

Wildlife Health Update



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Presentation Roadmap

- West Nile Virus
- Highly Pathogenic Avian Influenza
- Bovine Tuberculosis
- Chronic Wasting Disease
- Resources and Summary
- Questions



West Nile Virus

- Caused by a mosquito bite
- Leads to encephalitis and/or meningitis (inflammation of the brain/associated tissues)
- WNV primarily infects and multiplies in birds, which serve as reservoirs for the virus.
- 2016: 66 total positive in 35 counties
- To date 2017: 198 total positive in 60 counties



West Nile Virus: Wildlife as Sentinels

- When the level of virus transmission among birds and mosquitoes becomes high, horses and humans can be infected
- To date 2017: 46 human cases
- To date 2017: 16 equine cases
- www.michigan.gov/westnilevirus



Highly Pathogenic (HP) Avian Influenza

(HP) Avian Influenza

- ▶ Avian influenza viruses are not uncommon in waterfowl
- ▶ Two groups:
 - ▶ Low path (LPAD)-variety of outcomes in poultry; little to no signs in waterfowl
 - ▶ High path (HPAD)-high mortality in poultry (chickens)
- ▶ Subtypes classified by surface proteins (H_N_)
 - ▶ H5 and H7 have potential to mutate/evolve into HPAI



(HP) Avian Influenza

2015 US HPAI outbreak in wild birds and poultry

- Loss of 49.6 million commercial birds
- 232 farms in 21 states
- Industry cost - \$1.6 billion
- Federal cost - \$1.0 billion



(HP) Avian Influenza

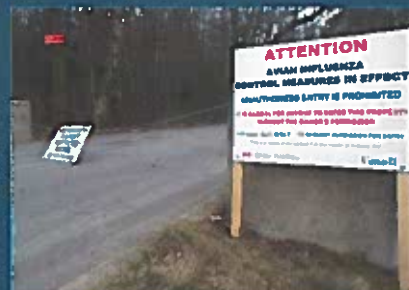
2015: in "our" flyway

- IA estimated losses at \$1.2 billion
- MN estimated losses at - \$1.0 billion
- MI:
 - Wild Canada Geese
 - Poultry Shows canceled



Role of wild birds?

- 98 HPAI positives detected in 7,084 samples
- "Little is known about the role wildlife plays in spreading the disease to domestic poultry"
- Biosecurity is key



(HP) Avian Influenza

- Four priority watersheds:
 - Southeastern Lake Michigan
 - St. Clair-Detroit
 - Southwestern Lake Huron
 - Western Lake Erie
- Three seasonal periods:
 - Summer (May-Aug)
 - Fall (Aug-Dec)
 - Winter (Dec-Feb)

