

Chronic Wasting Disease Overview

MISSISSIPPI DEPARTMENT OF WILDLIFE,
FISHERIES AND PARKS



Mississippi CWD Overview



- ▶ CWD has been found in Issaquena County in free-ranging white-tailed deer
- ▶ Provide a background of CWD
- ▶ Discuss concerns about the disease
- ▶ Provide summary of MDWFP's sampling history
- ▶ Provide summary of MDWFP's Response

CWD Basics

- ▶ Contagious, fatal neurodegenerative disease that affects members of the Cervidae (deer) Family
 - ▶ Always fatal, no cure
- ▶ Known as a Transmissible Spongiform Encephalopathy (TSE)
 - ▶ Same family as scrapie in sheep and BSE in cattle
 - ▶ Creutzfeldt-Jakob disease (CJD) in humans
- ▶ Infectious agents are called prions, which are abnormally folded proteins
- ▶ Very resilient to enzymes, chemicals, heat, disinfectants, and time
- ▶ Infection can occur through ingestion, direct contact of animals, and indirectly through the environment
 - ▶ Prions found in saliva, feces, urine, blood, and decaying carcasses
 - ▶ Infectious prions can be shed within 6 months of acquiring
 - ▶ Long incubation period
 - ▶ Clinical symptoms can appear within 16-60 months

▶ Clinical Signs:

- ▶ Most commonly adults, but also found in yearlings
- ▶ Incubation up to 16-60 months
- ▶ Disease is always progressive and always fatal
- ▶ Loss of body condition
- ▶ Change in behavior
- ▶ May walk repetitive courses
- ▶ Wide base stance
- ▶ Excessive drowsiness/sleepiness
- ▶ Head and ears lowered
- ▶ Excessive drinking and urination
- ▶ Excessive salivation



Disease Detection

- ▶ No practical, USDA certified, live animal test



- ▶ Microscopic examination of the obex and lymph nodes



Disease Distribution:

▶ Total:

- ▶ 25 States
- ▶ 2 Canadian Provinces
- ▶ South Korea

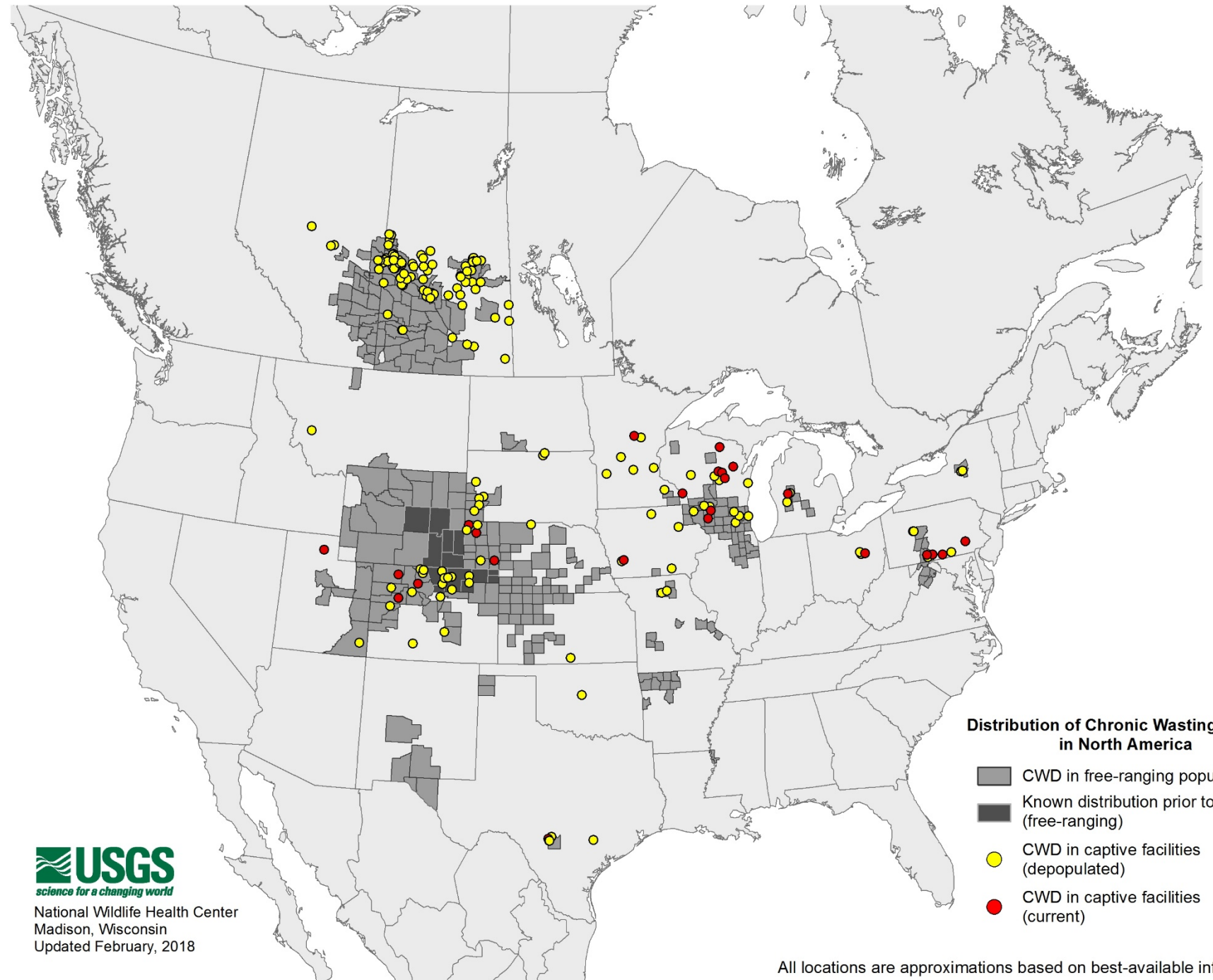
▶ Wild:

