

## **EPISODE 2 - Parrots of the Plains**

Nicole - Hello from your favorite Grasslands PR team. This week, we're back with another reason why these overlooked and underappreciated ecosystems are objectively the best biome. I'm Nicole.

Rachel - I'm Rachel. And today, I am going to talk about birds.

Nicole - Wow, what a surprise.

Rachel - Parrots on the plains.

Nicole - Oh, snap.

Rachel - Yeah, which has a really magic tree house vibe to it so I am definitely using that title for this episode.

Nicole - Nice, nice, nice. Yeah

Rachel - But first some quick news. That was a very news anchor. Sorry,

Nicole - We should edit like...you know what I am talking about.

Rachel - Instead of finding a sound bite, I will use that.

Nicole - Our website is looking super spiffy. If you have not checked our that yet, [www.grasslandgroupies.org](http://www.grasslandgroupies.org). We have been so overwhelmed by all you guys' interest and support already so welcome to the Grassland Hype Train. Woo woo. And we do have a podcast review and also an episode review on our Prairie Dog episode. We got five stars on it. So the hype is real. Good luck making this one also a five star episode, Rachel. We're looking forward to it.

Rachel - The pressure's on.

Nicole - Sandra left us a review. She said, very informative (clap emoji). And also on the podcast on the episode, very informative, funny, easy listening. No clap emoji on that one though. So I don't know what that means. Sandra is my mom. So thanks, mom. You're the best.

Rachel - She's so good.

Nicole - But let's get right in it. What did you get for us?

Rachel - Okay, sorry, that was so loud. I definitely blew out my mic with that squeal of delight.

Nicole - Oh gosh.

Rachel - Okay, well today, like I said, we are gonna be talking about parrots on the plains, which is kind of already off to a bad, misinformed start, because like really not very many parrots live on what we'd consider to be like the plains. There are some that live on plains, but really we're just gonna talk about grassland parrots, because I don't know about you. Maybe it's a North American centric problem, but every time I picture a parrot of some kind, whether it's a parakeet or a macaw or a lovebird, you picture them being in palm trees and like deep forests and the Amazon rainforest and these really wooded environments. And it turns out a lot of parrots not only use grassland ecosystems, but some prefer it, some are specialized to it. And I want to talk about those birds today.

Nicole - Awesome, I am excited.

Rachel - Yes, yes, yes. I will note in the beginning, as you guys try to go look up some of these birds, one of the problems with parrots is that there's a lot of interest in parrots, but they usually stem from keeping them as pets. Yeah. Yeah, so information about their natural ecology can be kind of difficult to find. And also it kind of kills me a little bit inside when every search that I'm trying to do for a parrot populates for sale at the end as like a suggested thing. It's like, even the endangered species, it's like, for sale. I'm like, no, that's not what I want. Yeah, so a lot of the parrots we're gonna talk about today are actually birds in the pet trade.

Nicole - That's ok. I'm excited.

Rachel - Yeah, well, it makes it really interesting. Like imagine, okay, so like in some of these places, these parrots are like, you know, just a backyard bird. They're very common. Imagine if they were a common pet in the worldwide market. Like that just doesn't happen with North American bird species.

Nicole - Yeah, everybody's like, ooh, let me get that cardinal. I really need to put it in with this blue jay that I have. I've heard they get along great.

Rachel - Yeah, no, nobody does that. Although first of all, parrots in general, including grassland parrots, tend to be associated with trees. You know, when Americans picture high quality grassland habitat, we tend to picture a completely treeless landscape that is just an ocean of grass because that's what we consider to be high quality grassland habitat in North America. And so at the outset, I need to kind of redefine what a grassland is because that's not the reality of all grasslands. And for some grassland habitats, like certain savanna varieties, trees are an integral part of that landscape. And I know if you're picturing landscapes like the Serengeti, for example, you might have an image in your mind that's like basically an ocean of grass, but a few of those acacia type trees or baobabs or something dotting the landscape. But in actuality, these savanna types in places like Australia and South America and Africa can have tree cover up to like 60% canopy. Functionally, it's a grassland, but there are a lot of trees and that is normal healthy habitat for those ecosystems.

Nicole - And in an ecosystem like that where trees are normal and common even, at least in North American prairies, a lot of times fire is a big driver of that ecosystem, is that the same for a lot of these more tree-filled ecosystems?

Rachel - Yeah, but actually in different and surprising ways, perhaps, and it really depends on the ecosystem. Like, savannas are such a broad description of ecosystems that you really can't say that one thing is true of all savannas, except the fact that trees are expected and present in some degree or another, and that a lot of savanna trees tend to be sort of drought and fire resistant. Maybe they'll have waxy leaves so that they're less likely to shrivel up in the heat of a fire that's coursing through the herbaceous grassy layer. They also tend to have thick, corky bark and a lot of drought-related adaptations. But fires are a big part of the landscape and also affect some of the parrot ecology and the threats to some of these parrots that utilize these landscapes. Yeah, yeah, okay. So let's get into parrots. Like I said in the beginning, plenty of parrots actually occupy or use grassland habitats, even if they're not necessarily like a specialist just for that type of habitat.

