SPEAKER 1: OK. Well, thanks, everyone, for joining us today in fits and starts. But hopefully we'll get our full contingent.

TARA BERGESON: I guess just a couple of things about today and the process-- this is a fairly small group, so I think logisticswise it should be pretty straightforward. I have all the faith that we're all a respectable group of folks who will listen to different ideas and be able to have a discussion about them. Do you want to go ahead and dive in?

BONNIE WILLISON: That's Tara Bergeson. She's the Natural Resources Program Supervisor at the Wisconsin Department of Natural Resources. And she heads up statewide invasive species regulation. You just heard her welcoming a group of scientists and concerned residents to one of the 2020 species assessment groups. These groups aim to decide what species should be listed as invasive in the state of Wisconsin.

SYDNEY WIDELL: On the agenda today, should feral hogs stay classified as a prohibited species in Wisconsin?

BONNIE WILLISON: Feral hogs, like the viral meme from last year?

SYDNEY WIDELL: Yeah, that's the one. That's the one you should be thinking of. I guess you do remember that one tweet where, in response to Jason Isbell posting about gun control, someone responded by asking, "Legit question for real Americans, how do I kill the 30 to 50 feral hogs that run into my yard within three to five minutes while my small kids play?"-- that meme.

BONNIE WILLISON: Yeah. I do. It went really viral. I just remember logging into Twitter, and everyone was talking about feral hogs. And I really had to dive deep to figure out why.

SYDNEY WIDELL: Yeah. Well, it's already illegal to own, sell, and move these animals in Wisconsin. But hogs are actually becoming more widespread. Sometimes they breed with domestic pigs. So farmers could technically be breaking the law by possessing feral hogs and not even knowing about it. So that's why Tara and this council are taking another look at feral hogs' classification.

SPEAKER 2: They significantly degrade ecosystems-- out compete deer, out compete bear. They're actually a herd animal. They have high reproductive rates. They really dig up the ground. When [INAUDIBLE] are found, there's probably a breeding population continuing in Crawford County.

BONNIE WILLISON: Species assessment group-- it sounds pretty dry and bureaucratic. But you encounter the work they do all the time without even realizing it. This group is why you've never seen red swamp crayfish for sale in Wisconsin grocery store, for example, or why you can't buy invasive water lettuce at your local garden store.

SYDNEY WIDELL: Species assessment groups meet about once every five years, and usually they happen in person. Picture the basement of a public library or a conference room on a local college campus. But like everything else in 2020, this meeting was virtual, and Bonnie and I joined in over Zoom.

BONNIE WILLISON: There are nine other people in this meeting plus me and Sydney. Three are DNR conservation biologists. One is from the US Department of Agriculture. One is the state wildlife veterinarian, and one focuses on wildlife rehab.

SYDNEY WIDELL: Right now, they're deciding whether or not feral hogs should remain on Wisconsin's list of prohibited species.

SPEAKER 3: It's remarkable how quickly we get calls on pigs. We've had some people reported numerous times that the pigs are at the intersection of Highway 41 and Johnson Street or something. And it's the same guidance-- domestic pigs are just loose. The DNR has a hotline for people to report feral swine. Those calls come in. They think they get transferred over to us, and we investigate those.

SYDNEY WIDELL: Even though it seems like a pretty obvious decision that these species should be listed as prohibited, the species assessment group still spent a pretty long time deliberating over how to classify feral hogs. If they decide the hogs should no longer be listed as prohibited species, they'll recommend the state legislature update NR 40 which is Wisconsin's invasive species law.

BONNIE WILLISON: At the same time, other species assessment groups are debating aquatic plants, aquatic animals, and pathogens. Could those threaten our waters? If so, should they be written into the law? Essentially, who gets to decide where a species belongs? And what does it mean for something to be invasive? Today, we're exploring these questions.

[THEME MUSIC]

BONNIE WILLISON: I'm Bonnie.

SYDNEY WIDELL: And I'm Sydney.

BONNIE WILLISON: And you're listening to *Introduced* from Wisconsin Sea Grant. Invasive species is a term that's pretty common in Western science and academia. But some groups and people reject the word "invasive" altogether.

SARA SMITH: *Shekoli, my* name is Sara Smith I'm from the Oneida Nation in Wisconsin.

JERRY JONDREAU: [Ojibwe language introduction] My name is Jerry Jondreau. I'm from the Keweenaw Bay Indian Community.

BONNIE WILLISON: Sara Smith and Jerry Jondreau have had to reckon with the term "invasive" before. They're among the coauthors of the Tribal Climate Adaptation Menu, which centers indigenous knowledge and needs in climate resilience planning. These are perspectives that have been ignored or appropriated in this field for too long. We'll be hearing much more about the Tribal Climate Adaptation Menu soon.

Creating a document like this took two years. The team includes representatives from tribal groups, academic groups, and government groups from Minnesota, Wisconsin, and Michigan. And this team met every other month for two years. The group spent a lot of time talking about word choice. Here's team member Jerry Jondreau.

JERRY JONDREAU: We're doing word-smithing like it was nobody's business, man. It was every single line that we were discussing, we took issue with the types of words and the language that was being used because in Western management, there's this inherent hierarchy that's incorporated into the language that's used for management.

