

2013 Bovine TB Surveillance



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M. Bovis in free-ranging WTD

- TB not native to N. American wildlife; introduced by cattle
- Rare, sporadic in wild deer
- Eight previous occurrences prior to the current outbreak
- Michigan is the first recorded self-sustaining North American outbreak in wild deer



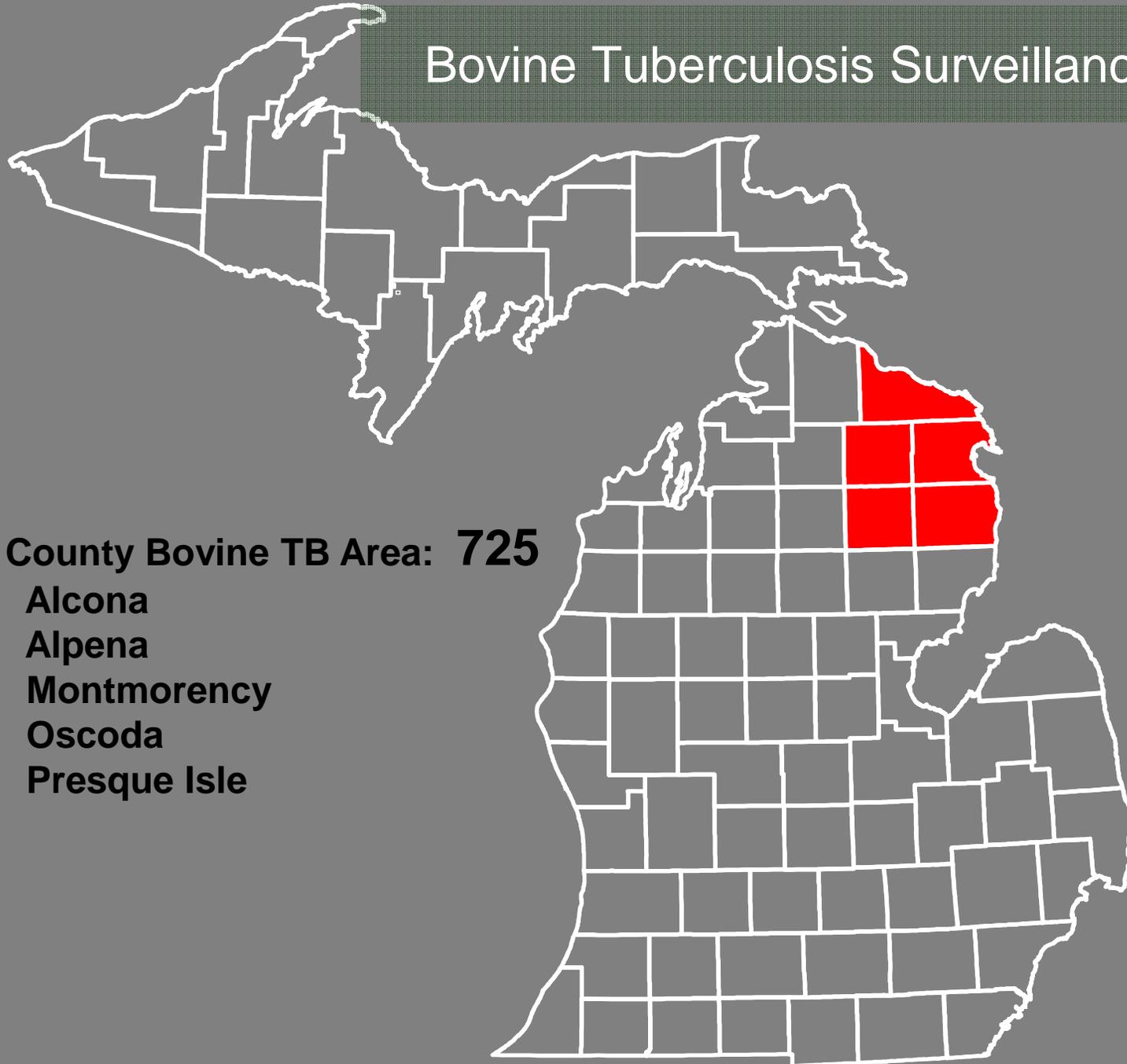
Michigan White-tailed Deer Surveillance



Year	Positive	Total Deer Tested
1975 & 1994	2	2
1995	18	403
1996	56	4,966
1997	73	3,720
1998	78	9,057
1999	58	19,499
2000	53	25,855
2001	61	24,278
2002	51	18,100
2003	32	17,307
2004	28	15,131
2005	16	7,364
2006	41	7,914
2007	27	8,316
2008	37	16,309
2009	31	5,723
2010	24	4,974
2011	17	6,026
2012	23	4,721
2013	21	5,868
2014	0	11
Grand Total	747	205,544