Here's an example that we'll get to in more detail later on, but some lovebird species in Africa are found on the savannas, but they might still prefer forest habitats within that range that can include grassy and wooded savannas. So my primary interest is in the ones that like only or preferentially use those grasslands and are endemic to those grasslands, but I am including some honorable mentions of birds that frequent grassland areas, even though they're more generalist in terms of their habitat preferences, because I think it's really surprising what these birds are. So yeah, it turns out it's a little shocking to me even. I knew going into this that there are a lot of grasslands, especially savanna parrots, but I was kind of shocked at how many well-known parrots are actually savanna birds.

Nicole - Ohhh.

Rachel - Yeah. So we'll include that just for fun. So I'm actually going to go by continent on this, because I think it's an easier way to describe some of these ecosystems and habitats and therefore the parrots that inhabit them. The first one is Australia, which I know you've done a lot of research on, so I'm hoping I can surprise you with at least a little bit of this. And I'm also counting on you chiming in a bit, just for the record. So Australia, and then I've got the Americas, which is mostly South America, but we've got some North American honorable mentions. And finally Africa, which has several parrot species. So yeah, we're going to jump into Australia first. So here we go.

Here are my Australian honorable mentions for birds that live in the savannas, but don't exclusively hang out there or don't prefer to hang out there. Ready? Okay.

Nicole - Birds or parrots?

Rachel - Parrots, parrots, yes.

Nicole - Okay, just checking. I was like, if we're talking about all the birds that live in grasslands, this is going to be like a 10-part episode.

Rachel - No, no, no, no. It's like literally just parrots. And to define that more broadly, there's a lot of different types of parrots. So this includes things like karelas, cockatoos, parakeets, macaws, every member of that group of birds.

Nicole - Cockatiels.

Rachel - Yeah, yeah, Nicole. First honorable mention, rainbow lorikeets, which, like, I mean, we know people who have worked extensively with these birds, and I never, never pictured them living in savannas. But they really like living in savannas. They don't exclusively live there, but they lean towards going to settlements and savannas that are near, like, eucalyptus stands. So, yeah.

Nicole - Well, a lot of Australia, like, there's, like, the grassland parts, like, in the middle, but on the outside edges, like, a lot of it is savanna with eucalyptus, instead of, like, you know, savanna in Africa being, you know, grasses with these really big trees. It's just a bunch of eucalyptus, which are significantly smaller, but still trees.

Rachel - Yeah, yeah. And, you know, a lot of different countries have their own systems for how they describe ecosystems. So sometimes you'll see references to, like, open woodland, which, according to some descriptions, might technically be just a type of savanna that has more tree cover and stuff. Sometimes when you talk about eucalyptus stands around the savanna, like, that's still part of the savanna habitat. And so when you think about Rainbow lorikeets being a flower-eating bird that drinks nectar from flowers and stuff, yeah, that's eucalyptus flowers on the savanna sometimes. Here's a couple of other surprising ones.

Cockatoos. There are a few species of cockatoos, including the red-tailed black cockatoo and the sulphur-crested cockatoo that love hanging out in savannas. In fact, in some sources I found, they consider a specific sulphur-crested cockatoo subspecies to be a savanna endemic. Like, it originated from the savanna, and it's specialized to the savanna. My problem is when I tried to look up information about these subspecies, really the only information I could find was descriptions of the physical characteristics of them and not the differences in their habitat use. So I'm not even sure which of the four subspecies is considered or has been considered the savanna endemic. All I know is that some of them preferentially use the savanna, which is kind of crazy. Like, that's a really common pet bird.

As far as the red-tailed black cockatoo, they really love feeding in recently burned areas. So in those savanna places where fires sweep through the brush, that's where you'll preferentially see them feeding in the dry season.

Nicole - Nice, yeah. And fire is a big part of the Australian ecosystem for sure.

Rachel - And like a lot of the Australian birds, they call them nomadic, which I think is just a more localized version of migration. Yeah, but several birds that are nomadic, like the little Corella, are kind of generalists, but during maybe the non-breeding season, they will go from hanging out at edge habitats to really hanging out more often in just pure grassland areas. So sometimes their habits change depending on the season to being more preferentially in the grassland, which is kind of cool. Australia actually has a lot of very specialized grassland parrots. So this is probably going to be the biggest section and also the section which was easiest to find information about these birds. They're just very well studied. So we've got a lot to talk about with Australia before we get on to the other categories. And I'm just going to go ahead and tell you the names of the birds that I want to describe to you that are savannah endemics. Okay. First of all, we have the eastern ground parrot. Have you heard of this?

Nicole - A little bit.

Rachel - Then there is the galah.

Nicole - I love galahs. They're so fun. And "that's a really common one in the pet train as well.

Rachel - Yes.

Nicole - Because they can learn a lot of words. They're very social birds.

Rachel - We also have the turquoise parrot, which a lot of parrots have many common names. The turquoise parrot is in some places more commonly known as a grass parakeet. Then we have golden-shouldered parrots, which are a savannah endemic. We have two very similar species, the hooded parrot and the northern Roselia, that are also savannah endemics. Let's talk about some of these guys. To me, one of the interesting things when it comes to describing them has to do with their threats, because I think that the way that they're threatened by different habitat losses and other human effects and stuff really helps us understand how they use the ecosystem, because those are the things that are threatening them the most.

So first of all, the Eastern Ground Parrot is kind of an incredible bird. It's an elusive little grassland parrot that lives in Heathland, Sedgeland and Button Grass Plains. And it is so shy and so just down in the grasses that a lot of people say you literally only see it if you're walking through the grass and you flush it. You don't even hear it. Like, sometimes you can hear it, but some of these birds are also really shy and only really make sounds when they're being flushed out of the grass because they're not especially social birds.

