



Our Hen House Podcast: Transcript for Episode 673, Interview with Peter Alagona

Mariann Sullivan: Welcome to Our Hen House, Peter.

Peter Alagona: Thank you so much for having me!

Mariann: I am thrilled to have you because, as most of my listeners know, the topic of urban wildlife is one that I just find so interesting, troubling, and just important. Because, as most people do, I love all those little animals hopping around, and it's one of the most moving things, I think, in all of our lives to see them and to care about them. But your book has really shifted, to some extent, the way I think about it, because I tend to think of urban wildlife as animals who are sort of making do with the disaster we have made of their world and they're just...well, not just getting by, some of the squirrels seem pretty happy, but they're just barely getting by in some ways.

But you frame this whole topic in a much more positive light and in many ways, you see a lot of these as animal success stories, don't you?

Peter: Mariann, you're right. I think that traditionally in conservation and conservation biology, people tend to look at urban areas as kind of agents of destruction. The expansion of cities as one of the major processes that is resulting in habitat loss and the decline of many species in ecosystems. I think that's the traditional way to look at it. And you know, it's certainly the way that I looked at it for many years during the first part of my career, where I was really focused on studying endangered species, in the American West primarily, but throughout The United States and elsewhere. And seeing the results of urban sprawl and urban development on native habitats and species.

But for this book I did try to focus on a different set of processes and to look at it in a different way. And I think that although for many species, and probably the majority of native species and many ecosystems, the expansion of human dominated areas, like cities and industrial farms, is very much a negative for them and represents a loss of habitat.

There're also a whole suite of others, for whom this presents some opportunities; and those others aren't just the ones we normally think about, like crows and pigeons and rats. They're also a variety of other species that have, in many ways, surprised conservationists and surprised ecologist by the degree of their adaptability and by the ways in which they've adjusted to living in these kinds environments. And so for this book, I wanted to focus on those stories and think about how some of those successes, if you want to put it that way, have happened and what really mean for thinking about cities going forward.

Mariann: Yeah. And there are some really surprising stories in here, but I want to start with the one that I mentioned, and that isn't so surprising.

An animal that we're all pretty used to, and that's the squirrel. You define them as the eastern gray squirrel. I guess that's what most of them are, or all of them, I don't know. But this story totally blew my mind. I had no idea that squirrels were gone from cities and they came back.

But can you just tell that story because I was astounded.

Peter: This is such a funny thing. When I was working on this book and thinking of the stories that I could tell to exemplify some of the ideas and trends that I wanted to write about, I had no idea that the squirrel story was going to be one of the ones that most resonated with readers.

But in the time since book has come out, over the last six months or so, as I've been talking to people, they bring up the squirrel story over and over again! It's so interesting to me that that is something that has resonated.

I think the reason is because we're so accustomed to seeing these animals in our urban areas, in our cities, that it seems almost unbelievable that they weren't there, but they weren't for a long time. And so I think the squirrel story actually tells us a lot about the history of American cities.

Early on, in the development of urban areas in North America...well, first of all, something really important to recognize is that in North America, European settlers tended to locate their cities, places that became the largest, most prosperous urban areas in some of the richest biological and ecological environments. There were really two reasons for that. One is that they were close to a lot of resources, including access for transportation, but also natural resources to harvest and then the second reason is that those were the sites of the biggest and most prosperous indigenous communities as well. So cities tended to sprout up there.

And so Los Angeles, New York, other places are, are examples, certainly, of that. But then pretty shortly after that, a lot of areas around cities were sort of cleared of a lot of their native wildlife, as people harvested resources, hunted animals, and cleared forests, for example for farms and other land uses.

And so early on in the history of cities, like New York and Philadelphia and Boston, they were surrounded by areas that had been deforested and developed as farms, and they had very few trees and no real official, at least public, parks. And so these were not areas that were conducive to animals like squirrels, which require forested habitats.

In addition, eastern gray squirrels, in particular, were hunted as pests, for food and also for their fur. And so these animals were hunted out of many of the eastern woodlands where they used to live and where they now live again. And so it wasn't really until the 19th century, when people started to bring them back and reintroduce them to some these areas, and also when people started to plant trees in cities and create parks and then plant trees in those parks and along thoroughfares that you started to get the kind of leafy urban environments that could actually support these reintroduced populations of squirrels.