- ▶ 22 States
- ▶ 2 Canadian Provinces

▶ Captive :

- ▶ 15 States
- ▶ 2 Canadian Provinces

- ▶ First recognized in 1967 in captive mule deer in Colorado



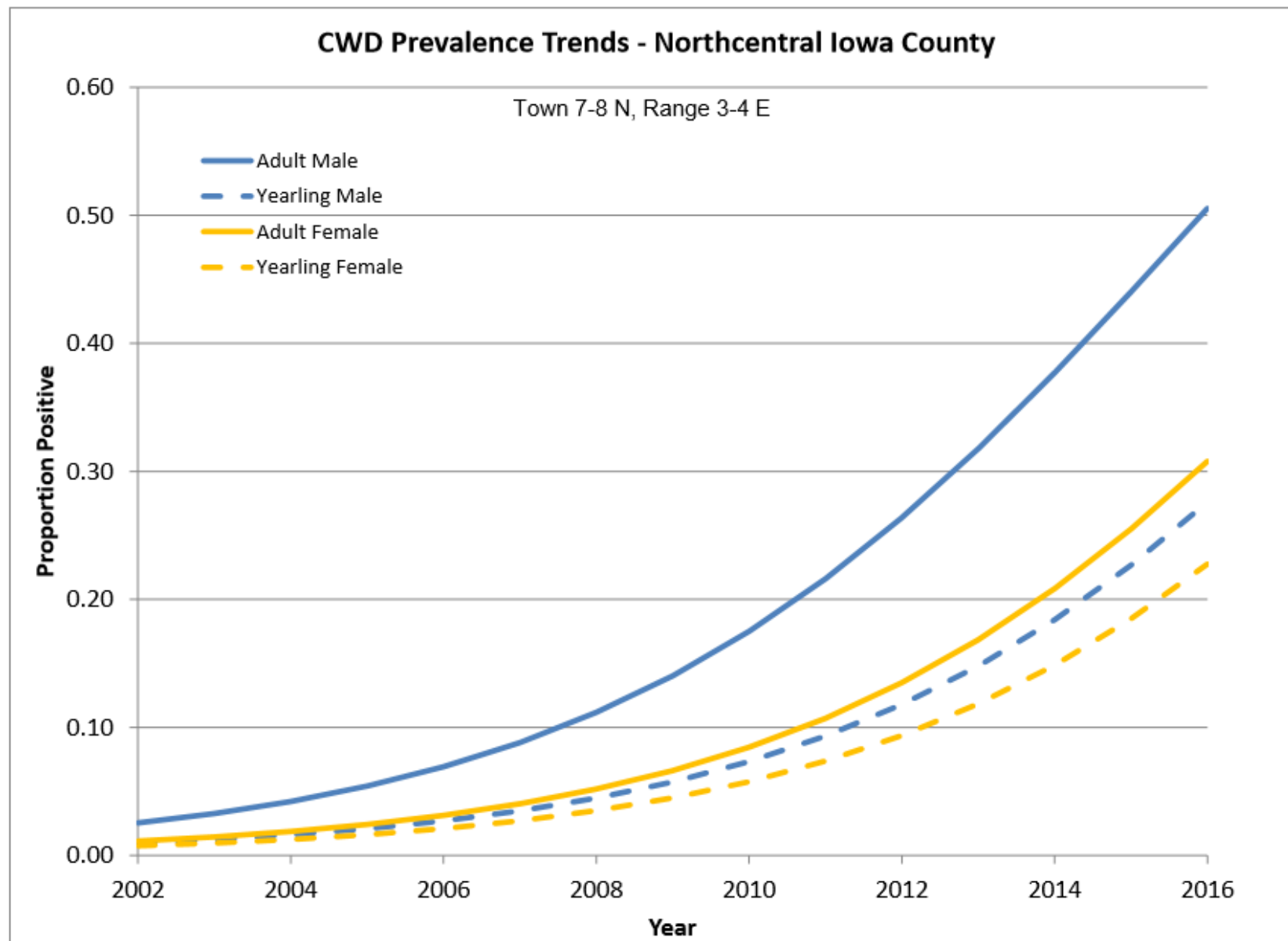
National Wildlife Health Center
Madison, Wisconsin
Updated February, 2018

