

Swine Work Group Recommendations.

At the August 12, 2010 joint meeting of the Natural Resources Commission and the Agriculture Commission in Escanaba, Michigan, the Wildlife Division of the Department of Natural Resources and Environment presented Invasive Species Order Amendment 1 of 2010. The Amendment was offered as an informational item for potential action at the September meeting of the Natural Resources Commission. In accordance with Part 413 3 of the Natural Resources and Environmental Protection Act, the Wildlife Division reported that:

- Feral swine are not native to the state of Michigan
- Feral swine are not naturalized in this state
- Feral swine have demonstrated the potential to harm human health and severely harm natural, agricultural, and silvicultural resources
- There are no effective management or control techniques available to eradicate feral swine once they become established.

Accordingly, the Division concluded that on the basis of the best available science, feral swine are an invasive species in Michigan, and therefore recommended that the possession or introduction of wild boar, wild hog, wild swine, feral pig, feral hog, feral swine, old world swine, razorback, Eurasian wild boar, Russian wild boar, including any hybrids or genetic variants of the species should be prohibited, as a matter of law, by an Order signed by the Director of the Department of Natural Resources.

Following this presentation, the Natural Resources Commission directed Wildlife Division to convene a work group to determine whether a regulatory framework could be established as an alternative to Invasive Species Order Amendment 1 of 2010. A work group was convened with representatives from the Wildlife Division, Michigan Department of Agriculture, Michigan Pork Producers Association, Michigan Animal Farmers Association, Farm Bureau, The Nature Conservancy, Michigan Audubon Society, and Michigan United Conservation Clubs.

The mission of the work group was to: *'develop recommendations for the regulation of sporting swine facilities to prevent disease transmission, natural resource degradation, and to protect the health of the commercial swine industry'*. The stated aim was to return recommendations to both the Natural Resource Commission and the Agriculture Commission no later than November 2010.

The work group met on September 10 and September 24, 2010. At the September 10th meeting, a staff member from Representative Bolger's office attended. At the September 24th meeting, a representative from Michigan United Deer Farmers was added as a formal member of the work group.

At the outset, the work group consensually agreed that:

- There should be a moratorium on the establishment of any new breeding or shooting facilities;
- Breeding and shooting swine facilities must be licensed/registered as such with the state;
- Licenses/registrations should include mandatory requirements for disease sample collection and submission;
- Existing facilities can transfer licenses with the approval of the state;
- A license cannot be transferred to a convicted felon or to an individual or corporation that has had a breeding or shooting swine license/registration revoked;
- An existing facility must be in compliance at the time that a license/registration is transferred.

Specific issues considered by the work group were:

1. Containment
2. Other Biosecurity Measures
3. Methods of Inventory
4. Liability for Escaped Animals
5. Indemnity
6. Fees to Support Regulation
7. Penalties for violation

Recommendations from the group on each of these issues are presented below. All recommendations were by consensus unless otherwise noted.

Containment: The discussion centered on fencing standards. The work group agreed that fencing must be part of an agency approved business plan, and that business plans would be submitted as a requirement for state registration of a facility.

Shooting facilities were discussed separately from breeding facilities. Shooting facilities are those where shooting occurs either (a) in the absence of breeding or (b) in the presence of some unknown amount of breeding among free-ranging captive animals. Breeding facilities are those where swine are raised for shooting facilities and where no shooting occurs.

The group agreed that no live swine can leave shooting facilities. If operators of a shooting facility choose to breed and sell swine (in addition to their shooting operation), then they would be required to: (a) physically separate breeder and shooting swine facility locations and (b) register each facility separately. If a shooting facility has a breeding pen inside the shooting facility premise (e.g., to produce animals for use on the premises) or if uncontrolled breeding is occurring among free-ranging animals prior to harvest, then the facility could not qualify as disease free and would necessarily become subject to more stringent animal testing requirements.

Fence Standards: The group agreed that shooting facilities must have, at a minimum, 10 foot high fences with a minimum of 5 feet cleared ground on either side around the perimeter of the facility. The actual fence height would be determined by state inspection on the basis of topography, geology, and snow depth. All fences would be constructed from certified game fence materials, and the bottom 3 feet of all fencing would have a wire mesh size no greater than 2 inches. Fences would be secured to the ground by buried skirting, cement, or staking (again determined on the basis of topography and geology by state inspection). Staking would be allowed only for existing fences, with stakes driven at least 3 feet deep at no more than 5 foot intervals. In some instances (again determined by state inspection), hot (electric livestock) wire could be an acceptable alternative to staking, skirting, or cement, but would not be considered under any circumstance as an acceptable primary fence. Construction of facilities for animal handling and other purposes would be included as part of the business plan submitted for facility registration.

Agreement could not be reached on fencing standards for breeder facilities. All members but the Michigan Animal Farmers Association agreed that fence standards for breeder facilities should be identical to those for shooter facilities. Michigan Animal Farmers Association representatives argued that breeding facility fences only need to be 5 feet high, with a minimum of 5 feet clear fence space around the perimeter of the facility, with double returns on the top of the fence and a top hot wire.

The group agreed that if breeding does not occur within a barn, then fencing must be buried to a minimum depth of 1 foot. The group also agreed that if farrowing (breeding) does occur in a barn, then the standards for securing fences to the ground at shooting facilities would apply. Barn construction and the construction of other facilities for containment and animal handling would be included as part of the business plan submitted for facility registration. Breeding or farrowing barns were defined as permanent enclosed structures on concrete.

Other Biosecurity Measures. *Biological Testing:* The work group agreed that operators and employees of breeding and shooting facilities should be required to attend Department of Agriculture training to improve biological sample collection techniques. These trainings would include instruction on blood sampling methods and slaughter surveillance. The work group members agreed that licensure/registration should mandate disease sample collection, and that disease testing requirements should meet federal and state standards.

More specifically, however, work group testing requirement recommendations differed between breeding and shooting facilities. For breeding facilities, the work group agreed that operators had two options: (a) qualified negative testing, or (b) testing of all swine leaving the facility premises. For shooting facilities without breeding pens, the group recommended slaughter surveillance (i.e., the testing of all animals harvested in the facility) as well as the testing of all animals entering the facility unless the animals are transported directly from disease free (pseudorabies and brucellosis free) breeding facilities. For shooting facilities with breeding pens, the work group agreed that breeding facility test standards should be applied.

