



Mississippi Department of Wildlife, Fisheries, and Parks

Chronic Wasting Disease

Surveillance and Management Report

**2019
2020**



Executive Summary

Wildlife disease management is a primary conservation challenge of today. Chronic Wasting Disease (CWD) is a contagious, always fatal neurological disease affecting deer, elk, and moose. CWD belongs to a group of diseases known as transmissible spongiform encephalopathies (TSEs). It causes a characteristic spongy degeneration of the brains of infected animals resulting in emaciation, abnormal behavior, loss of bodily functions, and death. Currently, there is no known cure or vaccine.

CWD has long-term implications including:

- Negative impact on deer population dynamics and management
- Persistent, long-term battle associated with the disease
- Impact on Mississippi's hunting heritage

Though many observers try to compare CWD with "mad cow disease", the diseases are distinctly different. Currently, there is no evidence that CWD poses a risk for humans; however, public health officials recommend that human exposure to the CWD infectious agent be minimized as they continue to evaluate any potential health risk.

Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) has a dedicated staff that is passionate about protecting and conserving Mississippi's natural resources. Since 2002, more than 30,000 samples have been collected across 82 counties to monitor for CWD. Preventative measures enacted include bans on importation of live CWD-susceptible cervids and certain portions of cervid carcasses into Mississippi from any state. Further, a CWD Response Plan was adopted by the Commission on Wildlife, Fisheries, and Parks in 2017.



CWD positive deer collected in Pontotoc County - October, 2018

On February 9, 2018, the USDA National Veterinary Services Laboratory confirmed the first ever positive CWD sample collected in Mississippi. A hunter in Issaquena County witnessed the infected 4 year-old buck expire on January 21. The hunter's vigilance was instrumental in detecting Mississippi's first known case of this insidious disease. Upon notification of detection, MDWFP immediately began enacting steps outlined in the CWD Response Plan. The primary goal of the initial phase was to define the geographic extent and prevalence of the disease through targeted sampling. The results of these initial sampling procedures were critical to forming and adapting the management strategy for the disease in the region.

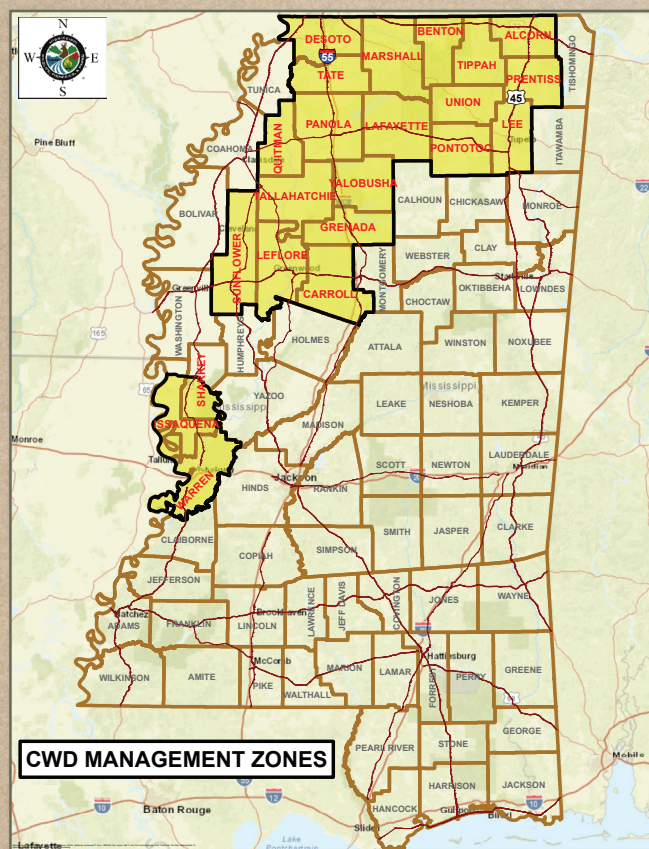
As of July 2020, Mississippi has 54 confirmed CWD-positive white-tailed deer across six counties. Efforts to monitor for and mitigate spread of the disease will certainly continue. MDWFP is dedicated to leading the charge to manage CWD using the best science available, and with continued support of hunters, land-owners, and conservation partners.

CWD Management Zones

Management Zones

Once a CWD positive has been confirmed in a cervid in Mississippi, a CWD Management Zone is established around the detection.

CWD Management Zones as of July 2020



Supplemental feeding is banned (*salt licks, mineral licks, and feeders*) within any MDWFP-defined CWD Management Zone:

Direct contact with prions is the most effective means of transmitting CWD. Research indicates saliva may have the highest concentration of prions. Thus, to minimize concentration of deer and potential spread of CWD, supplemental feeding is banned.



Carcasses may not be transported outside of a CWD Management Zone

Research has shown that decomposed carcasses of infected animals can also contribute to transmission when prions bind to soil and plant material. Thus, movement of carcasses may introduce CWD into previously uninfected areas.