Nicole - Like pheasants. When you flush pheasants, they're so scary.

Rachel - Yeah, but imagine if it was a parrot. Just like that. And like a lot of these little parrots that hang out on the ground, they eat the seeds of these grasses and sedges and herbaceous plants that are in these grasslands. Now, unlike a lot of the parrots we'll talk about today, which

are cavity nesting birds, the Eastern ground parrot builds a little nest in the grass. Which just makes me get happy tingles on my arms to think about. It's not like a meadowlark nest where it's like a dome shaped nest, but it is really well hidden. They'll kind of construct a bowl out of the grass and really thin twigs and stuff. And sometimes it's completely screened from view by just being tucked under a shrub. Sometimes they have what people describe as almost a tunnel that you have to go through to get down into it. So it's a really well hidden little grassy nest. And this parrot specifically uses habitat without trees. This actually makes it one of only five species of ground dwelling parrot in the entire world.

Nicole - Dang.

Rachel - Yes, So it's not like a lot of these parrots hang out in the trees and forage in the ground. But this one just straight up lives on the ground in the grass. And a lot of the other ground dwelling parrots in that list of five are things in New Zealand that are even flightless sometimes. So this is pretty amazing.

Nicole - Do you know what they are? Do you have a list by chance?

Rachel - I did have a list, but I didn't put it on here because I didn't want to get too distracted by it.

Nicole - The Kea, right? I love Keas. If you've ever seen the video of an endangered parrot shagging a man's head, it's so good. It's so good. Such a great video. And he's so happy. Like that's exactly what I would have done too. Just like, oh my gosh.

Rachel - Yeah, yeah, I know, really. But what's kind of crazy about this to me is that, you know, on some of these islands where there really aren't a lot of mammal predators and other competitors, it makes sense to have ground-based parrots and parakeets that really don't fly or just hang out in the ground. But in Australia, there's a lot of mammal predators and even birds that will hunt parrots out in these areas. So, I don't know, it's pretty amazing.

Another specialist that I want to contrast that with is the turquoise parrot, aka the grass parakeet, and they have different names, like the turquoise grass parakeet, yada yada. And these guys do nest in hollow trees. So even though they live in grassland, heathland, scrub, orchards, and kind of woodland margins, which I don't know, kind of reminds me of Eastern bluebird type habitat if you were to compare it to something North American. It eats the same types of food, and large flocks of these parakeets can be foraging on the ground for these seeds. Even its habits are kind of similar in the sense that it was described by Australian sources as an unobtrusive bird that feeds quietly on the ground, which I feel like is a good thing to specify when you're talking about Australian parrots. Because so many of them are just obnoxious, horrifically loud, squawky birds.

Nicole - Horrifically. Tell me how you really feel.

Rachel - I mean, yeah. But okay, so this one, like the previous ground parakeet or parrot, it's just a quiet little grassland bird. But because this bird uses different nesting habitats, it's actually really susceptible to cat and fox predation and the loss of the hollows that it nests in because of what they described as inappropriate burning.

Nicole - And that's okay. So I want to touch on that really quickly. Okay, it doesn't have anything to do with parrots. I'm so sorry.

Rachel - I mean, it does because it's inappropriate burning and it affects this particular parakeet.

Nicole - Yes. Do you say burning or birding?

Rachel - Oh, I said burning like fire.

Nicole - I don't have anything to add. Oh.

Rachel - Inappropriate birding definitely affects a lot of these birds too. But yeah, no, I was talking about like fires specifically because, you know, maybe I don't know a lot about the fire ecology of Australia, but I know in typical grassland fire ecology, the fires are really more of a surface level fire that sweep through the herbaceous layer of like grasses and forbs and stuff and tend to leave the trees untouched unless they're invasive or like a North American prairie ecosystem, which has no trees besides like the cottonwood that are really resistant to fires. So I'm assuming that inappropriate fires just means that they're burning especially hot or maybe they're wildfires or I don't know, something is taking away that habitat from them.

Nicole - Yeah, and there's been an increase in more extreme fires and followed by more extreme floods and predated by more extreme droughts in Australia over the last few years as evidenced by the 2019 to 2020, wait, as evidenced by the 2019 to 2020 wildfire season. If you remember, way back January 2020, pre-pandemic, there was a lot of movement to try to help Australia with these wildfires to get them under control because it was just so bad.

Rachel - That's interesting, especially because I know that for the grass parakeet in particular, the tree hollow loss was actually really severe way back in the 1920s. To the point where they almost became locally extinct in areas like Victoria because they lost so many of them. I have no idea what drives that. It's interesting that now the primary driver of that habitat loss is just inappropriate fires. So two little grassy parrots that primarily live in the ground, which I just love. Okay, let's touch on galahs quickly. And then I want to move on to the last two Australian parrots that have really specific adaptations.

Okay, galahs are an open habitat Australian parrot.

Nicole - They're also very cute.

Rachel - They're also very cute and they're very resourceful feeders. They will feed on grass seeds and stuff like that. But they figure out how to undo the stitches and grain packages and just gorge themselves on prepackaged grain.

Nicole - Amazing.

Rachel - They'll even be seen picking through livestock feces, trying to find undigested seeds in there.

