Prairie Pod Transcript

Season 2, Episode 4: Going Native: Native Prairie Bank Easement Program—The Deets

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

Transcript:

((sounds of birds chirping and wind blowing))

Megan: Hey, welcome back to season 2 of the Prairie Pod. We are still so excited about it and we hope you're excited too. I'm Megan Benage, regional ecologist from the Department of Natural Resources and I'm here with my excellent co-host - -

Jessica: Jessica Petersen. I am an invertebrate ecologist with the Minnesota Biological Survey for the DNR, here in the central office today. And we have a wonderful guest on today, to talk to us about the Native Prairie Bank Easement Program. Rhett, do you want to introduce yourself?

Rhett: Yeah, hi. I'm Rhett Johnson. I'm the southern region prairie private land specialist.

Megan: Prairie private land specialist, have you practiced saying that 20 times fast in a row?

Rhett: Ah no, but it wouldn't be a bad idea I suppose.

Megan: (Laughs.) Just so when you're handing out your business card you can do it really speedily. Prairie private land specialist, Rhett at your service. I imagine that's how you introduce yourself to landowners.

Rhett: Yeah. Yes, something like that.

Megan: (Laughs.) Wow, today's podcast we are going to talk about Native Prairie Bank Easement Program, which is one of Rhett's primary job duties. But before we jump in, we always like to start the podcast with a little chit-chat, and today what we're going to talk about is something very depressing. It is this New York Times Magazine article that came out and it is entitled 'The Insect Apocalypse' is here. It's here right now. So, full disclosure. Jess sent this to me earlier to read, and so it was published in 2018, and it's a pretty good synthesis of what we know about insects. Jess, walk us through some of

the highlights of this because it's pretty long but it's worth it. Like, it's definitely worth the read. It's 11 pages but take us through the highlights.

Jessica: Yeah. So it is long. It's going to take you awhile. You're going to need a cup of coffee, cup of tea, whatever suits your fancy. Some snacks. Don't forget some snacks when you're sitting down to read this.

Megan: A cookie. You're going to need a cookie.

Jessica: A cookie. You're going to need a cookie or a brownie. Megan read it in the morning. You know, whatever works best for your schedule. You're going to want to read this. It talks about, kind of steps through all the different major articles, scientific articles that have been published recently and kind of walks you through them. There's one from Germany, there's one from Central America. There's several that are all showing very similar trends about insect declines. And one of the things that I do when I read these kind of articles is I try to think about the differences in what they're measuring. So whether - - you can measure decline in a lot of different ways. You can measure it. I kind of think of three different ways that we're starting to think about insect declines. You can measure the decline in the range, so rusty patched bumble bee is a good example of that, although we had people who have been finding rusty patched bumble bee here in Minnesota in the last couple of years. The range is really constricted compared to the historic range. You can also think about declines in richness, so the number of species, and we can also think about declines in abundance. And a lot of what they talk about in this paper is declines in abundance. So one of the things that's really great about this paper is that it kind of balances this negativity that Megan was talking about, thinking about climate change, all the different factors that might be affecting insects. But then it also brings out the good. It talks about ways that we can help or things that we can do to help document insect abundance or richness or the distribution. The pictures are really great, too. So if you're reading this, you might want to read it on like a computer instead of just your little phone because you got to get the whole experience.

Megan: There's one of a bee like exploding like an atom bomb, which is pretty colorful. I want to read just Jess is talking about declines and I just want to quote a couple of things from the paper just so that you understand what we're talking about when we say declines. So in this one, it says "Krefeld entomologists confirm that the total number of insects caught in one nature reserve was nearly 80% lower than the same spot in 1989. 80%." That's not just a decline; that's an apocalypse.

Jessica: Yeah. That's a lot.

Megan: See how I brought the title in there, Jess? Are you proud of me? The other quote, because we're all about diversity on the podcast, my favorite quote probably from the whole article is where it talks about there's an insect ecologist, Scott Hoffman Black, and he says, "We worry about saving the grizzly bear, but where is the grizzly without the bee that pollinates the berries it eats or the flies that sustain baby salmon? Where,

for that matter, are we?" And so it kind of brings back this whole point, right, that everything is interconnected. This is the Prairie Pod, we're talking about prairies, but lots, I hope you learned from Season 1 and we hope you keep learning as we move through Season 2 that everything's interconnected and everything's playing a role. It's not just one part that makes prairie, it's many.

