



## Episode 121: Beyond Borders – Jaguar Recovery In The United States

2.23.2024

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**Turtle Southern**

[00:00:00]

Turtle: I gravitate to small, nimble, grassroots projects that seep with passion and make meaningful change.

Either ironically or synchronistically. I moved to Tucson in 19 ninety-six within months of two Jaguars being photographed in Arizona after a long absence of these cats. An immediate awe. When I saw photos of a Jaguar for the first time and learned that this is their home. So I worked at the Center for Biological Diversity in its early years, when it was still small, including when the Jaguar was listed as an endangered species in the United States.

And later I was the coordinator of the Northern Jaguar Project younger people starting out in conservation used to always ask me how I got such an awesome job, and the answer was that I volunteered for a day and things grew from there. It's so important to get involved and participate in the things that we care about, [00:01:00] and at some point after 15 years with NJP, I realized the Jaguar had always been there.

So thinking about what we can do to safeguard jaguars and their habitat for their own sake, and not necessarily by the address where they live or what passport they hold. And at the same time, I think bringing Jaguars back to where they used to roam in North America is investing in the long-term survival of the species.

And that's pretty exciting.

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Jack: So I was hoping you might do something like a field guide to Jaguars, get everybody caught up who's maybe wondering. Why are we talking about Jaguars at all in America?

Turtle: Sure. So Jaguars are the third largest cat in the world after lions and tigers. They roam from Arizona where I live, to Argentina, which surprises people who think of them as jungle cats and the rainforests of the Amazon or the mountains of Central [00:02:00] America.

The Jaguar is ecologically important, an apex predator that keeps an entire ecosystem in balance. Its presence is like salt added to a stew. A metaphor that I just love from your former podcast guest. Jason Marks. Writings about Jaguars. So why are Jaguars cool? This is the animal before us. I think of their legs as the size of tree trunks.

Their paws, the size of a saucer. So impressive that finding a jaguar track in the mud is thrilling. The bottom of their feet are cushioned, so they move about silently. In the southwestern United States and northern Mexico, they aren't that much larger than a mountain lion. But what is noticeable is that their chests are broad and their heads are so much wider.

They're stocky and muscular. [00:03:00] Jaguars are powerful. They have the most powerful jaws of any cat relative to body size, which could be a result of having evolved eating sea turtles. Jaguars are primarily nocturnal and they will wander to hunt in the star-studded nights. Javelina and deer are their primary prey in the Jaguar's Northern range, but jaguars are also water cats and they will hunt turtles.

I. Fish and frogs. In 19 seventy-one boys out duck hunting along the Santa Cruz river in Arizona shot a Jaguar whose belly they discovered was full of frogs. They're the only cat in the Americas. That roars, although the sound is more like a horse cough or a grunt. Then they have this enchanting golden yellow color with black rosettes or spots that help camouflage them into their surroundings and make them hard to see.

The spot patterns [00:04:00] are unique to every individual, like a human fingerprint, a snowflake, or the fluke pattern on a humpback whale. Imagine that you are looking at the pattern of spots on a Jaguar as if you were watching a sky full of clouds, picking out images to help remember them by. So you might see a heart shape on the shoulder or hip, the wings of a butterfly, maybe a face.

One of my favorite bits of imagery is that the Maya believed if you spread out the skin of a Jaguar, the evening sky appeared in front of you. The Jaguar's coat was a map to the celestial heavens. It was the Jaguar who helped the sun travel under the earth at night ensuring it would rise again each morning.

Jack: I'm sure we've disrupted something. We are always the culprit for something here, but what did we disrupt and what did it used to be like in the United States with Jaguars?

Turtle: So Jaguars used to live across [00:05:00] the southwestern U.S with reports of sightings, primarily extending from Southern California, Arizona, New Mexico to Texas. Less than a century ago, Jaguars inhabited the South Rim of the Grand Canyon, the Mogollon Rim, the white Mountains, and most of Arizona's Oak and pine forests.

Historic records demonstrate jaguars occur over a wide area at a variety of elevations and in diverse habitats. So they were hunted, trapped, and poisoned at the hands of an extensive decades-long campaign to wipe out predators of any kind. That would include wolves and grizzly bears in the American Southwest as well.

