

SCOTT MILLS SCRIPT

ALEX KUMAR: I was riding a snowmobile, got to track snowshoe hares, got to for check for traps for Canada lynx. Seeing what life's like in Montana and then getting to know my adviser on a much more personal level than I did for lots of other schools that really sold me on, on the program and on Scott as an advisor.

JENNIFER FELTNER: But, I came to the University of Montana for a conference and they actually had a raffle at the conference to win a coffee date with a premier ecologist. One of the ones they had with Scott Mills. And I was fortunate to win the raffle ticket to have the coffee date with him. We just clicked immediately.

BRANDON DAVIS: Scott and I had doubts that I would have the sample size I needed to do this master's. Scott kind of gave me a long leash. You know he let me use my creativity to think of a way, you know how can we get weasels on camera, how can we quantify the weasel coat color molt. But now, I've got weasels coming out of my ears. There's weasels on every camera.

ASHBY KINCH, HOST: You just heard the voices of Alex Kumar, Jennifer Feltner, and Brandon Davis, graduate students in Wildlife Biology at the University of Montana talking about their advisor, Scott Mills, our featured faculty guest on this episode of "Confluence: where great ideas flow together," a podcast of the Graduate School of the University of Montana. On "Confluence," we take a long float with some of the best and brightest professors and graduate students who contribute to the watershed of wisdom that flows through our campus. I'm your host, Ashby Kinch, Associate Dean of the Graduate School, and I'm delighted to be guiding your sonic float today.

Each episode, we gift our listeners a passage of poetry about rivers, read by our guest. As professor of Conservation Biology and Associate Vice President of Research for Global Change and Sustainability, Scott Mills thinks every day about the changes wrought by humans on the environment, and what animals do about it. So, we've selected a short passage from William Wordsworth's breathtaking "Lines Composed a Few Miles above Tintern Abbey," where the speaker reflects on his youth, as he returns with his sister to the banks of the River Wye, which has remained an inspiration for his love of nature.

Here's Scott, reading in Wordsworth's voice.

SCOTT MILLS: Nor perchance if I were not thus taught should I the more suffer my genial spirits to decay. For there art with me here on the banks of this fair river. Thou my dearest friend, my dear, dear friend. And in thy voice I catch the language of my former heart and read my former pleasures in the shooting lights of thy wild eyes.

KINCH: Wordsworth's larger poem offers a deep meditation on change, and what that change means in the context of our human values. For Wordsworth, that was the impact of

industrialization, including the ironworks just down the road in Tintern. For Scott Mills, climate change is the context, but he never lets his “genial spirits decay.”

Scott has a world-wide reputation in conservation biology for his ground-breaking work on real-time evolutionary adaptation of animals responding to climate change.

Here in Western Montana, we can see the effects of climate change directly, as the snowline creeps up the mountains surrounding our valley every year. Imagine being a snow-shoe hare living in those brown hills when your coat has already changed to white, standing out against that brown background as easy prey for mountain lions. These are the dilemmas of biological life in an age of climate change, and Scott’s lab has been producing transformative research describing how animals have adapted, with major publications in *Science* and *Nature*.

In our discussion, we explore Scott’s path to becoming a research professor, his attraction to Montana, and his ideas about graduate study, interdisciplinarity, and international collaboration. Many of his students have had successful research careers in a wide range of fields, and this interview will give listeners a strong sense of why that’s true.

We hope you enjoy our discussion with Scott Mills. Welcome to Confluence.

KINCH: Thank you first just for joining me and agreeing to talk with us.

MILLS: Oh, it's my pleasure. Thanks for having me.

KINCH: Tell me a little bit about yourself. How'd you come to choose this field. How did, how did this profession evolve it's kind of a weird job, right. I mean.

MILLS: Yeah, it’s kind of a weird job.

KINCH: It's not, it's not a normal job. It's not the kinda thing, like an eight-year-old kid, you know, what do you want to be, “I want to be a conservation biologist,” right. So, how'd it come? How did that evolve?

