

# Predators on a Small Farm

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## SUMMARY KEYWORDS

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## SPEAKERS

Christa Hartsook, Adam Janke

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**C** Christa Hartsook 00:15  
Hello, and welcome to the small farms podcast, a production of the small farms program at Iowa State University, Extension and Outreach. Our podcast covers the opportunities and challenges associated with rural life. In this episode, I interview Adam Janke, Iowa State University Extension and Outreach wildlife specialist. And we're talking about predators. I'm Christa Hartsook, small farms program coordinator, and we hope you enjoy the show. Adam, welcome. Thanks for being back.

**A** Adam Janke 00:43  
Thanks for having me.

**C** Christa Hartsook 00:44  
It's always good to be here. So we're talking about a challenging topic today. Predators are not always portrayed very well.

**A** Adam Janke 00:51  
That's right.

**C** Christa Hartsook 00:52  
You want to explain a little bit?

**A** Adam Janke 00:53

Sure, we have a long history with predators, we being people, of course, we've basically spent our entire history trying to avoid predators just like every organism. Every organism is engaged in two battles, the battle to survive and the battle to reproduce. And when it comes to predators, those are of course, the thing factoring into whether or not you survive to reproduce. So yeah, there's lots of history, lots of human history, lots of misconceptions, and well, well held conceptions about what predators mean or don't mean, they interact with agricultural production, they interact with, you know, game management, and things like that. And so they do factor in they even interact with how we let our dogs off the leash, or our cats go outside and things like that. I mean, we're always, it's just sort of a reality of life for for every organism. Predation is just a reality. So.

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Christa Hartsook 01:53

So Adam, maybe we should start by defining a predator.

A

Adam Janke 01:57

Yeah. So because everything eats something, right. Anything is a predator. So to make the ultimate point, we could talk about a monarch butterfly larvae being a predator of milkweed. Sure, and the milkweed, doesn't like the monarch, of course, and the monarch in the milkweed, the monarch are in a centuries long 1000s of year long battle with one another about predation. So that's, so everything's a predator, because everything has to eat. But when we say predator, we of course mean things up, the higher in the trophic levels, traditionally, think of a food pyramid that we maybe learned in ecology, 101, or freshman biology. And at the top of that is the apex predator, the thing that's doing the majority of the eating or getting all of its calories from animal life that's been eating plants say. So, typically, when we're talking about predators, then we we start with those apex predators, things like eagles and many other raptors or birds of prey, coyotes, mountain lions, wolves, things like that. And then people often think a lot of times about predators. Also, at maybe a little bit more of an intermediate trophic level, we call those like Mizo. Carnivores say things that are in the middle in terms of what they eat. And those are like raccoons and skunks, possums, crows, other things that like to eat kind of right in the middle. They're a little more omnivorous, and their diets, but yeah, so lots of things are predators. Those are the ones that we tend to think the most about, though.

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Christa Hartsook 03:38

Sure. So Adam, let's talk a little bit about impacts that predators might have.

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Adam Janke 03:43

Yeah, so, of course, because everything's always eating, there's a perception that there are, of course, negative consequences they have of impact. So when you're talking about an impact of a predator, it really depends on what the prey at hand is. So for example, if it's a cow calf operation, and one calf gets eaten by a predator, say, a mountain lion, in the West, or even a coyote here in Iowa, that's a negative impact or that's a consequence of predation. That's much more obvious, because the one removal of a calf in this case is an impact on the bottom line.

That's a loss to your production and other things. So that's, that's a really clear impact. Where it gets a lot more challenging is when we talk about what the impact of predators are on, like wildlife populations say, and this is a subject of course, that there have been volumes of books written 1000s of PhD dissertations on this subject and other things and this is predation is complicated things and what I think understanding the way predators impact wildlife populations, it's important to acknowledge a fundamental fact of predation or a fundamental consideration with predation. That was pioneered actually here at Iowa State by a guy named Paul Arrington. He was a wildlife biologist, and he spent his career studying how predators impact game Populum. His most famous quote is to never confuse the fact of predation with the effect of predation. So we can break that down that the fact of prediction is that everything needs, right, I keep coming back to that. And that's the fact that prediction, in everything dies. And so game popula, game animals or wildlife just in general, will always be succumbing to various mortality factors, one of them being predators. And so that's the fact of predation. Predation happens, the effect of predation is much more complicated and nuanced. And that is because so many things do impact the ability of a game population or an animal to survive. And so this is where we get into some really interesting ecology and biology that again, Paul Arrington and then a lot of people since Paul Arrington have spent their careers researching. And we find really interesting things. For example, there's a concept called compensation. And compensation basically means that the removal of one animal from a population to predation or actually to hunting, it's the same theory that underlies both, does not necessarily result in the reduction of that population by one animal, in say, the next growing season. And that's because the removal of one say ringneck pheasant in November by a hunter or by a raptor say, removes one mouth off the landscape that's no longer competing with all the remaining pheasants. That's true, better out there. And so by the removal of some of those animals, you may actually see an increased probability for the remaining animals to survive. Okay, so that's what we call compensation, okay. And so a population can actually benefit from having a few animals thinning the herd, so to speak, through predation or through hunting. And so if we understand how compensation plays out in the population, then it becomes much more challenging to understand what the effect of predation is to go back to Arrington's quote. So we know animals are eating animals. But whether or not the consumption of an animal by say a coyote or a red tail hawk, is having an impact on that population requires a lot more close examination to know how many of the animals are being eaten. And then what happens to the remaining individuals. So it's complicated stuff.

