ANNUAL REPORT

MONTANA DEPARTMENT OF LIVESTOCK - Animal Health Division

Figure 1: Cattle
Source: MDOL stock

Mission Statement

To control and eradicate animal diseases, prevent the transmission of animal diseases to humans, and to protect the livestock industry from theft and predatory animals.

Serving Montana Since 1885

Figure 2: Horses
Source: MDOL stock

Figure 3: Calves
Source: MDOL stock

FISCAL YEAR 2015

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LOOKING BACK/HIGHLIGHTS

Dr. Martin Zaluski, DVM

Summary Highlights

2015 was a notable year on numerous accounts.

The nation experienced the most costly animal health emergency in history as Highly Pathogenic Avian Influenza ravaged much of the Midwest. The economic impact is due to direct animal losses, cost or response efforts, trade restrictions, and consumer concerns influencing purchasing decisions.

Figure 4: Dr. Zaluski
Source: MDOL photo stock

While Montana did not escape entirely unscathed, we were fortunate to have only two premises affected—one in Lake County affecting a private falcon, and another in Judith basin affecting a backyard flock of poultry. No losses are welcomed; however, in comparison to many states our impact was minimal. We are uncertain about what fall wild water fowl migration will bring.

Unfortunately, we've also had to adjust the boundary of the Designated Surveillance Area for brucellosis in wild elk between Norris and Bozeman. This finding, along with the detection of two new brucellosis affected herds in the fall of 2014, continued to keep brucellosis as one of the major issues for the Animal Health Division.

We're happy to report a more encouraging assessment of our trichomoniasis program. For the second year in a row, we report no positive cases in Montana herds. This is a success story of a cooperative program between the regulatory agency, and producers and veterinarians in the state of Montana.

Montana Department of Livestock proposed and adopted the removal of the brucellosis vaccination requirements for imported cattle imported from states that have been brucellosis Class Free for ten years or more. Most of the comments we received on this matter were in support of this rule change. The comments cited the low risk of brucellosis from other states, unnecessary government intervention, additional costs on Montana ranchers due to import quarantines and vaccination costs, and interest in being able to receive a broader range of cattle from other states. Vaccination requirements for the four counties which contain the DSA remain unchanged. Cattle imported from out of state into those four counties are treated the same way as cattle coming from other parts of Montana.

This year, the Animal Health Division implemented fees for a number of extended and special permits that were created based on veterinarian and animal owner feedback. These special permits and programs provide additional convenience over the 30-day health certificate and ten-day permit, but take additional resources and staff time to make available. Therefore, we have instituted fees to recover some of these expenses.

Numerous bills were presented at the 2015 Legislature, but two are of greatest significance to the animal health of the state.—Budget bill, HB2 and feral swine, SB100. Both bills passed and are summarized in *Legislative Issues* of this report.

As always, feel free to contact the Division of Animal Health for any reason. We look forward to hearing from you.

Management/Staff

Animal Health hosted a third-year veterinary student from Colorado State University for two weeks. Anna Marie Samson grew up in Three Forks and she has a strong interest in swine practice. In the Spring of 2014 she spearheaded development of a Porcine Epidemic Diarrhea Virus (PEDv) herd management plan for MDOL. Anna returned in the spring of 2015 to work on the high path avian influenza outbreak affecting much of the central United States.

Figure 5: Horses
Source: MDOL photo stock

The Helena office import staff met twenty times to discuss various office procedures including clerical processes for continuity, policies for handling requests, new tasks assigned to the Animal Health Division, and updates of computer programs. Communication at these meetings is necessary to make sure we all use the same techniques and are providing the best customer service possible.

Information Sharing

Animal Health developed and distributed four *Stock Quotes* Animal Health newsletters. These were sent by e-mail to about 486 veterinarians, uploaded to our web site, and mailed to 695 veterinarians providing a variety of information topics to readers. The newsletter includes a standard "State Veterinarian" column covering current event topics such as brucellosis, rabies, contact information requests, and legislative updates. The articles included topics on a heartworm study, a *Brucella* Genotyping three-part series, a request for veterinarian input on the six-month passport program, an article drafted by a veterinarian intern about highly pathogenic avian influenza, equine biosecurity, proposed Administrative Rule changes, and the Department of Livestock budget crises. The diagnostic laboratory also contributes and wrote articles on antibiotic sensitivity testing, sample submission, and abortion workups.

Veterinary Medicine Loan Repayment Program (VMLRP)

Dr. Tahnee completed six designations for underserved areas in Montana that will be eligible for loan forgiveness for veterinarians serving in these areas. Montana's designations include three carry over areas (one in central Montana and two in northeastern Montana), as well as three new designations (two in southeast Montana and one for a state public health veterinarian in Lewis & Clark County). Designations are based upon the number of existing veterinarians in an area, age of existing veterinarians, population density, and the likelihood of an area to support and retain a new veterinarian with student loan debt, as well as the livestock population in an area.

Cooperative Agreements

Montana Department of Livestock successfully completed work plans and received funding for the following 2015 USDA APHIS cooperative agreements:

- Animal disease traceability
- Zoonotic/Emerging Disease
- Avian Influenza
- Equine, Alternative Livestock, and Small Ruminant Health

Legislative Issues

Animal Health Staff were involved in several bills during the 2015. legislative session.

Figure 6: Montana State Capitol
Source: http://www.flickr.com

⇒ **Budget: HB2.** The Legislature passed additional funding for the Montana Veterinary Diagnostic Laboratory (MVDL) to help the laboratory cover costs associated with testing for zoonotic disease with an allocation of 896K. This amount represents 41% of the laboratory budget, which not coincidentally, is the proportion of MVDL diagnostic testing that takes place for zoonotic diseases. Because of the public health significance of zoonotic disease testing, the Montana Veterinary Medical Association and a number of livestock groups supported this allocation of general fund dollars. This allocation is a three-fold increase over the previous budget. General fund and laboratory fees now cover most of the lab budget; per capita funds which were previously allocated to MVDL will be available to cover other department operations.

