



# ANIMAL INDUSTRY DIVISION

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## LETTER FROM THE DIRECTOR

In 2022, the Animal Industry Division (AID) of the Michigan Department of Agriculture and Rural Development (MDARD) filled some crucial staff vacancies and forged new strength as a team as we balanced our routine responsibilities with our responses to unexpected challenges. Below are three highlights from our efforts this year:

- ***Continued Recognition and Leadership in Controlling and Managing Bovine Tuberculosis:*** AID's Bovine Tuberculosis Program helped negotiate a new Memorandum of Understanding with the United States Department of Agriculture, which recognized Michigan's incredible herd protection efforts by creating an avenue for participating producers to reduce their testing requirements. The program also continues to lead a One Health approach to protect all Michiganders from exposure to the disease. To that end, this year, the program tested over 500 cattle herds in the northeastern Lower Peninsula, invested about \$288,000 in protective fencing for cattle herds, collaborated with the Michigan Department of Natural Resources on community outreach, and worked with the Michigan Department of Health and Human Services and private physicians to communicate the health risks of the disease to hunters, farmers, and other community members.
- ***Responded to Multiple Cases of Highly Pathogenic Avian Influenza in Domestic Flocks:*** AID initiated an Incident Management Team (IMT) to protect domestic flocks around the state from highly pathogenic avian influenza, serving to ensure the viability of Michigan's poultry industry and safeguard public health. So far, the team has responded to 22 infected flocks across 14 different counties and continues to answer calls and promptly investigate potential cases of the disease.
- ***Partnered with the Michigan State University Veterinary Diagnostic Laboratory (MSU VDL) to Investigate Claims of a "Mysterious Canine Parvovirus-like Illness":*** AID worked in close partnership with the MSU VDL to protect Michigan dogs by investigating claims of a "mysterious canine parvovirus-like illness." Together, while managing over 100 media inquiries and coordinating outreach to other key stakeholders, the organizations facilitated the additional sampling and testing needed to determine the illness was actually canine parvovirus and provided guidance to veterinary professionals, pet owners, and animal control officers and animal shelter staff.

Throughout the following pages, you will find summaries of how AID's various programs work to protect, regulate, and promote animal health as well as a selection of their accomplishments in 2022. I am proud to share our story with you.

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# ANIMAL CONTROL

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The Animal Control Program works with local animal control agencies to provide support, education, and guidance on animal health issues and state regulations.

Animal control, along with local law enforcement entities, enforce animal laws that address public safety and animal welfare. This includes dog and local kennel licensing, stray dogs, and animals running at large. Additionally, they are responsible for investigating claims of neglect and cruelty against animals, situations of animal hoarding, and complaints involving exotic or dangerous animals.

## IMPACT FOR MICHIGAN:

Animal control agencies and officers play a critical role in ensuring animal welfare, which leads to the greater health and safety of animals and the public. This sector provides resources for the housing and care of lost, stray, and unwanted animals. Also, animal control plays an especially important role in protecting people from animals running at large and animal bites, keeping the public safe from diseases such as rabies.

## ACCOMPLISHMENTS:

- Helped develop animal control officer training content for a university-based educational experience, expanding the availability of in-person and virtual learning opportunities and increasing their reach.
- Collaborated with the Michigan Association of Animal Control Officers (MAACO) to provide presentations from the Michigan Department of Agriculture and Rural Development (MDARD) and participants for roundtables at the MAACO conferences in the spring and fall.
- Ensured there were appropriate virtual training opportunities available for animal control officers to learn about humane euthanasia and field sedation of animals, as required by the Public Health Code and associated rules.

Metric	2021	2022
Virtual Animal Control Officer Ride-Along Training requests	15	14
Animal control officer training reviews completed	30	27

**PROGRAM GOALS:**

- Provide at least two trainings, in cooperation with the Michigan Association of Animal Control Officers (MAACO), for animal care and enforcement agencies and their partners in 2023.
- Continue to enhance the program’s online presence and create new resources for animal control officers and agencies regarding animal health programs, available trainings, and state animal laws.
- Conduct quarterly meetings with MAACO’s Board of Directors or their committees to discuss what is needed for educational and training opportunities for Michigan’s animal control officers.



**KEY STAKEHOLDERS:**

- Michigan Association of Animal Control Officers
- Michigan’s counties, cities, villages, townships, and other local units of government
- Michigan law enforcement agencies
- Michigan Veterinary Medical Association

**LEGAL AUTHORITY:**

- Act 287, PA 1969 as amended
- Regulation 151
- Act 339, PA 1919 Dog Law of 1919
- Act 309, PA 1939



# ANIMAL DISEASE TRACEABILITY

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The Animal Disease Traceability (ADT) Program educates others on the requirements for animals moving into, within, and out of Michigan and enforces these standards. Overall, these requirements provide assurance of animal health and traceability.

The ADT Program also gathers and stores searchable data on animal identification and movement, enabling a rapid response when an outbreak of a reportable animal disease occurs.

### IMPACT FOR MICHIGAN:

By facilitating the prompt identification and tracking of animals, the ADT Program safeguards Michigan's residents from the potential impacts of an animal health crisis. Animal disease outbreaks can affect the continuity of agricultural business, the strength of Michigan's economy, and/or the health of the public. The efforts of this program ensures the viability of Michigan's livestock industry and protects public health.

### ACCOMPLISHMENTS:

- Supported producers, veterinarians, and local tag distributors through a national radio frequency identification (RFID) tag shortage by providing additional resources for obtaining tags, local inventory checks, and communication updates.
- Secured federal funding for RFID technology enhancements at eight MDARD-licensed livestock auction markets.



Metric	2021	2022
Interstate certificates of veterinary inspection issued electronically in Michigan versus paper-based certificates, enhancing traceability efforts	56%	67%

**PROGRAM GOALS:**

- Implement recommendations from the National Scrapie Eradication Program to bolster the traceability of sheep and goats in Michigan.
- Increase the electronic capture and transmission of traceability information in Michigan to advance the strategic goals established by the U.S. Department of Agriculture for national animal disease traceability.
- Develop and implement a plan to improve the quality of existing traceability data in USAHerds, a state database.



**KEY STAKEHOLDERS:**

- U.S. Department of Agriculture
- Michigan Farm Bureau
- Michigan Milk Producers Association
- Michigan Cattlemen’s Association
- Accredited veterinarians

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act
- 9 CFR Part 86



# ANIMAL SHELTERS

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The Animal Shelters Program is responsible for registering animal shelters. This includes both municipal open-admission animal control shelters and animal protection shelters, which are closed-admission facilities typically operated by private (mostly non-profit) organizations. The Animal Shelters Program staff work with shelters to provide guidance and education on animal health issues and state regulations.