And from our perspective, it's more of a level playing field that we're all on the same level. And so to speak down on something, or to assume that you have some sort of authority over someone or some other being at the same time, we just felt it wasn't right. And then even some of the concepts that we put in there, there really wasn't any English term that could really capture what the tribal or the Ojibwe or the Menominee language would encompass.

BONNIE WILLISON: Here is Sara Smith.

SARA SMITH: Everything that we put into the document was all based on consensus. So I mean, there was one term we spent an entire day talking about, right?

BONNIE WILLISON: Yeah. What was the word or the phrase that you talked about for a day?

SARA SMITH: "Invasive species." [LAUGHS] That is what we spent almost an entire day talking about. Because when you say invasive species, it has such this negative connotation to it. And that didn't agree with a lot of us. So that was the one term we spent probably the longest talking about, I would say.

[GENTLE MUSIC]

These beings are going according to their original instructions. They're just in a different place. They don't have the same checks and balances of the other beings around them. And so that's why we had a lot of discussion about invasive species, just because they're not the enemy. Because there's a lot of talk about, oh, we need to eradicate them. We need to just get rid of them, right-- when they're only doing what they were told to do.

JERRY JONDREAU: You know, I've been thinking a lot about this too. And if you really think about it, really, all invasive species are is a species that's coming from one place and establishing in another place that it's not indigenous to. I mean, if you think about it, that's exactly what happened here with colonization.

I don't think that gets talked about enough. And if you really think about what invasive species do, they tend to change the ecosystem, and in many, many times for the worse for the other beings that are there. And I think a lot of that has been playing out here, but there's never really been that comparison between settler colonization and invasive species.

BONNIE WILLISON: In the finished Tribal Climate Adaptation Menu, they don't rely on the term "invasive species." Instead, they use the English term "non-local beings."

MELONEE MONTANO: Melonee Montano, Red Cliff tribal member.

BONNIE WILLISON: Melonee Montano was instrumental in this process of going between Ojibwe concepts and English concepts. She's a traditional ecological knowledge outreach specialist at the Great Lakes Indian Fish and Wildlife Commission or GLIFWC.

MELONEE MONTANO: I really struggled, and always have, with the term of "invasive species." And I've tried to continuously educate people on another perspective of that. And so with the Tribal Adaptation Menu, that's a conversation that have been ongoing with us, talking about terms in general, but "invasive species" was one of them, and what to use as an alternative.

In the Ojibwe language, I had to actually seek out a term for that because it's not commonly known what we even refer to invasive species as. It's such a foreign concept from a culture perspective.

BONNIE WILLISON: Melonee met with a St. Croix tribal elder.

MELONEE MONTANO: So I actually sat and had a conversation with him that I recorded. And I was inquiring about various terms such as "vulnerability assessment," "climate change," and "invasive species" was one of them in relation to the Tribal Adaptation Menu.

We discussed the concepts of those terms but also then how would we refer to them? How do we talk about them from an English-speaking lens in order to be able to translate them into Ojibwe? And there is no direct translation, of course. Instead of "invasive species," we talked about what they mean to us from a culture perspective.

And we simply refer to them as non-local beings because they're beings that aren't from our areas. They were created, just like any other being. And what we believe from a cultural perspective is that beings have been put on this Earth-- the plants, the trees, the water, and all of those other things. And the people were the last ones to be put on. We're all given specific instructions when we're placed here.

And so those beings that are non-locals, it's nothing negative or bad about them. They're simply following their original instructions as given by the Creator when they were put here. And they were basically relocated by people or whatever means, but ended up here. And so they deserve respect as well.

BONNIE WILLISON: After lots of talk, the Tribal Adaptation Menu team decided to use the term "non-local beings." That's the English phrase at least. The Menu also uses the Ojibwe language phrase for this concept. Another member of the team, Katy Bresette, has experience teaching the Ojibwe language. And she told me about this Ojibwe language term.

KATY BRESETTE: Bakaan ingoji ga-ondaadag-- so bakaan, that's the word, the first one, bakaan. It just means different or of an other. So like bakaaninaagwad, "they look different" is that word, so bakaan. Ingoji is the second word there-- bakaan ingoji. And a place, spatial reference. Or it's like around or about. Often you'll hear it like, [SPEAKING OJIBWE] It's, oh, it's just about 10 o'clock.

But it's when you don't necessarily have a specific location or a very direct place that you're talking about. So if you're not like-- you would tell people, if you knew where they came from, you would be like, oh, in this space-- you would have a spatial reference because that's what's tied to that third word, which is ga-ondaadag.

So ond-- O-N-D-- that small little morpheme that's right in the middle, that's the word that talks about origination. So you'll hear it like, ndojeba, "where I'm from," or [OJIBWE]. That was the one I was sharing with Jerry just a minute, like, "from whence the sound of the water or liquid comes". So you hear that when you're talking about a brook or a tree with sap or anything like that.

So bakaan ingoji ga-ondaadag-- with Ojibwe, when you have that O-N-D, that morpheme there, you're usually specifying a location. So if you're not actually giving someone a location, you have to let them know. They're from a certain place, but it's not somewhere I necessarily know is kind of how that works.

