Michigan Department of Agriculture

ANIMAL INDUSTRY DIVISION
2009 ANNUAL REPORT

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Animal Industry Division Overview

The Animal Industry Division (AID) of the Michigan Department of Agriculture (MDA) protects the health of domestic animals, including livestock, poultry, farmed raised fish, privately owned deer and elk, and pets. Protecting the health of animals protects human health and enhances markets. The State Veterinarian directs the AID. AID is responsible for disease programs and toxic substance contamination concerns as they relate to animal health. AID also works to prevent and eradicate animal diseases. Some of the diseases that affect animals are considered zoonotic, meaning they can infect humans as well as animals – for example, bovine tuberculosis, rabies, and brucellosis are zoonotic diseases.

AID is involved in food safety, animal welfare, monitoring of infectious diseases of birds, cattle, swine, sheep and goats, horses, and farmed fish, as well as companion animals. AID has programs to improve food safety by enhancing the health of farm animals. The state also has a cooperative educational program for veterinarians and farmers to reduce the incidence of drug residues in food animals. AID works with Michigan Allied Poultry Industries, Inc, to maintain Michigan's status as Salmonella pullorum-free.

AID also licenses and regulates a variety of animal related activities, including livestock dealers, truckers, sales and auction markets, renderers (carcass dealers), riding stables, pet shops, animal shelters, and commercial fish hatcheries and aquaculture facilities. AID monitors health and care of animals at a variety of licensed facilities including pet shops, animal control and protection shelters, and riding stables. AID works with local law enforcement and animal welfare agencies to investigate complaints of inhumane treatment of livestock and domestic animals. To stop the spread of disease to animals and humans, AID investigates all cases of reportable diseases.

	Program	Coordinator
I	Electronic Identification, Livestock Markets	Kevin Kirk
II	Bovine TB	
	Program Manager	James Averill, DVM, PhD
	Bovine TB Eradication Coordinator	Michael Vanderklok, DVM
	Bovine TB Wildlife Risk Mitigation	Rick Smith, DVM
	Bovine TB Compliance/Enforcement	Al Rodriguez
III	Aquaculture	Michele Finateri, DVM
	Bodies of Dead Animals	
	Companion Animals (Equine)	
	Dog Identification Dog law	
	Pet Shops and Animal Shelters	
	Rabies	
	Riding stables	
IV	Emergency Preparedness	Nancy Barr, DVM Michael Neault, DVM Peggy Roth, DVM
V	Avian	
	Cervid	Angela Butler, DVM
	Drug Residue	
	Equine	
	Reportable Diseases	
	Ruminants	
	Swine	
VI	Johne's disease	Marcia Weld Joe Woltanski, DVM (USDA)
VII	Communications Projects	Bridget Patrick

I ANIMAL ID PROGRAM

Michigan is the only state in the nation to require that all cattle must be identified with official radio frequency identification (RFID) ear tags. RFID tags are tied to a particular farm or ranch (premise), allowing for rapid tracing of animal movement. The ability to rapidly trace animal movements is important in the event of a disease outbreak. RFID tags are an important component of the bovine TB eradication effort.

Michigan requires that all farms and ranches with cattle must obtain a unique premise identification number (premise ID) and be registered with the national FAIR database. In 2009, an additional 905 premises were registered, bringing the total number of registered Michigan farms and ranches in the national database to 22,600. AID achieved the goal of having 80 percent of the premises in the national database by 2009. As of January 4, 2010, MDA will be utilizing the national USA Herd database. This database has several advantages over the FAIR database, including the ability to generate reports in multiple formats. All premises registered with FAIR were successfully transferred to USA Herd.

In 2009, beef and dairy farmers purchased over half a million RFID tags (504,135), bringing the grand total of RFID tags purchased by Michigan farmers to over two million (2,222,728).

Over two hundred thousand (207,776) RFID tags were scanned at Michigan markets in 2009. This is a decrease of 273,000 from 2008. A total of 154,793 RFID tags were scanned at in-and out-of-state slaughter facilities, a decrease of 178,095 from 2008.

Electronic reader performance at livestock markets is generally in the 95 percent range during most weeks, with one at 98 percent reliability. However, several remain at 80 percent. Several RFID readers in livestock markets were upgraded.

MDA staff participated in 19 industry meetings to discuss ID programs, share ideas, and network with other states working on animal ID projects. MDA staff testified at hearings in Washington, DC before the Committee of Agriculture (Subcommittee on Livestock, Dairy, and Poultry) and the Committee on Homeland Security (Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology) on animal identification issues.

MDA continued to expand the use of movement certificates between TB zones and implemented the Herd Reconciliation Program for all herds in the MAZ.

Both Michigan and USDA were pleased to have won the NAIS lawsuit.

II BOVINE TUBERCULOSIS PROGRAM

Bovine Tuberculosis (TB) is a bacterial disease capable of infecting any warm-blooded animal, including humans. While treatment of humans infected with Mycobacterium bovis involves a long course of multiple antibiotics, the infection in animals is considered incurable. Although the preferred host of bovine TB is cattle, the bacteria can infect other animals, including white tailed deer.

The goal of Michigan's Tuberculosis program is to eradicate bovine TB from the state's domestic livestock. Michigan faces a great challenge in attaining this goal because of the reservoir of infection in native wild white-tailed deer.

Bovine TB program summary
In 2009, Michigan had three USDA designated bovine TB zones: the TB Free zone in the Upper Peninsula and in the Lower Peninsula the Modified Accredited Advanced zone (MAAZ) and the Modified Accredited zone

(MAZ). The MAZ is the area of northern Lower Michigan where bovine TB has been identified in domestic cattle, farmed deer, and wild white tailed deer. The MAAZ is the remainder of the Lower Peninsula.