⇒ **Feral Swine: SB100.** A bill granting MDOL additional authority to address incursions of feral hogs became law. More states have feral swine than states that do not. This invasive species creates destruction of agricultural and wildlife resources in many states and Canada including Saskatchewan and Alberta. An interest in hunting of feral swine is responsible for much of the range expansion as aspiring hunters seed swine into new areas. SB100 establishes a reporting requirement, and makes it illegal to possess, release, feed, hunt, trap, or kill feral swine. Profiting from any of these activities also illegal. This bill addresses shortcomings to Montana Department of Livestock authority as well as Fish, Wildlife and Parks' laws which typically have a greater emphasis on game species.

Avian influenza

Figure 7: Chickens
Source: MDOL photo stock

Since December 2014, highly pathogenic avian influenza (HPAI) virus has affected nearly 50 million birds in approximately 20 states. The state of Montana confirmed two cases of HPAI—a captive gyrfalcon in Flathead County and a backyard flock in Judith Basin County.

The captive gyrfalcon in Flathead County had been fed a hunter-harvested wild duck. Montana Department of Livestock (MDOL), in conjunction with United States Department of Agriculture (USDA), completed an epidemiological investigation of the premises, including quarantine, follow-up testing, and adjacent property surveillance. No poultry were found on adjacent properties. All remaining birds on the affected premises were tested negative and the quarantine was released 21 days after the removal of the affected falcon from the property.

The second case, a backyard flock in Judith Basin County, lost 52 chickens over the course of approximately ten days. Following a Foreign Animal Disease (FAD) investigation, subtype H5N2 was diagnosed in the flock. MDOL Animal Health worked closely with MDOL Brands Enforcement Division personnel and USDA APHIS (Animal and Plant Health Inspection Service) to respond to the affected premises including:

- Quarantine of affected premises
- Depopulation
- Surveillance of all domestic poultry within 10 km of the index premises
- Completion of an approved flock plan with the index premises
- Testing of all domestic poultry within the 10 km surveillance zone
- Quarantine of all domestic poultry and poultry products within the 10 km zone for 21 days past the date of depopulation of the affected premises

The affected premises in Judith Basin County will be held fallow for a minimum of 120 days with quarantine release occurring at that time. The projected date of quarantine removal is August 1, 2015.

Following the issuance of a press release and letter to fair boards recommending that waterfowl not be exhibited during the 2015 fair season to reduce the risk of exposure and transmission of HPAI, MDOL prepared information packets to send out to interested fairs. The packets included posters for use in and around poultry exhibits, disinfectant, and hand sanitizer. MDOL to date has sent out 11 packets to interested fairs.

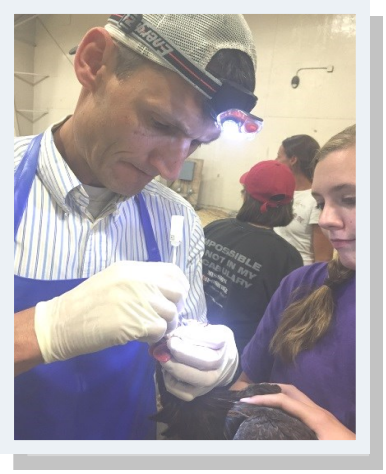


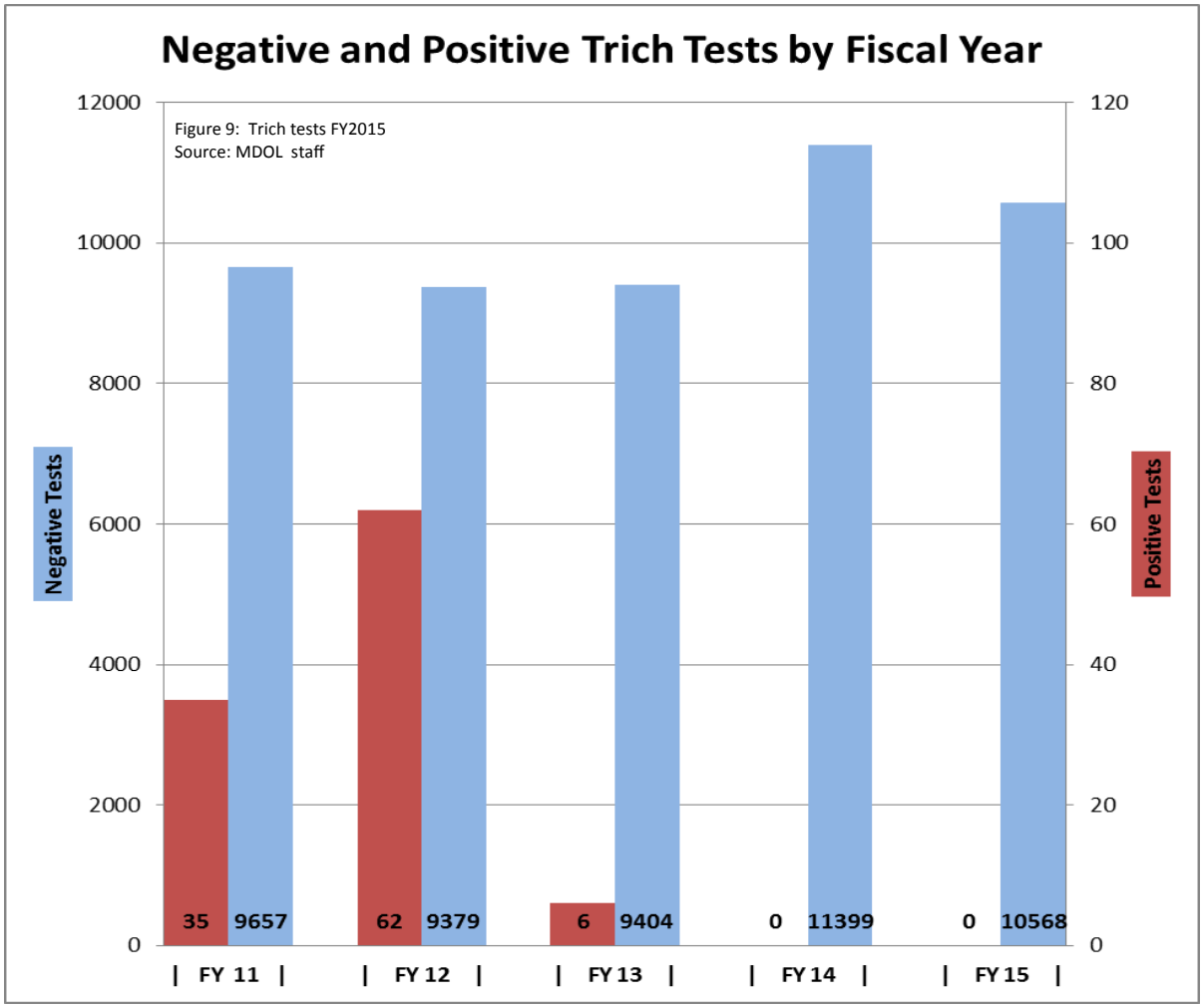
Figure 8: Dr. Zaluski testing chicken for HPAI
Source: MDOL stock