JERRY JONDREAU: They're indigenous to a place. And there are people there that have a better understanding of who that being is. And so instead of just initially saying well, you're not from here, you don't belong here, we're going to rip you up and throw you away, why don't we have like cultural transmissions and cultural migrations as well? If there's a new being that comes into our forests here, instead of just trying to rip them out and throw them away, maybe go talk to the people that have a really good relationship with that tree species.

How do you guys utilize this tree species? Or what does it do? What are some of the things that you could tell me about that tree that would make it beneficial to our life and our system?

[MUSIC PLAYING]

BONNIE WILLISON: What inspired you to start asking questions about the way we understand invasive species?

PAUL ROBBINS: Well, I ran over a thorn on my motorcycle when I was starting my dissertation, and it blew out my tire. And I was like, what the hell is this tree?

BONNIE WILLISON: That was Paul Robbins. He's the dean of the Nelson Institute for Environmental Studies at the University of Wisconsin, Madison. Paul was in Rajasthan in Northern India when this happened. He looks around and sees the thorn was from this tree. It was the Mexican mesquite tree. And you'll hear Paul refer to it as Prosopis juliflora. How did this tree native to the hottest desert in Mexico end up causing Paul's flat tire in India?

PAUL ROBBINS: What the hell was it doing out here in rural Rajasthan? And then, if you started looking around, it was everywhere and moving at a really remarkable rate into the landscape extremely aggressively. And I became convinced that it was a really important actor in the politics of managing resources there. It was the first time I'd really come across a non-human who had so much influence over how things were happening.

BONNIE WILLISON: This thorn kept blowing out Paul's tires, and he ended up writing about this tree for years. The tree was brought to Northern India during British colonization. And it has this ability to grow really quickly. And so it develops this really thick canopy quickly. And animals can't really eat it. And it was brought in to green the landscape, to make everything a little bit greener because it is this fast-growing tree.

The Indian government at the time had set these targets for land cover. So they had decided that 30% of the land should have forest canopy cover. And this was kind of an arbitrary number. But that was the law or the policy. And so if you worked for the forest service or the state, if it was your job to manage the land, you probably really liked this tree because it enabled you to hit that goal of 30% land cover.

Since then, the tree has rapidly spread. Before colonization, this area had a desert grassland ecosystem. But this tree, the Prosopis juliflora, had huge influence on changing that ecosystem.

PAUL ROBBINS: You got a huge success story by letting this outrageous invasive plant loose on the ground. So it had for many years political allies in the forest department in India. It produced a canopy. And the canopy could be seen with air photography and remote sensing. And if the canopy was driving itself towards 33% forest cover, that is a stated policy goal of the Indian government. Therefore, it's got allies.

There are people who benefit from its expansion or for whom extirpation would be an extra cost. So I think we have to think about these species in networks with other species, including people and bureaucrats, but also with other plants and animals.

BONNIE WILLISON: So it's not really just this tree that is invasive. It's this whole context of history, colonialism, politics, and culture. It's the conditions that make something invasive.

PAUL ROBBINS: Well, right. I mean, weeds are just plants out of place. And out of place simply means out of the place that you want them. It might be very much indigenous. Most of the weeds that are invading turf grasses in lawns are actually the indigenous species. It's the turf grasses that are the exotic species. That's hilariously ironic, right, that we are beating ourselves up to protect an invasive exotic pasture grass in front of our house. And when the indigenous plants show up, we call them weeds.

BONNIE WILLISON: Another example of this that is pretty interesting is kudzu. Have you heard of it?

SYDNEY WIDELL: I think so. I think our neighbor named their dog Kudzu.

BONNIE WILLISON: Interesting. OK. Well, it's possibly the most recognized invasive species in the United States apparently.

SYDNEY WIDELL: Oh. [LAUGHS] That's funny then.

BONNIE WILLISON: We don't have it here in Wisconsin, so I didn't really know what it was. But it is this fast-growing vine that can cover forests and houses. And it's really, really taken over a lot of places in the southern US.

PAUL ROBBINS: I think kudzu is a really interesting case, very famous, of course. The guy who introduced kudzu to the Southeast United States was a folk hero. He was loved. He had a radio show. People listened to what he had to say because it was a great forage crop. And back then, people had cows. They had a lot of cows. And it was hard times in the '20s and '30s. And people were really happy with it.

And then the cattle economy kind of folded down there, and the forestry economy came up. And as soon as you have a forestry economy, now you got a problem. Kudzu may be great for cows, but it's crap for forests. I mean, those were classic pictures. Arguably, the forests invaded the kudzu, not the other way around. The economy changed around the species.

So it went from being not invasive, being just an exotic, useful thing, to suddenly becoming an invasive, exotic, pernicious, evil, awful plant. And that happened in the space of 10 years, 25 years maybe. And it's just a classic case that can show you how arbitrary that is. Things become invasive when we call them invasive.

That doesn't mean, now, that the biology and the ecology of these plants and animals does not make them aggressive in particular kinds of habitats. So they express certainly invasive habits. So they're part of the story. It's not somehow a social construction. These plants do grow in particular ways. Animals move around in particular ways. So the biology matters. But it is interesting that the normative fixture always has a historic moment where something becomes invasive.