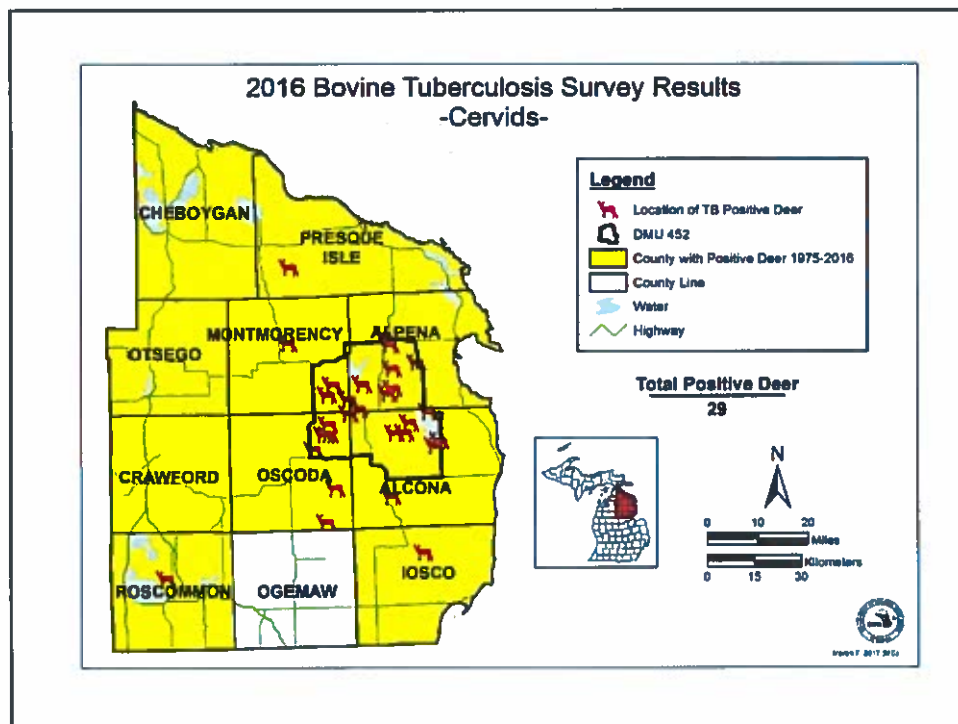


(HP) Avian Influenza

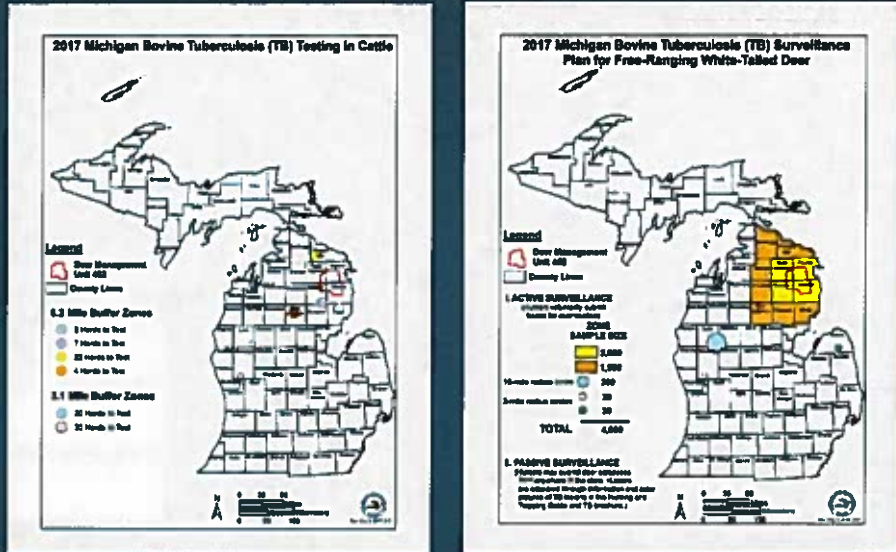
- Based on a 2017-2018 sampling goal of 375 birds, we have tested 317 (85%) to date
 - 117 of these birds have been hunter harvested, with the remaining 200 as live bird samples
- 4 birds have been tested from morbidity/mortality events
- No highly-pathogenic avian influenza viruses have been detected in MI



Bovine Tuberculosis (TB)



Bovine Tuberculosis



Bovine Tuberculosis

Memorandum of Understanding (MOU) Violation

- The current MOU with USDA permits Michigan to have up to three bovine TB infected herds in the MAZ in a 12 month period
- In 2016, Michigan had five infected herds



Bovine Tuberculosis

Five Levels of Status in National TB Program

- TB Free
- Modified Accredited Advanced (MAA)
- Modified Accredited (MA)
- Accredited Preparatory (AP)
- Non-accredited

Option One:

Downgrade status of four county Modified Accredited to Accredited Preparatory

Option Two:

Downgrade status of entire state to Modified Accredited



Bovine Tuberculosis



December
19-21, 2016
USDA visit to
Michigan

January 2017
Michigan sent
response plan
to USDA

August 10, 2017
USDA met with
MDARD and
MDNR

August 21, 2017
USDA Responds
with two options

October 2, 2017
MDARD and MDNR
thru their respond
with third option

October 16, 2017

USDA met with MDARD and MDNR - Revised MOU is in progress

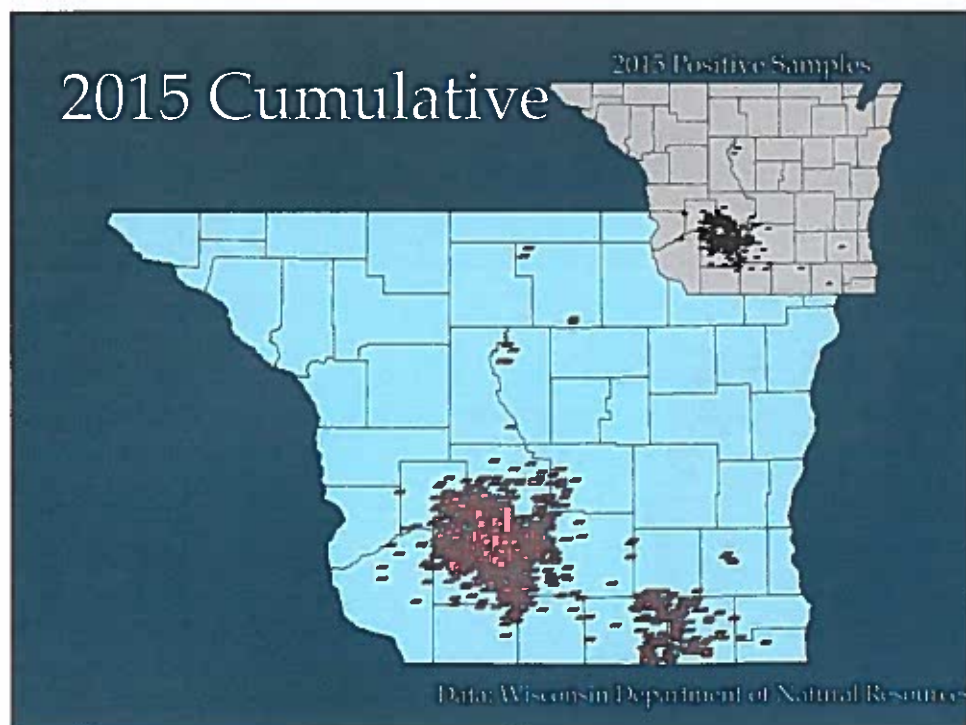
MDARD spent \$98 million and MDNR spent \$33 million in the effort to move 79 of Michigan's 83 counties from MA status to TB Free status (2000-2011)

Chronic Wasting Disease (CWD)

