

Moratoria on Cervid Farms is not Effective at Controlling the Spread of Chronic Wasting Disease

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Abstract

The purpose of this paper was to examine whether a moratorium on cervid farms is necessary or appropriate based on the data available regarding the control of Chronic Wasting Disease (CWD). Conclusions of this study support that:

1. There is no rational basis for current or future moratoria on cervid farms in Minnesota counties based on a threat to public health, safety, or welfare.
2. Current studies relied upon by county governing bodies regarding CWD are deeply flawed and based on assumptions not supported by scientific data.
3. Cervid farms utilize a variety of mitigation measures, as required by law, which not only minimize the likelihood of CWD spread from their herds, but also serve as an important source of disease monitoring research to insure a safe source of uninfected animals and animal products.
4. Current and future moratoria on cervid farms cause direct and unnecessary economic harm to both cervid farmers and the local economy while having no measurable impact on the spread of CWD in the local wild cervid population.

Any impact on CWD should be measured in cost-savings and containment. Minnesota counties appear to be basing their moratoria on the underlying theory that captive cervids are the source of nearly all CWD infections. The data does not support this assumption. It is not generally accepted in the veterinary scientific community, nor does it have the requisite foundational reliability.

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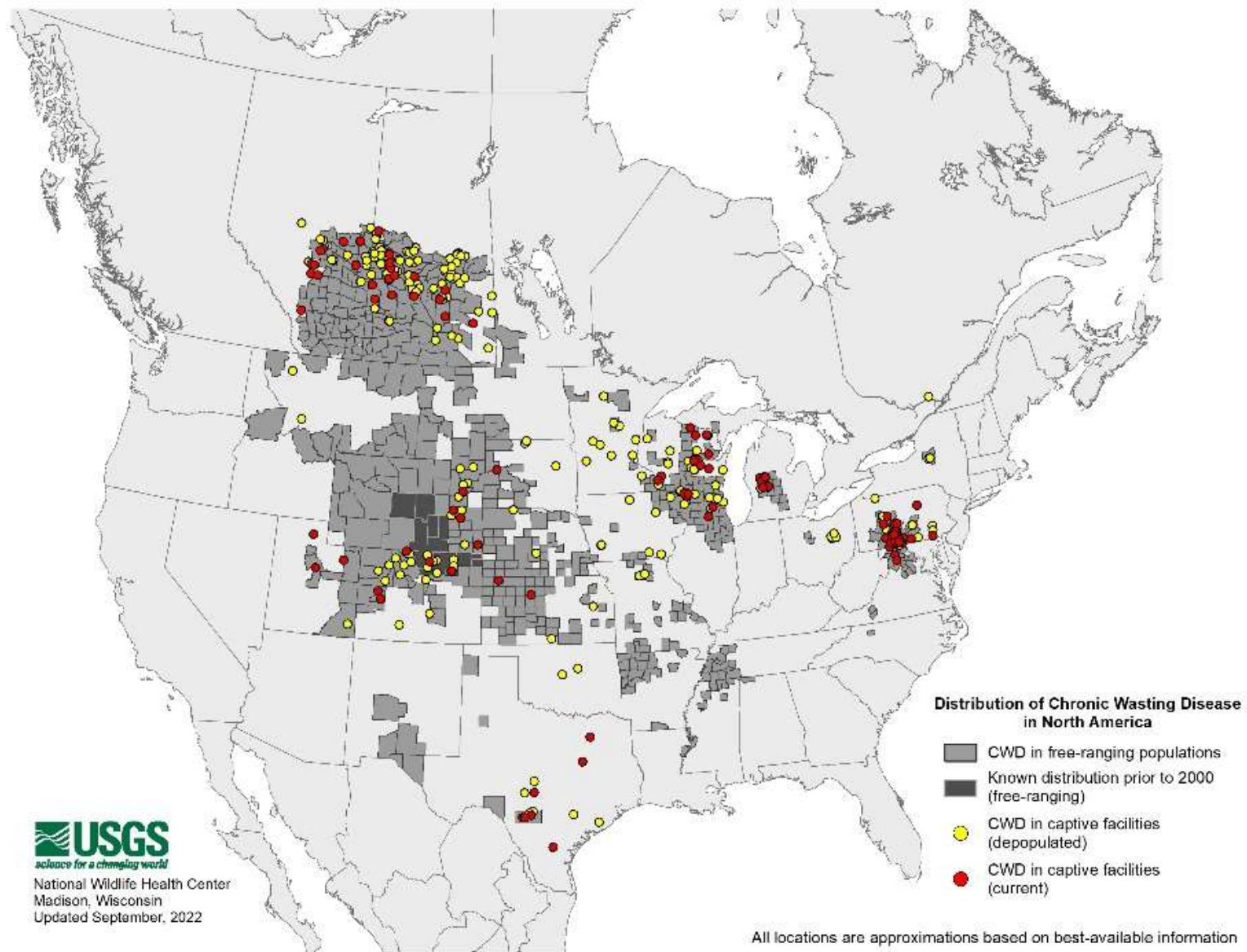
I. Background