And so all of the eastern grey squirrel who were our native species, they were lost in many of these areas for many decades and then were only brought back through reintroduction and also through tree planting programs and programs that established parks in our cities. And so this is a story, in part, about squirrels, but it's also a story in part about the development of American cities and the urban landscapes that we have today.

Mariann: I find that fascinating so I'm glad a lot of other people do too. And one of the points that you make is a lot of this, it's not just squirrels. I mean, one of the stories that really stuck in my mind was talking about the movie Bambi, which came out in 1942. I didn't realize it was quite that old. So it was quite a while ago. And kind of the theme was that those animals, and I think most of us remember who were all of the animals in Bambi. I mean, obviously deer, but also rabbits and other fairly common animals. Like at the time Bambi was made even, they weren't really that common.

And the whole theme of the movie was, “We have to disappear deeper into the forest to get away from it.” That's exactly the opposite of what they. They just decided to hang out with us and not because we did anything to encourage them, really. But just because a lot of other things that we did made the cities good places for them to thrive.

And most of this didn't happen because of human intervention. You mentioned squirrels were reintroduced, but I think that you also point out in the book that it also just happened kind of in spite of us because of other things we did that made habitat useful for them. Is that right?

Peter: Yeah, I think that that really is right.

So the story about Bambi is a really fun and fascinating one. We don't think of it as a World War 2 movie, but it really is in a lot of ways because it hits on a lot of themes that were very much of concern to people at that time, including the survival of the nuclear family, at a time when so many men were fighting abroad, and also women were working on the homefront. And so there are lots of themes in Bambi that are very much resonant in a social way, but in terms of the animals themselves, you're absolutely right. The most famous line of this movie is when the great Prince of the Forest, this regal buck, Bambi's father, says, "It is man, we must go deep into the forest." But in the years that followed, basically the entire cast of Bambi, and not just Whitetailed deer, but also, as you point out, owls and skunks and other animals that appear... rabbits...

Mariann: Yes, Thumper! I remember his name!

Peter: Exactly right!...started to show up in cities in a way that they hadn't in previous decades. So why did this happen? Well there are a couple reasons.

One reason that's really, really important is that in the 19th century, many of these species, and even going back further than that, many of these species had been driven to very low population levels through a combination of habitat loss, as we mentioned a few minutes ago, due to the loss of forest habitats, for example, and other natural habitats, meadows and others, but also unregulated hunting.

And so in the late 19th and early 20th centuries, as an effort to bring these species back, to try to provide sustainable resources for people to harvest, food resources, fur resources, and others, conservation measures were put into place in the rural areas that turned out to be really, really successful. These conservation measures were already starting to show a lot of results by the time Bambi was produced and released as a film in 1942.

So although the message of Bambi is to go deeper into the forest to avoid man, to seek out natural habitats, these creatures were, at that point, already proliferating in rural areas around cities in ways that eventually allowed them to

move into more urban areas over time and to colonize, for example, leafy suburbs that developed after World War 2.

And so this process of, on the one hand, implementing conservation measures in rural areas to try to recover species while at the same reforesting some areas, the abandonment of some farms, and then the planting of trees and other kind of leafy green verdant environments in cities enabled this all to happen. And so in a way, although Walt Disney tells these creatures to go deeper into the forest. Over the few decades after Bambi's release, they in some ways did the exact opposite thing and they went deeper into the city.

Mariann: Urban planners just didn't plan for animals, right? Like this all just happened because of the animals. They decided, certain animals decided cities were actually a good place to be. But at the same time, you point out, and I think this is a hugely important point, that urban environments can be good for the species, but can be pretty tough on the individuals.

And that's something that I think all of us would like to think about how to make better. Can you talk about that a little bit?

Peter: Yeah, sure. So, let me address that first point first because I think it's really important. The decision to plant trees, for example, in cities or to establish parks, those decisions we not made, those designs were not developed and implemented in order to bring wildlife back.