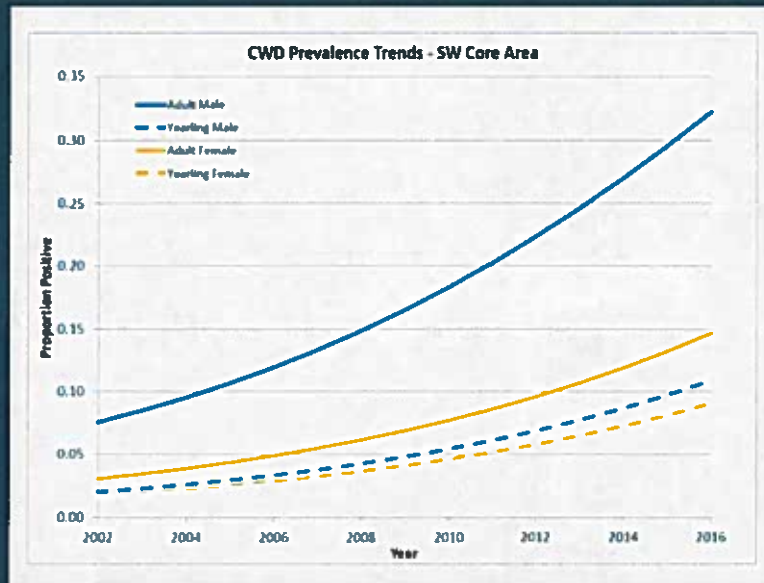
CWD: WI Initial detection in 2001



Data: Wisconsin Department of Natural Resources

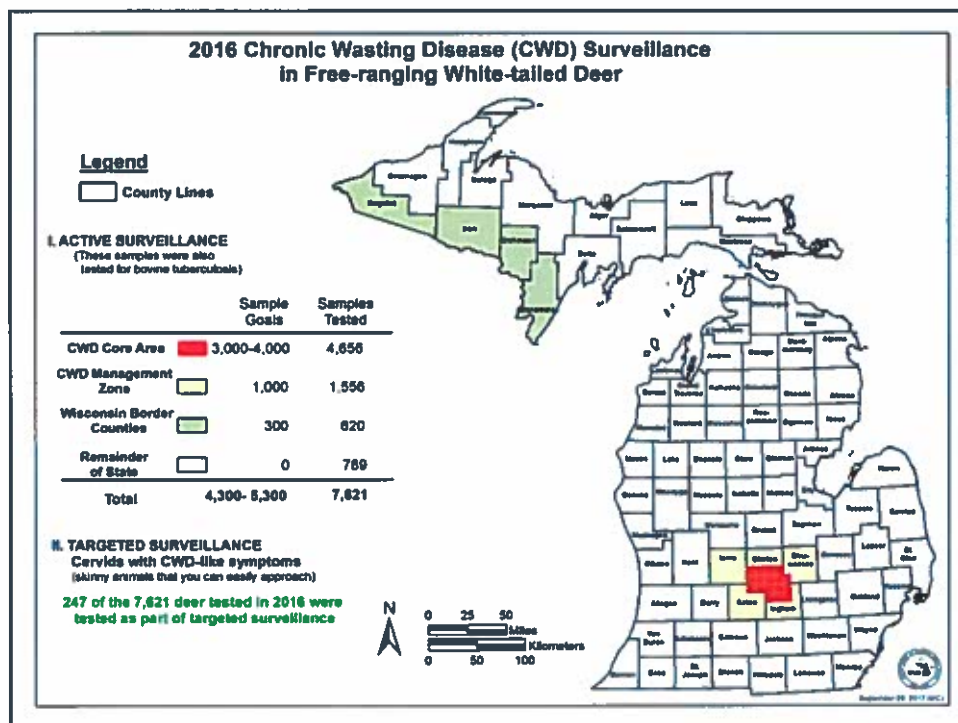


Chronic Wasting Disease (CWD)



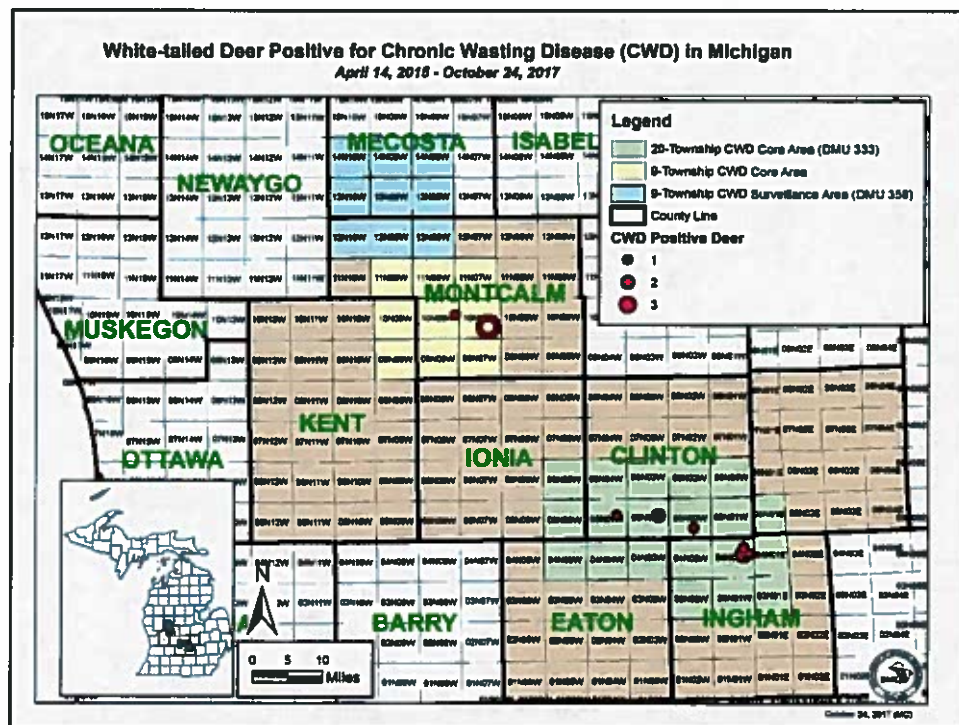
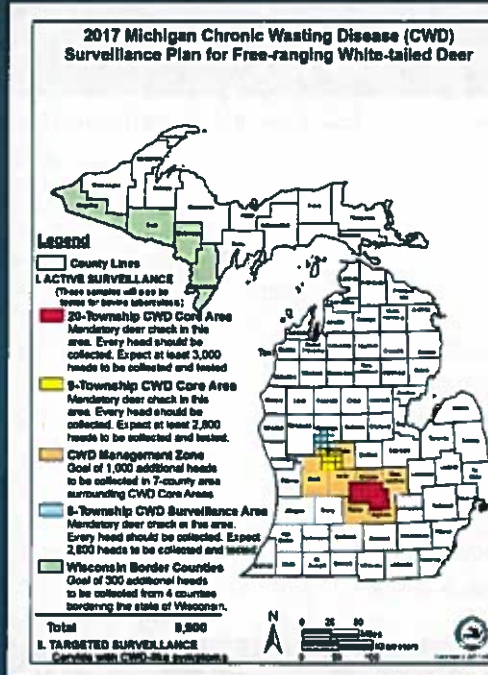
CWD in Michigan's free ranging deer