TRICHOMONIASIS

Harmonization**:** An online survey was administered for state animal health officials to assess interest in reaching greater standardization in trichomoniasis regulations. Trichomoniasis import regulations exist in 28/51 entities (56%) and one state (West Virginia) has regulations pending. Five entities (18%) have rules regulating sale of open cows (nonpregnant females not known to originate from trichomoniasis affected herds) for breeding.

A YES/NO question was posed on the four key areas of interstate variability. There is an 89% or higher agreement on the type of acceptable test (single PCR), and age of virgin bulls exempted from testing (18 months of age). Agreement on duration of test negative (60 days) is at 82% and agreement on accepting results from lab-pooled samples is (78%). In some situations, state animal health officials expressed support for a uniform standard with the understanding that additional input from stakeholders and/or rulemaking will be necessary to reach that standard. The survey will be repeated in 2015.

Dr. Zaluski wrote a column on trichomoniasis regulations with a focus on benefits of greater uniformity in interstate regulations, see http://www.cattlenetwork.com/cattle-resources/cattle-disease-diagnostics/ask-an-expert/Ask-the-Expert--Trich-270966521.html



RABIES

FY 2015 was unusually quiet for the rabies program with just 16 positive animals detected. As in prior years, the diagnosed species seem to follow the Rocky Mountain Front with western Montana Counties finding rabies in bats while positive skunks were located in the eastern side of the state. Fortunately there were no rabies-positive pets or livestock found.

Quarantines due to known or possible exposures were similarly low as well. Just 11 quarantines were issued including two countywide quarantines in Fergus and Dawson Counties due to rabid skunks. In comparison, 25 quarantines were issued in FY 2014 and 26 in FY 2013.

Current Montana rabies information can be found here: http://liv.mt.gov/ah/diseases/rabies/default.mcpx

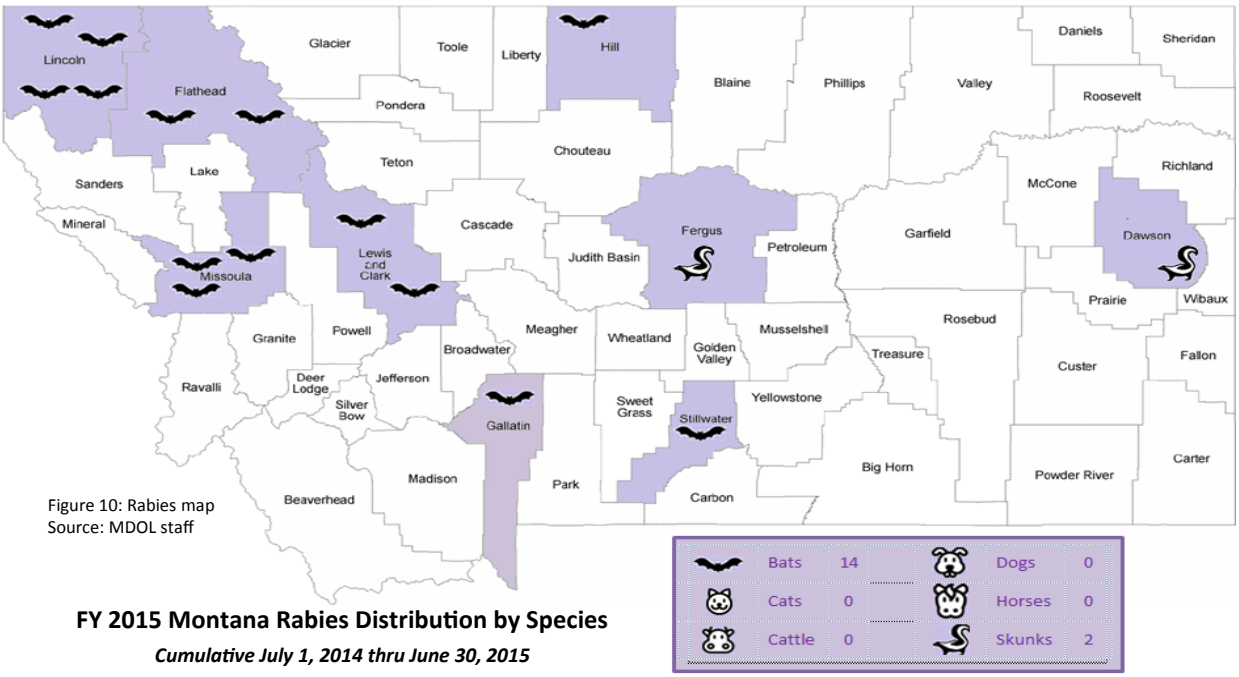
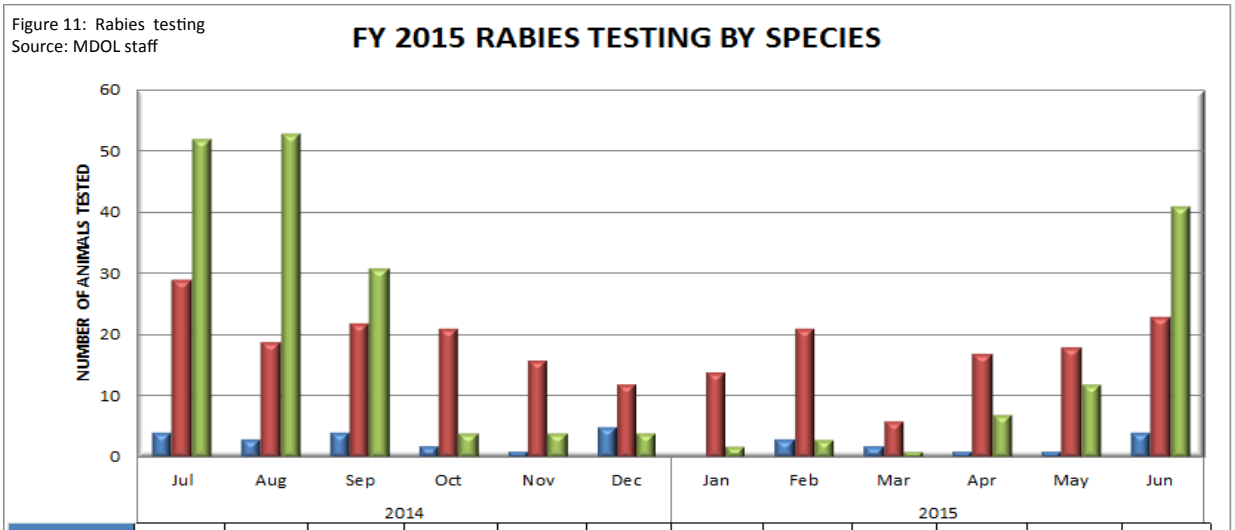