It's been more than 60 years since a female Jaguar has been seen in the United States. In the 1970s and 1980s, only two animals were documented in the US in that 20 year span. Before 19 [00:06:00] ninety-six, all the Jaguars that have records were, we know about them because they were killed. But that kind of changed in the modern times. So there have been eight Jaguars documented in the U.S since 19 ninety-six, all of which have been males. And four of those, half of them were first seen by mountain lion hunters who reached for their camera instead of a gun.

Warner Glenn said that he, that the thought of shooting the animal never crossed his mind. In 19 ninety-six, he would go on to see a second Jaguar in the wild. Exactly. 10 years after the first. I remember reading a news article in 2011 when Donnie Fenn said about his Jaguar sighting. It's the most amazing thing that's ever happened to me.

That was an experience I'll never forget, like amazing, right? Two of those eight Jaguars [00:07:00] had relative stardom in Southern Arizona capturing the hearts and minds of millions. I would love to tell you about them. Yes, please. So Macho B was, I dunno if you've heard of him, Jack, but Macho b. Was the oldest known Jaguar in the wild at more than 15 years.

He was photographed regularly in the U.S, covering an enormous territory. It was an era where motion triggered cameras were still relatively new, providing a glimpse into what we're not able to see with our own eyes. I think what you're alluding to before, imagine the early days when a motion triggered camera had a roll of film with 36 exposures.

The people who were getting Jaguar images back then were either very skilled or very lucky, like in contrast to today, where there's a 32 gigabyte memory card in the camera and batteries that will last six months or more. It's astounding. In [00:08:00] 2009, so some years after he was first seen, Macho B was illegally baited, snared, tranquilized, and fitted with a radio collar.

Less than two weeks later, he was recaptured and euthanized by Arizona state officials. I remember those days, and also when I got the news that Macho B had been killed. It was crushing. He was the only wild jaguar living in the US at that moment, and I realized recently that March 2nd coming up here will mark the 15th anniversary of Macho B's death.

I. I know I'm gonna pause and remember him on that day that every time a Jaguar is killed, it makes me question if we're doing enough to protect these cats, to ask what else we can do to encourage me and all of us to work that much harder, even now, so many years later.

Two years after Macho Bee's death. Another [00:09:00] Jaguar appeared in southeastern Arizona, and soon eclipsed the older cat in popularity, and that was El Jefe spent an extended amount of time, several years living in a mountain range just south of Tucson, one of the sky islands that climbs to above 9,000 feet in elevation.

There was a massive outpouring of support for El Jefe in Tucson. He became a folk hero. A craft beer was named after him, an adventure bike ride that still happens. A giant mural was painted in his honor. People are proud of this cat and he has celebrity status even all these years later.

In January, just a few weeks ago, a new Jaguar was confirmed in Arizona. That would be the eighth in recent decades.

And the videographer who broke the news, Jason Miller, he told me, I had no idea this was gonna be so big [00:10:00] harkening. Back to those days of, and the astonishment that we heard from Warner Glenn and Donnie Fenn, like throughout the borderlands, you will hear people expressing wonder over. The Jaguars return.

There's this enthusiasm from hunters, ranchers, conservationists, the public regardless of their backgrounds over these sightings. Like the Jaguars touch something within and inspires appreciation for all. That is still wild.

I keep

Jack: hearing male names and I know I keep hearing about male jaguars and I, I. I'm not a biologist by trade, but I'm pretty sure that in order for there to be like what they would consider a resident population. You need a female, where are all the females?

Turtle: That's the two things people ask when they learn about Jaguars in this part of the world is where did they come from and where, how are they ever gonna find a mate?

Like for [00:11:00] decades now, every Jaguar seen or photographed in the U.S has been male. We can go ahead and assume that they are all looking for a mate. Jaguars have a highly developed spatial memory, so they know where they came from and they know that other Jaguars can be found there, including females. So there's a breeding jaguar population in Sonora where in places like the Northern Jaguar, Reserve, females and cubs are photographed regularly.

Jack: I'm now really interested in what this reserve looks like. I've never been, and I've never actually seen pictures of, what the reserve layout looks like or how it all works.

Is it a just an completely open air thing? Are there places where you work with jaguars?

Turtle: I'm remembering nothing out there is flat. The landscape is incredibly corrugated. You can't overstate how rough and rugged it is.