MILLS: So I actually knew, I actually am a little unusual in that I probably knew earlier than most, I knew when I started college that I wanted to do, to be involved in some career that had to do with wild animals. I thought it was a veterinarian. So, I was a zoology major with the intent to be a wildlife veterinarian from the very beginning as an undergrad. And then. And actually what happened was, I was in the SCA program—Student Conservation Association program—as a sophomore in college and went out to Olympic National Park as a North Carolina kid to work on a mountain goat project and I just loved it and I met these guys there that were the Park Service biologists and I thought, “Wow what kind of job is that?” So, your whole job is to study mountain goats—I was on a mountain goat project to study mountain goats—or, or bears or Roosevelt elk or whatever. So that really kind of opened my eyes. But the kicker was that pushed me away from being a wildlife veterinarian more towards being a wildlife biologist

was, we were trying to figure out ways to sterilize mountain goats because they were invasive. But the park didn't want to kill the mountain goats and the, and the, and the mountain goats were wrecking the park's environment because they weren't native to there. They were introduced for hunting in the 20's before it was a park. They proliferated and they were basically just destroying the, the high country and a lot of endemic plants. So, the park service had to do something so they were trying to find ways, well could they, could they basically sterilize mountain goats. So I was part of a team that went in with a bunch of veterinarians, wildlife veterinarians to net them and we were going to sterilize the goats. We ended up getting bad snow cover, cloud cover we ended up not being able to catch very few goats. So, we had a lot of time sitting around to talk. Long story short these wildlife veterinarians. Their jobs didn't seem that great compared to the park biologist job. So after that, after my sophomore year, I pursued a path. I tell you what it wasn't until the last year of my PhD that I even considered to be a professor.

KINCH: That's interesting, yeah.

MILLS: I went all the way through graduate school thinking that I was going to be a research biologist, I knew I wanted to do research.

KINCH: Right.

MILLS: But, uh, it was the last year of my PhD. When my PhD mentor, a guy named Michael Sulay, and I was just talking to him and I thought, "Wow here is a guy who is doing transformative groundbreaking science that is changing the way people view conservation." And I thought, "He can wake up on any given morning and pursue the topic that he thinks is most important."

KINCH: Most important. Yeah.

MILLS: And nobody can tell him to shut up or not do that. And I thought, "I don't know how many other places you could do that." And actually, that's what made me think at that point, I thought, "You know what. I'm gonna still apply for agency jobs when I, when I finish my Ph.D., but I think in the right university this professor thing could be a good deal."

KINCH: Maybe describe for our listeners what the core ideas in your research are. And I know you do a lot of stuff, but.

MILLS: Yeah.

KINCH: But, I mean what, what's the fundamental concept that your group has been working on and what I'm curious about now is, where did that come from? Where did that idea come from? How did you start thinking about that?

MILLS: Yeah. Well so, you know my, my sort of one sentence is, is that is, that my research group uses any tool we can get our hands on we like to use computational tools, genetic tools, field research to find new ways to understand how animal populations respond to human stressors and then what can we do to help animal populations persist in the face of human-caused stressors. And so, you know, it's, it's, it's, it's wildlife population ecology is it, is the three-word phrase for it. But yeah sort of just using different disciplines to understand how how, how wildlife populations are responding to various stressors. And so that's been really fun because it's ended up taking me down some pretty deep paths into some sort of mathematical approaches to thinking well it turns out all, all management actions are not created equal in how they would help recover say endangered species or reduce the numbers of pest species. So that's been that, that's been fun. It's been fun bringing together genetics and ecology in ways that hadn't really been brought together very well when I first started as a Ph.D. student as a young professor. Geneticists did their thing and ecologists did theirs and there was really very little discussion about that. And that's been a real thread of our work is to bring those fields together. So, there's been lots of fun stories, but the biggest, the biggest one right now is in this whole question of what might be the scope for animals to be able to adapt to rapid human-caused climate change.