Jessica: Yeah. Insects play a huge role in our ecosystems. You can think about, the article does a really good job of describing this, we can think about insects as food for things like fish and birds. We know that a lot of animals need insects to survive. And so one of the reasons we might be seeing declines in those critters is because of decline in insects. Insects are kind of this fundamental level. Maybe they're the canaries in the coal mine. We need to be doing a better job of monitoring them. So that's in part my job is to think about monitoring of insects, and I do that a lot. Because we aren't doing a great job. This article describes how we need to be doing a better job of monitoring for insects. It's really, really hard to do because we don't have this baseline information in a lot of cases. We don't even know the identity of these guys, but we got to start somewhere.

Megan: I think we were talking about this earlier and you were saying how the article and a lot of your work, too, talks about the importance of citizen scientists and how the amount of what we don't know is so much and so we're going to have to rely on citizens and other folks who have an interest in insects to try to help us tally some of this data or collect some of this data. And so luckily in Minnesota, we're really blessed and we have some awesome citizen scientists who are already in partnership with the DNR, and with other groups trying to collect data, and to segue right into today's topic, those citizen scientists happen to be doing some of their work on native prairie banks. See how I just buttoned that up all together?

Jessica: That was good.

Megan: I'm really proud of myself for that. So Rhett, this brings us right into today's topic. We're going to jump in. Can you tell us a little bit what is a native prairie bank easement? What is the program about?

Rhett: Well, the Native Prairie Bank is a program that protects remnant native grasslands through permanent easements. It was approved by the Minnesota Statute in 1986 and Minnesota Statutes direct the program. Interested landowners can choose to retain certain rights, such as grazing and haying, but they cannot break the sod or build on the property. Lands of the Native Prairie Bank are still owned by private citizens but they're considered DNR-administered lands, so we can help landowners with management projects. And it should be noted that Prairie Bank properties are not open to public hunting, though landowners and those they allow can still hunt them, and the Prairie Bank is a competitive program, so higher ranking properties are prioritized for easements.

Jessica: It's really important. Those are really good first-level things that we should know about Native Prairie Bank Easement. So Rhett, tell us a little bit about why should we care, why should we be protecting native prairie on private lands?

Rhett: Well, the prairie once covered about a third of Minnesota and between 21% and 35% of North America, depending on what you consider prairie. But today, there's only 1% to 2% left in Minnesota and only about 5% in the US, and many people consider temperate grasslands to be the most endangered ecosystem on the planet. Prairies are really very fascinating ecosystems with an incredible diversity of life. They also contribute to clean water and aquifer recharge and they are a sink for atmospheric carbon.
Megan: Okay. You said a sink for carbon. You know I have to interrupt you here. What you talking about, man? Because when you say sink, you know, what I'm thinking about. It's almost the end of the day, thinking about my kitchen sink, thinking about my dinner. Tell me what you mean when you say carbon sink.

Rhett: Well, the prairies, you see above ground in the prairies is just a little bit of what's actually there. What's below ground in prairies is every bit as important and in most prairies, there's a lot more biomass below ground than there is above ground. And actually, a lot more diversity below ground than above ground with all the insects and nematodes and mites and such. And Prairies are dominated by perennial grasses and forbs (wildflowers), and they have a lot of root mass underground and especially grasses, they're continually re-growing roots and roots are dying and new roots are growing, so all the root growth underground is taking carbon out of the atmosphere and putting it into the soil. That's also why over many, many, many years, the prairie soils develop into this really rich mollic soil that they have today.

Megan: And when you say rich mollic soil, what you're saying is black earth, man. Those rich black earth soils.

Rhett: Rich black earth.

Megan: Oh, gosh. I love prairie soil. It smells good. I think we said that before but I'm just going to mention it again. Prairie soil smells alive, it smells delicious. Jess' shaking her head at me, but she knows that it's the truth. So other than its smell, why would a landowner enroll in Prairie Bank?

Rhett: Well, there's actually a lot of different reasons that landowners would be interested in enrolling in the program. One is financial. It's a pretty good payment and if landowners are using land for grazing or hunting or haying or something like that, it's a way they can get some extra income without really changing how they're using their land already. Some landowners are very strongly conservation-minded and want to ensure the prairie's around for future generations to enjoy. And along with that, a lot of ranchers, they want to see the grass stay on the landscape. They want to see the ranching lifestyle persist. And then another common reason people enroll is to get help with management, especially landowners that are maybe a little bit older, can't do quite

as much work on their own anymore and just want some help with managing their lands.

Jessica: That's great. So, how do you find these people or how do these people find you? You've got to sign these agreements with private landowners. How do they get to you?

