

ANNUAL REPORT

Fiscal Year 2017

MINNESOTA
BOARD OF ANIMAL HEALTH

Healthy Animals for Healthy People and Communities

Board Members

Dean Compart, President of the Board, Swine Producer, Nicollet

Paul Hanowski, Poultry Producer, Swanville

Peter Ripka, Cattle Producer, Ogilvie

Dr. Matt Anderson, Veterinarian, Zumbrota

Dr. Graham Brayshaw, Veterinarian, Minneapolis

Board Meetings

September 7, 2016

December 7, 2016

February 15, 2017

April 19, 2017

The Annual Report of the Minnesota Board of Animal Health is published in accordance with the provisions of Minnesota Statutes.

The Board of Animal Health is an equal opportunity employer and provider.

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Letter from the State Veterinarian

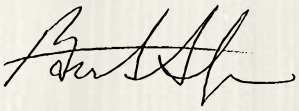
The Board's slogan is, "**Healthy animals** for healthy people and communities." You will see it on this report and other publications the Board distributes. These seven words are not only a summation of the work done by Board staff every day; they reflect a goal for the Board's work. The Board has always protected the health of Minnesota's livestock. We now also emphasize the importance of forethought and preparation to protect communities from the impacts of animal diseases.

Much has happened at the Board of Animal Health in 2017, including new people in new positions, with the shifting of veterinarians to cover different diseases or species program work. The one constant, however, is the agency stands unified and ready to deal with animal health challenges as a team. A couple examples of recent disease challenges come to mind. Each is a testament to that preparation and response the Board embodies with each unique animal disease.

Throughout this past year, pork producers continue to see Seneca Valley virus (Senecavirus A) in hogs. This virus causes clinical signs similar to Foot and Mouth Disease and other foreign animal diseases. With each new case of Senecavirus A, the Board coordinates with the USDA and conducts a foreign animal disease investigation, which includes taking and sending samples for testing both here in Minnesota and at the national laboratory. A timely response, from sampling to testing, is critical to determine what's wrong with the animal. This timeliness allows the producer and the industry to know that they are free of disease and can continue their business, contributing to Minnesota's farming economy.

Having decades of consistent animal disease testing takes a lot of day-to-day dedication and record keeping. These committed efforts resulted in the diagnosis of chronic wasting disease (CWD) in late 2016 in a farmed deer herd. Based on this finding, additional animals or herds with connections to this herd were depopulated and tested. While CWD remains a concern in the state, the value of continual, science-based surveillance testing for disease was once again proven. In both of these examples, the value of working together with farmers, veterinarians, and other agencies is evident. If everyone works together, problems can be solved.

On behalf of the Board, I'd like to extend a sincere "thank you" to all of Minnesota's farmers, animal owners and veterinarians. Also, to our state and federal agency partners, the University of Minnesota and its Veterinary Diagnostic Lab, and to the stakeholder groups. The Board is grateful for your support. We will continue to do our work of protecting the health of Minnesota's domestic animals, and we look forward to working together in the next year.



Beth Thompson
Executive Director and State Veterinarian

Dogs and Cats

Commercial Dog and Cat Breeders

Minnesota is entering its third year of administering our commercial dog or cat breeder program, which requires commercial breeders to be licensed and inspected by the Board. A commercial breeder is defined by Minnesota Statute 347.57 as, “a person who possesses or has an ownership interest in animals and is engaged in the business of breeding animals for sale or for exchange in return for consideration, and who possesses ten or more adult intact animals and whose animals produce more than five total litters of puppies or kittens per year.”

In fiscal year 2017, the Board inspected 121 commercial breeding facilities licensed under this statute. Licenses are renewed annually, and licensees submit a fee of $10 per adult intact animal, up to a maximum of $250. Inspections include assessment of facilities, standards of animal care, animal identification, records, and veterinary care to ensure compliance with the requirements of Minnesota Statutes 347.57 to 347.64.

Our goal for this fiscal year is to develop a Commercial Breeder of Excellence program to recognize licensees exceeding the standards and practices required of licensed commercial breeders.

Kennels

Any person who operates a kennel where dogs or cats are kept, congregated or confined must be licensed and inspected by the Board of Animal Health if the dogs or cats were obtained from municipalities, pounds, auctions, or by advertising for unwanted dogs or cats, or dogs or cats strayed, abandoned or stolen (Minnesota Statutes 347.31 and 347.34).

This requirement does not apply to a pound owned and operated by any political subdivision of the state, a person’s home where dogs or cats are kept as pets, a veterinarian licensed to practice in the state of Minnesota who keeps, congregates, or confines dogs or cats in the normal pursuit of the practice of veterinary medicine, or kennels used for the sole purpose of boarding or training dogs or cats for individual pet owners.

