

Office of the Auditor General
Performance Audit Report

Bovine Tuberculosis Program
Michigan Department of Agriculture and Rural Development

January 2017

The auditor general shall conduct post audits of financial transactions and accounts of the state and of all branches, departments, offices, boards, commissions, agencies, authorities and institutions of the state established by this constitution or by law, and performance post audits thereof.

Article IV, Section 53 of the Michigan Constitution



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Report Summary

Performance Audit

Bovine Tuberculosis (bTB) Program

Michigan Department of Agriculture and Rural Development (MDARD)

Report Number:
791-0110-16

Released:
January 2017

Public Act 466 of 1988, the Animal Industry Act, established the bTB Program within MDARD's Animal Industry Division. Bovine tuberculosis (bTB) is an infectious disease that poses a significant risk to domestic livestock, wildlife, companion animals, and humans throughout the world. The United States Department of Agriculture (USDA) and the State of Michigan have expended over \$200 million to eradicate bTB in Michigan, with the State appropriating and expending \$145 million from fiscal years 1995 through 2015. According to the 2012 Census of Agriculture, 13,626 cattle producers maintained over 1.1 million cattle in Michigan.

Audit Objective			Conclusion
Objective: To assess the sufficiency of MDARD's efforts to achieve its goal of eradicating bTB in Michigan's cattle.			Sufficient, with exceptions
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
MDARD did not implement a monitoring process to identify illegal cattle movement within the three counties having movement restrictions in the Accredited Free Zone. Sufficient monitoring may help reduce the risk of bTB spreading to other cattle (<u>Finding #1</u>).		X	Agrees
MDARD did not establish an agreement with law enforcement for sufficiently monitoring livestock movement between zones to ensure that livestock producers comply with movement laws and regulations. This resulted in extended time periods without sufficient monitoring (<u>Finding #2</u>).		X	Agrees
MDARD did not fully implement user access controls over USAHerds. Thirty-one of 101 users had inappropriate access (<u>Finding #3</u>).		X	Agrees
Observations Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
MDARD is limited in its ability to collect necessary data from Michigan livestock markets because of obsolete software (<u>Observation #1</u>).	Not applicable	Not applicable	Not applicable

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obtained by calling 517.334.8050
or by visiting our Web site at:
www.audgen.michigan.gov

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January 10, 2017

Mr. Fred Walcott, Chair
Michigan Commission of Agriculture and Rural Development
and
Ms. Jamie Clover Adams, Director
Michigan Department of Agriculture and Rural Development
Constitution Hall
Lansing, Michigan

Dear Mr. Walcott and Ms. Clover Adams:

I am pleased to provide this performance audit report on the Bovine Tuberculosis Program, Michigan Department of Agriculture and Rural Development.

Your agency provided preliminary responses to the recommendations at the end of our fieldwork. The *Michigan Compiled Laws* and administrative procedures require an audited agency to develop a plan to comply with the recommendations and submit it within 60 days of the date above to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt, the Office of Internal Audit Services is required to review the plan and either accept the plan as final or contact the agency to take additional steps to finalize the plan.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

A handwritten signature in dark ink that reads "Doug Ringler". The signature is written in a cursive, slightly slanted style.

Doug Ringler
Auditor General

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AUDIT OBJECTIVES, CONCLUSIONS, FINDINGS, AND OBSERVATIONS

EFFORTS TO ERADICATE BOVINE TUBERCULOSIS

BACKGROUND

Eradicating bovine tuberculosis* (bTB) in Michigan requires a cooperative effort among the Michigan Department of Agriculture and Rural Development (MDARD); Department of Natural Resources (DNR); Veterinary Services, Animal and Plant Health Inspection Service (APHIS), United States Department of Agriculture (USDA); cattle* industry; and stakeholders in the hunting community.

Eradication* is the complete elimination of bTB from livestock* in a state or zone*. USDA's APHIS administrator classifies each state with a tuberculosis status in accordance with Title 9, Part 77.5 of the *Code of Federal Regulations*. The five categories for which a state or zone may be classified are:

- Accredited-free state or zone.
- Modified accredited advanced state or zone.
- Modified accredited state or zone.
- Accreditation preparatory state or zone.
- Nonaccredited state or zone.

The categories are based on the infrastructure existing in the state or zone for conducting a bTB eradication program, compliance with the provisions of USDA's Uniform Methods and Rules, and the prevalence of infection in the state or zone.

As of October 2014, the zoning order for the State of Michigan includes two zones: (1) Modified Accredited Zone* (MAZ) for Alcona, Alpena, Montmorency, and Oscoda Counties and (2) Accredited Free Zone* (AFZ) for the remaining 79 counties (see Exhibit #1).

MDARD's goals* for the bTB Program are to obtain AFZ status for the entire State and to completely eradicate the disease. To continue advancing the State's status designation, a memorandum of understanding (MOU) was established among MDARD, DNR, and USDA's APHIS Veterinary Services to agree upon a framework for implementing and assessing risk-based strategies to advance bTB status in Michigan.

AUDIT OBJECTIVE

To assess the sufficiency of MDARD's efforts to achieve its goal of eradicating bTB in Michigan's cattle.

CONCLUSION

Sufficient, with exceptions.

* See glossary at end of report for definition.

**FACTORS
IMPACTING
CONCLUSION**

- MDARD generally completed timely whole herd testing* within the MAZ.
- Inventory reconciliations within the MAZ were generally completed timely and correctly by MDARD.
- Verified wildlife risk mitigated farms generally received complete annual winter verifications in a timely manner.
- Compliance investigations were generally assigned and completed timely with an appropriate outcome.
- Reportable conditions* related to improved monitoring of cattle movement within the AFZ, establishing an agreement with law enforcement for sufficiently monitoring livestock movement, and improved USAHerds user access controls (Findings #1 through #3).
- Observation* regarding Michigan livestock market* software limiting MDARD's ability to collect necessary data (Observation #1).

* See glossary at end of report for definition.

FINDING #1

Monitoring of cattle movement within the AFZ could be improved.

MDARD did not implement a monitoring process to identify illegal cattle movement within the three counties having movement restrictions in the AFZ. Sufficient monitoring may help reduce the risk of bTB spreading to other cattle.