Bovine Tuberculosis Surveillance Areas

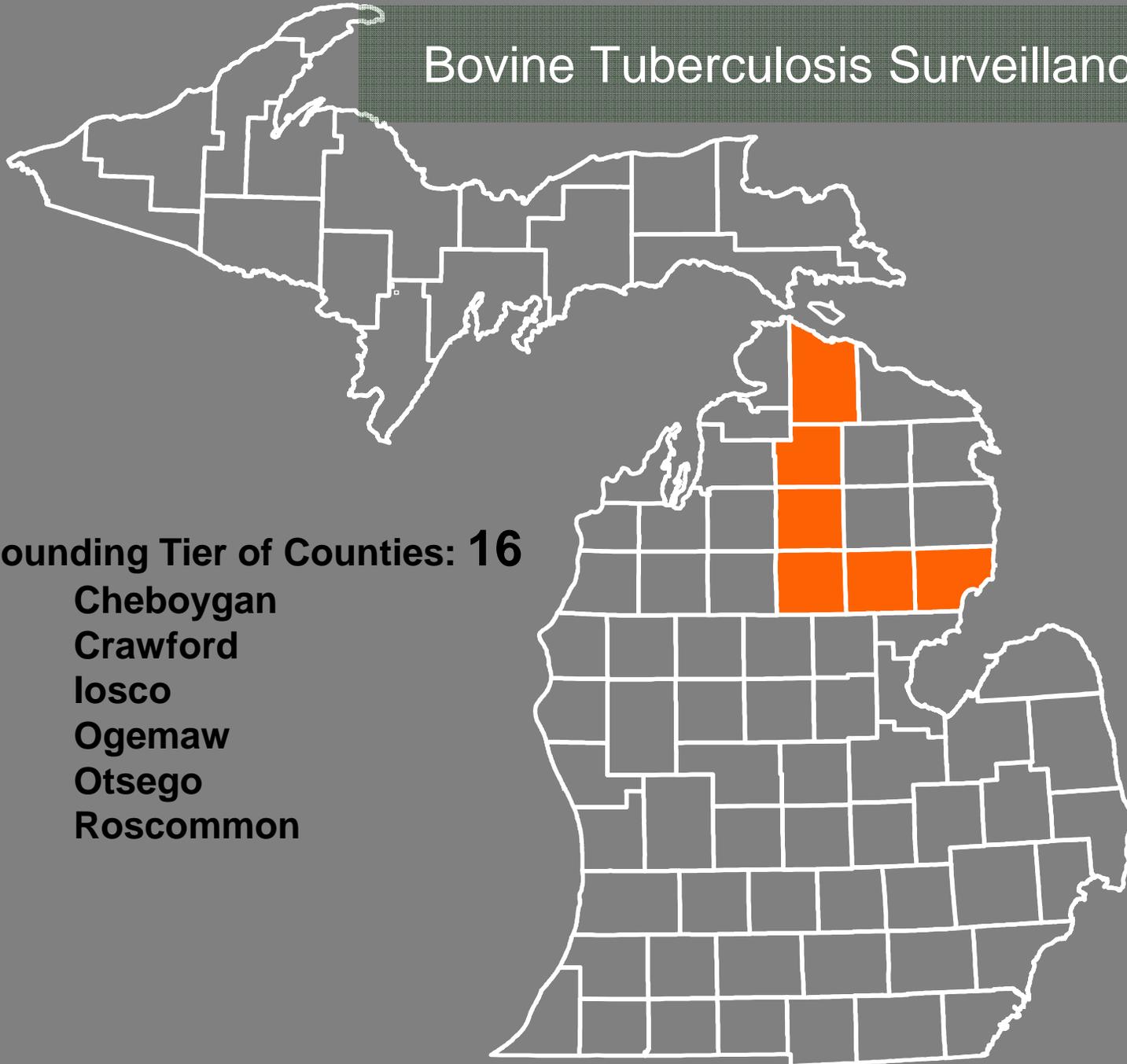


5 County Bovine TB Area: 725

- Alcona**
- Alpena**
- Montmorency**
- Oscoda**
- Presque Isle**



Bovine Tuberculosis Surveillance Areas

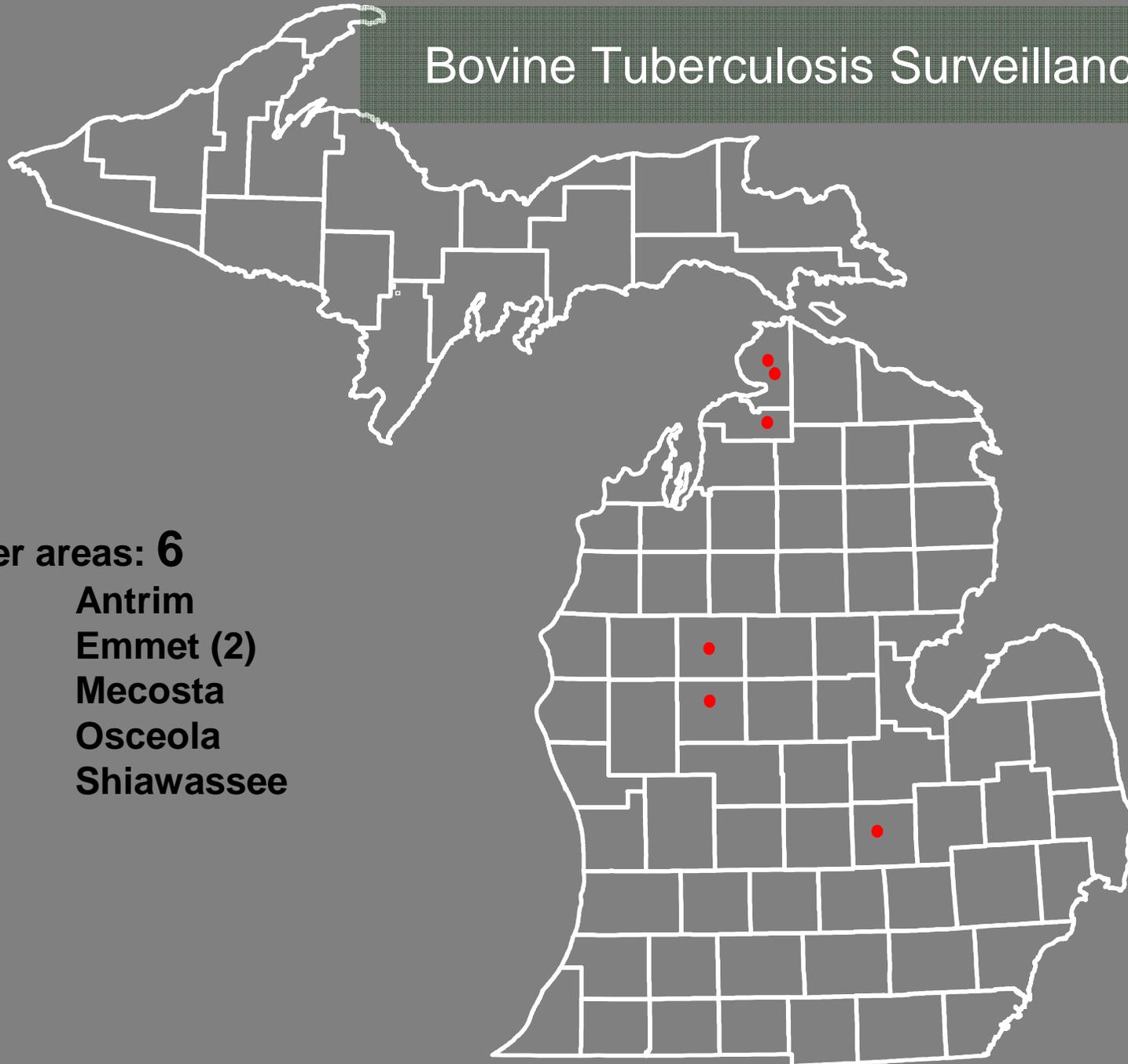


Surrounding Tier of Counties: 16

- Cheboygan**
- Crawford**
- Iosco**
- Ogemaw**
- Otsego**
- Roscommon**



Bovine Tuberculosis Surveillance Areas



Other areas: 6
