



Animal Industry Division
2011 Annual Report



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Animal Industry Division



James Averill

The Animal Industry Division (AID) of the Michigan Department of Agriculture and Rural Development (MDARD) protects the health and welfare of domestic animals. By protecting the health of livestock, farm animals and companion animals, AID protects the health of humans. AID is responsible for livestock and poultry disease programs, toxic substance contamination related to animal health, and the surveillance and eradication of domestic animal diseases. In the event of an animal disease outbreak or emergency, AID is able to respond quickly and appropriately to prevent the spread of disease or contamination.

There were major changes at the department and in the division in 2011. For example, we became the Michigan Department of Agriculture and Rural Development and I became the Animal Industry Division Director.

All in all, some great things have been accomplished this year across the department and in the Animal Industry Division. These accomplishments would not be possible without all the hard work from field, office and program staff coming to work every day and ensuring the care, health, and welfare of animals in Michigan.

The Bovine Tuberculosis (TB) Eradication Program took a major step forward toward returning Michigan to TB Free Status and ensuring access to national and international markets. Bovine TB Testing, electronic identification, monitoring of cattle movement in the state, and implementation of a wildlife risk mitigation project were instrumental in this accomplishment. In September 2011, significant gains were made when USDA granted TB Free status to 57 counties of the Lower Peninsula to TB Free Status and reduced in size the TB high-risk area to four counties.

The three-year Wildlife Risk Mitigation Project began in 2009 and had a goal to enroll 950 farms with biosecurity practices to reduce the risk of cattle coming into direct, or indirect, contact with infected free-ranging white-tailed deer. In 2011, 189 farms enrolled in the project, totaling 886 farms enrolled since 2009.

MDARD worked successfully with state legislators to have equine infectious anemia (EIA) testing requirements reinstated into law with the revised criteria that a test is now valid for 12 months. Previously, a test was valid for a calendar year. The testing requirements originally had sunset on January 1, 2011. These measures will help continue efforts to eradicate EIA in Michigan as well as the United States.

The Michigan State Police accepted a new annex to the Michigan Emergency Management Plan in 2011, an Animal Emergency Plan. This plan is a compilation of years of work and many emergency management drills/exercises with stakeholders and sister agencies.

Michigan has maintained Brucellosis Free Status for the cattle industry, Pseudorabies Free Status for commercial swine, and Scrapie consistent status for the sheep industry - all through slaughter surveillance.

A handwritten signature in black ink that reads "James Averill". The signature is written in a cursive, flowing style.

James Averill, DVM, PhD
AID Division Director

I. CATTLE IDENTIFICATION

Michigan continues to be a national leader as being the only state in the nation to require all cattle be identified with official Radio Frequency Identification (RFID) prior to movement from the farm of origin. Each RFID tag is unique, meaning that no two tags have the same 15 number combination, so each animal has a unique ID number. Michigan also requires all farms with cattle have a premises ID number, therefore all RFID tags are tied to a particular farm via the premises ID. When RFID tags are purchased they are linked directly to a specific farm by the premises ID. Unique identification connected to a specific farm allows for rapid tracing of cattle movement. The ability to rapidly trace animal movement is critical in an animal disease outbreak.

Michigan has successfully used the RFID ear tags system for more than five years as a major component of the bovine TB eradication effort.

In 2011, 700 premises were registered, bringing the total number of registered Michigan farms in the national database to 24,462. The total number of registered farms in the state database is 28,083. Michigan beef and dairy farmers have purchased over 3 million RFID tags since the program began in April 2006. There were 221,166 RFID tags scanned at Michigan livestock markets in 2010 and a total of 285,119 RFID tags scanned or collected at in-state and out-of-state slaughter facilities.

II. BOVINE TUBERCULOSIS ERADICATION PROGRAM

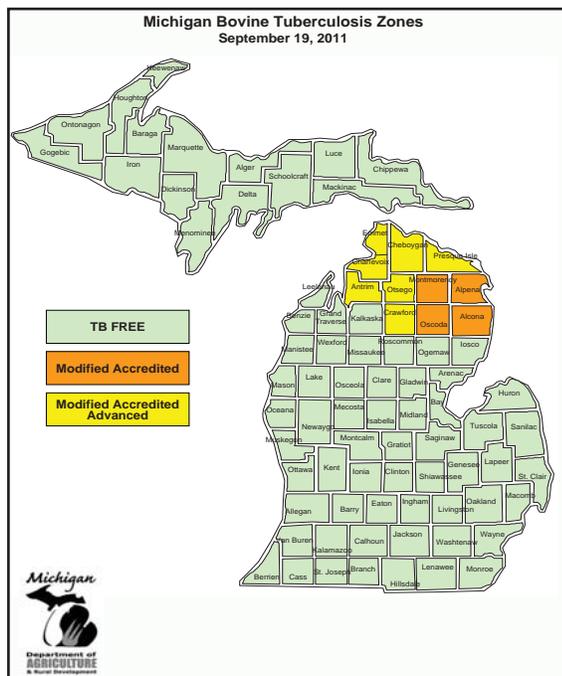
Bovine tuberculosis (TB) is a bacterial disease that is capable of infecting any warm-blooded animal, including humans. The causative bacteria, *Mycobacterium bovis*, is closely related to *M. tuberculosis*, a major cause of human tuberculosis worldwide. While treatment of infected humans involves a long course of multiple antibiotics, infected livestock are destroyed. Although the preferred host of bovine TB is cattle, the bacteria can infect other animals, including white-tailed deer.

In Michigan, bovine TB is endemic in the wild white-tailed deer



Dr. Rick Smith, Bovine TB Program Manager

population of the Northern Lower Peninsula and transmission from deer to domestic cattle has led to an extensive disease eradication program.