BONNIE WILLISON: This is so fascinating to me. And it was really reminding me of some things closer to home, like, near the Great Lakes. For example, we've seen a lot of invasive species introduced to the Great Lakes through canals, the canals that people dug in the 1800s with the aims of connecting the Great Lakes to the Atlantic Ocean. And while these canals helped the ships come in and ship goods between the coast and the inland Great Lakes, it also opened the lakes up to a lot of non-native species.

And one of these species is the alewife. They're small, silver, and schooling fish. They came into the Great Lakes from the canals 100 years ago. They came at an opportune time. They really took over. They became a huge population in the Great Lakes, especially Lake Michigan. They also then started dying off in huge masses, covering the shores in fish goo, really bad stuff.

SYDNEY WIDELL: It smells so bad.

BONNIE WILLISON: Yeah.

So alewives, they were viewed as a really bad nuisance. How could this have happened to the lakes? But then salmon were introduced. And salmon brings this whole economy of anglers wanting to catch them. And the economy really changed around the alewives. And so now you don't usually hear a lot of people talking about how bad alewives are, and we need to get them out of the lake because they're what feeds the salmon.

And so the focus of dominant management culture now seems to be centered on alewives. We need to keep the alewife populations up so the salmon can survive and have something to eat. If the alewife population goes down, the salmon industry will crash. And that would be bad for our economy. People have even gone so far as suggesting to stock alewives into the lake.

SYDNEY WIDELL: The tables have really, really turned around that. Yeah. And in addition to having just certain economic factors shifting around a species and making it maybe more problematic than it was before, like your alewife example, one thing that Paul points out that I think is really visible in the Great Lakes is that sometimes there are certain economic systems that make either new invasions seem inevitable basically or could exacerbate the impacts of certain species that are already here.

An example that comes to mind for me are common carp, which were brought to North America and Wisconsin and spread around as a food source. And you know they've got this particular biology where they eat a ton, they grow super quickly, and they live in these really degraded conditions. So those are the biological and ecologic facts. But of course, you have to consider them in this broader context.

Landowners in Illinois and Wisconsin and these places where the carp are or where the carp could easily be, they do not like the carp because they're thought to lower water quality. They uproot aquatic plants, and they stir up sediment on the bottom of the lake. And the sediment at the bottom of the lake stores a lot of phosphorus. And phosphorus is a nutrient that is pretty much gasoline for algae blooms. Algae and low water clarity are not great if you're trying to sell lakefront property. And it's super easy to blame all of that on the carp.

PAUL ROBBINS: Carp, it has a political enemy, which is lakeshore associations and real estate agents that need to sell property on lake shores, and lake owners, and people who have docks. I mean, you couldn't pick worse enemies than people with docks.

SYDNEY WIDELL: Speaking of political enemies, Asian carp-- the four fish we call Asian carp in the Illinois River-- are up against the federal government and the Army Corps of Engineers. And literally millions and millions of dollars are being spent to prevent these fish from entering the Great Lakes.

Especially for lakes and agricultural and urban settings, excessive amounts of phosphorus end up in sediment in the first place because of human activities, like putting a ton of phosphorus heavy fertilizer in your yard or in your crops, and then the way watersheds have been developed so that you're able to basically shuttle all of that phosphorus off the land and into the water because we've removed a lot of wetlands and created a lot of impervious surfaces like roads that really expedite that process of what's called phosphorus loading.

Carp are definitely exacerbating this problem. But there's so much we could be doing on land to solve these problems and prevent that phosphorus from ending up in our water bodies.

BONNIE WILLISON: Yeah, if silver and bighead carp made it to the Great Lakes, it's thought that they would probably be able to survive in near-shore areas where there's a lot of nutrients runoff because that's what would allow them to get the nutrients enough to eat and survive and reproduce. So basically, the more runoff, the better for carp.

PAUL ROBBINS: If we didn't have unlimited amounts of phosphorus entering our stream systems, Asian carp wouldn't be that big a deal. I mean, it wouldn't be as big a deal. So it just shows you right there that there are conditions that produce an urgency around some species invasions that other species invasions get ignored.

BONNIE WILLISON: So why do we have the water quality problems we do? Why does our land and water even look the way that it does? And you can trace this all the way back to the colonization of Indigenous land and the US government violently removing native people and bringing a completely different way of understanding the landscape.

SYDNEY WIDELL: And maybe bringing with them this false sense of limitless abundance that led to reckless exploitation of what we call resources, not to mention genocide. And I just have to wonder how much the legacy of this shapes how we continue to imagine what the natural world should look like and what species we think should belong there.

PAUL ROBBINS: Just like genocide, underneath all these ecological questions is the violence of American history, always. And there's no getting around it. So it's not like I'm criticizing ecologists for this or me, because I have these same responses. I'm just saying we have to acknowledge it.

[GENTLE MUSIC]

I think we have to acknowledge that invasive species are a biological fact, that exotic species can behave aggressively outside their historic range. But it's a heavily loaded normative term. In practice, when people use the term "invasive species," they mean something pernicious. And that's strictly from a human point of view. And therefore, it's a cultural artifact. It's not a biological artifact alone. That is, a species isn't invasive unless we say it is.