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Christa Hartsook 07:55

It's very complicated stuff, I get a sense that you could spend a lifetime studying.

A

Adam Janke 08:00

You could and and that's good. I mean, that's what's fun about the natural world is that there's so many interesting things going on. And then of course, you know, there's like, I think it's a John Muir. If you pull on one string, you learn everything is attached. I think he's credited with that, or some environmental author. And that's, that's the truth. If you if you move one thing in the natural world, all sorts of other things will be impacted through ripple ripple effects. And that's definitely the case of predation. And so I guess to take it on head first is what is the impact of say a coyote on Iowa's pheasant population. Because I can't tell you how many talks I've given on pheasant habitat or quail habitat management or deer habitat management. And

at the end of talking about all the challenges we face with restoring grasslands, or maintaining diversity, or fighting invasive species and the other important things were engaged in, in wildlife management in Iowa, I get a question. Well, I think it's just the coyotes. And that's a fair observation. What I say of coyotes and red tail hawks are the same way as they're their own worst enemy, because they're really conspicuous. If you live in the country, you know when there's coyotes around, because they announced their presence nightly, they do it in the mornings and other things. And so we're very aware of the presence of coyotes. We're also very well aware of the presence of red tail hawks, because they're pretty content to just sit out in the wide open on hay bales and telephone lines and the like, because nothing is trying to eat them. And so we are very aware of these predators in our landscapes and so there's a tendency to attribute maybe more to them than they are capable of doing. I always say of coyotes it is possible that one coyote or a family group of coyotes could be having an impact on one farm. If they say, really figured out how to eat pheasants on your farm, yep, the vast majority of coyotes are scavenging. They're eating fruits during the summer. They're eating small mammals and rabbits and things like that. And they don't want to spend their time chasing a thing that can fly away from them. And so there really isn't. It's it would be a rare exception where coyotes are having an impact. And as you scaled up into the state, they're just coyotes are really near the bottom of my list of things to worry about for pheasants. Now, that's not to downplay some interesting things that do go on. You know, we talk about, there's maybe more raccoons in many landscapes today than there would have been historically because raccoons are generalist and like these broken up fragments, and they like our barn lots and things like that. Maybe raccoons are finding more northern Bobwhite nests than normal. But that's, that's probably not even that consequential either. The vast majority of population dynamics, the things driving increases, or decreases in Iowa's game populations and wildlife populations are driven by weather. Things completely out of our controls, and then the availability and quality of habitat. That's where I spend my time worrying.

**C** Christa Hartsook 11:23

Absolutely. So, Adam, you have to expect them that you'll get these kinds of questions to where someone will ask how do we then help manage, say, a predator population? Or should we be managing?

**A** Adam Janke 11:37

Right, so what I say to that is, you know, your farm the best. Now, for livestock producers, we started this talking like, if you've got a fox that's figured out how to get in the chicken coop,

**C** Christa Hartsook 11:53

you got a problem,

**A** Adam Janke 11:54

you've got a problem, right? Because that's a one to one, there's no, having fewer chickens is not going to do you any good. Maybe it's going to lower your your costs for the year, but I don't think it's going to do much good. You're setting that. And so that's a one to one relationship

think it's going to do much good. You're setting that. And so that's a one to one relationship. And so, yeah, so there's, there's a case for predator control. Now, the easiest way to control a predator is to change human behavior. Because humans are a lot, it's a lot easier for us to change our behavior than to rationalize with, with wild animals. And so if we can figure out a way to keep the fox out of the, the chicken coop, or if we can figure out a way to, you know, pick calving grounds that are safer, or put a livestock protection dog out in the pasture, like stuff like that. It's good, fences and the like. But then also, if you have, if there's a coyote, that's just figured out how to find a lamb, or a kid or something, you know, something that coyotes getting, then you might want to go to direct control, because it's probably that animal is specialized, essentially in figuring it out. And it's probably going to be a problem for a while. Now, of course, it's always important to note, wildlife are afforded a lot of protections under Iowa State law. And so you always want to make sure that what you have in mind is legal, right and humane. But then direct control is a real option. When it comes to managing predators. In the wild for wildlife, the best way to manage predators is to manage their interaction with prey through habitat management. Okay. So rather than thinking of a way to reduce the number of safe foxes, finding cubbies of Bobwhites, during the winter, it's much more impactful and has a longer term impact to focus on providing those cubbies of bobwhites protective cover, near food sources. That they can escape from the foxes themselves. Essentially allowing the wildlife to help themselves.