Those parks were established, those trees were planted, those campaigns were launched largely beginning in the mid 19th century as a way to try to make urban areas, Victorian cities, more livable, calmer, more conducive to civic life for people. Those were measures that were taken for people.

So when famous urban thinkers or landscape architects, like Frederick Law Olmsted, developed their plans for parks and parkways like Central Park and other areas. They were doing this not to create wildlife habitat, they were doing it really to create human habitat, to make these places more livable for people. It turned out that much later, these animals returned to cities or came to cities for the first time, in part, because of the habitats that have been created because those programs, which were really designed for people.

There's another element of this story that's really important, and maybe of great interest to your listeners here, which is that during the 18th and 19th centuries, cities in the United States and Europe had a lot of animals. They were just domesticated and feral animals. So cities, Victorian cities, in The United States

for example early Victorian cities, and in Europe, have lots of horses and pigs, and cows, other kinds of domesticated animals, as well as lots of feral or semi-feral dogs and cats and other sorts of domesticated creatures. These were moved out of cities during the late Victorian era in the late 19th and early twentieth centuries, largely into more rural areas with farmed animals, or into people's homes and under their control more, through things like leash laws, for example, for dogs and the establishment of groups that would, for example, try to bring cats and dogs off the streets and into homes so that they could be adopted. And so there's this great transformation that went on from cities that were dominated by domesticated and feral animals to cities that had very few animals in them at all really, to cities that then were recolonized by wild creatures.

And so that's a really important kinda historical trajectory that is worth remembering when we think about what enabled some creatures to come back to cities in the 20th century, some wild creatures. But this other point that you make I think is also crucially important, which is that cities often provide a glut of resources.

They provide water year round, which is particularly important in arid regions like where I live in Southern California where there's very little standing water out in the environment. They provide lots of different kinds of foods. They provide shelter. Cities are relatively warm during the winter compared to other outlying areas because of the urban heat island effect. They tend to be a little bit wetter, not just because of irrigation, but because they tend to get a little bit more rain from cloud seeding from dust that's in the atmosphere when storms come in. And so cities create these environments that are in some ways more conducive for animals to succeed in terms of their population. So to procreate more, to be more fertile.

But just because populations are more fertile, they're reproducing at a greater rate, doesn't mean that life is easier for individual animals. So take an example like black bears, which have colonized many, not only mountain towns, but the peripheries of cities throughout much of the country now, which has been a surprise to many people, over the last several decades. Black bears do really well around cities as a population because they tend to be able to access resources that people provide in those areas, such as water and food, but individual black bears tend to get in trouble and tend to die at younger ages in urban areas, in part because, for example, they're exposed to toxins in the environment. They're exposed to diseases from being close to one another, but also things that they can get from some of the food they're eating. And of course, they're exposed to injury or even death from being hit by cars on roads, which is a major source of mortality for bears surrounding urban areas.

Although the populations of these animals might be quite large, individual creatures often are experiencing a much greater risk of disease or death at a younger age in these urban environments. And so this is something that's really the subject of a lot of research right now and ecologists and wildlife biologists are still really understanding as to how we can get a better understanding of what these creatures are doing.

Mariann: Seems like there's enormous work to be done but also the thing I really like about this perspective is- there probably are things we can do to make their lives easier. Like now that we recognize that they belong, we're not supposed to get rid of them, we're supposed to learn to live with them. Or at least that's the goal.

You mentioned black bears and one of the sources of injury that you didn't mention, but I live in New York State, which is near New Jersey, and the Black Bear Hunt every year is huge cause. And they get hunted. And the other animal you mentioned were, what you call in California, pumas, but I think most of the country either calls them cougars or mountain lions, but they're all the same animal. I understand these animals are, particularly pumas, but also black bear, potentially dangerous. So where does that line get drawn when these animals are able to come into city, or at least suburban, habitats and is there a way to live with them?

Peter: So traditionally, in wildlife management, the way to manage populations of animals is do it through habitat conservation and also hunting, if you establish an animal as a game population then you can, in theory, manage that game population, in part by releasing hunting tags and a number of animals can be taken during the season.

This approach has proven increasingly controversial, in some areas and for some species, including bears. It's not as controversial, for example, in some places as others. So it's not as controversial to hunt black bears in Alaska as it is in New Jersey, even though New Jersey has a higher density of black bears.

