Episode 130: Conservation Challenges and Successes Amidst Increased Border Militarization In The Sky Islands

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Rewilding Earth Podcast

Guest: Emily Burns

Jack: [00:00:00] Emily, thanks so much for being on the Rewilding Earth podcast.

Emily: Great to be here. I'm excited to talk about all things Sky Islands.

Jack: I am too. This is like a blast from the past for me I'm just so happy to see the work that you guys are doing. It's so extensive. You can get lost in your website with all of the cool things that you're doing, documenting, working on.

What's on the top of your mind these days?

Emily: Top of mind for me is often how this amazing region that spans northern Sonora and southeastern Arizona, just a corner of New Mexico, this beautiful diamond shape on the map with these great mountains scattered across the desert and the grasslands that surround each mountain range.

We have this. Political hotbed this border running between the U. S. And Mexico. That is creating such a challenge. But also opportunity to do continental scale conservation here in this region. I'm really thinking about how political decisions [00:01:00] that get made at the national level are impacting our local sky islands.

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Jack: Yeah, back in our day, we didn't really focus a lot on the border. Being a barrier because, we just had the bollards in a lot of places, which wasn't an impediment at all to wildlife. But we were worried about the roads more than anything.

I can't imagine well, I can, because I talked to so many people these days, but, compared to what we were worried about, then what you have to worry about now.

It's much, much different. All the things you guys have to take into account when you're trying to educate people on this stuff.

Emily: In the last 20 years, there have been dramatic changes at the U. S. Mexico border with increasing militarization and the building of infrastructure that has become almost impossible to large animals in particular. It all started in 2005 with the passage of the REAL ID [00:02:00] Act. And in that, it granted authority to the Department of Homeland Security Director to be able to waive laws and statutes at the U. S. Mexico border. Now, that is incredibly significant because it meant that the government could go ahead and issue law waivers and no longer have to comply with the Endangered Species Act, as one example of many.

Jack: That goes back to 2005?

Emily: Yeah, that's where the original authority came from. And then the next year in 2006, the Secure Fence Act provided the first big amount of funding to build border barriers, which included vehicle barriers, which we consider still fairly passable for large mammals crossing back and forth.

But the first pedestrian barriers or the border walls and a significant amount was built. And in the years following that, [00:03:00] and then it slowed down quite a bit, but then under the Trump administration, 2017 to 2021, we had really rapid expansion of the pedestrian barriers or border wall. And the result is now here in Arizona, two thirds of our Southern border with Sonora is blocked by pedestrian barriers.

Border wall and the gaps between the bollards are only 4 inches. And that is a major impact for many species that are native to North America.

Jack: You have talked in the past about the cameras, the camera work. I imagine in the border region, that's being some of the only. Recording and documentation that's going on with wildlife because I'm sure no one in the government waving all the environmental laws it's not their intention to really even worry about that stuff.

So thank you guys all for doing this work that you do. Could you explain a little bit more what that is in case someone hasn't [00:04:00] stumbled upon one of your great trail cam images or videos on social media yet?

Emily: Yeah, thanks. This has been a really exciting and motivating project for us to set out a network of remotely operated trail cameras and this network of cameras.

We have over 110 cameras now along 90 miles of the border and in eastern Arizona and these cameras are. Watching the whole variety of habitats that we have along the stretch of international
boundary from desert to grassland and oak woodland in the southern which you can mountains and the Patagonia Mountains.

So the recording the ebb and flow and the just the changes that happen in the wildlife community at large, we document every single animal that. Shows up in front of one of our cameras, and we've detected over [00:05:00] 135 different species so far between the Patagonia Mountains and the Huachuca Mountains. For place reference, that's between the town of Naco on the east and Nogales in the west.

And so we have a baseline that in that area, which is so important because it's one of the places where we only have vehicle barrier and no wall has been built yet. So we're getting the sense of what is the native wildlife community that should be present in these border habitats without border wall.

And then we're comparing that. To areas further east that were that are now bisected by border wall and looking at differences in the wildlife community. There some of our wildlife cameras look directly at the international boundary itself and are documenting animal behaviors when they encounter different types of border infrastructure.