All locations are approximations based on best-available information

Why the Concern?

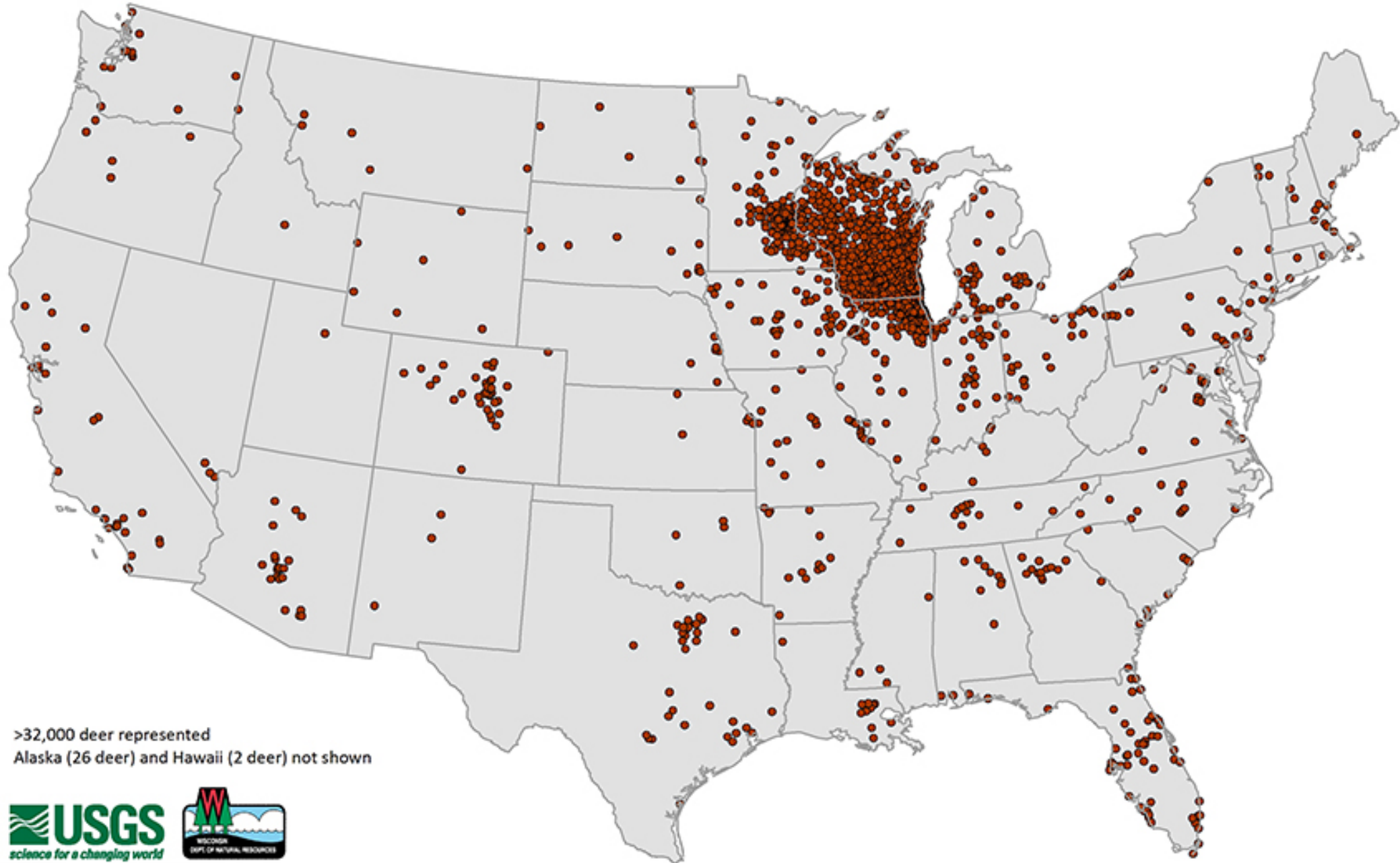
- ▶ MDWFP Mission – “...conserve and enhance Mississippi’s wildlife, fisheries, and parks, provide quality outdoor recreation, and engage the public in natural resource conservation.”
- ▶ Impact on Mississippi’s hunting heritage
- ▶ Affects deer population dynamics and management
- ▶ Potential human health concerns
- ▶ Persistent, long-term battle associated with disease

