

Bovine Tuberculosis

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Outline

- Where Have We Been
- Where Are We
 - Saginaw Outbreak
 - RFID Task Force
 - WRM
- Where Are We Going
 - MOU
 - TB Study

Mycobacterium bovis

- Gram-positive acid-fast bacterium
- Widest range of hosts
- Disease of respiratory system
- Zoonotic disease



Why Worry About Bovine TB?

- Public Health Risk
- Viability of Agriculture Industry
- Economic Loss to State

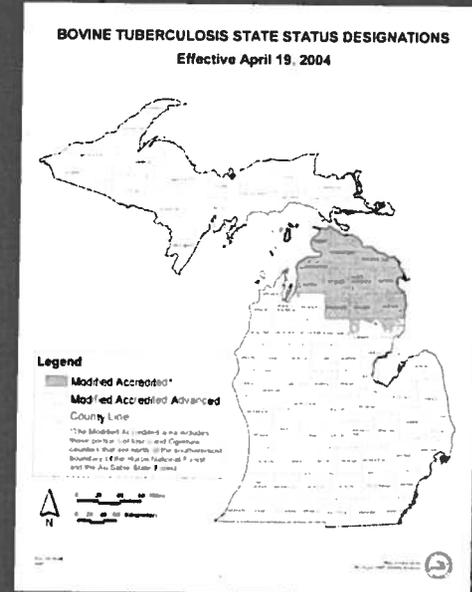




1998



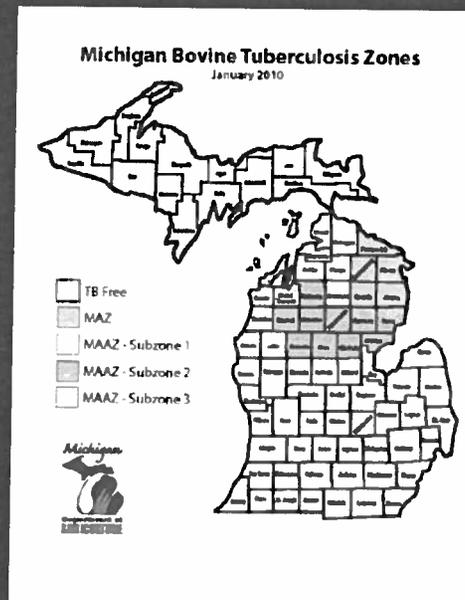
2000 - 2004



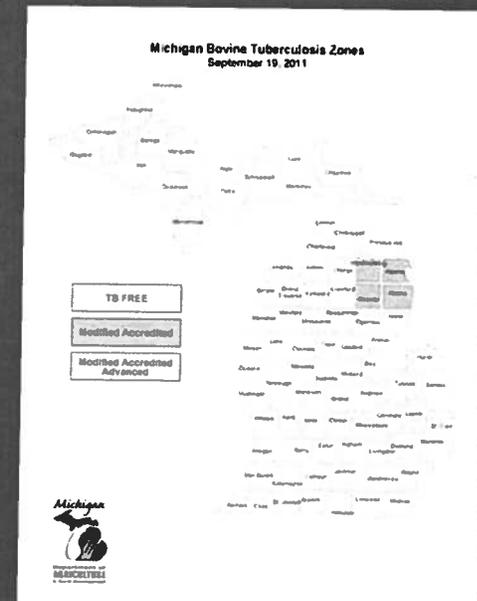
2004 - 2005



2005 - 2009



2010 - 2011



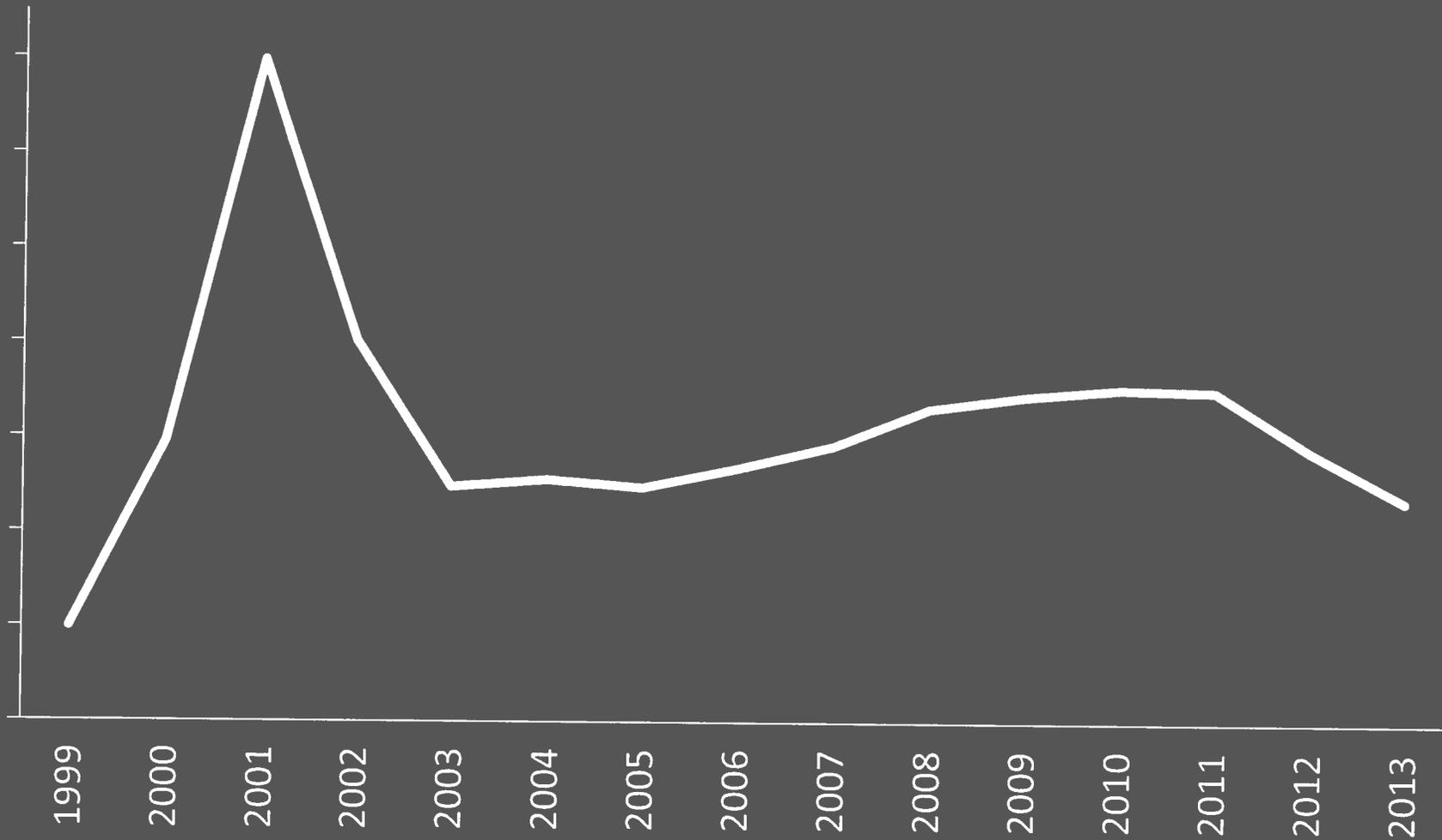
current

Cattle Numbers

- Over 1.9 million cattle tested
 - 40,000 + herds
- 60 Positive cattle operations
 - 78% within current MAZ
- 193 cattle found positive