In the grasslands of the San Rafael [00:06:00] Valley, where there's only vehicle barrier, we are recording American black bear. North American porcupine, mountain lion, white nosed coati, collared peccary, moving back and forth under the vehicle barrier. And conversely across the San Pedro River and out in the San Bernardino Valley, where there's the wall, we're looking at what happens when animals are unable to cross.

Where do they attempt to cross? Where are they successful? Where do they fail? And we're studying exactly this issue so that we can understand if we can create wildlife openings that will allow animals to move back and forth again and reestablish that connection. between Arizona and Sonora. Where should those openings be?

How big do they have to be to support the largest body animals and which species are able to use the smaller gaps? And we're hoping that all of this data [00:07:00] will in the long term make the wild, the wall more wildlife friendly if we have to continue to keep these walls on our landscape.

Jack: I imagine that that's a heck of a fight.

To even talk about that with people who are really mad about anyone's attempt to make the wall seem weaker. Even though we've seen people cutting through the wall in 10 minutes and you only have to make one cut and the things are so tall that just bends out of the way. It's really just crazy that something that isn't even effective at keeping people.

Out as it was intended is so effective, keeping wildlife out in many cases it's always been a frustration of mine. It's like, why do we even do it? And then I remember it was just a political cartoon that just somehow manifested in the real world. So that must be frustrating, but the views you get of how things are supposed to, or how they are working in the places where there are.

Not these obstructions [00:08:00] yet and hopefully ever, it must be heartening. Because it's also probably because of the wall and because of all of this giving us a view that we didn't have before. We didn't have a hundred and some odd camera traps there before ever until there were. And I imagine we're learning things about animals and movements and things that we hadn't even dreamt

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Emily: One of the biggest surprises was our own realization that there's a small population of porcupine down on the border, and we've seen it crossing back and forth between Sonora and Arizona in the San Rafael Valley.

This is where the headwaters of the Santa Cruz River flow south into Sonora, and there's a beautiful cottonwood gallery. And some old apple orchards that were planted probably decades and decades ago that are still out there on the landscape. And these amazing rodents, the largest rodent in North America [00:09:00] has a population here.

It first showed up on our photographs. As this mysterious blob at night that didn't have any of the features of the other mammals that we had been seeing. And until we got a clear image of it, where we could see its face, we found that's when we finally knew it was porcupine. And now it's become a bit of a natural history obsession to understand where else are they?

And we've picked them up now in the Patagonia mountains and in the Western foothills of the Wachuka mountains. It's fascinating. This is a species that's been, it's not listed, but it's somewhat increasingly rare in Arizona. And it's really exciting to know that the species is here. We're probably looking at some of the Southern most individuals right there at the border in Sonora.

So it's fascinating, a species that's more common at higher latitudes but here in the borderlands, it was really exciting to find it.

Jack: That is so cool. Yeah, I'm, I have a tendency as maybe some others do [00:10:00] to find the increasing rarity of everything wild and biodiversity in general to make an assumption that we already, we know everything that's out there.

And it's not true. Of course, if you really just stop and look it in the eye, that's of course a preposterous thing to believe. But if you work so hard in this, and you are looking continual decline of biodiversity numbers in general, I start to think there's nothing else out there to probably discover.

And I think that's a subconscious thought, not an active thought, but to have a conversation like this about species that are running around that we had no idea were it's just really cool.

Congratulations on the Jaguar capture. On camera last year

Emily: yeah we're at Skylander Alliance. We actually love all the species.

So we are just as excited about seeing a porcupine as we are about a jaguar. But the jaguar was a stunning sighting that we are. Excited and humbled to have [00:11:00] been part of this Jaguar story here in the borderlands. We like I've mentioned, we've have dozens of cameras all over the place. And this was for us an unlikely camera where we ended up getting.

Two photographs in 2023 of a male, young male jaguar that had also been sighted in another mountain range. So we detected it in the Whetstone Mountains and it had been seen earlier in the year and then after our sightings in the Wachuka Mountains. So this is a place where the border wall stops and it Transitions into that vehicle barrier, more open 30 mile stretch across the San Rafael Valley.

