# Episode 66: How Messaging Might Affect Forest Management - Transcripts.

# [00:00:00] Introduction and Guest Introduction

**Carrie:** ​What episode is your advisor on? Who's your advisor?

**Dani:** Ashley DiAntonio. She does outdoor rec, so Yeah. Cool. Her episode, which was really cool. 'cause I gotta listen to it. I was like, oh my god, my advisors on an episode. This is so fun.

# [00:00:18] Podcast Overview and Host Introduction

**Lauren Grand:** From the Oregon State University's Extension Service, you are listening to In the Woods with the Forestry and Natural Resources Program. This podcast brings the forest to listeners by sharing the stories and voices of forest scientists, land managers, and enthusiastic members of the public. Each episode, we will bring you research and science-based information that aims to offer some insight into what we know and are still learning about forest science and management.

Stick around to discover a new topic related to forests on each episode.

**Carrie:** All right. Welcome back to In the Woods. I'm Carrie Cantrell. I'm an undergraduate student working with the Forestry and Natural Resources Extension Program here at OSU.

# [00:01:01] Guest Background and Research Focus

**Carrie:** And today we're joined by Dani Berger, who is completing a master's in Forest Ecosystems and Society here at Oregon State in the Recreation, ecology and Spatial Analysis Lab.

Say, hi, Dani. Hi. Dani comes to OSU with a forestry background from the University of Vermont. And since coming to Oregon State has studied how recreationists respond to different messages about forest management. That research was completed at McDonald Research Forest and Tillamook State Forest. Dani also was just accepted to a PhD program at the University of Minnesota where the research will focus on climate adapted floodplain forests following ash tree losses due to the emerald ash bore.

Dani, thanks for joining us all the way from Minnesota .

**Dani:** Thanks for having me.

**Carrie:** Before we dive into your research, I am a little bit curious.

# [00:01:59] Transitioning from Oregon to Minnesota

**Carrie:** What's it been like transitioning from Oregon's Forest to Minnesota as you were just talking about, the rainstorm over there.

Are you finding any different forest management challenges or just environmental eco differences over there?

**Dani:** Yeah, it's been really interesting and I think that's been the story of my life in moving to all different places. I grew up on the East Coast and as you mentioned, I went to the University of Vermont to study forestry and , the forests are very different in Vermont than they are in Oregon, and they're very different in Minnesota than they are in Oregon and Vermont though, there's, a little bit more overlap with northeastern forests. So it does feel a lot more familiar to me in that these are a lot of the trees that I learned in dendrology and grew up around, and the size of trees is very much different from the west coast.

Douglas Fir just as tall as you could see it. And it's been like oddly feeling a little bit like home in that way. But it's different in other ways. The composition of tree species is still a bit different from the Northeast and it's been a lot of me trying to get used to a different ecosystem and , I'm still, in the throes of that right now.

# [00:03:09] Communication Dynamics in Forest Management

**Carrie:** Speaking of dynamics, without giving away too much about your research and what was focused on here in Oregon, have you noticed any difference in the dynamics as far as communication between here and Minnesota and Vermont?

**Dani:** Yeah. I have to say, so I can't really speak to Minnesota much yet because I've just gotten here, but I can definitely speak to, I think there's a really interesting way that history plays into how we think about forests and forestry and forest management, right?

One thing that I, . Wasn't used to coming from the East coast and going to the west coast. And Oregon specifically is the existence of timber towns. And these towns like grew up with this interconnection of like how much timber was harvested, means how much funding goes to schools.

Means, how these areas are thriving off of the timber. Like a reliance on timber. , And what happens when that gets taken away from them or what happens when it feels like that actually is interfering with integrity of the system. , But you don't wanna take away funding there's that sort of interplay. On the East Coast They began clear cutting way earlier. And so there wasn't these old growth systems really left in the same way that the West Coast had old growth systems. And so I think that means that people grew up with a different understanding of forest management, at least in the Northeast. .