## **IMPACT FOR MICHIGAN:**

Animal shelters care for animals needing protection, serve as a place for lost pets to be reunited with their families, and help to home surrendered or abandoned animals. Situated in the communities they serve, animal shelters partner with law enforcement agencies, animal advocacy groups, veterinarians, and animal behavior specialists to ensure the health and safety of both the animals and the community at large. Shelters also play a key role in preventing unwanted animals by encouraging and offering low-cost spay/neuter programs.

## **ACCOMPLISHMENTS:**

- Ensured the availability of virtual and in-person training opportunities for animal shelter employees regarding animal housing and care requirements, humane euthanasia, and Animal Welfare Fund grants.
- Finalized and launched a new web page for the [Animal Welfare Fund](#).
- Refreshed the application process and forms for the Animal Welfare Fund.
- Pursued additional funding avenues to support Michigan-registered animal shelters with opportunities to address shortages in veterinary resources.
- Reinstated the program's e-newsletter, The PAWgress Report.



Metric	2021	2022
Registered shelters not requiring a follow-up for corrections or improvements (target 70%)	91%	90%
Registered shelters inspected annually (target 100%)	94%	92%
Shelters reporting their annual statistics	98%	95%

**PROGRAM GOALS:**

- Administer a successful Animal Welfare Fund grant cycle, which will help registered Michigan animal shelters increase the number of shelter animals being spayed/neutered prior to adoption, facilitate more education and training opportunities for their staff regarding proper animal care, and provide them with additional funds to care for animals ordered to be held at a shelter as evidence for court cases.
- Identify additional means and opportunities for Michigan-registered animal shelters to facilitate basic care, vaccinations, and spay/neuter surgeries for shelter animals and companion animals in their communities.
- Improve the program’s animal shelter-related outreach by updating website content and creating new resources for shelters and those looking to adopt a shelter animal.



**KEY STAKEHOLDERS:**

- Michigan Association of Animal Control Officers
- Michigan’s counties, cities, villages, townships, and other local units of government
- Michigan Partnership for Animal Welfare
- Michigan Veterinary Medical Association

**LEGAL AUTHORITY:**

- Act 287, PA 1969 as amended
- Regulation 151
- Act 339, PA 1919 Dog Law of 1919
- Act 309, PA 1939
- Act 132, PA 2007 Animal Welfare Fund Act



# AQUACULTURE

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The Aquaculture Program manages the registration and regulation of aquaculture facilities. It also serves to protect and promote the aquaculture industry by addressing issues related to fish health, environmental protection, and industry concerns. Specific activities of the program include pre-licensing inspections, routine annual inspections, and reportable disease or escapement responses. Further, in collaboration with the Michigan Department of Natural Resources, the program oversees the issuance of all prior-entry import permits, including permits for baitfish and other aquaculture intended for stocking public waters. Lastly, the program works with other state agencies to prevent and control aquatic invasive species in the Great Lakes area.

## IMPACT FOR MICHIGAN:

Within the next 30 years, estimates show that twice as much food will be needed to sustain the world's growing population. The U.S. currently imports more than 90 percent of the seafood consumed in America. This offers a considerable opportunity for domestically-raised fish. Michigan's abundant water resources and diverse agricultural base uniquely positions the state to capitalize on this prospect and help meet the protein needs of the world. The efforts of the program are integral for being able to capture this opportunity.

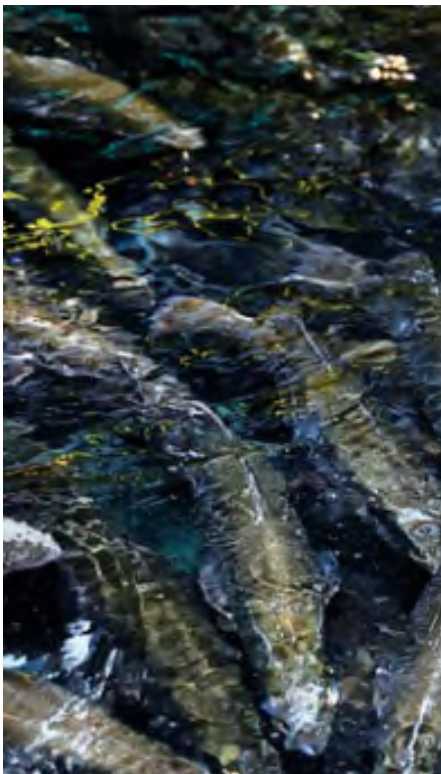
## ACCOMPLISHMENTS:

- Completed 34 annual inspections of registered aquaculture facilities.
- Participated in Michigan's PFAS Action Response Team, investigating and responding to multiple surface, groundwater, and drinking water contamination sites throughout the state.

Metric	2021	2022
Number of registered facilities inspected	36	34
Number of new facilities registered	0	0
Number of import permits issued	124	85

**PROGRAM GOALS:**

- Promote the expansion of the aquaculture industry by effectively working with other state agencies to facilitate the registration of new facilities.
- Protect the aquatic health of public and private waters and meet the importation needs of the industry by timely issuing prior-entry import permits.
- Respond promptly to suspected cases of reportable aquatic disease in commercial aquaculture facilities.
- Collaborate with other state agencies to meet the goals outlined in the Invasive Species State Management Plans, including the Michigan Invasive Species Grant Program.



**KEY STAKEHOLDERS:**

- Michigan Aquaculture Association
- Quality of Life Agencies (Departments of Environment, Great Lakes, and Energy; Agriculture and Rural Development; and Natural Resources)
- Michigan State University
- Michigan Farm Bureau
- Michigan aquaculture producers

**LEGAL AUTHORITY:**

- PA 199 of 1996, the Michigan Aquaculture Development Act
- PA 466 of 1988, as amended, the Animal Industry Act





# BOVINE TUBERCULOSIS

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The goal of the Bovine Tuberculosis (TB) Program is to prevent, control, and ultimately eradicate the disease in cattle. The activities of the program are critical in order to ensure Michigan's cattle industry has access to national and international markets. Within the state, there are currently two TB zones: the Modified Accredited Zone (MAZ), a four-county area in northern lower Michigan, and the Accredited Free Zone (AFZ), the remainder of the state. In the MAZ and its adjacent counties, the Bovine TB Program works daily on disease surveillance, animal traceability, and prevention of bovine TB transmission from deer-to-cattle. These efforts are complimented by a variety of communication strategies intended to increase awareness and engagement.