In fiscal year 2017, the Board conducted more than 100 inspections at 84 facilities licensed under this statute. Licenses are renewed annually and licensees submit a fee of $15. Inspections include assessment of facilities, standards of animal care, animal identification, records, veterinary care, and holding periods for impounded, stray and abandoned animals to ensure compliance with requirements specified in Minnesota Statutes 347.31 to 347.40 and Minnesota rules 1721.0520.

Animal Disease Traceability

The Minnesota Board of Animal Health received 7,200 Certificates of Veterinary Inspection verifying health status of more than 17,000 dogs and more than 850 cats imported from 45 states during fiscal year 2017.

Horses

Equine Infectious Anemia

Equine infectious anemia (EIA) is a viral disease most frequently transmitted by large biting flies between horses in close proximity. There is no vaccine or treatment for EIA. Once a horse is infected, it remains infected for its entire life and is always a potential reservoir for spread of the disease.

In order to prevent the spread of EIA, the Board of Animal Health requires horses be tested with negative results for EIA within 12 months prior to importation or attendance at Minnesota exhibitions. Minnesota horses confirmed to be infected with EIA must be permanently quarantined and isolated from other horses or be euthanized (Minnesota Rule 1721.0260).

During fiscal year 2017, 19 Minnesota veterinary clinics and/or laboratories renewed their federal approval to conduct EIA testing. No new cases of EIA were identified in the state, and no horses are currently quarantined as a result of EIA infection.

Equine Herpesvirus Myeloencephalopathy

Equine herpesvirus myeloencephalopathy (EHM) is a term used to describe the neurologic syndrome that develops as a result of EHV-1 infection. The most common way for the virus to spread is by direct horse-to-horse contact. The virus can also be spread through contact with contaminated objects, including tack, grooming equipment, feed and water buckets and a person's hands and clothing.

In order to control the spread of EHV-1 and minimize the risk of horses developing EHM, the Board of Animal Health implements an EHM control plan requiring infected and exposed horses to be quarantined. In addition, all horses on a premises where an EHM positive horse is identified are monitored every 12 hours. Any horse presenting with a temperature greater than or equal to 102°F or clinical symptoms consistent with EHV-1 infection must be officially tested. Quarantines are released 21 days after all horses with clinical symptoms of illness consistent with EHV-1 infection have recovered.

During fiscal year 2017, no new cases of EHM were reported.

Equine Encephalitis Virus and West Nile Virus

Eastern and Western Encephalitis (EEE, WEE) and West Nile Virus (WNV) are endemic diseases in the United States. Positive test results for these diseases are reportable to the Board of Animal Health.

During fiscal year 2017, no new cases of EEE, WEE or WNV in horses were reported.

Swine

Minnesota continues its high ranking in U.S. swine value, inventory, and production based on the number of swine in the state. The state continues to produce healthy animals, and the industry continues to lead in areas of biosecurity and bio-exclusion, disease recognition, and innovations in diagnostics.

The State of Minnesota lost a vital leader in swine research this year with the passing of Dr. Bob Morrison. The Board is continuing his work through an ongoing relationship with the Swine Health Monitoring Project and other related projects. These partnerships allow producers and swine systems to become better prepared for an animal health emergency or foreign animal disease.

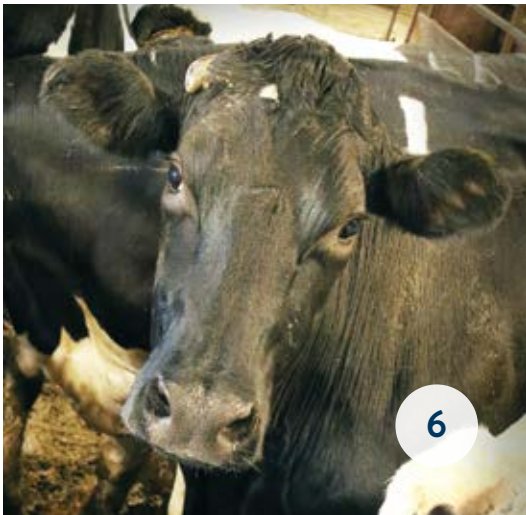
Swine farmers and veterinarians continue to address Senecavirus A. A description of the Board's activities with this disease can found in the "Emergency Preparedness" section in this report.