# [00:04:35] Aha Moment: Focusing on Communication in Forestry

**Carrie:** Did you have an aha moment? Like when you realized you wanted to start focusing on the communication perspectives and social understandings of forest management?

**Dani:** When I was an undergraduate student at the University of Vermont, there was this county Forester, Ethan Tapper, who is now has his own consulting firm and has a book out and is really awesome.

And I remember him talking about the sort of ecosystem dynamics and why he was doing specific types of treatment like managing systems similar to the natural disturbance regimes and one of the types of management he did made it look like a big blowdown had happened. And when people had found out that he did that on purpose that he left trees on the ground, that he had done this in a way that looked to their eyes very messy. He got inundated with these calls and emails And then later on, I was working with a group of undergraduate students at the University of Vermont and he was doing, bird walks with folks and he was doing tours of the landscape and really he did the hard work to really try and engage the community in what was happening. He said he noticed there was this big shift and suddenly people were thanking him for what he was doing.

And so that got me really thinking like, how does the messaging, like how we talk about forest management and what we say about what we're doing, how does that influence how people feel about forest management, their attitudes towards it, and their perceptions of forest management.

**Carrie:** And that's something that you specifically studied and Yes. You looked at recreationists attitudes towards forest management at two of Oregon's locations that all of our listeners know very well.

McDonald Research Forest and Tillamook State Forest.

# [00:06:31] Study Design and Messaging Approaches

**Carrie:** And I'd like to start with how you designed your study. What sort of qualities were you looking for when you decided to test different messaging approaches with recreationists, what were some key decisions that you had to make about sample sizes, control groups, and how to assign participants ? .

**Dani:** Yeah, so I, I think the first thing it was clear that we wanted to have some sort of control. And so in thinking about messaging treatments, the control is that we ended up using was no messaging, right? Not saying anything about ongoing forest management.

The treatments we ended up looking at were ecological messaging, thinking about ecosystem benefits associated with management activities. And we also looked at what we called social benefits messaging, which is really this like idea of local jobs or local employees that are harvesting or producing resources for local timber mills. And so coming up with what those treatments were was the first big decision. One of the constraints we had is time limitation, resource limitation. And we ended up instead showing photos of different types of management. So second big thing was what types of management are we gonna look at?

And we looked at forest management plans specifically at the McDonald Research Forest to see what types of management were happening and ongoing there. And then we really wanted to take into account the fact that, as a recreationist, if I'm going hiking I am walking through a forest in a specific point in time.

And that might be 20 years after forest management is, a forest management action has occurred, but there's been a harvest, right? Or it could be, 50 years after a harvest has happened. And we really wanted to account for the fact that over time these forests look different under the same type of management, right?

You can have have a harvest take place and it's gonna look very different 20 years down the line, it's gonna look very different, 60, 70 years down the line, right? And so we had different photos that represented different successional stages that we might expect to see in like Western Oregon forests, these Douglas fir dominated forests.

And so we had each individual photo shown to participants in a survey. And we had participants randomly assigned to treatment, so they only got one treatment type. And we did this randomly so that we could look at the effect of the treatment. Because if we could definitely look at a before and after . and we had them rate the photos. We had three different metrics

the acceptability of the scene. We looked at the perceived quality for hiking. And then we also looked at how likely they would be to recreate on a site that looks like the picture that they're shown of the forest.

# [00:09:30] Survey Methodology and Findings

**Carrie:** So to summarize for our listeners, randomly selected group of people were asked to view randomly selected photos of different types of forest treatments messaging visually, or they were chosen not to see any messaging at all- and that was the control- and you said there was also was there verbiage with the images as well that, gave context or like words or was it just an image and then the survey questions?

**Dani:** Yeah, so it depended on the treatment. So for the control group, they got, the questions the photo of a forest in a random order they would get the photo and then they would be asked those three perception questions. But if you were in the ecological treatment group, you would see a photo and then a message about the ecosystem benefits associated with that type of management.

