



Episode 120: On Carnivore Conservation Science and Communication in the Pacific Northwest

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Paula MacKay and Dr. Robert Long

Jack: [00:00:00] Welcome to the Rewilding Earth Podcast.

Paula: Thank you, Jack. It's great to be here. We're big

Jack: fans. I'm big fans of you two. I've been reading up on your work. So let's start at the top with a little bit of background

Robert: yeah, I can start. I am a senior conservation scientist at Woodland Park Zoo, and I also direct our living Northwest suite of conservation programs, which are basically projects focused here in the Pacific Northwest, my background is in conservation science. I did degrees in California, Maine and Vermont, and have worked on both coasts in a number of different conservation and science-focused, topics, ranging from carnivores to road ecology to connectivity science.

Paula: I wanted to add, because Robert mentioned New England, interestingly, especially because we're talking with Rewilding Earth and[00:01:00] the Rewilding Institute. Both of our histories and conservation actually trace back pretty strongly to what was originally called.

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Of course, the Wildlands project and the work that Michael Sule, Reid Noss, Dave Foreman, and so many others brought to the fore in conservation was incredibly inspirational for both Robert and I in our current work, especially our focus on carnivores.

When you think about it, that's a big body of work, a large portion of life focused on what you love, how would you guys characterize your work with carnivores

Paula: speaking for myself rewilding has been such an important theme through much of my career.

I am really committed to the idea of restoring and protecting large landscapes and the species who are native to those landscapes. Beginning back with the Wildlands [00:02:00] project so many years ago and through until now, I. I feel that talking about carnivore conservation is pretty key to inspiring people to think big.

To think about big landscapes, to think about the importance of connecting landscapes so that animals are able to move through them. I. Without persecution and also to inspiring people to think about tolerance, what it means to tolerate other beings and perhaps no other species more than carnivores test our capacity to do that.

And I. I also feel like in addition to good science, we need solid writing and communications to help spark empathy and compassion for carnivores. And that's why I'm also committed to doing some creative writing beyond the science that I work in.

Robert: When I first came outta my undergraduate degree, I was heavily focused on science, but it was really wildlife management, which [00:03:00] was what a lot of the programs were then, and how we looked at wildlife and and conservation was obviously a subset of that, but I was heading in that direction and it was, as Paula mentioned, the wildlands project back in 19.

92. That first sparked my interest in melding pretty strict wildlife management ideas with larger scale conservation in terms of connectivity among large landscapes and restoring populations, especially carnivore populations that had been extirpated. So I think that played a really deep role in the directions that I went.

The other overlying theme is the idea of non-invasive research on wildlife, and that when I say non-invasive, essentially not capturing or putting hands on animals, but ways to study animals, and especially carnivores.

In the case of Paula and [00:04:00] I, that doesn't involve capture. It involves using, approaches like camera traps or remote cameras, tracking DNA sampling. So ways to get at how do you assess distributions health of populations, movement without actually capturing animals. So that's an overlay that, that came in the early two thousands for Paula and I, as we were working on some other projects.

And now it's the core part of the methods that we use. So ,

Jack: no tranquilizer darts from helicopters of field mice. That's out.

Paula: And that, that's not to say that we don't recognize the important role that, for example, telemetry callers have played and can potentially still play.

In studying certain species, looking at certain objectives. But speaking for myself I feel like we really need to present solid arguments if we want to [00:05:00] pursue those approaches at this point, because there is so

much that we can learn from non-invasive research, and we know that is less stressful for the animals involved as well as for the biologists involved who are also put at risk when you're coloring large animals.

Jack: I'm really used to seeing a wolf with a collar. And I understand the argument has always been, it's a wide-ranging species. It's the only way we could know those kinds of things. And I'm probably picking a species that's way off your list in the non-invasive.

Category, but only to build the story as to what kinds of species can you do this more readily with? Draw that picture for us.

Robert: Yeah. I think it really comes back to what the objective is that you're trying to get at. What's the question you're trying to answer, or what are you trying to do with the method you're using?

Really, you can use non-invasive methods with any species. There are people [00:06:00] developing camera traps for insects at this point. So it's not the species, it's the question. And there are certain questions. That are very difficult to answer without having a collar or a transmitter on an animal. Those are very specific.