This paper examines the potential impacts of several Minnesota counties' introduction of moratoria on cervid (deer, elk, reindeer, and moose) farms within their jurisdiction as a means of preventing the spread of Chronic Wasting Disease (CWD) to local wild deer populations.¹

Chronic Wasting Disease is a fatal neurodegenerative disease found in species of the Cervidae family² (e.g. deer, elk, moose) which is caused by mis-folded proteins called prions. The disease is spread through an infected animal shedding prions in saliva, feces, urine, or tissue. Prions cause progressive brain and nerve tissue damage which kills infected animals. There is no known treatment or vaccination for CWD.³ Postmortem microscopic examination of the brainstem or retropharyngeal lymph node is the only conclusive means to diagnose CWD. There are tests for CWD that can be used on live animals, but none are yet federally approved.⁴

To date, CWD is found in wild cervids in thirty states in the U.S., as well as Canada, Korea, Finland, Sweden, and Norway.⁵ When first discovered in the U.S., the disease was thought to be endemic only to wild cervids in a small area centered in northeastern Colorado.⁶ A current map of Chronic Wasting Disease prevalence is available at the United States Geological Survey website.⁷ CWD has been detected in wild cervids in 30 states and in captive farms in 18 states.⁸

Figure 1.1 – 2022 Current Spread of Chronic Wasting Disease in North America



II. Federal Response to Chronic Wasting Disease

National surveillance of CWD began in 1997, in both wild and farmed cervids. This cooperative effort between the Animal and Plant Health Inspection Service (“APHIS”), under the Department of Agriculture (“USDA”), and state agencies includes APHIS approval of specified veterinary diagnostic laboratories for official CWD testing. In 2002, the USDA and Department of the Interior (“DOI”) began work to create a national plan to assist states, federal agencies, and tribes in combating CWD in both farmed and wild cervids.

Statutorily, federal regulations related to CWD are included in the Code of Federal Regulations (CFR), Chapter 9, Parts 55 and 81. The statutes apply to federal indemnity for infected herds, the national CWD herd certification program, and the interstate movement of cervids. These rules are extensive and provide “a consistent national approach to control the incidence of CWD in farmed cervids and prevent the interstate spread.” States may elect to participate in the program if they meet APHIS requirements and their application is approved.⁹ As of December 2017, twenty-eight states were participating in the HCP.¹⁰ Herds participating in the HCP agree to abide by regulations regarding increases in stock, inspections, inventory and records, animal identification, fencing requirements, and disease surveillance and sampling.¹¹ While state participation in the HCP is voluntary, Minnesota state law requires all cervid farms to enroll in the program.¹²

III. Minnesota CWD Statutes and Regulations

Minnesota currently has 235 cervid farm herds and exceeds federal Herd Certification Program requirements in its requirements for cervid importation.¹³ Under 9 CFR § 81.6, state and local regulations of farmed or captive cervid transportation are more restrictive than federal regulations.¹⁴ Since its enrollment, the state has followed all requirements for testing, transportation, registration, and record keeping mandated by the USDA.

Minnesota has also enacted legislation including Minnesota Statutes 35.155, titled “Farmed Cervidae.” The most current version of this statute prohibits farmed cervids from running at large, imposes limits on farming in native elk areas, stipulates the height of fencing required on farms, and details the disease surveillance program. Cervid farmers must:

- Register herds with the Board of Animal Health;
- Maintain fencing of at least 8 feet in height and double gates at any outside entry points, subject to annual inspection;
- Ensure each animal has at least one official ear tag;
- Maintain a detailed animal inventory, subject to annual inspection;
- Report dead animals to the BAH within 14 days;
- Test all animals 12 months and older that die for CWD;
- Notify the Department of Natural Resources and BAH of any escaped farmed cervid not returned to its enclosure within 24 hours;
- Comply with annual farm and fencing inspection, including herd inventory reconciliation, conducted by a representative of the BAH accompanied by a representative of the DNR; and
- Preserve records for at least 10 years.

Under these requirements, 953 farmed cervids were tested for CWD in 2022, with only 3 CWD detections, all from a single herd which has since been depopulated.¹⁵ No additional positives were detected when the herd was depopulated.

The Minnesota Board of Animal Health and the Commissioner of Natural Resources have concurrent authority to “regulate farmed white-tailed deer” and any administrative rules adopted pursuant to specified Minnesota Code. All other farmed cervid species are regulated by the Minnesota Board of Animal Health only.

In April of 2021, the Minnesota Board of Animal Health sought review and approval from the Office of Administrative Hearings to use the good cause exemption to rulemaking to change an exemption for farmed cervids in a CWD endemic zone.¹⁶ The Board is permitted to designate a fifteen mile zone around any confirmed case of CWD as an endemic disease area. Farmed herds are excluded if they have been maintained to prevent commingling with wild cervids either (1) for more than 180 days following the endemic designation, or (2) for at least 36 consecutive months.