I've never experienced anything like it in visiting wilderness areas or remote [00:12:00] places in the United States. So the reserve is uniquely positioned where Foothills thorn scrub desert vegetation, tropical deciduous forest and oak woodlands intersect. After the summer rains, the landscape is transformed from the dull gray dry season and water flows and waterfalls emerge everywhere.

There are tranquil pools that provide spots to rest. And finding your way through the green maze of plants that take over becomes a nearly impossible task. The Jaguar's presence can be felt when walking along the trails

and arroyos finding fresh tracks, viewing motion-triggered camera photos right where they're taken, or just out of sight in the dense vegetation.

The reserve is a protected area. That boasts the highest number of Northern Jaguar sightings in recent years. This is a priority area for conservation and [00:13:00] essential to Jaguar survival and recovery in the species northern range.

So in 2019, a new Jaguar was given the name Zapatos. He was photographed on the Northern Jaguar Reserve, and. Thanks to the archive of Jaguar photos across Northern Mexico, it was soon realized that motion-triggered cameras had seen this cat before, only in retrospect the did the pieces come together.

Sapatos had been photographed in 2008, a little to the east of the reserve, and then in 2011 he appeared 130 miles away. On Sky Island, Alliance cameras still in Sonora, but near to the international border. This was followed by an eight-year gap with no records of his whereabouts until he made that 130 mile trek back south toward the reserve.[00:14:00]

When I remember this, now I realize El Jefe came to have a similar story. El Jefe presumably had just about everything he needed when he was living in the mountains south of Tucson. An analysis of his scat even reveals the first recorded predation by a jaguar on a black bear. The one thing that was missing for El Jefe was a female to mate with.

So El Jefe was last seen in Arizona in 2015. Fast forward more than six years and El, Jefe most unexpectedly suddenly appears on a motion-triggered camera in Central Sonora very far away from his last location, both Zapatos and. Oh, Hefe tell a story of resiliency, survival, and wandering over this great distance.

There's still so much unknown about these cats and their movements.

I always like to talk about the [00:15:00] female Jaguars too, because they're, they're unique to. Northern Mexico for this part of the world, we, they don't, it's just something that's different. I like to emphasize them 'cause they are the future. But in 2012 there was a female Jaguar, hard not to have favorites, but

she was named Libelula, which means dragonfly in Spanish. The person who suggested her name thought of dragonflies as these fierce aerial pre flyers that bring good luck. So Libelula was first appeared on the reserve early one morning in a video, a novelty for motion-triggered cameras back at the time to have video.

Days later, Liebe Lula was back in the same location and spent three days with a male Jaguar sauntering behind him. As they walked up and [00:16:00] down in Arroyo. She seemed utterly transfixed, stumbling on a rock as she followed him. We called this place Lover's Lane internally, so this was the first time. A mating pair of jaguars was seen on the reserve.

Months later, Liebe Lula was pregnant, and later she had a cub who we named Pedro after Peter Warshall, a co-founder of the Northern Jaguar Project and a name some listeners will recognize.

I remember Peter used to always talk about if we protect Mother Jaguars, then we secure a future for their daughters and granddaughters and so on.

Through many generations, the years of watching Liebe Lula within this landscape we're often defined by the male Jaguars accompanying her. Off the top of my head, I can name five suitors over a nine year span. One came weeks after [00:17:00] Libelula on the same camera, close enough in space and time to assume these solitary cats had found each other.

Another male was photographed mere hours after Libelula on the same camera as her. Definitely they found each other and a total of three different male jaguars. Herb, Elwapo and Kompah appeared together. Withâ€¦, not different times. Butâ€¦. Pairs paired together with Libelula in images and videos that left little doubt that love was in the air for those couples.

For Libelula. This became a safe place where she could tuck her cub away and a den until large enough that they were large enough to venture out on it Their own. Libelula is one of the longest documented jaguars on the reserve, and she's the oldest. Known [00:18:00] female Jaguar in the region at 12 years. The most recent photo I saw of her was just a few months ago.

So she definitely gets in there for the resiliency and longevity as well.

Jack: Until just recently we were talking about males and most of the things you talk about when you talk about, the US is always males. But the females, can you talk about why. They don't range. What's the biology? What do they do that's different? Where you're only seeing males come up to the US

Turtle: Females are gonna stay either close to mom or move very nearby. They don't really wander.