## IMPACT FOR MICHIGAN:

The Bovine TB Program protects public health, animal health, and cattle markets in Michigan. Since bovine TB is a disease that can affect people, controlling the disease in cattle is essential. Additionally, bovine TB has economic implications for farmers, producer groups, hunters, and the federal government. With more than 12,000 cattle producers in the state who maintain more than 1.2 million cattle, the Bovine TB Program plays a crucial role in maintaining market access for Michigan cattle, meat, and milk products. For example, dairy producers located in the MAZ require the activities of this program to sell Grade A milk.

## ACCOMPLISHMENTS:

- Responded successfully to the detection of one TB-infected herd in the MAZ, preventing the spread of disease to any other herds.
- Negotiated and implemented a new Memorandum of Understanding with the U.S. Department of Agriculture (USDA), maintaining the TB-Free status of 95% of Michigan's counties, reducing the amount of testing required outside the MAZ, and creating a pathway for producers who implement protective measures for their herds to decrease their amount of testing beginning in 2024.
- Completed TB surveillance for cattle herds within six counties bordering the MAZ.
- Successfully hosted an on-site USDA review of the TB Program.



Metric	2021	2022
Percentage of Michigan counties at TB-Free status	95%	95%
Percentage of active commercial herds with Wildlife Risk Mitigation (WRM) verified status	71%	82%

**PROGRAM GOALS:**

- Continue to maintain Michigan’s split-state status for bovine TB.
- Partner with other agencies to research the use of a TB vaccine in deer and identify more efficient TB tests for use in cattle.
- Use available resources to assist farmers outside of the Enhanced Wildlife Biosecurity (EWB) area, the highest risk area for TB in the MAZ, with implementing improvements to on-farm infrastructure and management practices.
- Expansion of deer surveillance efforts to identify additional cattle herds outside of the EWB area having high deer pressure, and subsequently, a high risk of getting TB.
- Work in partnership with USDA Wildlife Services and owners of herds at high risk to protect their feed, cattle, and cattle areas from exposure to deer and remove deer habituated to living close to a farm.



**KEY STAKEHOLDERS:**

- Michigan Farm Bureau
- Michigan’s dairy industry associations
- Michigan Cattlemen’s Association
- Michigan Department of Natural Resources
- USDA, Animal and Plant Health Inspection Service, Wildlife Services
- USDA, Animal and Plant Health Inspection Service, Veterinary Services

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act
- CFR 9, Part 77
- Uniform Methods & Rules 2005



## COMPANION AND EXOTIC ANIMALS

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The Companion and Exotic Animals Program investigates cases of reportable disease within species such as dogs, cats, ferrets, and pet birds. Commonly reported diseases include rabies, leptospirosis, brucellosis, and poisonings.

In addition, the program serves as a subject matter expert in state laws related to companion and exotic animals, oversees the importation of these animals into Michigan, licenses zoos to breed large carnivores (i.e., exotic cats and bears), and approves euthanasia and chemical capture training programs for animal shelters and dealers.

### IMPACT FOR MICHIGAN:

The benefits of the program's activities are numerous. First, by identifying and rapidly addressing reportable diseases within companion and exotic animals, both animal health and public health are protected. Through overseeing the importation of animals, the program helps to further protect public health by ensuring healthy animals are brought into Michigan and their movement can be traced. In addition, licensing large carnivores to breed helps threatened and endangered species to survive. Lastly, approving training programs ensures euthanasia and chemical immobilization curriculums are adequate.

### ACCOMPLISHMENTS:

- Investigated 190 suspected cases of reportable disease in companion and exotic animals; 124 of which were found to be actual cases.
- Responded to three separate brucellosis clusters, one involving a breeding kennel and the other two involving imported shelter dogs. Investigations identified seven cases of brucellosis.
- Responded to 131 reports of possible illegal animal importation into Michigan.
- Worked in collaboration with the Michigan State University Veterinary Diagnostic Laboratory to facilitate additional testing to determine the true cause of illness for several Michigan dogs while managing a high volume of public media inquiries and providing guidance to veterinary professionals, pet owners, animal control officers, and animal shelter staff. The testing revealed the illness to be canine parvovirus.
- Approved the state's first ever web-based euthanasia training program for veterinary professionals.

Metric	2021	2022
Percentage of investigations conducted timely* by field staff (target 100%)	91% (29/32)	88% (21/24)
Percentage of large carnivore breeding applicants alerted to incompleteness within 14 business days of receipt	None submitted	100% (1/1)
Percentage of complete large carnivore breeding applications approved or denied within 90 business days of receiving	None submitted	100% (1/1)

*\*In this context, "timely" refers to an inspection or investigation being completed by its due date and all related paperwork is submitted within the following seven business days.*

**PROGRAM GOALS:**

- Respond promptly to complaints or inquiries regarding reportable diseases, illegally imported animals, and ferrets and turtles sold without the state-required advisory sheets.
- Create and maintain a web-based disease mapper for the public, reflecting confirmed cases of reportable animal diseases reported to MDARD.
- Minimize cases of reportable diseases through effective response and outreach.
- Review and process large carnivore breeding license applications timely and thoroughly.
- Systematically and promptly review proposed euthanasia and chemical immobilization training programs and communicate approvals to stakeholders in a timely manner.



**KEY STAKEHOLDERS:**

- Michigan Department of Health and Human Services
- Michigan Department of Natural Resources
- Michigan State University
- United States Department of Agriculture
- Michigan Veterinary Medical Association
- Michigan Association of Animal Control Officers

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act
- PA 358 of 1994, Ferrets
- PA 424 of 1988, Turtles
- Act 368 of 1978, as amended, Public Health Code
- PA 274 of 2000, as amended, Large Carnivore Act





# COMPLIANCE INVESTIGATIVE UNIT

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The Compliance Investigative Unit's (CIU) purpose is to investigate allegations of violations to the laws, regulations, and program standards that the Animal Industry Division (AID) is responsible for carrying out under Chapter 286 and 287 of the Michigan Compiled Laws. The CIU is also tasked with utilizing fair and uniform progressive enforcement measures to obtain compliance with these laws, regulations, and program standards.

## IMPACT FOR MICHIGAN:

The CIU is important to Michigan residents because it supports AID's programs in protecting animal health and public health. Enforcement of the laws, regulations, and program standards helps to ensure a safe and high-quality food supply. Additionally, the CIU helps to safeguard the state from unwanted animal pests and diseases, which could substantially devastate segments of Michigan's economy.

## ACCOMPLISHMENTS:

- Closed investigations within 40 days over 92 percent of the time.