A good cause exemption from standard rulemaking is allowable to “address a serious and immediate threat to the public, health, safety, or welfare.” While the Administrative Law

Judge noted the Board had a legal duty to protect farmed and wild cervids from CWD, he found that CWD and infected animals do not pose sufficient risk to “justify using an emergency procedure to promulgate a significant rule without full public input and discourse.” The opinion noted most public comments received during the mandatory five-business day comment period opposed the rule change. Some commentators noted that cervid farming might be eliminated by the proposed rule. The Judge noted that in either outcome, cervid farmers livelihoods and herds stood to bear the greatest potential harm, not public health, safety, or welfare.¹⁷

IV. Current Minnesota County Moratoria

The legal classification of captive cervids is an important aspect to any regulation of state cervid farms. As of 2018, twelve states considered captive cervids wildlife, with regulation of the animals typically falling to the state’s department of natural resources. Most states, including Minnesota, classify captive cervids as livestock.

A. St. Louis County

St. Louis County is in the arrowhead region of Northeastern Minnesota; the county seat is Duluth.¹⁸ Currently, the county has not had a positive case of Chronic Wasting Disease in either captive or wild cervid populations.¹⁹ In early 2022, the Minnesota Board of Animal Health expanded the CWD endemic area to include a section of neighboring Itasca County based on two positive wild deer harvested or found dead during the 2021 hunting season.²⁰ Prior to this most recent expansion, in September 2021 the St. Louis County Board adopted Ordinance 66. This one-year moratorium prohibited new cervid farms within the county. The Ordinance also prohibited expansion of current farms, although it allowed for continued operation of these businesses.²¹ At the time of enactment, St. Louis County had four cervid herds (2 elk, 1 whitetail, 1 other species), a marked decrease from twelve herds five years prior.²²

According to the County’s official website, the purpose of the Ordinance was to mitigate the spread of Chronic Wasting Disease. The County’s Planning Commission then spent a year “examining the situation and considering options.”²³ In April 2022 the St. Louis County Chronic Wasting Disease (CWD) Planning Study Progress Report was produced.²⁴ Based on this document, the County Board adopted Ordinance 62. An available draft of Ordinance 62 proposed amendments to the St. Louis County Zoning Ordinance shows the creation of an

“Agricultural Use – Class III” for new cervid farm construction or expansion of existing farms. All Agricultural Use – Class III land use is prohibited within the County.²⁵

B. Carlton County

Carlton County lies to the south of St. Louis County and within the Duluth Metropolitan Statistical Area. The Fond du Lac Indian Reservation lies in the northeast portion of the county.²⁶ There have been no confirmed cases of Chronic Wasting Disease within county limits, although both adjacent Aitkin and Pine counties have reported positive cases.²⁷ The county is home to only one cervid farm at present.

On May 3, 2022, Capt. Robert Gorecki of the Minnesota Department of Natural Resources spoke to the Carlton County Board of Commissioners regarding Chronic Wasting Disease. After a public hearing on June 27, in which both proponents and opponents of a proposed ordinance voiced their concerns, the board unanimously approved a one-year moratorium on the creation or expansion of any cervid farm.²⁸ The Minnesota Deer Hunters Association was in support of the moratorium as a preventative measure to protect local wild deer. The Minnesota Deer Farmers Association opposed the measure as punitive, citing the risks posed by wild deer and hunting activities as greater cause for concern.²⁹

It should also be noted that the Fond du Lac Band of Lake Superior Chippewa support the CWD Action Coalition’s resolution advocating for an “immediate moratorium on any new captive cervid operation in Minnesota” and closure of all currently operating cervid farms. The group asserts that movement of captive cervids presents an unacceptable risk by a small industry to a valued public resource.³⁰

C. Aitkin County

Aitkin County borders both St. Louis and Carlton counties to the West. The Mille Lacs Indian Reservation also partially occupies Aitkin County.³¹ Aitkin County was the site of the first confirmed case of Chronic Wasting Disease in Minnesota in 2002.³² According to a map of the Minnesota Department of Natural Resources Fall 2022 CWD Sampling Zones, part of the county lies within zone 604, a disease management zone with carcass movement restrictions in place. Itasca County, to the North, is under similar surveillance.³³

On March 8, 2022, the Aitkin County Board held a public hearing to receive input on an interim zoning ordinance to prohibit new cervid farms within the county until the Board can

“study and consider enacting a permanent ordinance.” A certified copy of the resolution, titled “Aitkin County Cervid Farm Legislation Support,” indicates the matter was adopted. The document further asserts that “[n]early all CWD-infected cervids (deer) originate in captive commercial farms” and calls upon the Minnesota Legislature and other state agencies to prohibit new cervid farms, the transport of farmed cervids, and the registration of new farms in the state. This document indicates CWD spread reached a “crisis level” in Spring of 2021 when a Beltrami County deer farm disposed of infected carcasses on tax-forfeited land. The document gives no details about the scope or language of the interim moratorium.³⁴