And then you would be asked to answer those three questions.

**Carrie:** What sort of measurements were you collecting information from the survey based on a Likert scale or,

**Dani:** yeah, I should clarify. My research had two, two different parts to it. One was looking at perceptions of forest management, like the photos of different forests in different types of management.

. I mentioned the three metrics, the hiking quality and scenic acceptability was measured on a scale from negative four, a positive four and then the intention to recreate was on a very unlikely to a very likely scale. Negative four is the most unacceptable, positive four being the most acceptable, zero being neutral. And this is because other research at the McDonald Research Forest, actually for Dr. Brunson at Utah State now OSU alum did his dissertation work looking at ecological information. And so there was some similarity. And so we wanted to keep the scales the same so that we could directly compare and see if we found any differences. We found some differences.

# [00:11:42] Statistical Analysis and Evidence

**Carrie:** You said that you had found moderate evidence that ecological messaging worked better than economic messaging. Can you please explain what analysis methods led to that conclusion and how you distinguish between something being statistically significant versus being meaningful enough? For forest managers to change their practices. A lot of statistical is jargon, and it's stuff that you have to intentionally learn and remember in order for it to have meaning in your day-to-day life. For somebody who's listening to this episode, what does moderate evidence mean and at what point does evidence become enough evidence to actually influence the change practices?

**Dani:** . So in terms of the statistical analysis, looking at the effective messaging, we looked at order probate models, and that is a type of analysis that is used when we have an order dependent variable. .

The way ordered probate models work is that the coefficients are less practically interpretable. And so instead what we looked at was the probability that respondents who saw the ecological messaging , was it higher than those who saw no messaging?

And was that control higher than those that saw the social benefits messaging? And so we had these permutations , sort of these orders of ecological was the highest control and social benefits resulted in the lowest, right? So we looked at direct comparisons of all three. And so we're able to look at the predicted probability of each of those orders to figure out across different photos across management types, was there a specific messaging that there's a high likelihood in higher perception metrics?

**Carrie:** And I just wanna say out there for our listeners that statistical analysis is not intuitive. But you use math to understand people's thoughts and emotions and feelings. And none of these things are exactly quantifiable. So what we're looking at, and I think you hit the nail right on the head, is like what you're looking at is the probability rate of a specific response.

**Dani:** And there is always some margin of error. But we do our best. And I think that, I don't know, I think that's so important.

A caution about saying things is, that we like to build up as much evidence as possible to feel like we have conclusive results.

**Carrie:** Sure. Yeah. And to translate your findings, moderate evidence that ecological messaging worked better than economic messaging.

How would you put that?

**Dani:** Yeah, so what we ended up finding was that for almost every single photo, specifically for McDonald research forest respondents that the ecological treatment resulted in the highest ratings that was followed by the control group of no messaging. And that actually social benefits resulted in the lowest responses to those perception metrics. but yeah, we found that that the majority, likelihood for almost every single one of those photos and for almost every single management type was that ecological messaging was resulting in higher perception metrics.

But in terms of Tillamook State Forest, we found, I would say weaker evidence of this. There was definitely still some evidence we had a lot of photos that had, Moderately high likelihood that ecological treatment was higher than the control and social benefits group.

What we weren't seeing was a difference between the control and social benefits group that we saw more starkly with McDonald research, forest respondents. And in general there was a little bit more of mixed results in terms of the Tillamook forest respondent.

# [00:15:50] Differences Between McDonald and Tillamook Forests

**Carrie:** So how did you, or do you account for these differences between Tillamook State Forest and McDonald?

**Dani:** Yeah, so one of the things we were interested in understanding was whether it was differences in terms of the makeup of the community the sociodemographic makeup.

So that's, age and gender race, cultural identity, ethnicity income education level. And so we looked at what the differences were across those and to see if there was, significant differences While there were some differences that were significant, we were looking at the effect size which essentially is looking at yes, there's a difference, but is that difference a large effect comparatively? And there were really low effect sizes, meaning there was, it was a minimal effect.