Metric	2021	2022
First-time offenders who did not repeat (target 90%)	96%	95%
Average time to complete investigations (target 40 days)	20 days	12 days
Average time to issue out investigations (target less than 7 days)	7 days	3 days

### PROGRAM GOALS:

- Have 90 percent or more of first-time offenders not repeat the same violation of laws, regulations, or program standards.
- Complete investigations within 40 days on average from when an allegation is reported to the CIU.
- Define the role of the CIU within four of the Animal Industry Division's program areas and develop a clear compliance enforcement process for each program.
- Create a process to regularly review department rules, regulations, and laws in order to address current industry/citizen standards and/or program relevancy.



### KEY STAKEHOLDERS:

- Michigan Farm Bureau
- Michigan State Police, Commercial Vehicle Enforcement Division
- Michigan County Sheriff's Offices

### LEGAL AUTHORITY:

- Laws identified in Chapter 286 and 287 of the Michigan Compiled Laws
- Regulations identified under the Michigan Administrative Code



# DEAD ANIMAL TRANSPORT AND DISPOSAL

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In Michigan, dead animals can be buried, composted, burned, or rendered—including being made into animal feed. The Animal Industry Division (AID) licenses and regulates businesses that produce animal feed and/or other products from dead animals and used restaurant grease. Additionally, AID licenses and regulates businesses that collect, transport, and/or transfer dead animals and used restaurant grease for further processing. There are currently 17 licensed businesses that transport and dispose of dead animals.

As part of this program, AID assists other agencies investigating improper animal disposal at non-licensed facilities by providing education on proper disposal.

## IMPACT FOR MICHIGAN:

The Dead Animal Transport and Disposal Program ensures dead animals and grease are properly transported and processed. The program also looks for new alternatives to animal disposal to reduce the impact on the environment, allowing more disposal choices for animal owners.

If not properly disposed, dead animals can attract predators, spread disease to other animals and people, and be malodorous and unsightly. Dead animals also have the potential of negatively affecting the environment.

## ACCOMPLISHMENTS:

- Conducted routine inspections of all 12 licensed plants and transfer stations.
- Received and responded to one animal disposal complaint against an animal disposer, which was verified.
- Inspected and approved for licensure 24 vehicles for transporting dead animals in Michigan.

Metrics	2021	2022
Timely* inspections conducted by field staff (target 85% or greater)	74% (17/23)	86% (18/21)
Facilities found to be in compliance at annual inspection (target 70% or greater)	93% (14/15)	50% (6/12)

*\*In this context, "timely" refers to an inspection or investigation being completed by its due date and all related paperwork is submitted within the following seven business days.*

**PROGRAM GOALS:**

- Improve the public’s awareness of the proper disposal of animals by creating improved educational materials on the state’s animal disposal requirements.
- Conduct timely inspections (annual and pre-licensing) and complaint investigations of dead animal facilities and vehicles.
- Conduct yearly routine inspections of licensed facilities in conjunction with the Michigan Department of Agriculture and Rural Development's Pesticide and Plant Pest Management Division.
- Consolidate and transfer the Dead Animal Transport and Disposal Licensing Program to a web-based database for licensing and inspections.
- Revise the outdated language in the regulations to reflect current science and disposal methods.
- Provide educational materials on common violations to all licensees, helping to increase compliance.



**KEY STAKEHOLDERS:**

- MDARD’s Pesticide and Plant Pest Management Division
- Michigan Department of Environment, Great Lakes, and Energy
- Michigan State University Extension
- National Renderers Association
- Law enforcement

**LEGAL AUTHORITY:**

- PA 239 of 1982, Bodies of Dead Animals and Regulations (BODA)





# EMERGENCY MANAGEMENT

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The Emergency Management Program serves to plan and facilitate activities that increase the state's preparedness when responding to animal-related emergencies, ensuring a quick and effective response. To help build this preparedness, the program guides owners and producers in the development of secure food supply plans, enhanced biosecurity protocols, and disposal plans. This collaboration helps to raise awareness of potential vulnerabilities, directly address concerns, and reduce the potential for introducing and spreading a disease.

Overall, the primary objectives of the program are to protect human health, safeguard the health and welfare of animals, and provide for a safe and viable food supply.

## **IMPACT FOR MICHIGAN:**

During emergency situations, the program works to maintain business continuity for the livestock industry, preserving thousands of jobs. The livestock industry accounts for more than \$12 billion of Michigan's annual revenue. Additionally, the program assists Michigan's residents with planning for and responding to disasters and/or emergencies that could impact pets and other animals. These types of events could include foreign animal disease outbreaks or natural disasters (flooding, tornados, etc.).

## **ACCOMPLISHMENTS:**

- Initiated an Incident Management Team to protect domestic flocks from highly pathogenic avian influenza. The team promptly responded to 22 detections of the disease, mitigating the spread and impact of this virus.
- Participated in multiple exercises that focused on various sectors of the food and agricultural industry—including sampling and testing retail products for unwanted bacteria, protecting against viruses, and testing the effectiveness of response plans.
- Collaborated with Michigan State University Extension and MDARD's Environmental Stewardship Division to develop guidance for mass carcass disposal.



Metric	2021	2022
Division staff trained in the Incident Command System	98%	99%

**PROGRAM GOALS:**

- Ensure all Animal Industry Division (AID) staff have completed the National Incident Management System training requirements, supporting future Incident Management Team efforts within the division.
- Continue to implement and support planning efforts for animal-related emergency responses with federal, state, local and industry partners, for all species.
- Maintain adequate inventories of emergency response supplies and equipment.
- Continue to build and strengthen relationships with colleagues in other states to ensure improved planning, procedures, and communication around an incident or potential incident.



**KEY STAKEHOLDERS:**

- Livestock and companion animal industries within Michigan
- Michigan State Police, Emergency Management and Homeland Security Division
- Michigan Department of Environment, Great Lakes, and Energy
- Michigan Department of Natural Resources
- County Emergency Management Offices

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act
- PA 390 of 1990, Emergency Management Act
- Michigan Emergency Management Plan Animal Annex



## EQUINE

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With 28 reportable equine diseases, one of the main goals of the Equine Program is to investigate any reports of these diseases in Michigan. Common reportable diseases include Eastern Equine Encephalitis (EEE), West Nile virus (WNV), herpesvirus-1, and strangles. In a typical year, the program receives about 40 reports of potential disease. Also, the program oversees the importation and intrastate movement of equine in Michigan and serves as a subject matter expert in state laws related to equids.