- ▶ On May 20, 2015, confirmation of a CWD positive deer was received by the DNR Wildlife Disease Lab.
 - ▶ Symptomatic six year old, female deer
 - ▶ Put down by Meridian Township Police in Ingham County
- ▶ Additional Cases (Lansing)
 - ▶ 3 cases confirmed from hunter harvested deer
 - ▶ 5 cases confirmed via USDA Wildlife Services sharpshooters
- ▶ New detection(s) in Montcalm County
 - ▶ 1 case confirmed from hunter harvested deer



Current Surveillance

- 5 focus areas
- Core Areas = CWD in free-ranging deer
- Surveillance Area = CWD in privately-owned cervids
- Management Zone



Michigan's Surveillance Numbers

Deer Tested for Chronic Wasting Disease Since January 1, 2017

As of 11/07/17

	Targeted Deer	Roadkill Deer / Deer Found Dead	Deer taken on Disease Control & Crop Damage Permits	Deer culled by Wildlife Services	Hunter Harvest	Total	CWD Positive Deer
DMU 333 (20 TWP)	20	784	208	358	823	2193	9
DMU 419 (5 County)	24	74	78	5	298	479	0
DMU 359 (9 TWP)	3	210	174	107	618	1112	0
DMU 354 (2 County)	9	12	32	14	121	188	0
Montcalm County Core (9 TWP)	5	2	1	0	165	173	1
Western UP (4 County)	4	72	648	0	11	735	0
Remainder of State	117	24	183	17	225	566	0
Total	182	1178	1324	501	2261	5446	10

Regulation Changes: Montcalm CWD Core Area

- Mandatory Deer check as of November 15
 - Douglass, Eureka, Fairplain, Maple Valley, Montcalm, Pine, and Sidney Townships in Montcalm County
 - Oakfield and Spencer Townships in Kent County
- Heads must be presented to DNR check station within 72 hours of harvest
- Antler point restrictions lifted
- Antlerless deer may be tagged on deer and combo license during Firearms/Muzzleloader
- Disease Control Permits available (free)
- Baiting is strongly discouraged this year

2017 Montcalm-Kent 9-Township CWD Area

Legend

- Montcalm-Kent 9-Township CWD Area
- Mandatory deer check in these 9 townships
- Part of DNR's 664, Montcalm County
- Includes: Leola, Perryman, Maple Grove, Leola, New and Liberty Townships
- Part of DNR's 641, Kent County
- Includes: Carleton and Coopers Townships

Check Stations: The stations below are closed Jan. 22, Dec. 24-25, Dec. 27, and Jan. 1. Daily 8:00 AM to 5:00 PM on Sunday