So we don't think that this was necessarily associated with those sociodemographic differences between respondents.

**Carrie:** I've been to Tillamook for a couple of their community outreach events and they've got a very robust communication team that instills their own messaging. And so it could be, it could very well just be pre-knowledge and pre bias, but the differences I'm hearing Tillamook is still showing inclination towards ecological messaging, but just less so than the research forest.

**Dani:** What I would say is that, yeah, there was less evidence of that than there was at the McDonald Research Forest, which could be that that messaging really didn't pan out to be the most important factor that influences their perceptions, right? Maybe messaging what didn't influence it very well, or there's something stronger influencing that.

**Carrie:** th

# [00:17:40] Implications for Forest Managers and Messaging

**Carrie:** is essentially , can help our audience small Forest land managers owners when they're talking to neighbors and community members about, timber harvest fire prevention work if you're talking about documenting your work and photographing it for insurance or presentation basically Ecological messaging tends to have more positive results , is that what I'm hearing? .

**Dani:** I, I might even caution against even saying that. So what, ah, the way I took the results of this study is that at the McDonald Research Forest, it seemed pretty clear how ecological messaging resulted in these higher perceptions. And also that social benefits messaging is maybe something to be avoided in communication.

And so there, I think there's, definitely direct. Relevant for the managers there. I think that, we also have a lot that we can talk with Tillamook State Forest managers on about, here are the results. It's a little bit more mixed, but, there may be some influence of messaging.

But I think that one thing that came out about this is that there really was differences between the sites, even though they're in a similar region, right? And that could be the population differences. It could be different local context, right? And so thinking about messaging, you really need to think about who your audience is.

And I think anyone who's ever given a talk, that's like the first thing you have to think about, right? Who is your audience? And if your audience is someone who will prioritize certain aspects then, yeah, you should definitely frame your messaging around that. I will always advocate, and this was very important in the study, is to say that, we looked into the research to find, evidence based statements, right?

These are not like, we didn't just make up these are ecological benefits It still needs to be accurate. It's, and true information. But, I think that we really came away feeling like maybe this could be site dependent. For the audience, I guess the takeaway is maybe there is an effect an influence. Maybe ecological messaging is resulting in higher perceptions of these management types, but it could be a very localized effect. And so really understanding who you're talking to about forest management is gonna still be really important and like the number one thing to think about. And maybe ecological messaging might work in terms of a broader context, remains to be seen. Maybe it will, maybe it won't.

**Carrie:** Thinking about the future and the impact and values I wanna talk about why this research matters, why we talk about How to communicate these things. Because obviously greenwashing is an issue. That is something that happens. And people do co-opt ecological language and they do co-opt what do we call them?

Bad actors?

**Dani:** A litany of folks have used, ecological language and phrasing and sustainability as a way to market things that are maybe not sustainable or are not their actual priorities or that conflicts with, what else they do.

And so I think, like I mentioned I think it's really important for me that every message we used, we had, articles to back up and prove that we are talking about actual benefits associated with this management. We're not talking about, hypothetical benefits.

And I think it's very important to make sure that, like, when we're thinking about message framing is how we craft messaging to emphasize different aspects. But it should be emphasizing different aspects of the truth, right? Forest management is very complex balancing a bunch of different priorities. And so that can be a balancing of income, it can be a balancing of ensuring that there's enough wood products for us consumers, but also ensuring there's ecological integrity, ensuring we have opportunities for recreationists to be able to engage in that forest.

And so it, it's a balancing of, we want to have ecosystem services, we wanna have these systems functioning well and we want them to remain intact and healthy. And we also use wood products and we also, need some way to fund the ecosystem, to fund management. That ensures the integrity of ecosystems that we've already altered, right? I don't think we should use this research to say that we should always use ecosystem benefits, even when that's not a main priority or a goal. I think that we should be real about what management priorities we are balancing .