Nicole - Wow.

Rachel - So they're pretty amazing little birds. One of the things that struck me about these birds is, number one, learning that they like the open plains just kind of made me scream a little bit. And kind of like a lot of Great Plains specific birds in North America, like the brown-headed cowbird, which really benefited from human encroachment, which allowed it to spread outside of its natural or preferred habitat. The same is kind of true of galahs in Australia. And so they love human encroachment, which has caused them to spread everywhere. And like their flocks can be so huge that they weigh down power lines, which cracks me up.

What's interesting is that since human encroachment is really benefiting them in terms of their habitat use, their biggest threat is actually heat stress because of climate change and also getting hit by cars. That's a big enough problem for them because they feed on the side of open roads. And stuff that like getting hit by cars is like one of their top problems. Heat stress, not even like wildfires destroying their habitat, but just straight up heat stress and getting hit by cars.

Nicole - Poor, poor galahs.

Rachel - And then on a completely different side of things, we have two parrots that actually use termite mounds in grasslands. So the golden-shouldered parrots and the hooded parrots. I think I compared the hooded parrot to northern rosellas earlier, which is not fair. The northern rosella is more of like a typical kind of shy parrot that we don't really need to talk about a whole lot because it's not that much different from any other parrot that uses the savanna, except they stay in trees. But the hooded parrot and the golden-shouldered parrot are both savanna endemics that specialize in eating grass seeds. And unlike hollow nesting parrots that use hollow trees, these guys excavate tunnels in termite mounds in order to create their own nests in those mounds, which is kind of amazing. And one of the things that made me just kind of smile is that they will dig these nests when the mound is still damp from the wet season. So they're like, mmm, mushy termite mounds, let's go. And the hooded parrot will dig a really deep tunnel deep into those termite mounds, build their nests in the center where it's got a lot of buffer against temperature changes and stuff like that. Yeah, just amazing little grassland specialists that depend on ground dwelling termitaria.

Nicole - Termitaria. What a nerd.



Rachel - Termitaria. Shut up. That's what they are. And also interesting is that these birds do feed on insects sometimes. And the golden-shouldered parrot is actually not doing great. While the hooded parrot is doing just fine, their range is contracted a little bit because of livestock grazing. And again, here's this word, inappropriate fire regimes. The golden-shouldered parrot is not doing very great. In fact, it's an endangered savanna parrot. And I'm not really sure what the difference is. All I know is that it is being threatened by altered fire management that is leading to woody plant encroachment. And because of the woody plant encroachment, a lot of their predators, like the pied butcher bird, are able to predate them more effectively so that seems to be their biggest threat.

Nicole - Okay, I did not realize how small these guys were. It makes more sense that they live in termite mounds if a butcher bird is going after them.

Rachel - Yeah, right? Oh my god. I'm meant to tell you to look each of them up because they're beautiful little birds, all of these little birds. Hang on, termite mounds are also pretty big, so like...

Nicole - I mean, Okay, but I was picturing like... I'm still stuck on kias because I love them so much. I was picturing like a kia-sized bird or like macaws or a common parrot that people think of. I was picturing something big just like destroying this termite mound. I'm like, if you're trying to eat termites, that doesn't seem like a very good strategy.

Rachel - Not at all, not at all. Sometimes people call the golden-shouldered parrot a golden-shouldered parakeet. And there are some macaws that are even parakeet-sized. So yeah, termite-dwelling parrots on the grasslands of Australia. And those are Australia's savanna parrots.

Nicole - Amazing.

Rachel - Which, like I said, was our biggest category.

Nicole - I will say savanna, my dog, definitely let out a big snore at one point. And it was so hard not to start cackling. So I hope that everyone can hear that during Rachel's talk about parrots.

Rachel - I thought you were going to say that she looks up every time you say savanna.

Nicole - Right. I think she snores slightly less loud every time I say it. So I think I'm like half waking her up.

Rachel - So let's take another continent here for a second. And let's go over to American parrots, which is our second largest category of parrots. And a couple of honorable mentions that I want to point out just because they're freaking common birds, and I cannot believe they use grasslands, are mostly South American birds. But I wanted to mention the Carolina parakeet. Yeah. Nicole, what's special about the Carolina parakeet?

Nicole - They're dead.

Rachel - Yeah, like super dead, as in very extinct. And unfortunately, we just don't know a lot about them because people regard them as pests, which is going to become a lot more of a common trend from now on. Now that we've left Australia with these parrots, they were just headed to extinction before we knew really anything about their ecology, which is a shame because apparently, fun fact, they could eat cockle burs, which are poisonous. And we know that cats... Well, yeah, so they're spiky and poisonous, but also apparently cats, like a huge majority of cats that would eat Carolina parakeets, we know it's because of people's accounts from like their cats, they would f\*\*\*ing die. Because they would be poisoned by these parakeets.

Nicole - Wow.

Rachel - I know.

Nicole - Keep your cats indoors.

Rachel - Well, I mean, those birds are extinct, but...

Nicole - Well, yeah, that's okay. We don't have to tell them. They are not extinct. They're super common all throughout the entire world. If you don't keep your cat indoor, they might eat one and then it'll die.

Rachel - Yeah, no, that's not true. Which, okay, yeah, yeah. Because here's the thing. Carolina parakeets are the only North American parrot for America...

Nicole - I'm sorry. Savannah let out a really big snore and I couldn't keep in the laugh that time.