Antrim
Emmet (2)
Mecosta
Osceola
Shiawassee



2013 BOVINE TUBERCULOSIS SURVEILLANCE IN MICHIGAN'S FREE-RANGING WHITE-TAILED DEER

Legend



Deer Management Unit 452



County Lines

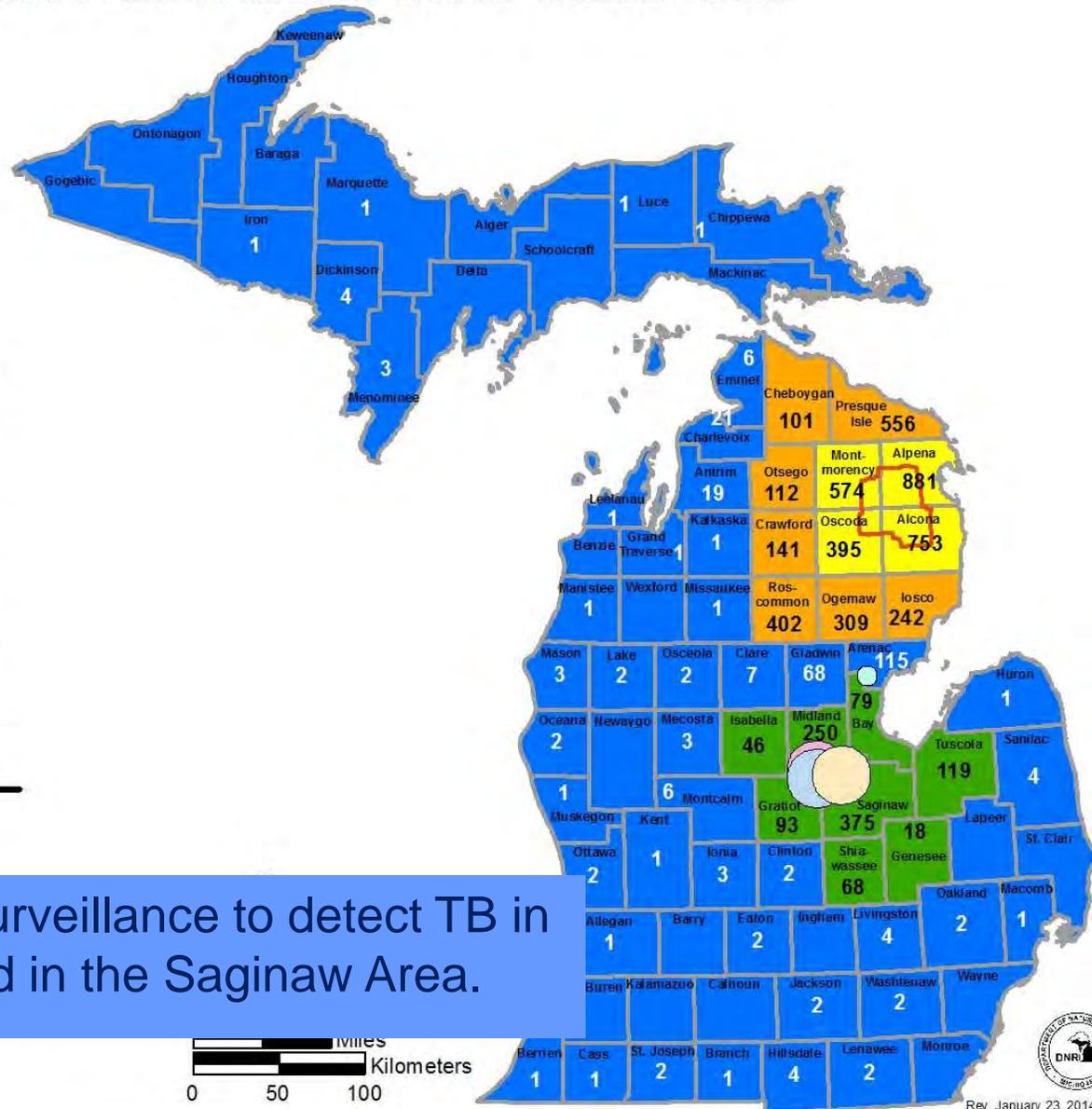
I. ACTIVE SURVEILLANCE

(Hunters voluntarily submit heads for examination)

ZONE	Sample Goal	Samples Tested
	2,800	2,602
	1,500	1,862
	700	639
	0	309
	300	328
	300	288
	300	300
	30	20
TOTAL	5,930	6,348