### IMPACT FOR MICHIGAN:

The reportable equine diseases can cause serious disease and economic losses to the equine industry. Some of these diseases also pose a risk to humans, and equids can serve as a sentinel species for risks to public health. By promptly reporting cases to industry platforms, it alerts other agencies, organizations, and equid owners to potential disease threats, so they can take additional actions to control and prevent the disease. Also, with overseeing the importation of equids into Michigan, the program helps to protect the health of animals and people by ensuring healthy equids are brought into Michigan and their movement can be traced.

### ACCOMPLISHMENTS:

- Responded to 87 reports of reportable equine diseases; 62 of these reports were confirmed to be Michigan cases.
- Responded to 60 reports of potential illegal movement.
- Continued to facilitate free testing for equids suspected of having EEE or WNV. Of the 12 equids tested under the grant, two cases of EEE and one case of WNV were identified—accounting for 75% of the EEE and WNV cases reported in 2022.
- Created and released a new infographic on disease control and prevention for equid owners.

Metric	2021	2022
Percent of investigations (related to both reportable disease and animal movement) completed in a timely* manner by field staff (Goal is 100%)	100% (4/4)	86% (12/14)
Percent of confirmed regulated and monitored disease cases reported to the Equine Disease Communication Center within five business days of being reported to MDARD	96% (46/48)	98% (54/55)

*\*In this context, "timely" refers to an inspection or investigation being completed by its due date and all related paperwork is submitted within the following seven business days.*

### PROGRAM GOALS:

- Respond in a timely and effective manner to cases of reportable diseases and complaints regarding the movement of equine (import/export).
- Minimize cases of reportable diseases in equine through effective response.
- Report 100 percent of confirmed reportable diseases to the Equine Disease Communication Center.
- Create and maintain a web-based disease mapper for the public, providing a timely depiction of confirmed cases of reportable diseases that are reported to MDARD.



### KEY STAKEHOLDERS:

- Michigan Veterinary Medical Association
- Michigan State University
- United States Department of Agriculture, Veterinary Services
- Michigan Department of Health and Human Services
- Michigan Gaming Control Board
- Michigan Farm Bureau
- Michigan Horse Counsel
- Michigan Harness Horseman

### LEGAL AUTHORITY:

- PA 466 of 1988, as amended, the Animal Industry Act
- PA 93 of 1974, Horse Riding Stables and Sales Barns





## FAIRS AND EXHIBITIONS

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The Fairs and Exhibitions Program protects, regulates, and promotes animal health by performing inspections and educational outreach at fairs and exhibitions. The program and field staff work with leaders of these events to ensure all livestock not only appear healthy and have proper care but also have appropriate official identification, test charts, and (if needed) interstate certificates of veterinary inspection. Also, when notified, all reportable disease cases at fairs and exhibitions are investigated to assist with diagnostics and control of the disease. Additionally, the program emphasizes the role of biosecurity at these events to protect both animals and humans from disease.

### IMPACT FOR MICHIGAN:

This program regulates fairs and exhibitions where livestock are shown. Both the commingling of animals from different premises and the overall stress caused by unfamiliar housing, ambient heat, and/or interaction with the public can contribute to disease. Also, with the animals having more direct public contact at these events, the risk of potential disease transmission is high. By implementing proper biosecurity and addressing disease issues, this program protects both animal and public health.

### ACCOMPLISHMENTS:

- Visited and inspected 72 county and community fairs.
- Guided and advised fairs on the precautions and biosecurity measures needed to protect domestic birds during exhibition from highly pathogenic avian influenza.
- Received and investigated one potential case of swine influenza at a county fair; results were negative.
- Presented fair and exhibition requirement reminders at the six Michigan Association of Fairs and Exhibitions Regional Zone meetings in the spring.



Metric	2021	2022
Local, county, community, and state fairs and exhibitions inspected	58	72
Reportable disease responses conducted by AID field veterinarians	0	1
Avian influenza surveillance testing performed (number of fairs)	3	0
Number of fairs with one or more violations	10	25

### PROGRAM GOALS:

- Inspect as many local, county, community, and state fairs as possible and update MDARD's Fairs and Exhibitions website with refreshed resources.
- Present the current edition of the Fairs and Exhibitions Requirements at the annual Michigan Association of Fairs and Exhibitions (MAFE) convention and during a pre-fair webinar in May in conjunction with Michigan State University (MSU) Extension.
- Respond to and investigate any notification of a potential reportable disease occurring at a fair or exhibition.
- Continue to develop the relationships with key stakeholders (listed below) in order to provide education, outreach, and resources that will help to further protect, regulate, and promote animal health in Michigan.



### KEY STAKEHOLDERS:

- Michigan Association of Fairs and Exhibitions
- MSU College of Veterinary Medicine
- MSU Extension
- MSU Veterinary Diagnostic Laboratory
- Michigan Department of Health and Human Services
- Local Public Health Departments

### LEGAL AUTHORITY:

- PA 466 of 1988, as amended, the Animal Industry Act



# FARMED CERVIDS

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The practice of raising deer and elk (farmed cervids) in captivity is jointly regulated by the Michigan Department of Natural Resources (MDNR) and the Michigan Department of Agriculture and Rural Development's (MDARD) Animal Industry Division (AID). AID manages the animal health component of this program, including chronic wasting disease (CWD), bovine tuberculosis (TB), and movement.

### IMPACT FOR MICHIGAN:

Deer and elk are raised for breeding, meat production, private hunting, animal watching, and specialty products. Maintaining healthy farmed cervids is critical to protecting the health status of the free-ranging population of white-tailed deer and elk in Michigan. Disease surveillance programs provide early detection of infected individuals, which reduces the spread of disease. Also, herd certification and accreditation programs minimize the risk of introduction, transmission, and spread of disease in farmed cervid populations.

### ACCOMPLISHMENTS:

- Welcomed a new Veterinary Program Manager to the Cervid Program team.
- Responded to and managed CWD-positive deer farms.
- Issued 369 movement permits in 2022, with an average turnaround time of four days.
- Received a continuation of cooperative agreement funding from the United States Department of Agriculture to conduct genomic predictions for selective breeding to reduce farmed cervid's susceptibility to CWD.

Metric	2021	2022
Percent of herds where CWD Certification was completed within 42 days	80%	88%
Percent of herds where TB Accreditation was completed within 42 days	92%	82%
Number of deer and elk imported into Michigan	8	13
Number of herds involved in special surveillance zones around CWD-positive free-ranging deer	84	89

**PROGRAM GOALS:**

- Work cooperatively with the MDNR to mitigate the impact of CWD in both free-ranging and farmed cervids in Michigan.
- Continue to implement the changes outlined in the revised Animal Industry Act for farmed cervids.
- Maintain Approved State Status for the USDA CWD Herd Certification Program.
- Provide excellent customer service in farmed cervid regulatory disease programs by processing CWD Certifications and TB Accreditations within 42 days and movement permits within five business days.