Figure 10: Rabies map
Source: MDOL staff

FY 2015 Montana Rabies Distribution by Species

Cumulative July 1, 2014 thru June 30, 2015

Figure 11: Rabies testing
Source: MDOL staff



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
LIVESTOCK	4	3	4	2	1	5	0	3	2	1	1	4
PETS	29	19	22	21	16	12	14	21	6	17	18	23
WILDLIFE	52	53	31	4	4	4	2	3	1	7	12	41
TOTAL	**85**	**75**	**57**	**27**	**21**	**21**	**16**	**27**	**9**	**25**	**31**	**68**

WEST NILE VIRUS

Montana confirmed just four positive cases of west nile virus in FY 2015. The first case was reported August 28, 2014 and the last October 15, 2014 afflicting three horses and one ten year-old alpaca. None of the animals were current vaccinates; however, all but the alpaca survived. It was a very quiet year for west nile on all fronts with just four positive mosquito pools and five human cases report by Montana DPHHS. This is a marked change from FY2014 which recorded 33 equine cases with 12 animal deaths. As always, MDOL encourages horse owners to vaccinate against west nile virus yearly since there are no reliable methods at this time to predict heavy transmission years.

FY 2015 Positive West Nile Map

July 1, 2014—June 30, 2015

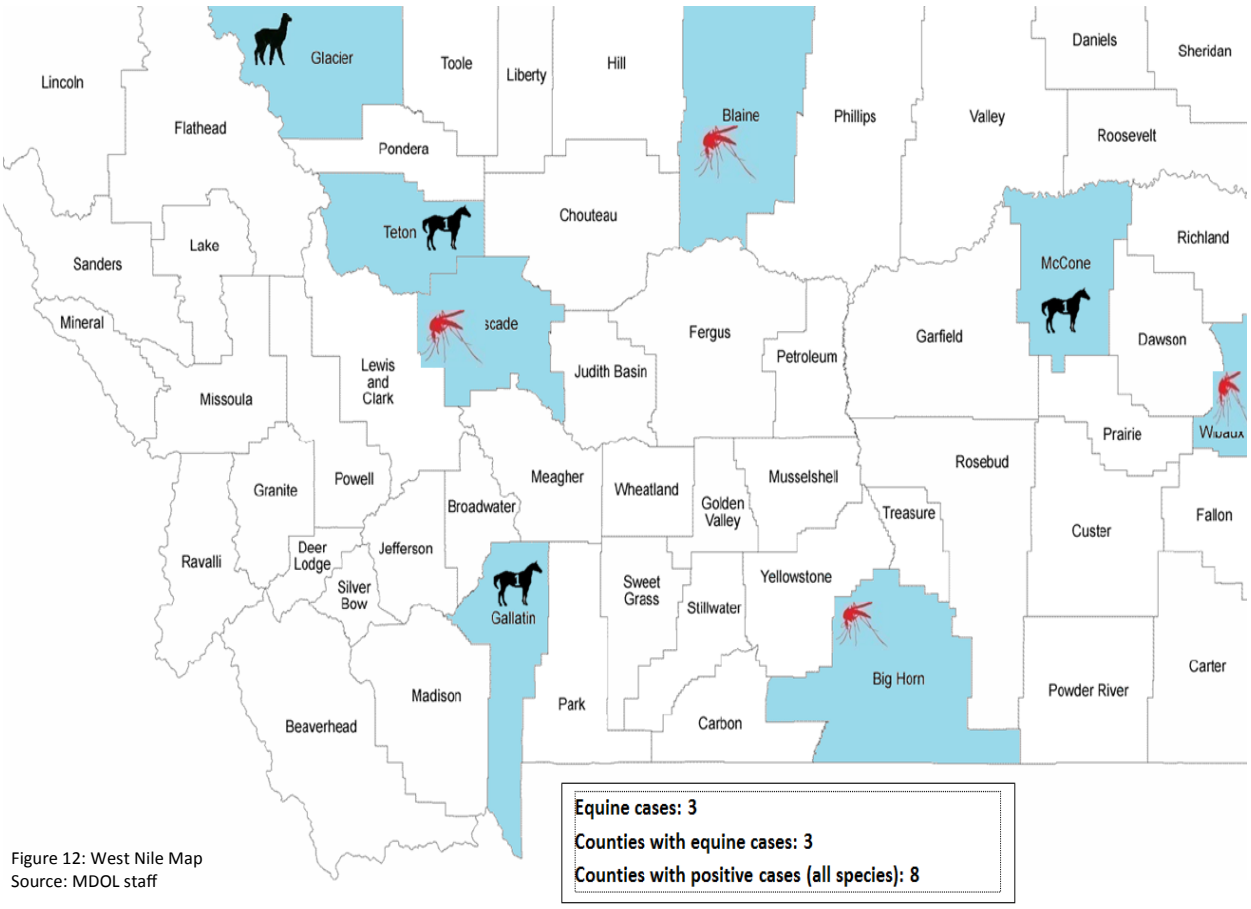


Figure 12: West Nile Map
Source: MDOL staff

Designated Surveillance Area (DSA)

The Board of Livestock approved changes to ARM 32.3.433 which changed the boundary of the Designated Surveillance Area (DSA). The proposed thatched portion South of Three Forks remains within Gallatin County and encompass' the area where brucellosis serologic positive elk were found in the 2014 Live Elk Capture Study.