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So we know that this individual moved back and forth at least twice between the mountains that are adjacent to the border and the wet stones further north, which is. Very clear evidence to us that this is clearly the path of a jaguar, at least [00:12:00] this individual that it used connecting the core population in Sonora up here into the U.

S. Sky Islands. And we're more committed than ever to making sure that we invest in habitat restoration and helping to ensure safe passage and protection for this Jaguar and the ones that come after it as it comes into this landscape.

Jack: When I was at Sky Island, we did road ripping we partnered with the Forest Service in different areas and they happily lent us resources and gave us permission to come in and get rid of volunteer roads, the ones that are not made by Forest Service, especially, they did not like those roads and there was a dumb law in the books, I don't know if it's still a law, that once a road like that is in Created the Forest Service would start to maintain them like, and they're not even legal.

They weren't even started by I'm sure that law has to be off the books by now. But anyway, those were the [00:13:00] roads that we that we would tear out. And in exchange, we would have people like Sue Morse come in and take our volunteers out and track things. That was really cool. Learned from one of the world's greatest trackers.

And so I wonder what restoration work looks now. I bet it's a lot more sophisticated and a lot more wide ranging than just, working on getting rid of roads and other things, although that's probably still some part of it.

Emily: We're very interested still in lessening the road, a network the footprint that roads have on the forest service.

And so much of the Sky Island region that we're talking about on the U. S. side is owned and is managed by the forest service. Probably just like when you were doing it this continues to be a really core conservation activity. And in 2018, The there was a new travel management decision that closed about 20 administratively closed about 26 percent of the roads in the Sierra Vista district, which is down here by the [00:14:00] border and those have been sitting still open physically on the ground.

So because we know the jaguar moved through this area, we are doing everything we can to begin closing physically roads that should be closed and nobody should be driving on. We want to see it returned to grassland habitat and woodland habitat and give more of the land back just to animal movement instead of vehicle movement.

So that is still a key conservation activity for us, but we are also working on. Restoring springs, these really important water sources and aquatic habitats that are scattered across the Sky Islands. And so we have a whole program to rescue springs. Sometimes it means separating cattle, helping cattle move back away from a spring source and aquatic habitat, giving them a separate drinker, water that the cattle can use, but letting the aquatic habitat recover to improve water [00:15:00] quality.

Let native plants come back and have that be a safe space or wildlife species like Jaguar to be able to access as they're moving across the landscape. So we're really excited about our spring work and volunteers help us. Not only do those spring rescues on the ground. Remove invasive species, put up cattle exclusion, fencing that's wildlife friendly, but they also just do the health checkups of where the
springs are, what condition they're in so that we can plan these projects and get the rescues happening.

So working on springs is a big passion of ours on both sides of the border.

Jack: And I can say firsthand. You will not have a more fulfilling volunteer experience in the Southwest or not many, at least, than doing something with Sky Island Alliance. And that comes from actually doing stuff with Sky Island Alliance, but being out there, being way, way out there, in these places you guys like to get remote.

I bet you [00:16:00] guys still have fun at camp i'm sure the food is awesome as it has always been and you have great things planned for volunteers

Emily: Volunteers basically are welcome and needed. Every aspect of the work that we're doing. We have cameras that are maintained totally by volunteers. They go out and service them, change their batteries, retrieve the data. Help us analyze the photos. We have people that work just in our office doing that photo analysis.

Our spring seekers are volunteers that go out and use their smartphone to record the data in a free app about the condition of springs. We'll have special campaigns going throughout the rest of the year doing backpacking trips into wilderness. Which is super fun to document springs that are very much off the beaten path.

So those would be great trips to volunteer for. We're doing erosion control work to help stabilize the soil in the forests on Mount Lemon in the Catalina Mountains north of [00:17:00] Tucson. This is a mountain range that was hit by a really devastating fire in 2020, the Bighorn Fire. This is a mountain range that was hit by a really devastating fire in 2020, the Bighorn Fire.