Cattle

Many cattle ranchers likely remember back when the Board was working to eradicate bovine tuberculosis from Minnesota's cattle herd. The state was able to regain TB-free status in 2011 and continues to be free of this disease. This freedom is maintained through the diligence of our cattle producers, livestock markets, accredited veterinarians, and many other hardworking individuals in this state – including Minnesota Board of Animal Health team members.

Procedure	Head of Cattle
Vaccinated for Brucellosis	60,428 Cattle
Tested for Brucellosis	2,808 Cattle and Bison
Caudal Fold Tested for Tuberculosis	19,749 Cattle and Bison

The Board began receiving bovine TB traces from a South Dakota infected cattle herd this year. Forty-seven bovine tuberculosis traces were received, requiring the Board to trace 469 head of potentially TB exposed cattle. Official ear tags were not known for cattle from the infected herd, which resulted in larger numbers of animals needing to be traced. Six TB exposed cattle from the South Dakota infected herd were found through these efforts. These six animals were confirmed based on a producer brand from the infected herd. Bovine TB was not found in any of the six exposed cattle, and all herds TB tested as part of the investigation were cleared as negative.



Poultry

It's critical Minnesota's poultry populations are kept healthy because the state is a large player in the U.S. poultry industry. The Minnesota Board of Animal Health, in collaboration with Minnesota poultry producers, the U.S. Department of Agriculture, and University of Minnesota, plays an important role in maintaining healthy birds and healthy communities. For decades, the Board has been monitoring poultry breeding flocks for a number of vertically or hatchery-transmitted diseases. These diseases can be caused by Salmonella pullorum-typhoid, Mycoplasma gallisepticum, Mycoplasma synoviae, and Mycoplasma meleagridis, as well as other Salmonella species. Additionally, all commercial poultry breeding flocks are routinely monitored for avian influenza, and all meat-type birds are tested for avian influenza before being moved to market. This testing helps to not only ensure our poultry populations are healthy, it also facilitates interstate and international movements of poultry and poultry products for our Minnesota producers.

The Board plays an active role in certifying producers who participate in Board and National Poultry Improvement Plan (NPIP) programs, which direct them to maintain their facilities as clean and sanitary. Board and USDA field staff visit with producers and inspect their facilities as part of their certification process. This includes verifying appropriate records are maintained, and ensuring necessary biosecurity principles are implemented to prevent disease introduction. Minnesota certifies, monitors and inspects seven commercial poultry hatcheries, 77 commercial poultry breeding flock facilities, 110 waterfowl, exhibition poultry and game bird breeding flocks/hatcheries, 217 poultry dealers, and six commercial slaughter plants.

At the 2016 NPIP Biennial Conference, minimum biosecurity principles were proposed that would require commercial poultry operations maintain and adhere to a set of biosecurity practices to prevent the introduction and spread of infectious poultry diseases. The proposed 14 Biosecurity Principles were voted upon and passed with an overwhelming majority. The Biosecurity Principles became effective July 5, 2017, and require an audit at least once every two years by the Official State Agency to ensure participants are in compliance. The Official State Agency of the NPIP in Minnesota is the Minnesota Board of Animal Health. There are approximately 900 poultry premises in Minnesota that will need an audit within the next two years.

Type of Poultry	Number of flocks participating in NPIP programs	Number of birds in the flocks
Commercial Egg Type Chicken Breeders	1	40,000
Commercial Meat Type Chicken Breeders	39	553,910
Commercial Turkey Breeders	66	1,134,046
Waterfowl, Exhibition Poultry, Game Birds	110	70,404
Commercial Egg Type Chickens	186	18,761,262
Commercial Meat Type Chickens	1,267	61,881,547
Commercial Meat Type Turkey	1,844	47,743,004