MDARD Bovine TB Budget



White-Tailed Deer Numbers

- 735 of 200,006 found positive
 - 95% within the current MAZ



Where We Are

- **Wildlife Risk Mitigation**
- **Saginaw Outbreak 2013**
- **RFID Task Force**

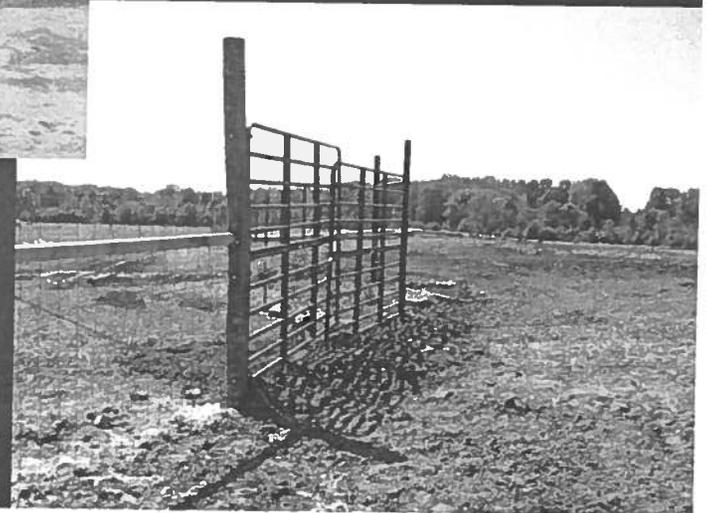
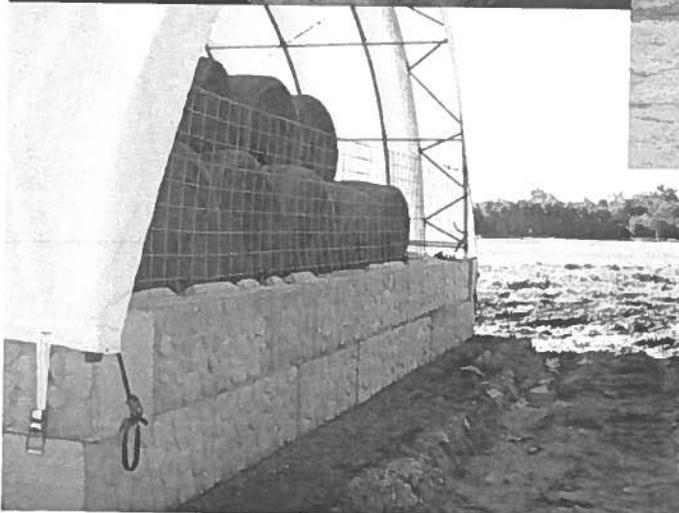
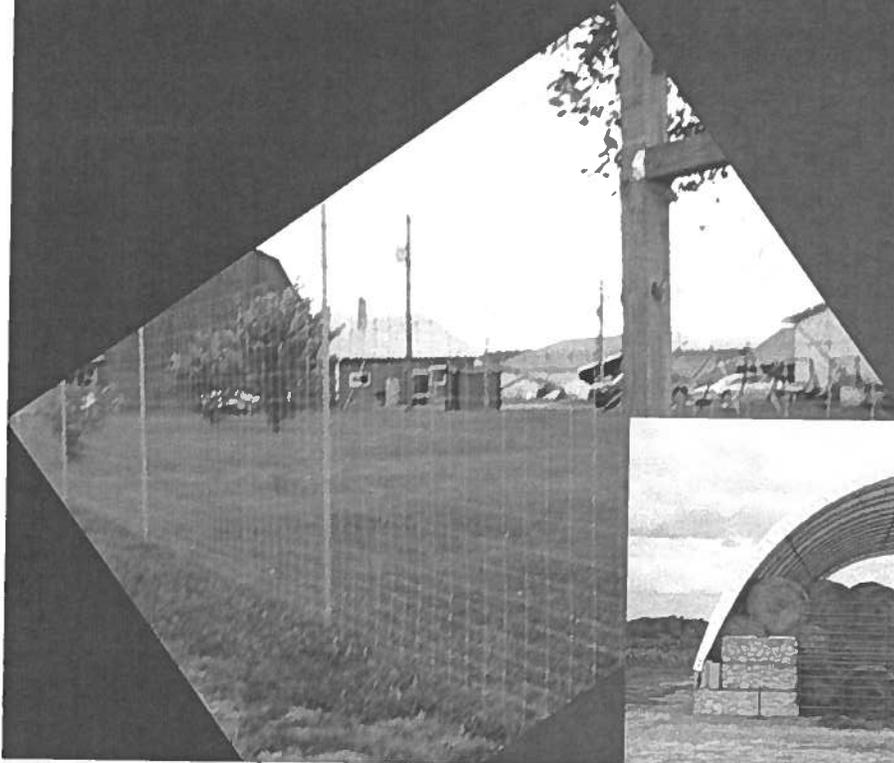
Wildlife Risk Mitigation