Although there is no record of the Mille Lacs Band of Ojibwe being party to the county proceedings, it should be noted that a recent survey of tribal natural resource managers, including eight Minnesota Tribal Nations, indicates no known cervid farms on or near tribal lands. However, one respondent stated, “The conservation code is being updated to remove the ability for tribal members to have cervid farms.”³⁵

V. Deficiencies in County Moratoria

While county officials hold the power to enact temporary moratoria to revise zoning regulations, and to enact public ordinances to protect the health, safety, and welfare of residents, the current cervid farm bans have significant deficiencies that should be addressed. Public records on the matter are difficult to locate and there appears to be misunderstanding or misinformation regarding the nature, duration, and impacts of these regulations. State law clearly establishes the requirements for county moratoria; however, it is unclear whether the ordinances at issue have met these legal standards. Furthermore, discussion of CWD control and prevention has focused on cervid farms, already heavily monitored and regulated, to the exclusion of consideration of the impacts of hunting activities on the matter. Finally, there appears to be no mention of the potential negative impacts of county moratoria on (1) disease surveillance, (2) the local economy, or (3) existing cervid farm operations.

A. Lack of Public Information

St. Louis County maintains a landing page with information about Chronic Wasting Disease as well as copies of Ordinance 62, economic impact studies, and the Planning Commission “Study Progress Report.”³⁶ Carlton County interim ordinance is available through

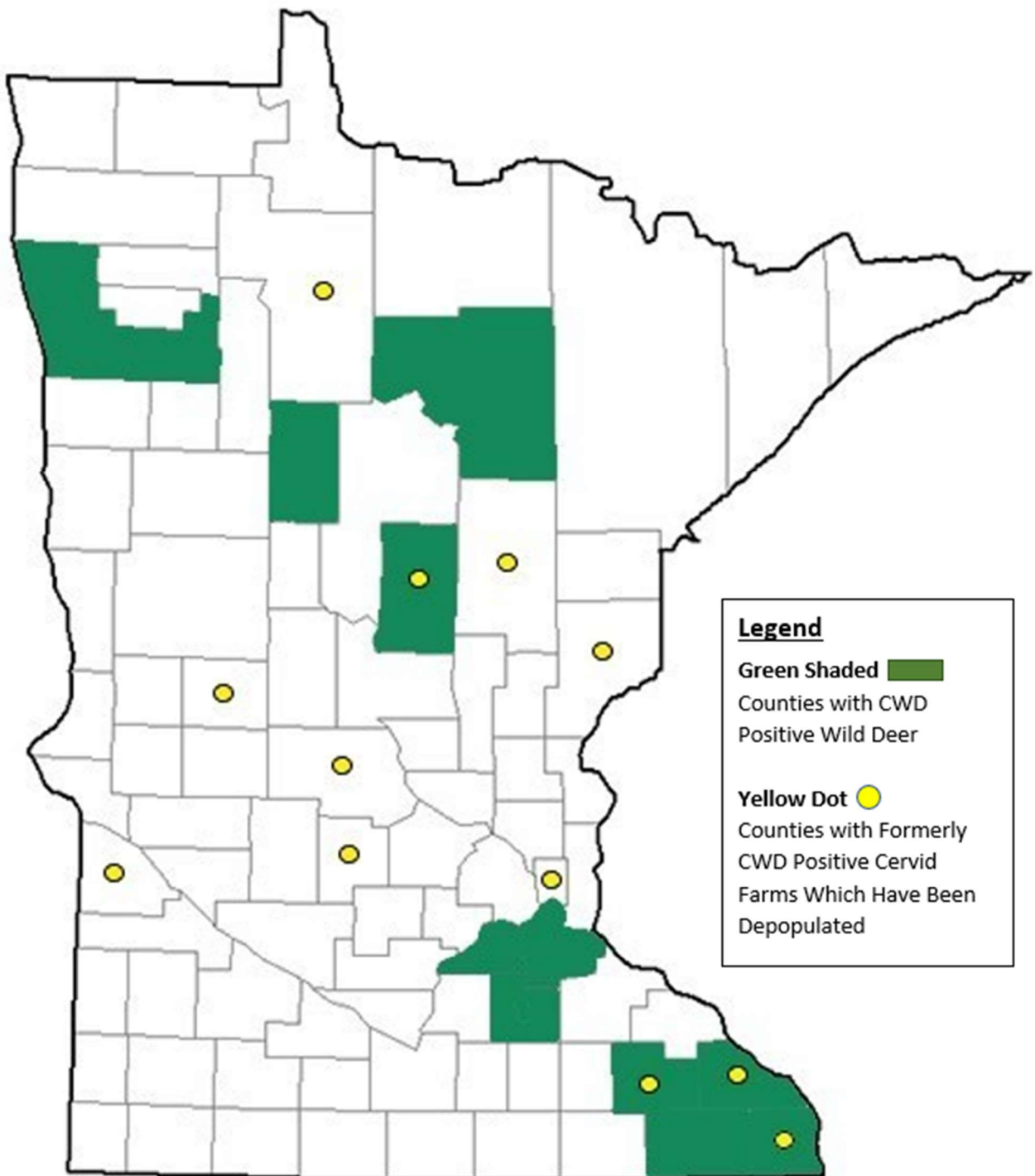
the county's government website.³⁷ Likewise, the Aitkin County Board of Commissioners has posted a copy of the adopted resolution online.³⁸ The process of hearings, study, adoption, and enforcement of these regulations is difficult to pin down, but it is critical to note that only one progress report, in three counties, can be found in the public domain.