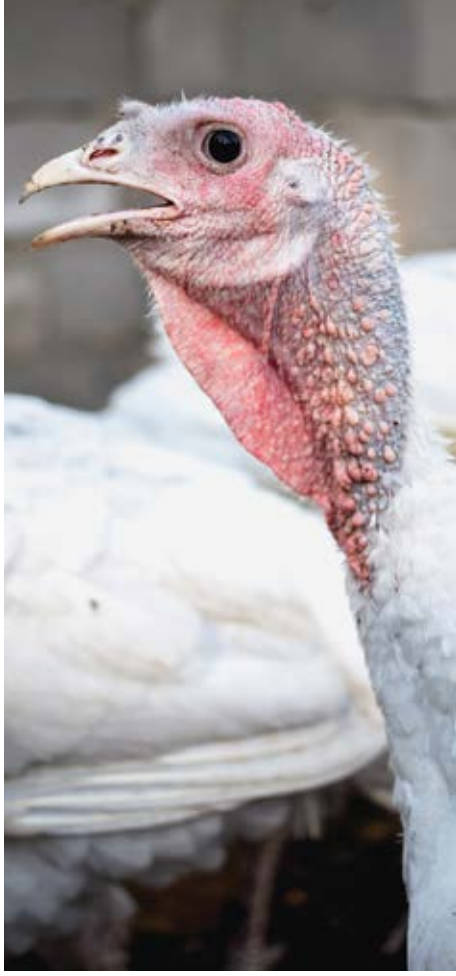
Minnesota Poultry Testing Laboratory

The Minnesota Poultry Testing Laboratory (MPTL) is a joint venture between the University of Minnesota Veterinary Diagnostic Laboratory (VDL) and the Minnesota Board of Animal Health. The MPTL serves as the official laboratory for the National Poultry Improvement Plan (NPIP) in Minnesota.

In 2016, the MPTL underwent an extensive renovation and expansion project, thanks to a bonding bill signed by Governor Mark Dayton and the Minnesota Legislature. The newly renovated laboratory began receiving samples on August 24, 2016, and held its grand opening on September 22, 2016. With the renovation, the laboratory has greatly increased its testing capacity, added space for poultry necropsies, and now offers molecular based testing for avian influenza, avian metapneumovirus, Newcastle disease, Mycoplasma gallisepticum, Mycoplasma iowae, Mycoplasma meleagridis, and Mycoplasma synoviae. A worldwide search was completed to recruit and hire a poultry pathologist who will work out of the MPTL. These additional services provide the state and the poultry industry with quicker, more thorough, accurate disease identification. As a result, they will be better able to respond to diseases like avian influenza.

In 2017, the MPTL became a National Animal Health Laboratory Network (NAHLN) Level 1 Branch Laboratory of the University of Minnesota VDL. NAHLN is a nationally coordinated network and partnership of federal, state, and university-associated animal health laboratories that support early detection, rapid response, and appropriate recovery from high-consequence animal diseases. Having two NAHLN laboratories within Minnesota positions the state as a leader in disease surveillance and disease response, with the ability to communicate diagnostic outcomes in a timely manner and meet diagnostic needs during animal disease outbreaks.

The MPTL continues to conduct all the testing for NPIP and Board certification programs. In addition, it conducts a number of non-program test procedures, which provide information back to producers about the health of their flocks. In FY17, 188,505 non-billable services (procedures) for Board and NPIP programs were conducted, along with 90,587 billable, non-program services.



Farmed Cervidae

It has been a challenging year in this program, as chronic wasting disease was identified on both sides of the fence; in two farmed cervid herds in two different central Minnesota counties and in many wild white-tailed deer in Fillmore County in southeastern Minnesota.

CWD surveillance is part of the Farmed Cervidae program at the Board, and each year hundreds of animals in farmed cervid herds across the state are tested for the disease. The testing can only be performed after an animal is harvested, so it is significant that 13 percent of the farmed cervids in Minnesota were successfully tested this year; 1,363 animals out of 10,607 farmed cervids were tested (see chart). In this surveillance, one white-tailed deer in one herd was identified with the infection.

Species	Successful CWD Tests
White-Tailed Deer	960
Elk	355
Fallow Deer	6
Moose	2
Mule Deer	8
Muntjac	1
Red Deer	12
Reindeer	15
Sika Deer	4
TOTALS	**1,363**

Once the CWD infected animal was identified, the Board and USDA initiated an investigation of the herd, similar to investigations conducted when diseases are found in other types of livestock. The herd was quarantined, and records of animal movement in and out of the herd for the previous five years were examined. Our field staff contact the source of those animals if they are in Minnesota, and investigate those herds in a similar manner. Animals identified as CWD-exposed animals are indemnified by the USDA, harvested and tested for CWD. The investigation of the infected herd led to the identification of another herd with an infected animal. Sometimes these traces lead to animals moved outside of Minnesota; in those cases the state veterinarian in each state is contacted, and the investigation information is relayed to them for follow up in their state.

Finding free-ranging or wild CWD infected white-tailed deer in Fillmore County prompted additional regulations for the farmed cervid herds within ten miles of the infected wild deer. These farmed herds are restricted from moving any animals into their herd or to other locations in the state until they can prevent commingling of animals with wild deer. Commingling can occur across a fence, and the Board has identified parameters for exclusionary fencing to prevent commingling. In order to lift a herd's animal movement restriction, the producer must meet the exclusionary fencing requirements within a certain time period, or wait until three years after the CWD infection has been cleared in the wild herd.