Inspections: The work group agreed that reporting requirements should include weekly reports of animals bought/sold, shot, fence inspections, etc. (analogous to weekly cervid inspections). In addition, the work group agreed that there should be physical inspections of facility premises by agency personnel at least twice a year (reflecting the fact that swine pose greater risks than captive cervids to both agricultural enterprises and the environment). The work group agreed that if a facility raises or shoots swine and cervids, then cervid and swine inspections could occur concurrently.

As is currently the case with captive cervid facilities, more than 2 annual inspections of non-compliant facilities may occur. The work group agreed that if a facility is found to be non-compliant, then enforcement action should be taken criminally and/or administratively pursuant to PA 306 of 1969.

Methods of Inventory. The work group agreed that both shooting facilities and breeding facilities should conduct whole herd inventories annually and submit the inventory records to the state. The work group agreed that records should be kept to document all animals entering/leaving a facility, dead or alive. The work group agreed that all swine must be identified with official electronic (RFID) ear tags and a unique tattoo (Appendix A) at or before reaching 50 pounds live weight.

Liability for Escaped Animals. The work group agreed that facility owners are entirely responsible for costs associated with damages caused by escaped animals, unless the owner can prove malicious release or an Act of God. The group agreed that facilities should carry a minimum of \$1 million of liability insurance or be required to provide annual indication of the economic wherewithal to pay for at least \$1 million in damage.

Indemnity for Depopulation. The work group agreed that there should be no requirement that indemnity be paid in the event that a facility is depopulated. In extraordinary situations where the Director of the Department of Agriculture might choose to pay indemnity (pursuant to PA

466, payment or not is the regulatory prerogative of the Department of Agriculture), then that payment would be no more than the cull slaughter value of swine at the time of depopulation.

Fees to Support Regulation. Except for the United Deer Farmers, the work group agreed that a fee structure should be developed to support the full regulatory costs associated with the shooting/breeding swine industry. At present, and over the past decade, the captive cervid industry has paid only 7% of their regulatory cost. The remainder has been covered by the General Fund (House Fiscal Agency Memorandum, October 5, 2010; [http://www.house.mi.gov/hfa/PDFs/animal_industry\(pub_v2\).pdf](http://www.house.mi.gov/hfa/PDFs/animal_industry(pub_v2).pdf); Appendix B), resulting in significant program impacts at the Department of Agriculture and concerns at the Department of Natural Resource and Environment both because of the small amount of General Funds received and because other fund sources are inappropriate/illegal for support of this regulatory activity.

Using existing records as a guide, the Department of Natural Resources and Environment and the Department of Agriculture selected 65 facilities as a practical, albeit likely conservative guess at the current number of swine shooting facilities and swine breeding facilities in Michigan. Based on this conservative number, the combined cost estimated to be incurred for the regulation of shooting and breeding swine facilities by the two agencies is \$693,400. This includes \$265,000 for the Department of Natural Resources and Environment Wildlife Division, \$57,400 for the Department of Natural Resources and Environment Law Division, and \$371,000 for the Department of Agriculture. The breakdown of costs is provided in Appendix C.

Fee Proposal: There was general agreement that fees associated with the raising, selling, and buying of swine by these facilities need to be clearly defined in law so that there are no impacts on traditional agricultural practices. Excepting objection from the United Cervid Farmers representative, the work group agreed that new license categories should be established to offset or cover the costs of regulation (in the event of offset, shortfalls to be covered by appropriations from the General Fund). These would include facilities licenses similar to those issued to captive cervid facilities as well as the establishment of shooting licenses to be purchased by clients of swine shooting facilities. The work group recommends that shooting licenses include both 4-day and season licenses.

In the absence of licensure, the work group recommends General Fund support for the full regulatory cost of \$693,400. This recommendation is, of course, contrary to the stated objective of the work group.

Penalties for violation. The work group agreed that the following penalties should apply¹

Misdemeanor penalties

Fencing non-compliance - \$1,000

Escaped animals - \$1,000/animal²

Records violations - \$1,000

Unreported escaped animal - \$1,000/animal

Shooter (shooting facility customer) without shooting license - \$1,000

Felony penalties

Intentional release - \$10,000

Unregistered facility - \$10,000

Intentional capture of feral swine and release into a facility - \$10,000

¹ After 2 offenses, license revocation at the discretion of either Department.

² Escaped animal refers to any swine without direct supervision for 48 hours or longer after the initial escape report is filed.

Intentional sale to unlicensed dealer - \$10,000³
Sale of swine by unlicensed seller - \$10,000
Releasing 'slaughter only' swine into hunting facility - \$10,000⁴
Releasing 'slaughter only' swine into the wild - \$10,000

³ Any dealer (buyer or seller) must be appropriately licensed.

⁴ Any released animal must be destroyed/disposed of immediately, regardless of whether the release was intentional or unintentional.

Appendix A. Russian boar tattoo pilot project results report.

Appendix B. Hamilton W. E., The Treatment of Game Animals as Livestock in Michigan: Fiscal and Regulatory Issues, October 5, 2010, 10pp.

Appendix C. Regulatory cost estimates provided by the Wildlife Division and Law Enforcement Division of the Department of Natural Resources and Environment and the Department of Agriculture.

SPECIAL REPORT

(In accordance with P.A. 380, Public Acts 1965 as amended)

Estab. No.	Date 10/7/2010	Time <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
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Person or Firm Name Gordy's Russian Boars, LLC	Phone 616-696-1844	Inspector Peggy A. Roth, Field Veterinarian, MDA-AID
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Street Address 17575 McPhail Avenue	City Cedar Springs	Zip Code 49319	County Kent
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Subject
RUSSIAN BOAR EAR TATTOO PILOT PROJECT

Information: Applying ear tattoos as an identification method for Russian boars was discussed within the Michigan Departments of Agriculture and Natural Resources and Environment combined work groups as part of a regulatory framework for swine at shooting facilities. Concern about the amount of hair in the ears of the boars and needing to shave it before applying a tattoo prompted a tattoo trial to be conducted at Gordy's Russian Boars. The intent was to tattoo various size pigs up to approximately 50 pounds with the premises identification number. This project was assigned to Peggy Roth, DVM.