On September 11, 2011, USDA raised the status of 57 counties in Michigan's Lower Peninsula from the Modified Accredited Advanced Zone (MAAZ), to bovine TB Free status. Additionally, Presque Isle County went from the Modified Accredited Zone (MAZ) to the MAAZ. Michigan now has three bovine tuberculosis status areas, based on the risk of cattle becoming infected with bovine TB: the TB Free Zone, the MAAZ, and the MAZ.

The Upper Peninsula and the majority of Michigan's Lower Peninsula are TB Free, while seven counties of Northern Lower Michigan (Antrim, Charlevoix, Cheboygan, Crawford,

Emmet, Otsego and Presque Isle) are in the MAAZ, and four counties of Northern Lower Michigan (Alcona, Alpena, Montmorency, and Oscoda) are in the high risk area called the MAZ.

The goal of MDARD’s Bovine TB Program is to eradicate bovine tuberculosis from domestic livestock. Michigan faces a great challenge in attaining this goal because of the reservoir of TB infection that exists in wild white-tailed deer. A combination of slaughter (passive) and live animal (active) surveillance testing is used in the MAZ of Michigan. Examination of deer submitted by hunters during regular and special harvest seasons is used for surveillance in the wildlife population. The Department of Natural Resources (DNR) is responsible for disease surveillance of bovine TB infection in wildlife.

Michigan’s Cattle Population

It is estimated that Michigan has just under 1.5 million head of cattle in production.

Table 1. Cattle population in Michigan

	Beef	Dairy	Total
	# head (# herds)	# head (# herds)	# head (# herds)
MAZ*	8,674 (421)	10,421 (107)	19,095 (528)
MAAZ *	8,443 (614)	4,022 (79)	12,465 (693)
TB Free Zone **	849,938 (10,778)	595,393 (2,811)	1,445,331 (13,589)
TOTAL	867,055 (11,813)	609,836 (2,997)	1,476,891 (14,810)

* Data generated from the USAHerds database October 10, 2011

* Does not include freezer beef herds or cattle less than 12 months of age

** Data taken from 2007 Census of Agriculture

MAZ = Alcona, Alpena, Montmorency, Oscoda counties (high risk area)

MAAZ = Antrim, Charlevoix, Cheboygan, Crawford, Emmet, Otsego, Presque Isle counties (low risk area)

TB Free Zone = All other counties in Lower Michigan and the entire Upper Peninsula (negligible risk)

Disease Surveillance

Bovine TB surveillance in Michigan is a multi-faceted program and involves annual whole herd testing of cattle herds in the MAZ, targeted surveillance testing in the MAAZ and TB Free Zones, federal inspection of cattle at USDA inspected plants, and TB testing of cattle for movement. Whole herd testing is not done on MAZ freezer beef herds as these animals do not go into retail markets. The total number of CFT tests administered by licensed, accredited veterinarians is shown, by zone, in Figure 1.

Slaughter Surveillance

Slaughter surveillance is conducted by examination of cattle that are presented for slaughter at USDA, Food Safety Inspection Service (FSIS) inspected plants in Michigan and throughout the United States. The Michigan Bovine Tuberculosis Eradication Program has a requirement that all cattle moved from a premises must

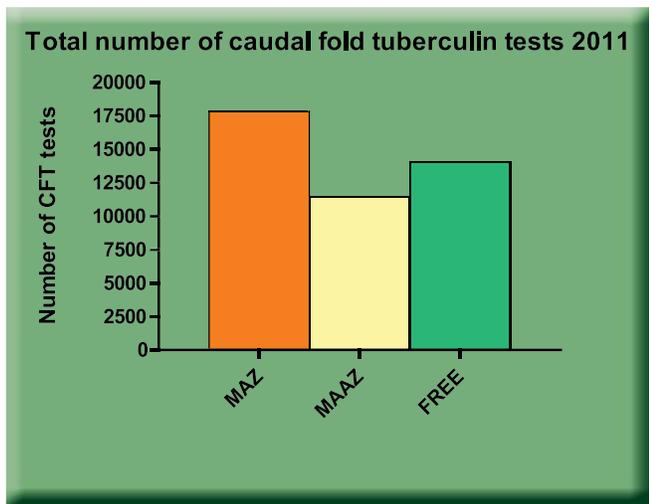


Figure 1. CFT tests in 2011

have official RFID ear tags. Most slaughter plants that receive Michigan cattle have RFID readers that download the RFID numbers to the USAHerds database. The total number of these scans estimates the number of Michigan cattle slaughtered at each location.

A conservative estimate of the number of MAZ cattle that underwent slaughter examination can be determined by evaluating the number of movement certificates that were issued to four federally inspected slaughter plants, two major slaughter cattle buyers that purchase in this area, and one major sale yard that receives cattle from the MAZ for re-permitting. The estimates are as follows:

Table 2. Number of cattle from the MAZ and MAAZ sold for slaughter FY 2011*

MAZ	1,101
MAAZ	920
Northern MI Livestock Association – both MAZ and MAAZ	7,581
TOTAL	9,602
*Data generated from the USAHerds Database	

Bovine TB Infected Cattle Herds

In 2011, two beef cattle herds in the MAZ were diagnosed as infected with bovine TB (Table 3). One previously infected dairy herd and one previously infected beef herd in the MAZ remain quarantined on test-and-removal programs. No TB infected herds were identified in the MAAZ or TB Free zones of Michigan.

Table 3. Fiscal Year 2011 – Date and County of TB positive herds

Type of herd	County	Zone	Date diagnosed with bovine TB	Status
Beef	Alpena	MAZ	March 8, 2011	Depopulated
Beef	Alpena	MAZ	April 12, 2011	Depopulated

Trace Investigations

When a herd is diagnosed with bovine TB, it is necessary to examine herds that sold cattle to and/or bought cattle from the infected herd – these investigations are called “traces.” These investigations generally trace cattle back five years, unless epidemiological data suggests tracing further back. For the infected herds identified during FY 2011, 60 trace investigations involving 118 animals were initiated. There were 14 source traces (trace back) and 46 traces of animals exposed to the source herd (trace forward). Two traces were transferred in from out of state: one from Colorado and one from Indiana. No TB infected animals were identified through these trace investigations and the cases were closed.