**KEY STAKEHOLDERS:**

- Michigan deer and elk farmers
- USDA Animal and Plant Health Inspection Service
- Michigan Department of Natural Resources
- United Deer Farmers of Michigan

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act
- PA 190 of 2000, the Privately-Owned Cervidae Producers Marketing Act Memorandum of Understanding with Department of Natural Resources
- Nine Code of Federal Regulations (CFR) Part 55 9 CFR Part 77
- Bovine Tuberculosis Eradication: Uniform Methods and Rules, Effective January 22, 1999
- Chronic Wasting Disease Program Standards, USDA, 2019





# LARGE-SCALE DOG BREEDING KENNELS

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The Large-scale Dog Breeding Kennels (LDBK) Program provides state regulatory oversight on dog kennels with more than 15 qualifying females that are in the business of selling puppies. The LDBK Program makes certain specific standards are met in order to ensure healthy dogs as well as their safe housing and adequate care. In addition, puppies are required to be accompanied with a current pet health certificate.

It is crucial to note these kennels may also require local kennel licensing or licensing by the United States Department of Agriculture.

### IMPACT FOR MICHIGAN:

Companion animals play an increasingly important role in Michigander’s lives. Breeding kennels are a resource for specific types of dogs, which can help people find a dog compatible with their lifestyle or service need. Breeding kennels also provide dogs to people who enjoy participating in expositions and sporting activities. This program offers a relatively new opportunity to work with this segment of the companion animal industry as well as local animal care partners.

### ACCOMPLISHMENTS:

- Collaborated with the newly-formed Michigan Council on Animal Welfare to provide outreach and education regarding the large-scale dog breeding kennel requirements in Michigan.
- Reviewed and updated kennel materials, emphasizing enhanced biosecurity protocols and interstate movement of canines.

Metric	2021	2022
Follow-up on registration assessments for requesting kennels (target 95%)	100%	100%
Number of registered large-scale dog breeding kennels	12	13

**PROGRAM GOALS:**

- Partner with key stakeholders to determine the best practices for identifying and resolving issues with non-compliant large-scale dog breeding kennels.
- Collaborate with animal control agencies to provide key updates and discuss emerging issues within the Large-scale Dog Breeding Kennels Program.
- Work toward obtaining full functionality of the database used to manage the program, allowing for improved efficiencies regarding system-generated registrations and data input/sharing.



**KEY STAKEHOLDERS:**

- Michigan Association of Animal Control Officers
- Michigan’s counties, cities, villages, townships, and other local units of government
- Michigan Council on Animal Welfare (MI-CAW)
- Michigan dog breeders
- Michigan Veterinary Medical Association
- Michigan companion animal veterinarians
- Michigan pet shops

**LEGAL AUTHORITY:**

- PA 287 of 1969, as amended
- Regulation 151
- PA 339 of 1919, Dog Law of 1919



## LIVESTOCK DEPREDATION

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The Livestock Depredation Program provides fair and timely compensation to livestock owners for animals killed, injured to the extent of requiring euthanasia, or missing as a result of wolves, coyotes, and cougars. Some areas of the state, and certain species of livestock and their offspring, experience greater than average depredation events.

### **IMPACT FOR MICHIGAN:**

The Livestock Depredation Program supports local businesses, communities, and economies by assisting livestock producers in areas of the state with high populations of predators.

### **ACCOMPLISHMENTS:**

- Collaborated with the Michigan Department of Natural Resources (MDNR) to review current processes for how claims are handled.
- Processed all livestock depredation claims within 45 days of receipt, as described in the Memorandum of Understanding with MDNR and in statute.



Metric	2021	2022*
Number of livestock killed by wolves, coyotes, or cougars	28	34
Number of livestock reported missing	0	0
Number of livestock producers submitting claims	14	9
Total of payments made for depredation or missing livestock	\$13,196.80	\$8,057.15
Average number of days between depredation claim and payment	25	29

\*Reported as calendar year totals. Metrics for 2021 were reported as fiscal year totals (October 1, 2020, through September 30, 2021).

### PROGRAM GOALS:

- Process all livestock depredation claims within 45 days of receiving all approved and completed forms from the MDNR and livestock producers.
- Continue communication efforts to livestock producers in high-risk areas on mortality management strategies to minimize attracting predators, reducing livestock depredation claims.
- Assist new producers with registration in SIGMA (the State's accounting system) to reduce the average number of days between the depredation claim and payment.



### KEY STAKEHOLDERS:

- Michigan Department of Natural Resources
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services
- Michigan livestock producers

### LEGAL AUTHORITY:

- PA 487 of 2012, Wildlife Depredations Indemnification Act



## LIVESTOCK MARKETS

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The Livestock Markets Program provides regulatory oversight on animal welfare, disease control, and traceability issues pertaining to livestock marketing activities. Entities engaged in the business of buying, selling, transporting, or negotiating the sale and transfer of livestock are required to maintain records and be licensed and bonded when appropriate. Additionally, licensed livestock facilities and transport vehicles must be well-maintained to ensure animal welfare and human safety as well as to prevent the spread of disease.

### IMPACT FOR MICHIGAN:

The Livestock Markets Program protects, regulates, and promotes animal health and traceability by enforcing the Licensing Livestock Dealers Act. Keeping these businesses in compliance mitigates the risk of spreading animal diseases and ensures the economic success of this sector of the agricultural industry.

### ACCOMPLISHMENTS:

- Implemented revised inspection standards for increased transparency and consistency.
- Administered field staff training on how to complete license inspections using the updated standards and report.

Metric	2021	2022
Licensed livestock markets and buying stations inspected	100%	96%
Licensed livestock dealers and truckers inspected (target 40%)	0%*	0%*

*\*No inspections were assigned in 2021 due to an increased workload in the Bovine Tuberculosis Program and the risk of COVID-19 exposure. In 2022, no inspections were assigned due to the response efforts needed for highly pathogenic avian influenza.*

**PROGRAM GOALS:**

- Transition from using multiple databases and filing systems to using one shared database for greater information access and efficiencies across the division.
- Complete routine inspections of licensed livestock dealers and truckers to verify compliance with the requirements outlined in the Licensing Livestock Dealers Act.



**KEY STAKEHOLDERS:**

- United States Department of Agriculture
- Michigan Farm Bureau
- Livestock Marketing Association
- United Producers, Inc.