Venue: 17575 McPhail Road, Cedar Springs, Solon Township, Kent County

Date & Time: October 4, 2010 at approximately 1530 hours

Project Details: The assigned Michigan premises identification (prem id), MIF3368, was chosen for the tattoo. Due to the seven alpha-numeric characters, different types of tattoo pliers were obtained to place the entire prem id in one ear, and to place the three letters in one ear and the four numbers in the other ear. Green and white tattoo ink paste was obtained to use for a more visible illuminated tattoo in dark colored ears than black ink provides.

Tom Guthrie, Michigan State University Swine Extension Educator, and I, Peggy Roth, met with owners Jason Felde, and Bill Hammer, Jr., and discussed using the two application options on various size pigs. We assessed the 1 – 3 week old pigs, the 8 week old pigs and the 12 week old pigs available in the barn for ear size in which the tattoo pliers would fit. J. Felde was also interested in including an adult sow in the project. The tattoos were applied by cleaning the ear skin with alcohol, applying ink, clamping the tattoo pliers on the ear, and rubbing additional ink into the tattoo pin perforations with a toothbrush. These boars were tattooed:

- 8 week old, approximately 20 pound pig, with the 7 character prem id in the left ear using green ink and ¼" characters in small animal pliers, no other identification on this pig
- 12 week old, approximately 40 pound pig, with the three letters in the right ear in green ink, the four numbers in the left ear in white ink, all in 3/8" size characters in large animal pliers, identification tag 34MIC4030 in the right ear
- 12 week old, approximately 40 pound pig, with the seven character prem id in the left ear in green ink using the ¼" characters in the small animal pliers, identification tag 34MIC4031 in the right ear
- 4 year old sow, approximately 300 pounds, with the seven character prem id in the right ear in green ink using the ¼" characters in the small animal pliers, identification tag 34MIC4038 in the left ear
- J. Felde and B. Hammer were informed of the usual healing process following tattoo application

Project Initial Assessment:

- Shaving hair inside the ears was not needed on any of the boars. The space inside the ear between the ear ribs where a tattoo is placed does not have hair
- The small size ears on the 1 – 3 week old pigs precluded using the available tattoo equipment. A smaller size of tattoo characters for tattoo pliers holding fewer than the seven characters of a prem id is available commercially
- The 8 week old pigs' ears are too small to apply the ¼" seven digit tattoo in the ideal location as the tattoo extended to the very outer edge of the ear
- The 8 week old pigs' ears are too small to apply the 3/8" characters between the ear ribs and stay out of the cartilage as is necessary
- It was observed that when an ear tag has been inserted in the ear(s), the area available to tattoo is decreased significantly in the 40 pound pigs, and application of an ear tag at a time after a tattoo has been done is likely to be in the same location which would obliterate and obscure parts of a tattoo

Status: The tattoos will be evaluated in approximately three weeks by T. Guthrie and P. Roth

Copy Received By (signature) Email to MDA, AID 10/7/2010	Division AID	Inspector (signature) P.A.Roth, D.V.M.	Phone 989-292-0394
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DATE: Tuesday, October 5, 2010
TO: Interested Parties
FROM: William E. Hamilton, Senior Fiscal Analyst
RE: The Treatment of Game Animals as Livestock in Michigan: Fiscal and Regulatory Issues

State Regulatory Authority over the Livestock Industry

According to data reported by the United States Department of Agriculture (USDA) Economic Research Service, the gross value of Michigan agricultural sector outputs in 2008 was \$7.654 billion. Of that amount, \$2.548 billion, approximately one-third, represented sales of livestock and animal products.¹

One of the biggest threats to livestock and commercial animal production is disease.² Livestock are susceptible to a number of diseases which can reduce productivity or result in animal death. Some diseases of livestock, *zoonotic* diseases such as rabies and influenza, can be transmitted to humans.

Michigan state government has supported agriculture almost from the inception of Michigan as a state.³ One of the most important elements in that state support has been the control and eradication livestock disease. Public Act 182 of 1885 established a State Livestock Sanitary Commission and provided for the appointment of a state veterinary surgeon. The act stated that *"it shall be the duty of the commission to protect the health of the domestic animals of the state from all contagious or infectious diseases of a malignant character, and for this purpose it is hereby authorized and empowered to establish, maintain and enforce such quarantine, sanitary and other regulations as it may deem necessary."*

Public Act 181 of 1919 abolished the State Live Stock Sanitary Commission, established a state Department of Animal Industry, and provided for the appointment of a Commissioner of Animal Industry and a State Veterinarian. The 1919 act was similar to the 1885 act in that it provided for the Commissioner of Animal Industry to have *"general charge and oversight of the protection of the health of the domestic animals of the state and the guarding of the same from all contagious or infectious diseases."* The 1919 act also provided for the use of *"quarantine, sanitary and other regulations as may be deemed necessary."*

The 1919 act was subsequently repealed and replaced with the Animal Industry Act, Public Act 466 of 1988. The stated intent of the Animal Industry Act is to *"protect the health, safety, and welfare of humans and animals."* The act provides for the appointment of a State Veterinarian within the Department of Agriculture,

¹ This data was obtained from a document on the USDA Economic Research Service website, *State Fact Sheets: Michigan* updated July 30, 2010. In addition to the \$2.548 billion related to animal industry, the \$7.654 billion figure included crop output of \$4.074 billion, as well as agriculture services and forestry product sales of \$1.032 billion. With minor exceptions, the data in the State Fact Sheet document is the same as that presented in the *Farm Economics* section of *Michigan Agricultural Statistics 2008-2009*, a collaborative effort of the USDA's National Agricultural Statistics Service (NASS), the Michigan Department of Agriculture, and Michigan State University.

² Diseases of livestock can have a catastrophic impact on the agricultural economy. One example of a high-impact disease is foot and mouth disease (FMD). According to an analysis by the Congressional Research Service (CRS), there have been nine outbreaks of FMD in the United States since 1870, "each time the disease was eradicated with strict slaughter and quarantine control procedures." The report also indicates that the most serious of those outbreaks, in 1914, originated in Michigan. The disease then spread to 22 states after it gained entry to the Chicago stockyards. Although the last outbreak of FMD in the United State was in California in 1929, FMD has appeared more recently in other counties, notably in Great Britain in 2001 and 2007, and currently in Japan. Source: CRS Report for Congress "Foot and Mouth Disease: A Threat to U. S. Agriculture." April, 16, 2001, and "Disease Threatens Japan's Beef Trade," New York Times, July 11, 2010.