CWD Sample Collection



CWD Surveillance Methods

Large-scale sampling is important for monitoring statewide for the presence of CWD. Immediately following the Issaquena County confirmation, MDWFP began outlining strategies for increased sample collection.

Testing: All samples from July 2019–June 2020 were tested using enzyme-linked immunosorbent assay (ELISA) at the Mississippi State Veterinary Diagnostic Lab in Pearl, MS. All suspect positives via ELISA testing were sent to the National Veterinary Diagnostic Lab in Ames, IA for confirmation via immunohistochemistry (IHC).

Sampling of hunter-harvested deer:

MDWFP used four sources to collect samples from hunter-harvested deer.

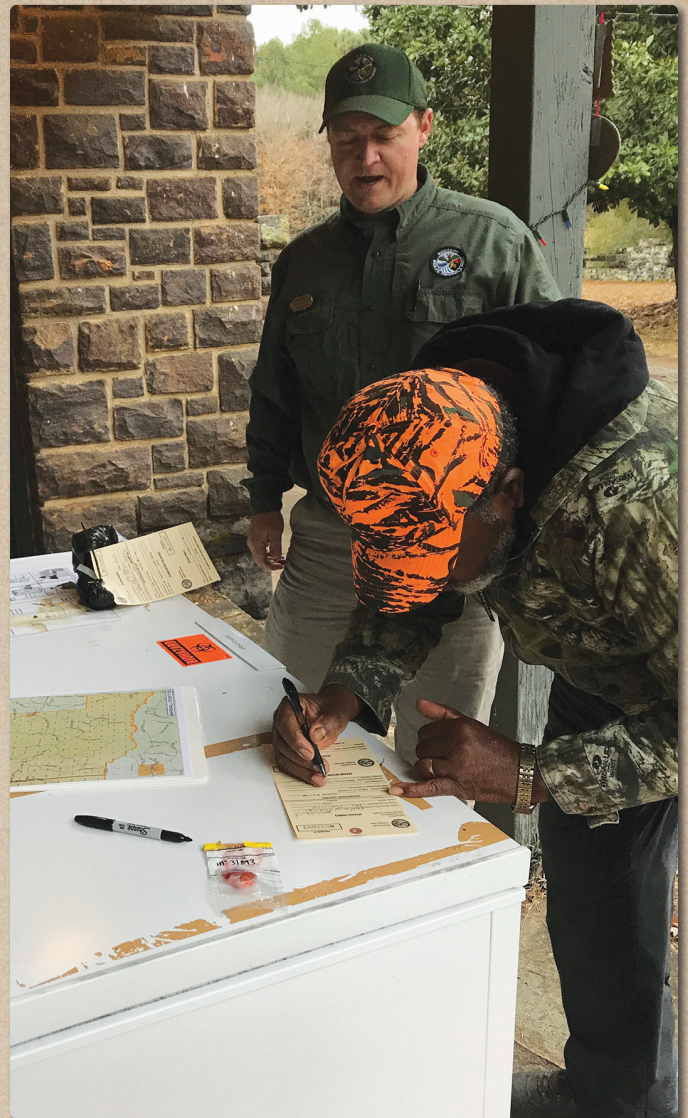
- 1) CWD drop-off freezers
- 2) Deer Management Assistance Program (DMAP) properties
- 3) taxidermists
- 4) check-stations

Road-kills: MDWFP staff collected CWD samples from road-killed deer statewide.

Sick/Target deer: MDWFP staff collected CWD samples from reported sick/target deer statewide.

Other agencies/individuals authorized by special permits: CWD samples were collected from deer euthanized by airport and military personnel.

Assisting partners: Assisting agencies who contributed to CWD sample collection include Mississippi State University, USDA/APHIS/WS, USFWS, MS National Guard, MDOT, USFS, Board of Supervisors and other county officials from Warren, Issaquena, Lamar, Pontotoc, Benton, Marshall, Panola, and Tallahatchie counties.



CWD Surveillance Results / July 2019–June 2020

NUMBER OF
CWD-POSITIVE
DETECTIONS

35

MDWFP
RESPONSE
TOTAL
MAN-HOURS

6,708

Total number of CWD samples collected statewide:

TOTAL
SAMPLES

8,484

FREE RANGE
SAMPLES

7,648

ENCLOSURE
SAMPLES

836

CWD samples by method:

SAMPLES
BY
DROP-OFF
FREEZERS

2,326

SAMPLES
BY ALL OTHER
HUNTER
HARVESTS

4,850

SAMPLES
FROM HERD
HEALTH
EVALUATIONS

18

SAMPLES
BY
ROAD KILL

351

SAMPLES
BY
SICK / TARGET

121



Counties with CWD-positive deer and associated prevalence:

All samples

BENTON
COUNTY

26

POSITIVES

7.7%

PREVALENCE
RATE

(26 of 362)