Efforts to Improve Area Surveillance

A program to improve surveillance in custom slaughter facilities was implemented at the end of FY 2011. This program involved MDARD or USDA field personnel visiting each of Michigan's approximately 100 custom slaughter plants. Field personnel discussed how to examine a carcass, collect tissues, and report findings. In addition, RFID tags for all cattle slaughtered are submitted to MDARD.

Wildlife Risk Mitigation - Decreasing Deer-Cattle Interactions

It has been well documented that wildlife, especially white-tailed deer, infected with bovine TB are a major cause of TB infection in Michigan's cattle. Cattle can become infected by direct contact with infected deer, or more likely by eating feed or drinking water contaminated by bovine TB infected deer. Thus, mitigating the risk of disease transmission requires preventing deer-cattle interactions.

The Wildlife Risk Mitigation Project (WRMP) is a cooperative effort between the MDARD, USDA, MSU Extension (MSUE) and the Michigan Milk Producers Association (MMPA). These partners provide producers with technical assistance in developing a WRMP for their farm.

The WRMP focuses on how cattle are fed and watered and how feed is stored. How cattle are fed includes where, how often, and how much. All types of feed - hay, silage, grain, as well as salt and minerals are considered. The goal of this project is to provide beef and dairy farmers technical assistance in developing a farm specific Wildlife Risk Mitigation Action Plan (WRMAP) to decrease the risk of bovine TB on the farm.

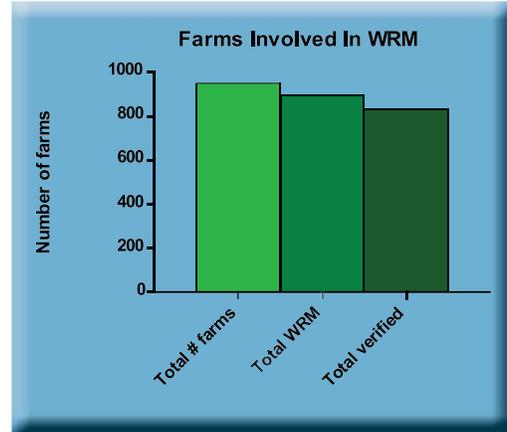


Figure 2: Farms involved in WRM

Fiscal Year 2011, MDARD focused on all remaining MAZ and MAAZ producers who had not developed a WRMAP for their farm during the previous two years. Cumulatively, since 2009, 811 farms have been verified by the MDARD as being Wildlife Risk Mitigated (Figure 2).

Round 3 of the WRMP began in December 2010. Unlike the first two rounds, which were initiated by a series of educational meetings conducted by MSU-E and MDARD staff, the decision was made to focus on having field staff directly call producers who had not signed up during the first two rounds. Staff spoke directly with farmers about the WRMP and the regulatory impacts of not being verified as Wildlife Risk Mitigated. Specifically, in order to have their buyers exempted from post-movement TB testing, farms in the MAZ and MAAZ must implement a WRMAP by January 1, 2012. Additionally, in the MAAZ, non-mitigated farms are responsible for movement testing at their own expense, whereas farms that are verified are not required to movement test their animals.



Figure 3. Percent of farms WRM verified

Buyers of cattle from herds that do not have an MDARD verified WRMP are responsible for post-movement testing. The category of cattle impacted is according to the following schedule:

- 2010 – Verified WRMAP required for all farms selling breeding animals
- 2011 – Verified WRMAP required for all farms selling feeder calves coming from townships with a high apparent prevalence of bovine TB in the wild white-tailed deer population
- 2012 – Verified WRMAP required for all remaining MAZ and MAAZ farms selling feeder calves

Owners of herds in the MAZ and the MAAZ who had not called MDARD to request an assessment during the first two rounds were contacted and information about the program and its benefits were provided. As a result of these contacts, 187 producers have requested to have a wildlife risk assessment completed during Round 3.

Since 2008, MDARD has worked with the Alpena Conservation District to provide targeted cost-share assistance for cattle feed storage facilities (fences or hoop barns) in the MAZ. To date,

MDARD has helped fund 53 hoop barns and four cattle feed enclosures. During the summer of 2011, the U.S. Congress provided \$1.5 million to the USDA Natural Resources Conservation Service (NRCS) to help with wildlife risk mitigation efforts in the MAZ and MAAZ.

III. PROGRAMS FOR CATS, DOGS, HORSES, AND LICENSING

Dr. Michele Schalow, Program Manager

Animal Control Officer Program

To be employed as an animal control officer in Michigan, an individual must be either a certified police officer or have had a minimum of 100 hours of training approved by AID. Individuals serving in animal control for at least three years prior to 1973 are exempted from this requirement. To become familiar with state laws and regulations, animal control officers are advised to have 16 ride-along hours with AID staff. In 2011, 17 animal control officers conducted ride-along training and MDARD approved the training of 22 individuals.

Animal control officers enforce Michigan's cruelty and dog licensing laws. To enhance the division's partnership with individuals performing animal control, AID has been conducting regular visits with animal control officers to provide updates, discuss ways animal control agencies can assist AID, and determine how AID can better serve animal control agencies. In 2011, AID conducted 141 visits with individuals performing animal control activities. If these agencies also had a government operated animal shelter, the shelter was inspected at the time of the visits. Likewise, AID assists animal control agencies in animal welfare and cruelty investigations. In 2011, AID assisted in seven animal welfare investigations.