MDARD established a zoning order, effective June 7, 2016, containing cattle identification, testing, certificate, and movement requirements for Michigan cattle producers. The zoning order requires an official movement certificate* to move cattle from the MAZ or any farm in Cheboygan, Otsego, and Presque Isle Counties that does not have a verified wildlife risk mitigation plan* (WRMP). A WRMP is an approved plan to reduce the risk that a herd will become infected with bTB.

USDA requires MDARD to perform an inventory reconciliation of freezer beef herds and whole herd tests performed in the MAZ. The reconciliation compares herd inventories between two dates to identify illegal MAZ cattle movement. However, MDARD does not perform inventory reconciliations for nonverified WRMP farms in Cheboygan, Otsego, and Presque Isle Counties.

We randomly selected 14 nonverified WRMP farms in Cheboygan, Otsego, and Presque Isle Counties that had received a freezer beef inspection or whole herd test between October 1, 2013 and September 30, 2016. Our review disclosed that 5 (36%) of the 14 farms had illegal cattle movements for 7 animals.

Performing reconciliations for nonverified WRMP farms will help MDARD identify illegal cattle movement and ensure that producers are aware of movement requirements.

RECOMMENDATION

We recommend that MDARD implement a monitoring process to identify illegal cattle movement within the three counties having movement restrictions in the AFZ.

AGENCY PRELIMINARY RESPONSE

MDARD provided us with the following response:

MDARD agrees with the recommendation. The counties of Cheboygan, Otsego, and Presque Isle are designated as TB Accredited Free areas and of low risk for this disease. As such, the amount of resources dedicated to oversight of animal movements from herds in an AFZ area is less than that in the MAZ. Monitoring processes in place in the AFZ include checking in of animals at the Gaylord sale yard, weekly coverage at other sale yards that receive animals from northern Michigan, and mobile patrols, but do not include the Inventory Reconciliation Program that is present in the MAZ. MDARD will discuss the level of monitoring appropriate in an AFZ zone with USDA during future MOU discussions and modify current activities as appropriate. MDARD will also assess in future revisions of the zoning order whether the current requirements for herds in the AFZ should be modified.

* See glossary at end of report for definition.

FINDING #2

Establishment of a sufficient monitoring agreement is needed.

MDARD did not establish an agreement with law enforcement for sufficiently monitoring livestock movement between zones to ensure that livestock producers comply with movement laws and regulations. Sufficient monitoring is important for MDARD to ensure that livestock producers comply with testing, identification, and movement certificate requirements for transporting cattle between zones.

The MOU with USDA requires MDARD to maintain an agreement with a law enforcement agency to conduct stops and inspections of vehicles transporting cattle between zones for an average of 10 hours of patrols per week, including, on average, one stop every three days. MDARD has an agreement with a law enforcement agency to patrol roadways connecting the MAZ and the AFZ, which indicates that the law enforcement agency should not exceed 540 dedicated overtime patrol hours per year. However, the agreement does not specify how frequently the stops should be made or the average number of required patrol hours per week, resulting in extended time periods without sufficient monitoring.

Our review of dedicated overtime patrols conducted between October 1, 2013 and August 31, 2016 disclosed:

- a. An average of 10 hours of dedicated overtime patrols were conducted per week; however, 45 (30%) of the 152 weeks had no patrols, including a 14-week span between March 30, 2014 and July 5, 2014.
- b. An average of 1.35 stops per week were conducted; however, 78 (51%) of the 152 weeks had no stops for livestock movement, including a 10-week span between March 30, 2014 and June 7, 2014.

MDARD should ensure consistency between the MOU with USDA and the agreement with a law enforcement agency in regard to the frequency of stops and patrol hours per week.

RECOMMENDATION

We recommend that MDARD establish an agreement with law enforcement for sufficiently monitoring livestock movement between zones to ensure that livestock producers comply with laws and regulations.

AGENCY PRELIMINARY RESPONSE

MDARD provided us with the following response:

MDARD agrees with the recommendation and will clarify with law enforcement the frequency of patrols and stops needed to occur in order for MDARD to be in compliance with their USDA

* See glossary at end of report for definition.

MOU. MDARD will include the applicable language from the MOU with USDA (as current at the time of issuance) for reference purposes in any future MOU's with law enforcement. MDARD will also discuss the mobile patrol section of the MOU with USDA during future revisions to ensure the language is consistent with attainable goals.

FINDING #3

Improved USAHerds user access controls are needed.

MDARD did not fully implement user access controls over USAHerds to help prevent or detect inappropriate access to data.

Our review of active USAHerds users as of August 30, 2016 disclosed that MDARD did not:

- a. Promptly disable access for 31 (31%) of 101 users.

Eight of the 31 users were former MDARD employees. MDARD was uncertain to whom the other 23 user accounts belonged but assumed that they were fee-based veterinarians who use USAHerds to upload bTB test data. MDARD also provided access to 106 USDA APHIS employees and private veterinarians for whom we were unable to validate the appropriateness of their access.

User accounts should be disabled when access is no longer required to prevent improper access to USAHerds. Department of Technology, Management, and Budget (DTMB) Technical Standard 1340.00.140.01 requires the deactivation of accounts of terminated or transferred users. MDARD informed us that it had not implemented a notification process for when employees terminate employment.

- b. Always complete or maintain USAHerds user access agreements.

MDARD did not maintain 21 (84%) of 25 randomly selected user access agreements. Of the 4 agreements maintained, none were fully completed with supervisor approval, approval date, and the name of the person who granted the access. DTMB Technical Standard 1340.00.140.01 requires that individuals sign user access agreements prior to being granted system access.

RECOMMENDATION

We recommend that MDARD fully implement user access controls over USAHerds to help prevent or detect inappropriate access to data.

AGENCY PRELIMINARY RESPONSE

MDARD provided us with the following response:

MDARD agrees with the recommendation and has already taken steps to fully implement the USAHerds User Access Standard Operating Procedure and user access form to prevent or detect inappropriate access to USAHerds data.

OBSERVATION #1

Livestock market software limits MDARD's ability to collect necessary data.

MDARD is limited in its ability to collect necessary data from Michigan livestock markets because of obsolete software. MDARD attempts to upload sales data from the markets into USAHerds for cattle tracking purposes; however, data incompatibility prevents the information from always uploading completely.