³ As one example, the Michigan Constitution of 1850 provided for the establishment of a state college of agriculture. A state agricultural school, which subsequently became Michigan State University, was established in 1855.

and authorizes the department to *"protect the human food chain and livestock and aquaculture industries of the state through prevention, control, and eradication of infectious, contagious, or toxicological diseases of livestock and other animals."* The Michigan Department of Agriculture's (MDA) current regulatory authority over the livestock industry is derived from the Animal Industry Act.

Treatment of Deer and Elk as Livestock

The term *livestock* is broadly used to describe domesticated animals raised in an agricultural setting to produce food or fiber, or to provide labor.⁴ The commonly used definition of livestock was mirrored in Michigan law. Public Act 181 of 1919 charged the Commissioner of Animal Industry with the protection of the health of *domestic* animals. To the extent that deer and elk are considered wild or game animals, and not domesticated animals, they have not, until recently, been considered "livestock." The first treatment of deer or elk as "livestock" in Michigan law appears to have been in the mid-1990s.⁵

As originally enacted in 1988, the Animal Industry Act did not include *cervids* or *cervidae* – terms referring to various species of animals in the deer family, such as deer, elk, moose, caribou, and reindeer – as "livestock." The inclusion of "captive cervidae" within the definition of "livestock" in the Animal Industry Act was first made in 1994, through amending legislation, Public Act 41 of 1994. A subsequent amendatory act, Public Act 323 of 2000, replaced the term "captive cervidae" with the term "privately owned cervids."

Similarly, "cervidae" were not explicitly included in the definition of "farm product" under the original Right to Farm legislation, Public Act 93 of 1981, but were subsequently added by 1995 amendment, Public Act 94 of 1995. In 1995, the Michigan Commission of Agriculture adopted Generally Accepted Agricultural Management Practices (GAAMPs) for the care of farm animals that included a section on captive cervidae.

Captive deer and elk were first treated as a Michigan agricultural product in NASS agricultural reporting in the 1997-1998 *Michigan Agricultural Statistics* following a 1998 industry survey. In national agricultural statistical reporting, data on commercial cervid operations appeared as a separate reporting category for the first time in the 2002 NASS Census of Agriculture.

In 2000, the Legislature passed a regulatory act specific to the commercial cervid industry, the Privately Owned Cervidae Producers Marketing Act, Public Act 190 of 2000, described in detail below.

Privately Owned Cervidae Producers Marketing Act

Prior to June 1, 2001, the Michigan Department of Natural Resources (DNR) regulated all activities involving cervids under the authority of the Michigan Natural Resources and Environmental Protection Act

⁴ This definition was taken from the Wikipedia entry for "Livestock" as modified July 25, 2010. Webster's Third New International Unabridged Dictionary defines livestock as *"animals of any kind kept or raised for use or pleasure, especially meat, dairy cattle, and draft animals."*

⁵ A similar change occurred in federal law. In 1995, the USDA first recognized cervids as "livestock." An amendment to 9 CFR Part 50, published in the July 24, 1995, Federal Register (60 FR 37809) included captive cervids within the definition of "livestock," and provided for indemnification payments for captive cervids destroyed because of Bovine Tuberculosis. The Federal Register included the following background information: *"Currently, the regulations do not provide for the payment of indemnity for cervids destroyed because of tuberculosis. In the past, the number of captive cervids in this country was not seen as large enough to pose a significant health risk to other cervid herds or to cattle and bison. However, the number of captive cervids has steadily increased during the past decade, so that today there almost 2,000 deer and elk owners in the United States, raising about 135,000 animals."*

The Federal Register background statement noted that a National Cooperative State-Federal Bovine Tuberculosis Eradication Program for cattle and bison had been in place since 1917, and that in 1993 the United States Animal Health Association resolved to include captive cervids in this eradication program. According the Federal Register statement, *"captive cervids affected with tuberculosis pose a significant health risk to other herds of cervids, and to cattle and bison."*

(MNREPA), Public Act 451 of 1994.⁶ The DNR regulated the hunting of wild deer and elk through the issuance of hunting licenses. The DNR also regulated the raising of privately-owned cervids, for sport, hobby, or for commercial purposes.

In 2000, House Bill 4427 was enacted as the Privately Owned Cervidae Producers Marketing Act (Cervidae Act). This act defined and regulated privately owned cervids as an agricultural enterprise in Michigan. A companion bill, House Bill 4428, amended MNREPA to exempt privately owned cervids from regulation as game animals by the DNR. This bill was enacted as Public Act 191 of 2000. The effective date of both acts was June 1, 2001.

The Cervidae Act established standards governing privately owned cervid livestock facilities. The act required the registration of cervid livestock facilities and established a regulatory/inspection process. The act gave primary authority for administration of the act to the MDA.

In April 2004, Governor Granholm issued Executive Order 2004-3. The Executive Order transferred primary regulatory responsibility and authority under the Cervidae Act from the MDA to the DNR. The effective date of this Executive Order was June 14, 2004. The transfer was based on the findings of the Governor's Chronic Wasting Disease Task Force which found that the DNR could most effectively perform the regulatory functions established under the Cervidae Act. The task force also recommended that the DNR conduct a complete audit of privately-owned cervidae livestock facilities. The DNR audit was issued on March 10, 2005.

Although regulatory functions under the act were transferred to the DNR, animal health and testing functions remained with the MDA. In addition, MDA continued to determine import and movement requirements, and retained authority to issue quarantines to contain disease outbreaks.

In 2006, the Cervidae Act was amended by House Bill 6245, enacted as Public Act 561 of 2006. The bill reflected the Executive Order 2004-3 transfer of primary authority for administration of the act to the DNR; the bill directed that the MDA and the Department of Environmental Quality provide consultation to the DNR. The bill also changed the regulatory fee structure and increased certain fees. The effective date of the amendatory act was December 29, 2006. Cervid regulatory fees and costs of the regulatory program are discussed further below.