Since 1997, 46 cattle herds and 4 farmed deer (privately owned cervid) herds have been identified as infected with bovine TB. Included in the cattle herds are 5 cattle farms that have been infected more than once, and one premise/dairy herd that has been infected three times and never released from the original quarantine.

Bovine TB surveillance in the MAZ is a combination of live animal (active) testing and slaughter (passive) testing. Whole-herd TB testing is done on an annual basis for all cattle herds in the MAZ, except freezer beef herds and approved feedlots. Annual testing in the MAZ included 928 herds; as of October 1, 2009 there are no herds overdue for annual testing. Individual bovine TB testing of cattle before movement off a farm is also part of the surveillance program. Risk-based surveillance testing is done in the MAAZ and Free zone. Federal slaughter inspection of cattle at USDA inspected plants is the second component of surveillance.

Michigan implemented a USDA approved risk-based surveillance plan in March of 2008. This surveillance plan allows MDA to focus resources on cattle in areas with the greatest risk of infection and increases testing of higher risk herds. Higher risk herds are defined as herds with cattle purchased from a bovine TB infected herd, herds within a 10-mile circle of bovine TB infected deer, and herds in higher risk areas (determined by modeling and risk assessment scenarios). In 2009, MDA met the USDA requirements for surveillance testing in the MAAZ and Free zone by testing 664 herds and receiving 1835 points.

MDA conducted whole herd TB testing on 1275 herds in 2009; a total of 57,208 animals were tested for bovine TB. Of these 65 were submitted for necropsy – two infected cattle were identified.

Bovine TB infected herds 2009
MDA's TB eradication effort involves cattle and bison herds, as well as privately owned, farmed deer and elk. DNR is responsible for wild deer and elk.

Bovine TB infected cattle herds
In 2009, one adult dairy cow from a Montmorency County dairy herd of over 100 head tested positive for bovine TB. Bovine TB was first identified in this herd in 2004. The herd remains under quarantine and continues with the USDA mandated test and removal program. There is near zero risk to public or animal health from this herd, as the herd is not allowed to sell live animals to other farms and pasteurization of milk eliminates many bacteria including M bovis. The epidemiological investigation suggests the dairy premise was re-infected by neighboring wildlife.

One newly infected beef herd was identified in 2009. This medium sized (26-100 head) herd in Alpena County was found to have one yearling heifer positive for bovine TB.

Bovine TB infected farmed deer herds
On March 9, 2009, a farmed deer from a privately owned cervid herd of approximately 280 head in Montmorency County was identified as infected with bovine TB. This is the second privately owned farmed deer to test positive for bovine TB in Montmorency county and the fourth positive herd since the bovine TB eradication effort began.

Indemnity
USDA made the decision not to pay indemnity for the privately owned cervid herd confirmed to have bovine TB. The herd, located on a large property surrounded by deer proof fencing, is in an area where TB is endemic to wild white tailed deer. The herd presents minimal risk to cattle and will not impact the zone's cattle and bison status for TB. In addition, there is little funding available for indemnity payments.

Bovine TB spending for the 2008-2009 fiscal year
A total of $6,934,200 was spent on the TB eradication effort. This includes salaries and wages for surveillance testing, regulatory compliance efforts, wildlife risk assessments, and communications.

USDA Bovine TB Program Review
MDA received the USDA's Tuberculosis Program Review report March 16, 2009. The review occurred November of 2008. USDA noted that several areas in the program could benefit from improvement. For example, recommendations were made regarding individual herd plans for TB affected herds, TB epidemiology and infected herd management, cervid feeding and baiting ban, biosecurity/risk mitigation measures, and herd inventory and reconciliation.

Staff from MDA AID and MDNR met March 24 to assign reporting responsibilities. As in previous reviews, the USDA office in East Lansing will be coordinating the response. MDA's advancement in status and federal funding for the program is based on the performance audit findings.

Split State Status Application and Memorandum of Understanding
The Split State Status application to change Michigan's zones was submitted to the USDA on August 19, 2009. Michigan requested that the MAAZ be expanded to include Antrim, Charlevoix, Cheboygan, Crawford, Emmet, Otsego counties. Michigan also requested that the MAAZ be further divided into subzones. Subzones are based on areas of decreasing prevalence of bovine TB, with the expectation that each subzone could separately apply for TB free status. If granted, this request would decrease testing, enhance markets, and improve the ease of movement without sacrificing public or animal health.

This requested change would limit the MAZ to Alcona, Alpena, Montmorency, Oscoda, Presque Isle counties and those parts of Iosco and Ogemaw north of the southern most boundaries of the Huron National Forest and the Au Sable State Forest. The MAAZ would therefore increase to include all of the Lower Peninsula except that in the MAZ. The MAAZ would be divided into 3 subzones, with subzone 3 having the lowest prevalence of bovine TB. Testing and movement requirements will depend upon subzone, destination, type of cattle, and presence of verified risk mitigation paln.

Subzone 3 = all counties in Lower Michigan not in MAAZ subzones 1 and 2 (lowest prevalence of bovine TB)
Subzone 2 = Arenac, Clare, Gladwin, Grand Traverse, Kalkaska, Missaukee, Osceola, Roscommon, and Wexford counties, and those portions of Ogemaw and Iosco counties not include in the MAZ
Subzone 1 = Antrim, Charlevoix, Cheboygan, Crawford, Emmet, Otsego counties.

The Memorandum of Understanding was signed by Directors Koivisto and Humphries and submitted to the Michigan USDA office for signature from the USDA Eastern Region manager. Public notifications for changes to Zoning Orders in Public Act 466 were posted in 16 newspapers statewide and public hearings took place September 2 and 3, in Lansing, Atlanta, and Harbor Springs. USDA approved the application and the requested changes are to take place January 1st 2010.