SYDNEY WIDELL: If we as a culture decide what species we should call invasive, we wanted to understand exactly how that decision comes about. And I think we figured it out.

BONNIE WILLISON: After the break, defining invasive species and the fate of a popular pet turtle.

SPEAKER 4: Water research mysteries, teachers connecting kids with the great lake in their communities, erosion and dangerous currents-- these are just some of the stories offered by Wisconsin Sea Grant and the University of Wisconsin Water Resources Institute. A monthly podcast series, *Wisconsin Water News,* highlights stories previously available only in print from these programs. Series narrator and science communicator, Marie Zhuikov, brings the stories alive by featuring in person and phone interviews with the people behind the news. Listen and subscribe to *Wisconsin Water News* on iTunes, Spotify, Google Play, or at SeaGrant.wisc.edu.

[UPBEAT MUSIC]

BONNIE WILLISON: Picture this. It's Friday night. You're getting ready to cook fish for dinner. It's some of that fresh rainbow trout raised right here in Wisconsin.

SYDNEY WIDELL: Does it matter where the fish comes from?

BONNIE WILLISON: Yeah, it does. Purchasing fish like rainbow trout from Wisconsin fish farmers or lake whitefish caught by Great Lakes commercial fishers keeps your food dollars close to home and supports local family businesses. Wisconsin's fish producers follow laws that protect fish populations, human health, and the environment so that they can offer you a sustainable product. Fish are easy to cook and nutritious. Visit eatwisconsinfish.org for more information and to find recipes.

SYDNEY WIDELL: Wisconsin fish-- local, healthy, delicious.

BONNIE WILLISON: Paul Robbins was saying that there are distinct moments in history when a species becomes invasive. He was referring to when economies shift, and when places are colonized, or when political decisions are made. But if I want to find out if something is invasive or not, I usually just Google it. And Google tells me if the DNR has officially classified something as invasive or not.

So who makes those decisions? It turns out that it's the Invasive Species Council and the species assessment groups, which we mentioned at the beginning, you know, the people that were debating feral hogs.

SYDNEY WIDELL: Right, and the species assessment group feels so powerful to me. This slightly awkward Zoom call that we were sitting in, is this the historical moment where something becomes prohibited in our state? Back at the species assessment group, the feral hogs are finally coming up for a vote.

SPEAKER 5: Dan, go ahead. Go next.

DAN: Dan?

SPEAKER 5: Yeah, you.

DAN: Yeah. I'm in. Well, maybe you could guess, but I'm just going to go ahead with prohibited.

SPEAKER 5: OK. I'm shocked. Darlene.

DARLENE: Prohibited [INAUDIBLE].

SPEAKER 5: All right.

BONNIE WILLISON: So this means that feral hogs are going to stay on the prohibited list, right?

SYDNEY WIDELL: Yeah. This means that Tara won't recommend the legislature update NR 40, which is Wisconsin's invasive species law. The feral hogs can stay on there as they are right now, which is prohibited. We talked to Tara earlier about what this law does.

TARA BERGESON: So the purpose, really, of NR 40 is to create a statewide system to classify invasive species. And in doing so, we also have tools at our disposal to help with prevention and control of those species. And it established a scientific system for evaluating species so that we are able to look at a species and think about certain criteria for each species that might lend itself to being listed as an invasive species.

SYDNEY WIDELL: So species on NR 40 are either classified as prohibited or restricted. If a species is prohibited, that means it's illegal to sell it or move it or introduce it. It's the stricter of these two designations. And it's usually reserved for species that aren't too widespread in the state yet or species where eradication may still be possible.

For prohibited species, it's required that the DNR control them. One example of this would be the red swamp crayfish. We talked about this a lot last season.

BONNIE WILLISON: Yeah, they aren't widespread in the state. And so I could see why-- and we really don't want them here so I can see why they would be on the strictest version of this rule.

SYDNEY WIDELL: Yeah. The restricted designation is for species that are already pretty established here, where eradication is likely not possible. And so the focus shifts more from control to management. It's still illegal to introduce or move these species around, but if they're growing on your property, you aren't going to get fined by the DNR.

For example, Eurasian watermilfoil, which is a super common aquatic plant-- you still want to clean off your boat before you move it from lake to lake. But if you have property on a lake and Eurasian watermilfoil is growing in your water, nothing's going to happen to you. In all, there are more than 245 species on this list. And all of them have made it through one of these species assessment groups.

These meetings, like the one you just heard about feral hogs, are organized by taxa-- so mammals versus reptiles, and amphibians versus aquatic plants versus woody ornamental plants. There are all of these different designations and these councils of experts who come together to help guide these decisions.

TARA BERGESON: The folks that are on these groups are there because they care. They care about the idea of invasive species. They care about what they do or their industry potentially being impacted by the invasive species rule. And so I would say they want to have a conversation.

BONNIE WILLISON: So we ended up sitting in on another species assessment group meeting a few weeks later after the feral hogs one. This group was focused on reptiles and amphibians. The group meeting was slightly larger than the mammal group. So Tara and Davin Lopez were back to facilitate the meeting. And the participants included a few DNR conservation biologists who focus on herptiles.