But also, in addition, some of those traditional approaches like releasing hunting tags don't really work very well in urbanized regions where hunting is really not feasible. You know, many cities, most cities have laws against discharging firearms within their boundaries. It can be quite dangerous. Bowhunting is another thing that people do that can be done in urban areas, but is also quite dangerous because it usually does not result in the immediate death of an animal. So then you have a creature that is wounded, scared running around in a potentially populated area. And so some of the traditional tools of wildlife management that were really designed to manage populations as a whole in

rural areas are proving not very well-suited to managing populations, or also animals that people see as individuals that they know individually, in more populated urban areas.

So that's a really important thing to note and it's going to require wildlife managers, scientists, ecologists to think pretty differently about these creatures in those places in the future. The issue of co-existence is incredibly important because conservation can only go so far. We need to think about living, in terms of hunting and other kinds of management approaches but we also need to think about just how we can better live with these creatures in our midst. People in general really like bears, for a lot of different reasons. People have pretty positive views of them, but not everybody wants bears in their backyard, right? It can be problematic, it can be inconvenient, it can be dangerous, right?

Mariann: Right. They're a little scary.

Peter: If hunting is not as much of an option, and people don't want bears generally to be removed from neighborhoods lethally, then the best thing that we can do is to really come together and think about how we're managing our urban habitats.

Are we managing urban areas a community in a way that's drawing these creatures in? And if we're doing that then what are some of the things we can do maybe to prevent that? So are we allowing them to get at our trash cans? If we're doing that, then we might want to think as communities, which many communities are doing now, about providing better food storage options and better waste storage options for people in areas where black bears are common.

And so this is a measure to protect communities against the threat of potentially having these animals around, which could be dangerous. Rarely is actually, but could be under certain unusual circumstances. But even more to protect the bears. Most of the bears who die, 80% of the grizzly bears that die in the lower 48 United States are killed by people.

People very rarely get attacked by grizzly bears, even though you hear about that in the news every single time it happens. And so the risks are disproportionate here. Really what we're talking about is largely protecting these animals, that's really what coexistence is about and doing that might require us to think differently about the habitats that we live in and the ones that we share.

Mariann: I thought it was interesting how you pointed out, particularly for black bears, a lot of those lessons can be taken and are hopefully being learned from what happened in the parks, the national parks, where bears used to be enticed with human food as a source of entertainment and then people kind of figured out this was all a bad idea.

Takes us a long time, doesn't it, to figure out how badly we're dealing with animals. But those lessons are kind of now being imported into trying to manage suburban bears.

Peter: It does. And you know, if you look at a place like Yosemite, if you look at the history of that place, during the years when people were feeding bears, when the park was feeding bears as tourist attraction, this resulted in a tremendous number of conflicts so that by the 1980s and 90s, you had bears all over the place raiding cabins, ripping the doors off of cars, stealing coolers, doing all this stuff. Doing the things that people had basically trained them to do over the years. And it took a long time for those parks to really walk that back.

But through investments in things like law enforcement, education, proper food storage, these sorts of investments, those parks, parks like Yosemite were able to really bring that under control so that the number of bear related conflicts in Yosemite National Park has declined, last I heard, last I checked, by more than 99% since they're high in the 1990s. And so this shows that these things can be done. Bears can be trained to go for food. Bears that are trained to go for food can rarely be untrained but new generations of bears that come along don't have to fall into that same trap.

A fed bear is oftentimes a dead bear. This is something that you see in the parks, this is the message that's going out. If people in communities that increasingly have black bears want to be able to live with them, the best thing that they can do is prevent them from getting into human food. That is a way of managing our shared habitat.

Let me say one other thing. We often focus on animals like bears and pumas, the ones that we perceive as being dangerous to us, as potential threats in shared habitats.

The truth is that bears very rarely get into direct physical conflicts with people. It's extraordinarily rare. And pumas even less so, right? Extremely, extremely rare. As a matter of fact, pumas, mountain lions, cougars, they go by many names, avoid people like the plague, pretty much. They try to stay as far away from us as they can, and as a matter of fact, although this may be hard for folks to

wrap their minds around, there is a small but increasing body of research that suggests that in many communities having mountain lions around makes you safer.

