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.

Olivia Hanlon 00:29
In this episode, I visit with Adam Janke, wildlife Extension Program Specialist at Iowa State University. And today we're talking about deer. I'm Olivia Hanlon, farm food and Enterprise Development Extension Education Specialist and we hope you enjoy the show. Adam, welcome and thanks for being on the show.

Adam Janke 00:46
Yeah, thanks for having me.

Olivia Hanlon 00:48
So today we're talking about deer Adam, how is the population doing overall?

Adam Janke 00:54
Iowas whitetail deer populations doing quite well. And it has for a long time. You know, of course, there was once no whitetail deer in Iowa, that was in the early 1900s, when they had been extirpated from the state through unregulated harvest and habitat loss. And today, we estimate there's between 400-500,000 deer in the state in that annually sustains a harvest of around 100 to 120,000 deer, and that's pretty consistent with the Iowa DNR ours population
goals in seems pretty consistent with what we call the cultural carrying capacity, just the tolerance of people for the amount of deer on the landscape. So yeah, we're doing quite well, I think,

Olivia Hanlon 01:35
well, that is good to hear. I myself did not know that we didn't have deer back in the 1900s. So that's a good fact.

Adam Janke 01:41
Yeah, yeah, that's true of lots of wildlife. And in Iowa and across North America, there was a pretty grim time associated with the industrial revolution where we lost a lot of species that fortunately, thanks to the hard work of a bunch of Iowans, we've got them all back. Well, not we don't have them all back, but we have many of them back. And we can enjoy them like whitetail deer.

Olivia Hanlon 02:02
Absolutely. That's wonderful. So one of the things that helps with that population is landowners managing deer throughout harvest time. So how exactly does that work? How should our landowners be working on managing those deer?

Adam Janke 02:17
Yeah, so what we mean with harvest in this case is the harvest of deer themselves. Not to confuse with what you often talk about other podcasts, like the harvest of the crops and other things. It's so this is something that we think, you know, it's an important responsibility of land ownership or having control over land is to be mindful that deer don't have a lot of natural predators in Iowa and their populations also aren't constrained necessarily by many of the typical habitat constraints that we may expect with a deer population like food or water, or shelter just because Iowa's climate and agriculture is so hospitable to deer. So we could have a lot of deer if they went entirely unmanaged. And so people who own forested acres, especially large properties of timber acres, or intersperse timber and farm fields, do have a responsibility as a landowner to make sure that they're mindful of their deer population and allowing, ideally, the neighbor or your friend down the street or allowing people to harvest those deer to manage the populations at a level that's appropriate for surrounding neighbors and their agricultural enterprises. Or as we're going to talk about in the show, it's really important in addressing concerns that we have about a number of diseases that tend to spread in higher density areas, and especially one particularly challenging disease that we're going to talk about called Chronic Wasting Disease.

Olivia Hanlon 03:51
Absolutely. So that disease you were talking about is another big influence on our deer population. Do we see Chronic Wasting Disease here in Iowa?
population. Do we see Chronic Wasting Disease here in Iowa?

Adam Janke 04:01
Yeah, it's a good question. It's more of a threat to our deer population. It's not quite yet affecting them, especially statewide. But yes, we find Chronic Wasting Disease in Iowa. We have had this for a little while now. And today, we find it in eight counties in Iowa, almost exclusively border counties in mostly in northeastern Iowa, but also Woodbury County and also a few in southern Iowa. And the concern that we have is that once it's in a population, it's almost impossible to get rid of it. And so it's going to be here to stay in what we want to do right now to steal a word that we've certainly heard a lot of in 2020 is slow the spread. We really want to slow the spread of chronic wasting disease because no matter where it enters into the population, it complicates deer management, it complicates deer heart This in in the long term, it's certainly not going to be good for Iowa's deer populations.

Olivia Hanlon 05:04
So when we're looking at chronic wasting disease, what causes this?

Adam Janke 05:10
Yeah, that's a good question and I should have started there but thanks for the question. We'll go there. Now. Chronic Wasting Disease or CWD is a neurological disease in the family of diseases called transmissible spongiform Encephalopathies.