Iowa County, Wisconsin



Home Zip Codes of hunters harvesting deer in Dane, Iowa, Richland and Sauk Counties, Wisconsin, 2016-2017

Data: Wisconsin Department of Natural Resources



>32,000 deer represented
Alaska (26 deer) and Hawaii (2 deer) not shown



Human Health Concerns

- ▶ To date, there have been no reported cases of CWD infection in people. However, animal studies suggest CWD poses a risk to some types of non-human primates, like monkeys, that eat meat from CWD-infected animals or come in contact with brain or body fluids from infected deer or elk. These studies raise concerns that there may also be a risk to people.
- ▶ In areas where CWD is known to be present, CDC recommends that hunters strongly consider having those animals tested before eating the meat.

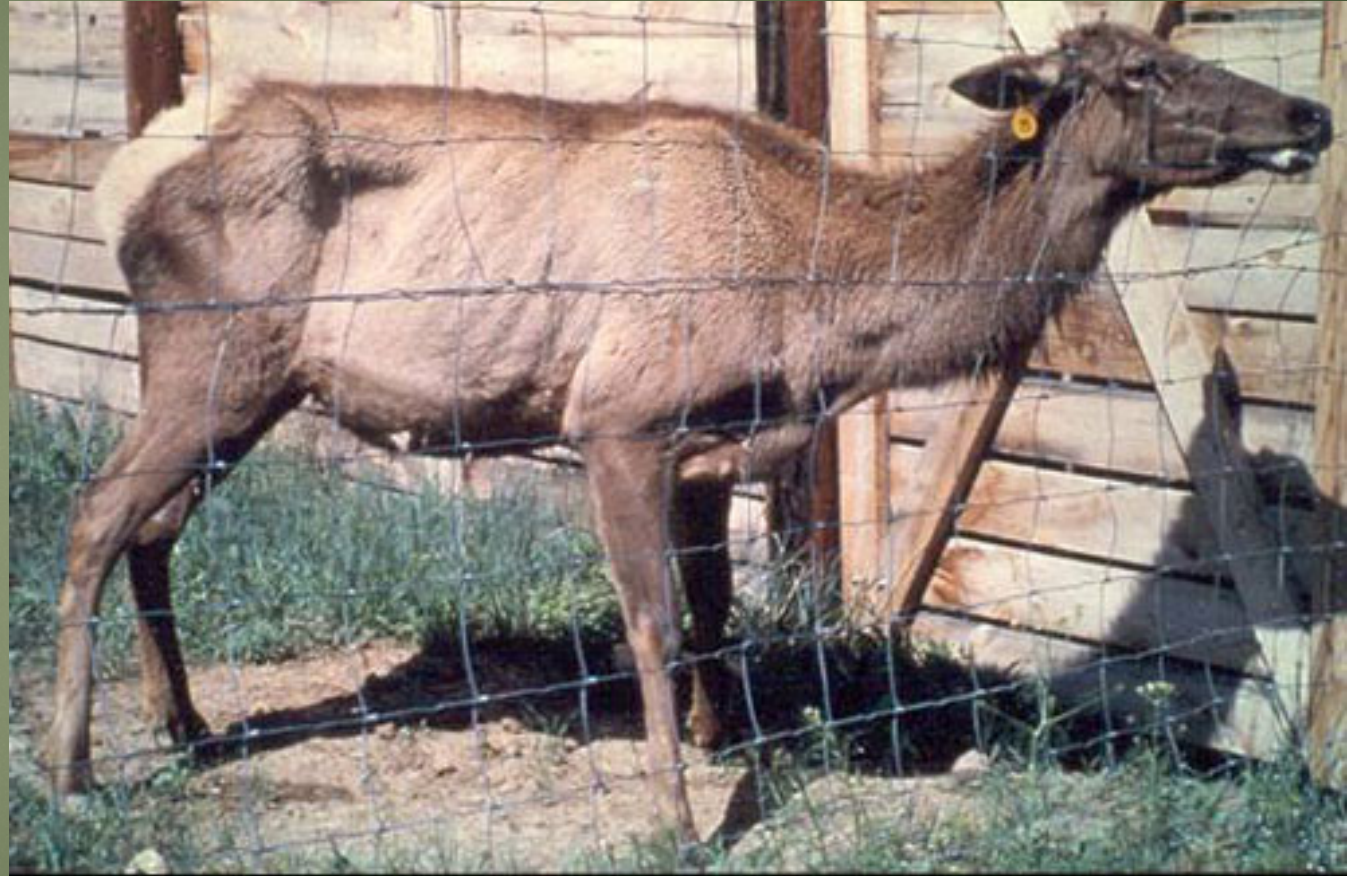


Photo: www.cwd.cc

Preventative Actions

Prevention continues to remain the best strategy for disease management

- ▶ Surveillance of free-ranging deer began in 2002
 - ▶ Over 14,000 white-tailed deer tested since 2002
 - ▶ Samples from all 82 counties
 - ▶ Hunter harvested, taxidermy, road-kills, and sick animals
- ▶ Moratorium on importation of live cervids (2003, 2007)
- ▶ Cervid Carcass Importation Restriction (2016)
- ▶ Random and targeted surveillance of cervid populations
 - ▶ MDWFP responded to numerous sick deer reports statewide