To help ensure proper tracking of high-risk cattle, MDARD implemented a system at the Northern Michigan Livestock (NML) market in Gaylord, Michigan, that allows MDARD to verify that cattle received at the auction comply with all movement requirements prior to sale. However, MDARD did not implement the same system at the 16 other livestock market locations. MDARD used a risk-based approach to select the location for the new system, choosing the NML because the majority of cattle from the MAZ are sold there (see the following chart). Although tracking all cattle is important, tracking MAZ cattle is of higher importance because of the risk of bTB in that area.

We sampled 40 cattle sold at livestock auctions outside of the NML, which included MAZ and AFZ cattle, and determined that the sale was not recorded in USAHerds for 8 (20%) of the 40 cattle. Without accurate sale yard data, MDARD could have difficulty tracking an animal's location in the event of a bTB outbreak.

The following chart summarizes livestock market sales data for MAZ cattle from October 1, 2013 through September 30, 2016:

<u>Fiscal Year</u>	<u>Cattle Sold at NML</u>	<u>Cattle Sold Outside of NML</u>	<u>Total MAZ Cattle Sold</u>
2014	3,581 (72%)	1,361 (28%)	4,942
2015	4,034 (76%)	1,262 (24%)	5,296
2016	<u>4,518 (73%)</u>	<u>1,692 (27%)</u>	<u>6,210</u>
Total	<u>12,133 (74%)</u>	<u>4,315 (26%)</u>	<u>16,448</u>

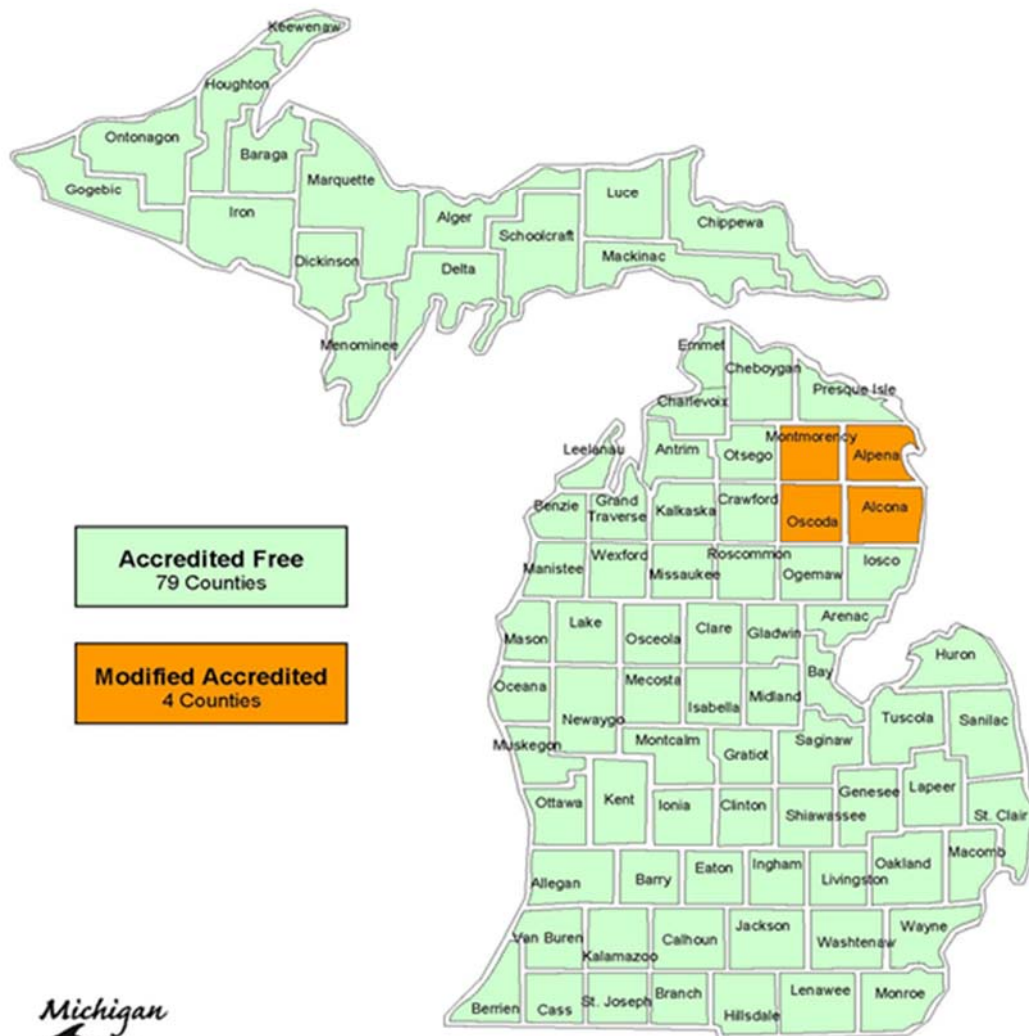
As indicated by the preceding chart, 74% of MAZ cattle are sold at the NML and 26% are sold at markets outside of the NML. Although animal tracking is most critical for cattle originating from the MAZ, enhanced tracking of all cattle would assist MDARD in tracking cattle in case of a bTB outbreak. MDARD should consider installing its software at livestock markets in the vicinity of the MAZ to enhance tracking of all cattle sales.