Rabies

The Board of Animal Health performs investigations involving Minnesota domestic animals exposed or potentially exposed to the rabies virus. The Board works collaboratively with the Minnesota Department of Health, the University of Minnesota Veterinary Diagnostic Laboratory, private veterinary practitioners, and physicians to limit the spread of this fatal disease.

In fiscal year 2017, 2,403 domestic and wild animals were tested for rabies in Minnesota. The majority of animals tested were bats (826), dogs (647), and cats (562). The Board conducted 142 rabies investigations resulting in four animals being officially quarantined and 348 animals confined and observed for clinical signs associated with rabies.

RABIES POSITIVE SPECIES
July 1, 2016 - June 30, 2017

Species	Number Positive
Bats	27
Cats	1
Cattle	2
Horses	1
Skunks	11
Other	3

A total of 45 Minnesota animals tested positive for rabies this fiscal year. Skunks and bats continue to be the predominant wildlife carriers, with approximately five percent of submitted bats and 35 percent of submitted skunks testing positive for the rabies virus. Also this year, a raccoon tested positive for the skunk variant of rabies, the first in Minnesota since 1993.

Scrapie

As the United States continues to move toward Scrapie eradication, Minnesota works within its borders to reach this goal. A 16-year partnership among the Board, the sheep and goat industry, and the USDA moves Minnesota ever closer to this achievement. Progress is being made across the nation. Minnesota is again reporting no positive scrapie cases this year, bringing the state close to seven years with no recorded cases. Disease surveillance is still important. The state needs to demonstrate that the disease is still being monitored within the sheep and goat population and that all potential exposures to scrapie are being investigated. Here is a summary of this year's activities:

Disease investigations

- No imported sheep or goats were reported to the Board this past year as having been potentially exposed to scrapie in another state.

Scrapie Testing and Slaughter Surveillance

- 140 sheep and 59 goats were sampled and tested for scrapie in Minnesota.
- 1,538 sheep and 60 goats from Minnesota were tested at slaughter nationwide.

Official identification

The USDA continues to offer free official ear tags to Minnesota producers and veterinarians. A total of 114,126 official ear tags were distributed this year.

Animal Disease Traceability

The Board of Animal Health has developed an efficient animal disease traceability program by improving access to livestock records, such as those for cattle. Electronic records prove invaluable to greatly decrease the time it takes to track cattle when a disease, such as bovine tuberculosis, threatens Minnesota's livestock industry. There are several ways traceability is accomplished. Two examples include the distribution of free official ear tags for livestock and the capture of identification records electronically once official ear tags have been applied. The distribution of free official ear tags to Minnesota livestock producers and veterinarians assists the livestock industry with meeting state and federal livestock identification requirements, which improves traceability efforts. The Board distributed USDA national uniform ear tagging system (NUES) metal tags this year. A total of 180,233 of these NUES tags were shipped to Minnesota producers and veterinarians at no charge to them.

Electronic capture of identification records is another important aspect of the animal disease traceability program. The Board captures all cattle, bison, and farmed cervidae records, which include official identification, within the Board's animal health database, CoreOne by Trace First. This information is easily accessible to Board staff. The Board accesses the information regularly, including for routine trace performance measurements by the USDA. Most importantly, it can be utilized in the event of an animal health emergency. At the end of this year, there were more than 2.5 million livestock animal records captured in the Board's animal health database. In addition, all issued Certificates of Veterinary Inspection (CVIs) received by the Board for cattle and bison are scanned into a computer and available electronically to assist in tracing efforts. CVIs are required for interstate movement of most livestock.

INTERSTATE IMPORTS/EXPORTS
July 1, 2016 - June 30, 2017

Animal	Interstate Imports	Interstate Exports
Cattle	570,501	215,644
Swine	5,539,691	2,292,081
Sheep	17,754	11,587
Goats	3,756	3,501
Farmed Cervidae	32	1,279
Horses	45,758	10,163
Poultry	74,877,004	57,013,480