And because of tree mortality, and just the aftermath of the fires, we're really worried about springs getting buried and riparian areas being inundated by landslides. So we do rock work, which means making loose rock structures or carefully designed wooden and rock structures with local materials to help stabilize the slopes, let soil accumulate to help revegetation.

And it also helps more water get back into the groundwater to absorb into the mountainside, as opposed to just. Running off as quickly as possible. So that's a really fun project that we have going on. It's a little bit heavy work, so hard on, on your back and moving the rocks around, but we get to be in really beautiful parts of the forest [00:18:00] and up on Mount Lemon is always fun.

A great place to work in the summer when it's obviously not down in the lower elevation areas.

Jack: You can learn more about the volunteer opportunities at Sky Island Alliance at skyislandalliance.org slash volunteer. Pretty easy URL to get to. And I just guarantee you guys are going to love the people.

The people in the Sky Islands are just some of the most dedicated and wonderful and ecologically educated people, compassionate you'll ever find. And doing work down there is. In some cases, pretty backbreaking but really fulfilling really fulfilling. You'll remember it for the rest of your life.

So I highly encourage everyone who is interested in that to go check out skyislandalliance.org slash
volunteer.

Emily: Thank you.

Jack: More volunteers coming your way.

Emily: That's exciting. We're ready. It's going to take all of us to save the earth, right?

Jack: Yeah. And people get tired of just reading about stuff.

I highly encourage volunteer opportunities with any organization that you can. If you can't make it to the Southwest, look up your local organization. It is real good mental health. physical health, mental health.

Emily: One

Jack: of the aspects that I know must be a drain. Trail cameras cost between three and 5, 000 back in the nineties.

They were, it was just cost prohibitive like crazy. So the only people that had trail cams would be universities and the government didn't really care, didn't really have much use for them. It's mostly universities. So you get a big old grant at your university and you'd be able to buy three cameras.

It's changed a lot now, but it's an embarrassment of riches now that it's a lot cheaper relatively to get a big network of cameras out there. There's a big problem that comes with that.

It's not a problem, but it is a lot to manage. Can you talk a bit about that?

Emily: The cost has come down so much. So now we can buy a trail camera that we use for research for 150. And that's the cheapest part of the work that we do. With monitoring wildlife the real work comes in.

Once it's installed in the field, the cameras, depending on their location need to be checked By a person who needs to drive out and hike to the camera at least every two months. Generally, some can sit a little bit longer, but some need to be checked more often. And then we bring back the invaluable data and we analyze, over a million photographs a year.

And that is a human being or a whole variety of both wildlife staff at Skylander Alliance, our great volunteers and our paid interns that help. Look through all of those photographs, separating out photographs that are just moving vegetation without an animal. And then we do have an animal identifying what the species is, how many individuals and any other notable observations about it.

To create the database and that we can use to understand how the wildlife community is changing and animal behaviors around the border, there's just hundreds and hundreds of hours that go into making that data available.

Jack: Are you bombarded by people doing studies, universities, others who now know you have this wonderful database that's gone back some years?
I imagine it's extraordinarily valuable for conservation biologists and others in the area. Do you share that?

Emily: Um, our goal really is to provide our data as widely available to make it as widely available as possible so that it can be used it to guide conservation actions and better knowledge about the species we care about here. We work really closely with the wildlands network and on our border work and are working to put out an upcoming publication on animal crossing rates.

At the border itself, so that will be out in the public domain soon, and we are willing to share our other border data with partners and conservation practitioners. We participate in [00:22:00] snapshot USA, which is a look across the United States about. Which animal species are showing up where and so we like contributing to that.

And we have a 2nd project that we do that. Anyone listening can contribute to whether you're here or somewhere else where we set up a framework for you to put out a camera in your own backyard. We do ask you to source your own camera, but then you can contribute just a simple checklist with 1 representative photo of every animal species that.

That you see on your camera, and that's allowed us to create a public database called Sky Island Photo Fauna, and you can view that on our website to get a sense of what are the wildlife species in my community and with that knowledge, help your neighbors or. Or agencies in your area, make more informed decisions about development projects that might be going on.