Wildlife Risk Assessments
One goal of the bovine TB eradication effort is to decrease the interaction between wildlife and domestic cattle in the MAZ and adjacent areas. The risk of interaction between wildlife and domestic cattle is different for every farm or ranch. Therefore, assessing the risk and recommending risk mitigation strategies varies greatly between premises and strategies must be individualized.

MDA contacted all cattle farmers in the five county area and offered on-farm wildlife risk assessment. Individual on farm risk assessments are conducted by members of a team trained in risk assessment and mitigation

plan development. As of September 30, 2009, 350 farms requested a Wildlife Risk Mitigation (WRM) assessment. Wildlife Risk Mitigation Action Plans (WRMAP) were developed for 294 farms and 229 farms have been verified as being Wildlife Risk Mitigated.

Training

Training of individuals to perform on farm risk assessments is coordinated by Dr Rick Smith. Training is an ongoing process and involves utilizing experts in specific areas. For example, USDA-Natural Resources Conservation Service agents provided information on cost-share opportunities through the USDA Environmental Quality Incentives Program (EQIP). EQIP funds can be used to implement risk mitigation and biosecurity plans. Wildlife Services provides training modules on issues that are of concern, e.g. on ponds or deer cover. Individuals with forestry experience have briefed staff on logging and chipping as a tool to deal with deer cover issues. Field staff present case studies of difficult farms. These sessions provide an excellent venue for education, interaction, and the development of creative solutions.

Trained risk mitigation team members include two conservationist from the Alpena Conservation District Office, four USDA-Wildlife Services wildlife biologist, and 13 regulatory veterinarians. Team members perform Wildlife Risk Mitigation Assessments and help farmers develop a Wildlife Risk Mitigation Action Plan specific for their farm. Once implemented, team members verify that the farms as Wildlife Risk Mitigated.

Livestock Handling Equipment Cost-Share Program:

Many farms in the MAZ rely on MDA to provide and set up handling facilities for required annual TB testing. This process is expensive, in that it requires gates and chutes and corrals be set up at each farm, and then taken down after testing and disinfected. Many person hours are required for each farm, as well as multiple vehicles. If farmers had adequate livestock handling facilities testing could be accomplished at considerable cost savings to MDA.

On July 7, 2009, MDA sent a letter to beef and dairy farmers in the eastern counties of the present MAZ (Presque Isle, Montmorency, Alpena, Oscoda, Alcona, and the northern portions of Ogemaw and Iosco Counties) announcing a $100,000 Livestock Handling Equipment Cost-Share Program to install or enhance their animal handling facilities. Qualified applicants could receive up to $1,000 per farm. Enhancing the long-term animal handling facilities in this zone is crucial to reducing the expense of annual TB testing these herds. Forty-nine producers in the MAZ received $45,591 in cost-share grants for handling equipment. If funds are available, MDA plans to offer a similar program in 2010.

Wisconsin Markets

Wisconsin, and other states including Illinois, do not recognize the USDA defined split state status of Michigan, and choose to treat all cattle as if they originated from the lowest status level (MAZ). This results in increased testing and added expense for farmers who wish to move their cattle to these states. The impact of these rules is particularly onerous for farmers in the Upper Peninsula who market their cattle to Wisconsin. On September 30, 2008 Drs. Halstead and Tilden visited with officials in Wisconsin to discuss their rules for importing cattle from Michigan's TB-Free UP. Wisconsin officials indicated they would require three actions before they would consider allowing cattle from the Upper Peninsula to move to Wisconsin using "free-status". These requirements are:

- Maintain the Mackinac Bridge inspection point
- Retest all UP herds that have received cattle from the MAZ since the entire UP was TB tested in 2003
- Annual whole herd TB test for UP herds

As part of the targeted surveillance plan, MDA tested those UP cattle herds that had purchased cattle from the MAZ cattle from 2004 to 2009. This testing was at no cost to farmers.

On January 16, 2009, AID asked UP representatives if beef and dairy farmers were willing to do a whole herd TB testing at their own expense for future marketing opportunities. Farmers indicated they are not willing to test at their own expense.

AID COMPLIANCE / ENFORCEMENT UNIT

The MDA Animal Industry Division has 27 laws and 35 regulations that grant MDA AID legal authority to protect the health and welfare of Michigan's domestic animals. The Compliance / Enforcement Unit serve's the Division's need to investigate and ensure compliance with animal health and welfare programs of the division.

Program Summary

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. While, animal identification and animal welfare regulations have been issues of concern in mainstream media, the majority of the Unit's activities in 2009 involved investigating movement and testing violations related to the Bovine TB Program.

Bovine TB Compliance / Enforcement Activities

To prevent the spread of disease and track animal movement, movement certificates are required to move cattle from the farm of origin in the MAZ to other locations within the state. The Unit's main activity in 2009, was investigating potential movement violations. This involves checking on cattle moved off farm without evidence of a movement permit. Two hundred thirty-three (233) investigations were completed, and one hundred one (101) warnings for first time violations were issued.

MDA continued to conduct surveillance for illegal cattle movement. Assistance in enforcement was provided by the Michigan State Police and the Mackinac County Sheriff's Department.

The Michigan State Police Traffic Safety Divisions conducted law enforcement patrols in the MAZ and along the MAZ – MAAZ border. The following is the breakdown of the Michigan State Police Traffic Safety Divisions activities.

Activity	Number
Hours worked	906
Vehicle stops	50
Inspections	50
Citations	0

The Mackinac County Sheriff's Department's role was to stop and detain livestock vehicles that failed to stop at the Agriculture Inspection Station, in St Ignace, MI. Twenty-six (26) vehicles were stopped for driving past the inspection station. None of the vehicles were carrying cattle. The following chart is the breakdown of 2009's activities.