Rhett: Well, sometimes they contact me directly. They might see something on the internet or hear something from their neighbors about easement programs and they just want to kind of know what the potential is for their property. But a lot of times, partners kind of put me in contact with prairie owners. The DNR Wildlife Division, the Minnesota Biological Survey, The Nature Conservancy, the Fish and Wildlife Service, and local soil and water conservation districts are great partners that send a lot of people my way. And I also may take the initiative to make contact with landowners when I know they've got really high-quality prairie that might fit the program.

Megan: I love that because you basically just listed the bulk of the prairie plan partnership, and so that's when we talk about prairie, all of these things happen because of all of these partnerships that are working together and you just listed one way that that works is that we're helping to get native prairie protected. I love it. So, okay. Let's pretend I own some land. I don't. If I did, how would I know that I qualified for Prairie Bank?

Rhett: Well, it needs to be primarily unbroken prairie and dominated by native prairie plant species. It is a competitive program, so when we're looking at sites, we look at the quality of the remnant, the size of the prairie, occurrence or habitat for rare species, where it's located relative to other prairie areas, and potential for management. So, these are some of the things we look at as far as whether it will qualify, but the primary thing is it needs to be mostly unbroken prairie and dominated by native prairie plant species.

Megan: Okay. Would you say unbroken prairie? So how do you know? Do you just have like a magic Rhett barometer that when you go out to a site and you just step on to it, you're like ahh native prairie? I mean, how does it work, Rhett? Tell me, what are we looking at?

Rhett: Actually, sometimes it does work like that. Sometimes just looking at it, you just know, but it really comes down to the species that are present. Some plant species, just they won't persist under certain kinds of disturbance or if it's been broken, you won't see them there. So, really look for, look at the plants and the mix of plants that are there and especially looking for some indicators of quality habitat. I also look at, you know, take a bigger picture, too, and use geographical information system data to look at historical aerial photos and the LIDAR, the high-resolution elevation data to look for signs of it being broken in the past.

Jessica: So Rhett, you're a fabulous botanist. Do you only go out in the summer or is this a year-round job? I'm going a little off-script here, so apologize to my colleagues, but I got lots of questions. How do you do this in the summer versus the winter? You just sit at home and knit during the winter? Tell me a little bit about your - -

Megan: (Laughing) He's making a new vest during the winter. He's repairing them.

Rhett: Yeah. That's where I sew up my vest. You can tell some things in the winter, especially the native grasses stand out. They have kind of a little bit of a different color, kind of a pinkish orange color that stands out. But then a lot of native species persist through the winter, some of the heartier ones like the goldenrods and sunflowers and such and the blazing star. So there are a lot of things that you can tell in the winter but ideally, though, you know, it's getting out there in the early summer to late summer and see the plants when they're in flower, so you know, you can tell a lot of stuff at this time of year but you also miss a lot, so.

Jessica: Awesome. So why this? We've talked a little bit about, you know, there's other easement programs, U.S. Fish and Wildlife Service has an easement program. There's several others. Why should I choose this easement program over another? What are the pros and cons of the various ones? How do you decide?

Rhett: Well, a lot of the easements are fairly similar but they differ in the details. Really the right easement depends on the property and what the landowner desires for the future. So, sometimes, you know, the landowner's desires or the property just doesn't really fit the Native Prairie Bank Program and so then we look for other options for landowners. So as you said, there's a lot of different options out there and it's finding the right fit both for the land and for the landowner.

Megan: That's where you're working with partners, too, to figure out, to have that conversation about what you think. Like you're working with the landowner to ask them what they want, but then kind of the programmatic discussion of what's really the best fit for them, and that might happen with the partnership.

Rhett: Right. And especially, you know, if there's, if a landowner has a property that's right adjacent to DNR land, you know, the Prairie Bank Program might be a better fit than if the property was right next to Fish and Wildlife Service land, in which case, a Fish and Wildlife Service easement might be a little bit better fit because they're right there and able to coordinate efforts a little bit better. So yeah, it comes down to both the land and the landowner.

Megan: I like that. That's a good quote. Comes down to the land and landowner. And I just want to point out that if we're talking about DNR lands or U.S. Fish and Wildlife, not with an easement on it but regular waterfowl production areas, those are your public lands. So they just happen to be administered by those agencies, so they're really your lands, just to be clear. So a little bit ago, you mentioned that you can help landowners with management projects. What kind of help do you give them? Are you just like you

can do it, man, you're doing great at removing those invasive species, or are you giving them actual technical, physical help?