- 1 Deer Fall River PMA Office**
1142 West Lake Road, Bonding, MI 48609
(517) 746-3443
Open Nov. 15 - Jan. 2, daily, 8 AM - 5 PM
- 2 Montcalm Township Dept.**
1100 South Greenbush Road
22 Highway 4291, Greenville, MI 49930
(517) 746-2023
Open Nov. 1 - Jan. 5, daily, 8 AM - 7 PM
- 3 Mount City Check Station**
145 East Water Street, Mount City, MI 49329
(517) 742-2455
Open Nov. 15 - Jan. 5, daily, 8 AM - 5 PM
- 4 Maple Township Station**
144 South Cass Street, Maple, MI 49336
(517) 746-2455
Open Nov. 1 - 20, daily, 8 AM - 7 PM
Open Oct. 1 - Jan. 13, daily, 8 AM - 7 PM
- 5 Maple Township Dept.**
1100 South Greenbush Road
22 Highway 4291, Greenville, MI 49930
(517) 746-2023
Open Nov. 1 - 20, Mon - Sun, 8 AM - 5 PM
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For more information, [click here](#) or scan the QR code to the right.
 Online site: A non-optimized PDF, or a [Large Screen, Tablet, responsive map tool](#).
 For driving directions from the PDF, click [here](#) or [here](#) to interactive navigator. This geographic PDF is [Geo](#) compatible, for [Android](#), [iOS](#), [PDF](#).


What about EHD*?




EHD-Epizootic Hemorrhagic Disease in waterfowl

EHD vs. CWD








- Virus
- Fast acting
- Mostly fatal
- Transmitted from insect to deer
- Occurs in the fall
- Population can drop rapidly
- Population can recover rapidly
- Not zoonotic

- Prions
- Slowly progressive
- Always fatal
- Transmitted from deer to deer
- Occurs year-round
- Population affected slowly
- Long term consequences
- Public health uncertain

EHD

- Total number of confirmed EHD deer to 20 from 13 counties
- The recent cold nights should kill the midges and stop the transmission of the virus
- Time from exposure to death is approximately 10 days, so within a week we should see an end to mortality caused by this disease



Michigan's 2017 CWD Symposium

- October 3-4, 2017
 - Kellogg Center, Lansing
- Day 1: State of the Science
- Day 2: Science of the States
- CWD Working Group
- www.mi.gov/cwd



What Does the Future Hold?

- Surveillance needed to determine extent of disease (\$\$\$)
- Public health impacts uncertain
- CWD doesn't mean the end of hunting, but it must be mitigated!



CWD Surveillance History

2012: 35 tested

2013: 46 tested

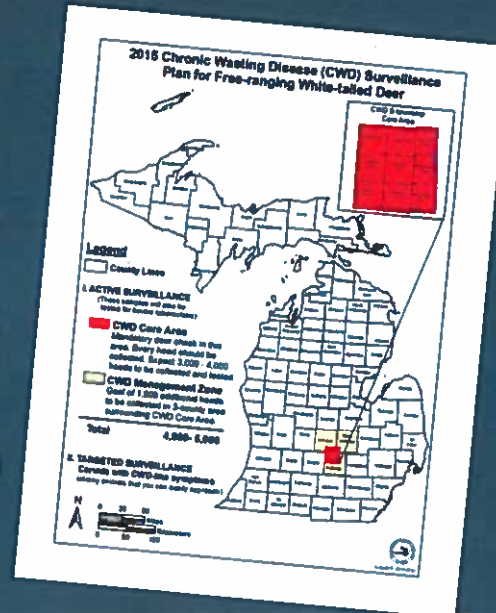
2014: 30 tested

2015: CWD DETECTED

2016: 7,621 tested

2017: likely >10,000

2018: ???



Wildlife Health: Summary

- Wildlife disease actions are about much more than just wildlife
 - Public health, domestic animal and livestock concerns
- Economic impacts can be extensive
- Surveillance is expensive; we are constantly improving it
 - Test smarter, not harder
- Surveillance does not equal management
 - Need to be proactive
- Emerging diseases present new challenges