If you wanna know exactly where a certain individual is crossing a road, it's tough to get that with a bunch of camera traps. It can be done in some instances, but having a transmitter on an animal lets you really pinpoint micro habitats that it might be using exactly where it's crossing a road. Non-invasive methods oftentimes are more inexpensive for the number of data points that you can get, so you can put out a many camera traps if you're looking at the distribution of a wolf population, for example, and get a good sense of what types of areas, what the general region that's being used by wolves, just with non-invasive [00:07:00] methods, you don't really need a collar for that.

Whereas if you're trying to track a particular wolf, populate a wolf family group. Sometimes called a pack. You might want to put a collar on one of those animals and that will give you a real-time assessment of where that, that individual and therefore that family group likely is.

Paula: I might give another example of how these methods can work synergistically.

One of the species that we focus on pretty extensively in the north Cascades is the Wolverine Wolverines. Were considered extirpated from the North Cascades for about a century and. Started to show up in what seemed like a little bit more consistent numbers. In the mid-nineteen-nineties, our colleagues with the Forest Service began a telemetry-based study of Wolverines in the mid-two-thousands.

And that was a ten-year study and basically helped put wolverines back on the map in this region. [00:08:00] There were 10 Wolves who wore collars. They were able to collect incredible information about how these animals were moving through the landscape, and also just to show that these animals were there.

Then we came in about 2013 to try to pick up on what that project had laid as groundwork and to continue the important monitoring of this species into the future. In 2015, that study ended with the radio collars. And ever since we've been trying to continually monitor Wolverines and to. Expand upon the tools we have in the non-invasive toolbox for doing that.

Robert: If I can just add one thing, not non-invasive methods and camera traps in particular lend themselves to collaboration because it's a fairly low learning curve to deploy a camera trap. Compared to tranquilizing an

animal, putting a radio collar on it, and [00:09:00] then having the resources and personnel to follow up with that and track that animal.

Camera traps in this example for Wolverines. We collaborate with a number of different agencies and organizations that are also doing camera trap work in their own particular regions. And we can combine all those data to look, to get a bigger picture sense of, for example, distributions or reproduction even.

So it's really, there are many different reasons that you might choose a non evasive approach to either compliment or replace. What historically has been done with capture collar studies?

Paula: Jack, going back to your initial question about seeing a wolf with a radio collar, I wanted to comment a little bit on that, and again, I want to begin by emphasizing that we have many colleagues who have done really important research with collars.

In fact, Robert back in [00:10:00] graduate school was using collars this isn't a judgment on the importance of the work that has occurred or the people who have done it, but there is a feeling for me when I see an animal with a radio collar that is uncomfortable, and I. The best that I can get at with that is that somehow it seems to undermine that animal's sense of self determination or agency.

It's basically a feeling of now that animal belongs to us and not to him or herself. And I think there are some interesting. Gosh, paradoxes there because those collars can really help us with storytelling about these animals. Their need to roam across large landscapes, the barriers that they face when they're roaming across large landscapes.

At the same time, in some ways [00:11:00] I feel like we're removing their freedoms, and I certainly wouldn't want a tracking device on the bottom of my car. I don't feel like I want to be studied at every point in my life. And there's an uncomfortable feeling when I look at an animal and feel like now they live under our microscope in a certain sense.

Jack: I was going to follow up with it feels like at times when you start to really pay attention to all the feeds that people are willing to put online, the conservation groups. The hunters, the agencies, the universities, the zoos, everybody is out there.

It sometimes makes me feel like it's a Hollywood set, like if I was gonna go and try to get a picture of a Jaguar in the Southwest, I. There are, if you know what you're doing, there are only a few places you're gonna have the highest likelihood of being able to do that. And I [00:12:00] often wonder if you guys all run into each other sometimes at the same watering hole.

When we started this stuff, cameras used to cost thousands of dollars and you would only see universities and well-funded organizations using them. And now they're so cheap.

It feels like it could be getting congested out there and invasive for the particular animals that we're so eagerly trying to capture.