Activity	Number
Hours worked	1,746
Vehicle stops	26
Inspections	26
Citations	0

Mackinac Bridge Livestock Movement Surveillance:

MDA's presence at the Mackinac Bridge is necessary to ensure that cattle moving across the bridge (from the MAZ to the Free zone) have met bovine TB testing and movement requirements. Monitoring is critical to pro-

tect the Bovine TB Free status in the UP. The following is a breakdown of activities regarding Bovine TB at the Agriculture Inspection Station in St Ignace, MI.

	2009	2008
Cattle Inspection reports	1033	243
Head count – total cattle	28,818	6919
Head count – slaughter cattle	24,412	5581
Head count – owner transport	4460	1338

Eighty five percent (24,412 of 28,818 head) of the cattle crossing the bridge went to slaughter. There were 22 investigations involving trailers attempting to cross the bridge. All 22 were the result of movement violations; most related to improper paper work. Cattle that did not meet testing and movement requirements were turned around and not allowed to continue into Michigan's Upper Peninsula. Warnings were given to first time violators. Drive-by/empty surveillance involved 956 empty trailer inspections, 894 non-bovine inspections, 129 drive-by trailers observed, 26 law enforcement stops and 22 investigations.

III PROGRAMS FOR ANIMAL CONTROL, COMPANION ANIMAL & EQUINE REPORTABLE DISEASES, DOG IDENTIFICATION, LICENSING AND RABIES

Animal Control Officer Program
Animal control officers enforce state cruelty and dog licensing laws. AID conducts regular visits with animal control officers to provide updates and discuss ways the agencies can assist each other. In 2009, AID conducted 273 visits with individual animal control officers. AID also assists animal control agencies in animal welfare or cruelty investigations, when veterinary evaluation is needed. In 2009, AID assisted in 9 animal welfare investigations.

To be employed as an animal control officer in Michigan, an individual must be a certified police officer and have a minimum of 100 hours of training approved by AID. Officers can also be "grand fathered in" if they have served as animal control officer for 3 years prior to 1973. To become familiar with state laws and regulations, animal control officers are required to have 16 hours of animal control officer ride-alongs with AID staff. In 2009, MDA approved the training of nine officers and five underwent animal control officer ride-alongs.

Companion Animal Reportable Diseases Programs

Diseases of companion animals that could result in adverse effects to humans, domestic animals, agriculture or the economy are reportable to the MDA AID. Depending on the specific circumstances, investigations and trace backs from the index case may be done. There are several diseases that can affect companion animals that are reportable to MDA, and some of these diseases are also considered zoonotic, as they can be transmitted to humans.

Psittacosis: Psittacosis is a bacterial disease that primarily affects pet birds, but can also infect humans. Infection typically occurs from inhalation of infected droppings, feather dust, or respiratory discharge. There is no vaccine for birds so prevention is the key to disease control. Methods of prevention include testing, 6-week isolation period for newly acquired birds, good husbandry, proper sanitation, and maintaining accurate records. People are advised to wear gloves, protective clothing, caps, goggles, and a mask when cleaning or handling ill birds. In 2009, Psittacosis was identified in three captive birds in the same Ingham County facility. The birds were treated and were test negative for Psittacosis after treatment. Investigation revealed no additional cases in birds and no human cases.

Leptospirosis: Leptospirosis is a bacterial disease that affects many mammals. Infection typically occurs from contact with infected urine. There is a vaccine available for dogs and for cattle. In 2009, MDA reported that

there were two cases of Leptospirosis in dogs. One case in Wayne County was identified post mortem and the strain of Leptospirosis is unknown. The second in Livingston County was caused by L grippotyphossa.

Brucellosis: Canine brucellosis is a contagious bacterial disease of dogs, usually sexually transmitted, that causes abortions, death of puppies, and chronic health problems in adult dogs. Canine brucellosis is a reportable disease and an emerging concern in Michigan's dog breeding facilities and "puppy mills". There is no vaccine and no long-term cure. Antibiotics will control the infection and spaying dogs will minimize the risk of transmission. In 2009, MDA investigated 14 suspect cases of canine brucellosis. Of these cases, 5 were confirmed to be positive for brucellosis: three in Missaukee, one in Oscoda and one in Wexford. No human cases were reported

Equine Reportable Diseases Programs

Eastern Equine Encephalitis: Eastern Equine Encephalitis (EEE), is a viral disease transmitted by infected mosquitoes. The primary host is birds, but horses and humans can become infected if bitten by an infected mosquito. EEE requires a bite from an infected mosquito and cannot be transmitted directly from one animal to another. Mosquito precautions are recommended and horses should be vaccinated. 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. No human cases of EEE were reported in 2009. No cases of EEE were reported in horses, however, 24 emus in an Oakland County emu farm were diagnosed as infected with EEE.

Equine Infectious Anemia: Equine Infectious Anemia (EIA) is an incurable viral disease of horses transmitted by biting flies. Equidae (e.g., horses, ponies, mules, and donkeys) are the only animals infected by this virus. There is no vaccine and no treatment. Most animals die after becoming infected, however, those that appear to recover become life long carriers of the virus. The Coggin's blood test is used to determine if a horse is infected. Annual Coggin's tests are required for shows and events where horses congregate. Prevention of the spread of the disease is the goal and is accomplished by quarantine or euthanasia of infected equids. In 2009, 35,200 blood samples were submitted for EIA testing and no cases of EIA were reported in Michigan.