Jack: So are females allowed to stay and males are encouraged? In no uncertain terms to not.

Turtle: Males do have to leave, but the females don't.

The females just might nudge over a little bit, but [00:19:00] still overlap with mom. So the Cubs stick with mom for up to two years before they strike out to find their own territories and males will wander to set up their own place.

This one's for any listeners who might harken back to 10 years ago. So the Northern Jaguar was in its infancy. When a young female Jaguar strolled by a motion-triggered camera, she, this was the first, the very first glimpse of a jaguar cub who would precipitate the expansion of this protected area to the much larger area that's safeguarded today.

Three years later that Cub reappeared as an adult and was named Corazon with a name like heart. I was thinking this because I said it was hard not to have favorites with a name like Corazon. She immediately was beloved by everybody. I. [00:20:00] And Corazon was also at home on the reserve. She raised at least three litters of Kub, quite like Libelula.

There were so many uplifting moments, and her continued presence gave certainty that on the Reserve Jaguars were safe. Yet Corazon's territory included locations outside of the protected area. So in that way, she differs from Lee Bay Lula and soon to the North and the East. Researchers trapped collared and released two jaguars, one of whom was Corazon.

This is a similar but different outcome to what happened to Macho B. because she was wearing that radio collar. It told researchers when she moved and when she didn't, and then in 2014, Corazon's radio collar transmitted the death signal. She had been killed with poison on a ranch and her body was burned.[00:21:00]

An investigation was launched and the National Expert Group on Jaguars, a government advisory body, pressured the authorities to set an example of no tolerance for killing endangered wildlife that no one in Mexico had been convicted for killing a Jaguar despite, , having full protection by law. Just like in the United States where the Jaguar is also an endangered species.

So Corazon grew up on the reserve and the grew reserve grew with her. Her death was a tremendous loss for the Northern Jaguar population and a personal loss for those of us who worked to protect where she lived. The end of this month will be exactly 10 years since her death, which deeply impacts me probably more than any other Jaguar.

I remember exactly where I was and what I was doing when I got that phone call, like the weight I felt on my shoulders. So just [00:22:00] like with Macho B I wanted to tell this story, not because I wanted to emphasize Jaguar's dying, but just like with Macho B, this anniversary is coming up only a week apart on the calendar actually, and it's again, a moment to reflect on how we can best help her relatives.

I try to think about Corazones Cubs. And that's what gets me to get up in the morning and just wanna work all day and to do everything I can to safeguard and protect these animals.

Jaguars have lost 50% of their historic range, and every bit of territory that is lost is a threat to the species.

The world is shrinking for animals that need a lot of space. Like all , large predators. Jaguars need broad swaths of unbroken expanse in which to roam. Habitat connectivity is essential. [00:23:00] Corridors facilitate gene flow and provide cats with the ability to access resources, find those mates, and adapt to a changing climate.

So I've been telling you about the Northern Jaguar Reserve as this example of this core sanctuary. And then beyond the reserve are neighboring ranches who participate in a program called Viviendo Con Felinos that radiate outward to form a protected buffer zone. And then the next layer from there.

In an ever-widening circle is to connect these hotspots with other conservation lands in the region, such as Rancho, El, Arribabi, Cuenca, Los Ojos, and the reserve Monte Mojino to the south in southern Sonora, and to connect to high-quality habitat in Arizona and New Mexico. The passageways between [00:24:00] these areas aren't fully understood.

Or protected

Jaguars are extremely secretive and elusive and probably the least understood of the big cats. So even now, 20 years after. The advent or the beginnings of motion-triggered camera data in the border region.

There's still these huge questions about where exactly do they travel through. There's so much that's still unanswered. There's so much that we know, but there's probably just as much that we still don't know. Jaguars face challenges as the borderlands become increasingly fragmented, divided by highways and exploited for

minerals throughout this northern range. And then there's this most looming threat unique to [00:25:00] this region, the U.S.-Mexico border wall, which is an impenetrable barrier for wildlife.

Jack: Does that bother you sometimes or worry you that people are gonna have the capacity to hear you when you talk about Jaguars in that area can we overcome that noise to let people imagine Jaguars being here again?