KINCH: Right.

MILLS: And.

KINCH: So in-time evolutionary changes.

MILLS: Real-time.

KINCH: Real-time.

MILLS: Yeah.

KINCH: While we're, while we're doing the observations in the field we're seeing very specific species: ptarmigan.

MILLS: Yeah.

KINCH: Changing the times in which they molt and change.

MILLS: From brown to white.

KINCH: Yeah. On the basis of distinct changes. Your, your lab is arguing in climate.

MILLS: Yeah. And you know, this is one of these areas where different fields have been brought to bear because even just 15 years ago, even 20 years ago, when people, when scientists taught evolution to students it was in the section on fossils. Or maybe speciation.

KINCH: Right. Right.

MILLS: Like, "Evolution is what happens over millions of years."

KINCH: Yeah, yeah, yeah.

MILLS: Well, one of the biggest transformation, transformational insights in the last 20 years has been the realization that meaningful adaptive changes can happen in just the span of 3, 5, 10 generations. So, evolutionary changes can happen on ecological time. And so that's not to say that evolution can rescue everything and that and that, that evolution will take care of everything like some magic bullet. But that's become a big thread of our research as we think about, yeah, like you said using these animals that we study that turn from being brown in the summer to white in the winter and now we see them more and more being white light bulbs hopping around on a brown snow-less background and it brings, it brings to mind the question what's the consequence of that for the animal? What's the consequence of that for the species persistence? And then, what are the potential strategies that they might be able to deploy through evolution and through behaviors that they could make it through it. So, this has been an enormously exciting in the last decade, um, sort of area of bringing together disciplines and students thinking about this topic.

KINCH: How'd you come to the University of Montana?

MILLS: Because of my interest, Montana has long been on my radar, had long been on my radar as just a magnificent place to be. Actually, I worked at the National Bison Range the summer I graduated from college so I knew a little bit about Missoula, I knew about western Montana and the real quick story is undergraduate in, back East where I grew up in North Carolina. Master's in Utah. Ph.D. started in Michigan, moved with my adviser to Santa Cruz, UC, University of California Santa Cruz and then finished the Ph.D., had an opportunity to be a sabbatical replacement slash postdoc at University of Idaho and applied to lots of jobs that I didn't get, uh, that I didn't get any nibbles on and then I had a amazing little period where I got a series of several different interviews and even several different offers at the same time. And, uh, the hardest decision was I had offer at University of Queensland in Australia and then, and then an offer here at University of Montana and I was really excited by Montana had a talk with Dan Pletcher who was the program chair at the time and was super excited by his enthusiasm and so that's how I came here.

KINCH: But, the lure of Montana is no joke.

MILLS: The lure of Montana's no joke.

KINCH: You see it. I mean your field in particular of course because, right out your back door are unbelievable stretches of wilderness to go study.

MILLS: Yeah, yeah.

KINCH: Get out on into the field with very low logistics. And for someone like me who's not studying it. Just going hiking and boating and skiing, it's amazing. But for someone who's trying to track down elusive animals and set traps to, to record them. What an incredible resource to have right in your backyard.

MILLS: Well that's right it's an incredible resource and it makes you, ends up surrounding you with incredible people. Faculty, undergraduates, and especially graduate students.

KINCH: Yeah.

MILLS: You know the quality of graduate students that we have here. Unbelievable. And the, you know my grad students, two of them are NSF, you know, graduate fellows. I mean, you know, they're these are, you know, these are, these are students that literally could have gone anywhere. They were competitive to, for positions and even being recruited for positions everywhere and they picked here.

KINCH: So tell me a little bit about your philosophy of graduate education. Why is graduate education important? Why is it important to a public university like University of Montana?