Cervid Industry Regulatory Program Costs, Fees, and Funding Issues

At the time the state cervid industry regulatory program was first established in 2001, there was no specific appropriation for the program in the MDA budget. The department's cervid industry regulatory activities were funded out of the existing and broadly-scoped Animal Health and Welfare line item in the Agriculture budget. Funding was initially provided in part from restricted revenue from licensing fees established in the Cervidae Act, and in part from state General Fund appropriations.⁷ Starting in 2004, when both primary authority for the regulatory program and related licensing fee revenue were transferred to the DNR, all MDA cervid industry program activities have been supported with state General Fund revenue.

From the inception of the state regulation of privately owned cervid facilities in 2001, regulatory fees have not provided the full cost of regulatory program requirements. Fee revenue has not been enough to support

⁶ Effective January 17, 2010, Executive Order 2009-45 merged the Department of Natural Resources and the Department of Environmental Quality into a new Department of Natural Resources and Environment. Our paper primarily deals with activities prior to the merger and uses the abbreviation "DNR" throughout.

⁷ The Cervidae Act did not specifically restrict the use of cervid facility licensing revenue; however, in practice, the revenue has been treated as state restricted revenue and used to partially support cervid regulatory programs.

the regulatory activities of either the Departments of Agriculture or Natural Resources separately, and obviously not enough to support total program costs.

As shown in **Table 1**, fee revenue for the four fiscal years ending September 30, 2006, averaged only \$34,248 while on-going regulatory costs, including monitoring for Chronic Wasting Disease (CWD), averaged \$600,473. After the increase in regulatory fees in 2006, average fee revenue for the three-year period ending September 30, 2009 increased to \$106,640; however, average regulatory costs, included CWD monitoring, increased to \$1.36 million.⁸ State agency costs not covered by regulatory fees were provided by state General Fund appropriations.

The increase in costs in 2008 and 2009, as compared to prior years, was due largely to activities related to the discovery, in August 2008, of CWD in a deer held on a privately-owned cervid facility in Kent County. That incident resulted in the depopulation of that facility's fifty-deer herd, a September 2008 statewide quarantine on the movement of deer and deer byproducts, and statewide testing. The incident also caused the DNR to issue a ban on the feeding and baiting of deer in the Lower Peninsula.

Costs associated with the CWD incident included closer monitoring of cervid facility operations by the DNR, such as review of fencing, and recordkeeping, and increased MDA disease surveillance and response activities. The MDA anticipates that this higher level of program expenditures will continue for some time into the future.

Note on Indemnification: The cost figures discussed above represent only the ongoing costs of the state's cervid industry regulatory program. Over the seven-year fiscal year period ending September 30, 2009, an additional \$464,171 in state funds were spent to indemnify owners of deer destroyed due to Bovine Tuberculosis (TB) infection. Payment of these indemnification costs was made from state General Fund revenue appropriated in state Agriculture budgets. In addition to state payments to owners of destroyed captive cervids, over the same seven-year period, the USDA made two indemnification payments to cervid owners. The USDA indicates that in 2008, it made a \$2,250 payment for cervids destroyed as a result of Bovine TB infection. Also in 2008, the USDA paid \$103,897 to the owners of the Kent County facility depopulated due to CWD.⁹ The federal payments are not shown in Table 1 and were not included in state appropriations.

⁸ If DNR CWD-related costs are excluded from the calculation, total DNR/MDA regulatory costs alone averaged \$380,779 for the four-year period ending September 30, 2006, and \$723,938 for three-year period ending September 30, 2009.

⁹ Although only one animal tested positive for CWD, the entire herd was destroyed because of exposure to the infected animal.

Table 1
State Agency Costs of Cervid Regulatory Program
FY 2002-03 through FY 2008-09

	2002-03	2003-04	2004-05	2005-06	Four-Year Average	2006-07	2007-08	2008-09	Three-Year Average	Seven-Year Totals
Department of Natural Resources										
Privately-owned cervid regulatory	\$0	\$562,736	\$115,223	\$158,748	\$209,177	\$178,287	\$256,490	\$169,164	\$201,314	\$1,440,648
CWD-related ¹	167,950	232,790	250,416	227,620	219,694	161,119	584,267	1,161,816	635,734	2,785,978
Total DNR	\$167,950	\$795,526	\$365,639	\$386,368	\$428,871	\$339,406	\$840,757	\$1,330,980	\$837,048	\$4,226,626
Michigan Department of Agriculture										
Salaries, Wages, and Benefits	\$78,347	\$68,245	\$38,770	\$164,542	\$87,476	\$166,736	\$244,289	\$443,862	\$284,962	\$1,204,791
Reimbursement of DNR Costs ²							\$215,000		71,667	215,000
USDA Wildlife Services ³						67,497			22,499	67,497
Supplies and Materials	38,311	20,277	8,800	21,133	22,130	5,181	8,950	26,861	13,664	129,513
Travel	42,950	5,367	20,162	27,004	23,871	21,629	24,104	23,801	23,178	165,017
MSU Laboratory Fees ⁴	14,539	22,243	21,877	93,842	38,125	69,662	66,485	183,815	106,654	472,463
Total MDA	\$174,147	\$116,132	\$89,609	\$306,521	\$171,602	\$330,705	\$558,828	\$678,339	\$522,624	\$2,254,281
Total on-going DNR/MDA regulatory costs	\$342,097	\$911,658	\$455,248	\$692,889	\$600,473	\$670,111	\$1,399,585	\$2,009,319	\$1,359,672	\$6,480,907
Indemnification Payments ⁵	\$12,200	\$6,700	\$3,800			\$432,803	\$8,668			\$464,171
Cervidae Act Regulatory Fee Revenue ⁶	\$50,795	\$8,648	\$39,148	\$38,400	\$34,248	\$85,329	\$120,620	\$113,971	\$106,640	\$456,911

Table Footnotes:

1. FY 2007-08 DNR CWD costs of \$584,267 are net of \$215,000 reimbursement from MDA, shown as an MDA cost below.
2. In FY 2007-08 the MDA reimbursed the DNR for staff efforts related to CWD investigation, monitoring, and quarantine.
3. USDA costs related to depopulation of infected or exposed cervids.
4. These represent the costs of TB tests, CWD tests, and sample extraction and disposal. Tests are conducted at the Diagnostic Laboratory on the MSU campus.
5. Indemnification payments are made from state General Fund revenue appropriated in state Agriculture Budgets.
6. From FY 2000-01 through FY 2002-03 regulatory fees were collected and retained by the MDA; starting in FY 2003-04 regulatory fees were collected and retained by the DNR.