Is that the case? Am I overstating it?

Paula: I think you're getting at some pretty important and complicated questions. I, I. Recently was writing about this a bit for myself and in the context of a memoir I'm working on and the way that I'll paraphrase myself, but I like to feel like camera traps are the eyes of science.

When the animals have the wilderness to themselves. So it feels quite different to me to have [00:13:00] cameras capturing animals when they're just going about their business and they happen to pass by, or perhaps they're attracted to a subtle scent that we put out there that feel, that feels very different to me than.

Actually capturing and handling an animal. The idea with these cameras is that you're not changing their behavior. You try very hard to not change their movement patterns. Some work is done on trail, some is done off trail, but in general, you're trying to just have a little snapshot of what life in the wild is like for these animals.

And then the objectives of the particular study come into play.

Robert: Yeah, we've veered into a interesting philosophical discussion that could take a whole hour in its own right. To your specific question, there's a lot of land out there and cameras take up a tiny amount of space and you're only at the camera for a brief period of time.

So in terms of [00:14:00] literally running into people in the field, it usually doesn't happen. I do think that agencies that issue permits, that allow people to conduct research on different landscapes are starting to feel the ramifications of a lot of different groups or researchers wanting to do studies.

So we hear a lot from agencies that we. Need to start working together a little more to submit research proposals. And we have done that. One of the things that Paula and I really focus on here in Washington is a collaborative group of Wolverine researchers. So we get together every two months or so and make sure that we're talking about who's doing what, where, and when possible can we collaborate on applications and things like that.

I think the other thing to take into account, and it is something that we think about and talk about is how the intersection [00:15:00] with communities and cameras can happen, especially in some of the landscapes where we're doing research on urban species that live in urban parks and there's been a pretty broad diverse and open discussion about how to ensure that.

Communities still feel safe with that many cameras out there. Now, I will say that our society is pretty camera heavy at this point, and we've all gotten used to traffic cameras and street corner cameras and security cameras outside of most storefronts. So it's an interesting discussion and I think it's going to evolve and there are a lot of people thinking hard about it.

I tend to come down similar to where Paula basically just described, and that is that if we're doing something with cameras on behalf of conservation and species and trying to learn more about how we best protect systems, then I think that's a good thing. And I think if [00:16:00] people can get their heads around that, they tend to be supportive as well.

Paula: The fact is that deploying cameras in wild places takes an incredible amount of effort. Putting a camera on a tree easy. But getting into the heart, for example, of the North Cascades Wilderness is not easy. And the places where. You tend to see more cameras tend to be the easy access places where we're studying.

For example, Wolverines, nobody's passing by our cameras. We're miles if not days out into the wilderness. It can be, we leave our cameras out there for a year. We have an automated scent dispenser that helps us do that so that we don't have to go back to them. And it can be days or even months before an animal even passes by.

A non-human animal even passes by the cameras. So it really does vary with what study you're working on. I also wanted to say that in addition to documenting the [00:17:00] presence of certain animals. Cameras have really been helpful in helping us. Affirm that there is a given species that isn't in the system.

We were part of the Grizzly Bear survey team that used hair snagging stations barbed wire corrals to try to collect hair samples from bears in the North Cascades. And despite the fact that there were hundreds and hundreds of these stations put out in the wilderness with remote cameras, we collected nothing but black bear samples in addition.

Wow. There hasn't been a grizzly bear confirmed in the North Cascades wilderness since 19 ninety-six by any means including the many cameras that have been distributed as part of any study. So all of that information was a key part of why the U.S Fish and Wildlife service and North Cascades National Park have now been moving forward in trying to advance.

The reintroduction of grizzly bears in the [00:18:00] north Cascades. We know that there are none in this system on the US side of the border.

Jack: Yeah, we had to do that in the Southwest with the before the wolf reintroduction really started was go make sure there aren't any under the Infectious Species Act.

You have to absolutely do all the checks. And it was the Four Direction Howling Surveys and, and and all the other things that had to happen, including taking phone calls from people in the areas that were being studied. And boy did you hear an awful lot of stuff about. Sure. They were almost all convinced that there were thousands of wolves already in the southwest and they were seeing coyotes and reporting them.