Rachel - Yeah, they were the only North American parrot, and now they're dead. And, you know, they had a pretty extensive range, but it turns out there's a couple of subspecies maybe. And one of those really lived throughout the Great Plains, but they didn't really use the open grassland. They used woodland areas, like riparian woodland corridors in the grassland. But still, you know, like a Great Plains parrot that I wanted to mention. So I'm just going to list off a few well-known parrots from South America that live in the Cerrado, which is the South American, the biggest South American savanna.

Okay, ready for this?

Nicole - I'm so ready.

Rachel - Blue and yellow macaw.

Nicole - Oh.

Rachel - Yeah. Listeners, if you're picturing the most common blue and yellow macaw that exists, that's the macaw we're talking about. Yeah, they hang out in savannas all the time. Okay, also peach-fronted parakeets.

Nicole - Oh.

Rachel - Not a specialist, but they love savannas. And they're probably expanding their range because of agriculture. They just like that type of habitat. Okay, another one, hyacinth macaws.

Nicole - Oh.

Rachel - Which are the just beautiful, pure royal blue macaws that have a little bit of yellow around their face. Yeah. Also a couple of ones that maybe aren't as well known, but the golden-collared macaw and turquoise-fronted amazon, all of which the last three or so macaws we've mentioned do like wooded areas, but they actively avoid those deep rainforest tropical forests that you usually think about, at least I tended to think about when I picture these tropical macaws, you know. So they actively avoid high-humidity tropical rainforests and instead prefer just plain wooded areas that are dry and savanna.

Nicole - Ok. If you're a giant bird, it'd be kind of hard to fly around in the really thick parts of the Amazon rainforest.

Rachel - So maybe it makes sense. Sure, but some of these are not big birds. Again, the ones you're most familiar with are probably the biggest ones, but pretty much everything else is a medium to tiny sized parrot.

Nicole - Medium to tiny sized, what a great...

Rachel - Yes, that's a very specific range so you can picture it in your brain. Okay, so South America has some really, really cool groups of birds, and one of the grassland birds, parrots rather, that's really cool, actually takes advantage of a special type of termite that lives in South America. So we're going to connect this to Australia with the termites, but these termites live in trees, so these are arboreal termitaria. And just like the Australian parrots we just talked about, the red-shouldered macaw, which is the smallest macaw, we're talking like itty bitty baby, like it's teeny tiny. It's parakeet sized, but it's a little macaw. They're very common in the pet trade, so if you Google them, there's just a million pictures of these guys. They're also not in any direct threat. They're pretty common both in the pet trade and in the wild. But yeah, they nest inside arboreal termitaria.

Nicole - And so these arboreal termites, they probably not as big, but they make the big termite mounds that people think of when they think of termites.

Rachel - Oh yeah. Again, like the savanna discussion we had in the beginning, the savannas of South America are full of trees. They say Cerrado ranges from being literal woodland, which is

still functionally, technically a savanna, to being kind of an open grassland. But in South America, just plain grasslands devoid of trees are incredibly rare. So almost all of these grasslands have some amount of trees. And for the ones that have termites nesting in those big, like sometimes they're big, like round, like, I don't know, basketball looking termite mounds, like just up in the top of the tree, like a honeybee nest or something. Yeah, yeah, exactly. They excavate in the cavities there and that's where they make their nests.

Nicole - Dang, that's cool.

Rachel - Yeah, which I love. And you know, just like the Australian ones we talked about, these guys feed on nuts and seeds of a lot of like cereal crops and grains and grasses, but also noteworthy something that makes the Cerrado and other savannas in South America different is that their flora is a lot more like an orchard. So you can kind of picture this expansive grassland with regular intervals of trees, sometimes like thick clusters of trees, sometimes sparse trees, and they're fruit trees. So a lot of them are heavily flowering, fruiting edible trees and the parrots in South America just freaking love to eat these fruits. Yeah, more of an orchard version of these Australian habitats we've been talking about.

Nicole - Interesting.

Rachel - So in terms of birds that are really, really specialized to specific areas of the savannas down there, I have a couple that I want to talk about. First, three, sorry. I have three that I want to talk about.

Nicole - Maybe five, maybe ten. Who knows?

Rachel - It's possible. The yellow-faced parrot, which is the only member of its genus and is a specialist in grasslands. The yellow chevroned parakeet, which is really, really common and has become feral in a lot of places, not only outside of its natural range in South America, but even in Miami and Los Angeles and stuff. So lots of information on them out there. And then the blue-throated macaw, which is an endangered bird that is another grassland specialist. They're so cool.

Nicole - And the blue-throated macaw is on our podcast art.