Rhett: Both, actually. You know, I would give them kudos for the efforts that they do but we can help with project planning from determining the best management practices to lining up contractors. We can also help financially for projects that fit in with the goals we have for maintaining or improving prairie health. We also write prairie stewardship plans for private landowners. These are comprehensive plans that look at a site's needs and how to achieve management goals over time. We've written a lot of prairie stewardship plans for Prairie Bank properties, but we've also done quite a few for non-Prairie Bank landowners who have prairie that they want to maintain the health of. On the actual Prairie Bank lands, we can usually completely fund the projects that we come up with, though the landowners often lend a hand. For example, they might help us by cutting some fire breaks or checking the effectiveness of some of the invasive species treatments we do just to kind of let us know if we're getting ahead of stuff, so. Generally for management, we find what works best is if we have landowners that can kind of help us out a little bit here and there, and then we can kind of take care of the big projects and do the big work. And then if the landowners can have follow-up to kind of help us out with the follow-up, it works really well for everybody.

Jessica: So we talk on the podcast about prairie reconstructions quite a bit. It sounds like from the name of the program, that this is only referring to Native Prairie Bank, native prairie, Native Prairie Bank easements. Is this program exclusive to native prairie?

Rhett: Yeah. The Prairie Bank is primarily for protecting native prairie, though we can include some other plant communities or restore prairie to kind of even-out boundaries and shield the remnant native prairie community is kind of what we call like an ecological buffer around the native communities. And when they're part of the prairie landscape, we consider plant communities such as rock outcrops, calcareous fens, wet meadows, and savannas to be native prairie because they're part of that larger landscape, so they kind of fit in there. But, you know, it is a program for protecting native prairie, so we can take in some non-prairie, you know, cropland to restore or old CRP [Conservation Reserve Program] or something, but it has to be primarily native prairie and if we take other land in, it has to be contributing to the protection of the native prairie.

Megan: So, I know what type of land you're looking for, but how much of my land can I enroll? Because I want to enroll it all. I want to enroll all my prairie, I want to protect it, how can I do that? Can I do that?

Rhett: You can enroll as much as is native prairie. There's no maximum size but depending on the year, we may be limited as far as funding goes.

Jessica: So a lot of these folks you're working with are conservation-minded kind of individuals. They might already have an easement on the property like CRP. Can you still enroll in Native Prairie Bank?

Rhett: Yeah. If the property has some CRP and there's sufficient native prairie to go along with it, you could enroll some CRP. And we often take in CRP along with native prairie to even-out boundaries and, like I said, to give a protective buffer to the native plant community. And if there is CRP after enrolling in the Native Prairie Bank, you might not be able to - - you would not be able to reenroll it in CRP, but you can continue to receive payments until the current CRP contract expires. If there's some property already in a permanent easement program, we cannot pay for putting a Prairie Bank easement on the property, but a landowner could donate those acres to be included in the Native Prairie Bank easement. And this does happen occasionally. For example, if there's a large, like, say an 80-acre prairie area that maybe has 10 acres of RIM [Reinvest in Minnesota easement program] included with it in the middle of it or something, the landowner could donate those RIM acres to the Prairie Bank, which really doesn't change the protection on the land, but it does allow the DNR to work on that land. It makes it DNR-administered land that way. So, yeah, we can take in some CRP or RIM, which is Reinvested Minnesota properties, along with the native prairie. That means that we can put in our effort into managing that land. Yep.

Megan: So, talk to me a little bit about haying and grazing. So I know that I, it's not public property just because I have an easement on it. It's still native prairie and I can retain my rights, but what about my haying and grazing rights? Can I still do that?

Rhett: Yes, yes. Landowners can retain grazing, haying, or seed harvest rights. It does reduce the easement payment a little bit, but if that's what the land is being used for and they want to continue to do that in the future, they can retain those rights. We do like landowners to graze or hay responsibly, and we have some standards for these practices. For example, landowners that retain the right to hay, they need to leave a portion of it unhayed each year and that gives winter cover for birds and such and then, also, you know, especially some of the insects that overwinter in the stems of grasses or wildflowers, it gives them a place to have some kind of refuge. So, we do have some standards for the management practices, but generally speaking, most landowners I've worked with, they're already doing something like that anyway as far as grazing responsibly or haying responsibly.

Megan: Yay for insects. (Laughing.) It's not an apocalypse on a prairie bank, people. (Laughing.)

Jessica: It's not. They're really beautiful. I mean, they are not public land, but Rhett's, you know, taken us out to several with the landowner permission and I'm always amazed at how beautiful they are. So, it's a wonderful program. How does this get funded?

Rhett: Well right now, our program is primarily funded through the LCCMR or Environmental and Natural Resources Trust Fund, which is the lottery fund, and also through the Outdoor Heritage Fund, which is the Clean Water Land and Legacy Act. So that's primarily what funds our program right now.