**Carrie:** So that would be a transparency Yeah. In messaging. Yeah. Using transparency and not trying to gimmick anybody into believing you're doing something when you're not.

**Dani:** Exactly. I think we need to be transparent that management can serve multiple goals and we might frame messaging in specific ways because that might be a way that engages the public in that thinking about that type of management and what else it does other than changes the way we look at the forest, or what we see. But I think yeah, being transparent and not trying to necessarily be like, look that direction at that thing, right? It's really, more about hey, this is something that we are thinking about and , it's not it's not something that , we're not already considering, but you might not know about it.

And this might be something that would be helpful to know, to understand why we're managing.

# [00:23:27] Challenges in Forest Communication

**Carrie:** I can think of a couple, but I was wondering have you witnessed or observed any real world consequences when forest communication fail? Have you seen a catastrophe essentially because forest messaging was explicitly not framed correctly?

**Dani:** Yeah. I have seen there was a management that happened that was this mix of economic and ecological justification, right? In Vermont when I was doing my undergrad, there was ongoing research happening in the National forest there. It was mostly to improve the ecosystem to prioritize native species that were being overcrowded. It was also partly to improve other aspects of the stand to thin out so that trees have a little more space to grow. But I think that the messaging about it didn't come early enough and it didn't come strong enough about it being mostly an ecological harvest, but there was not clear messaging about it from the start. For a lot of people, they were like, you are greedy and you're trying to make money. And actually the harvest cost money. It wasn't actually making them any money. They were doing it mostly for ecological reasons. Then this like huge barrier to overcome, right? Where people have already been exposed to this idea of oh they're greedy. They're doing it for the wrong reasons. And even if the, the managers can talk about why that's not really the case and that's not an accurate reflection. It was, still harder once that idea takes root to talk about the actual management that was happening.

 And so it, yeah, it can be frustrating sometimes when the messaging, it doesn't come quick enough or it is not clear or transparent. And, and I think that can be hard to come out with messaging quickly. But when we're thinking about doing management and, we know what our priorities are in terms of what we want, what we are trying to do.

And so how do we make that translatable and make that transparent to the public?

# [00:26:54] Public Engagement and Democratic Decision Making

**Carrie:** And that touches on social license is what foresters call it, right?

Basically the level of public acceptance of forest management practices and what's gonna happen when our democracy does a democratic thing . Forest management often involves public lands and public resources. How would effective communication research support the democratic decision making principles about our shared natural resources in Oregon?

You, you mentioned being out in front of the storm, so to speak, so that people don't get the wrong idea. Are there potential benefits as far as opening dialogue ?

**Dani:** absolutely. I think it's always important, especially important on public land. These are lands managed in trust for the public for a variety of different reasons.

Keeping the public healthy, clean air, clean water , opportunities for recreation , providing wood products . And so, they are public land managers are managing interest for the public, but they are also, trying to find a balance that's acceptable in terms of is there enough of healthy forest to provide those services to us. I think that having that dialogue is really important because not only does it allow for people to understand more about how the managers are thinking about balancing these priorities, but it also allows for the public to provide input on how much weight they think each priority should have.

**Carrie:** Do you see any principles beyond the framing of the message that would help consistently develop, positive relationships between a public with changing opinions, sometimes immeasurable opinions, and also land managers with, changing circumstances, changing information.

What would you say should be consistent to keep the dialogue positive and healthy?

**Dani:** I think there's always, ground rules of how to en engage on both sides, right? Being respectful and recognizing that people are coming there to have a conversation in good faith to have this discussion. But people need to actually come out in good faith to have that discussion on both sides. And it needs to be done in a way that, is respectful of the complexities.

It takes people who are actively listening and willing to be open-minded about that process. And also recognizing that some people are not able to come to certain formats of discussion.

Maybe meetings are happening at times that don't work well for people who have younger children or who work nine to five jobs or, there, there's so many reasons why. People might not be able to engage in a process too.