Emergency Preparedness

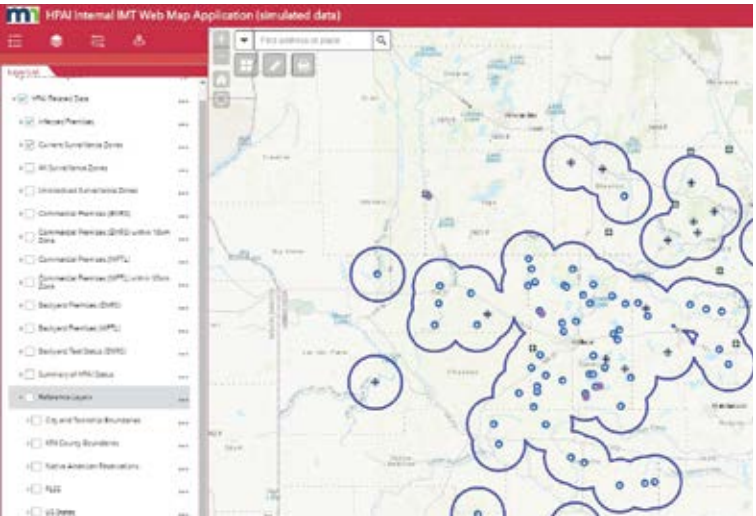
This fiscal year, there were 145 Foreign Animal Disease (FAD) investigations in Minnesota. One hundred thirty of those were swine vesicular investigations, usually leading to a diagnosis of Senecavirus A (SVA). Additionally, nine were unusual poultry mortality events, three were bovine vesicular investigations, and one each was an investigation in a deer, goat and dog. All of these investigations were done by Board of Animal Health and USDA Veterinary Services veterinarians, who are trained as Foreign Animal Disease Diagnosticians (FADD). All investigations were negative for a FAD.

Training to become a FADD is done through the USDA. This year, one of our district veterinarians attended USDA Veterinary Services FAD School in Ames, Iowa. We currently have eight Minnesota Board of Animal Health and five USDA veterinarians in the field who are certified as FADDs. This past September, our FADDs attended a FAD refresher course in Owatonna, hosted by USDA personnel from the FADD Laboratory in Plum Island, New York. Topics covered were investigation procedures, new technologies and proper shipment of specimens.

Swine vesicular cases continue to be an issue for Minnesota pork producers and the upper Midwest. We communicate with the swine industry, livestock dealers and pork processors about SVA detection and the FAD investigation process. Concerns about vesicular cases in exhibition pigs were discussed with the official veterinarians at the county fairs, and we assisted the Minnesota State Fair veterinarian with a daily FADD walk through of the swine exhibits. We continue to investigate all swine vesicular cases as a potential FAD.

We remain vigilant in our efforts to detect and respond to a recurrence of Highly Pathogenic Avian Influenza (HPAI) in Minnesota. The HPAI/LPAI events in the Southeastern part of the U.S. reflect the possibility that the disease still has the potential to impact Minnesota. We have updated our HPAI Response to reflect some new tools and response plans. One of the new tools we have available is an interactive map. We held drills with the industry on the use of these maps, along with a USDA system to document permitted movements during a disease event. We continually strive to keep our response team current and up to date. Along with the periodic refresher training this last year, our response team also attended the USDA's Case Manager training session.

A major event happening in May of 2018 is the National FMD Functional Exercise. Minnesota will participate in the three day event and has been a member of the Planning Group. We are also preparing to update our Minnesota FAD Response Plan.