Megan: And that's voluntarily sales tax that the people of Minnesota voted for so that it allows us to do great work like this, which goes right back into what it means to be a Minnesotan, where we get to live in the state rich in natural resources because so many of us like to do so many things that are natural resource related. It's not just about those lakes. We've got prairie, too. Okay. Sorry. The lakes are great.

Jess: Well, it contributes to the water quality! (Laughter)

Megan: Talk to me a little bit about how much help you get with this program. Is it just you out there with your fabulous vest of plenty or do you have, I mean, are there other people out there helping you-- also wearing vests?

Rhett: Yeah. This is definitely a team effort. So the Native Prairie Bank is primarily run through the Scientific and Natural Area program of the DNR, but we get a lot of help from a lot other divisions in the DNR. For example, the DNR Division of Lands and Minerals is a big partner. The Wildlife division. The Minnesota Biological Survey. And a lot of partners from both other DNR and other entities help out, so it's definitely a team effort. There's a lot of people involved in it, so, and the team works really well together.

Megan: And everything goes better when partnership is happening.

Rhett: Absolutely.

Megan: We got to clue people in because I keep mentioning your magical vest, so I think at this moment, we need to probably tell people what we're talking about. So for those of you who have never been to the field with Rhett, first of all, I highly recommend it because you're going to learn a lot about plants when you're there because he's as Jess said earlier, a fabulous botanist. So you're going to learn a lot of things. But also, you're going to benefit from the amount of things that are in his vest. So, Rhett, you wear this, is it camo on just one side or is it all camo?

Rhett: It's a turkey hunting vest. It's got a lot of pockets and big pockets, so yeah.

Jess: Big pockets.

Megan: And what do you normally carry in there? Earlier we were chatting, didn't you say you had the Flora of North America in there?

Rhett: Well, I carry, actually usually it's Gleason and Cronquist, so that's what I usually carry but then I've got usually a couple notebooks and other stuff and oh, usually a

raincoat, a couple bottles of water, bug spray, head net, (Jess and Megan laughing) pocket knife, usually a trowel, - -

Megan: (Laughing.) These are just a few of the things in his vest.

Rhett: - - a couple compasses, bug spray, sunscreen, couple bandanas, Band-Aids.

Megan: Is it travel size sunscreen or is it like the big, full bottle? I want to know.

Rhett: It's a smaller - - it's a smaller bottle, so yeah, try to come prepared, try to come prepared, so yep.

Megan: So you also have in there your magical fence crosser, which a lot of times around the prairie, sometimes we encounter barbed wire fences and it's always a struggle are you going to go over it, are going to go under it? And those of us who are vertically challenged, if you will, like myself, we tend to just roll under it and hope for the best that we're going to roll and we just imagine that we're real small and real flat to the ground, but we approached this barbed wire fence in the field one day with Rhett and he's like wait a minute, wait a minute, everybody just wait a minute. And out of his magical vest, he pops, what is that made out of, Rhett? What is this fence crosser made of?

Rhett: It's an old piece of firehose that I just cut a slice down the side, so it can kind of fit over as a sheath over the barbed wire.

Megan: (Laughing) It's industrious, too. Recycling is what Rhett's doing. So he's just like you pop this thing over the barbed wire and then everybody can just cross regardless of how tall your legs are or long your legs are. It's fantastic. There's lots of benefits from going to the field with Rhett's vest, but I learned earlier, too, that you're not going to share any of the snacks that are in your vest with anyone. Those are just for you.

Rhett: Yep. Those are Rhett snacks.

Megan: Do they have a label on them? That's just says "Rhett."

Rhett: No, but they're in my pockets so I don't think I have to worry about anybody else eating them.

Megan: Okay. We're going to move one, but I just wanted to clue people in 'cause we keep mentioning it - -

Jessica: Given that we've never seen Rhett snacks.

Megan: - - because we keep mentioning it and so I wanted people to understand the majesty that is your vest. So, tell us a little bit, and I know we're kind of running out of time for this part of the segment, as we often do, because we just get to laughing and

chatting, but what are some of your favorite experiences working with landowners in this program?

Rhett: Well, a lot of landowners have really great stories that show they have a deep connection and that they really love their land. One landowner told me how his ancestors settled where they did because the tall hills reminded them of Norway and how the original land surveyors that were going through the area, they set up a big tower on the highest hill because they could see it from so far away and they could use it as a landmark for surveying the region. And there are actually still some cement, like pillars that they used when they set up that tower, so it's kind of cool. Another landowner talked about playing in the hills as a kid and swimming in an old pond that was there and the time his neighbor lost control when he's burning trash and started a wildfire that burned across the prairie and kind of threatened his house. And then another landowner, he told me how when he was a kid, he and his siblings had named all the big boulders that were scattered across their pasture, and he pointed out one that was a big piece of granite, it was a big granite rock that had some interesting lines on it. He said they called that the Christmas tree rock or the Christmas present rock and I could see where they got that from. And a lot of landowners show me, with really great pride, photo albums full of pictures of different plants that they've seen flowering on their prairie or lists of all the plants and animals they've encountered out there and it's, for me, it's really neat and I really enjoy this because it's like seeing what they find fascinating about their prairies, so yeah, it's really interesting to hear about the history of their properties and the strong connection that they have with their prairie lands.