MILLS: Yeah I mean, you know, it's the way that we, it's the way that we put young people at the top of a field. We have this enormous amount of knowledge and wisdom that we build up in certain fields. And so it's this opportunity to train students to be, be at the very top of their game in terms of both knowledge in terms of, in my, in my case, in terms of both understanding lots of really important non-intuitive surprising biological ideas, but also thinking about how do you implement those. How do you actually help save the world or help make the world a better place by implementing the science that you learn. So, without that sort of intensive focus training of graduate school you wouldn't have people that are making the transformative breakthroughs that, that make a big difference.

KINCH: Yeah, in your particular field. So, I'm not sure, for example, every STEM field would say something like you just set about changing the world, right.

MILLS: Yeah, sure.

KINCH: Making an impact on the world.

MILL: Sure.

KINCH: Maybe talk a little bit more about that part of your graduate education.

MILLS: Yeah.

KINCH: How does that, how do you how do you cultivate that set of values or ideas that are important to conservation biology.

MILLS: You know, so first of all, I always pass on to my students that you have to understand the basic science. And so, you know, the basic science whether it be biology or math or physiology are all really critical to, to making the applications to say conservation. So, that's very much a part of it. You have to become the very best biologist that's around, but also you have to have, you wouldn't do it if you don't also have this sort of commitment and excitement about seeing those insights make a difference. And so, I think, you know, we just sort of preselect the students that do that, which is good that they're preselected for that because it's really hard work, right, as we say. You know, you've got to be, you've got to do all the things that you would do in basic biology you've got to, you've got to shine in terms of your mastery of basic biology and math and genetics and evolution and ecology and all these pieces. But then, you also have to understand how do you connect it to, through policy. You have to understand, think about laws or policy or, or how do you communicate the ideas to a general public or to a manager or to somebody who's in the logging industry or who's an animal rights group.

KINCH: Yeah, right. Well that's that's a great point and I think it kind of underscores one of the things we here in the graduate school kind of have our eye always on which is the interdisciplinary component of so many of our fields. You know there's these specializations that you have to have. You have to have specialization, content master a given discipline. But yet we find it kind of a higher level of a field. You also need to have this other set of skill, skills and cultivate that in your graduate students. Do your graduate students go take courses in other departments? Are they, are they out in the law school or are they out in public policy or are they picking it up through research or collaboration or contacts?

MILLS: Yeah. Sort of all of, all of the above. And you know any more I think in the sciences and maybe in many disciplines it, it's almost becoming such that the specializations are becoming so deep, but the interdisciplinarity is becoming so critical that a lot of what you do is, you know what I find myself sort of working with students trying to do, is learn people how to find trusting relationships with people in other fields, learn enough about that field to be able to build a trusting relationship, and uh, because you're never going to be able to go a mile deep in these different areas. But what you do is you come up with trusted collaborators.

KINCH: Yeah.

MILLS: Um. And, and go that way.

KINCH: What do you think, um, you know a graduate student coming, today into your program, what's the biggest challenge they're gonna face based on, you know, changes in the field and what's ahead and what's the biggest opportunity. What do, what's your biggest hope for a student and what their outcome might be.

MILLS: You know I think that the, the biggest challenges are that we, that uh, is mastering lots of different disciplines to the appropriate depth and also thinking about the challenges to science itself and thinking about how do we continue to make science relevant. You know that's another place people, students are being pulled in addition to sort of all the different scientific disciplines is, now we have to start asking ourselves, "Well geez, should, how much time should we be spending blogging and tweeting and, and, and podcast and making films." I mean and all that takes time and so those, I think, are the biggest challenges is figuring out all the different ways of both mastering your craft and communicating that craft and implementing what you learn to the world. And for those of us that do applied things. But, that also immediately becomes the greatest opportunity as well.

KINCH: Right.

MILLS: Because if you can master those things, boy you really can make a difference, you really can make a difference. Whether it's in policy, whether it's in education, whether it's in, uh, new ways of viewing the world.

KINCH: What do you expect to see in terms of the growth and maturity of a graduate student over the course of your time working with him or her?

