

Chronic Wasting Disease in Minnesota

Chronic Wasting Disease: What is it?

- CWD is a slowly progressive, brain disease of deer, elk, moose, and reindeer
- CWD belongs to the family of diseases known as transmissible spongiform encephalopathies (TSE) or prion diseases
- Not caused by a virus, fungus, or bacteria – mis-shapen protein
- Spread animal-to-animal, mostly through saliva, feces, urine



Both Deer are CWD-Positive Top Photo: Pre-clinical disease Bottom Photo: Clinical disease

Characteristics of CWD

- Neurologic clinical signs: dementia, in-coordination, abnormal behavior, loss of body condition
- No treatment or vaccine, always fatal
- no reacher of facence, analys had
- Prions persist in the environment and remain infectious for an undetermined length of time
- Incubation of disease is 1.5 to 3 years from exposure to development of clinical signs
- Infected animals begin to shed prions soon after exposure
- There is no genetic immunity
- CWD not shown to infect humans or cattle, but health agencies recommend NOT to eat an infected animal





Things are <u>NOT OK</u> in areas with CWD

What we know ...

- Disease is 100% fatal
- Deer that are infected (but not symptomatic) have higher mortality rates than uninfected deer
- Bucks are 3x more likely to have the disease
- Yearling males can be CWD delivery systems
- The percentage of infected deer increases annually, in addition to a larger geographic area
- The disease $\underline{\mathrm{is}}$ having a negative effect on long-term deer densities in other states
- Wisconsin is seeing more and more 'droolers and shakers' every year







- Wisconsin and positive domestic
- Since 2002, we've tested >60,000





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Summary of SE Discovery

• Found early November, 2016

• 4,145 deer tested - 11 positives in Fillmore County



Farmed Cervids

2017 – 18 Activities

- Surveillance in all DPAs surrounding Zone 603 Mandatory surveillance, opening weekend of firearms season only
- Winona Co. cervid farm positive December 2017
- Surveillance in all DPAs including and surrounding the CWD+ cervid farms (Meeker, Crow Wing)
- Implemented feeding ban
- Banned all carcasses from other states (2016) Mailed/emailed >30,000 letters to MN residents hunting in other states
- Third year of communicating with Taxidermists and Meat Processors about import restrictions











2018 Southeast / Statewide Activities

- Mandatory surveillance continue
- Carcass export restrictions from DPA603
- Quartering station, dumpster, and refrigerated trailer in Preston all season
- 2 late season special hunts (n = 651 harvest)
- Mailed permits to all landowners >20 acres (n = 3,540). So far ~240 samples
- + Partnership with Bluffland Whitetails Association Share the Harvest Program
- USDA culling on hold due to Federal Shutdown
- Social Science surveys of hunters and landowners in the SE
- Updated CWD Response Plan should be released soon for public input/comment



Fiscal Year 2002 – 2018 CWD Expenditures
 Year
 Amount
 %GFF

 2002
 \$855,651
 98%

 2003
 \$1,150,845
 97%

 2004
 \$1,063,223
 96%

 2005
 \$63,795
 53%

 2006
 \$32,058
 98%

 2007
 \$43,641
 51%

 2008
 \$157,528
 50%

 2009
 \$437,414
 36%

 2011
 \$343,853
 1%

 2012
 \$271,862
 32%

 2013
 \$55,010
 100%

 2016
 \$57,058
 100%

 2015
 \$5,502
 100%

 2016
 \$57,058
 100%

 2015
 \$5,400
 100%

 2016
 \$57,058
 100%

 2016
 \$57,058
 100%

 2017
 \$1,09,494
 100%

 2018
 \$1,30,000*
 100%

 2016
 \$87,6158
 100%

 2017
 \$1,00,948
 100%

 2018
 \$1,30,000*
 100%

2018 \$140 00 \$120 * \$130* \$115 106 \$10 \$100 \$80 \$60 \$4 \$40 \$20 \$16 \$3 \$4 \$0 \$7,237,758 is Game and Fish Spending



							Deer L	icense Sal	les	
Statewide						347, 348, 603 Only				
	Statewide		Southeast			Year	Total	Difference		
Year	Total	Diff.	Total	Difference		2016	6,173			
2009	491,984		40,077			2017	5,749	-6.9%		
2010	496,132	0.8%	39,003	-2.7%		2018	5,483	-4.6%		
2011	499,712	0.7%	39,417	1.1%	, I.,					
2012	516,076	3.3%	40,220	2.0%		14	}	L-~~		
2013	512,413	-0.7%	39,589	-1.6%		5 de	Tin		7	
2014	499,831	-2.5%	39,457	-0.3%		<u>ب</u>	L-T-		2	
2015	504,518	0.9%	40,365	2.3%			h	L-		
2016	501,311	-0.6%	39,640	-1.8%		CWD Man	it Area 603 agement Zone	» ل ^ي ا		
2017	490,100	-2.2%	37,307	-5.9%		Ceer Perm 300 Series	t Area	(min		
2018	474,908	-3.3%	35,770	-4.1%						
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Funding and Expenditures

- 500,000 deer hunters contribute at least 0.5 Billion annually to state economy.
- Response will cost ~\$1.3 Million this year (not including Law Enforcement)
- CWD surveillance around infected cervid facilities is expensive (\$150K/year/3 years each). Cost is currently borne by hunting license buyers.
- If deer hunters quit because of CWD, the long-term economic losses would exceed the cost of short-term surveillance and management.
- Losing hunters in the area at higher rates than across the state likely due to CWD risk perceptions.



Southeast Deer Movement Study

 Document dispersal patterns and estimate activity ranges of juvenile males and females (≈ 1-year-old), and adult males (>2-years-old).

Objectives

- Use dispersal information to map and inform corridors of possible CWD spread.
- 3. Determine cause-specific mortality for population modeling.



Southeast Deer Movement Study-Spring Disperal

Preliminary Results

- Average dispersal distance for juvenile females was 18.9 miles and 9.1 miles for juvenile males.
- Juvenile females have higher probability of dispersing in spring and traveled twice that of males.
- Longest trek was from a juvenile female - 77mi
- This in only Year 1 of the study, several more years of monitoring movements of juveniles are planned.



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Challenges

- Land Access mostly private, also difficulty getting permission on other State (non-DNR), County, and City properties.
- Difficulty explaining science vs. emotions. Our concern is the long-term implication of the disease to deer. We have a hard time explaining something you can't see right now.
- Funding. Response is expense, can't be solely supported by hunters over the long-term.
- Narrow window to be successful. Longer the disease exists, the lower likelihood it can be eliminated.
- Deer move all over the landscape how big should the zone be?