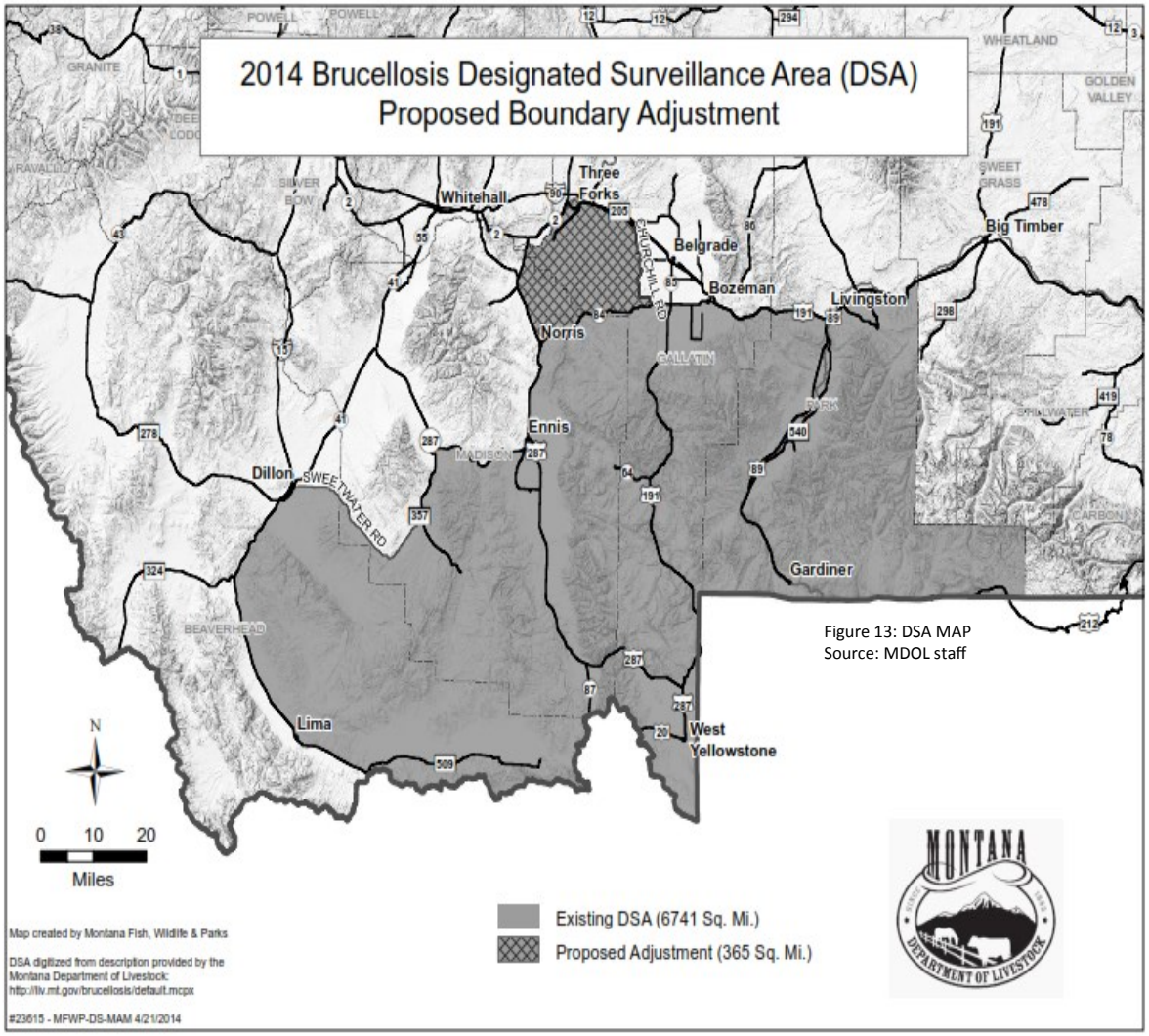


Figure 13: DSA MAP
Source: MDOL staff

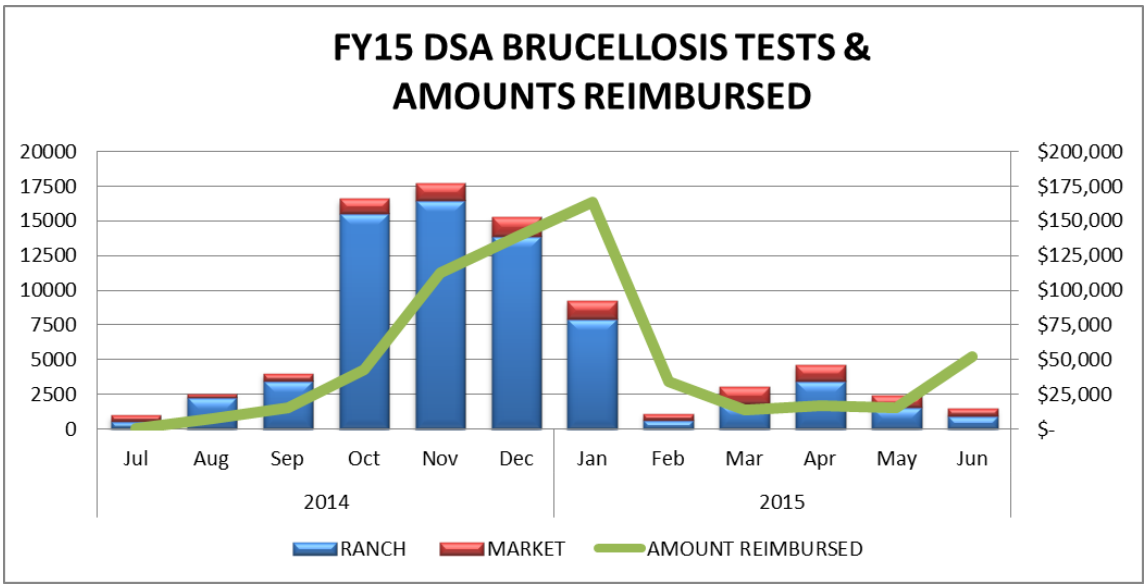


Figure 14 (above): DSA-related Brucellosis testing completed and amount reimbursed for testing during FY15, by month. There were 79,126 DSA-related brucellosis tests during FY15, and approximately 93% were reimbursed to the veterinarian, the owner, or both. The total amount reimbursed for FY15 was $612,919.50. Most requests for reimbursement are processed within 60-90 days of testing; however, a number of requests are received immediately prior to the deadline at the end of the fiscal year, leading to a small spike in reimbursements in June with no corresponding increase in testing. Source: MDOL staff

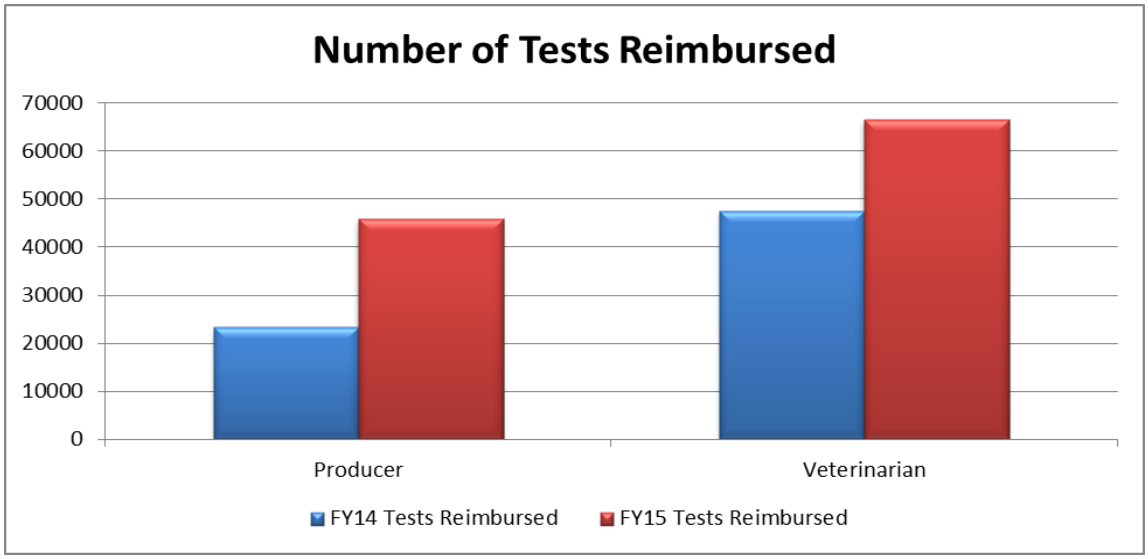


Figure 15 (above) represents the number of DSA-related brucellosis tests for which testing costs were reimbursed for testing completed in FY15 and FY14. Not all producers and veterinarians request reimbursement for testing; however, the number of producers requesting reimbursement nearly doubled from FY14 to FY15. The 40% increase in the total number of reimbursements roughly coincides with a 44% increase in DSA-related testing. Source: MDOL staff

BRUCELLOSIS - Live Elk Capture Study

The Department of Fish, Wildlife and Parks (FWP) completed the annual elk capture operation for 2015. Elk with radio collars in Blacktail, Sage Creek, and Black's Ford were recaptured. New areas sampled were in Mill Creek (HD317) near Pray in Park County, and North Absaroka (HD560) south of the interstate and east of