Megan: I like it. It's good when people are connected. I have a follow-up question about this Christmas tree rock. So, you said you could see that but why, like what about it makes it looks like a Christmas tree?

Rhett: It was kind of boxy looking and it sort of, the way the striations were in the rock, it sort of looked like it was like it had been wrapped up with ribbon, like it had ribbons running around it, so I could kind of see where you could come up with it. Yeah.

Megan: I like it. I like it so much. Oh, it's about that time. Rhett, that is really good information and we are going to jump to our next segment. Jess, are you ready?

Jessica and Megan (pre-recorded): Let's Science to the Literature.

Megan: Okay. This is the part of the podcast where we are going to recommend a book, a blog, or a paper, and I think during this one, we're going to recommend, oh, or something interesting that you want to find out- -

Jessica: A tool. A tool in this case.

Megan: - -So, Jess, kick us off.

Jessica: Yeah. So we've got a lot of good stuff here today. We started off talking about insects and so just to carry on with that theme, if you read that 'Insect Apocalypse Is Here' paper or magazine article, if you will, you know, you might be itching for some more. So they reference E.O. Wilson in there a bit, I believe, and one of the things that kept coming to my mind when I was reading it was his book, which I read a long time ago. I won't say how long ago at this point but it's called 'The Diversity of Life.' And I've bought many copies of this book over the years and given it to, you know, students and whatnot, folks that might be interested in the environment. E.O. Wilson is a big supporter of insects and talks in that book so long ago. I don't know when it was published. A long time ago. And talks about what would happen if the insects disappear, so it's happening maybe. Remains to be seen. I think it's not too late, which is a good part of that insect apocalypse paper is it's not too late. So check out the Diversity of Life--

Megan: A long time ago to Jess is 2010, by the way. That's when it was published.

Jessica: It was not published in 2010.

Megan: (Laughs) It was probably republished in 2010.

Jessica: There's no way. Yeah. That's a second edition or something. So, that's a really good introduction book to insects in general. E.O. Wilson, of course, is a big ant guy. So to spin off that, there's a paper by Katie Reeder and others, Diane Debinski was my master's advisor and Brent Danielson in 2005 titled 'Factors Affecting Butterfly Use of Filter Strips in Midwestern US.' And this study was actually done in Southern Minnesota in Cottonwood County and other counties around there at farms where there were filter strips planted at varying widths using a lot of forbs for that time, 2005, it was a while ago. And they found a positive relationship between forbs and the butterfly community. So, even really narrow filter strips were used by butterflies and wider strips were even better. [They] supported a higher diversity of butterflies as well as larger abundances of some of our more habitat-sensitive butterflies that we think about some of those species that might be on Native Prairie Banks and then they find a filter strip and can go use it because there's forbs, flowers planted there. So, kind of another good take-home story that we can add habitat to the landscape and kind of like Rhett was saying, we think about this as a landscape approach. It's super important to have all these different pieces around in the landscape. So, it's a really good paper. You'll find a link to it on our website. And then the third thing I really wanted to highlight today is a new tool that was developed by the Natural Capital Project at the University of Minnesota. So you can check out this tool. Again, there will be a link to it on our website. And the name of the article that was kind of describing the tool is 'Visualizing Environmental Benefits: UMN's New Acquisition Assessment tool.' So what you can do with this tool is you can plug in a, you know, either a location or an address of a specific site that you're interested in and then you go through the tool and it uses that actual address, creates a report of the environmental benefits, like birdwatching, some of the things we were talking about at the beginning of the podcast too, pollination, soil carbon, pheasant production. The things we think about that would be supported when we protect land. So, it goes

through and gives you this really great report based on a very specific parcel, you know, all these different layers of the ecosystem services were modeled using data from Minnesota. So, it's this decision making tool that can be used when looking at, you know, easements or acquisitions in Minnesota. It's really great.

Megan: Did you plug your house in there, Jess, just to see what the benefits were?