The Carlton County draft moratorium cites Minnesota Statute § 394.34 as authority for its enactment, which is presumably the source of statutory authority for all moratoria to date.³⁹ By law, if a county is “conducting or in good faith intends to conduct studies” or has held or is holding a “hearing for the purpose of considering an amendment” to its comprehensive plan or official controls, the board “in order to protect the public health, safety, and general welfare may adopt as an emergency measure” a temporary interim zoning ordinance. These resolutions are limited to one year from their effective date with an optional one-year renewal.⁴⁰ Counties have broad discretion in these matters, but there should be a rational basis for such legislation.⁴¹ Further, any moratorium zoning ordinance must be “enacted in good faith and without discrimination.”⁴²

B. CWD in Minnesota

Between 2002 and 2022, cases of CWD have been confirmed in 19 of the 87 counties in Minnesota (Figure 1.2). During that time, CWD was identified on a cervid farm in each of 12 different counties. All infected herds were subsequently depopulated. It is important to note that CWD has never been found in wild deer in eight of these counties. To date, CWD has been found in wild deer in 11 Minnesota counties. Four of these counties also contained an infected cervid farm. It is interesting from an epidemiological perspective to note that CWD has never been identified on a cervid farm in eight of the Minnesota counties where CWD has been identified in wild deer populations. Cervid farms have been blamed for the spread of CWD in Minnesota, but the epidemiology of the disease is much more complex. It can also be spread by the natural movements of wild deer or by the movement of deer carcasses by hunters.

Figure 1.2 – Overlay of Minnesota Counties and CWD Cases



As of February 2023

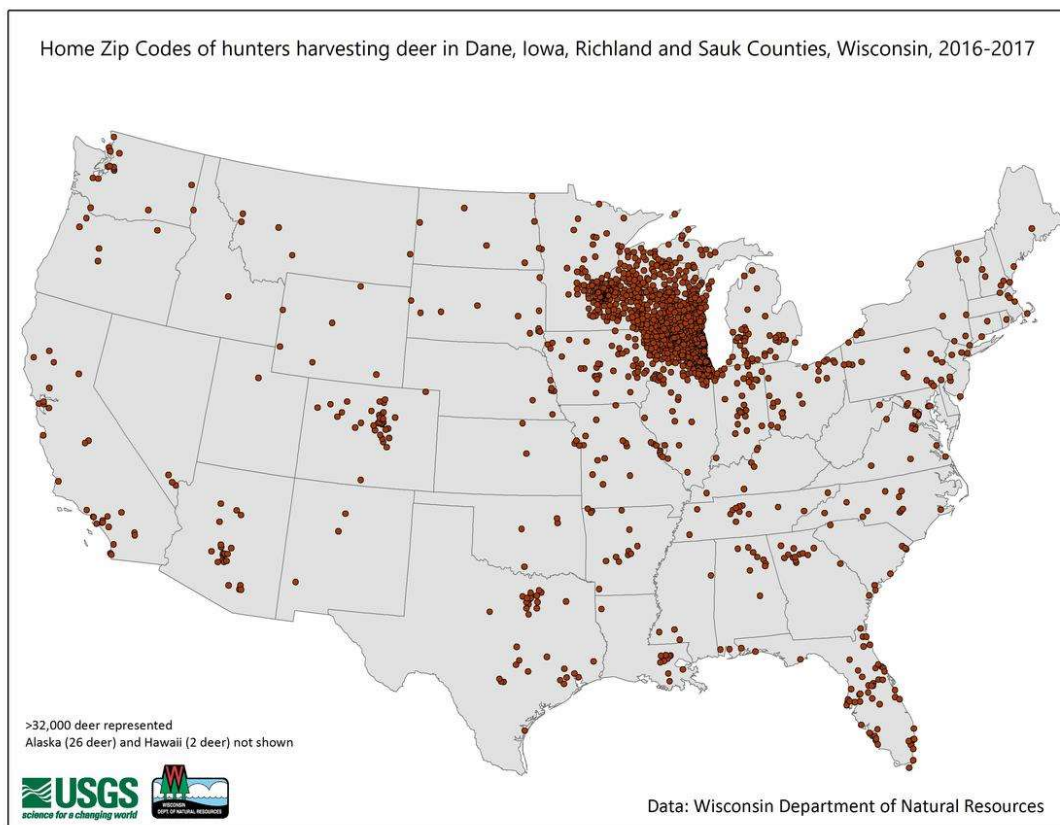
Looking at both state and national maps, it would be fair to say that establishing a point of origin for CWD in cervids, wild or farmed, is a “chicken or the egg” question. Which population came into contact first? According to the University of Minnesota, “most CWD infections in farms in their recent study were located in regions with CWD-positive wild deer, indicating that wild deer could be the source.”⁴³