Livingston (Figure 16). In HD560, 63 elk were captured and 61 were seronegative. Two elk, one of which was just outside the Park County (Designated Surveillance Area) boundary tested positive. We will be following the movement of these elk closely. In HD317, 30 elk were captured, and 16 (53%) were positive. Based on local knowledge of these elk, these animals reside in this immediate area, and do not travel; however, we will also be closely monitoring the GPS collar data in this group. While the rate of brucellosis infection in HD317 is surprising, it is consistent with other testing that was done on a small number of elk in the area following game damage hunts, and also correlates with the location of four brucellosis infected cattle herds since 2007.

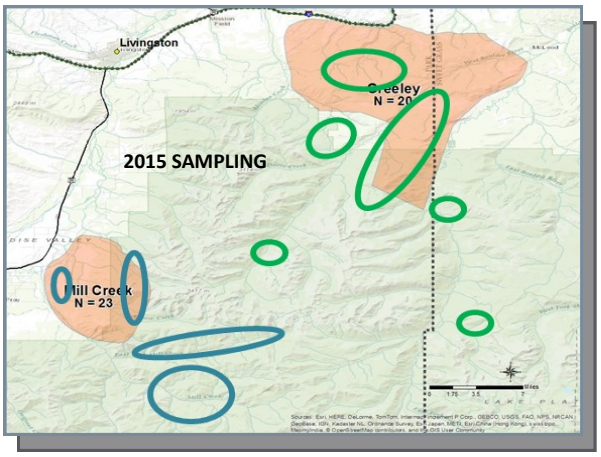


Figure 16: Generalized movements of radio collared elk in the Mill Creek (blue) and Greeley area (green) of south-central Montana during April 1 – June 30, 2015.
Source: MDOL staff

A total of 22 seropositive, pregnant elk throughout the southwest Montana study area were outfitted with vaginal implant transmitters (VITs) in 2014-2015. FWP monitored these 22 seropositive, pregnant elk every 3-4 days to detect the timing, location and status of birth events. One VIT in the Mill Creek area and one VIT in the Greeley area failed. One elk in the Blacktail area has not yet calved. A total of 18 birth events were detected. All birth events were classified as live births and no abortion events were detected. *Brucella abortus* was not detected at any of the 18 birth sites investigated.