Table 1. All CWD samples collected statewide from 10/1/2017 through 4/26/18.

	CWD Positive	Not Detected	Pending	TOTAL
Statewide	1	1,306	116	1,422

Table 2. CWD Management Zone road-killed, hunter harvested, or reported diseased samples collected as of 4/26/18.

County	CWD Positive	Not Detected	Pending	TOTAL
Claiborne	0	48	2	50
Hinds	0	28	0	28
Issaquena	1	29	5	34
Sharkey	0	7	0	7
Warren	0	48	8	56
Yazoo	0	62	17	77
TOTAL	1	222	32	252

Table 3. CWD Management Zone response operation samples as of 4/26/2018.

County	CWD Positive	Not Detected	Pending	TOTAL
Claiborne	0	0	0	0
Hinds	0	0	0	0
Issaquena	0	101	0	101
Sharkey	0	7	0	7
Warren	0	179	0	179
Yazoo	0	37	0	37
	0	324	0	324

CWD Response Timeline

Sunday, January 21, 2018

- ▶ A sick deer in Issaquena County is reported to MDWFP. The deer is placed whole in a walk-in cooler at the hunting club.

Thursday, January 25, 2018

- ▶ MDWFP collected the whole deer (a 4.5 year old buck) and transported it to the MSU Veterinary Diagnostic Lab in Pearl, MS.
- ▶ A necropsy is performed on the deer and a CWD sample is sent to the National Veterinary Services Laboratory (NVSL) in Ames, IA.

Monday, February 5, 2018

- ▶ MDWFP receives a preliminary necropsy report stating the buck had Chronic Severe Fibrinous, Suppurative, Fibrosing, and Necrotizing Bronchopneumonia with Intralesional *Pasteurella multocida* bacteria
- ▶ CWD results were still pending from NVSL