Although not shown in this analysis, MDA collected fee revenue of \$38,240 in FY 2000-01, and \$48,365 in FY 2001-02. The six year average of fee revenue, from the start of the regulatory program in FY 2000-01 to FY 2005-06 is \$37,266.

Economic and Fiscal Impact of Cervid Industry

There have been two NASS surveys of the cervid industry in Michigan, the first in 1998 and the second in 2008. A summary of the results of that survey is shown in **Table 2**, below.

Table 2				
Survey of Cervid Industry				
	1998 Survey		2008 Survey	
	Number	Dollar Value	Number	Dollar Value
Deer	16,800	\$18,385,000	26,000	\$53,840,000
Elk	2,000	<u>11,033,000</u>	2,850	<u>6,565,000</u>
Total		\$29,418,000		\$60,405,000
<i>Source: National Agriculture Statistics Service reports.</i>				

The 2008 NASS study stated: *"Hunting preserves provide a large economic benefit to the Michigan economy by bringing in over \$10.2 million annually from out of state hunters. The deer and elk industries are important contributors to the Michigan economy, with investments of \$215 million in their operations."*

While the commercial cervid industry contributes to the Michigan economy, it is hard to establish what the industry contributes in state tax revenue. Aside from the regulatory fees noted above, the cervid industry is exempt from most other state business taxes. Charges for hunting, guides, meat processing, and taxidermy are exempt from state sales and use tax, as is the sale of breeding stock or semen. In addition, as "Qualified Agricultural Property," cervid farms and ranches are eligible for exemption from local school operating millages, which may be up to 18-mills under Section 1211 of the School Aid Code,¹⁰ and are eligible for property tax shelter programs under Part 361 (Farmland and Open Space Preservation) of MNREPA.¹¹ As an agricultural enterprise, cervid ranches would also appear to be eligible for Farm registration vehicle plates, which are taxed at lower rates than non-farm vehicles.

Classification of Cervid Facilities, Regulatory Requirements, Comparison with other Livestock Production

As noted above, the commercial cervid industry was first recognized in Michigan law as an agricultural enterprise, and considered part of the farming and agriculture industry of the state, in the mid 1990s – through 1994 amendment of the Animal Industry Act, 1995 amendment of the Right to Farm Act, and through enactment of the Cervidae Act in 2000. However, those acts do not clearly describe the nature of the cervid industry, the related regulatory environment, or the differences between the cervid industry and the traditional livestock farming. One could not read the acts, without reference to external sources or guides, and come away with a fair understanding of what cervid facilities are, how they are regulated, or how they differ from other agricultural enterprises.

Public Act 323 of 2000, which amended the Animal Industry Act, replaced the term *"Captive cervidae,"* with the term *"Privately owned cervid."* Public Act 323 also added new definitions: *"Privately owned cervid farm,"* which refers to a facility *"that does not have any privately owned cervids removed by the hunting method,"* and *"Privately owned cervid ranch,"* and *"Privately owned white-tailed deer or elk ranch,"* which do have cervids, deer, and elk *"removed by the hunting method."* These terms are used in Section 30d of the act regarding testing requirements, however, this section also includes the term *"privately owned white-tailed*

¹⁰ The property tax exemption of qualified real and personal agricultural property is found in Section 9(1)(j) of the General Property Tax Act. The specific exemption of cervid facilities is addressed in the State Tax Commission's *Qualified Agricultural Property Exemption Guidelines*, issued June 2010.

¹¹ The Farmland and Open Space Program is commonly referred to as the PA 116 program.

deer or elk farm" which is not defined in the act. The classification of cervid facilities in the Animal Industry Act is different than the facility classes established in the Cervidae Act.

The Cervidae Act provides for a licensing fee structure for four separate classes of cervid facilities – see **Table 3**. However, neither the nature of these classes, nor the different regulatory requirements for each class, are defined in the act itself. Instead the act incorporates by reference an external document "*Operational Standards for Registered Privately Owned Cervid Facilities*" as revised December 2005, and adopted by the Michigan Commission of Agriculture on January 9, 2006, and the Natural Resources Commission on January 12, 2006.

The nature of the different facility classes, as described by MDA and DNR officials, is as follows:

Hobby Class and **Exhibition Class** facilities typically exhibit reindeer or other cervids as a tourist attraction, or as a part of Christmas-themed programs and events, e.g. Christmas tree farms. No live animals are allowed to leave a **Hobby** class facility; live animals are allowed to leave an **Exhibition** facility for no more than 60 consecutive days, and can have no direct contact with other livestock. Both facilities require prior MDA approval for the addition of cervids to the herd, other than by natural reproduction.

Ranch Class facilities are effectively hunting ranches. No live animals are allowed to leave the facility.

Full Registration Class facilities are breeding facilities. They are the only registration class allowed to sell live animals. In effect, these licensees sell live cervids or semen to other facilities, primarily to develop animals for hunting at ranch facilities.¹²

The major differences between the registration classes are in the ability to sell live cervids, and in identification and recordkeeping requirements. As noted above, **Full Registration Class** facilities are the only facilities authorized to sell live cervids.

With regard to identification and recordkeeping, **Hobby**, **Exhibition**, and **Full Registration Class** facilities are required to comply with all recordkeeping requirements of the Cervidae Act and the Operational Standards. **Ranch Class** facilities are required to comply with all identification and recordkeeping requirements for animals added to the herd from other facilities, but not for animals added to the herd by natural reproduction. Identification of all animals on cervid ranches is impractical. In many cases, ranches are too large to allow for the effective capture of animals for tagging – one of the largest ranches in Michigan is approximately 6,000 acres.

Both MDA and DNR personnel indicate that the economic value of the cervid ranches and breeding facilities is almost exclusively in deer and elk hunting. Ranches charge from \$1,500 to \$20,000 for successful hunts of trophy deer and elk.¹³ Unlike traditional livestock industries, animals are generally not raised for the sale of meat for public consumption. MDA officials indicated that of the 361 ranch and breeding facilities, fewer than 10 offer meat for sale to the public.¹⁴ Unlike traditional livestock operations, cervid facilities are not apparently subject to the Humane Slaughter of Animals Act (Public Act 163 of 1962) or related administrative rules.