**LEGAL AUTHORITY:**

- PA 284 of 1937, as amended, the Licensing Livestock Dealers Act
- PA 466 of 1988, as amended, the Animal Industry Act





# POULTRY

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The Poultry Program is responsible for responding to cases of reportable avian diseases, maintaining an active and passive surveillance program for avian influenza in compliance with the National Poultry Improvement Plan, and collaborating with Michigan's commercial poultry industry and other stakeholders on emergency avian disease response planning. In addition, the program works with Michigan State University (MSU) Extension and Michigan Allied Poultry Industries, Inc. (MAPI) to maintain a statewide group of certified pullorum testers to meet the needs of poultry exhibitors at Michigan fairs.

## IMPACT FOR MICHIGAN:

Michigan's poultry industry contributes a combined \$725 million to the state's economy, and the industry continues to grow. Michigan's poultry industry includes broiler, table-egg, and turkey flocks as well as breeding flocks of exhibition birds, table-egg hens, and upland game birds. In addition to the commercial industry, there are many small flocks throughout the state that are kept for exhibition, food, or simply as a hobby. The Poultry Program aims to protect all of Michigan's poultry flocks from reportable diseases and to respond quickly and effectively when such a disease is detected. By protecting flocks, the program helps to safeguard Michigan's economy, food availability, and public health.

## ACCOMPLISHMENTS:

- Initiated an Incident Management Team (IMT) to protect domestic flocks from highly pathogenic avian influenza (HPAI) and respond to detections; activated from February to December 2022.
- Responded to 22 HPAI-infected domestic poultry premises in 14 Michigan counties, spanning both peninsulas. Nineteen were backyard premises, two were hunting preserves, and one was a commercial turkey production facility.
- Investigated 14 reportable disease cases in poultry (aside from HPAI) that were reported in either backyard or commercial poultry operations.
- Continued coordination between the Poultry Program, MAPI, and the MSU Veterinary Diagnostic Laboratory to offer Pullorum Testing Certification, preparing for Michigan fairs and exhibitions.

Metric	2021	2022
County fairs participating in avian influenza surveillance	3	0*
Birds tested as part of the active avian influenza surveillance program for the National Poultry Improvement Plan Subpart E flocks	660	420

*\*Due to the nationwide outbreak of highly pathogenic avian influenza*

### PROGRAM GOALS:

- Continue to plan, prepare, and respond to emergency poultry diseases, particularly highly pathogenic avian influenza.
- Perform avian influenza surveillance at county fairs.
- Conduct a Certified Pullorum Tester School.
- Assist industry in compliance with the National Poultry Improvement Plan’s H5/H7 avian influenza monitored and clean programs.
- Maintain Michigan’s Initial State Response and Containment Plan for low pathogenic avian influenza, according to the United States Department of Agriculture’s requirements.



### KEY STAKEHOLDERS:

- Michigan Allied Poultry Industries, Inc.
- Michigan State University Veterinary Diagnostic Laboratory
- Michigan State University Extension and 4H
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services
- Michigan Farm Bureau

### LEGAL AUTHORITY:

- PA 466 of 1988, as amended, the Animal Industry Act
- Code of Federal Regulations (CFR) parts 145, 146 and 147, the National Poultry Improvement Plan (NPIP)



# SMALL RUMINANTS

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The Small Ruminants Program focuses on ensuring sheep and goats have proper official identification and providing educational information to producers on scrapie and other animal health concerns. Scrapie is a transmissible spongiform encephalopathy affecting sheep and goats. The presence of scrapie in the U.S. sheep and goat population can have a noticeable economic impact through production losses, lost exports, and disease costs.

Reportable diseases for sheep and goats, such as scrapie, are tracked and investigated by the Michigan Department of Agriculture and Rural Development's Animal Industry Division when appropriate.

## **IMPACT FOR MICHIGAN:**

Producers of sheep and goats in Michigan can participate in interstate and international trade because of a maintained scrapie-free status. Monitoring for proper official identification on sheep and goats at livestock markets provides animal disease traceability and minimizes the use of resources in disease investigations.

## **ACCOMPLISHMENTS:**

- Welcomed a new Veterinary Program Manager to the Small Ruminant Program.
- Investigated and responded to cases of reportable disease.
- Continued education and outreach efforts to sheep and goat producers on the importance of scrapie identification requirements and recordkeeping.
- Successfully hosted the United States Department of Agriculture's Consistent State Scrapie Program Review.



Metric	2021	2022
Compliance actions for inadequate official identification observed at livestock markets	35	70
Scrapie identification compliance at livestock markets for sheep	99%	97.2%
Scrapie identification compliance at livestock markets for goats	86%	87.9%

### PROGRAM GOALS:

- Maintain state status for the United States Department of Agriculture's Scrapie Eradication Program.
- Continue efforts to ensure all sheep and goats leaving a Michigan premises have proper official identification.
- Investigate reportable diseases in sheep and goats when a situation arises.
- Continue efforts to educate small ruminant producers about official identification, reportable diseases, and small ruminant health programs.



### KEY STAKEHOLDERS:

- Michigan sheep and goat farmers
- Michigan livestock markets
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services
- Michigan Sheep Producers Association
- American Goat Federation

### LEGAL AUTHORITY:

- PA 466 of 1988, as amended, the Animal Industry Act
- CFR 54, Control of Scrapie
- Scrapie Eradication Uniform Methods and Rules, effective April 25, 2019



## SWINE

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The Swine Program supports the state's swine industry through implementing, maintaining, and coordinating animal health programs. These programs focus on preventing foreign animal diseases, specifically African swine fever (ASF), classical swine fever (CSF), and foot-and-mouth disease (FMD). To be prepared for a disease response, the Michigan Department of Agriculture and Rural Development creates emergency plans and participates in exercises. Also, the program manages swine importation requirements and Swine Health Plan agreements with other states.

### IMPACT FOR MICHIGAN:

The swine industry in Michigan is a growing and significant part of the state's agricultural economy. To keep this industry vibrant, pigs and pork products must have access to both U.S. and international markets. It is vitally important that the U.S. remains free of foreign animal diseases to keep these channels open. In addition, other emerging diseases could cause significant economic impacts to the industry while zoonotic diseases could affect both swine and human health.

### ACCOMPLISHMENTS:

- Held a Swine Health Committee meeting. This committee is composed of representatives from Michigan's swine industry, Michigan Pork Producers Association, Michigan State University Extension, private practice veterinarians, Michigan State University Veterinary Diagnostic Laboratory, and USDA APHIS Veterinary Services and Wildlife Services.
- Participated in an ASF workgroup (which included regulatory staff from the 15 top swine-producing states, USDA, and industry representatives) to develop consistent response plans.
- Advanced Michigan's Secure Pork Supply planning and preparedness in partnership with the Michigan Pork Producers Association and Michigan State University Extension.
- Partnered with industry to join the U.S. Swine Health Improvement Plan (SHIP) program.