Equine Reportable Diseases Programs

Eastern Equine Encephalitis

Eastern Equine Encephalitis (EEE), commonly called sleeping sickness in horses, is a viral disease transmitted by infected mosquitoes. The primary host is birds, but horses, humans, and other mammals can become infected if bitten by an infected mosquito. EEE requires a bite from an infected mosquito and cannot be transmitted directly from infected horses to other horses or humans. Mosquito precautions for horses are recommended and horses should be vaccinated against the disease to protect them throughout the year. Tips for preventing mosquito-borne sickness in horses include vaccination, mosquito repellants, stabling horses during prime mosquito exposure hours (dusk and dawn), and eliminating standing water. Hot, wet weather can increase the mosquito population, increasing the risk of EEE.

In 2011, Michigan had three lab-confirmed cases of EEE—one each in Arenac, Midland, and Missaukee counties. An additional horse from Arenac County was reported to MDARD as suspect for EEE due to clinical signs, but the horse died and was not tested.

Equine Infectious Anemia

Equine Infectious Anemia (EIA) is an incurable viral disease of horses transmitted by biting flies. There is no vaccine and no treatment. Once an animal is infected with the EIA, it is infected for life, regardless of the severity of the symptoms. While some animals die after becoming infected, some appear to recover and become carriers of the virus. Equidae (horses, asses, jacks, jennies, hinnies, mules, donkeys, burros, ponies, and zebras) are the only known animals affected by this virus. A blood test (Coggin's Test) can determine if animals are infected.

Testing requirements were first established in Michigan in 2001, and were set to expire on January 1, 2011. Testing requirements were re-established in Michigan in July 2011. MDARD requires testing for interstate movement into Michigan as well as for intrastate movement, including shows and events where horses congregate, and for sales when the animal will leave the premises. A test is valid for 12 months from the date drawn. AID veterinarians follow-up on

cases of infected animals and are involved in retesting. Prevention of the spread of the disease is the goal and is accomplished by quarantine and/or euthanasia. Preventing the spread of EIA is an important component of horse health and management and will save horse owners from undue veterinary expenses. No cases of EIA were reported in Michigan in 2011.

West Nile Virus

West Nile Virus (WNV) is caused by a virus that primarily infects and multiplies in birds, which serve as reservoirs for the virus. The virus is spread between birds through the bite of an infected mosquito. Like EEE, WNV requires a bite from an infected mosquito and cannot be transmitted directly from infected horses to other horses or humans. Mosquitoes can spread the disease to humans and other animals, including horses. Mosquito precautions for horses are recommended and horses should be vaccinated against the disease to protect them throughout the year. In 2011, the Michigan Department of Community Health (MDCH) reported 34 cases in humans, including two deaths. MDARD reported one case of WNV infection in a Van Buren County horse.

Equine Piroplasmiasis

Equine Piroplasmiasis (EP) is a disease caused by a blood borne parasite. The parasite can be spread by a tick or via transferring blood from an infected equine through contaminated needles or equipment (surgical, farrier, dental, etc). Infected equine may be weak, off feed, have an elevated fever, discolored (red to brown) urine, or be jaundiced (seen as yellow gums). There is no vaccine; infected horses remain infected for life. A treatment has been discovered using an antiprotozoal drug called Imidocarb, but it can be expensive and poses risks to the horse.

The United States has been experiencing an outbreak of EP stemming from a ranch in Texas and several states have found infected horses. In 2011, a horse in Allegan County was confirmed to have been infected with EP. The owner selected to euthanize the horse and all other horses on the premises were confirmed to be negative for EP. To protect Michigan equine, as of June 8, 2011, MDARD requires imported equine originating from states that have had a positive case of EP in the past 12 months to have a certified statement from a veterinarian that the animal is not showing clinical signs of piroplasmiasis and is either free of ticks/or has successfully been treated for ticks.

Companion Animal Reportable Diseases Programs

Diseases of companion animals that could affect humans, domestic animals, agriculture or the economy are reportable to MDARD. Depending on the specific circumstances, investigations and trace backs from the index case may be conducted. Some reportable diseases are considered zoonotic diseases since they are capable of infecting humans.

Psittacosis

Psittacosis is a bacterial disease that primarily affects pet birds, but can also affect humans. Infection typically occurs from inhalation of infected droppings, feather dust, or respiratory discharge. There is no vaccine currently available for birds. Prevention of the disease includes testing and a four-week period of isolation for newly acquired birds, practicing good husbandry practices, and maintaining proper sanitation and records. People are advised to wear gloves, protective clothing, caps, goggles, and a mask when cleaning or handling ill birds.

In 2011, there were two cases of Psittacosis, both occurring at pet stores in Michigan—one occurring in a parakeet in Wayne County and another occurring in a cockatiel in Macomb County. To protect the public and other birds, MDARD quarantines pet stores with Psittacosis positive birds until all exposed birds have been treated and subsequently tested negative. With the case in Wayne County, the pet store elected to euthanize all exposed birds whereas the Macomb County store birds were placed under quarantine by MDARD and released when all birds had successfully been treated.

Rabies

Rabies is a viral disease that can infect all mammals, including humans. Rabies infection is most often the result of a bite or scratch from an infected animal and is considered universally fatal. Rabies is endemic in Michigan in skunks and bats. Vaccination of domestic animals, particularly dogs, is used to create a barrier between wildlife and humans. There are licensed and approved rabies vaccinations available for dogs, cats, ferrets, cattle, sheep, and horses, as well as humans. In 2011, there were 65 rabies positive animals in the state, including the state's first confirmed case of rabies in a woodchuck.

Table 4: Rabies positive animals

Rabies positive animals	2011	2010
Bats	57	60
Skunk	5	8
Fox	1	2
Cat	0	1
Dog	1	1
Horse	0	1
Woodchuck	1	0
TOTAL	65	66

Dogs imported from other countries may be ordered confined and/or vaccinated against rabies by the Centers for Disease Control and Prevention (CDC). In the past, AID visited the homes where imported dogs were confined to assure that the CDC order was being followed, that the animals were healthy, and were legally imported into the State of Michigan. Due to budget constraints in 2010, follow up on confinements was forwarded to local animal control to make them aware of the imported dogs for licensing purposes. Animal control occasionally visits sites to assure compliance with the confinement. AID receives 40 to 50 CDC confinement notifications per year.