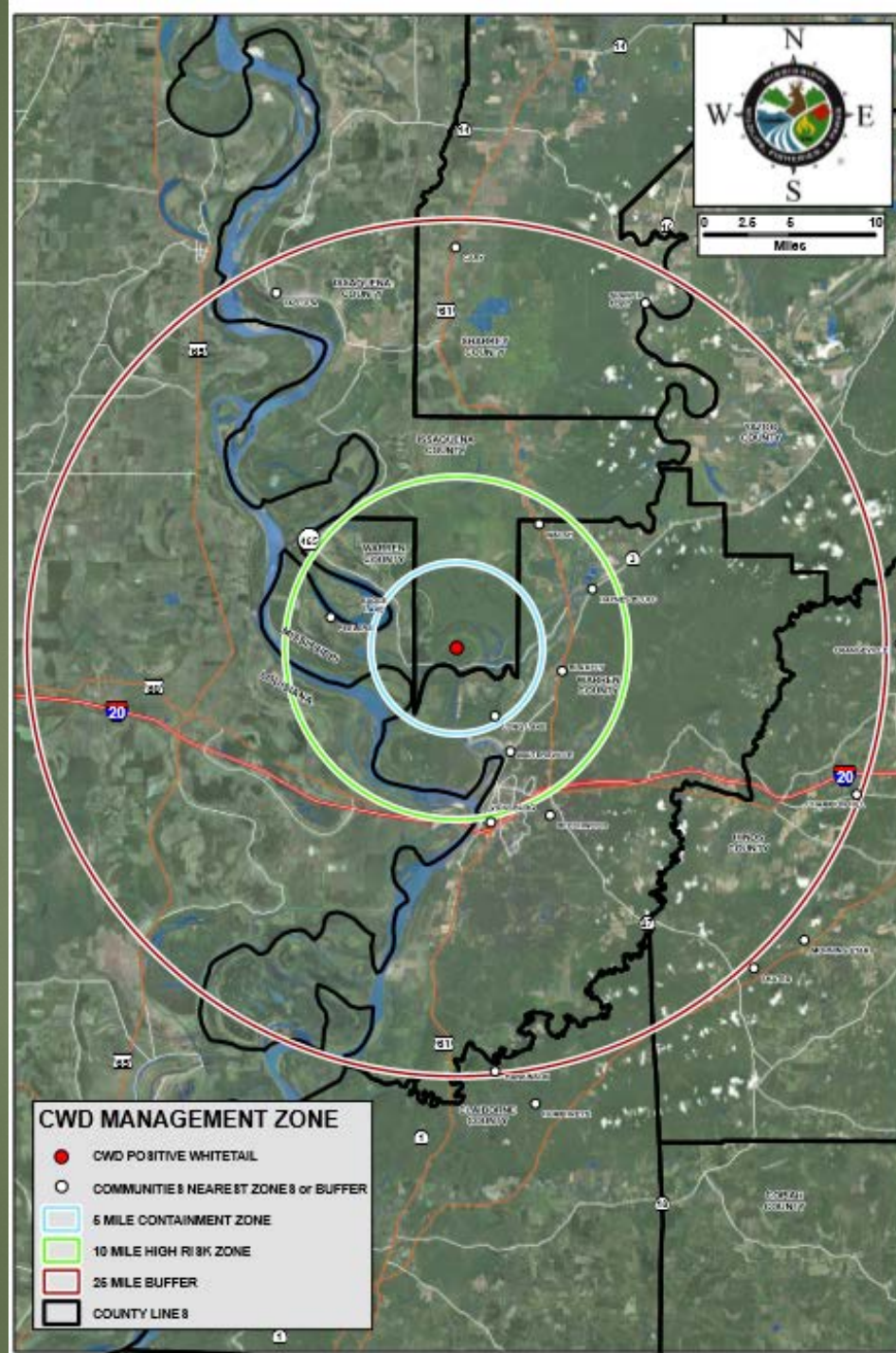
CWD Response Timeline

Friday, February 9, 2018

- ▶ MDWFP receives notification from NVSL that the 4.5 year old buck from Issaquena County was positive for Chronic Wasting Disease
- ▶ The Mississippi Chronic Wasting Disease Response Plan was implemented
- ▶ Press release was published at 4:30 p.m.



CWD Core Zone



Mississippi CWD Response

- ▶ In CWD Core Area (5-mile radius), the goal is to sample white-tailed deer (~300 total).
- ▶ Determine CWD prevalence and spatial distribution in white-tailed deer within the CWD Core Area.
- ▶ 1-2 week turn-around time frame for receiving CWD testing results after weekly sample submission.
- ▶ Work cooperatively with private landowners and conservation partners to collect deer samples.
- ▶ Banned supplemental feeding in the 6-county CWD Management Zone.

How Can You Help?

- ▶ Report any sick or dead deer
- ▶ MDWFP and MDOT meet to discuss protocol regarding road-killed deer.



DEER HEALTH OBSERVATION

If you observe a deer you suspect may be diseased or sick, report it to the Mississippi Department of Wildlife, Fisheries, and Parks at:

1-800-BE-SMART

or

www.MDWFP.com/diseased

SYMPTOMS

- Malnourished / Frail
- Excessive Salivation
- Not afraid of Humans
- Erratic Behavior