MILLS: Well, I mean I always sum it up for Ph.D. students is I want them to basically be kicking my butt by the time they graduate.

KINCH: Yeah.

MILLS: Ya know, I want to sort of feel humbled and hopefully not humiliated. Humble, but I want to feel humbled and like, "Wow, OK." So, they're really they're thinking about this in ways that I have never and maybe could never think about it.

KINCH: Yeah, yeah.

MILLS: Then you know you've really succeeded.

KINCH: Yeah.

MILLS: And you know, at the master's level, you know, you just want to see, see them grow. And that's such a beautiful thing to see, you know, to see they came in maybe they were nervous about public speaking, maybe they didn't like math, maybe they thought there was no way they could ever develop their own research idea and yet by golly there they are giving their talk and they're being articulate and they're telling a compelling story of their research. And so, yeah you want to see that progress.

KINCH: There's kind of a leadership component to what you do, right? There's a way in which you project a set of values and you both select those values and then you reinforce them. Do you think of yourself kind of in that way as a leader figure?

MILLS: Yeah, I mean, you know, we're asking a lot from people. You're asking people potentially to move a long way away come, to come here. To give up a lot more money they could make doing something else. To work a lot more hours than they would do something else. To put themselves in an uncomfortable place, because now suddenly they're not the smartest kid in the room.

KINCH: Yeah. Right.

MILLS: And, you know, maybe they're in an uncomfortable position physically, they're collecting data, they're pushing themselves physically maybe they're doing tedious things because that's, after all, what a lot of the best data are is just the same tedious thing repeated again and again. So, you're asking people to do a lot. And so, I feel like it really is important to, to, to make people feel inspired, because, you know, you could, you could yell at people. That's not going to get 'em to work long hours and endure the tough conditions. But, yeah, so, I mean I think there's a lot of sort of, you know, just sort of helping the fire burn that people have and, and letting people know that they're appreciated, letting people know they're part of a team, letting people know that things are going to be tough, and sometimes you know, boy they're gonna hit a wall and there, and, and to be able to talk about it both with me and with the other people in the lab and then that way people can help lift somebody up when they're in a tough spot. But, yeah I think all of those, all of those dynamics are really important. Yeah.

KINCH: Building, building a strong and resilient team where each individual can kind of.

MILLS: Yeah, where people respect each other and they want to help each other out and then that also gets rewarded in the science because suddenly, "Geez, you know, I never really thought about, you know, the things you think about with math. I was all, I was totally intimidated with the math. But, geez maybe we could end up writing a paper where the things that I'm thinking about from the data could end up intersecting with what you're think about." So, it builds those blo-blossoming, uh, unexpected, uh.

KINCH: Connections.

MILLS: Synergies.

KINCH: Yeah, synergies, good. For you what's, what's at the top of the CV of failures. What's something you've done that, that just didn't go well at all and.

MILLS: Yeah, ah, it's.

KINCH: You might have learned something deep from, I guess.