How does that happen? Think of communities like in the northeastern portion of the United States where there used to be cougars, cougars/mountain lions were driven out decades ago, but now we have very large populations of whitetail deer. Whitetail deer are extremely dangerous to people in many communities because of the number of car accidents that are associated with these animals that are threats to people's property, and also sometimes physical threats or even threats to their lives.

Mountain lions, in many areas of North America, are specialist hunters. They eat primarily deer. In California about 90% of mountain lions' diet, 90% of their nutrition or more, comes from deer. There have been studies, modeling studies, that have looked at a variety of different factors related to this and have come up with the conclusion that in many cases, especially in areas where there are large population of deer, having more mountain lions around reduces the risks associated with having wildlife overall in those communities. Again, this is a hard thing for folks to wrap their minds around, but we're starting to learn that living with some of these top predators actually can make us safer and can make our communities healthier. Can reduce prevalence of car accidents, can reduce the prevalence even of diseases, as well.

Mariann: I'm a little nervous to ask this because I don't think this was in the book. We might be treading into territory that gets a little emotional, but I'm going to ask it anyway. A lot of the arguments for hunting of whitetail deer really focus on, "Well, there are no predators anymore, so we have to take the place of those predators."

And it doesn't seem to have worked one iota because hunting does not control the population of whitetail deer. And I'll just mention for my listeners, that I recognize that all of this is a tragedy and I would like to see whitetail deer live out their lives happily. But we have to face the fact, sometimes, that we live on a planet that is a fucking tragedy, in so many ways.

Beautiful, but tragic in so many ways for so many animals. All right, I'm really digressing now, but to get back to my question- is that a legitimate argument in favor of hunting? Because it certainly doesn't seem to do the job that predators do in having a balanced population. Because there's lots of hunting, but there's also like huge, huge populations of whitetail deer that have grown since I was a kid. I mean, I'm pretty old, but when I was a kid, Canada geese flew over twice

a year and it was really exciting and maybe once in your life you saw a deer, it really has happened in a fairly short amount of time.

So anyway, that was a confusing question, but can you figure it out and address it anyway?

Peter: Yeah. So hunting is often presented as a way of managing populations and in the past it has been effectively to do so, to create sustainable populations that people can live with and that also provide that animal population as a resource. Traditionally, wildlife managers going back to the 1930s have tried to frame wildlife populations as resources, like trees, for example, that can be harvested, and that should be maintained at sustainable populations.

That view has come under increasing strain in some parts of the United States for a variety of reasons. One is that the number of hunters has pretty much flatlined over time while the population has gone way up, which means that there are a lot of demands for conservation that are not being supplied simply by the revenue generated by hunting.

The urbanization of the population and the fact that there are so many creatures in urban areas, as I said before, hunting is not really a viable solution there. Changing attitudes about hunting, particularly for animals like bears, has really challenged some of the traditional approaches, and then even within the agencies themselves, new generations of people are looking at these issues very differently.

It's not the old traditional kind of hook and bullet approach to conservation that existed back in the day. This varies from state to state. These policies are generally set at the state level, and so in a place like New Jersey, the conversation is different, than even in a place next door like Pennsylvania, about these issues and so varies from place to place. I guess one thing I'll say is that over time I see a trend in moving away from thinking of animals, wild animal populations simply as resources to be harvested for the benefit or enjoyment of people, to providing a much wider range of benefits for people, for ecosystems, and for themselves, and so that is process that has been going on now for at least a couple of, or a few generations, and I think will continue in the future. The question is, as that process moves forward, as people start to think about these creatures differently, then what are the different approaches that we need to put place in order to live with them.

I think one approach, that we mentioned a few minutes ago, is thinking more seriously about how we manage our own habitats so that we can live with these

creatures, so that we're not creating artificially large populations of black bears, for example, that then result in a lot of harm to individual bears within those populations. I think that the restoration, the so called rewilding of lost species, including top carnivores, top predators, in many ecosystems is absolutely essential. People can live with these creatures and actually get a bunch of benefits from living with these creatures if we bring them back to our communities in thoughtful ways over time and adjust to that. One of the other projects that I'm working on, my main project right now actually, in addition to this urban wildlife work, is thinking about bringing brown bears, bringing grizzlies back to California.