10-mile radius circles

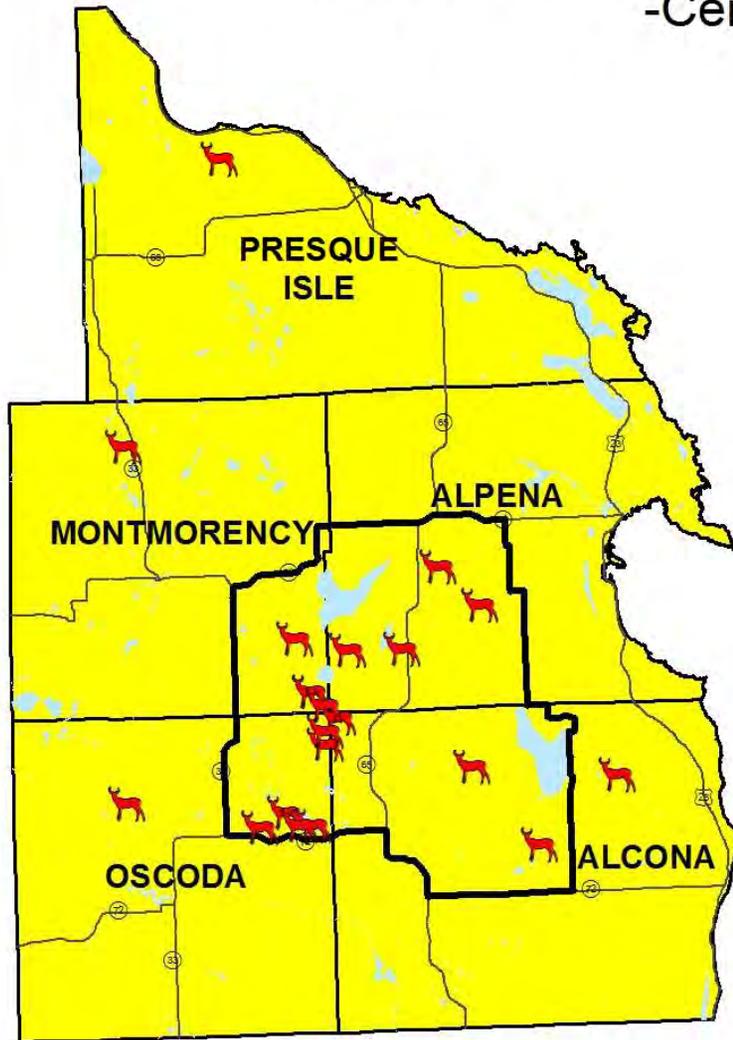
3-mile radius circle



II.

- Enhanced surveillance to detect TB in the deer herd in the Saginaw Area.

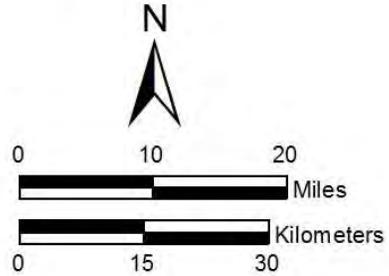
2013 Bovine Tuberculosis Survey Results -Cervids-



Legend

- TB Positive Deer
- DMU 452
- County Line
- Water
- Highway
- County with Positive Deer 1975-2013

Total Positive Deer
21



February 4, 2014 (M.C)