- Implemented in 2008
- Initiated to reduce the wildlife/cattle interface
- Identify and mitigate high risk areas
- Key areas focus:
 - Store feed safely
 - Feed cattle safely
 - Water cattle safely

Wildlife Risk Mitigation

Year	Farms Involved	Farms Verified
2009	340	339
2010	349	346
2011	186	186
2012	83	80
2013	69	48
Total	1027	999

Reduced Risk Hay Storage



Where We Are

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Background

- **February 19** - cow discovered at slaughter
- **February 25** - Saginaw herd quarantined
- **February 28** - **slaughter cow** bovine TB positive
- **March 12** - Michigan strain of bovine TB

Background

- **March 4-7** - herd TB tested.
18% of cattle responded to TB testing
- **March 25** - Saginaw herd designated TB affected
- **May 1** - **Gratiot and Midland County** herds designated as TB affected
- **September 5** - **Arenac County** feedlot designated as TB affected

Outcomes - Infected Herds

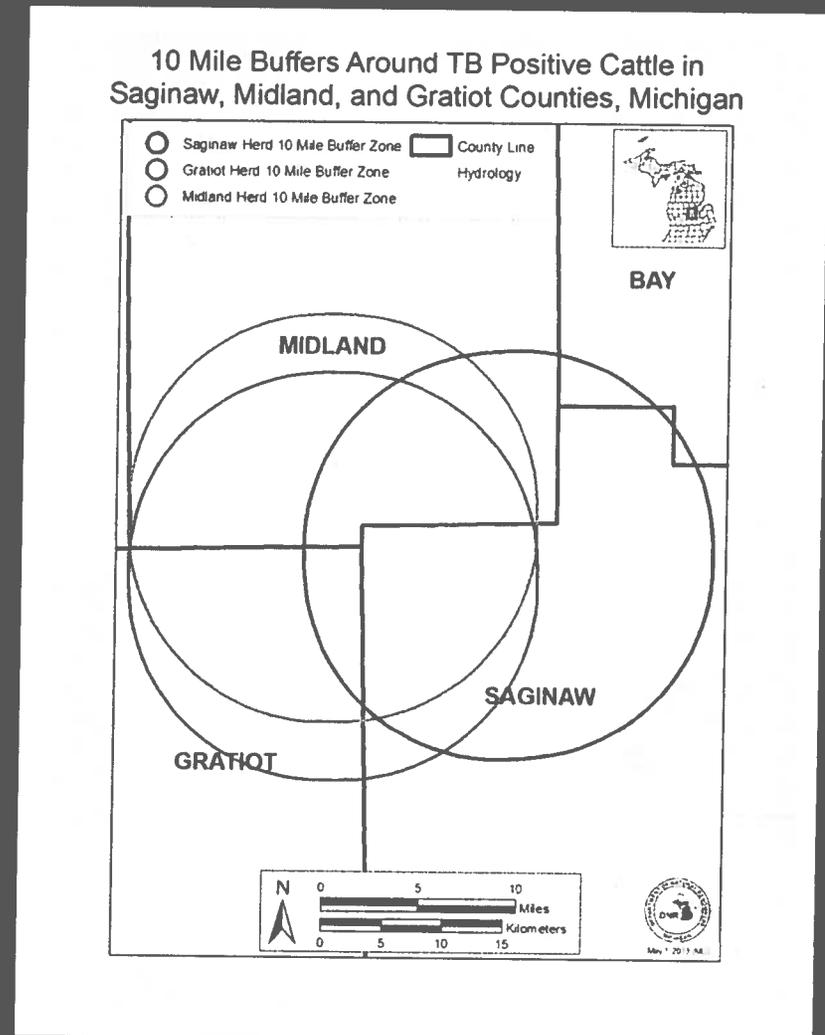
- **June 7** - Small freezer beef herd depopulated in Midland County.
- **June 19** - Small dairy beef herd depopulated in Gratiot County.
- **August 8** - Saginaw dairy herd completed depopulation.
- **February 3** - Arenac herd depopulated.