**C** Christa Hartsook 14:01

Enabling that natural behavior.

**A** Adam Janke 14:02

That's right. Yeah. So we always say the best predator management is habitat management. Business about direct control of predators. Now, that's not to say if you want to trap for, you know, sport or for fur harvest, or whatever, that's great. And I definitely don't discourage people from doing that. And if that's what their passion is their outdoor recreation, but I always just say, don't do that stuff in the name of wildlife management. Plan, a food plot, diversify, stay at a grass, establish shrubby cover for pheasants and quail during the wintertime, things like that can really have a much better longer term impact on wildlife populations.

**C** Christa Hartsook 14:43

Okay, that makes sense. Yeah. Adam, what other things do we need to talk about in terms of predators? I'm sure there's a lot we could fill three podcasts.

**A** Adam Janke 14:51

Yeah, we sure could. Well, like I said, there's these volumes written. What I guess one thought is I've spent a lot of times time thinking about the mammalian predators. You've since my bias there just because I think that's where a lot of our frustrations are focused. But it would be fun to talk about all the other things that eat the species we like and so I have a bias I'm most interested in pheasants and quail, that's what I do some of my research and and I happen to like those two birds, and so the things that eat pheasant and quail. Now during the, as the birds

are adults say like during the winter, particularly, the vast majority of predation of a bobwhite is coming probably from birds, actually from hawks, probably very little owl predation of bobwhites. But two species of hawk sharp shinned hawks and Cooper's hawks specialize in capturing birds of different sizes, and they're pretty good at capturing bobwhites. And, of course, those are protected by federal law. And so we can't do any direct control there and that's why habitat management makes a difference. Foxes will eat pheasants and quail to a lesser extent, and then coyotes even less than that. Coyotes just don't spend much time chasing pheasants and quail during the winter. During the summer time when pheasants and quail are nesting, we spend a lot of time thinking about how vulnerable the hens are on the nest and then how vulnerable the eggs are. When I say of egg predation, nothing passes up the opportunity to eat an egg. Sure, I wouldn't pass up the opportunity to eat an egg and I doubt you would too. And so we find nests predators are everything from ground squirrels, to snakes, to blue jays and crows, raccoons, possums, skunks, house, cats too. Pretty much anything a nest. And so the strategy that pheasants and quail have used essentially, it's just to have a lot of nests. So if one fails, I just have another one. So anyway, that's, that's kind of fun to think about that. And then of course, once we know that there's so many different animals out there trying to eat other animals, that helps us understand how it is that we can sort of protect them Sure, by doing habitat management or thinking about when they may be exposed and what makes them vulnerable. So

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Christa Hartsook 17:09

I would imagine, Adam, that one thing that we could do to help with some of that nest predation, things like that is to maybe help delay a little bit our early haying seasons Sure, yeah, if we're out on a small farm.

A

Adam Janke 17:21

you're, if you're interested in pheasant quail production, we do say the longer you can stay off the mower, the better. So now, if you're cutting alfalfa, or if you're cutting hay, that's one thing. But one thing I always like to say is, if it's just recreational mowing if you're just mowing it because you don't have anything else to do with it, stay off the mower until August 1, that's best case scenario, almost all of the nests have hatched by then. All the nests that are going to survive have definitely hatched by then. And then many of the young are able to get away from the equipment. If you're in an alfalfa field or in a hay field, know that the longer you can wait, the better for the birds, though, there's of course going to be forage trade offs. So do what's right for your operation. But other things you can do to help would be going relatively slow. So don't cut the hay as fast as the tractor will go over as fast as the, you know, baler works. Try to go a little bit slower, that'll let things get away. That's nesting birds of all stripes, but also deer fawns and other things that are out in the grasslands. going slow, and then also not doing in the dark, right? Because lots of times those animals are on the nest for the night. Yep. And they're much less likely to flush in the dark. And so doing it during the daytime at a relatively slow pace can do a lot of good for at least saving the adults. It probably won't save many nests, but it'll save the adults and they can renest, so.

C

Christa Hartsook 18:50

Absolutely.

A Adam Janke 18:51  
It's a good question.

C Christa Hartsook 18:52  
Anything else Adam that we should talk about?

A Adam Janke 18:54  
I don't know. I don't think I have anything else. I think like, like you said we could spend all day talking about this predation stuff. It is it's really interesting. But I think we hit on the the main talking points that I would want to hit on.

C Christa Hartsook 19:07  
Okay. If they're looking for more information, I'm sure they can come to your wildlife page.

A Adam Janke 19:12  
Yeah, that's right. So we're always trying to develop new resources on there. And we also of course, I occasionally write for the small farms newsletter that we put out so we, they can find stuff there and and then of course Iowa DNR and others have really nice resources on understanding wildlife biology and wildlife nesting and other things we've talked about today.

C Christa Hartsook 19:35  
Okay. Thanks so much for being on and we appreciate it. Thanks for having me.