MARSHALL
COUNTY

9

POSITIVES

1.7%

PREVALENCE
RATE

(9 of 529)

2.5 + year old bucks

BENTON
COUNTY

13.4%

PREVALENCE
RATE

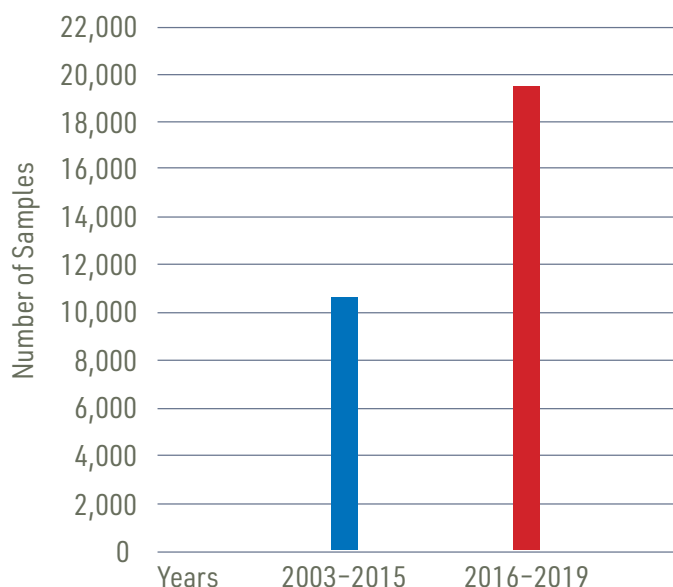
MARSHALL
COUNTY

3.2%

PREVALENCE
RATE

Statewide Surveillance / 2016–Present

2016–2019 Sample Collections



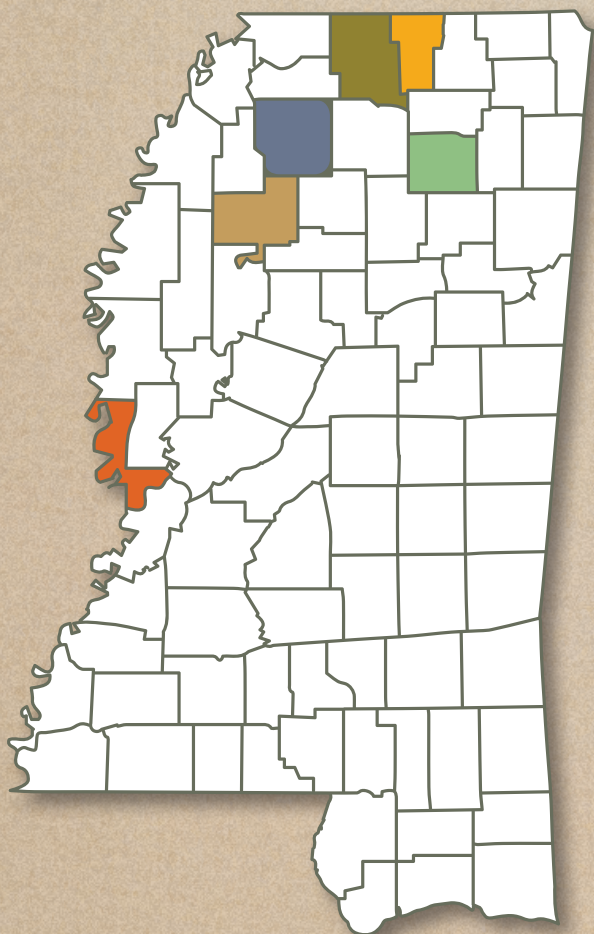
2003–2015 CWD Samples

10,368

2016–2019 CWD Samples

19,518

*2016 marked the beginning of increased sample collection in response to detection of CWD-positive white-tailed deer in Arkansas.



CWD-positive deer by county, since 2018

BENTON
COUNTY

33
POSITIVES

ISSAQUENA
COUNTY

2
POSITIVES

MARSHALL
COUNTY

16
POSITIVES

PANOLA
COUNTY

1
POSITIVE

PONTOTOC
COUNTY


1
POSITIVE

TALLAHATCHIE
COUNTY

1
POSITIVE



CWD is one of many conservation challenges that has arisen over the last century. Hunters are vital to successfully managing CWD and ensuring healthy white-tailed deer herds for future generations. MDWFP thanks all hunters for continuing to stay actively engaged in this conservation effort!



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

<input checked="" type="checkbox"/> Malnourished / Frail <input checked="" type="checkbox"/> Not afraid of Humans	<input checked="" type="checkbox"/> Excessive Salivation <input checked="" type="checkbox"/> Erratic Behavior
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MDWFP's Private Lands Program is ready to assist you in managing wildlife and habitat on your land. To learn more go to: MDWFP.com/privatelands

Front cover photography: Monita McCool
Back cover photography: Paul T. Brown