¹² An August 2007 study by the Agricultural and Food Policy Center of Texas A&M University, *Economic Impact of the United State Cervid Farming Industry* indicated that "Breeding operations represent the largest segment of the cervid farming industry," and that the trophy hunting segment of the industry "represents the primary end market for the breeding stock industry."

¹³ Based on internet search of Michigan cervid facility websites, August 2010. Charges for hunts are generally based on the number of antler points of the deer or elk taken.

¹⁴ An August 2010 internet search in preparation of this memo found only one Michigan cervid facility offering venison steaks for sale to the public.

Table 3		
Active Cervid Facility Registrations/Registration Fee by Class		
Class	Total Facilities	Three-Year Registration Fee
Class I (Hobby)	52	\$450
Class II (Exhibition)	36	\$450
Class III (Ranch)	138	\$750
Class IV (Full)	<u>223</u>	\$750
Total Facilities/Fees	449	
<p><i>Notes: The Hobby Class was established in the Cervidae Act as first enacted in 2000; however, the 2006 amendment to the act eliminated this class for new applicants and allowed only renewal applications for the Hobby Class licensees in existence on the effective date of the amendment, December 29, 2006.</i></p> <p><i>The registration fees are for a three-year license period. The Class I and Class II fees are effectively \$150 per year; the Class III and Class IV fees are effectively \$250 per year.</i></p> <p><i>Sources: DNR, August 2010; Cervidae Act</i></p>		

Relationship of Cervid Industry to Feral Swine

MDA and DNR personnel believe that there is a relationship between the private deer hunting ranches in Michigan and the introduction of feral Razorback swine or European wild boars into Michigan. While there are some hunting facilities that offer only swine hunting, a number of cervid ranches also advertise swine or boar hunting as an added hunting experience. One might say that the set of cervid ranches intersects with the set of swine hunting facilities.

There is currently no regulation of commercial swine hunting in Michigan.

At the time of this publication, the Natural Resources Commission was considering a staff recommendation that feral swine be classified as an invasive species – a determination that would effectively prohibit their possession in Michigan.

Summary

Beginning in the mid-1990s, Michigan law began to recognize the privately owned cervid industry as an agricultural enterprise, and conveyed on the industry benefits enjoyed by traditional agricultural enterprises – protection from nuisance lawsuits and exemption from some local zoning restrictions under the Right to Farm Act, indemnification for diseased animals killed under the authority of the Animal Industry Act, and shelter from certain property taxes under the General Property Tax Act and the MNREPA.

The cervid industry differs from traditional agricultural activities in that its economic benefit is not primarily food or fiber, but rather in the hunting experience – in particular trophy deer and elk. While the commercial cervid industry undoubtedly contributes to the Michigan economy, there are also economic externalities associated with the industry – primarily the risk of disease occurring in privately held cervid herds and subsequent transmission to the free ranging deer population or to domestic cattle. Those risks have driven the state regulatory program.¹⁵

¹⁵ The 2005 *Risk-based Audit of the Captive/Privately owned Cervid Industry in Michigan* included a discussion of some risks associated with the privately owned cervid industry. An extended quotation from that Audit is included as Appendix I of this analysis.

As noted in the above analysis, regulatory fees established under the Cervidae Act have not covered the costs of the state regulatory program; they represent approximately 7% of on-going program costs for the seven-year period ending September 30, 2009, exclusive of indemnification payments. In fact, over that seven-year period, fee revenue was less than the amount of indemnification payments to cervid owners for destruction of diseased deer.

Because regulatory fees established in the Cervidae Act do not provide sufficient revenue to maintain the regulatory and inspection programs mandated by the act, the shortfall has been made up with state General Fund revenue. With regard to the MDA, the use of General Fund revenue for the cervid regulatory program has effectively reduced General Fund support for other MDA Animal Health and Welfare activities. Those programs eliminated or significantly reduced include MDA regulatory activities related to pet shops, dog pounds, animal shelters, aquaculture, livestock dealers, and riding stables.

Given reductions in available state General Fund revenue, the Legislature may reduce funding for privately-owned cervidae regulatory and inspection programs. However, at reduced funding levels, it is unlikely that the MDA and the DNR could effectively perform the regulatory activities currently mandated by the Cervidae Act.

Sources

The following is a list of additional information on state recognition of the captive cervid industry as an agricultural enterprise, and related issues:

Analysis on the Michigan Legislature website of the Cervidae Act, Public Act 190 of 2000

For the original legislative analysis of House Bill 4427 of the 1999-2000 Legislative Session

<http://legislature.mi.gov/doc.aspx?1999-HB-4427>

For analysis of the 2006 amendments in House Bill 6245 of the 2005-2006 Legislative Session

<http://legislature.mi.gov/doc.aspx?2006-HB-6245>

House Fiscal Agency Website

House Fiscal Agency March 2005 Analysis of the Cervidae Act

<http://www.house.mi.gov/hfa/PDFs/cervidae%20memo.pdf>

House Fiscal Agency June 2008 Analysis of the Fiscal Impact of Pseudorabies and Feral Swine

<http://www.house.mi.gov/hfa/PDFs/pseudorabies.pdf>

APPENDIX I

Discussion of CWD from the 2005 Risk-Based Audit

Chronic Wasting Disease (CWD) is a naturally occurring progressive nervous system disorder disease of certain North American deer. It is apparently similar to other diseases such as BSE (Mad Cow Disease) and Scrapie Disease of sheep.

On March 10, 2005, the DNR released an audit of cervid livestock facilities. The audit, *A Risk-based Audit of the Captive/Private owned Cervid Industry in Michigan*, was one of the recommendations of the Governor's CWD Task Force.