C. CWD Risks Associated with Carcass Movement

While the exact origins of CWD in any given area may be obscure, the modes by which it spreads are well understood. Transportation of both live and deceased farmed cervids operates under applicable state and federal regulations. Each year thousands of hunters travel throughout Minnesota, and the nation, to shoot deer, moose, and elk. Minnesota has pursued an aggressive control strategy, including mandatory testing of all deer shot in CWD zones. Carcass import bans allow hunters to legally bring back meat and antlers from out of state kills; no brain or spinal column material is allowed.⁴⁴ However, laws pertaining to carcass movement are not easily regulated or enforced. Other possible vectors for CWD transmission during hunting activities include transportation of infected soil, vegetation, urine, blood, and body parts, whether on clothing, tires, weapons, or carcasses taken for sustenance or trophies. To illustrate the relative risks of cervid farming and hunting, in 2021, only two live cervids were moved in St. Louis County, both from within the state. By contrast, in 2021 alone, the county reported selling 36,855 hunting licenses, to both residents and non-residents.⁴⁵

The United States Geographical Survey developed a more graphic representation of the risk of CWD spread from hunting activity. The four counties referenced (Dane, Iowa, Richland, and Sauk) accounted for the highest number of CWD cases in Wisconsin in both 2016 and 2017 (92% and 89% respectively).⁴⁶ More than 32,000 whitetails were harvested by hunters in 49 states during the 2016-2017 hunting season in these four counties alone as represented by the red dots on the following map. Most of these deer were not tested for CWD.

Figure 1.3 – National Hunter Harvest from Four Endemic Wisconsin Counties



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D. Negative Impacts of Moratoria

Minnesota is not the first state to consider a moratorium on captive deer operations. In 2014, Missouri Senator Munzlinger published this assessment of his state's CWD actions:

"Because CWD has an incubation period that can last up to 18 months, tracing the source of the disease has proven impossible. There have been no concrete conclusions made as to how the disease first came to Missouri in 2010 when we were previously a CWD-free state. But, since the first case was discovered on a captive preserve, all captive cervid facilities have been blamed for its progression. People are blaming the shipment of infected deer from breeder to breeder across state lines for its introduction to Missouri. However, wild deer are free to cross state lines as well. It is equally possible that an infected wild deer herd made its way to the preserve and infected the captives."

Senator Dan Brown, R-Rolla, said in committee, "As a veterinarian, I was more concerned about the ones on the outside of the fence." Brown had dealt firsthand

with captive cervid facilities during his time as a veterinarian and brought up the point that captive facilities are monitored more closely than wild herds, so it is possible that the CWD was found there first because of the increased observation of the deer.

Even though the cause is disputed, the reaction of the MDC [Missouri Department of Conservation] to the situation was clear. MDC issued a complete moratorium on deer breeders which essentially forbid any further business for the industry. The Secretary of State's office quickly nullified that rule for being excessive and harmful to the industry."⁴⁸

The negative impacts of county moratoria are multi-faceted; however, it is fair to assume that such measures will result in less CWD testing, loss of revenue, and harm to cervid farm operations.

i. Comparison of Disease Surveillance on Cervid Farms and in Wild Deer Populations

Early detection of CWD is critical to limiting the spread of the disease.⁴⁹ Current practice of detecting CWD in wild deer populations relies on targeting animals exhibiting clinical signs, opportunistic testing of vehicle-killed animals, hunter submissions, and targeted surveillance around positive cervid farms.⁵⁰ Conversely, captive cervid herds are statutorily required to conduct testing on all animals "over 12 months of age that die or are slaughtered."⁵¹ As such, farmed cervids are a county's sole source of consistent CWD monitoring. Further research has indicated that if CWD exists in a county or State, but has not yet been detected, it is highly probable that CWD will be found in the farm first because of the increased percentage of animals tested.

ii. Economic Impacts

The direct economic impact of cervid farming in Minnesota was 24.2 million dollars in 2016.⁵² In contrast, deer hunting generates nearly 500 million dollars annually.⁵³ However, this question is not a zero-sum game, as posited in the position statements of moratoria proponents and county enactment language. Recognizing Minnesota's unique natural resources and the importance of deer hunting does not provide grounds for the extermination of an entire industry. Allowing cervid farms to continue operations or expand throughout an area simply does not translate into increased risk of Chronic Wasting Disease and the decline of

hunting revenues. If Wisconsin's persistent CWD endemic status has demonstrated anything it is that hunting activity remains high even where nearly half the wild deer shot are positive for CWD.⁵⁴ As of 2017, Minnesota ranked second in the nation in its number of elk farms, and fifth in the nation in deer farms.⁵⁵ Although preventing the introduction of Chronic Wasting Disease to an area is vitally important for disease control and cervid health reasons, it does not require the sacrifice of an important economic sector.