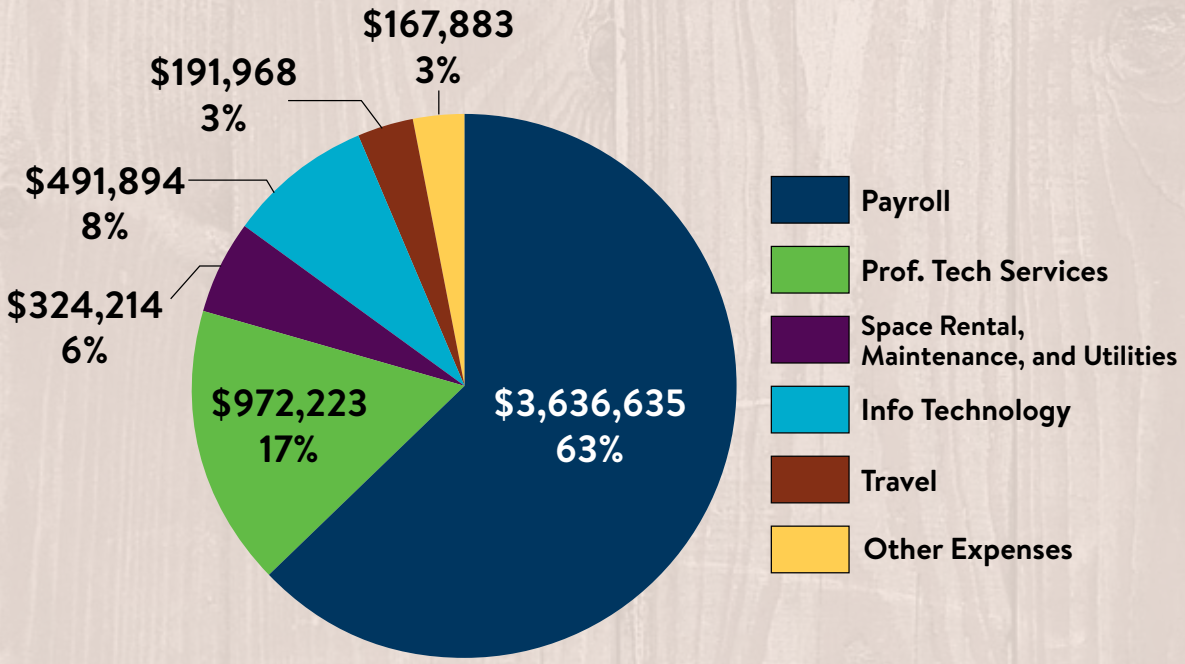


Budget

During Fiscal Year 2017, the Board expended $5,784,817 to carry out its many animal health and disease programs. Funding for these programs came from the following sources:

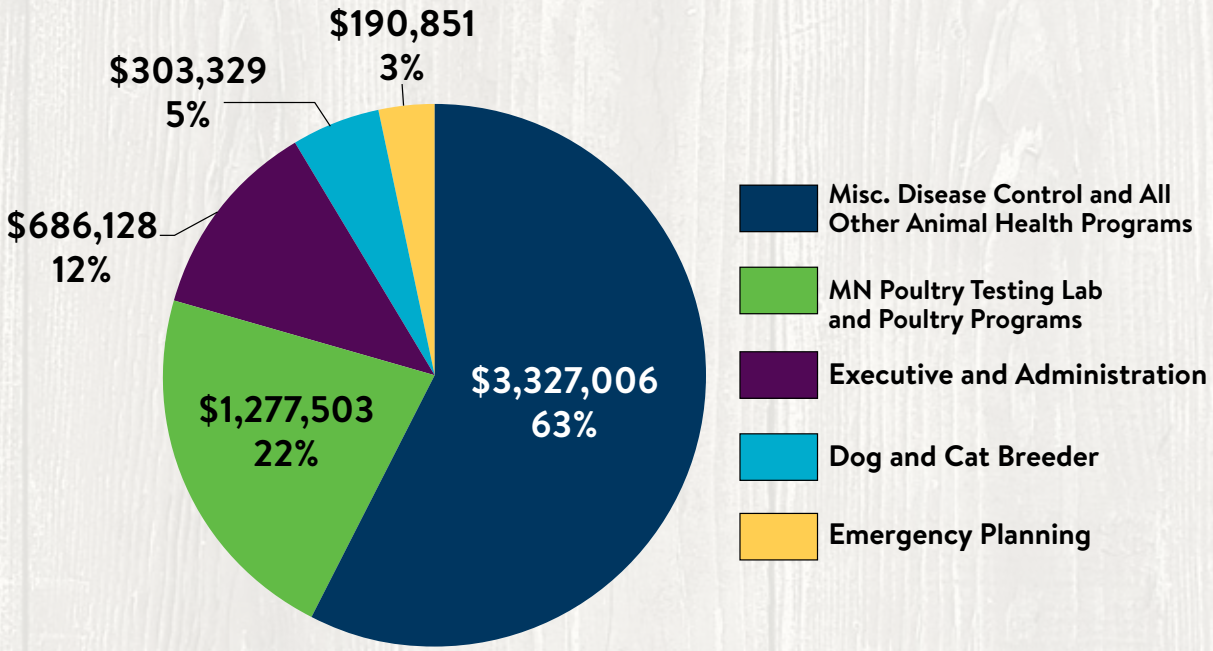
Source of Funds	FY 17 Expenditures
State Appropriations	$5,343,715
Federal Awards	$438,112
Other	$2,990
TOTAL	**$5,784,817**