MILLS: Yeah. No, it's a great question. Wearing my hats as an applied biologist I have, what happened was finished, finished grad school and when I finished grad school, you know, I had been sort of working on the forefront of this field called population viability analysis. So, this field that brings field data and math together to help predict, to try to make predictions about, about what most effects a species and what kinds of things can we do to most ensure that an endangered species will be around. So, you know it's become very sophisticated, now it's the field is still around but it was just beginning when, when I was a Ph.D. student and that was sort of a big deal that I worked on as part of my Ph.D. was sort of developing that field. So, when I finished as a brand new Ph.D. student and I went to University of Idaho, I got a call to ask me to be an expert witness on a court case about the use of population viability analysis and, and what is the, what is the minimum standard that should be applied for agencies to be able to apply this field and be able to legitimately say that they've evaluated the options for management to in order to keep species around to not cause species to go extinct. And so, I thought you know I got this and, you know, I'm a recent Ph.D. student and I've you know top of my game in PVA and so, you know, I said, "OK." You know, I'd never written a expert declaration for a court case before. But, I wrote what I thought was you know very clear language I wrote you know the sophisticated things that needed to be written down about the models that could be used and the genetic information and the ecological information that would be needed and the mathematical framework to tie it together. And I wrote that in what I thought was you know approachable language. Without jargon. Worked on it a long time. But, I, I, I know that I wrote a sentence that said you know there are also rule of thumb approaches that can be used to make viability decisions as well. Well, the rule of thumb was within the context of, you know, sort of in the scientific discussions, you know, we had these very narrow side boards of, you know, if you have information on population size or population fluctuations then you can use those to sort of guide you in rule sets to, to make these kinds of decisions without the really fancy computer models. Well, so I wrote that sentence and I thought, "Oh great." I did a good job of making everything approachable. Sent it to the lawyer, went to court, then I'm on campus like ten years later and I'd gotten, Len Broberg over in environmental studies, buddy of mine, and he teaches in the realm of policy and court cases and we're just talking one day and he goes, "Scott, you know, I'm teaching about you, I was talking about you in my class today. Oh great. Yeah, I was pretty much talking about how, how your court declaration set back viability analysis for, you know, it's now a precedent that's been hugely damaging to the use of science in making land management decisions." I went, "Oh my gosh, Len what?" And he said, he said, he said, "Yeah they took your whole declaration, they plucked that one sentence out of your declaration and the judge used it exactly the opposite of how you intended it." So.

KINCH: Meaning you don't need any of the science.

MILLS: Exactly.

KINCH: You can kind of use, and this would be I mean in your field this would be empowering local managers to make decisions.

MILLS: Yeah and I'm (crosstalk). Yeah, and I'm all for empowering local managers and, you know, that's a lot of what I do it's try to think about how to, how to make science accessible, but in that particular case it basically got, yeah, it basically got misused to say that, "Actually you don't need any science just whatever anybody thinks is good is good."

KINCH: Yeah, yeah.

MILLS: So, it sort of obviated the entire process of using science. And so, you know, that taught me something very profound. First of all it took me down a few notches and actually I'd heard that before even I'd talked to Len, I didn't know the extent of it, but it took me down a few notches in, in thinking that, "Oh yeah, I'm, I'm a scientist I am a good writer therefore I can write a legal brief," and make it, you know it made me realize that.

KINCH: There's a real skill there.

MILLS: There's a real skill whether it's for a lawyer or it's a science communication person or it's a journalist.

KINCH: Yeah.

MILLS: You know that, that we should try to work in other people's worlds and communicate with other people but never underestimate the skill that it takes to craft an article in The Atlantic or to, or to write a court brief. And so that taught me an important lesson.

KINCH: You know, we actually haven't talked about this and we have to, um, the international component of your work. How did that evolve. How did you end up, how'd you end up working and what countries you work in and how did that unfold.

MILLS: OK, so actually that brings up another CV a failure actually.

KINCH: Great.

MILLS: Because actually I totally screwed it up when I started international work. I, um, had traveled a little bit internationally but I had never worked, I had never had an experience working internationally. Came here as a brand new professor and I had a student that was interested in working in the Philippines on fruit bats. So, I basically thought well I'll just write people and say I'd like to come study fruit bats in the Philippines. I'd find peop-professors in the Philippines and say I want to come show up. Well, of course that's a really terrible way to go about doing things. You know, it was as if I was forcing myself it was as if I was the American that was gonna come in and save the species or show 'em how to do the science. None of that was in my mind. That was not my intent.

KINCH: But that's how it came across.

MILLS: Not in my heart.

KINCH: Yeah.

MILLS: But that's how it came across when I wrote and said, "Dear So-and-so, I'd like to start a project in the Philippines can you help me get started." You know whatever. And, um, so I got smacked down and, you know, nicely as I recall nobody was nasty to me, but basically they're like, you know, "Get lost. Who are you. We don't trust you we don't know who you are." Eventually she did a very nice master's actually stayed on for a PhD and did some very nice work on.