SYDNEY WIDELL: What are herptiles?

BONNIE WILLISON: Herptiles are reptiles and amphibians, like the group classification.

SYDNEY WIDELL: Oh.

BONNIE WILLISON: Yeah.

SYDNEY WIDELL: That's kind of a funny word.

BONNIE WILLISON: Also attending was the president of the Madison Area Herp Society. They go on herping outings, which actually sounds like a lot of fun. We had the curator of aquarium reptiles at the Milwaukee County Zoo, a specialist in herp diseases, and a professor who is writing a book on amphibians and reptiles of Wisconsin.

SPEAKER 6: I was just going to say this is a collective of a lot of people I need to talk to outside of this meeting too. So meeting at my house includes dwarf crocs. So that's fun.

SYDNEY WIDELL: Assuming not the shoe Crocs.

BONNIE WILLISON: Oh, shoe Crocs. No, yeah. There were no dwarf crocodiles at this virtual meeting, unfortunately. But some of the people in the video have aquariums in the background.

SPEAKER 6: It like you have some specimens behind you.

SPEAKER 7: Yes. And just don't look too closely because they like to poop on the front of the cage right before I go onto any kind of calls, either for here or work. So that's usually how it works.

SYDNEY WIDELL: Species assessment groups are designed so that anyone can participate and give feedback when these invasive species decisions are being made. So that's whether you're a wildlife biologist or a land manager or a garden shop owner. And these groups really try to honor all forms of expertise and experience. And in the end, everyone gets a vote. But there are also a few drawbacks to this setup.

One drawback is some of these groups, like these large species groups, might be underrepresented. For example, there are so many more bugs in the world than there are large mammals. So it's hard to scale that in terms of the experts who are coming in to make these decisions. They're just so many more bugs and microorganisms that could cause economic or ecologic harm and maybe should make it on this list that we don't know about or that aren't really on our radar yet.

TARA BERGESON: Sometimes there's ones that are a little bit more tricky. And sometimes-- and that too can be for a variety of reasons. It could be that there's not enough information to really make a good assessment. And so that can cause a little bit of a stumbling block. Sometimes it's just because people have seen or experienced a species differently.

BONNIE WILLISON: So back to the herps group. Today, they're discussing two popular pet store turtles-- the yellow-bellied slider, which is a turtle that has a yellow stripe and a yellow stomach, and the red-eared sliders, which have a distinct bright red stripe near the ear on the head. After introductions, the discussion begins.

Ryan McVeigh jumps in. He's the president of the Madison Area Herp Society. He says that both of these turtle species are kind of a double-edged sword because pretty much any pet store you walk into is going to have red-eared sliders. They're very popular pets. And that also means that if people can't care for them or they're more than they bargained for, people will commonly release them.

SYDNEY WIDELL: Don't these turtles also live for 80 years or something outrageous?

BONNIE WILLISON: Yeah, they can live for a long time. They can live 20 to 30 years old. So not quite 80, but that's still a pretty long time to keep a pet. They're kind of a nuisance pet. A lot of people at the meeting don't really like them as pets. They're really smelly. They get really big. So they need a really big tank. They poop a lot apparently. So yeah, a lot of these herp people, they know they're the most common turtle pet, but they're not really that enthused by them.

RYAN MCVEIGH: Me and Erica also run a rescue. And I can fill dump trucks with red-eared sliders that are dumped off on us a monthly basis.

BONNIE WILLISON: So a big question for this group is are red-eared sliders reproducing out in Wisconsin, where they might be introduced? Josh, who's writing the amphibians and reptiles of Wisconsin book, says he's seen multiple red-eared sliders throughout the state.

RICH: I mean there's reports that are decades old of red-eared sliders that were caught up in Bayfield County. There's one at the UW zoology museum. I have found red-eared sliders in the wetland right across from the football field here on campus on two different occasions.

BONNIE WILLISON: Rich, who's a zoologist at the DNR, brings up this article that he's seen. It's a little bit alarming. It mentioned one claim of wild reproduction from red-eared sliders in Wisconsin. In 2012, someone had found a pregnant red-eared slider out wandering around near an interstate, near a wetland. He's looked into this case quite a bit.

RICH: I've never been terribly convinced that that's good evidence of reproduction in Wisconsin. I'm not saying there isn't reproduction in Wisconsin. But that's the only incident that I am aware of where a gravid individual has been found.

BONNIE WILLISON: He was kind of like, just because you found a gravid, a.k.a, pregnant turtle doesn't mean that it got pregnant in the wild. He thinks it's more likely that it was released while it already was pregnant. So they talked a lot about if the species could reproduce here. But they didn't focus too much on if they would cause economic or ecological harm once they were potentially invasive here.

But a few people brought up they're probably not going to disrupt agriculture. They're probably not going to be plowing into people's fields or eating their corn or something. But if you have a new species of turtle here, they probably could outcompete our native turtles. And they could probably take over in some areas and just change the food web and the ecosystem in our native habitats.