Cats. Yes. You would not believe what maybe you would, maybe you guys have manned the phone. Yeah, we would.

Robert: Yes, we would

Paula: for sure. And it does get complicated with bears in particular because of course we have black bears that have brown coats and we have many people spotting black bears up on steep [00:19:00] slopes, where from a distance you could easily think that might be a grizzly bear.

Yes. The agencies who are responsible for this process have had a very difficult job. In, in trying to make sure that people understand that yes, they did see an animal, they saw a bear, but that wasn't a grizzly bear.

Jack: I wanted to also get to the communications part of all of this, it feels to me from my vantage point that it, the storytelling part of the result of the science, the result of the studies, very careful, meticulous, entertaining storytelling resulting from all of this work is what you need to get the support from the public and I really love to run into rewilding communicators. Talk a little bit about , why you feel that's so important and maybe a couple of stories where it's coming to play in a very big way for you

Paula: yeah. I very much agree that storytelling is absolutely [00:20:00] key to moving people around conservation. There have been many people who have looked at that topic, and we know that science alone isn't enough to shift people's values or to make them act on behalf of a given species. On one hand, we need really solid science to understand what the needs of other species are and how we can improve their chances for success in the landscape.

But I also feel like imaginative empathy is really key. There's nothing like trying to imagine what it's like for a female Wolverine to give birth and to raise her young in a mountain landscape or to imagine what it's like to be a wolf who encounters livestock in a public lands grazing situation.

To start to think about, wow, these animals are just out there trying to make a living just like [00:21:00] we are. And it's up to us to be tolerant and understanding of their needs as well as to recognize that we have our own needs and we all have to learn how to coexist with these animals. So I feel like writing takes the science and every.

We know about other species to a different level and enhances our ability to connect with these animals.

Robert: And for my part, I went into this whole, into my career. From a science angle and a nature angle. And it was to my chagrin that I realized that science wasn't all we needed to change arts and minds around Conserving nature.

So it's been a pretty big. Re reorganization of how I approach what I do. In fact I was part of a workshop a number of years ago that really [00:22:00] was taking scientists and giving them this real in depth. Basically teaching them how to be science communicators or how to be better science communicators because Paula said, we realize science alone isn't changing things and we all know that now.

So it's really been a, an interesting shift in my career 'cause we're still trying to do good science and think about data and statistics and. Questions that we can answer and hypotheses, but then really taking that and shifting it to a package that we can talk to the public or have a conversation with the public about has been a real, the real challenge.

So it's important. I,

Paula: you were asking about an example. I think I would go back a little bit in time here and talk about a book that was really influential for me and that was Peter Madison's, the Snow Leopard. I think that's a really great example of how snow [00:23:00] storytelling was combined with science to really move people around What.

The species needed what the landscapes are like, where they live. And yet he never saw a snow leopard in that whole book, right? So it's like we almost felt more connected with snow leopards because he never saw one and he was constantly grappling with that and had lots of imaginings, et cetera. So I found that really really powerful.

I also wanted to give a shout out of course to Robin Wall Kimmerer and the author of Braiding Sweetgrass and Other Work and her more recent call for us to revisit the lexicon we use around other animals and story telling. She refers to our wild kin sorry, our wild kin or the more than human world.

And the fact that we need to reinvent our language to reflect those [00:24:00] connections i, for example. Try not to use the word it when I'm referring to another being. These are living beings just like I am. And I think if we give life to those animals through our words, they reach people in a more powerful way.

Jack: What do you think about Rewilding in the Pacific? Northwest from any angle you'd like to take it, that is a hopeful vision. Things that you've been inspired by, something that you've worked on personally or have been adjacent to that has been very promising, heartening. What's some good news that you guys can share from your perch?

Paula: Gosh, I think we have incredible opportunity here, specifically in Washington and the North Cascades. Also, of course, the Olympics. When Robert and I moved to the West coast to Washington in 2007, [00:25:00] I. We were just coming into a really key time for Rewilding.

Wolves weren't even confirmed on the landscape until a year after we got here through a litter that was identified up in the Meadow region of the north. Cascades and Wolverines were just starting to make a comeback. We didn't have fishers in the Olympics or. North ca or north or Southern Cascades of Washington.