They've been extinct here, considered extinct, for almost a century, about 98 or 99 years here in the state now, and it seems like this is something we could definitely do. We've reintroduced a lot of other species and it really turns out it's not impossible, as folks have been saying for a long time. It's really just a choice. And so having this conversation, moving in these directions, thinking about the benefits that these creatures can provide, I think's a direction that we're going, I think we're actually accelerating in that direction in many parts of the country, and I think it's something that's gonna provide a wide range of benefits. Including benefits to people who enjoy hunting these populations. Deer, for example, that really are doing what they like to do now in an environment that's incredibly artificial and not nearly as as interesting or (unintelligible) as it used to be. Hunting a whitetail deer that's sitting a suburban lawn, acting like a cow, to be perfectly honest, is not much of a challenge, and I think a lot of hunters recognize that it's not particularly fair or interesting and it doesn't particularly do a lot for the ecosystem.

Mariann: Well, there are those hunters and then there are the many other hunters who just like to go out and kill things. There's a wide range of viewpoints among hunters, as far as I can figure out.

I'm really heartened by the ideas that you're putting forward. I'm really glad to hear that this is happening. I just see whitetail deer, Canada Geese, as I mentioned, raccoons also, all these animals who get along well with us, like the animals that do well with us, we tend to start to hate them. We love the animals who we're driving to the edge of extinction or who are already gone.

Those are beloved. But the ones who get along well are not popular. You even pointed to one instance in a town, I think it was in Alaska, where bald eagles were considered pests, which, I guess any animal can be a pest if they do well enough around you. But you do see a shift to that mindset in the general public that these animals aren't being seen just as pests?

Peter: I was in Alaska last month and I heard a number of people call bald eagles a variety of names, including trash birds and other names, which is something that would be quite surprising to a lot of people who don't live in that part of the country. But it may be an increasing sentiment as bald eagle do very well now in large parts of the rest of the country outside of Alaska.

There was a great paper, peer-reviewed academic paper, published years ago on something like "the tragedy of becoming common," so it played on the tragedy of the commons idea. And it was talking about changing attitudes toward animal as they become more common in human dominated environments. What I would say is this- for creatures that are doing very well, perhaps inordinately well, in some human dominated environments, the idea that people have that they're somehow dirty, that they're somehow pests. That's an idea that is really kind of a projection. What these animals are doing is they're showing us things about ourselves and our society that we don't really care to see, and so we don't like them for doing that.

Several years ago there was this video that appeared on YouTube, pizza rat.

Mariann: Of course, yeah. I'm familiar with it.

Peter: Yeah. This viral thing. And it was a short video that someone took of a rat dragging a giant slice of extra thin New York pizza pie down a series of subway stairs. People think, "oh, this is gross, this is disgusting." But what's really happening there? This is an animal that's harvesting refuse left behind by people.

Mariann: And has very good taste. *both laugh*

Peter: That's right.

Mariann: That is a delicious piece of food.

Peter: *laughs* That's right. I mean, that's a nutrition bomb! I mean, that could feed a family of rats for a week. What we're saying is that there are things about humanity and human society that we don't like, that are manifesting in these animals, that these animal are revealing to us. And what's the response to that?

Well a lot of people's response is to punish the animals for it, I don't think that that's particularly fair. What I would rather see is us looking at what those animals are showing us and then changing the way that we act, the way that we treat our ecosystem, the way that we, for example, consume and dispose of food

in ways that would alter our ecosystem for the benefit of all, humans and non-humans alike.

I think that that is really the moral we need to go with.

Mariann: I love that idea. I hope we get there

Peter: Researchers have been looking over the last decade or so at what are some of the shared qualities that enable creatures from a variety of different taxonomic groups to succeed. There have been a lot of theories put forward, but some of those theories turn out to be not very useful, but some of them are starting to have some evidence associated with them over time.