SUPPLEMENTAL INFORMATION

UNAUDITED
Exhibit #1

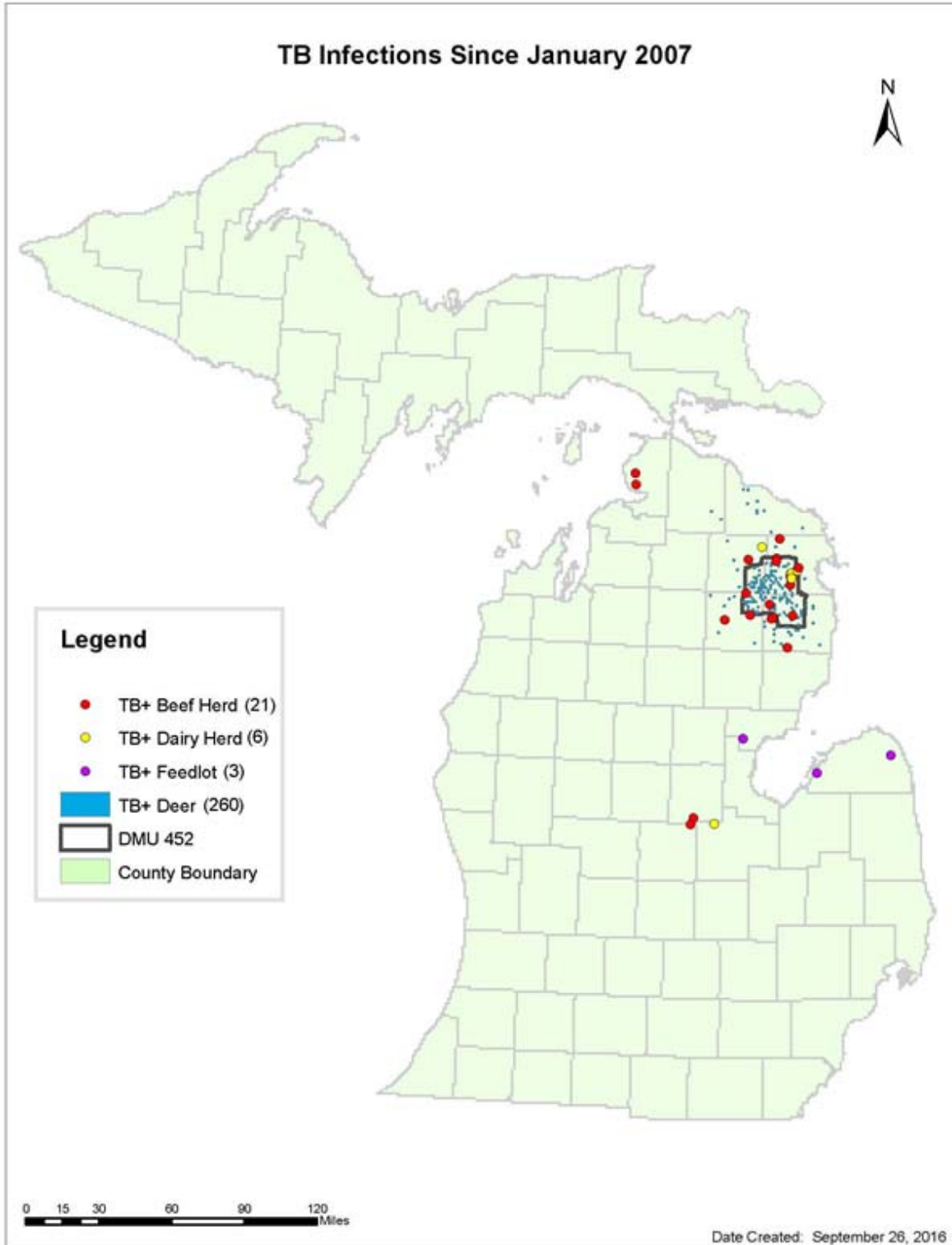
BOVINE TUBERCULOSIS PROGRAM Michigan Department of Agriculture and Rural Development

Michigan Bovine Tuberculosis Zones Effective October 13, 2014



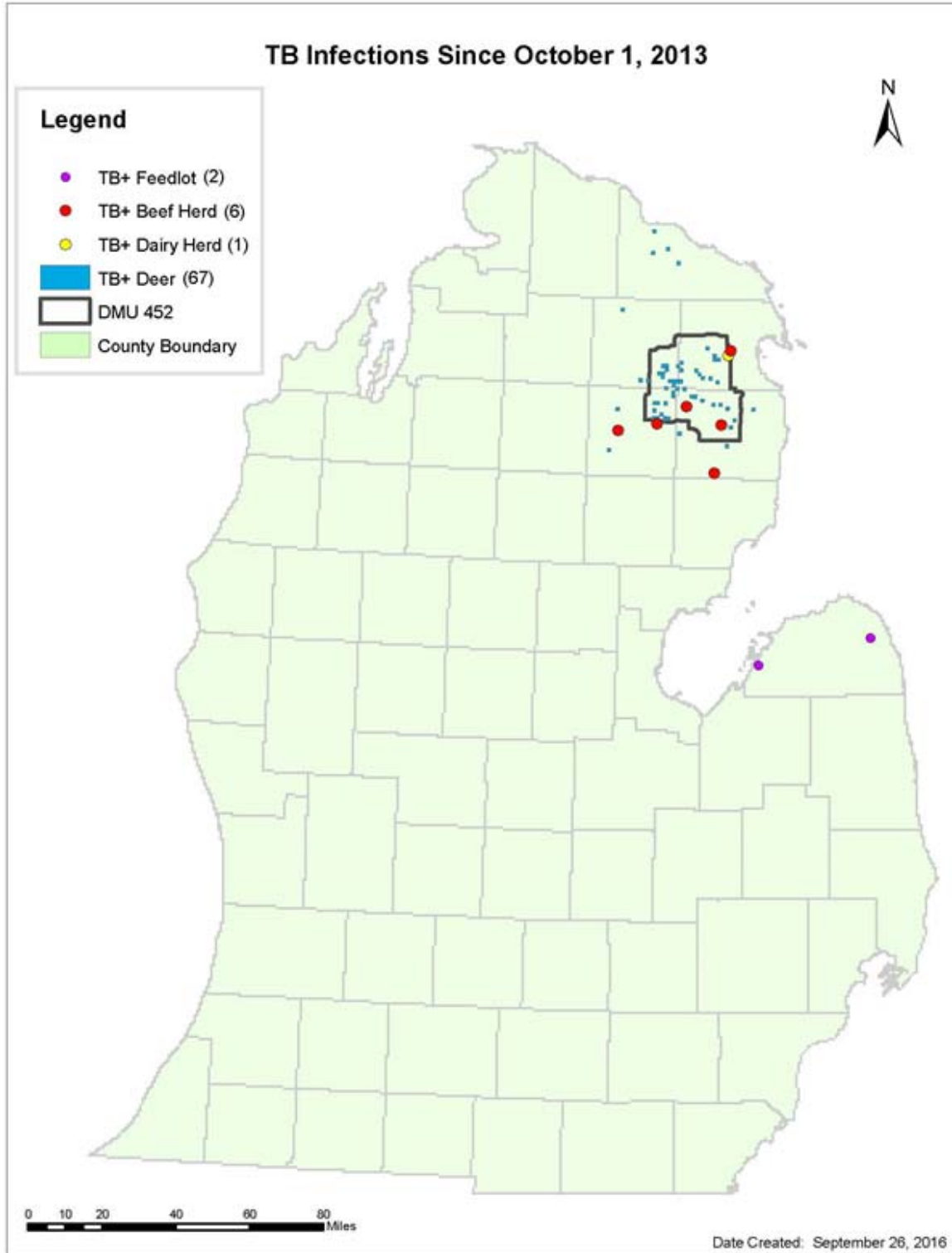
Source: MDARD.