But still, no one has seen reproduction. But what about surviving the winter? Can these turtles over-winter here? Reports of red-eared sliders are becoming more widespread. And so it's like, who knows how many are surviving the winter?

This whole situation kind of has me stressed because it's like this turtle might be able to survive the winter. They might be able to reproduce. But these people haven't seen anything. But they all we're kind of acknowledging there are so many places in the state that we just never go. There's so many places that we haven't checked. We can't check all the places. You know what I mean? So it's like--

SYDNEY WIDELL: Yeah. They're going to be in the last place you look for them.

BONNIE WILLISON: Exactly.

SYDNEY WIDELL: To quote my dad. Yeah. So all of the concerns and decisions that people in these species assessment group meeting have, they're guided by the widely accepted definition of invasive species. If something's invasive, that means it's a species capable of causing economic and ecologic harm.

BONNIE WILLISON: Here's Tara again.

TARA BERGESON: We're asking questions like what species that are currently listed maybe don't need to be listed anymore for a variety of reasons? What species that are not listed should we consider listing? Are there things knocking on Wisconsin's doorstep that we're concerned enough about that we want to include in our invasive species rule so that then we have some tools to actually take care of those things, hopefully before they become established?

SYDNEY WIDELL: Sometimes things are obviously invasive like wild parsnip, which is this non-native, terrestrial plant that causes this really bad rash and makes your skin really sensitive to sunlight. So if you come in contact with wild parsnip, you end up getting this really bad sunburn. So obviously, that is ecologic harm to humans.

Yeah, but sometimes things are less obvious. What about things that people eat or that people make money by selling, like water lettuce or popular pet turtles? Sometimes species can come up for debate and end up not making the list. Sometimes they get set aside to revisit later.

One that was up for debate recently was a velvet long-horned beetle. They decided not to list it because there is no info about its ecological or economic impact. But they did agree to keep an eye on it for the future.

[MELLOW MUSIC]

Sometime species are left off the list because NR 40 simply will not stop their spread. An example of one of those species is the European paper wasp, which is widespread in Eastern Wisconsin. And they're really strong flyers. So even if you do start regulating them, they can disperse on their own so easily. So NR 40 isn't going to help stop that.

Another thing that NR 40 doesn't really touch are species that are already extremely widespread in Wisconsin, like the European earthworm, which a lot of people don't realize is not native here. If there is no effective way to manage these species, the species won't be included in the rules. Sometimes there are just not great ways to control these species.

Tara said that it's important to stay realistic. If the list has more species on it than the DNR has resources to manage and enforce rules for, the list starts to lose some of its meaning.

BONNIE WILLISON: So back at the herp species assessment group, they start to talk about if they do decide to restrict red-eared sliders, what would be the impacts of that. So other states have made similar decisions. They've decided to restrict a popular pet. For example, hedgehogs are an invasive risk in areas like Pennsylvania, believe it or not. And so Pennsylvania restricted hedgehogs.

SPEAKER 6: But the backlash from that, from the pet industry, pet owners, enthusiasts, went all the way to the governor's office and lawsuits and so forth. So, yeah.

BONNIE WILLISON: Almost every pet store sells red-eared sliders. If they suddenly couldn't sell them, it could have a big economic impact for them and the pet industry as a whole. You would probably also get a lot of angry people, a lot of push-back like they had in Pennsylvania for hedgehogs.

So on the call, the group starts to focus on release. Because they recognize that if people didn't release their turtles, this whole thing wouldn't be an issue. So the question turns to, can we just make it illegal to release pets?

And it turns out that it actually already is illegal. There's a rule, a law in state statute 169.06 that says it is illegal to release any pet. Also, it is already illegal to release pets, but how do you enforce something like that? And so they agree that outreach and education is important, educating people who are going in to buy a pet.

SYDNEY WIDELL: And then, of course, climate change is hanging over this entire process.

BONNIE WILLISON: Yeah, climate change is such a game changer for turtles as well. Red-eared sliders, their native range is in the middle of the United States and in the South. But if you head north to the top edge of their range, that goes into the northern third of Illinois. And Illinois is right below Wisconsin. So it's like parts of Wisconsin are pretty close to where these turtles are right now in their native range. And so what if the native range starts to shift because of climate change? And what if they migrate here on their own?

TARA BERGESON: That's a whole other topic, right? When do you actually-- if it gets there on its own-- interesting topic for another time.

SPEAKER 6: If it's introduced and becomes native at the same time, but I'm not really sure what to do with that.

TARA BERGESON: It's a good thing we don't have to solve that today.

SPEAKER 6: Right.

BONNIE WILLISON: The group isn't really here to debate rain shift and climate change-- obviously, a super big issue.

SYDNEY WIDELL: But it's so connected. How can you have this discussion without talking about those things?

BONNIE WILLISON: Yeah, I know. I got the sense that they're kind of looking at the next five years. You can always go back into NR 40 and do an emergency listing. So they didn't solve any of these issues, but they did have to decide how much this idea of a changing climate factors into their decision to regulate red-eared sliders or not.

SYDNEY WIDELL: There was something so compelling to me about watching the species assessment group decisions come about in real time, listening to these conversations between all of these different stakeholders and agency officials.