Turtle: I think in the, in our news media. Wildlife is just so not part of the dialogue. It's buried, it's not part of the conversation, but the border wall is the single biggest threat to Jaguars in this part of the world. If there's going to be connectivity between. All of this amazing habitat.

Right now, the border is still porous enough for a Jaguar to cross through the rough mountainous terrain where there is no wall. These places need to stay permeable. Otherwise, we will cut off Jaguar migration and dispersal corridors if the border wall is [00:26:00] completed. If the last remaining wildlife corridors are sealed off, there is no path forward.

It will doom Jaguar recovery and we won't see Jaguars coming into the United States. Again, it's also important to note that all of the accompanying infrastructure, the roads, the high-powered lighting along the border, further wreak havoc and damage fragile ecosystems. something that I don't feel like we always have time to talk about, but, Jaguars as an umbrella species by protecting a Jaguar, all of the. Other animals benefit the birds, the butterflies, everything falls under that umbrella of protection offered by the big cat.

I'm thinking back toward the new Jaguar that showed up it was recently confirmed in Arizona and what that shows us. So it shows us that Arizona is still wild. We still have our [00:27:00] apex predator here, and the border is still porous enough that Wild Jaguars can cross it.

Jaguars are telling us with their movements that they need access to both sides of the border, and we need this new Jaguar to be a catalyst for protecting habitat and keeping linkages open between core areas. I think of that new Jaguar. The younger generation, uh, following in Macho B and El Jefe's footsteps and on a trail that leads through Arizona and New Mexico to vast areas of wild, rugged habitat and abundant prey.

Jack: They want to and need to and deserve to be here. They're making it very clear. I think

Turtle: the Jaguars coming into the US over the last twenty-eight years are laying the foundation for a flagship rewilding project for North America.

Large portions of Arizona and New Mexico have been identified as [00:28:00] potential jaguar habitat like you were referring to based on historical observations, vegetation type prey, availability, and proximity to water. This new cat is just one of the many Jaguars who should be roaming Arizona and New Mexico in a healthy population. The people who have come across and encountered a Jaguar in the wild, in the Arizona and New Mexico, that half of the Jaguars that have been seen in modern times were seen by a person who could only express astonishment and awe wonder that this was

a dream of a lifetime



I think about standing on top of one of the Sky Island ranges and you can see clearly into Mexico. It's right there. The inverse is also true when you're south of the border. Looking north, I'm trying to [00:29:00] think, big picture, like what are these places going to look like in 50 years?

Like how do we wanna help foster it so that there are bears, wolves, pronghorn, bison and jaguars, all sharing this landscape where you'll be able to stand on that ridge and look out and see the land where all of these animals are living, and how are we gonna get there? Jaguars face, so many threats and our work is far from done.

I think about 20 years ago, the Jaguar population in Sonora was believed to be in decline. The idea of setting up what is now the northern Jaguar Reserve was seen as an impractical dream. Maybe that's how some of our, like how we should think about. These future discussions or things that are emerging about Jaguar presence in the US and what we wanna [00:30:00] see here in our home, right in Arizona, New Mexico, and beyond, like big carnivores inspire us to think big, right?

I think with Arizona and New Mexico in the mix. The northern population of Jaguars that currently is, could double in the number um, of cats from what there is in Sonora today. The habitat options would be expanded, genetic integrity would be improved, and overall there would be a more positive outlook for the future.

Near the reserve in that buffer zone is a community where. Conservationists, local residents and ranchers have come together to protect and safeguard these cats. And over the years they've had dozens of jaguars on their motion-triggered cameras and they still [00:31:00] celebrate each and every one.

Jack: The big dream thing should lead us whether people think it's practical or we don't even know how it's going to be possible in 50 years for it to look in the way that you described, but we gotta do that right.

Turtle: We have to do that. That's why I'm so excited to be part of the Rewilding Institute.

Jack: So everyone listening who's been inspired by this and wants to learn more, the best thing you can possibly do is go to Rewilding.org and sign up for the newsletter that will get you all of the updates that Turtle puts out on the Jaguar project.

It's gonna be a little bit of the year of the Jaguar here on the podcast because I have a long list of friends of turtle and connections that are, that come with her. To learn more and more about the Jaguar and the possibilities in the future and its history.

Turtle, thank you so much.

Turtle: So nice to chat with you, Jack,