Trace Investigations Outcomes

- 230 farms visited that were linked to the four infected farms
- 83 of the 230 herds needed TB test - 14,994 head of cattle TB tested.

Circle Testing Outcomes

- Public Act 466 - requires circle testing
- Typically 10-mile circles
- Three overlapping circles

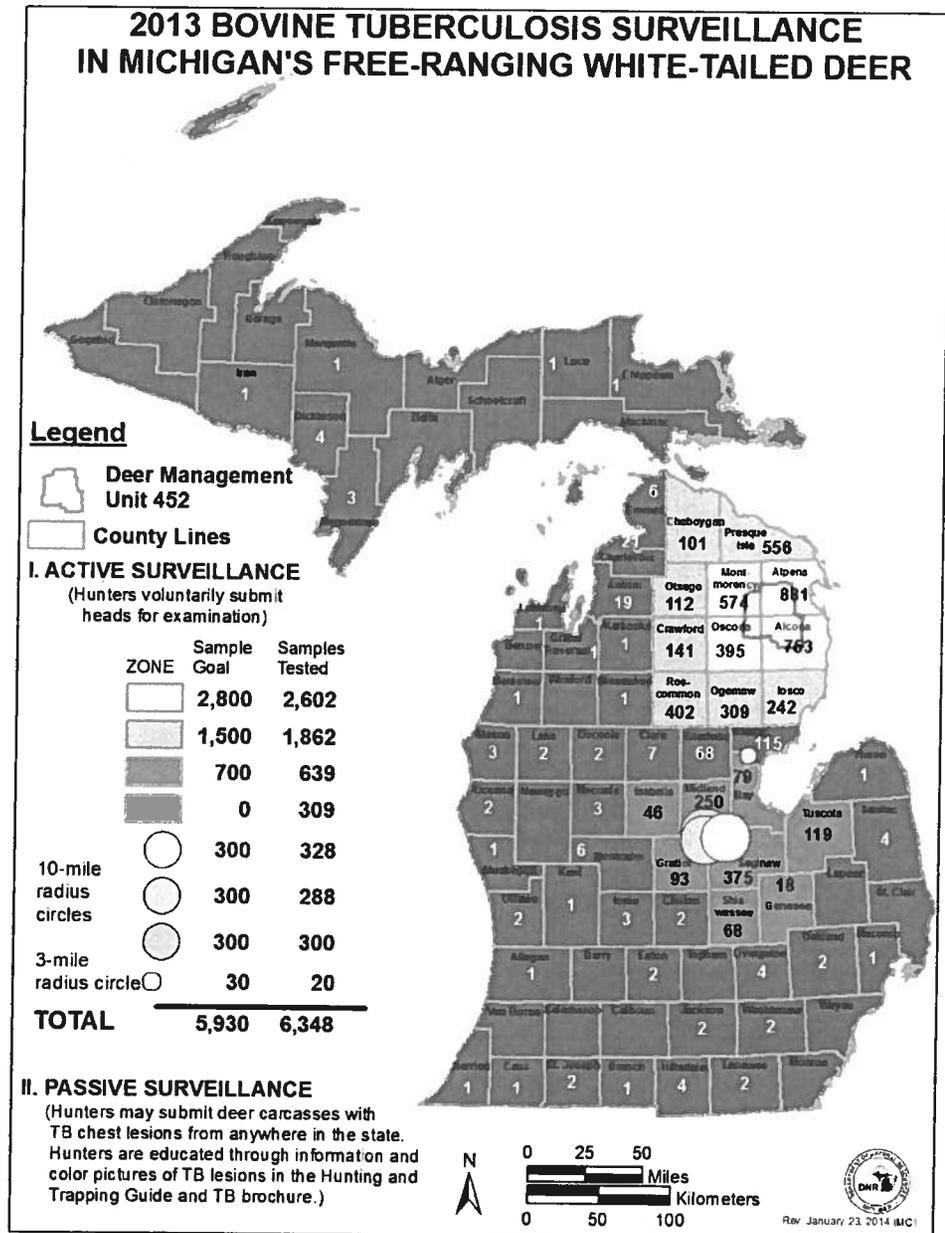


Circle Testing Outcomes

- Saginaw Circle
37 farms TB tested 876 head of cattle
- Gratiot Circle
48 farms TB tested 4,415 head of cattle
- Midland Circle
15 farms TB tested 5,508 head of cattle
- Arenac Circle
Testing is on going
- No further disease discovered !



- Enhanced Surveillance to detect TB in the Deer Herd
- If TB is found – the DNR will respond appropriately



How Saginaw Herd Became Infected

- Genetic test show similar to cattle and wildlife in NE Lower Peninsula's
- To date all wildlife testing in Saginaw region has been negative.

How Saginaw Herd Became Infected

- Trace investigation found that Saginaw herd last purchased female cattle in mid-90s.
- Three source herds -
6,085 head of cattle were negative
- Cattle purchased in mid-90's -
most likely source of infection

How Saginaw Herd Became Infected

- Multiple factors likely involved
 - Stress of heat and drought
 - High concentration of cattle
 - Stress of calving
 - Feeding unpasteurized milk to calves

Lessons Learned

- Raw milk viable source of infection
 - Source of infection for two of three additional farms

Important to identify all cattle with RFID tags
2012 bull calves without RFID tags
complicated the investigation

Where We Are

- Wildlife Risk Mitigation
- Saginaw Outbreak 2013
- **RFID Task Force**

