but what about your friends? It's going to take all of us. We are all connected. We are all related. We need to push some of this education, not push but gently share with your friends like some of your friends may be a little bit interested in prairies and they want to know more. They may not have access to the podcast or this information, but just sharing that information it's going to take all of us to come together to save all our prairies across not just this state but all across the whole country.

Mike: Awesome.

Megan: Michael, we could not have said that better. That was a perfect way to round out this section. Absolutely. It's going to take all of us in partnership with each other and I also love that you mentioned learning from the land itself and all of the wildlife and relatives that live on that land.

Mike: Yeah. Very well said, Michael. Yeah, and absolutely. Let's, let's you said, you said push it first and then let's gently encourage people, but yeah, spread the word. That was, that was great. Thank you so much for that, for saying that, and thanks so much to everybody for, for those resources and thoughts and traditional ecological knowledge. Super important stuff.

Megan: Absolutely. Just so thankful that we're all here together in person, which is a treat in and of itself, but it's also a treat to just spend time with all of you today learning from you, listening, I have Amanda that you mentioned listening because that's an important part of learning. If we're not listening, we're not learning. So I'm just super appreciative of your time, your knowledge, and all of the things that you've shared today. As always, you can find all of the resources that we talked about today on our website at mndnr.gov/prairiepod. This episode was produced by the Minnesota Department of Natural Resources South Region under the Minnesota Prairie Conservation Partnership, which of course we are all in together as Michael just mentioned. It was edited by Dan Ruiter and engineered by the fantastic Bobby Boos. Man, thank you, everybody. Thank you, thank you, - -

Mike: Thank you so much.

Megan: - - thank you for being here.

Tókšta ake ((saying farewell in Dakota))

((sounds of birds chirping and wind blowing))