If you look at creatures that do really well in urban environments, what we call urban exploiters, creatures that are very abundant in urban environments, they tend to have a few characteristics in common. Some of them are relatively long-lived, not all of them, but they tend to have cultures, in other words they learn lessons, they experiment with new things and then they teach their young. They care for their young and they teach their young these lessons. They tend to do relatively well around large numbers of their own species. They tend to be omnivores. There's an idea that they tend to be relatively large brained compared to other species within their same taxonomic group, which tends to be associated with omnivory and also experimentation and caring for young. So anyway, there are these suite characteristics. So if you add these all up together. Caring for young, being relatively comfortable around large numbers of your own group, being omnivores, being relatively large-brained. What does that sound like?

Mariann: Us?

Peter: Yeah. That sounds like us. We know that a lot people...

Mariann: Absolutely.

Peter: There are probably a lot of listeners out there that don't want to be told that they're a lot like rats or pigeons.

Mariann: Oh, my listeners would be fine with that. *laughs*

Peter: But there are reasons that we use rats as model organisms for biomedical research.

They do have some qualities that are similar to us, but they're just different enough that we feel like we can experiment on them. So what I'm saying here is that a lot of the creatures that do well in the habitats that we create actually have fundamental biological qualities that are surprisingly similar to ours.

Mariann: I like animals probably as much as anyone. I'm pretty high on that scale, but I don't want mice in my house and I don't want rats in my house. And on a much larger scale, there are animals that we have to do something about more. Maybe not everybody does, but most of us feel we have to do something about, but then there's enormous, as you point out, there's just such easy ways to control other quote/unquote pests.

Like, putting a good lid on your garbage can would be one good place to start, whether it's for bears or raccoons or whoever's bothering you. So what would you say are the most fundamental approaches to both the animals who we find it very hard to live with, and the animals who maybe we just need to make a few tweaks to our lives to get along with better. What's the range of solutions that people should be putting into place?

Peter: Honestly, I think that there's one overarching principle and then there are of different implementations of that. So the overarching principle is just to be thoughtful. You know, if you are fortunate enough to have a home, and you are thinking about landscaping your yard. How do you want to do that? If you're driving down a country road, do you really want to go 20 miles an hour over the speed limit, knowing that that's an area where animals cross back and forth? Or do you want to think about maybe going a little slower, the speed limit? Right? Just be thoughtful about what you do. I've been struggling a little bit in recent weeks because I have at least one mole in my garden. And I have this garden that I love and I'm proud of and that I cultivate. And now I have a mole in it. I've been advised to try to kill the mole, instead it turns out there are other approaches I can use by doing a little bit of research, that can probably maybe deter the mole, send the mole somewhere else, to some of the woodlands not too far my house, hopefully, as opposed to living in my garden.

So being thoughtful and really just kind thinking through what you're doing and thinking that so many things that we do in our daily lives actually have some consequences for the creatures we share our daily lives with and if we're kinda constantly thinking, "well oh, how might this affect the other beings that I'm sharing my habitat with?" then that's kind of the basic principle. But you know, in terms of implementation, I think that we can think about this on two different levels.

One level is the individual level, and the other is the community. On the individual level, things that I said like, how you drive, the kind of plants that you plant in your yard, the way you use water, these sorts of things as individual kind of decisions...the way you dispose of your food, all of things really matter on an individual level. But as individuals we can't just transform the habitat on our own, we need to do it as a community. I'm about to tell you something that may sound extremely boring, but is very, very, very important. In the United States, as a result of a long history, the way that we do land use planning is, in general, at the county level. We have something called county general plans, counties come together throughout the country, they develop general plans, and these general plans have a variety of different elements. There's a transportation element, a housing element, an education element, a parks and recreation element, maybe a flood control element. All of these are aspects of county general plans. County general plans get produced, in part, through input and participation by people who live in the community.

What I'm recommending for people who really want to get involved in this, is to start engaging in those processes in a way that gets people at each of those elements: housing, education, transportation, parks, flood control, to start thinking just a little bit more about wildlife, about habitat, and about cities as ecosystems. If we could start doing that, and this is a hard thing because counties are often stressed for resources, for time, for money.