ALPENA

Bovine TB Eradication Strategies

Strategy 1

- Keep deer from concentrating by eliminating supplemental feeding and baiting

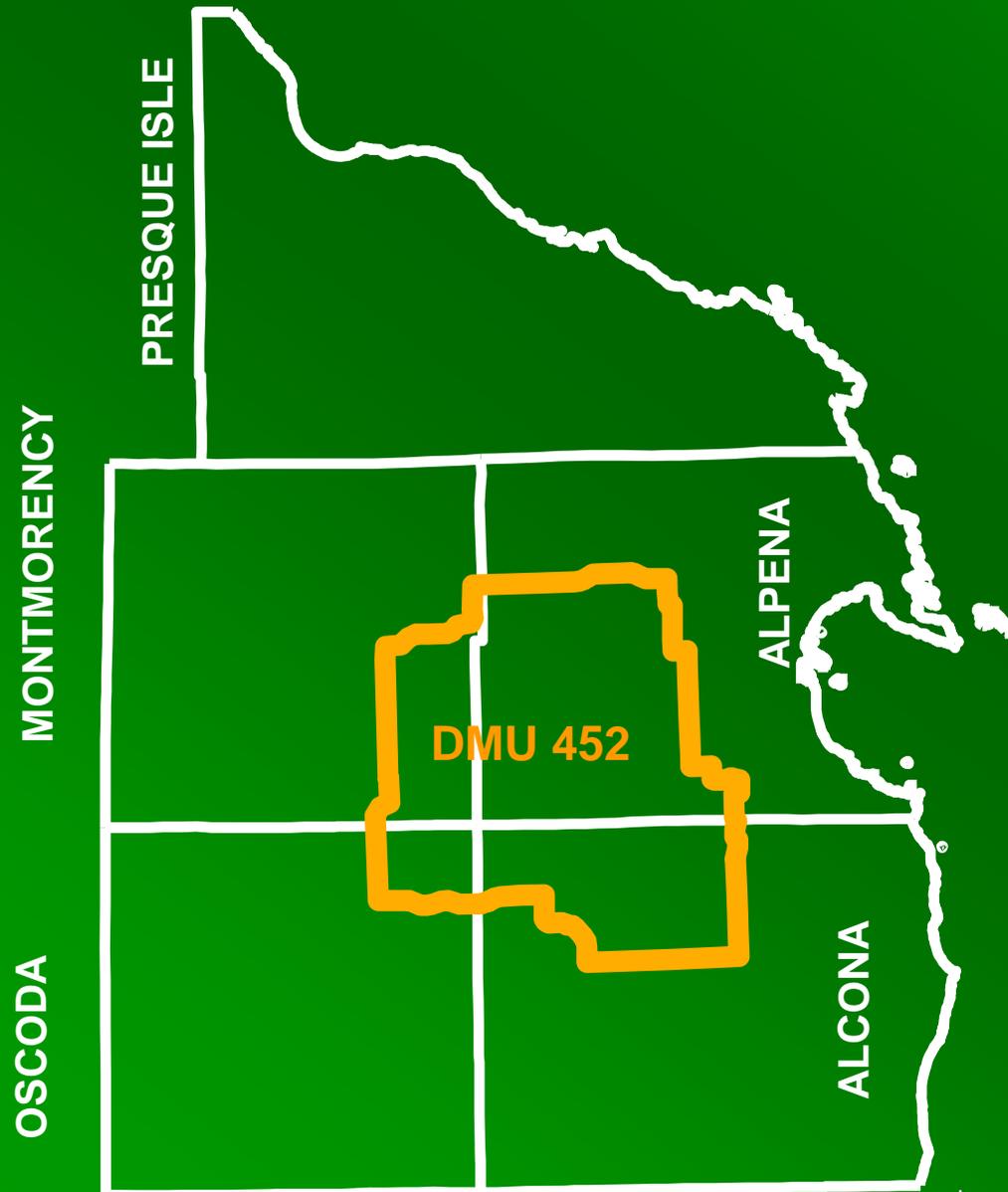


Strategy 2

- Reduce deer numbers through hunting to a level supported by the natural vegetation.



Apparent TB Prevalence in White-tailed Deer



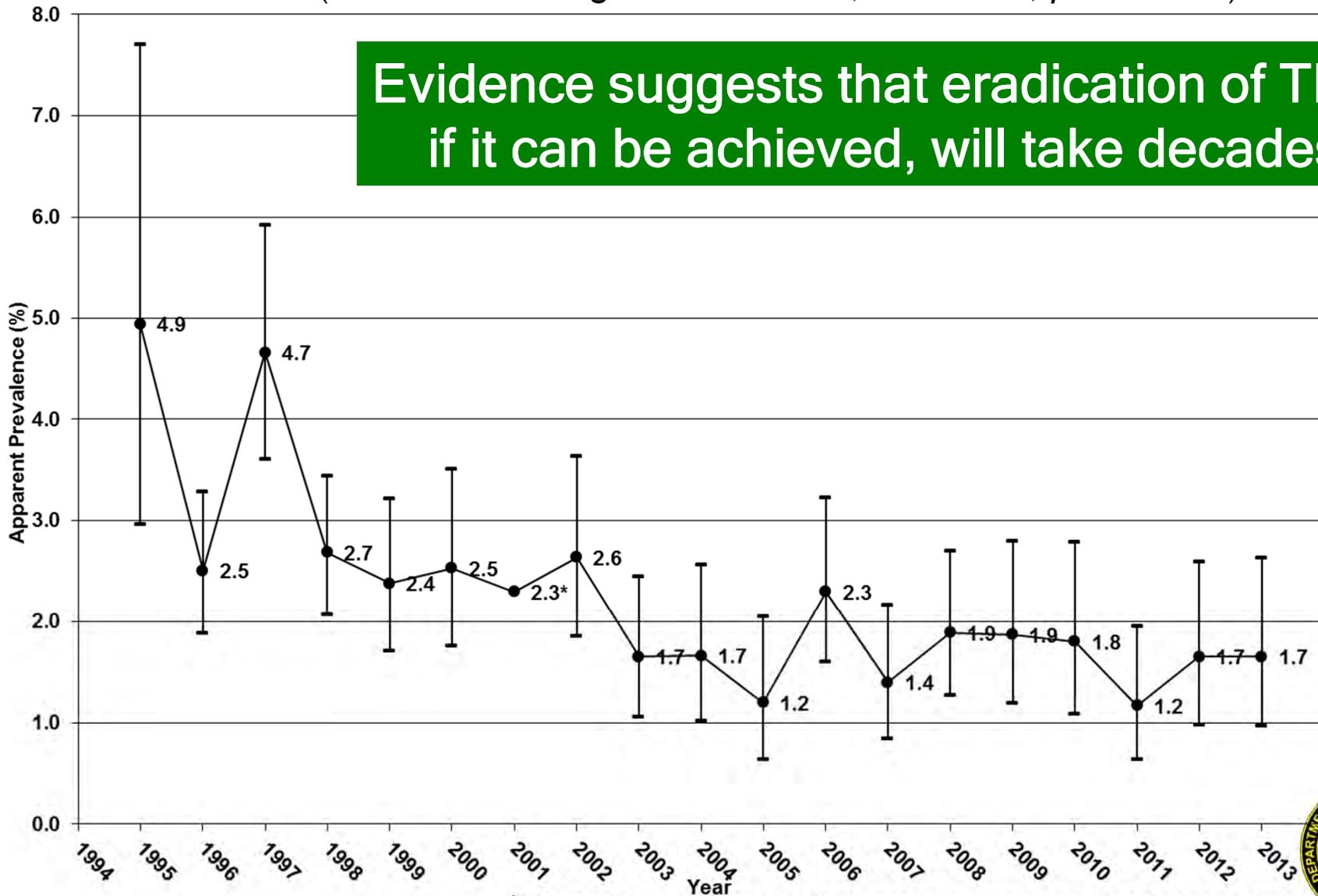
Year	Inside DMU452	5-County Outside DMU452
1995	4.9%	(no testing)
1996	2.5%	0.2%
1997	4.7%	0.4%
1998	2.7%	0.3%
1999	2.4%	0.2%
2000	2.5%	0.4%
2001	2.3%*	0.5%
2002	2.6%	0.5%
2003	1.7%	0.2%
2004	1.7%	0.2%
2005	1.2%	0.1%
2006	2.3%	0.3%
2007	1.4%	0.2%
2008	1.9%	0.3%
2009	1.9%	0.4%
2010	1.8%	0.2%
2011	1.2%	0.1%
2012	1.7%	0.3%
2013	1.7%	0.2%