Rachel - It is, yeah. The blue-throated macaw is blue -throated, sorry, macaw is on our podcast art. And I know at the moment I have it on our...Well, never mind. That doesn't matter. It's fine. So, all right. Boom. Here we go. Yellow-faced parrots, only members of its genus. They're found in the Cerrado, and that's kind of where they're specialized, but they can also be found in the Caatinga, which is a kind of connected neighboring habitat. They feed on fruits and seeds and really love to eat unripe guava and mango. And what's kind of shocking about this bird's problems is that because it's such a Cerrado specialist, it's under some kind of severe threat because the Cerrado compared to its big sister, the Amazon Rainforest, and other areas of

Brazil in particular, but other parts of South America, there's not a lot of protections for the Cerrado. And like a lot of grasslands, it's very useful for agriculture, and so it's been developed. And here's a shocking statistic. By 1993, two-thirds of the Cerrado region where the yellow-faced parrot lives and is a specialist had already been moderately or severely altered by agriculture, heavy cattle ranching, invasive grasses, pesticide use, and overburning. And I read that and I was like, oh my god, that was 1993. Like that's 27 years ago. And we know now like a lot has been happening in the Cerrado to intensify this landscape change. And you know, because this bird is really specialized to regions that it turns out are really useful for agriculture, the more recent soy development has also had a really negative impact on them. And I'm only laughing because it makes me anxious and nervous and I don't know how else to respond. Because, you know, you don't want to get doom and gloom about conservation. And there's a lot of positive things that are happening with conservation of these resources, including this podcast, which is trying to bring more awareness to these underprotected places. But yeah, sometimes it just gets sad. Compared to other parrots in the same group, this species really, really prefers open areas. In fact, it's conspicuously absent in areas where other parrots typically flock that are more forested. So they really like Cerrado areas with low trees. And right now they're being forced to adapt to urban areas that are fragmenting the Cerrado. At least in 2009, when a paper I was reading was trying to analyze this, it looked like there was a slight ecological shift happening with the species that was kind of enabling them to adapt or forcing them rather to adapt to these urban landscapes. But it's not really clear the species can adapt to those things long term, especially since the transformations are so intense right now. And they're also nomadic, which brings in a different kind of problem. They don't really stay in one area, so that means more of their landscape really needs to be preserved in order for the species to be preserved and thrive.

Nicole - An ecosystem-wide approach to conservation versus just like, oh, we're going to set aside this little tiny little piece. That's good, right?

Rachel - Yeah, and that tends to, I don't know, trick people into feeling like they're doing enough. And so it's okay to, you know, develop the land around it. But like, it's really not good for a lot of grassland animals in particular, but really everything to have just little islands of habitat dotted around really unsuitable human habitats and agriculture habitats. So it's not looking good for the yellow-faced parrot. But again, remember, it's a really unique species, both in terms of its genetic and evolutionary history, its land use and habitat use. And we think a lot of this is even associated with just like the general emergence of open habitat, or sorry, open landscapes in Central South America, period, like in terms of like the evolutionary history of the area, like the branching off of this species probably happened at the same time that this habitat even started to exist, which is just kind of crazy to me. So poor little parrot, beautiful little parrot, that's kind of in trouble.

So next I want to mention the Yellow-chevroned parakeet, because again, it really likes open habitats. What's worked in its favor is that it actually appears to prefer disturbed savannas and areas associated with towns, which also makes it a really great feral bird. So, you know, it's a Cerrado savanna bird, but it's hanging out on the coast in Rio, which is not at all savanna. It's

hanging out in Miami, and yeah, a lot of other places where it's become naturalized or there's at least stable feral reproducing populations of them. So it's doing really great, and like some of these other specialists, it really actively avoids deep tropical forests and usually is seen in noisy groups in savanna woodlands in its natural habitat, aka not Miami.

Nicole - I might just be going crazy, but do you know of any feral parrot or parakeet or something, colonies here in Wichita, Kansas?

Rachel - Wait a minute. I don't think so. I don't think you're crazy because there's a lot of birds that have been kind of developing feral populations in areas outside of like, you know, the Miamis and South California places that you kind of have come to expect a lot of invasive species at this point. You know, like there's monk parakeets all over the place and... Well, I will say one of the reasons we don't typically see these birds becoming feral in more northern places, I mean, even as northern as Kansas, is because they come from the tropics typically, where they literally don't have a cold season. Like, they have a wet and a dry season. They do not get cold, ever. You know, cold is 75 degrees Fahrenheit, you know? So they're really not able to adapt to cold Kansas climates. So I don't know, maybe it's possible. I mean, certainly I've seen cockatiels and other escaped or released pets that get tossed out into the wild. I've seen budgies even in our city parks nearby, but they can't survive the winters. And a lot of the pet birds also just can't survive predation anyway. So I guess even if you had a group of escaped parrots and parrotlets or whatever, and they manage to survive a particularly warm winter, they just could not make it long term in this area.

Nicole - Please don't release your pets, whether it's a bird or snake or lizard, into the wild. It causes irreversible harm to the ecosystem if they survive. And a lot of times they don't survive, and they die a really, really horrible death, and it's not good. Don't do it.

Rachel - So last but not least, one of the most well-known and iconic birds of the South American plains and savannas is the blue-throated macaw. Now, I've read some sources that will say it lives in the Cerrado, technically, and maybe, I guess it depends on what your definition of Cerrado is, because some people refer to Cerrado as like a regional grassland ecosystem. Some people refer to Cerrado as a really specific habitat type in the South American savanna, which I think is the worst take. Usually I see that kind of stuff in, I don't know, parrot websites and stuff where they're really not focused on South American ecology. They're just, I think, seeing these terms and trying to apply them to what they know about birds. But anyway, the most specific way to describe the blue-throated macaws' habitat is the los llanos de moxos, or according to some people, the Benny savanna, which I didn't know was a term people used for it until Wikipedia tried to sell it to me when I was trying to figure out how to pronounce los llanos de moxos. I was like, how do you pronounce the X? I'm "not somebody who speaks Spanish. Is it Spanish or Portuguese? I don't know. It's Spanish, it turns out. Because this is like a part of Bolivia. I'm not going to refer to it as the Benny Savannah, although you can find it by that name, but really it's the los llanos de moxos, which is a really distinct ecosystem type in Bolivia, which is kind of described as being this plains, which is sometimes flooded. So you know when I said that pure grasslands are pretty rare in South America? Some of the llanos in this little