And you know what, two people might not be equally happy about the conclusion. But coming and listening and actually, being willing to have that conversation is a really important place to be. And important mindset.

**Carrie:** What role would, could messaging play in maintaining credibility even with people who are inclined for reasons that aren't scientific or even ecological or personal? Maybe they're political, that doesn't change the importance of what the actual project is, but that's something we have to work with.

**Dani:** Yeah. And I think it's something that is really important to acknowledge there's research showing that people have, less trust in science. But that's also coming at a time where we're seeing overall less trust in authority, like different different types of authorities at the same time.

So I think one that messaging is an important point for being transparent, that it should not, , the, that it is a way that we can talk about what we're doing, but also , to provide a way that is maybe not thought of a lot.

I think that how we use messaging, how we get it across. That is a really important part that I really didn't address in this study, and that I think is really important to be thinking about, not just in a time of, politics, but in general, like we have a messaging, how do we actually implement that messaging, right?

**Carrie:** Have you observed any challenges or gaps in the Pacific Northwest that your research hasn't addressed?

**Dani:** I think, yeah, there's a lot of things that my research didn't address. I did quantitative work, but I think qualitative work becomes really important when we ask these questions . How do these things interact with people? And you can of course try and answer these questions quantitatively as well, but I think that there is something quite profound to follow it in that direction. One thing that the study didn't have was a qualitative component to really look at the responses in more depth and to really think about why people responded the way they did.

Also , one thing we didn't touch on that I think is important is. That messaging does not exist in a bubble it existed on a screen for the survey, a tablet. But messaging is really something that's implemented. Is it implemented on signage? Is it implemented on newsletters? Are there interactive events where people are coming in and there's like a walk through the forest to talk about the forest management. Each of these has different caveats of what messaging is introduced and how it might be responded to. There is an awesome research team outta the University of Montana.

Will Rice Dr. Rice and colleagues have been doing some interesting work in the sort of outdoor recreation space in terms of like signage and, I think some of their results were that, you have to balance the sort of authoritative messaging with different types of ways of getting that messaging across, through graphic design as well. And so there's also the challenge of do people read it? Are people gonna stop?

Are they gonna see that messaging? If it's in a newsletter, do people. Read the newsletter or are they like me for a lot of things where I see the thing that I've signed up for on my email and I'm like, oh, I don't really wanna read this. Do I try to read the New York Times blurb that comes at me every day?

Yeah. Do I maybe mostly read the headline and glance at it and I'm like, oh, interesting. And then, go to my next thing also.

**Carrie:** Taking these new understandings of what communities value and how they value them.

# [00:33:46] Future Research and PhD Focus

**Carrie:** How are you planning to take these insights on messaging and science to your PhD research and climate studies?

**Dani:** Yeah, so my research for my PhD is interdisciplinary work in terms of being both biophysical science and social science. And so there's a study it's through the ASK Network, which is the adaptive silviculture for climate change. Six plus years after the start of the study when they planted the trees there was some low mortality in some of the sites that they planted, anticipating like 50% mortality.

And it actually ended up being way lower because they didn't actually experience the flooding and droughts that, that they thought they were going to have. And so then now what we're coming into is these trees are gonna start competing with each other because of the , high density.. And so what I am looking in on the social science side is what can we do about this? There's different management things that we can do. We could do nothing and let them compete. We could selectively, pick species either way. We are modifying the experiment for good. And so how do we involve the community , the community of volunteers, the community that comes to this urban park regularly.

How do we involve people that are local to that region that maybe don't go to the park, but , that's still their community space, right? And so how do we make , an informed decision about this without swaying people?.

**Carrie:** If a small forest landowner called you tomorrow and said, my neighbors are really upset about my forest management practices, what is one key insight from your research that you would want them to remember when having that conversation?