BOVINE TUBERCULOSIS PROGRAM
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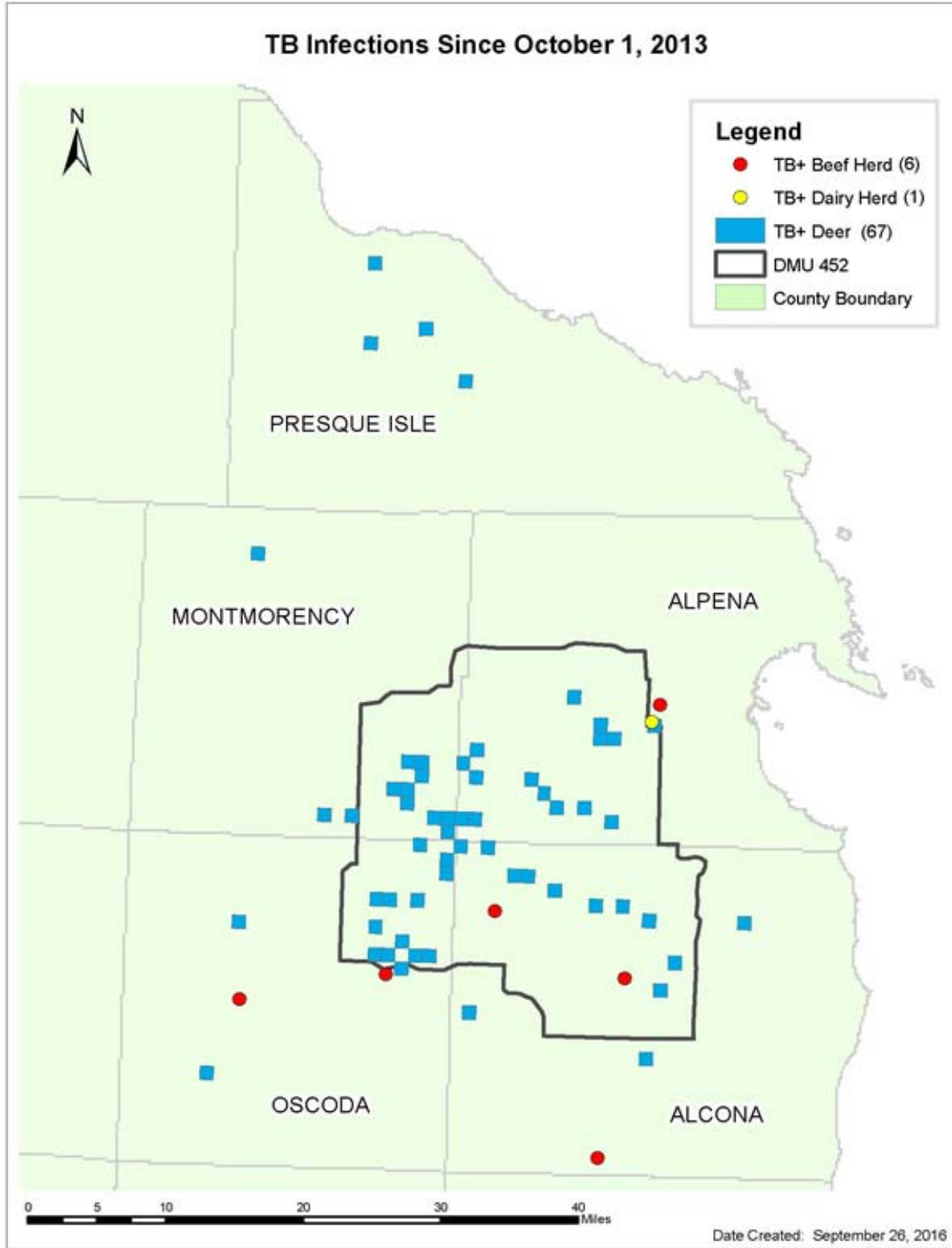
Source: MDARD.

BOVINE TUBERCULOSIS PROGRAM
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Source: MDARD.

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Michigan Department of Agriculture and Rural Development



Source: MDARD.

BOVINE TUBERCULOSIS PROGRAM
Michigan Department of Agriculture and Rural Development

Chart of TB Infected Herds and Probable Source of Infection
From October 1, 2013 Through August 31, 2016