region don't have a lot of trees because flooding pushes them back, not fire. And where there are trees, it's actually little islands of palms called Islas. And so these little islands of palm trees dot the plains. This bird, the blue-throated macaw, which is called Barba Azul in Spanish, is literally just bluebeard. I love that this bird is just a bluebeard. It's so good. It's a palm island specialist, which is very fascinating. Basically, it lives in these palm islands, it eats fruits from these palm islands, and it travels between these palm islands. And it is not a forest bird. It does not like forests. It lives on the plains and takes use of these islands. So this bird's entire range, which is not very big, it's an endangered species. There's an absurdly small number of birds. It's certainly under a thousand birds that exist in its natural range right now. Its entire range is within cattle ranches, basically. And this same habitat is also full of animals, like burrowing owls. Literally the same burrowing owls that migrate from North America live in these plains that the blue-throated macaw lives in. They just specialize in using different parts of it. And the burrowing owls hang out in the palm trees, too.

That's just what they do. So it's just a fascinating bird, and I'm really disappointed I couldn't find much more information about their ecology and that kind of bigger picture ecosystem stuff. But they really live in this unique, rare, specific ecosystem that is one of the most plains-like ecosystems in this part of South America. It's kind of amazing. And it's considered so, I don't know, special to the people in Bolivia that it's been designated officially in 2014 as a natural patrimony of the country. So it's like a symbol in Bolivia. They love this bird.

Nicole - And what is a patrimony?

Rachel - Basically, being designated a patrimony of Bolivia means that it's been designated a cultural treasure. It's a symbol and an icon and a physical embodiment of cultural heritage for that region.

Nicole - Like kiwis for kiwis.

Rachel - Yeahh. And you know, the indigenous peoples have a really strong relationship with this bird, too. And I think, I say I think because there's also, I read about a lot of parrots recently. And this part I did not end up putting in my notes. But I believe the headdresses that a lot of indigenous peoples in that region would create and have created in the past were made with the feathers specifically from the blue-throated macaw. Like this is a significant bird for both indigenous and colonial culture. It's really important. And I say in the past because I believe that its current status has caused some kind of legislation to be passed in the area that says, you know, we're gonna pause harvesting the feathers even for native ceremonies right now just in order to protect the species and to make sure that we can preserve it. So that's the only reason it's not currently being used as far as I know. I don't mean to say that indigenous peoples don't live there or still currently find the bird significant to their culture and their arts.

So last but not least, there are parrots in Africa. And there's not a lot of parrots in Africa. They are very different from parrots in other parts of the world.

But some of these birds are well-known birds, so I couldn't leave them out. First of all, we have the Rüppell's parrot which is endemic to savannas with trees in southwestern Africa. They're a partially nomadic bird that lives in both savannas and pure grassland because down in southwestern Africa, there are some really pure grasslands without very many trees and some dry forests. And it really loves to eat acacia and baobabs, which means that acacia and baobab type forests in savannas are where they tend to hang out. Unfortunately, a large number of them are smuggled out of Namibia to be prized cage birds. So that sucks. I don't have much more information about them. That's all I know. Okay.

Rachel - And finally, lovebirds, which I'm going to be honest, having never been into lovebirds, I didn't even realize that there's a whole system of species, plus how birders like to battle about whether things should be designated as a subspecies. Yeah, no, it's a whole thing. But there's a lot of different lovebirds out there. And you know how I mentioned in the beginning that a lot of lovebirds will use Savannah, but they're not specialists?

Nicole - Yes.

Rachel - Two lovebirds are really, really specialized to grasslands. That is the masked lovebird and the black-winged lovebird. So in general, lovebirds have a really fragmented distribution across Africa, and some of those distributions are really closely associated with habitats. Like there's one that really likes riparian vegetation. And so the masked lovebird, which is a species of lovebird at the time of this recording, lives primarily in grasslands or lowland savannas. And so in this context, when they're saying grassland, what they mean is grasslands that don't have a lot of trees. So these guys can sometimes be found hanging out in woodlands if they have large numbers of baobab trees and acacias, because they like to eat those things. But they can travel in pretty small groups and flock in the hundreds as they travel in those little tiny groups. So they kind of like to travel in little tiny groups. Like, I guess, okay, sorry, let me rephrase this. So basically what I'm saying is like, you know how some flocks of birds from those huge murmurations and stuff? That's not what these parrots do. These parrots travel in a massive group, but they've got like their four or five little pals that have a murmuration within the big group, you know what I mean?

Nicole - Sure, sure, sure.

Rachel - Really cute little guys. And they do feed primarily on grass seeds in addition to those acacia and baobabs. So they just freaking love grasslands and are unfortunately therefore considered a pretty big crop pest because, you know, crops are mostly grass. That's a controversial point, but I'm gonna make it anyway.

Nicole - I mean, it's true.