* Extrapolated from head-only apparent prevalence; Mandatory head testing.

Apparent Prevalence of Bovine Tuberculosis (^w/95% Confid. Limits), Adult White-tailed Deer, DMU 452, 1995-2013

(Cochran-Armitage test for trend, two-tailed, $p < 0.0001$)

Evidence suggests that eradication of TB, if it can be achieved, will take decades.



* Extrapolated from head-only apparent prevalence: Mandatory testing.



Are we better off today than when we started our TB Management Strategies in 1995?

1. Bovine TB has been reduced from 4.9% in 1995 to 1.7% in 2013 - a 65% decrease.
2. No evidence that bovine TB is spreading or building up outside the 5-county TB Area - no positives since 2010.
3. Bovine TB has not become established in our elk herd.
4. No evidence that Bovine TB has become established in any wildlife species other than deer.
5. Fewer cattle herds becoming infected – 1-3 per year.

Conclusion: “Stay the Course”

Because, if we roll back our management of TB, we can expect to see a decline in these positive effects.



Thank You

www.michigan.gov/emergingdiseases



Michigan's Bovine Tuberculosis Program

Dr. Richard W. Smith

Assistant State Veterinarian over Ruminant Programs

Bovine TB Program Coordinator



2013 Bovine Tuberculosis Surveillance Summary for Michigan

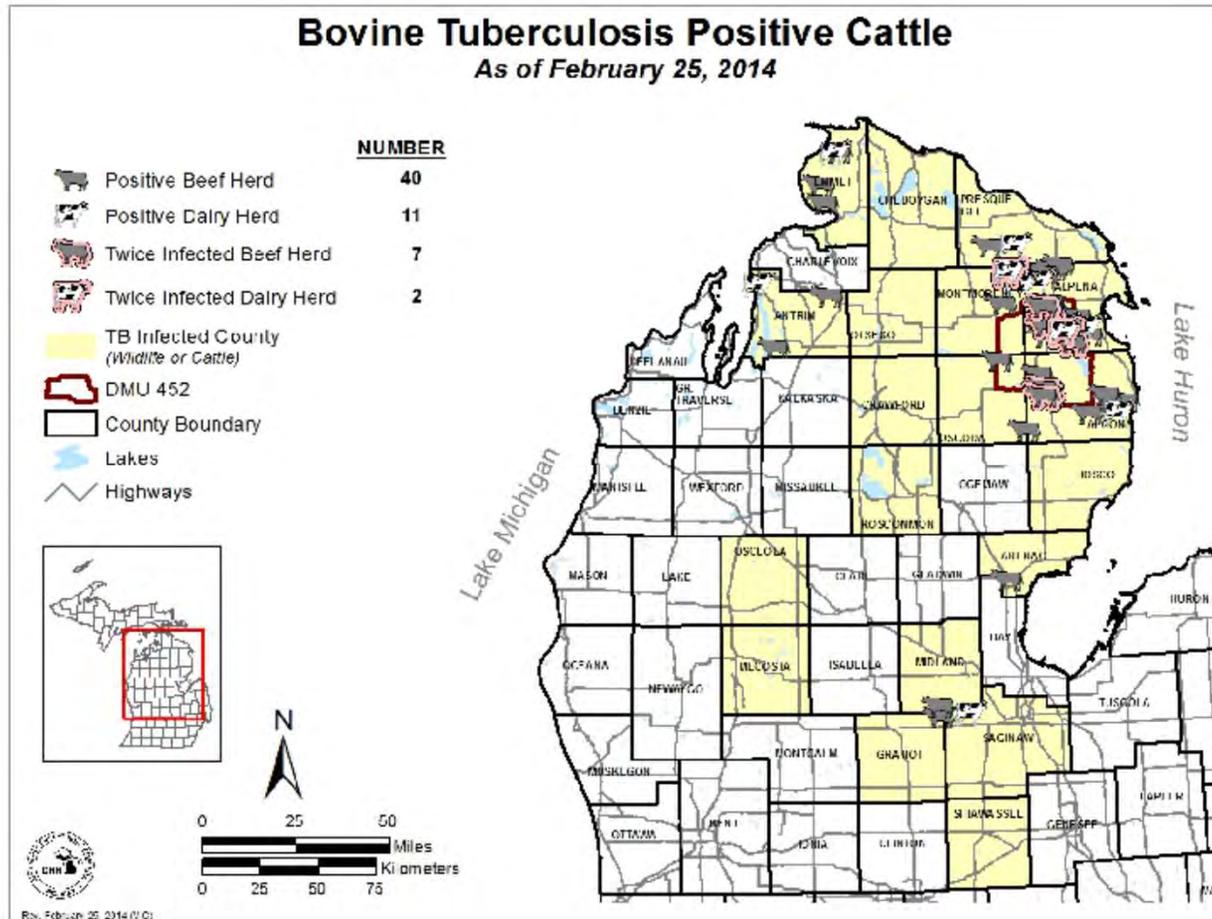
	Herds Tested (n)	Cattle Tested (n)	CFT Suspects (n)
MAZ	344	20,393	464
MAAZ	295	9,629	141
TB Free	169	19,806	589
Total	808	49,823	1,194
Total Bovine TB Positive Cattle		49	

2013 Wildlife Risk Mitigation Project Update

Year	# Participating Farms	# WRM Verified Farms	% of Farms Verified
2009	340	340	100%
2010	349	346	99%
2011	186	186	100%
2012	83	80	96%
2013	69	48	70%
Total	1,027	1,000	97%
2013-2014 Winter Verifications		891 Assignments	

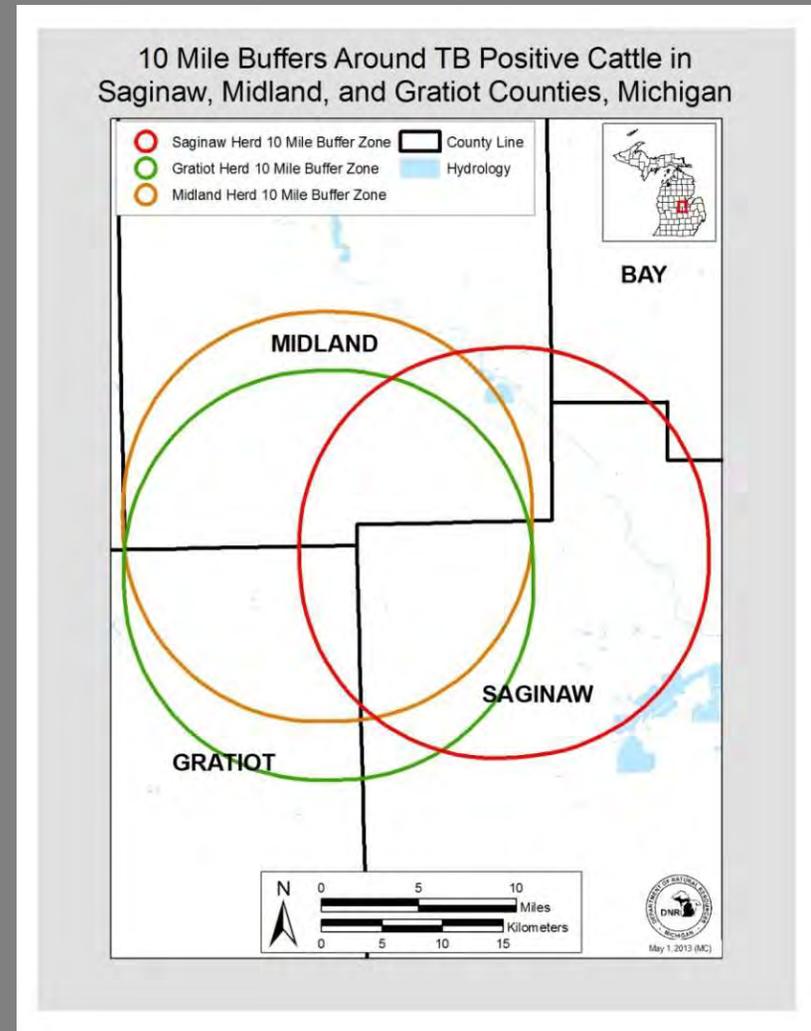
2013 Infected Herds

4 TB Infected Herds & 1 Infected Feedlot



2013 Circle Testing

- Completed 10-mile circles in Saginaw, Gratiot, and Midland Counties.
- 100 farms with 10,799 head of cattle tested.
- Arenac 3-mile circle in progress.
- No evidence of disease.