In discussing the risks associated with transmission of CWD in the captive cervid industry, the report stated that, "*Practices which concentrate animals (such as baiting, and feeding, or maintenance in captivity) likely increase transmission rates.*" Although the report acknowledged that risk of human infection, if any, is low, it does note that "*concern has arisen that the disease might be capable of infecting humans.*" Subsection 1.2.3 of the report, *Relevance*, further describes CWD risks as follows:

"CWD is contagious, and epidemics of the disease are self-sustaining in both C/P-O [i.e. captive privately owned cervids] and free-ranging deer and elk (Miller and Wild 2004; Miller et al. 1998, 2000). Currently the geographic distribution of CWD in free-ranging cervids is relatively limited and the natural rate of expansion has been slow (Williams et al. 2002). Nevertheless, there are concerns, and in the opinion of some, evidence (Nebraska Game and Parks Commission 2002; Williams et al. 2002), that CWD can be spread much more widely and rapidly with human assistance, through movement of live animals or carcasses. Given CWD's known persistence in the environment (Miller et al. 2004), its ability to infect over 80% of the animals in a WTD [white tail deer] herd within four years of initial exposure (Miller and Wild 2004), its high probability of becoming established once it has been introduced into a population (Miller and Williams 2003), and disease models which project high rates of death in affected populations (Gross and Miller 2001), concern for risks to the health of both C/P-O and free-ranging Michigan cervids is clearly warranted. Introduction into Michigan's C/P-OC population would result in substantial costs to producers due to quarantines and loss of sales, and indemnity costs for government. The importance of free-ranging deer and elk to both the culture and economy (Joly et al. 2003) and the threat of unsubstantiated human health concerns about CWD eroding public participation in hunter harvest (Williams et al. 2002) make the potential consequences of CWD introduction even more grave. In short, CWD clearly has the potential to impair the long-term viability of both cervid farming and wildlife management in Michigan."

Although the audit, in accordance with the CWD Task Force mandate, was specific to CWD risk, the problems noted in the audit could also increase the risk of transmission of other diseases.

The entire 2005 report, *A Risk-based Audit of the Captive/Private owned Cervid Industry in Michigan* is available from the Michigan.gov website at: http://www.michigan.gov/dnr/0,1607,7-153-10370_12150---.00.html

Appendix C
DNRE – Wildlife Division
Swine Shooting Industry Program
Estimated Annual Costs
October 2010

***Estimates are based on 65 facilities.**

1. Program Establishment and Oversight **1.5 FTEs (parts of 2) - \$70,000**
 - Develop program standards in conjunction with the Department of Agriculture (MDA) and stakeholders.
 - Development of resources and tools for field staff
 - Work with the legislature to update laws and regulations
 - Daily operations and program management
 - Provide strategic direction based on internal and external factors
 - Administrative support for data entry, maintaining files, mailings, reports, etc.
 - Continued participation in inter-agency workgroups

2. Training **\$3,000**
 - Train DNRE office and field staff about the program
 - Train facility owners/managers about the program requirements
 - Training materials and lodging (if needed)

3. Field Support **4 FTEs (parts of 42) - \$160,000**
 - Field staff to make approximately 120 facility visits per year
 - Address non-compliance issues with follow-up visits
 - Formulate compliance agreements for facilities that do not pass inspection
 - Respond to emergencies such as breaks in a fence or pigs escaping
 - Follow up on public complaints and help identify trapping areas if needed

4. Legal Fees **\$15,000**
 - License revocation for facilities that do not comply
 - Court fees for criminal cases
 - Attorney General fees for administrative cases

5. Vehicles & Travel **\$12,000**
 - Mileage
 - Maintenance
 - Fuel

6. Other **\$5,000**
 - Supplies (boots, boot wash pans, disinfectant, scrub brushes, & poles)
 - Program binders and other written resources with policy and instruction
 - Mailing and Postage

TOTALS: 5.5 FTEs = \$230,000
Other = \$35,000
\$265,000

Appendix C
DNRE – Law Enforcement Division
Swine Shooting Industry Enforcement
Estimated Annual Costs
October 2010

***Estimates are based on 65 facilities.**

7. Training \$3,000

- Train Conservation Officers about the program regulations
- Train Conservation Officers to conduct/assist in inspections
- Training materials and lodging (if needed)

8. Field Support .50 FTE (parts of 25) - \$48,400

- Conservation officers to assist with approximately 120 facility visits per year
- Address non-compliance issues with follow-up visits
- Issue citations, create reports, and follow up in court
- Respond to emergencies such as breaks in a fence or pigs escaping
- Follow up on public complaints regarding swine facilities

9. Vehicles & Travel \$4,000

- Mileage
- Fuel

10. Other \$2,000

- Supplies (boots, boot wash pans, disinfectant, scrub brushes, & poles)
- Program binders and other written resources with policy and instruction

TOTALS: .50 FTEs = \$48,400
Other = \$9,000
\$57,400

Appendix C
Department of Agriculture
Disease Surveillance Program for the Swine Shooting Industry
Estimated Annual Costs
October 2010

Estimates are based on 65 facilities, no disease outbreaks

11. Program Development and Oversight **1.25 FTEs** (parts of about 5 people)
 - Establish program standards based on federal requirements and stakeholder input
 - Update laws and regulations
 - Daily program management
 - Provide strategic direction based on internal and external factors
 - Administrative support for data entry, maintaining files, mailings, reports, etc.
 - Development and practice of disease response plans
 - Financial management
 - Supervisory and administrator oversight
 - Reporting

12. Training **0.25 FTE and \$10,000**
 - Train MDA, AID office and field staff about the program
 - Train facility owners/managers about the program and about sample collection
 - Staff time (multiple staff) and training materials

13. MDA Geagley Laboratory Support **0.1 FTE and \$25,000**
 - Infrastructure and staff support for laboratory to enable testing for swine brucellosis (SB) and pseudorabies virus (PrV)
 - Test kits and supplies for sample collection
 - Producers pay testing fees

14. Field Support **0.5 FTE and \$15,000**
 - Field staff to make approximately 120 facility visits per year
 - Field staff to assist with sample collection of trapped feral swine (potential escapees or swine that are a potential threat especially to transitional swine)
 - Resources for field staff – travel, biosecurity clothing/gear, equipment, supplies

15. Compliance and Enforcement **0.25 FTE**
 - Import-Export activities
 - Follow up on escapees
 - Follow up on non-compliance issues

16. Education and Outreach **0.2 FTE and \$15,000**
 - Risk Communication
 - Communication about program standards
 - Publications, notices about the program and about feral swine
 - Local communication – speaking opportunities
 - Radio and television media
 - Web site maintenance

17. Other **\$20,000**

- IT and office/staff overhead
- Continuation of Feral Swine Working Group

TOTALS: 2.1 FTEs = \$286,000
Other = \$ 85,000
\$371,000