**Dani:** I would say to think about your neighbor and what they care about, what they prioritize, and to think about ways that you can talk about , your forest management or your forest that is true and accurate, but that aligns with their values so that you guys can come into a conversation understanding where perhaps to find common ground and then move from there. That you need to really understand who your audience is and what they value and understand how that relates to the management that you're doing.

**Carrie:** I'm enraptured 'cause we're talking about social science and trees and this is what, literally what I talk about.

So it's totally fine. I was

**Dani:** gonna say you communications and my research is like, communications

**Carrie:** .

# [00:36:29] Lightning Round and Conclusion

**Carrie:** Well it's been a great interview, but I can't let you go just yet 'cause we still have our lightning round.

**Carrie:** ​ Every episode we ask our guest to share with us what is your favorite tree and what is a unique tool that you take out with you into the woods every single time.

So question one, what's your favorite tree?

**Dani:** Okay, I have my serious answer to this, and then I have my fun answer to this. So I'm gonna go with Fun First, which is Dawn Redwood, which is a favorite of mine because when I was taking dendrology for the first time and had to learn all the names of trees and all of the fun it had the most fun scientific name, like the Latin name was the most fun to say, which is Metasequoia glyptostroboides

And I will never forget it. I love it so much. And if you have ever been to the Hoit Arboretum in in Portland I don't know if they still have it, but they used to have shirts that had the Hoyt Arboretum and then the Dawn Redwood on the back. That, that's one of my favorites. This is my fun favorite because it's just very fun to say.

But my serious answer is yellow Birch. Betula alleghaniensis, which is my favorite for a lot of reasons. It's a common in the Northeast and it reminds me of how I got into forestry and interested in the first place. But also, it's such a fascinating tree. It's got like the birch bark which is all peel and fun.

It's got a like slight winter, green smell if you, crush the leaves or the twigs, which is also very fun. And they grow on these nursery logs and so you'll see them grow where trees have fallen on the ground, you'll see a yellow birch growing out.

And I just think that is such a beautiful thing to see and it is such a weird, quirky tree for that reason, and I just love them. .

**Carrie:** And what is a tool that you bring out with you into the woods every time you go, whether it's for research or hiking ?

**Dani:** Yeah. Lately it's been my phone, but

the Merlin app. I've been that. I am a very bad, interested birder. I like birding. I'm still in the struggling phase of it. My partner is an incredible birder, birds by ear in sight. Can Id over 300 species, just like quick on the fly. Incredible aspire to be that level of birder, but I often don't have cell service sometimes when I'm working. And so I use the Merlin app because it creates a great recording that I can send to my partner later and he can help me, ID it.

So we're on an app. Perfect.

**Carrie:** I love it.

**Dani:** Yeah. And with everything, give it a grain of salt because it is, an algorithm or a machine learning model that is trying its best to ID things and it does get things wrong. Pinch of salt , yeah.

**Carrie:** But just a grain of salt.

**Dani:** Just a grain. Not a pinch. A pinch

**Carrie:** is

**Dani:** too ..

**Carrie:** Much. A pinch is

**Dani:** too much. Pinch is too much. But yeah I think it's so interesting to see what's around.

**Carrie:** There's also an app called BugBug if you are interested in insects.

**Dani:** I will be using in the, to the future. Thank you so much

**Carrie:** Thank you for the interview. It has been absolutely lovely talking with you.

**Dani:** Thanks for for taking the time to hear me blab about my research that I love and have spent too much time thinking of.

**Carrie:** We love it too, and we're glad you did and good luck with your PhD program.

**Dani:** Thank you so much.

**Carrie:** See you Dani. Bye.

**Dani:** Bye.

**Lauren Grand:** The In The Woods Podcast is produced by Lauren Grand, Jacob Putney, and Scott Leavengood who are all members of the Oregon State University Forestry and Natural Resources Extension team. Other members of the team who've been involved in the podcast include Carrie Berger. Jason O'Brien and Steven Fitzgerald episodes are edited and produced by Carrie Cantrell.

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Until then, what's in your woods?