BONNIE WILLISON: Yeah, definitely. So back at the turtle group, the one species of turtle they didn't discuss as much was the yellow-bellied slider. They decided to vote on that. And the vote was pretty straightforward because everyone was in agreement that the yellow-bellied slider is more of a coastal species. The group sees really little risk of them becoming invasive in Wisconsin. And so everyone votes not to regulate the yellow-bellied slider. But it was not that easy with the red-eared slider voting.

TARA BERGESON: I came into this thinking I was going to vote prohibited, and now I'm more on the fence.

SPEAKER 6: Yeah, I guess-- I mean, if it's possible, I'd like to think about this a little bit more. Because there's the potential for a population somewhere that we don't really know about. Even if they do become established, do they become a threat?

SPEAKER 7: I have probably the unpopular opinion. I would want to restrict them primarily because of the amount of pathogens they do have the ability to harbor within them.

BONNIE WILLISON: Kelly was there as a note taker, but she had an idea.

KELLY: It's certainly possible that you could get crews out to-- get people out looking for overwintering populations this winter and spring. And we're not going to be done with this rule for a long time. So getting further information by spring would still be very useful.

BONNIE WILLISON: Some highly regarded people in the herps community had reported what they saw as overwintering in a park called Stewart Lake County Park, which is in Mount Horeb. So it's not too far away from Madison. So Ryan of the Madison Herp Society, he offers to send a group to Stewart Lake in the next few weeks just to see.

RYAN MCVEIGH: I'll try to get a team out to Stewart County Park and the lake out there in the next couple of weeks so that we can give you guys an idea of what we saw.

SPEAKER 6: That will be great. Thank you so much.

SYDNEY WIDELL: Well, what did they decide?

BONNIE WILLISON: Yeah, so when it came down to the final vote, basically, everyone said that they could not give their vote right now. They needed more time to do a little bit of extra research and get a bit more answers.

TARA BERGESON: This is so interesting because this is like a two species group, right? But this is not an easy group. Kudos to you all for having this conversation today and bringing up all these really good points.

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BONNIE WILLISON: The group members had two weeks to submit their final scorecard and vote. In that time, Ryan had a few volunteers out to Stewart Lake County Park. And the volunteers saw a few adult red-eared sliders. They were basking on logs in the last rays of sun before winter set in. But they didn't see any young turtles-- no babies, nothing under 4 inches. There wasn't enough turtles to cause concern in Ryan's opinion. There is no evidence that the turtles there would overtake native populations and cause problems.

So the group sent in their final votes. And those weren't conclusive. People still couldn't exactly agree on what to do. So the group volleyed the decision up to the Invasive Species Council, which is the council that sits above all these species assessment groups. And that council had a discussion. And they basically just volleyed the decision back to the species assessment group-- do you think is best.

So at this point, Davin said that they're leaning towards not listing red-eared sliders. But NR 40 is a flexible law. And so they're looking into a few other kind of gray area options. Maybe we make a rule that pet stores are only allowed to sell turtles from certain states. And that might prevent concerns of disease. Or maybe we could require everyone who buys a turtle to sign a release that I'm not going to release the pet.

If evidence suddenly appears that red-eared sliders are reproducing, they could always do an emergency listing. But in my mind, it's kind of like, well, if we wait until they're already reproducing, wouldn't that be a bit too late. It's just-- yeah, it's tense.

The species assessment group will make their final recommendation about whether red-eared sliders should be written into the law in the spring of 2021. And from there, their recommendation will go to the Invasive Species Council. And this will all go out for public comment.

The Invasive Species Council and the species assessment groups have one approach to keeping our waters healthy. We talked to a lot of groups and people that are asking the same questions. How do we treat species and beings that aren't from here? How do we protect the native species that we care about?

I can't stop thinking about a story that Sara Smith told. She is one of the coauthors of the Tribal Climate Adaptation Menu that we talked to earlier.

SARA SMITH: And I know one elder was talking about invasive cattails. And instead of digging them all up, going to burn them, maybe we should learn what they could be used for. We should learn from them instead of waging a war on the species and the beings out there that aren't originally from here.

BONNIE WILLISON: Here's Jerry Jondreau.

JERRY JONDREAU: We're in changing times and in an era where there's a whole lot of uncertainty that's out there. Well, if you ask me, I think it's the Indigenous people that are best suited to lead the charge during those times. Because our culture is adaptable. We've been adapting this entire time. We've been adapting even while we were assimilated.

And so as this change continues to happen, I think it's important that those agencies, both federal, state, NGOs, whatever, really start uplifting the Indigenous communities around them and start giving us more authority on these decisions. And if you think about what tribes want, and you think about treaty rights, hunting and fishing and gathering, and if you upheld those rights across Anishinaabe walking of Minnesota, Wisconsin, Michigan, and if our water was clean enough to have healthy fish populations, the non-native community would benefit.

If our wildlife populations were healthy enough to support a healthy harvest, the non-native community will benefit. If the medicines and the plants are healthy, and they're able to share their gifts with us through harvesting, I guarantee you that that landscape will be healthy and be beneficial to non-tribal people too. And I think the tribes are ready to do that. And I think we're ready to take that position. And I think it's time.

[GENTLE MUSIC]

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