Jessica: I did not plug my house in there. I plugged in a few properties that I know about just to check it out because I was curious. You know, of course, it's got its quirks and whatnot. It's a model, it's just built on a model, so you have to take all of that with a grain of salt. It's not going to be perfect, but it's better than nothing when we're thinking about kind of going back to this ranking idea, how do we decide whether or not we want to invest in a particular parcel. It's important to have these tools that are at our disposal.

Megan: It's really interesting. I encourage you to put your house in to see what you might score. Two things before we move on. Fact checking myself, Jess was absolutely right. 1992 was the original publication date for E.O. Wilson's 'The Diversity of Life.' Fact checked myself. And second thing that I didn't mention about the 'Insect Apocalypse Is Here' article is that it gave me my favorite new word of 2019, phantasmagorical. And so Rhett, more boulder comments for you. When you go back to that landowner, your goal, my new goal for you for the rest of 2019 is to try to find a boulder out there that they can name phantasmagorical because it means like dream-like or awesome, this awesome experience, so I want you to name one of those boulders after this really cool new term.

Rhett: I'll work on that.

Megan: (Laughs.) I like that you just humor me and you're just going to- -

Jess: Yeah, I think he is humoring you.

Megan: - - I'm sure, yeah, yeah, we'll do it. Because you have nothing better to do. You're just going to name some for me. Okay.

Jessica: Hey Megan.

Megan: Yeah, Jess?

Jessica: Take a hike.

Megan: I think I will. It's been a long day. I can go a hike. And what better place to do that than some of your awesome, fantastic public lands. So normally, during this part of the podcast, we would be highlighting public lands that are either near the topic that we're talking about, like when we covered Lac qui Parle in Season one, we tried to give you some of the awesome public lands in that general area or that are related to the podcast topic. But since today we're talking about Native Prairie Bank easements and

as Rhett mentioned, they are private land, we are not going to highlight those, even though they are certainly fantastic and you do need permission to access them. Instead, we are going to do some of our favorites in and around the Windom area. So my favorite, we'll get started, is Expandere Wildlife Management Area (WMA). I love this WMA. I just love it. And I think the reason why is because the first time I visited it, it was about three, was it three years ago? What is it? 2019. Holy buckets. Math is hard at the end of the day. It was six years ago, double that, that's fine. - -

Jessica: I think it was a long time ago. I think it was longer than that.

Megan: - - So I went there and Jess is laughing at me about my math. Yeah. Three years ago, six years ago, it all blends together. Point is it was a beautiful September day. It was one of those clear Minnesota days where the sky is just so blue, summer is reaching into autumn, and you're out there, it was pleasantly warm, the sky looks just right, and there's just prairie cordgrass swaying in the wind, and there are thousands of sunflowers in bloom behind it. Thousands of sunflowers. It was magical. We were out there looking for some rare plants and I just think that it - - there's nothing better than prairie and just seeing everything in bloom like that. I highly recommend going out there in the fall. Jess, you recommend going out there in the spring, where you might see some of the small white lady slippers, which happen to be out there. It's one of the best examples of mesic prairie that we have left in the southern part of the state. It really is. And also it has wet prairie out there, too.

Jessica: Sea of phlox [*Phlox pilosa*] once you get out there on the slightly drier part. It's absolutely beautiful in the spring.

Megan: And that's sea, s-e-a, not see a phlox like go see a phlox.

Jess: Right 'a sea of phlox.'

Megan: Like wild seas of phlox. Jess, what's your pick for today?

Jessica: My pick is nearby. You don't have to go too far. String Lake WPA [waterfowl production area]. I like it for a variety of reasons. It's just really beautiful rolling hills in that part, the String Lake itself is kind of picturesque. It's just across the street from the WPA, the parking lot there. There's early in the spring, again, there's really nice pasqueflower and other early blooming species up on the ridgetops. You just, you get a nice view out there. You can see for a long ways and they've done some nice tree clearing in the last year or so, so I'll be really curious to see how the prairie responds, whether or not the prairie comes back. That's certainly their goal is to rejuvenate the prairie by doing that clearing. It's absolutely beautiful, but I will tell you, you got to watch out for turtles. I was out there by myself and I got a little spooked by a large turtle and we're going to have to ask our guests next week about what species that might have been. This thing was huge and it was rustling down in the grass.

Megan: It’s not something that you normally think that you need to be watching out for when you’re on a prairie hike, a giant prairie turtle. (Laughing.)

Jessica: (Laughing) I don’t know what this was. I don’t know my turtles real well.

Megan: We'll have to ask Lisa and Carol about that when we get into Minnesota River Reptile Project next week.

(Laughing)

Jessica: Yeah, once I knew what it was- -

Megan: Giant turtles trying to attack Jessica.