iii. Harm to Cervid Farmers

Due to potential constitutional issues, any attempt to close existing cervid farms would require the state to essentially buy out these operations, reimbursing the owners for their property. Proposals such as the one put forward by the CWD Action Coalition have an unknown price tag. It seems evident that moratoria restricting expansion of current operations risk running afoul of the same Fifth Amendment concerns; the government may be depriving these farmers of use of their property. The Takings Clause is "designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."⁵⁶ Legal analysis of both questions of rational government interest and constitutional takings in the CWD regulatory scheme of neighboring Iowa highlight the many potential points of litigation a government might encounter when placing restrictions on cervid farming operations.⁵⁷

VI. Health, Safety, and Welfare

County ordinances have clearly invoked the legal standard of protection of public health, safety, and welfare in their actions. The administrative ruling cited in an earlier section demonstrates that fears about the spread of CWD may not be sufficient to rationalize hasty or intemperate regulatory activity. Besides the economic and cultural value of hunting to Minnesota residents, proponents of moratoria have cited concerns about cross-species CWD transmission. To date, CWD has not been demonstrated to infect humans or species other than cervids. For these reasons, it is questionable whether Minnesota counties' legitimate interest in the prevention and control of CWD has any rational relationship to the moratoria enacted.

A. Wild Cervid Population Concerns

Closely tied to the economic interests of government entities in preserving the hunting industry, the fear of massive depopulation from a CWD outbreak has also been expressed. There are several effective methods available to address the spread of CWD more adequately, thus preventing any theoretical wild cervid population declines.

Chronic Wasting Disease is neither a wild nor captive cervid disease. In 2022, thirteen states had CWD in only free-ranging cervid populations, and based upon USDA testing, CWD is more common in wild populations than in captive cervids. CWD is primarily a frequency dependent disease, not a density dependent disease. Deer populations in the West have been declining at 18-20% for over a decade in both areas with CWD and those free of the disease. The most influential factors in this decline are thought to be habitat loss and fragmentation, severe weather, human disruption, malnutrition, and predation. Modeling to predict the population impacts of CWD has largely proved flawed. In 2018, the prevalence of the disease was less than 1% in the over one million deer tested in the previous twenty years. It is likely that CWD will remain at low prevalence indefinitely.⁵⁸

In conclusion, counties' concerns for public welfare in the form of preserving the natural resource of wild cervids and the vital revenue from hunting activities can only be legitimated if CWD poses a threat of rapid de-population of local wildlife. Historic records and current research do not appear to support the conclusion that the introduction of CWD to a local wild cervid population would result in either population decline or decreased hunting revenue.

B. Cross-Species Transmission Risks

Current county moratoria have been enacted to ensure the "public health, safety, and welfare" of county residents. Concerns over the possibility of CWD infecting residents has been alluded to, although often not explicitly stated as grounds for regulating the captive cervid industry. These fears are not grounded in current scientific knowledge. CWD has been studied intensely for 53 years and there has never been a case of CWD in humans.

Chronic Wasting Disease naturally infects members of the Cervidae family of animals: deer, elk, moose, and reindeer. Despite its widespread prevalence, the disease has not been found in any animals other than cervids that would likely be exposed to shed prions in the environment. The greatest concern surrounding CWD is whether the disease might pose a risk

to human health. Numerous studies have been conducted to assess the potential for cross-species transmission.

A recent National Institutes of Health study shows that CWD did not cross the species barrier to infect macaques.⁵⁹ Likewise, an experiment in which humanized transgenic mice were inoculated intracerebrally with a CWD-derived human prion protein resulted in bona fide prion disease.⁶⁰ Not only is intracerebral inoculation highly improbable, an earlier study demonstrated that transgenic mice were entirely resistant to intracerebral inoculation.⁶¹ Literature reviews of studies on cross-species transmission indicate an overall low risk of transmission to humans potentially attributable to a “notable species barrier.”⁶² Early research indicates a small loop in the human prion protein was found to confer resistance to chronic wasting disease.⁶³

In an overabundance of caution, the World Health Organization (“WHO”) has taken the position that tissue from animals showing signs of a Transmissible Spongiform Encephalopathy (“TSE”), including CWD, should not enter the human or animal food chain.⁶⁴ The Centers for Disease Control and Prevention (“CDC”) recommends that in areas where CWD is present, hunters “strongly consider having those animals tested before eating the meat.”⁶⁵ In Minnesota, the Department of Health recommends hunters not consume meat from animals who appear sick, behave strangely, or test positive for CWD. Although these are generally sound food safety recommendations, there is no evidence that CWD can be transmitted to humans and ample evidence to suggest that CWD cannot be transmitted to humans.⁶⁶

C. Biosecurity

Federal and state regulation of farmed cervid operations have proven cumbersome for farmers, leading to many breeders leaving the industry. Any further imposition may prove too much for the continued economic viability of those who remain. Citizens that have invested in their captive cervid businesses also recognize the immense threat posed by any CWD infection on their farms. In addition to negative public attention, quarantine or depopulation could put them out of business for good. Therefore, any recommended changes regarding farmed cervid operations should be (1) based on scientific knowledge and research, (2) both economically and

regulatorily feasible, and (3) be aligned with a clear goal developed in consultation with all stakeholders.