Epidemiologic Investigations—Two brucellosis affected herds found in FY 2015

A single seven-year old Angus cow was detected in a herd of more than 2300 test-eligible animals on November 10. This cow was tested as negative in 2010 as part of a change of ownership herd test. It had a calf each year so was never culled and was pregnant at the time of detection. The reactor cow was euthanized November 19, 2014; and was found to be culture-positive on December 16, 2014. Following the detection of this herd an epidemiologic investigation began. This investigation involved over 18,000 cattle and 27 different herds.

On October 23, 2014 Department of Livestock was notified of another reactor in another herd. The reactor was a three year -old cow belonging to a Carbon County producer. It was tested as part of a 349 head group for movement from the Park County DSA to Carbon County. This group includes animals from two producers (Park County – 150, and Carbon County – 199) but all cows calve together each year. The reactor cow was euthanized, tissue collection, and submission for culture to National Veterinary Services Laboratories (NVSL) in early December. The cow was cultured as *Brucella* positive with results released in late December.

The reactor cow tested negative in 2013 prior to returning to Carbon County from the Park County DSA. This cow was not pregnant; therefore, posed very little risk to herds adjacent in Carbon County. Four adjacent herds were identified in Park County. The total Park County adjacent numbers were approximately 500 head. Another four herds with approximately 500 head were found in Carbon County. This herd completed their herd test in late November of 2014 with no additional suspects or reactors found.

Designated Surveillance Area Risk Assessment Model

United States Department of Agriculture Animal and Plant Health Inspection Service
Veterinary Services
Center for Epidemiology and Animal Health

Over the last year the United States Department of Agriculture (USDA) has been conducting an analysis of the risk of exporting brucellosis infected cattle from the Designated Surveillance Area (DSA). The risk assessment concludes that the risk of exporting brucellosis affected cattle from the DSA is extremely low and that post-entry testing of DSA cattle is unjustified. Specifically, the report found that:

- The annual probability of exporting an undetected brucellosis positive breeding animal from Montana's DSA is 0.009 per year. Another way to look at this is that it would take 111 years before a brucellosis positive animal would be shipped out.
- USDA estimated the break-even cost of what an outbreak would have to cost to justify post-entry testing nationwide of DSA cattle from Idaho, Montana and Wyoming. Based on those calculations, an outbreak (in a state that receives DSA cattle) would need to cost between $151M and $234M to justify post entry testing.
- Therefore, "the results demonstrate that post-movement testing and reproductive monitoring of all DSA-origin breeding cattle is not a cost-effective mitigation."

The model limited the evaluation to cattle that are within the DSA; risk from cattle outside the DSA was not considered. While nothing is ever absolute, Montana has done due diligence to ensure that at-risk cattle are included. We've spent over $1M annually over several years just on elk capture operations to better define the DSA boundary - and we update that boundary based on new information.

The model assumed that compliance to DSA testing is 100%. No regulatory program has 100% participation; however, (i) the compliance assessment that we completed shows that 96% of the cattle sold out of Montana's DSA came out of herds that have brucellosis tests on file (the herds have completed brucellosis testing at some level), and (ii) personal conversations Dr. Zaluski had with the risk assessment team show that the output of the risk assessment is not significantly altered if the model uses 90% for compliance.

Montana conducted about 60,000 brucellosis tests on DSA cattle in 2014. Not coincidentally, the herd inventory of the DSA is right about 60,000. Of course, not every adult animal was tested in the DSA last year–baseline testing rate is very high, but was boosted even higher by testing associated with the epidemiological investigation where some animals were tested twice.

National Academy of Sciences Review Issue of Brucellosis in GYA

The National Academy of Sciences (NAS) provides advice on pressing challenges relating to science or technology. NAS is reviewing the issue of brucellosis in the Greater Yellowstone Area (GYA). The study will "examine the feasibility, time-frame, and cost effectiveness of options to contain or suppress brucellosis across the region." As part of this effort, a small working group will evaluate the role of feed grounds, predators, population size, and distribution of the disease. Mitigation strategies of the three states with brucellosis in wildlife will also be examined. A report is expected in late spring 2016. The NAS reviewed the brucellosis issue in 1998; however, brucellosis has subsequently increased dramatically in elk; bison have been provided additional habitat in Montana; and there has been further study on vaccines and persistence of brucellosis.

Interagency Bison Management Program (IBMP)

The IBMP is now 15 years old and the state of Montana and National Park Service have begun work on a new bison plan. Public comment was requested on several preliminary alternatives ranging from continuing current management, minimal management, aggressive management and several possibility in between. Comments on the 'scoping' will determine the exact nature of the alternatives to be evaluated over the next 12 to 18 months. Much like the NAS effort in the above section, the process will consider the changed circumstances over the last 15 years. Several commenters suggest that this effort should be delayed until after the NAS completes their assessment.

Figure 17: Bison
Source: MDOL stock photo

The IBMP met July 30, 2014, November 20, 2014, and April 23, 2015. Yellowstone National Park population estimates remain well above the IBMP target of 3000 bison, and were estimated at about 4,865 in counts conducted by the National Park Service in July, 2014. The goal for total removal of bison was 900 animals; however, only about 738 animals were removed via hunting (219) and capture (519).

MDOL was involved in hazing operations north and west of the park boundary totaling approximately 900 animals. Due to unseasonably mild weather, hazing operations, particularly north of the park boundary, were less frequent and involved fewer bison than in previous years.

TRAINING

Foreign Animal Disease Diagnostician Investigation

A foreign animal disease investigation (FAD) took place in Ravalli County on a group of backyard chickens that were experiencing increased mortalities. During the first quarter of 2015, multiple western states have had cases of highly pathogenic avian influenza diagnosed in both domestic and wild birds.

A FAD investigation was conducted n Gallatin County on a single horse with oral lesions. The horse was negative for vesicular stomatitis. Eight FAD investigations were conducted in Montana during FY2014.