Canine Leptospirosis

Leptospirosis is a bacterial disease that can affect animals and humans. There are many different strains of the bacteria. The disease is usually contracted by contact with infected urine, soil, water, or other surfaces, but can be contracted via bites or by eating infected tissues. Wild rodents are common shedders of the disease in the environment. The disease can cause liver and/or kidney disease in dogs, and can lead to death. Treatment includes undergoing a course of antibiotics. There is a vaccine available for dogs that protects against some of the most common strains.

In addition to vaccination, prevention for dogs includes not allowing dogs to drink from rivers, stream, ponds, lakes, or stagnant water; minimizing the dog's contact with wildlife, livestock, and other dogs; and preventing the dog from ingesting animal carcasses. Prevention measures for people include wearing gloves when cleaning or handling animal urine, promptly cleaning and disinfecting areas contaminated with animal urine, and hand washing. Rodent control is important in reducing cases of leptospirosis as well. In 2011, there was an outbreak of leptospirosis in Michigan dogs.

MDARD received a total of 74 reported cases of leptospirosis in dogs in 2011. Cases were identified in the following Michigan counties: one case in Montmorency, two cases in Kalamazoo, St. Clair, and Washtenaw counties, three cases each in Jackson and Midland counties, five cases in Saginaw County, 10 cases in Oakland County, 13 cases in Macomb County, and 33 cases in Wayne County. Leptospirosis strains identified in these cases included

L. bratislava, *L. grippotyphosa*, and *L. icterohaemorrhagiae*, *L. pomona*. There was a significant increase in cases of *L. icterohaemorrhagiae* in dogs, a strain which can cause severe disease and is often found in rats. MDARD worked with staff from MSU Diagnostic Center for Population and Animal Health (DCPAH), MDCH, and the Centers for Disease Prevention (CDC) in identifying and investigating the outbreak, as well as in alerting veterinarians through the Michigan Veterinary Medical Association (MVMA).

Licensing Program

AID licenses and regulates livestock dealers, truckers, sales and auction markets, livestock collection points, livestock buying stations, renderers (carcass dealers), animal feed plants, animal control/protection shelters, and aquaculture facilities.

In 2009, AID began to conduct regular, non-complaint driven inspections of animal shelters and has continued these regular unannounced inspections. Currently, AID inspects shelters at least once a year.

Table 5. below lists the number of licenses issued in 2011, total number of licensees, and those undergoing precicensing inspection (facilities wishing to obtain license) in 2011.

Table 5: MDARD Licensing Program

License	New	Total #	Inspections
Animal shelters	11	194	10
Animal control shelters	3	80	0
Animal protection shelters	8	114	12
Livestock dealers	10	217	3
Auction markets	0	16	0
Collection points/ buying stations	0	9	0
Horse auction markets	2	7	0
Dealers/brokers/agents	8	185	0
Disposal/transportation of dead animals	3	45	2
Rendering plants	1	7	0
Transfer stations	0	3	0
Vehicles	1	17	0
Animal feed plants	0	32	0
Dead animal dealers	1	15	0
TOTAL	24	456	15

AID conducted inspections of animal control shelters (government operated shelter for the purpose of housing surrendered and confiscated animals related to law violations, including animals running at large, and neglect cases) and animal protection shelters (which are operated by private organizations, such as local humane societies, for the purpose of taking in and finding homes for unwanted pets). In FY 2011, AID conducted a total of 203 annual inspections, 141 to animal control shelters and 62 to animal protections shelters.

AID conducted another 84 recheck inspections at shelters for the purposes of rechecking the facilities after a violation was made to confirm that the shelter had returned to compliance. Likewise, AID also conducted at total of 17 recheck inspections of livestock dealers and two recheck inspections of dead animal dealers.

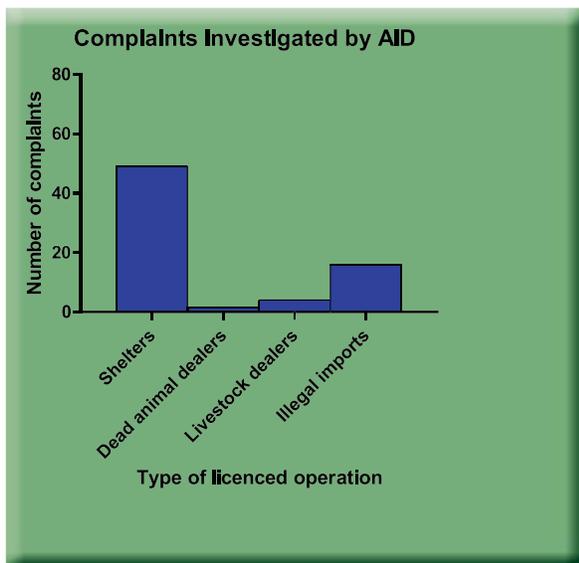


Figure 4: Number and type of complaints investigated in 2011

The total number of complaints investigate against licensed facilities in 2011, (Figure 4) was 62; 57 against animal shelters, two against dead animal dealers, and three against livestock dealers. AID also investigates complaints related to illegally imported animals, i.e. animals brought into Michigan from other states or countries in violation of AID's importation requirements. In 2011, AID investigated a total of 22 complaints related to imported animals. Individuals or facilities found to have chronic violations are forwarded to AID's Compliance Unit.

The Animal Welfare Fund

The goal of the Animal Welfare Fund is to provide funding for the sterilization of pets before adoption, to increase the knowledge and awareness of Michigan's anti-cruelty laws, and to help fund the care of animals as it relates to the enforcement of those laws.