The last thing they wanna do is to have to think about a whole bunch of other issues. But if as communities we can come together and start to say, you know, "How does this transportation plan affect wildlife in my community? How does this parks plan address issues having to do with habitat and habitat connectivity? If we can start to do a little bit more of that, then what we can do is start to move our cities to places from accidental ecosystems, which is what this book is about, to more intentional ecosystems.

What are the ecosystems that we want to produce? What do we want our cities to look like in the future? We can do a little bit of that as individuals, but a lot of it just comes down to participating in those local processes, those local planning processes that really will determine, sometimes in a very mundane way and over time, but really will determine the kinds of habitats we all live in in the future.

Mariann: That is such an excellent point, and it does really seem...I mean, your book was shocking to me and I read about animals a lot. But how cities really have become ecosystems, and I'm sure there's a lot of information that can be offered. I mean, I'm sure people are just really not thinking in these terms, but the minute you start thinking in these terms, it's obviously true!

Especially when you find out, as I started the interview off, that there didn't used to be any squirrels around and now there's squirrels everywhere, and so many other animals as well who are making cities their home.

I wish I could keep you longer, but we've gone a long time. But I'm going to end with one bigger picture question on the same thing. Is this particularly important in this era of climate devastation, when we really don't know what's going to happen to any of our ecosystems? It seems to me like preserving these habitats that our cities have become for animals who seem actually like they have the potential to make it through all of the things that we're doing to the world is particularly valuable. Do you see that as a...and of course you ended the book with discussing how animals kind of came alive during Covid and how that particular crisis showed how important these animals are and how many of them there are right in or right next to our cities.

Is climate another crisis coming that it makes it especially important to like, look at raccoons and remember a lot of other animals might not make it, so these animals are more important even than we realized? That was a another long question. I don't know. You inspire me to long questions...

Peter: There's so much good stuff there! In terms of Covid, it turns out that this flush, this proliferation of observations, of urban wildlife in the very early days of the pandemic, in the spring of 2020. Some of that turns out to have been true, wild animals were kind of doing different things in some cases. But a lot of it turns out to be people opening their eyes, and you know, sitting at home and looking out their windows, kind of bored to death or wondering what was going to happen next, and seeing things they hadn't really seen before, but that had been developing for decades.

And so that's part of the story of this book. And so opening our eyes, taking the time to do that is really one of the first steps here, I think. But to your larger point, I think that particularly in the United States, but in some other parts of the world as well, we have been schooled to believe that there are natural areas and then there are human or cultural areas. Cities are the areas that are the domains of people and culture, and then if we want to experience nature, we go to something like a national park or to a beautiful countryside, or a vacation area, something like that. I think that what this story says is that that distinction is not really valid, that nature is not just a place or a thing, it's a process. It's process that's all over I places most of us live. About 82% of Americans, according to the US census, now live in urban areas. Most of us live in some kind of a city or town. But these cities and towns are becoming much more recognizable as ecosystems, as time progresses. And so what I would say is that this story about urban ecosystems is in no way an attempt to draw attention from the crucial job

of protecting more natural areas like national parks and wilderness areas and these other sorts of places that are absolutely essential for wildlife, for ecosystems, for climate change resilience, and for people as well. But what is is a call to represent or to understand the places that we often represent as not being nature, as actually being ecosystems too.

And so cities, I think, should be added to that understanding of the natural world. Added to our definition of habitat, should be studied in depth, and we should really be thinking about managing urban ecosystems for their improvement in the same way we think about managing national parks and wilderness areas to maintain those special places as sites where can go to and experience other forms of wild nature.

I think that cities are refuges for some creatures, but they're also the essential habitats for the majority of humanity, and I think that we need to start thinking of them as such. If we can do that, then we can move towards greener, cleaner and more sustainable habitats. And hopefully ones that are more just for a diversity of humans, as well.

Mariann: That's a really fine place to leave this conversation. It could go on for quite a while because we still haven't talked about coyotes, or bats, or all of the exotic animals floating around Florida. All of these stories were so interesting, so many interesting stories. It's *The Accidental Ecosystem: People and Wildlife in American Cities* by Peter Alagona.

Thanks so much for joining us today, Peter.

Peter: It's been a real pleasure. Thank you.