KINCH: Continued fruit bats.

MILLS: Fruit bats in the Philippines. That, so that (crosstalk). Yeah, I started learning the rules.

KINCH: What's the right first e-mail? "Dear so and so I've read your wonderful study on." You know.

MILLS: Well that maybe, yeah. Or is that you know would there be any potential, uh.

KINCH: Collaboration.

MILLS: To collaborate or how might I might be able to help capacity build like, you know, everything that we've been able to do in Bhutan has been from coming at it with that, with that, with that attitude and it's been amazing to work on.

KINCH: So, has Bhutan been your most successful test case.

MILLS: Yes.

KINCH: And how many students have been run through that.

MILLS: Um, four. And I spent sabbatical there in 2010. Took the whole family over. You know, but not very many, the Bhutanese don't allow very many, there's not very many people.

KINCH: Very restricted.

MILLS: Yeah, because they're, they're a country 1/8 the size of Montana that has never been conquered. Never. They're squashed between China and India.

KINCH: Right.

MILLS: And so, they're not about to be conquered now and so they have a huge radar, very acute radar about even scientists that want to conquer them or NGOs that want to, to come takeover. Ah, you know, it's been a magnificent relationship. And, you know, that has taught me an awful lot. I mean, I'd learned a lot of those lessons before I started in Bhutan. But, it was the ability to take those lessons and apply them of saying, "Look what I want to do is help." And if eventually something comes along that, um, that is sort of scientifically exciting or something, great, but just coming in with that respect and humility. I think that is the biggest key for, for international work.

KINCH: And now you have international collaborators.

MILLS: All over.

KINCH: All over the place. You have some in Scandinavia.

MILLS: Scandinavia, Scotland, yeah, various parts of Europe on projects. And two years ago I had a postdoc from Russia. I had a graduate student from Czech Republic. I had a visiting grad student from Pakistan. I had a student from India and two Bhutanese students. But that was all here in Missoula, Montana. That was the graduate group.

KINCH: That's cool.

MILLS: Um, yeah. So, it's been really rewarding. And of course, two-way. So much, I've learned so much, my other grad students learn so much, undergraduates learn so much, there's so many benefits that come from, from being globally engaged.

KINCH: Okay, We're gonna end with a few quick rapid fires.

MILLS: Okay.

KINCH: What's your favorite winter activity?

MILLS: I love to ski, cross country and, and, uh, downhill ski. I really like to duck hunt so that's oftentimes middle of winter as well.

KINCH: Yeah, yeah. Morning or night person?

MILLS: Morning.

KINCH: Bitter, Bitterroot or Clark Fork River?

MILLS: Bitterroot.

KINCH: Sunrise or sunset?

MILLS: Sunrise.

KINCH: Bitterroots, Pintlers, or Mission Mountains?

MILLS: Yeah. See. Okay, now you're getting tough, but I guess I'm gonna have to go Bitterroot.

KINCH: Yellowstone or Glacier?

MILLS: Mm hmm. Well. I'm going to go Yellowstone.

KINCH: Alright. Winter or summer?

MILLS: Mmm, I'm gonna say winter.

KINCH: Yeah. I'm with you.

MILLS: Yeah. Yeah.

KINCH: It's been fantastic. Thanks for taking the time.

MILLS: Yeah, thanks for the chat.

KINCH: I think we got a lot of good stuff.

MILLS: That's awesome. Covered a lot of ground.

KINCH: Yeah.

MILLS: Yeah, appreciate it.

KINCH: We hope you enjoyed your time floating on the river of knowledge with us. If you enjoyed this episode, give us a like on SoundCloud and stop by the University of Montana grad school website at www.umt.edu/grad for more episodes and videos highlighting our amazing graduate students.