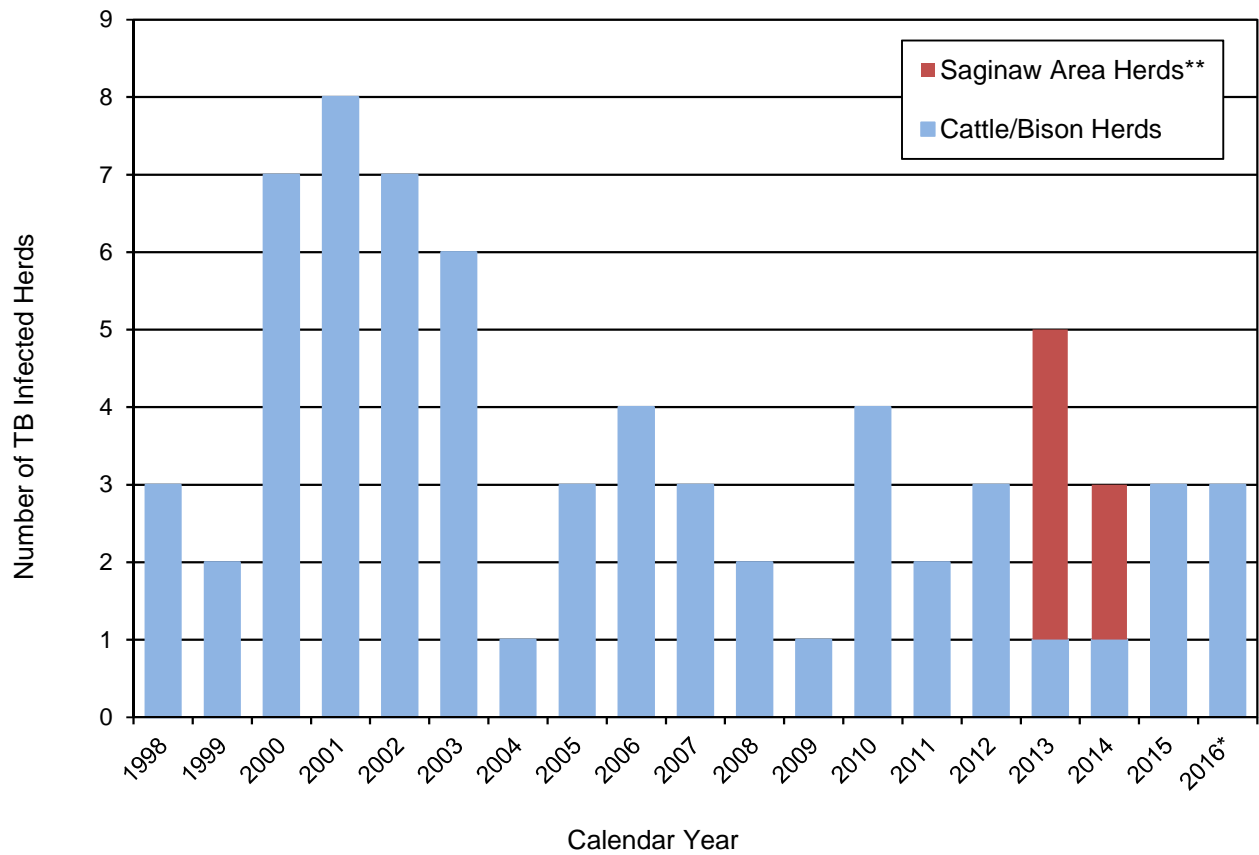
<u>Herd Number</u>	<u>County</u>	<u>Herd Type</u>	<u>Date Infected</u>	<u>Probable Source of Infection</u>
60	Oscoda	Bison	03/26/2014	Wildlife
61	Alpena	Dairy	04/22/2015	Wildlife
62	Alcona	Beef	07/22/2015	Wildlife
63	Alpena	Beef	12/22/2015	Wildlife
64	Oscoda	Beef	04/07/2016	Cattle/Wildlife*
65	Alcona	Beef	05/12/2016	Wildlife
66	Alcona	Beef	08/31/2016	Investigation Ongoing

* Two different TB isolates were found in this herd with separate genetic fingerprints possibly implying two different sources of infection.

Source: Prepared by the Office of the Auditor General using data provided by MDARD.

BOVINE TUBERCULOSIS PROGRAM
Michigan Department of Agriculture and Rural Development

Number of TB Infected Herds
For Calendar Years 1998 Through 2016*



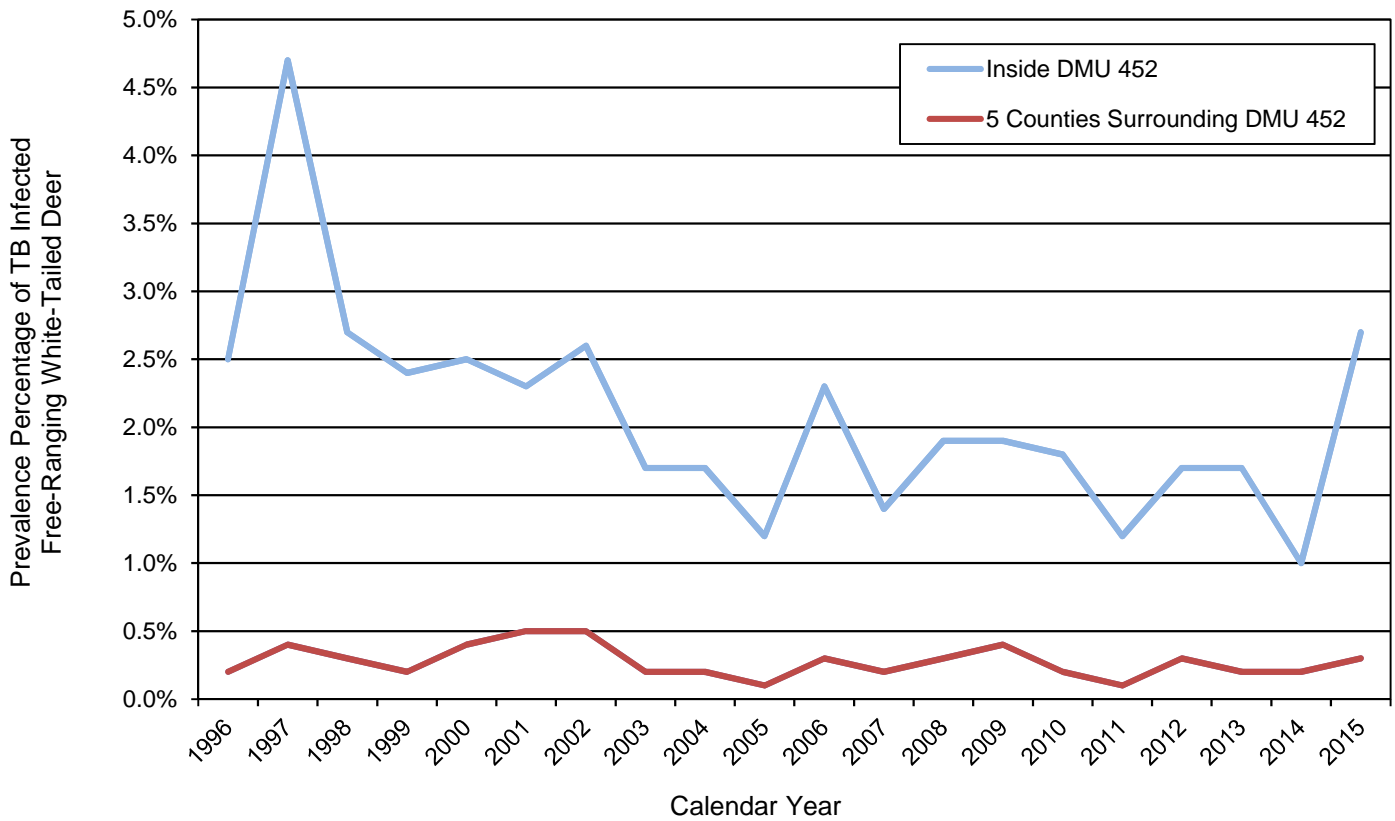
* Through August 31, 2016.