The Animal Welfare Fund was established in 2007 and allows individuals to contribute money via the state tax form. Money collected by the fund is allocated to help defray the cost of spaying, neutering, and adopting animals in shelters. The fund is also used for other activities, such as educating on the importance of spay-neuter and animal care costs for confiscated animals in neglected or abusive situations.



Photo by Morgan Hall

For the 2011 grant period, AID received a total of 36 proposals requesting more than \$300,000. Thirteen of 36 proposals from Michigan shelters were funded from the 2010 tax year totaling \$118,327. The number of requests indicates the magnitude of the need for these services.

The selection process is competitive with each proposal being evaluated and rated on its own merit. The call for proposals required shelters to be registered with MDARD. The selection criteria included submission of the 2009 and 2010 Activities Reports and the shelter had to be in good standing to be eligible for the award.

IV. EMERGENCY MANAGEMENT

Dr. Mike Neault, Program Manager

Emergency Management

MDARD must be ready to aid in response and recovery efforts and prevent the spread of disease in the event of a disaster that affects animal or an animal health emergency. In the event of an animal health emergency, trained response teams can rapidly decrease exposure and risk of spreading disease by quarantining premises, curtailing movement of livestock, and providing vaccination (if available). Training exercises and simulated events assure MDARD personnel are ready for a response.

MDARD participated in various emergency training exercises and courses in 2011 to prepare for animal disaster and disease events. MDARD sent staff and members of the Michigan Veterinary Corps to the Centers for Disaster Preparedness and participated in the final courses of the Agricultural Emergency Response Training. MDARD also has two Incident Management Teams that consist of personnel from all divisions (Animal Industry, Environmental Stewardship, Food and Dairy, Laboratory, and Pesticide and Plant Pest Management) with a variety of backgrounds. Incident Management Team exercises were conducted with participants from all MDARD divisions; USDA Veterinary Services (VS); USDA Office of Inspector General (OIG), MSU-E, the Michigan Department of Environmental Quality (DEQ), and the DNR.

MDARD planned and participated in the state level New Madrid Fault Earthquake exercise, which included collaboration with the Michigan State Animal Response Team (MI-SART), and a local chapter of the American Red Cross to find shelter for victims and their pets. MDARD tested a new emergency alerting system for MI-SART and the Michigan Veterinary Corps, GIS capabilities, 800 MHz radio communication, and usage of incident command system forms throughout the state during the week long drill.

Also in 2011, the Michigan Veterinary Corps became a practicing member of the Michigan Medical Reserve Corps. The Michigan Veterinary Corps is an all-hazards response team that maintains a focus on animal disease response. Inclusion into the Medical Reserve Corps will create opportunities for the team to train with counterparts in human medicine, incorporating the concepts of the One Health initiative into both organizations. Incorporation of the Veterinary Corps also encourages county governments to incorporate local veterinary expertise into response efforts. All licensed veterinarians and veterinary technicians are invited to join the Veterinary Corps, as well as students who have completed their second year of veterinary school, and veterinary technician students who have completed their first year of school.

The revised *Michigan Emergency Management Plan, Animal Care Support Plan* was finalized for publication in December 2011. MDARD will be meeting with county emergency management programs throughout 2012 to discuss the plan. In 2011, MDARD was active in a variety of community and state planning and training sessions including working with and supporting counties in the discussion to complete the Strengthening Community Agrosecurity Planning (S-CAP) for Barry and Kalamazoo County Emergency Management programs. MDARD presented at the Michigan State Police Radiological Emergency Preparedness conference discussing the need to incorporate animal decontamination and planning in the event of a radiological disaster. This need became more evident after reviewing the events that occurred in the Japan Fukushima disaster.

MDARD was also involved in many national level projects, including the National Alliance of State Animal and Agriculture Emergency Programs (NASAAEP), an organization composed of state government representatives and non-governmental organizations working with various departments at the federal level to discuss best practices in implementing animal emergency responses. MDARD also is a member of the Multi-State Partnership for Security in Agriculture. This is a 14 state consortium that allows member states facing similar issues to pool resources to prepare for agricultural emergencies (whether disaster or disease). This regionalization effort allows a state to further planning efforts that would not otherwise be accomplished.

On September 1, 2011, MDARD released a new *Reportable Animal Diseases in Michigan* list. This list was mailed to all licensed veterinarians in the state of Michigan and distributed at conferences. In addition, the Michigan Veterinary Network will now serve as an online library and resource center. Veterinary personnel who join the network will be forwarded all new information as it becomes available. The network is free for all veterinary personnel to join at www.mivetnet.ning.com.

V. ACQUACULTURE, POULTRY, AND SWINE

Aquaculture in Michigan - the "AIM" project

In 2011, MDARD secured funding through the Herrick Foundation to create a "How-to-guide" to assist people interested in developing a new or expanding an existing aquaculture facility in Michigan. This guide will be a roadmap for navigating the various permits and licenses required to operate an aquaculture facility, as well as a tool to assist the industry to secure funding for marketing opportunities and will be available in July 2012. In addition, a multi-agency workgroup, including MDARD, DNR and DEQ was formed to streamline the process for aquaculture facility licensing and permitting.



Dr. Nancy Barr, Program Manager

Viral hemorrhagic septicemia virus (VHS) continues to be an important area of surveillance and study for the aquaculture industry. VHS is a virus that affects fish resulting in red spots, pale gills, swollen eyes or abdomen, erratic swimming, and death. VHS has been found in wild fish in all Michigan Great Lakes, as well as some inland waterways, but not in Michigan licensed fish farms. Cooperative agreement funding from the United States Department of Agriculture allowed MDARD to complete the following three projects in 2011.

1. VHS testing was completed on fish from 12 private aquaculture facilities (60 fish per facility), no infected fish were identified.
2. Eight private practice veterinarians received training on fish diseases and surveillance testing.
3. A veterinary student from MSU was provided funding to work on the VHS program for the summer.