Rachel - It is true. And like there's literally only one other significant ecosystem thing that I could find about them, which has nothing to do with grasslands, but I found it interesting. They're a considerable parasite vector. So like that's a huge role they play in the ecosystem for some



reason. Compared to other birds, including other lovebirds, these guys are 25% more likely to carry this really specific microsporidian parasite. And they spread it through fecal matter. So they're a cute little grassland parasite vector basically. Isn't that cute? I love it.

Nicole - It's something. I don't know about cute, but yeah.

Rachel - Yeah, no. Very cute. I should mention since we're talking about Africa now, that some of the plants they're feeding on are things that will be really familiar to a lot of us, like sorghum and millet. So just gonna throw that out there.

Nicole - Nice.

Rachel - So again, unfortunately, I don't have a lot of information about these African parrots, which I don't know if it's because I didn't try hard enough, or I just didn't find them as interesting. But the black... It's fine. The black-winged lovebird deserves an honorable mention, or at least like a mention, even though I don't have a lot of information about it, specifically because like the habitat descriptions were the most specific, except perhaps for the island-specific bluebeard parrots we just talked about, because they specifically like broadleaved tall grass savanna and acacia short grass savanna. So they have like really "specific habitat types that they use within the savanna, especially in lower altitudes of their range. Like they primarily use these really grassy savanna habitats because this kind of habitat is often produced through common types of habitat degradation in the area. Its population is actually increasing because people are basically creating new areas of suitable habitat for this bird. So a grassland parrot, love bird, that is doing pretty great.

Rachel - So that's a lot of parrots. Yes, it is. And there were a lot of things to talk about with these parrots. But, you know, kind of to wrap it up in like a more big picture perspective. I think here are the things that I learned when I was researching parrots in these ecosystems. The first one is that a lot of these guys are granivores. And a lot of them are actually feeding in a way that's surprisingly similar to grazing animals of certain types. Because some of them are even eating herbaceous matter. So I found that kind of fascinating. The other thing I noted is that in a lot of these savanna environments where they're feeding a lot on the trees, whether it's the fruit producing orchard like trees in South America or the acacia baobab trees in Africa, these guys are probably helping to spread these plants throughout those savannas. Because that's their primary source of food. So while they are definitely eating seeds of grasses, and I don't think that that's necessarily a significant way that those seeds spread, they're certainly helping the spread of trees in those savannas, which is a good thing because that is what makes a savanna a savanna.

Nicole - Yeah, that's true of any bird. Lots of birds eat fruits and stuff and seeds.

Rachel - Yeah, yeah. And I guess the other takeaway is that a lot of these birds are highly social, which does make them different from many of the other birds that live in these areas. Their social nature means that they're spending a lot of time chattering, a lot of time

communicating. And I imagine that this has at least some impact on the other bird communities, except in areas where these parrots are very quiet and shy. There were just a few of those in Australia that we talked about in the beginning. But for the most part, these guys are very noisy, constantly checking in with each other.

Nicole - They're prairie dogs of the sky.

Rachel - Oh my god, I was just gonna say that. And I was like, this is probably a bad take. If parrots are the prairie dogs of the sky in some of these areas, excavating prairie... excavating termite mounds, and things like that. You know, I don't know, maybe that's not a bad take. I also had the take that galahs were basically the brown-headed cowbirds of Australia, except only in the habitat you sense, not in the parasitizing sense. But what they lack in parasitism of bird nests, they make up for by being kind of aggro at people and other birds.

Nicole - Just being bright, obnoxiously pink and beautiful.

Rachel - Beautiful and very temperamental and angry. So yeah, it's a really interesting thing to think about because I had literally never taken the time to consider that there might be parrots that live in grasslands. That's just not ever how I thought about them. And I think this is, for South America in particular for me, kind of an eye-opening, I don't know, thought trail to go down. Because, you know, again, as a prairie biologist, I really don't think of suitable grassland habitat typically, or I haven't in the past, thought about good grassland habitat having anything to do with trees. And a lot of these grassland parrots are still associated with trees. And so, you know, it just, we have to shift our focus to include a lot of different types of grasslands in order to really understand what different animals are using them and how different that is from what's maybe normal in our areas.

Nicole - Yeah, for sure. Well, thank you, Rachel, for telling us all about grassland parrots. That's so fun. And it really is. It's not something that most people would think about is a parrot and a grassland. So awesome. Love it. And thank you, everyone, for listening to The Best Biome. As always, if you enjoyed this episode, please, please, please share it with a friend and consider leaving us a review on Podchaser, Apple Podcasts. It really helps us out a lot. Give us a follow on Facebook, Twitter, all that fun stuff. Send us some fan mail, no hate mail. Leave us a voice message, text. Like, there's tons of ways to get in touch with us, and we love hearing from you guys.

Rachel - You can send us hate mail if you want, though.

Nicole - That'd be kind of funny. It would be kind of funny.

Rachel - Yeah, only if it's hate mail that has, like, really high-quality, researched takes to destroy the bad takes that we have.

Nicole - Yes, absolutely. If you think that we did something, like, wrong in, like, the scientific sense, like, please call us out. Like, we are always willing to learn and adapt.

Rachel - Do you have very strong opinions against parrots being the prairie dogs of the sky?

Nicole - You're wrong.

Rachel - Tell us all about it, and we'll love you anyway. Yeah. We'll love you because of it.

Nicole - If you give us some love or some hate, we'll even give you a shout out, just like we did with our other people that gave us reviews. And we'll see you guys next week. Thanks! Byee.