** The Saginaw area herds had a source of infection originating outside of Michigan.

Source: Prepared by the Office of the Auditor General using data provided by MDARD.

BOVINE TUBERCULOSIS PROGRAM
Michigan Department of Agriculture and Rural Development

Prevalence Percentage of TB Infected Free-Ranging White-Tailed Deer
For Calendar Years 1996 Through 2015



Deer Management Unit 452 (DMU 452) is the TB core area within a portion of Alcona, Alpena, Montmorency, and Oscoda Counties.

The five counties surrounding DMU 452 are the remaining portions of Alcona, Alpena, Montmorency, and Oscoda Counties and all of Presque Isle County.

Source: Prepared by the Office of the Auditor General using data provided by MDARD.

AGENCY DESCRIPTION

Public Act 466 of 1988, the Animal Industry Act, authorized and required the appointment of a State veterinarian within MDARD to protect the human food chain and the livestock and aquaculture industries of the State through prevention, control, and eradication of infectious*, contagious*, or toxicological diseases of livestock and other animals. Section 287.708 of the *Michigan Compiled Laws* provides the State veterinarian with the authority to develop and implement scientifically based surveillance and monitoring programs for reportable diseases when it is determined that these programs would aid in the control or eradication of a reportable disease or strengthen the economic viability of the industry.

The bTB Program was created within MDARD's Animal Industry Division. Bovine tuberculosis (bTB) is an infectious disease that poses a significant risk to domestic livestock, wildlife, companion animals, and humans throughout the world. USDA and the State of Michigan have expended over \$200 million to eradicate bTB in Michigan, with the State appropriating and expending \$145 million from fiscal years 1995 through 2015.

According to the 2012 Census of Agriculture, 13,626 cattle producers maintained over 1.1 million cattle in Michigan. For fiscal years 2014 through 2016, Program expenditures averaged \$5 million annually.

For fiscal year 2016, the Animal Industry Division was appropriated 60 full-time equated positions, including 7 employees working full time on the bTB Program, 4 employees handling compliance issues with bTB, and 26 field staff whose job duties partially include bTB.

* See glossary at end of report for definition.

AUDIT SCOPE, METHODOLOGY, AND OTHER INFORMATION

AUDIT SCOPE

To examine the program and other records related to the bTB Program. We conducted this performance audit* in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusion based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusion based on our audit objective.

Our audit did not include Program responsibilities related to bTB testing of free-ranging deer conducted by DNR.

PERIOD

Our audit procedures, which included a preliminary survey, audit fieldwork, report preparation, analysis of agency responses, and quality assurance, generally covered October 1, 2013 through July 31, 2016.

METHODOLOGY

We conducted a preliminary survey to gain an understanding of the bTB Program processes and activities in order to establish our audit objective, scope, and methodology. During our preliminary survey, we:

- Interviewed MDARD and DNR management and staff.
- Reviewed applicable laws, rules, regulations, policies, and procedures.
- Reviewed the MOUs between MDARD, DNR, and USDA and the MDARD zoning orders.
- Analyzed available records, data, and statistics.
- Obtained an understanding of MDARD's processes related to:
 - USAHerds user access.
 - Cattle identification.
 - Surveillance testing.
 - Cattle movement.
 - Inventory reconciliation.

* See glossary at end of report for definition.

- WRMP.
- Compliance Investigation Unit.
- Obtained an understanding of DNR's processes for testing free-ranging white-tailed deer.
- Performed site visits at livestock markets to gain an understanding of the processes used to check in and sell cattle.
- Performed site visits to various farms to gain an understanding of the bTB testing process and WRMPs.

OBJECTIVE

To assess the sufficiency of MDARD's efforts to achieve its goal of eradicating bTB in Michigan's cattle.

To accomplish this objective, we:

- Reviewed active USAHerds users and access agreements to verify appropriate access.
- Analyzed active MAZ cattle herd data to verify that whole herd testing* was completed in a timely manner.
- Reviewed active cattle herds in Cheboygan, Otsego, and Presque Isle Counties for testing records to ensure that MDARD conducted proper surveillance testing.
- Randomly selected 14 premises within the bTB-free surveillance zone* that were not wildlife risk mitigated and had movement restrictions to verify proper movement.
- Randomly sampled 40 cattle sold at various livestock markets to verify that cattle records were accurately and completely uploaded into USAHerds.
- Analyzed data to verify whether MDARD timely completed inventory reconciliations for all whole herd tests received.
- Randomly sampled 43 inventory reconciliations to ensure proper completion.
- Analyzed data related to verified wildlife risk mitigated farms to determine if annual winter verifications were completed.

* See glossary at end of report for definition.

- Randomly selected 43 premises with WRMP verifications completed during our audit period to ensure proper completion.
- Randomly sampled 13 nonverified WRMP farms to confirm that cattle were going directly to slaughter and not sold at auction.
- Conducted data analysis to determine if the required patrol hours and stops were being conducted.
- Reviewed data related to compliance investigations to assess timeliness of assignment and completion of investigations.
- Randomly sampled 40 compliance investigations to assess if administrative fines were being administered appropriately.
- Reviewed indemnity payments for propriety.

CONCLUSIONS

We base our conclusions on our audit efforts and any resulting material conditions* or reportable conditions.