Olivia Hanlon 05:24
That's mouthful.

Adam Janke 05:25
It is a mouthful. So TSE for short, transmissible Spongiform Encephalopathy TSE, that's the same thing as like scrapie that affects sheep in a human disease called Creutzfeldt Jakob disease and some other mad cow disease, for example, was a TSE. A transmissible spongiform encephalopathy, that TSE those three big words that I keep saying those are transmissible just means it can be transmitted among sick individuals. That's you know, that's part of the word spongiform is like a nod to the fact that it creates this like spongy structure in the brain eventually, like that's how it becomes terminal. And then encephalopathy is just a disease of the brain. And so the chronic wasting disease and other TSE's affect the central nervous system. And in the case of Chronic Wasting Disease, it's 100% fatal, there's no recovering from a chronic wasting disease infection for deer. But it does take a long time for a deer to become symptomatic, like to start to suffer from those neurological impacts, and to eventually succumb to it. In fact, the vast majority of deer that die associated with chronic wasting disease aren't necessarily dying because they waste away as the name of the disease may imply, but rather, they have sufficient impaired neurological function to make them more vulnerable to all the
other stuff that kills a deer like car bumpers and hunters and predators and other diseases. And so the problem is, is when an animal is asymptomatic, here's another word from 2020, that when an animal is asymptomatic, they can still spread the disease. So we've heard right community spread and asymptomatic spread a lot this year. And we know that that's a big problem is that when some animal thinks they're entirely healthy and acting normally that they can all of a sudden start to transmit this disease. And that's how the disease can sort of take off in a population. And then with it being 100% fatal, there's a lot of concerns with its potential impact in wild populations.

Olivia Hanlon 07:35
So you said that this is a fatal disease. But what else happens to the animals when they're infected with CWD?

Adam Janke 07:41
Well, it's a that's a good question. So there are some symptoms. Now the symptoms for CWD look like the symptoms for any other like sick deer, they just, you know, they have excess salvation, they may look malnourished, they may not look malnourished, that salvation, they may have what we call ataxia, they just basically can't balance they're just kind of like wobbly on their legs. I think that sort of captures the main symptoms, we don't actually concern ourselves a lot with the symptoms, because you're not going to diagnose oftentimes a sick deer just by looking at them. Or you may find a sick deer. And it could just as well be a bunch of other things that deer gets sick just like humans, that challenge with chronic wasting diseases that it can be transmitted before the animal succumbs to the disease. And like I said, oftentimes, they don't actually die directly from CWD, but rather because of the neurological impairments that kind of come along with it. Yeah. And it's spread from sick individuals. It's found in their saliva, it's also found in their urine and feces. And it also, of course, is in their tissues. And so it can be spread, we think primarily by animal to animal contact, deer are very social organisms. If you watch a doe with a fawn for any period of time, you'll see them interact face to face or forage in the same area. And that is the primary route that we suspect CWD is being transmitted.

Olivia Hanlon 09:08
Well, this is sounding very on par for 2020. Here, Adam. So you mentioned that when you see a sick deer, you might not know that it's chronic wasting disease, but how can you actually detect whether it's CWD or not?

Adam Janke 09:23
That's a good question. Yeah, you're often not gonna diagnose it and on the hoof and you could be hunting in an area or a come by a deer in an area where there is CWD and it will seem completely healthy and it could very well be sick with the disease. So the way we diagnose it actually is by taking a tissue sample of from essentially the central nervous system. In this case, we take a sample of the lymph node, the lymph node that we target for CWD sampling in
dead deer. It's like the same general area where your doctor like feels your neck when you're sick, you know and you feel or your mother feels your neck for swollen lymph nodes. That's the same general area actually where we pull what's called the retro pharyngeal lymph node from the deer and then we submit that for diagnostic testing to like Iowa State Veterinary Diagnostic Laboratory. And that testing is really important if you're hunting in an area where Chronic Wasting Disease is known to occur. So again, I mentioned in Iowa. That's today on The eight counties where we know it to occur. And the Iowa Department of Natural Resources does a nice science based monitoring program to try to detect where else it may occur in Iowa. And if you're hunting in an area where CWD is known to occur, it's advisable to submit your deer for testing before you decide to consume the animal.