West Nile Virus: West Nile Virus (WNV) primarily infects and multiplies in birds and is spread by the bite of an infected mosquito. Infected mosquitoes can infect humans and other animals, including horses. Like EEE, WNV requires a bite from an infected mosquito and cannot be transmitted directly from infected horses to other horses or humans. Vaccination and mosquito precautions should be used to protect horses from WNV. In 2009, the Michigan Department of Community Health reported one human case of WNV infection and MDA reported one case in a Schoolcraft County horse.

Rabies Program

Rabies is a viral disease that can infect all mammals. Rabies infection is most often the result of a bite from an infected animal and is considered universally fatal in people. Vaccination of domestic animals is used to create a barrier between wildlife and humans. In 2009, there were 66 rabies positive animals in the state.

Rabies positive animals	2008	2009
Bats	70	52
Skunk	6	10
Fox	2	3
Cat	1	1
Dog	0	0
Horse	0	0
TOTAL	79	66

Most people are not routinely vaccinated for rabies. Exposure to a rabid animal results in a risk assessment by a physician to determine if the individual should receive the series of rabies vaccinations (rabies post-exposure prophylaxis). In 2009, Michigan had its first human fatality from rabies since 1983.

Dogs imported from other countries may be ordered confined and/or vaccinated against rabies by the Centers for Disease Control (CDC). AID visits the premises when animals are confined to assure that the order is being followed, that the animals are healthy, and that they were imported into the State of Michigan legally. In 2009, 47 confinement orders from CDC were received and were visited by AID.

Dog Identification Program

Since 1919, MDA has offered a dog identification program. The dog is individually and uniquely tattooed, and contact information for the owner as well as a description of the dog is recorded in a database registry maintained by AID. AID has 11,366 dogs registered in the program, including 57 dogs that were registered in 2009. On March 30, 2009, the program was discontinued due to a lack of funding.

Licensing Program

AID licenses and regulates a variety of animal industries including livestock dealers, truckers, sales and auction markets, livestock collection points, livestock buying stations, renderers (carcass dealers), animal feed plants, animal control/ protection shelters, and commercial fish hatcheries and aquaculture facilities.

Since March of 1970, AID has licensed and regulated pet shops to assure humane care of animals and disease control and prevention within the facilities. Likewise, AID has licensed and regulated riding stables since April of 1974. On August 1, 2009, MDA suspended the licensing and regulation of pet shops and riding stables due to a lack of funding.

The table lists the number of licenses issued in 2009, total number of licensees, and those undergoing pre licensing inspection (facilities wishing to obtain license) in 2009.

License	# issued	# licensees	# inspections
Riding stables	0	90	6
Pet shops	15	257	11
Animal Shelters	20	196	25
Aquaculture	4	57	5
Livestock dealers	20	221	0
-Auction markets	0	16	0
-Collection points/ buying stations	0	8	0
-Horse auction markets	2	5	0
-Dealers/brokers/agents	18	192	0
-Disposal/transportation of dead animals	7	40	8
-Rendering plants	0	5	0
-Transfer stations	1	3	0
-Vehicles	2	16	8
-Animal feed plants	0	3	1
-Dead animal dealers	4	13	0
TOTAL	93	1122	64

AID investigates complaints of licensed facilities. There were 118 complaints against licensed facilities in 2009. Animal shelters and pet shops received the most complaints, 53 animal shelter complaints, and 44 pet shop complaints. Other complaints included dead animal dealers (3), livestock dealers (6), and riding stables (3).

There were no complaints against aquaculture facilities.
Licensed facilities also received visits for other reasons, including recheck visits or failure to renew their license. These included animal shelters (86), pet shops (44), aquaculture (5), disposal or transportation of dead animals (2), livestock dealers (3), and riding stables (20).

IV EMERGENCY MANAGEMENT

Training programs: In the event of an animal health emergency, MDA as well as homeland security must be ready to protect human and animal health by preventing the spread of disease. Because of the rapidity and dispersion of animal movement across the US and Canada multiple agencies must be involved in such a coordinated training exercise. One of the ways to prepare for such an emergency is training exercises that realistically mimic the complexities of an animal health emergency and involve coordinated multi state and country efforts. In the event of an animal health emergency, teams can rapidly decrease exposure and risk of spreading disease by quarantining premises, curtailing movement of livestock, and providing vaccination (if available). The Emergency Management Program of AID was involved in a multi state national level exercise with USDA National Veterinary Stockpile (NVS) program. The NVS is a secret store of vaccinations that is available in the event of an animal disease outbreak, whether from bioterrorism or inadvertent introduction of disease. For example, the NVS has vaccine for foot and mouth disease and anthrax. Individuals from the multi states partnership for security for agriculture participated in a successful real time exercise

MDA AID also participated in a joint meeting between the Multi-State Partnership and the Southern Agriculture and Animal Disaster Response Alliance (SAADRA). This was the first meeting between these two organizations and MDA was able to send two individuals to participate in a full-scale exercise in the Stop Movement Exercise between the Kansas and Oklahoma borders. In addition, AID was able to send staff to Oklahoma City in November to obtain further Incident Command System training. All participants from the department successfully completed and passed the rigorous S420 training courses and received certification to be Incident Management Team members for up to a Class 2 Disaster (a disaster that would have up to and possibly exceed 500 responders).

An additional group of 13 Veterinary Corps members were trained in April 2009. AID personnel have also started to complete Incident Command System 300 and 400 courses, better preparing for leadership to handle emergency responses.

A Viral Hemorrhagic Septicemia emergency plan was drafted and is near completion. Once the final draft is completed, this will be presented to the industry for final approval.

In the event of a disease outbreak, it may be necessary to dispose of large numbers of dead animals in a rapid and safe way. The multi-agency Mass Carcass Disposal group (lead agency MDA) is in the process of reviewing and revising the current Mass Carcass Disposal Plan.