When selecting activities or programs for audit, we direct our efforts based on risk and opportunities to improve State government operations. Consequently, we prepare our performance audit reports on an exception basis.

AGENCY RESPONSES

Our audit report contains 3 findings and 3 corresponding recommendations. MDARD's preliminary response indicates that it agrees with all of the recommendations.

The agency preliminary response that follows each recommendation in our report was taken from the agency's written comments and oral discussion at the end of our audit fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and the State of Michigan Financial Management Guide (Part VII, Chapter 4, Section 100) require an audited agency to develop a plan to comply with the recommendations and submit it within 60 days after release of the audit report to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt, the Office of Internal Audit Services is required to review the plan and either accept the plan as final or contact the agency to take additional steps to finalize the plan.

SUPPLEMENTAL INFORMATION

Our audit report includes supplemental information presented as Exhibits #1 through #7. Our audit was not directed toward expressing a conclusion on this information.

* See glossary at end of report for definition.

GLOSSARY OF ABBREVIATIONS AND TERMS

Accredited Free Zone (AFZ)	Any area in the State with defined dimensions determined by MDARD in consultation with USDA to be free of bTB in livestock.
APHIS	Animal and Plant Health Inspection Service.
bovine tuberculosis (bTB)	A chronic, granulomatous disease caused primarily by <i>Mycobacterium bovis</i> , a very slow growing, acid-fast, Gram-positive, rod to filamentous shaped bacteria. <i>Mycobacterium bovis</i> has a very broad host range and can infect all warm-blooded vertebrates, including humans. In this audit report, bTB is referred to as "TB" in the supplemental information.
cattle	All bovine (genus bos) animals; bovine-like animals (genus bison), commonly referred to as American buffalo or bison; and any cross of these species.
contagious disease	An illness due to a specific infectious agent or suspected infectious agent or its toxic products which arises through transmission of that agent or its products from an infected animal, or inanimate reservoir to a susceptible host, either directly or indirectly through an intermediate plant or animal host, vector, or the inanimate environment, or via an airborne mechanism.
Deer Management Unit 452 (DMU 452)	All of Montmorency, Alpena, Alcona, and Oscoda Counties bounded by a line beginning at the junction of highway M-32 and highway M-33 in eastern Montmorency County, then easterly on highway M-32 past the City of Hillman and crossing the Montmorency-Alpena County line to King Settlement Road near the City of Paxton, southerly on King Settlement Road to Henry Road, continue southerly on King Settlement Road to Werth Road, easterly on Werth Road to Hubbard Lake Road, southerly on Hubbard Lake Road to Hubbert Road at the Alpena-Alcona County line, easterly on Hubbert Road to the continuation of Hubbard Lake Road (also known as Scout Road), southerly on Hubbard Lake Road to Spruce Road, continue southerly on Hubbard Lake Road to highway M-72, westerly on highway M-72 past the City of Curran and crossing the Alcona-Oscoda County line to highway M-72 and highway M-33 near the City of Fairview, northerly on highway M-33 crossing the Oscoda-Montmorency County line to the point of beginning.
DNR	Department of Natural Resources.
DTMB	Department of Technology, Management, and Budget.

eradication	The complete elimination of bTB from livestock in a state or zone.
goal	An intended outcome of a program or an entity to accomplish its mission.
infectious disease	An infection or disease due to the invasion of the body by pathogenic organisms.
livestock	Species of animals used for human food and fiber or those species of animals used for service to humans, such as cattle, sheep, new world camelids, goat, bison, privately owned cervids, ratites, swine, equine, poultry, aquaculture, and rabbits.
livestock market	Where livestock is accepted on consignment and the auction method is used in the marketing of consigned livestock.
material condition	A matter that, in the auditor's judgment, is more severe than a reportable condition and could impair the ability of management to operate a program in an effective and efficient manner and/or could adversely affect the judgment of an interested person concerning the effectiveness and efficiency of the program.
MDARD	Michigan Department of Agriculture and Rural Development.
Modified Accredited Zone (MAZ)	Any area in the State with defined dimensions in which bTB is present in livestock and separated from the disease free zone by a surveillance zone as determined by MDARD in consultation with USDA.
MOU	memorandum of understanding.
movement certificate	Prior documented permission given by the MDARD director before movement of livestock.
NML	Northern Michigan Livestock.
observation	A commentary that highlights certain details or events that may be of interest to users of the report. An observation differs from an audit finding in that it may not include the attributes (condition, effect, criteria, cause, and recommendation) that are presented in an audit finding.

performance audit	An audit that provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.
reportable condition	A matter that, in the auditor's judgment, is less severe than a material condition and falls within any of the following categories: an opportunity for improvement within the context of the audit objectives; a deficiency in internal control that is significant within the context of the audit objectives; all instances of fraud; illegal acts unless they are inconsequential within the context of the audit objectives; significant violations of provisions of contracts or grant agreements; and significant abuse that has occurred or is likely to have occurred.
state or zone	<p>One of five categories for which a state or zone may qualify based on: (1) the infrastructure existing in the state or zone for conducting a bTB eradication program, (2) compliance with the provisions of USDA's Uniform Methods and Rules, and (3) the prevalence of infection in the state or zone.</p> <p>The five categories are: (1) accredited-free state or zone, (2) modified accredited advanced state or zone, (3) modified accredited state or zone, (4) accreditation preparatory state or zone, and (5) nonaccredited state or zone.</p>
surveillance zone	Any area in the State with defined dimensions that is located adjacent and contiguous to an infected zone as determined by MDARD in consultation with USDA.
USDA	United States Department of Agriculture.
whole herd testing	The testing of any isolated group of cattle 12 months of age and older maintained on common group for any purpose or two or more groups of cattle under common ownership or supervision geographically separated but that have an interchange or movement of cattle without regard to health status.
wildlife risk mitigation plan (WRMP)	A written plan that contains structural and management requirements intended to reduce the risk that a herd will become infected with bTB and that has been approved by MDARD and verified by regulatory personnel to be in effect.

zone

A defined geographical land area identifiable by geological, political, manmade, or surveyed boundaries with mechanisms of disease spread, epidemiological characteristics, and the ability to control the movement of animals across the boundaries of the zone taken into account.