Olivia Hanlon 10:48
Okay, so I guess that leads well into the question of a deer with chronic wasting disease is not safe to eat.

Adam Janke 10:55
We don't know if a deer with Chronic Wasting Disease is safe to eat. Okay, so with chronic wasting disease and other transmissible spongiform Encephalopathies. There's just a lot of uncertainty about the risks it poses to other species in these different TSEs. They talk about a species barrier being how likely it is, for example, that scrapey jumps from sheep to humans, or in the case of CWD, how likely it is that CWD jumps from deer to humans through for example, the consumption of protein. All indications are that CWD seems I shouldn't say all most indications are that CWD seems to have a strong species barrier. And it's unlikely to jump out of members of the deer family that it affects like elk and mule deer and whitetail and caribou and into humans. But there is one study that found transmission from CWD positive animal tissue to non human primate, and which, of course, are often the model for human disease risks. And that combined with just all of the weirdness that these TSEs these are prion diseases, so they're very different than viruses and other things that we're more familiar with all of the uncertainty surrounding prion based diseases, the Centers for Disease Control does recommend you don't eat meat from CWD positive animals. I won't say it's unsafe to eat CWD positive deer because we don't, we're not 100% Sure, but we also won't say that it's safe to eat CWD positive deer there's uncertainty there. And we like to in our education, fall to of course to human health experts, because I'm just the wildlife, the human health experts at the Centers for Disease Control, advise against the consumption and they advise that you should be testing deer harvested in areas where Chronic Wasting Disease is known to occur.

Olivia Hanlon 12:57
Okay, so you talked about it possibly happening to that primate species? Do we have to worry at all about our livestock here in Iowa.

Adam Janke 13:07
So the same things apply to that discussion we just had about that strong species barrier and things like that. And so the idea, we don't think so we don't think that there's a risk to livestock
things like that. And so the idea, we don't think so. We don't think that there's a risk to livestock or even other wildlife with CWD. CWD has been known to occur in the wild since the 1960s and outwest. Now, today, it's much more widespread than it was in the 1960s. And it's only becoming more and more so a year. But we know that people in like, predators have, of course been exposed to chronic wasting disease in those landscapes for a long time. And we don't find evidence for cross species transmission. Okay, both with livestock and other wild animals. And so we think it unlikely that it poses a risk. But again, there is that uncertainty. But I would definitely if I was a livestock producer, this is not something I would be worried about. Unless I happen to be one of the rather few people in the state of Iowa that do raise what we call captive servants are captive members of the deer family. And then of course, they are at risk. And then they are actually a really important player. In managing the spread of Chronic Wasting Disease. It's really important that people that raise captive members of the deer family follow all the restrictions on movements and not allowing for interaction with wild deer and all those things.

Olivia Hanlon 14:30
Absolutely. So we've talked about basically what happens with CWD. So what's been done for CWD?

Adam Janke 14:38
So we can't manage what we don't monitor. And so it's a lot of CWD management is just trying to understand where the disease occurs in Iowa. And so that's what I mentioned with the Iowa Department of Natural Resources doing that really nice scientific survey where they go out and they sample harvested deer around the state in every county in the state, and then with increased frequency Season areas where CWD is known to occur either in captive facilities or wild deer. So lots of monitoring is going on. And then when the Iowa Department of Natural Resources finds Chronic Wasting Disease in a wild population, they have special deer management units that pop up around those where they try to manage deer densities to try to reduce the probability that a sick deer will leave. That becomes if the densities are too high. A sick individual may take off to go find greener pastures, and with a spreading the chronic wasting disease to new herds of deer, or also manage densities to try to just reduce the interactions between deer so that they're just not concentrated on top of each other. So that's that's sort of what the DNR is doing. They're they're monitoring and then they're increasing harvest to try to manage densities. What everybody can do is under no circumstances should people be feeding deer in Iowa wild deer, they shouldn't be attracting them to artificial food sources like piles of corn or feeders or mineral supplements that artificially concentrate deer. And I mentioned that CWD transmission is through that face to face interaction. And anytime we stick a bunch of noses in the same food trough, we're going to increase the probability that we're transmitting this disease. And so we ask that everybody has a role to play in never feeding deer or providing mineral supplements for deer. And then we ask that people that have land or have influence over land, manage their deer, deer herds through harvest, especially through cooperation with the DNR and these special management units.