With the pandemic Type A H1N1 influenza outbreak that began in April 2009, AID worked with the Fairs division in planning a response if an outbreak were to occur in Michigan hogs. Presentations were made at fair board meetings and staff worked with industry in answering their questions and concerns in developing a response plan if an outbreak were to occur in Michigan.

The Michigan Reportable Avian Diseases list has been updated with the help of industry partners, and has been posted on the MDA website. An Avian Influenza tabletop exercise was held in March 2009. A delegation from the Republic of China was in attendance in the morning session. Using the incident command system, an Avian Influenza depopulation exercise was conducted in October 2009. Foam depopulation was successfully demonstrated.

V AVIAN, CERVID, DRUG RESIDUE, EQUINE, REPORTABLE DISEASES, RUMINANTS, SWINE PROGRAMS

Scrapie Program

Scrapie is a fatal neurological disease of sheep and goats, classified as one of the transmissible spongiform encephalopathies. Scrapie is not transmitted between species and is believed to be caused by a rogue protein called a prion. 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 the 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. The National Scrapie Eradication Program (NSEP) coordinated by the USDA is a joint effort that includes participation by state governments and industry, particularly producers. Sheep and goats are required to have USDA official scrapie identification tags.

The Unit monitors compliance activities regarding movement of sheep and goats with official identification presented at licensed livestock auction markets throughout the state. Division field staff conducted initial inspections of sheep and goats and reported violations to the Unit to take appropriate compliance / enforcement action. In 2009, a total of fifty-three (53) violations were noted and were handled with verbal or written warnings. Violations involved first time offenders who were selling all their sheep or goats.

AID continued to increase the number of producers volunteering to participate in the RFID tag Pilot project. Educational and surveillance efforts at livestock markets, regarding required individual animal identification of all sheep and goats when leaving the farm, are also ongoing. AID worked with the Michigan Sheep Breeders Association to participate in producing an on-line video which covered Scrapie as a disease and also incorporated the State's requirements for official identification for individual animals. Cooperative agreement funds were available to provide financial assistance in genetic tests for breeding rams

Cervid Program

The USDA, National Agricultural Statistics Service, Michigan Field Office and MDA conducted a survey of Michigan‘s privately owned operations raising deer and elk in captivity. The survey was a follow-up to the 1998 survey on farmed deer and elk. Both deer and elk numbers have increased in the past decade. Total value for privately owned deer and elk was estimated at $60.4 million, nearly $31 million greater than the 1998 value. Hunting of privately owned cervids on preserves provides a large economic benefit to Michigan’s economy by bringing in over $10.2 million annually from out of state hunters. Farm raised deer and elk are important contributors to Michigan’s economy, with investments of $215 million in their operations.

On February 1, 2008, the Michigan privately owned deer inventory was 26,000 head, and the number of elk was 2,850. This compared with February 1, 1998 inventory figures of 16,800 deer and 2,000 elk. The total value of the deer herd was $53.8 million, compared to $18.4 million in 1998. The elk herd had a total value of $6.6 million, while the figure in 1998 was $11 million. Inventories, average values, and total values are shown in the table below.

	1998	2008	Difference
Deer inventory	16,000	26,000	+ 10,000
Value of deer	$18,400,000	$53,000,000	+ $34,600,000
Elk inventory	2000	2850	+ 850
Value of elk	$6,600,000	$11,000,000	+ $4,400,000

Chronic Wasting Disease (CWD)

MDA confirmed the state’s first case of chronic wasting disease (CWD) in a three-year old white-tailed deer on August 25, 2008. 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.

The disease investigation did not conclusively determine where or how CWD was transmitted to the deer. In order to prevent the potential spread of the disease, MDA quarantined all privately owned cervid facilities, prohibiting any movement of privately owned deer, elk, or moose. Quarantines were systematically lifted as audits confirmed compliance with rules, regulations, and disease surveillance. A total of 172 facilities were released from quarantine by January 2009. Since the identification of the one CWD positive deer, 8443 samples from farmed deer have been tested for CWD. No additional cases of CWD have been identified.

Per DNR, there were 48 privately owned cervid facility owners who elected to get out of the business and were in the process of de-commissioning. By January 2009, 12 facilities had completed the process and have been de-commissioned.

VI JOHNE'S DISEASE

Johne's disease is a chronic, incurable bacterial disease of cattle and other ruminants caused by Mycobacterium paratuberculosis. Johne's disease results in significant economic loss through decreased production, decreased value of cull cows, and inability to sell breeding stock. The disease is complicated by the fact that cattle are infected at a young age (by exposure to contaminated manure), but do not show clinical signs until years later. The key to preventing Johne's disease from entering a clean herd, or managing the disease once it is established in a herd, is assessing the risk, adopting biosecurity measures that prevent exposure, and wise use of testing strategies. The control of Johne's disease is especially important for individuals selling registered breeding stock. Herds can achieve increasing levels of confidence that their cattle are not infected with the bacteria that causes Johne's disease by annual testing of cattle. Herds with infected animals are considered "management level". Herds without evidence of infection are called "status level herds" (test negative herds), with status level 4 being the highest achievable status. Participation in the Johne's Control program has not been as robust as expected. Furthermore, federal and state funds for the program have dwindled. MDA –USDA will continue to participate in the program, however no co-pay is available for testing or risk assessments.