In 2022, the 228 cervid farms in Minnesota engaged in a variety of economic activities from breeding and exhibition to antler and meat production. Trophy animals were raised at 71 facilities, of which only 11 operated as on-site hunting preserves. Minnesota is a net cervid exporter. For example, 3,165 live deer were sent to other states between 2020 and 2022, but only 294 deer were imported during that same period. Minnesota has robust requirements for live animal transport and intrastate animal movements have been steadily decreasing. In 2020, 900 cervids were moved within the state, in 2022 the number was just 163.⁶⁷

The Minnesota Rules require a Federal permit for the import of live cervids. The animal must originate from a level 6 certified herd in an area not considered to be CWD endemic.⁶⁸ Intrastate movements also require a movement report be filed with the BAH, that the animal be properly identified and that both the shipping and receiving herds are at least a level 4 under the HCP. Movement into or out of a CWD endemic area is restricted to animals destined for slaughter establishments and wrapped meat and other products cleaned of all brain tissue.⁶⁹

D. Additional Mitigation Measures

The idea that severely restricting cervid farming will curb the spread of Chronic Wasting Disease is not new. Several states have prohibited this industry at one point or another. Eleven states with a Moratorium and/or import ban have discovered CWD in the wild deer population. These states include New Mexico, Texas, Louisiana, Arkansas, Mississippi, Tennessee, Alabama, North Carolina, Virginia, Maryland, and Wyoming.

One case study of 34 CWD-positive cervid farms in Minnesota and Wisconsin showed the variability of transmission risks across the industry. While the majority of farms had high risks, most herds detected after 2012 had only moderate or negligible risks. Transmission pathways included direct contact with infected farmed cervids, direct contact with infected wild cervids, indirect contact with hunting or taxidermy tissues, and indirect contact by other vectors. It should also be noted that only 8 of the farms were in Minnesota.⁷⁰

Currently, Minnesota requires cervid farms to confine animals in “a manner designed to prevent escape.” A study conducted in 2010 suggests that fences of at least 2.4 m (7.87 ft.) are sufficiently high to deter white-tailed deer from attempting to jump them.⁷¹ Although the Minnesota farms must maintain two redundant gates and high tensile fencing of at least 96 inches in height (8 ft.), there is no requirement for more than a single fenceline.⁷² Studies indicate that double fencing could help prevent contact between captive and wild cervids.⁷³ However, research showing scavengers in and around cervid pens, location of water sources, and cats having access to cervid pens/feeding areas would negate the effectiveness of a double fence.

E. Impacts on Spread of Chronic Wasting Disease

Chronic Wasting Disease continues to spread throughout the nation and the world. Despite a variety of efforts by state, local, and federal government entities, it appears that the disease will persist indefinitely. There are no current vaccinations for CWD, and definitive diagnosis still requires an animal be euthanized to determine its disease status. In spite of this, wild cervid populations have proven resilient in the face of CWD. While funding further research on detection and prevention is undoubtedly in the public interest given the importance CWD, costly regulations such as proposed state bills requiring all farmed cervids be tested for CWD using an unvalidated live animal test are premature. In the meantime, captive cervid farms are under increasing scrutiny and regulatory requirements, despite being the primary source for frequent CWD testing at the county level.

There are biosecurity measures that could increase protection for captive cervid herds and the confidence of the public that these operations are well-managed and disease-free. If counties seek to simply eliminate captive cervid farms by foreclosing their opportunity for growth, those governments risk running afoul of constitutional protections. This is especially true where no link exists between the authority to enact regulations for “public safety, health, and welfare” and any risk posed by the continued operation of captive cervid farms. Chronic Wasting Disease has not infected humans or any species other than cervids in its long history. The interests of both cervid farmers and hunters can be accommodated to ensure continuing economic benefits provided by both vital industries to local communities. However, county

officials will need increased transparency in their regulatory processes and meaningful input from all parties involved.

VII. Opinions and Conclusions

Any impact on CWD should be measured in cost-savings and containment. The American Cervid Alliance concluded in 2018 that actual data,

“clearly shows that any past combination of quarantines... depopulation... bans on the importation of live cervid species, bans on the importation of carcasses... HAVE NOT been effective in preventing, controlling, or eradicating CWD in any State. These programs have cost in excess of \$100,000,000 of public funding and the killing of thousands of deer without any measurable positive results.”⁷⁴

The underlying theory that Minnesota counties appear to be basing their moratoria upon is that captive cervids are the source of nearly all CWD infections.⁷⁵ The data does not support this assumption. It is not generally accepted in the veterinary scientific community, nor does it have the requisite foundational reliability.⁷⁶

VIII. References

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