Metric	2021	2022
USDA pseudorabies and brucellosis Free, Stage 5 status	Maintained	Maintained
Number of Seneca Valley Virus-positive pigs/investigations	308/347	222/231

**PROGRAM GOALS:**

- Work with external stakeholders to help producers develop, improve, and know how to implement Secure Pork Supply Plans during a foreign animal disease outbreak.
- Increase producer awareness of biosecurity protocols and other mitigation practices to prevent the introduction of a foreign animal disease into Michigan’s production facilities.
- Maintain Michigan’s pseudorabies and brucellosis free status.



**KEY STAKEHOLDERS:**

- Michigan Pork Producers Association
- Michigan State University Extension
- Michigan State University College of Veterinary Medicine
- Michigan Swine Health Committee
- Michigan State University Veterinary Diagnostic Laboratory
- Michigan Department of Natural Resources

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended the Animal Industry Act
- PA 239 of 1992, Pseudorabies and Swine Brucellosis Control and Eradication





# VETERINARY BIOLOGICALS

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Companies and manufacturers selling or distributing veterinary biologics in Michigan are regulated by the federal and state government. Veterinary biologics are regulated federally through Title 9, subchapter E, Part 101-123 of the Code of Federal Regulations. At the state level, the Michigan Department of Agriculture and Rural Development's (MDARD) Director has the authority to restrict the sale and distribution of veterinary biologics when necessary for the protection of domestic animals or the public's health, interest, or safety through the Animal Industry Act, 1988 PA 466, MCL 287.743. Sale and distribution requests are submitted to MDARD through the State Veterinarian's office. Approvals or denials are based on requirements outlined in the statute and rules.

## **IMPACT FOR MICHIGAN:**

Michigan's 3,000 licensed veterinarians and 35 million domestic animals rely on veterinary biologics. These products help ensure animal health, create a safe food supply, and protect the general public from zoonotic diseases.

## **ACCOMPLISHMENTS:**

- Assisted with 13 studies exploring new products/uses for veterinary biologics.

Metric	2021	2022
Approvals for veterinary biologicals	148	168
Approvals for autogenous vaccine/bacterin	134	154
Doses of autogenous vaccine/bacterin	11,776,295	16,976,750
Approved veterinary biological studies	13	13

**PROGRAM GOALS:**

- Ensure veterinary biologicals are safe, effective, and available for the diagnosis, prevention, and treatment of animal diseases.
- Have an efficient and effective approval/denial process for veterinary biologicals.
- Improve the ability to measure the impact of the Veterinary Biological Program.



**KEY STAKEHOLDERS:**

- Private veterinarians
- Pharmaceutical companies
- Livestock producers and pet owners

**LEGAL AUTHORITY:**

- PA 466 of 1988, as amended, the Animal Industry Act, R 287.703 Importation, distribution, and use of veterinary biologicals

# APPENDIX A: 2022 REPORTABLE DISEASES

## LIVESTOCK DISEASES:

Disease	Species	Number of Animals
Anaplasmosis	Bovine	2 Herds
Bovine Leukemia Virus	Bovine	195
Johnes	Bovine	91
Listeriosis	Bovine	1
Q Fever (Coxiella burnetii)	Bovine	1
Tuberculosis	Bovine	1 Herd
CAE (Caprine Arthritis Encephalitis)	Caprine	53
Chlamydia	Caprine	1
Johnes	Caprine	28
Listeriosis	Caprine	1
Toxic Substance Contamination (Zinc, Ethylene Glycol)	Caprine	2
CWD (Chronic Wasting Disease)	Cervid	1 Herd
Echinococcosis	Cervid	1
Epizootic Hemorrhagic Disease	Cervid	4 Herds
Tuberculosis	Cervid	1 Herd
CAE (Caprine Arthritis Encephalitis)	Ovine	1
Johnes	Ovine	9
Listeriosis	Ovine	1
Q Fever (Coxiella burnetii)	Ovine	1
PRRS (Porcine Reproductive and Respiratory Syndrome)	Porcine	14
Seneca Valley Virus	Porcine	222
Swine Influenza	Porcine	1
Avian Infectious Bronchitis	Poultry	1 Flock
Avian Influenza, high path	Poultry	22 Flocks
EDS (Egg drop syndrome)	Poultry	1 Flock
ILT (Infectious Laryngotracheitis)	Poultry	4 Flocks
Mycoplasma gallisepticum	Poultry	1 Flock
Mycoplasma meleagridis	Poultry	1 Flock
Mycoplasma synoviae	Poultry	6 Flocks



## SMALL ANIMAL, EQUINE, AND EXOTIC DISEASES:

Disease	Species	Number of Animals
Batrachochytrium dendrobatidis	Amphibian	1
Avian Influenza, high path	Avian	1
West Nile Virus	Avian	2
Rabies	Bat	45
Brucellosis	Canine	7
Leptospirosis	Canine	58
Tuberculosis (canine leproid granuloma complex)	Canine	1
EEE (Eastern Equine Encephalomyelitis)	Equine	3
EHM (Equine herpesvirus myeloencephalopathy)	Equine	1
EIV (Equine Influenza Virus)	Equine	6
Equine rhinopneumonitis (EHV-1 non-EHM)	Equine	1
Strangles	Equine	51
West Nile Virus	Equine	1
Tuberculosis (M. avium)	Exotic Bovid	1
Rabies	Feline	1
Tuberculosis (M. avium)	Feline	1
Melioidosis	Primate	1
Rabies	Skunk	2

# APPENDIX B: 2022 DEPREDATION REPORT

Vendor Name	# Animals	Species	Reason	Amount
Bake, Gloria	1	Ovine	Coyote - Kill	\$139.20
Bonamego, Mary Ann	2	Ovine	Coyote - Kills	\$502.50
Doster, Millard	9	Caprine/Ovine	Coyote - Kills	\$1,342.50
Dykstra, Terry	3	Bovine	Wolf - Kills	\$1,150.00
Kauffman, Daniel	1	Equine	Wolf - Kill	\$850.00
Richlo Dairy	1	Bovine	Wolf - Kill	\$344.50
Saez, Joshua/Kates Bay Cattle Ranch	1	Bovine	Wolf - Kill	\$310.00
Wernette, Anthony Luke	14	Ovine	Coyote - Kills	\$1,521.45
Younggren, Shirley	2	Bovine	Wolf - Kills	\$1,897.00
<b>TOTALS</b>	<b>34</b>			<b>\$8,057.15</b>