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RFID Task Force

- Membership:
 - MMPA
 - MCA
 - MFB
 - MSU Extension
 - Feedlot Owners
 - Veterinarian
 - Livestock Market

Objectives

1. Make recommendations on RFID Program
2. Make recommendations on Cattle Identification for Importation

Previous Exemptions

- Move to a licensed livestock market and receive RFID identification upon arrival
- Move directly from farm to slaughter without having any identification tags
- Cattle exported to other states without RFID
- Cattle moved from farm to pasture without RFID eartag
- Feeder cattle allowed to be imported with backtags only and direct marketed to slaughter not need RFID
- Michigan cattle, and are sold directly to slaughter

Exemptions Going Forward

- Move to a licensed livestock market and receive RFID identification upon arrival
- Feeder cattle allowed to be imported with backtags and direct marketed to slaughter with USDA approved metal tags

Where We Are Going

- MOU
- TB Study

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TB Study

- December 2014 is 20 years
- Question raised:
 - What have we learned
 - What are gaps in program
 - Where can we go from here

TB Study

- Developing a study outline
- Likely include:
 - Economist
 - Wildlife biologist
 - Veterinary epidemiology

TB Study

- Purpose:
 - Capture historical activity
 - Identify areas to work on
 - Paint roadmap return Michigan to TB Free

Conclusion

- Progress is being made
- Partnerships critical to the success
- Without a TB Program:
 - Milk could not be sold
 - Cattle only sold for slaughter

Questions



Dave Richey: Detroit Free Press