Board of Animal Health - Fiscal Year 2017
Total Expenses by Category $5,784,817



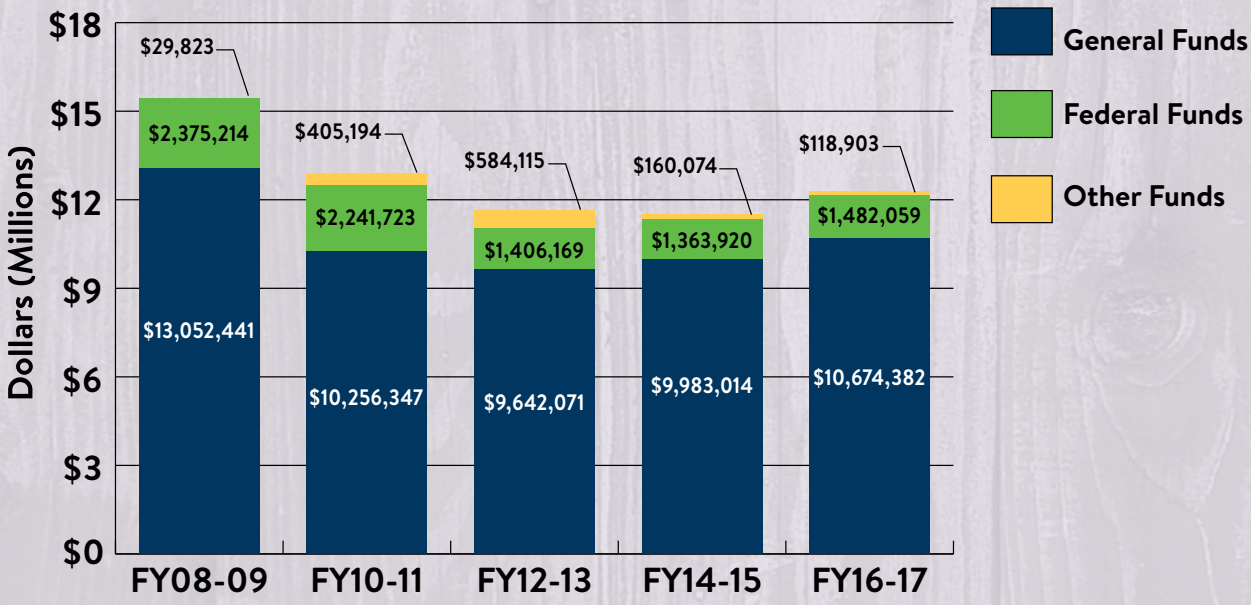
Category	Amount (dollars)	Percentage Of Total Expenses
Payroll	$3,636,635	63%
Professional Technical Services	$972,223	17%
Space Rental, Maintenance and Utilities	$324,213	6%
Information Technology	$491,894	8%
Travel	$191,968	3%
Other Expenses	$167,883	3%

Board of Animal Health - Fiscal Year 2017
Total Expenses by Program $5,784,817



Program	Amount (dollars)	Percentage of Total Expenses
Miscellaneous Disease Control and All Other Animal Health Programs	$3,327,006	63%
Minnesota Poultry Testing Lab and Poultry Programs	$1,277,503	22%
Executive and Administration	$686,128	12%
Dog and Cat Breeder	$303,329	5%
Emergency Planning	$190,851	3%

Historical Spending



Fiscal Year (FY)	State Funds	Federal Funds	Other Funds
FY 08-09	$13,052,441	$2,375,214	$29,823
FY 10-11	$10,256,347	$2,241,723	$405,194
FY 12-13	$9,642,071	$1,406,169	$584,115
FY 14-15	$9,983,014	$1,363,920	$160,074
FY 16-17	$10,674,382	$1,482,059	$118,903

Veterinary Diagnostic Laboratory (VDL)

VDL - FY17 Procedures by Species

Bovine	183,865
Canine	15,678
Cervidae	11,258
Equine	6,123
Feline	5,444
Fish	7,605
Misc. Avian	10,035
Misc. Mammal	4,917
Non-Animal	919
Other	1,500
Porcine	690,312
Poultry	332,493
Small Ruminant	11,087
GRAND TOTAL:	**1,281,236**

VDL - FY17 Procedures by Laboratory

Bacteriology	55,825
Clinical Pathology	174
Comparative Immunology/ Endocrinology	509
Development	1,928
Electron Microscopy	749
Histology	49,653
Immunohistochemistry	5,500
Minnesota Poultry Testing	320,838
Molecular Diagnostics	435,994
Necropsy	17,472
Outsourced Lab Service	13,356
Parasitology	5,801
Receiving/Reporting/Admin	927
Serology	243,422
Udder Health	115,962
Virology	13,080
Waste Disposal	46
GRAND TOTAL:	**1,281,236**

VDL - FY17 Animals Submitted

Bovine	117,435
Canine	5,103
Cervidae	5,250
Equine	4,387
Feline	1,083
Fish	3,288
Misc. Avian	4,459
Misc. Mammal	1,798
Non-Animal	753
Other	196
Porcine	328,225
Poultry	169,648
Small Ruminant	6,037
GRAND TOTAL:	**647,662**

MINNESOTA
BOARD OF ANIMAL HEALTH

Healthy Animals for Healthy People and Communities

625 Robert Street North
St. Paul, Minnesota 55155
651-296-2942
animalhealth@state.mn.us
www.mn.gov/bah