You're concerned about a highway new highway project that could be going [00:23:00] on. You can look at the sky Island, interactive map and get a sense of, oh, my gosh, that's a mountain lion habitat. That seems really scary. If there aren't good mitigation measures in place, and you'd have more information to write comment letters, or just just to be excited about the animals in your region. So that is a really fun project. We have a lot of resources about how to find a camera, how to identify different species. And we hope people will take advantage of that, that data set that we're all collectively generating.

Jack: How powerful is it to be able to go to a hearing and say definitively something about mountain lions that you learn from the data to be able to say, this is what mountain lions are. Are doing and that's because of or in part of data that your team and volunteers are putting together just supposed to be a really big source of pride to be able to arm people with that information when it really counts.

Emily: Yeah, we feel really good [00:24:00] about it. We do think that it's important that everyone has access to information about. The species that are around us in our communities. We can't be good conservation practitioners and stewards of the habitats in our myths if we don't have that information. And we just love the fact that it can happen across jurisdictions.

So photo fauna is happening in Sonora, it's happening in Arizona. Happening in New Mexico on public and private land. We've got a lot of public land partners that are participating and even sharing data out in this, through this project into the public domain. And it gives us a sense of what's happening in urban areas and in also in the more remote areas.

It's really fun to poke around and we take care to make sure we're not revealing specific camera locations and we don't have sensitive species listed. Shown on the map. So we're doing our best to protect everyone's privacy, including our rarest species. And yet you'll still get a lot of [00:25:00] great
information about what, which species are being found where and where they're not showing up.

Often we learn the most about why don't we see this animal in this area? What's going on? Is there something that we could do if it is a place where we should expect to see a certain species.

Jack: What do you wish you could do better? What do you wish for in terms of capacity?

Emily: We really have a big goal to have the future of conservation in our region be driven and conducted by the workforce that reflects our Sky Island region. This means we want conservation practitioners to be coming from Mexico and from the U. S. that have fluency and are comfortable working across borders.

The Sky Island region. Transcend so many different types of land ownerships and, of course, across the U. S. Mexico border that we've talked about. So we have an ambitious goal to be providing paid work [00:26:00] opportunities and on the job experiences for members of indigenous groups, tribal nations, we would like.

Our practitioners to be bilingual and comfortable working in Sonoran, Arizona, moving back and forth because our species in the Sky Island region need to be able to move back and forth across the border and between different Sky Islands. And so we're really trying to build out that capacity for practitioners here so that we can do conservation in this region in the best way possible, including local perspectives.

So we have a growing internship program. We're in undergraduates from Sonora the Donathan Community College and universities in Arizona all get to participate in the projects we've been talking about this morning.

Jack: What's a question that people don't ask you enough that you wish they would

Emily: I think, I really want people to know that no matter where you're listening in from, wherever you are on [00:27:00] Earth, There are probably species in common that we have here in the sky islands. And we really, this region is so important to the natural history of North America as a whole. It's this continental crossroads between temperate species, like mountain lion and black bear and and wolves, and then the tropical species like jaguar and ocelot, white nosed coati, and I want people to feel connected and have some, Personal responsibility from what's happening here.

I hope they feel it impassioned to think about the implications of border policy on this region because it's going to influence many other species that are found throughout North America if we continue to build border wall. And block black bears from being able to walk south into Sonora. We're dooming that species because it's endangered in Sonora.

Likewise, how are we going to have jaguar recovery in the U. S. if we continue to wall [00:28:00] off our border and jaguar can't walk northwards? So I really encourage folks to think about Not just the humanitarian issues of what's happening with border policy, but also the environmental. And think about the species that you might find in your own backyard and how they could be affected here in the Sky Island region.

This really is an international gem and we need everybody talking about it and helping us protect it.
Jack: And you can do that and get involved in many different ways as we've mentioned at skyislandalliance.org. Emily, thank you so much for taking the time. I love making a connection. With my alma mater this is really cool anytime you need to come back and talk about this beautiful region that you're representing please do.

Emily: Thank you so much. Thanks for having me and for spending this time talking about the sky islands. Come down and go for a hike.

Jack: I'm on my way.

Emily: See you soon.

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