At that point, I believe the reintroduction in the Olympics was initiated. I'd have to check this, but 2008 we didn't have grizzly bears. We still don't have grizzly bears, but we have a really active process in place in hopes of restoring them. So just in the last 15 years, we have seen an incredible recovery of several of these species.

The only large mammal missing in the North Cascades ecosystem at this point is the grizzly [00:26:00] bear. And like I said, we're really working to restore them. So it has been super hopeful. Of course there are many. Threats and challenges that still exist. But we have a 6 million acre ecosystem that is almost solely public lands in the North Cascades, and people are really committed to coexisting with wildness in the, in this place.

Robert: I think it's one of the most rewilded places, certainly in the lower 48. One of the most rewilded in North America, I would say, obviously the further north you get and into Canada it's more contiguous. But I'm really amazed and hopeful about all the conversations that are happening right now around.

Connectivity enhancement, even though we've got these big public land chunks, there's still concerns about connectivity and backcountry recreation and what the effects will be there. [00:27:00] So there's quite a bit of action being taken and engagement. And I guess that's what I'll end on is it's one of the I would say that I'm really hopeful and amazed with.

The engagement that's now happening more and more, I think with indigenous communities and communities first Nations communities north of the border who have been here for millennia and are, we are seeing a lot more collaboration and engagement among agencies and indigenous communities. We're collaborating and working closely with quite a few tribes and nations here in the U.S side of the border around carnivore monitoring and conservation.

And I think that's, I think that's an important part of the whole rewilding con conversation. I think it's often [00:28:00] framed as controversial or. In opposing viewpoints when it comes to rewilding or wilderness and indigenous communities. But I think what we're seeing here is it doesn't have to be.

Yeah.

Jack: Alright, one last thing. What are you guys reading right now? What's the book that you have open on your lap when you take a break tonight? I am

Paula: currently reading Eat Poop, die by an old friend of mine, author and scientist, Joe Roman, who's not only an expert in whales and marine mammals, but.

Has a deep curiosity about the ways in which those animals and and we interact with our environment. Eat, poop, die is a really interesting and fun read. I'm also reading Ben Goldfarb's book Crossings about road Ecology and I could name five others that I've been trying to get to on my shelf, but I haven't [00:29:00] done so yet.

Jack: I'm so glad I asked this question.

Robert: And for me, I actually, I gravitate more towards novels. Paula reads novels as well, but I. I often have a novel going and then a nonfiction book, which the nonfiction book tends to take me much, much longer to get through. So I just started a small world by Jonathan Evison and I think I just finished a book about a small plane crash.

In Northern Canada in the early eighties. I forget the name of the book, but it was engaging. But yeah, I usually bounce back and forth between a novel and non-fiction. Might

Jack: I recommend

Robert: a book named Eat Poop Die? Yeah. That

Paula: if no, if for no other reason. Just the great title. Oh,

Jack: yeah. Jeez. It's.

It reminds me of that Japanese book for kids. Everybody poops.

Paula: [00:30:00] Exactly. Yeah. And that poop has to go somewhere and that's the whole thesis of Joe's work is the places where that poop goes are richer because of it.

Robert: Yes. Given the amount of scat, wildlife scat that Paul and I have collected over the decades.

It's an interesting book to see where it would've all gone.

Paula: Of course, some of it's in our freezer and that's not something you really wanna talk about, but,

Jack: ooh, remind me of that. If I ever visit you guys

Paula: right next to the veggie burgers.

Jack: I talk to people who have scat in their freezers. I've got the coolest job in the world.

Robert: You do. Robert.

Jack: Robert, thank you so much for coming on the podcast. And I have a feeling we have you both talked half as much as a regular guest on their own. Does that mean.

We either need to have you back both together or individually. And you're welcome because I know you have a lot more stories to tell. You've been around for long enough to have plenty to entertain us with and inform us with. So thank you so much for being on and I hope we can talk [00:31:00] again soon.

Paula: Thanks so much for all that you're doing. Yeah, we appreciate it. Take care now.