To date, there have been no reports of VHS or any other reportable diseases in our licensed aquaculture facilities. AID has drafted a VHS Emergency Response Plan with input and review and from the Michigan Aquaculture Association, DNR, USDA VS, and MSU.

The VHS Emergency Response Plan establishes a communication plan to alert industry and stakeholder partners in the event VHS is identified on a producer premises. Response efforts after the disease has been identified have been broken down into three stages: advisory, watch, and warning

The response effort also takes into account the various water runways that might be utilized at an infected facility, the possibility of multiple species of fish being raised at one location, and the watershed origin when considering the response options. All of the above will allow for continuity of business in the event of an outbreak.

Avian Disease Program

The Avian Influenza surveillance program, initiated in 2006, monitors the health of Michigan's poultry flocks. In 2011, more than 3,000 birds were tested and found negative for notifiable avian influenza. In addition, AID continues to work with the Michigan Allied Poultry Industry (MAPI) and other parties on preparedness in case an avian influenza outbreak occurs.

In February 2011, MDARD and the Martin Fire Department agreed to collaborate on preparation and response to an emergency poultry disease situation. Specialized equipment (that may be necessary in an avian disease response) and poultry handling training was provided to the Martin Fire Department. The equipment, and trained personnel will be available to MDARD in the event of an avian disease outbreak.

In 2011, AID responded to three cases of Infectious Laryngotracheitis (ILT). All cases were caused by vaccine strain virus and therefore did not impact Michigan's trade with international partners. In addition, two cases of Mycoplasma gallisepticum were reported.

Feral Swine

The Feral Swine Working Group, formed in 2007, is a multi-agency team of experts from the MDARD, DNR, USDA Wildlife Services (WS) and Veterinary Services (VS). The working group partners with private land owners, the livestock industry and the sports hunting community to prevent the establishment of feral swine in Michigan.

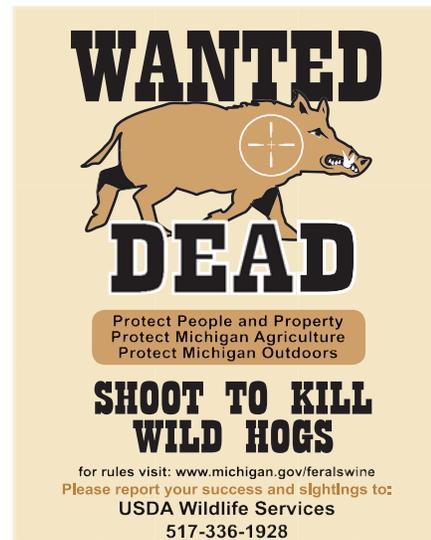
Feral swine are hogs that have either escaped from facilities or have been placed in the environment by unscrupulous individuals. When feral swine become established they are a threat to the health and welfare of domestic swine. Feral swine can host many parasites and diseases that threaten humans, domestic livestock and wildlife; and they can cause extensive damage to forests, agricultural lands and Michigan's water resources.

As of May 2010, Michigan swine running at large may be killed on public and private land. Hunters with a valid Michigan hunting license of any type, or a concealed pistol permit, are encouraged to shoot feral swine.

It is now legal to shoot wild pigs in every Michigan county. Additionally, during any hunting season, licensed hunters are encouraged to shoot feral swine. Private land owners may also shoot feral swine on their own property without a license any time of year. Posters advising the public to shoot swine running at large were distributed throughout the state. The DNR began tracking sighting and deaths of feral swine in 2001. To date 304 feral swine have been reported seen, shot, trapped or found dead in 72 of Michigan's 83 counties (of these 286 have been reported killed).

In 2011, swine roaming in groups of two or more were reported in 51 counties, 46 in the Lower Peninsula and five in the UP. In 2009, 50 feral swine were killed, 36 in 2010, and 43 in 2011.

Tests are run for a variety of diseases of concern to swine producers, including classic swine fever, brucellosis, pseudorabies (PrV), bovine TB, trichinosis, toxoplasmosis, Hepatitis E Virus, and swine influenza. One sample tested positive for PrV in 2011.



VI. CERVID, SHEEP, CATTLE, AND OTHER NON-TB PROGRAMS FOR RUMINANTS

Scrapie Program

Scrapie is a fatal neurological disease of sheep and goats. It is classified as a type of transmissible spongiform encephalopathy and is caused by an abnormal protein called a prion. Scrapie is not transmitted between species. There is a genetic component to susceptibility to scrapie – the QQ genotype is susceptible to scrapie, while RR is highly resistant and QR is resistant. Genetic testing of animals, especially breeding rams, and not using QQ rams for breeding stock can be used to reduce the risk of scrapie in the population. The presence of scrapie in



Dr.. Wendy Osman, Program Manager



United States sheep and goats prevents the export of breeding stock, semen, and embryos to many other countries, and limits movement of animals between states. USDA has a goal of scrapie eradication by 2017. In order to successfully obtain that goal, all sheep and goats are required to have official scrapie identification tags.

AID monitors compliance activities regarding movement of sheep and goats with official identification presented at licensed livestock markets throughout the state. In order to increase traceability of animals back to the flock of origin, Michigan will no longer allow untagged animals to be tagged

with white scrapie tags at a licensed livestock markets without providing either documentation showing the flock of origin, or a signed statement from the owner of the flock of origin. Blue meat tags for the scrapie program are no longer available to markets, unless they apply to be an approved market with USDA. Michigan has one approved market for sheep and goats.

RFID Tagging Project

The goal of this project is to assess RFID tag retention in sheep flocks, and to develop a record keeping system using the RFID and computerized records allowing for greater disease traceability and improved producer records retention. The initial goal was to determine the retention rate of RFID tags in sheep. Seven producers volunteered to use the tags in their lambs or ewes, and report the retention rate to AID. Approximately 1,120 tags were distributed, averaging 160 tags per farm. Retention rate was determined from the time the animal was tagged until it went through the livestock market.