Olivia Hanlon 16:43
Absolutely. So earlier, when you were talking about the Iowa DNR suggesting that people get their deer tested after harvesting, is that something they contacted DNR for or Iowa State for
Adam Janke 16:54

good question, it would be a DNR contact. So depending on the season that you hunt in there, you will often find DNR biologists out and about trying to get their sample quota. And you could just submit your deer through that way. If you happen to be in a county where there's a lot of deer harvested and not that many samples submitted or you somehow can't get your sample submitted, there's a new thing that they're calling the hunter submission pathway. And that's where you could collect your own lymphnodes sample and work with the DNR to get it tested through the Veterinary Diagnostic Lab. This would be particularly important on basically adult deer, we don't find detectable levels of Chronic Wasting Disease and most fawns like younger than a year, so those deer often don't need to be tested. But the older deer especially mature bucks that are harvested in CWD positive areas, we definitely want to be having those submitted for testing. And all of these questions. All of this can be arranged through coordination with the Iowa Department of Natural Resources, wildlife biologists that you can find on their website or actually even on my website.

Olivia Hanlon 18:02

Okay. This has been a lot of great information today. Adam, if people are looking for more information than what we've talked about today, where could they find that?

Adam Janke 18:12

Yeah, so they could go to two places, the best one is to go to the DNR directly to the source, which would be just a Google search for Iowa DNR deer diseases. And that's gonna land you on a site that has a bunch of information about chronic wasting disease and other deer diseases, and even a map that you can zoom down to see exactly where the CWD positive wild deer in Iowa have been collected. So you can really know whether or not you're hunting in an area where CWD has been tested. You could also from that page, find more information about that Hunter submission pathway for submitting samples and get contact information from biologists. If you'd like to learn more about the disease, sort of generally the ecology of the disease and some other resources, I'd love for you to visit our website, which is natural resources dot extension dot iastate.edu/wildlife/cwd or a quick Google search for Iowa State Extension, Chronic Wasting Disease aut to turn it up. There we have a map of the counties where CWD has been detected in wild deer, we have a publication that describes the disease in more detail. And we also have a new video that we just released, I think last week to help people collect their own retro pharyngeal lymphnodes for CWD testing that you can find from that link,

Olivia Hanlon 19:29

Well, this sounds like perfect timing to be sharing that. Yeah, and those sound like a couple of great resources. Is there anything that we didn't cover today that you'd like to add Adam,
I don't know that there's anything we didn't cover. But since you're given me the airtime let me reiterate the work. Everybody has a role to play. They've got to manage their deer harvest, they've got to manage their deer densities. Everybody's got a role to play by resisting the urge to feed deer and not doing it. And then everybody has a role to play to be aware of this disease and help them stop the spread. Oh, that reminds me if you harvest a deer, for example in Allamakee and you live in wright county or something, you should be really mindful about how you move carcasses and how you dispose of carcasses across the landscape. That's another way that we worry this disease could move really quickly from the edges of our state into the middle by people moving carcasses. So everybody has a role to play, don't feed deer, test them, all that stuff. And then hunters, if you shoot a deer in a CWD positive area, don't you dare move that carcass in the middle of the state and release it out, put it back out into the wild, dispose of it in a landfill that will accept the carcass.

Okay, well, those aren't good cautions to heed especially coming from you, Adam. Thanks so much for being on today.

Yeah, thanks for having me.

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