Herds enrolled in the Johne's Control Program 2008 and 2009

Category	2008	2009	Change
Management	142	107	-35
Status level 1	60	20	-40
Status level 2	12	9	-3
Status level 3	1	1	0
Status level 4	3	3	0
TOTAL	218	140	-78

In 2009, 140 herds were involved in the USDA-Michigan Cooperative Johne's Disease Control Program; this is a decrease of 78 herds from 2008. No new herds were enrolled in 2009. Herds that choose not to continue to participate in the program were exclusively from management and status level 1 & 2, suggesting that herds that have achieved status level 3 and 4 value the program and have made the financial and time commitment to continue with the program.

Michigan herds enrolled in the Johne's Control Program 2009
(numbers in parenthesis indicate number of herds in the program in 2008).

Category	Total # enrolled	Dairy herds	Beef herds
Management	107 (142)	86 (102)	21 (40)
Status level 1	20 (60)	8 (22)	12 (38)
Status level 2	9 (12)	4 (5)	5 (7)
Status level 3	1 (1)	0 (0)	1 (1)
Status level 4	3 (3)	1 (1)	2 (2)
TOTAL	140 (218)	99 (130)	41 (118)

VI COMMUNICATIONS

The MDA Animal Industry Division has unique communication needs that require outreach to a wide variety of individuals and groups for regulatory purposes and risk communications. In 2009, there were several major areas that required concentrated communication efforts for disease investigations and or/planning. Communication efforts not only provide information to individuals in animal agriculture and the general public, but also inform policy makers, legislative representatives and other state departments. AID communication efforts involve multi media, including print, video, web, direct mailing, in person interactions, billboards, flyers, posters, and u-tube.

Bovine TB communication

Bovine TB Legislative Updates were produced quarterly in 2009

Proposed Bovine TB Strategic Plan was circulated to industry and placed on the MDA and Emerging Diseases Website for public comment.

A three-year Bovine TB Wildlife Risk Mitigation education campaign was outlined and began with region-wide public meetings.

Wildlife Risk Mitigation Program (WRMP) communication efforts

In spring of 2009, AID and MSUE produced a pamphlet that was mailed to all beef and dairy farmers in the 13 county MAZ. A FAQ was prepared to use as a handout during meetings. That FAQ was updated in May and again in September.

In February and July, AID veterinarians conducted a series of public meetings with Power Point presentations on the zoning order and changes in the MOU, and WRM. February meetings we held in West Branch, Gaylord, Atlanta and Petosky, while July were in West Branch, Tawas, Alpena, Atlanta, Gaylord, Cheboygan, Harbor Springs, and Traverse City.

In September the State Veterinarian sent out a letter to MAZ (13 counties) beef and dairy farmers that discussed WRM. A second letter, further describing how WRM is tied to the new regulations, was sent in December.

In the autumn of 2009 AID produced a poster and flier to alert beef and dairy farmers, particularly those in the Subzones 2 and 3 and the UP, about the new post-movement testing regulations relating to cattle from non-WRM farms. In December 2009, AID used the flier and poster to discuss the new regulations with tier market managers. Posters and fliers were placed in those markets (Clair, Cass City, St. Louis). MSU extension also placed the poster and fliers in feed mills all around the state. In fall, a U-tube video on WRM was produced in conjunction with the poster and flier and was available for viewing Jan 2010.

The new (2nd edition) Wildlife Risk*A*Syst was printed fro us in December 2009. http://web2.msue.msu.edu/bulletins/Bulletin/PDF/FAS113.pdf

AID also produced the WRMP Priority Map, which was used in the Round 2 rollout in December of 2009. The map was distributed to field staff to pass out to beef and dairy farmers as they explained who needed to get WRM done during 2010.

In November 2009, MSU Extension prepared another flier for feeder producers in Subzone 1 and in the MAZ in conjunction with our Round 2 WRM rollout.

A proposal to move oversight of Michigan's privately owned farmed deer and elk from MDA to the DNR was

direct mailed and placed on the on the web for public comment.

MDA developed and circulated a Q&A regarding indemnity payment for cattle, bison, deer and elk herds affected by bovine TB

H1N1 Influenza communication efforts
Because the mainstream media insisted on calling the H1N1 virus "swine flu" there was concern that erroneous information would be circulated and that this could adversely impact the pork industry in Michigan. An Influenza A (H1N1) Q and A was developed and circulated to provide accurate and up to date information on H1N1. The current strain of Influenza A H1N1 is a human- to-human illness and has minor impact of swine. Major points of this communication effort included:

- People cannot get Influenza A (H1N1) from eating pork or pork products
- Most influenza viruses, including this strain of Influenza A (H1N1), are not spread by food
- Eating properly handled and cooked pork products is safe
- Cooking pork to an internal temperature of 160°F kills all viruses and other foodborne pathogens.
- No food safety issues have been identified, related to the flu
- Preliminary investigations show that none of the people infected with the flu had contact with hogs.
- The virus is spreading by human-to-human transmission.

H1N1 reported infection was reported in fair pigs in Minnesota. The fair pigs may have contracted H1N1 while on display. The pigs did not exhibit symptoms and the virus was discovered during routine sampling of swine for a research project on pigs in public settings. There is no evidence to indicate that this novel strain of influenza A (H1N1) virus originated in swine or that any of the illnesses resulted from contact with pigs.

Because of the report from Minnesota, MDA is encouraged pork producers, hog farmers and 4-H families to maintain strict biosecurity procedures on their farms. Sick people should not work with swine. Swine should continue to be routinely vaccinated against influenza as part of preventative health care on large production facilities.

USDA/ MDA Influenza A (H1N1) Surveillance: USDA has requested all state veterinarians report any cases of Influenza A (H1N1) to their Veterinary Services Regional Office. Influenza A (H1N1) Atypical case presentations in swine, unusual isolates, or suspected concurrent SIV infection in humans and swine, particularly involving public swine exhibitions (e.g., fairs, shows) should be reported immediately. Protecting America's swine is a coordinated effort among: Veterinary Services; States and their diagnostic laboratories; USDA-ARS-NADC; The National Pork Board; The American Association of Swine Veterinarians; The CDC; and other stakeholders.