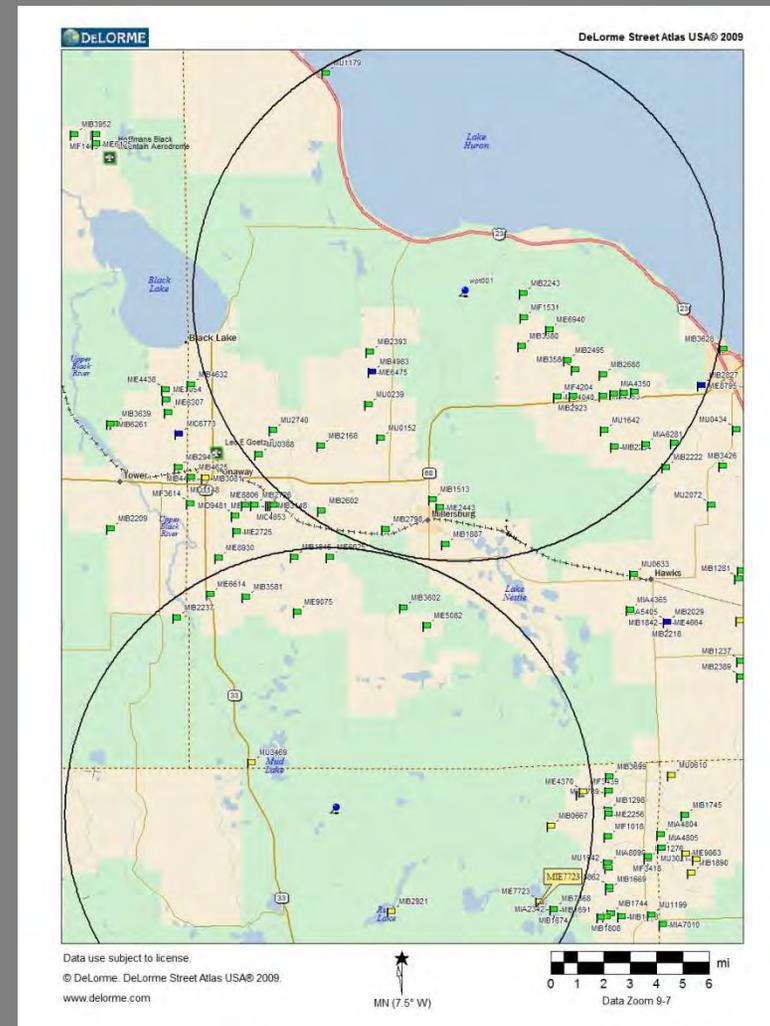


2014 Huron County Feedlot

- Infected dairy steer found at slaughter on February 10, 2014
- Mycobacteriosis compatible – February 24
- Herd quarantined on February 24
- PCR positive – February 26
- Waiting for genetic testing in early April to confirm if linked to Saginaw herd or not
- Controlled depopulation to FSIS slaughter plant – cleaning & disinfecting

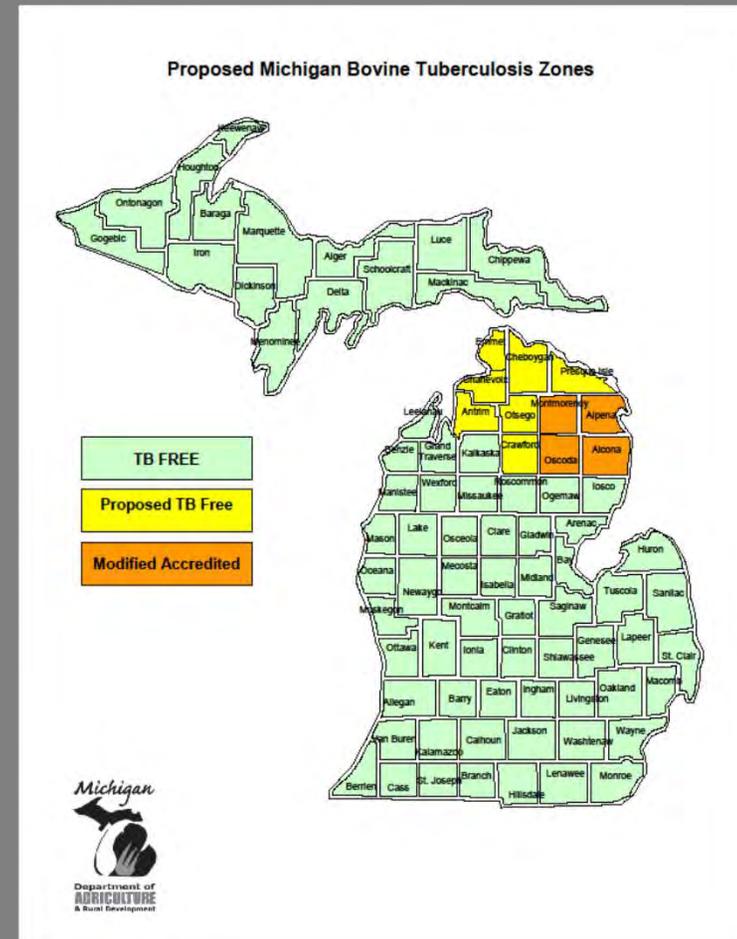
2014 Circle Testing

- Presque Isle – Cheboygan Counties
 - 38 herds to test
- Huron County
 - Will wait for genome study in early April to determine circle size



MOU Update

- Should have new MOU signed between MDARD, MDNR, and USDA-Veterinary Services in March 2014.
- Plan to begin new surveillance plan in proposed TB Free Zone in April.



Questions?