In lambs tagged an average of 72 days (from application date to movement through livestock market), retention was 100 percent. In ewes tagged an average of 267 days, retention was near 100 percent with only one animal missing a tag at the sale barn. The major problem encountered was farmers did not always contact AID personnel when transporting animals to the market. As a result, not all previously tagged animals were scanned or inspected at the markets.

Electronic Record Keeping Pilot Study

The goal of this project was to evaluate the utility of an electronically managed record keeping system. RFID tags, hand held RFID readers and compatible flock management software were given to one producer. He found the electronic record keeping system to be helpful in managing his flock information. Having the records maintained electronically allows for easy traceability of animals in and out of his flock, as well as longer records retention by the producer. Due to battery issues, the electronic download information into the software system has not yet been evaluated. Surveillance in December identified 113 ewes in inventory with 115 lambs born spring 2011. Market surveillance identified 77 head were sent through a monitored livestock market, one ewe and 76 lambs. Surveillance will continue in 2012.

Cervid Program

In December 2011, Michigan had 403 Privately Owned Cervid (POC) facilities, down 105 facilities from 2010. There are four classes of POC facilities in Michigan, they differ in their identification and record requirements, ability to purchase, sell and move live animals, requirements for disease testing and containment of animals (fencing/gates). In 2011 there were 36 facilities in Class I (Hobby); 23 in Class II (Exhibition); 136 in Class III (Ranch); and 208 Class IV (Full).

There are 114 TB accredited POC facilities and 91 POC facilities in the Chronic Wasting Disease (CWD) certification program, a voluntary program producers can apply for through AID. Facilities in the program are required to submit all death losses (including cull or harvested animals) over 12 months of age for CWD testing, and submit an annual inventory that includes all sales, deaths, natural additions and purchases. Certification status is obtained after five or more years of participation in the program, with no positive samples.

New to the POC program is the development of import requirements for cervids. AID has worked closely with DNR to develop a set of importation requirements for POC entering Michigan cervid herds. While the 2002 moratorium is still technically in place, these requirements enable AID to make exemptions to the moratorium. Cervids being imported into Michigan must come from CWD free states. In addition, the herds of origin must be CWD certified, TB accredited, individually tested for brucellosis if over one year of age, and identified with electronic identification. Only Michigan facilities that maintain CWD certified

status and TB accreditation are eligible to apply for importation. In 2011, Michigan cervid producers imported animals from four different facilities, three in Pennsylvania, and one in Indiana.

Chronic Wasting Disease (CWD)

CWD is a neurological disease classified as one of the transmissible spongiform encephalopathies. All cervid facilities are required to submit all death losses due to injury or illness over 12 months of age, and 25 percent of culled or harvested animals over 12 months of age. In 2011, 1,758 samples were tested for CWD. These samples came from all cervid herds, both in the voluntary certification program and the mandatory surveillance program.

On August 25, 2008, the department confirmed CWD in a three-year old white-tailed deer. The farmed deer was from a privately owned cervid herd in Kent County. To date, this has been the only case of CWD identified in Michigan. Since the identification of the one CWD positive deer, 18,274 samples from farmed deer have tested negative for CWD. No additional cases of CWD have been identified.

Tissue Residue Program

Tissue residue investigations are an important component of consumer safety and food protection. USDA FSIS works jointly with the Food And Drug Administration (FDA) to prevent animal products from entering the food chain that contain unsafe levels of drug residues. Each time a residue is detected, the animal carcass is traced back to the farm of origin. FDA is responsible for following up with these residue violations, and will contract with AID to complete a certain number of these investigations every year. In 2011, AID completed 16 investigations.

AID's primary responsibility is to investigate first time tissue residue violations. Investigations consist of a visit to the facility to determine how the residue occurred, and an educational approach with the producer and staff on how future violations can be prevented.

VII. AID COMPLIANCE PROGRAM

There are 27 laws and 35 regulations granting MDARD AID legal authority to protect the health and welfare of Michigan's domestic animals. The goal of the Compliance/Enforcement Unit is to ensure compliance with animal health and welfare laws and regulations. The Unit directly supports 19 programs within AID, and indirectly supports other law enforcement agencies in situations that involve animal health and welfare. Through a progressive enforcement policy, the Unit combines education and enforcement in dealing with cases involving animal health and welfare.



Al Rodriguez, Compliance Officer

Bovine TB Compliance Activities

The Agricultural Inspection Station located at the Mackinac Bridge conducted 2,467 inspections of livestock vehicles from October 2010 through September 2011. These inspections included a total of 33,627 head of cattle, of which 4,415 head (13 percent) were reported going to a farm in the TB Free Zone of Michigan's Upper Peninsula. The station reported 29,212 head (87 percent) of cattle being transported for slaughter purposes. Three warnings were issued for first-time violations of movement certificate requirements and two appearance tickets were issued. A total of 1,899 hours of law enforcement patrol was conducted to intercept 30 vehicles driving by the inspection station. No cases of illegal transportation of cattle were discovered in the intercepted vehicles.

Mobile patrol surveillance of livestock vehicles in the MAZ and near the MAZ/MAAZ border included 873 hours of surveillance. During this time, 127 vehicles were stopped. Two violations of failure to obtain a movement certificate for cattle were found (1.6 percent of the total stops).

The Mackinac Bridge Agricultural Inspection Station was closed on September 10, 2011. Mobile patrols conducted around the inspection station location will be continued by the Mackinac County Sheriff Department to average 20 hours per week.

Scrapie

Field staff conduct initial inspections of sheep and goats, and report scrapie identification violations to the Compliance Unit to take appropriate compliance/enforcement action. MDARD and USDA field staff generated USDA Scrapie ID reports from 14 different Michigan livestock markets, including three monthly lamb pools. For 2011, a total of 76 violations were noted and 76 written warnings were sent.



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