MDA took the following actions with industry, field staff and veterinarians in regards to H1N1:

- Michigan's State Veterinarian alerted field staff to pay extra attention to hogs at markets
- Requested the Michigan Veterinary Medical Association (MVMA) to asked all private practice veterinarians to be aware of the issue and notify the MDA office of any suspect cases.
- Requested that Michigan State University Diagnostic Center for Population and Animal Health to report all confirmed cases of swine Influenza in livestock to the State Veterinarian.
- Commercial swine facilities always have and continue to conduct swine health surveillance.
- If illness in swine is suspected at a fair or exhibition, the barn at the location will be quarantined. The animals will remain in the quarantined barn until they recover or diagnosis is confirmed.

Emergency preparedness communication efforts
Animal Health Network
Michigan's agriculture and food system is a complex and rapidly communicating with all sectors is a challenge. Rapid and accurate communication is essential in the event of an animal health emergency. A disease, pest or

poisonous agent, which occurs naturally, accidentally, or intentionally could cause catastrophic health effects and/or economic loss locally, regionally and nationally. All of these scenarios will require a rapid response within the agricultural community due to the concentrated nature of the industry.

In reviewing communication options to improve Michigan's ability to respond to animal emergencies, it is clear that a large number of "back yard" livestock and poultry owners are generally not aligned with producer organizations or co-ops and have limited access to information. These herds and flocks account for less than a third of the number of potentially affected animals, but more than 60% of the potentially affected farms. To protect Michigan's agricultural infrastructure, it is critical to inform these farmers in a rapid and accurate fashion. When viewed from that perspective, "backyard" livestock and poultry owners become extremely important as a first line of defense against an animal health outbreak. A pilot project was designed to take advantage of this line of defense. The Extension Disaster Education Network (EDEN) designed the pilot project to address this specific animal emergency response issue.

The success of the pilot project resulted in expanding the concept to all the other counties in the state. The development of this animal health network will provide the Michigan State veterinarian with a valuable tool for reaching backyard and hobby livestock and poultry owners with vital and timely animal health and disease-related information. MSUE, with its established network of community educators in all 83 counties, increases the network's potential for the swift delivery of information during a time of crisis. The participation of local feed stores dramatically improves Extension's capacity to reach all livestock and poultry owners and creates new program opportunities for MSU Extension.

In the event of an emergency, the State Veterinarian activates the Network. MDA will contact all 83 Michigan counties through the local MSU Extension County offices. Contact will be made with alerts by email, fax and phone. All County Extension offices will have designated Network staff. The local MSUE team members, will forward the alert information to their local feed retail stores utilizing email, text, fax messages and phone calls, as necessary. The feed retailers, in turn would be positioned to disseminate the alert information to their customer base over the next few days.

Utilizing local MSU Extension educators in each county is a crucial linkage for this network to be successful on a statewide basis. This statewide communication alert system will greatly increase our ability for early detection and rapid response to any natural, accidental or intentional animal health incident.

Michigan Department of Agriculture's Emergency Preparedness
While conditions can change, the principles of preparedness for emergency situations remain constant. MDA has been actively preparing for the possibility of a serious livestock disease, from tabletop discussion based reviews of policies and procedures to hands-on practices with biosecurity and live animals. We have worked with our private sector partners and colleagues at the federal, state, and local levels to identify and work through potential issues, and we stand ready to be of assistance in this event.

In October 2009 the AID released info on MDA's participation on the Full-scale Rapid Response Multi-agency emergency responders exercise for disease outbreaks in animals

MDA sent emergency responders to the Kansas/Oklahoma border to participate in a real-time exercise that simulated the outbreak of foot-and-mouth disease (FMD). FMD is an extremely contagious foreign animal disease of cloven-hoofed animals such as cattle, sheep, goats, pigs, bison, deer and elk.

Veterinary Corps
The Vet Corps is a group of licensed veterinarians and veterinary technicians willing to
help state and federal agencies provide veterinary-related services to Michigan citizens and animals in the event

of a large-scale animal health emergency or disaster emergency.

The Vet Corps was established in the spring of 2004, and is about 150 members strong. Volunteers may be involved with everything from planning and organizing activities to examining and collecting samples from animals. Any species of animals could be involved (from pets to livestock to wildlife). In the event of natural disasters or other hazards, Vet Corps members may be asked to work closely with their local emergency management programs.

Other AID communication efforts

Contagious Equine Metritis (CEM) information was shared with veterinarians and Michigan's equine industry

A backgrounder document Class B Dealers was produced for the State Veterinarian and available for discussion with legislators.

A backgrounder document on euthanasia was produced for the State Veterinarian and available for discussion with legislators.

In May of 2009, a White Paper was developed on Farm animal Care and Welfare in Michigan, the internal working group developed recommendations for the department if and when funding for a program might be established.

Cervid Industry was updated with a newsletter in July 2009, the Cervid program manager continuously communicated with industry to bring the facility owners into regulatory compliance.

Michigan's electronic identification program for cattle: Animal identification has been an integral part of Michigan's animal disease eradication programs for decades. The success of Michigan's mandatory cattle identification program can be attributed to the partnership established between producers, agricultural businesses, and state and federal government agencies. Michigan's accomplishments have built a foundation on which other states can build in developing their cattle traceability programs and resulted in AID staff giving testimony at congressional hearings in Washington DC. Michigan would highly encourage other states and the federal government to use Michigan's model for cattle traceability to improve animal health. The EID program has created efficiencies on the farm and in the Department and allows staff to focus on public safety.