Jessica: - -I felt a little bit better but I still thought, you know, what’s this thing doing up here on the prairie? It’s kind of lost. (Laughing)

Megan: And teaser, we do have some prairie turtles, and so we’re going to learn a little bit about - -

Jessica: I know, yeah, I don't think was one of them.

Megan: - - well, hopefully, we learn a little bit about that next week. We’ll find out. Oh, my goodness. Jess, did you say what a WPA is? A waterfowl production area.

Jessica: Waterfowl production area. These are lands managed, public lands managed by U.S. Fish and Wildlife Service. But in that whole area, there’s a lot of Walk-In-Access sites, there’s some new WMAs coming online across the street that we’re going to be restoring. It’s a beautiful area. A lot of complexes in that area, so.

Megan: It is. So Expandere is in Cottonwood County and then String Lake is in Jackson County. Now, we would be remiss if we did not turn it over to Rhett now to hear his pick as our special guest on the podcast today. So many prairies just like when we ask anybody, what’s your favorite prairie? It is really hard for them to pick just one, but we made him, we made Rhett narrow it down to just one. Rhett, what is your pick for the day?

Rhett: Well, my pick, if I guess if I was going to go for a hike in any prairie in Minnesota, there’s a lot of really beautiful prairies, but my pick would be up actually in the up by Fertile, Minnesota. So, kind of on the border between Norman County and Polk County up in the northwest, it’s Agassiz Dunes Scientific and Natural Area. It’s an SNA that’s managed by and owned by the Nature Conservancy and it’s a really beautiful complex of dry prairie and oak savanna with some wetlands here and there. Its origin is the Sandhill River dumped into the Glacial Lake Agassiz in that area, leaving behind a large sand delta, and then over many, many, many years, the winds reworked the sand into these beautiful dune complexes. They’re covered in gnarly, twisted bur oak [*Quercus*

macrocarpa] trees that are, these trees are hundreds of years old but they're only 25 feet tall. They're growing in really dry soil and amazing plant diversity out there, and it's also just a fantastic place for birding, especially during the spring migration. I don't even know birds when I was out there and, you know, in less than an hour, saw a dozen different warbler species and I'm not even a birder, so just a really fantastic - -

Megan: And it was still exciting.

Rhett: It was really exciting. Yeah. They're, you know, really pretty birds. So that's pretty neat. There's a lot of really interesting species there, both plants and animals. There's a lot of these sand blowouts that get kind of open sand moving around and it's a good place for tiger beetles, so there's a lot of really interesting species that inhabit those kind of places, so yeah. My pick would be Agassiz Dunes Scientific and Natural Area up by Fertile, Minnesota.

Jessica: So when you're in a field with Rhett, not only do you get a benefit from the vest and all the Mary Poppins type items that come out of it, but you learn an amazing amount about plants, but my favorite part is the geology knowledge. I love talking about geology and thinking about how geology shaped the land and I love that. I love it. I might not learn anything about birds.

Megan: I know it's not my specialty, but I like when it's other people specialty and they tell me about it. I like it. It's fantastic to hear about it.

Jessica: Yeah, I do, too. I love it.

Megan: I think that the way that you describe those twisty oaks in that savanna, we could call that a phantasmagorical place

Rhett: I would go for that, yeah.

(Laughter)

Megan: Rhett, thank you so much for agreeing to be a guest on our podcast today. I learned so much more about Native Prairie Bank and I love your description of working with landowners. I think that might have been my favorite part. How about you, Jess?

Jessica: Yeah. I loved it. This was definitely one of my favorite episodes thus far. It's been great. Really, really great learning about Native Prairie Bank today.

Megan: I love it. Well, next week you can join us for Prairie Tuesday, where we're going to cover everyone's favorite subject, giant turtles are taking over the - - no, that's not right. That's not right. We're going to be talking about snakes and skinks. That's skink with an 'I', and we're going to be joined by some very super-awesome biologists, Lisa Gelvin-Innvaer, Carol Hall, and Jeff LeClere. We're going to hear about their working tracking gopher snakes and five-lined skinks in the Minnesota River Valley. So, it's

going to be really exciting. I can't wait to hear all the things that they found. As always, just so you know, you can catch all of the resources that we list today, including the Take a Hikes and the Let's Science section--literature, papers, and books. You can find all of that great information on our website at mndnr.gov/prairiepod. And if you just type in Prairie Pod into the Google machine, it'll take you right there to our website and you can see all of those resources tabulated under each episode. So we've had a lot of fun today like usual. Bye, Jess.

Jessica: See you later.

Megan: Bye, Rhett.

Rhett: Take care, guys.

Megan: All right. Catch you next time on the Prairie Pod.
((sounds of birds chirping and wind blowing))