National Animal Health Monitoring Systems (NAHMS)

Dr. Tahnee Szymanski is participating in the 2015 National Animal Heath Monitoring System's (NAHMS) equine study as one of Montana's coordinators. The study occurs in two phases. The first phase involves phone interviews conducted by representatives from National Ag Statistics Service (NASS). For participants who elect to participate in phase two of the study, a more in-depth survey will be conducted by a state or federal animal health official and biological samples will be collected to evaluate the prevalence of certain disease and parasites in our state's equine population.

National Poultry Improvement Plan (NPIP)

Montana has five flocks that are maintaining their National Poultry Improvement Plan (NPIP) status as pullorum-typhoid free. Montana Department of Livestock (MDOL) conducted NPIP authorized test agent certification training, one in Savage, Montana at the request of a high school ag teacher and a second training in Helena, Montana.

Swine Enteric Coronavirus Diseases (SECD)

MDOL, in partnership with the Montana Pork Producers Council, United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS), and a private swine veterinarian held three educational meetings regarding the swine enteric coronavirus diseases (SECD). The meetings served to educate producers about the disease, mandatory reporting, management of the disease, biosecurity, and the Montana voluntary reporting network to ensure that all Montana producers are informed regarding current cases of SECD in Montana.

MDOL was awarded a cooperative agreement from USDA APHIS to help with outreach efforts as they pertain to SECD.
MDOL hired a contract employee that will provide outreach to fairs and other animal exhibitions during the 2015 fair season. The goal of this position is to provide education about SECD, biosecurity, and the risk of zoonotic diseases associated with animal exhibits.

Deputy Veterinarian Accreditation

MDOL hosted three Deputy Veterinarian Accreditation Seminars in FY 2015. Thirty-three veterinarians attended the seminars held in September, 2014, January and June, 2015 to receive instruction on topics such as disease reporting, writing health certificates, proper use of paper and electronic records, use of the state lab, and DSA rules and requirements. Presenters included Dr. Thomas Linfield with the Federal APHIS office, Dr. Tahnee Szymanski, Assistant State Veterinarian, Dr. Bill Layton of the MDOL Lab, and Dr. Eric Liska, Brucellosis Program Veterinarian.

To make this training even more valuable to our veterinarians, MDOL approached the Montana Board of Veterinary Medicine about awarding continuing education hours for time spent at the seminar. Our request was heard June 13, 2014 and the board gave approval for five credit hours to Category II veterinarians and three credit hours to Category I veterinarians.

The Animal Health Division of MDOL is committed to ensuring our Deputy Accredited Veterinarians have the most up-to-date information on the ever-changing regulations of the animal industry. Much of that information can be found at http://liv.mt.gov/ah/vet_accred.mcpx.

Public Health /Outreach

Dr. Tahnee Szymanski

MDOL, in cooperation with the Montana Department of Public Health and Human Services (DPHHS), participated in an outreach program to reduce the risk of disease transmission between humans and livestock/poultry. The campaign focuses on chick sales in Montana's retail stores and animal exhibitions during the summer fair season. The campaign includes:

- Education and outreach
- Kits to stores that sell chicks (hand sanitizer, single use bars of soap, signage, and handouts)
- A grant that offsets the cost of renting hand washing stations for use in and around animal exhibits.

Figure 18: Dr. Szymanski in the field
Source: MDOL photo stock

MDOL mailed out kits to 22 stores in 15 different Montana counties based upon a survey conducted early in 2015 to assess use of the kits from 2014. Only two stores declined to receive kits and both cited remaining resources as the reason while expressing interest in receiving kits next year.

Three fairs took advantage of the hand washing station rental grant for FY2014. This outreach program is funded by a cooperative agreement with the Unites States Department of Agriculture – Animal Plant Health Inspection Service (USDA APHIS) aimed at zoonotic disease including education and outreach materials that enhances understanding of zoonotic and emerging diseases/issues at the animal-human-environment interface.

Dr. Szymanski travelled to Billings and spoke to the Yellowstone County Local Emergency Planning Committee on rabies in Montana, including the management of animals that expose humans and domestic pets that may have been exposed to rabies. She provided clarification on the 10, 45, 60, and 180 day quarantines to assist local enforcement in better managing rabies quarantines.

At the annual Rocky Mountain Association of Fairs annual meeting in Great Falls, Dr. Szymanski presented talks with topics that included check-in procedures, livestock disease of concern for exhibition animals, porcine epidemic diarrhea (PED) virus, vesicular stomatitis, zoonotic diseases, and public safety at fairs.

Dr. Szymanski travelled to Bozeman on three separate occasions and was the guest lecturer at Montana State University. For the third year she presented a regulatory perspective on equine diseases to a senior level equine business course. Dr. Szymanski sat on a panel of veterinarians that represented alternative careers in veterinary medicine. As well, a presentation was given to a pre-veterinary class on livestock diseases in Montana.

Presentations were given at the morning session for MDOL at the annual Young Ag Couples Conference. Dr. Szymanski discussed biosecurity, trichomoniasis, and brucellosis with attendees.

Dr. Szymanski travelled to Valier, Montana to speak at the Gentle Hands Livestock Handling Conference. Topics covered included avian influenza, porcine epidemic diarrhea (PED), trichomoniasis, Johne's and how biosecurity plays a role in the management of all of these diseases.

Continuing Education

- Dr. Tahnee Szymanski was in attendance at a two-day refresher course for Foreign Animal Disease Diagnosticians (FADDS) in Bozeman. The course was put on by United States Department of Agriculture (USDA) as part of a continuing education (CE) requirement for (FADDs).
- The annual United States Animal Health Association (USAHA) meeting took place in Kansas City. Dr. Szymanski was present for sessions on infectious diseases of horses, infectious diseases of cattle, traceability, public health/rabies, and brucellosis.
- The Western States Livestock Health Association (WSLHA) meeting took place in Lake Tahoe, Nevada. Topics discussed were trichomoniasis, traceability, avian influenza, and other program diseases with animal health officials from other western states.

Emergency Preparedness

Senior Advisory Committee (SAC)

Dr. Eric Liska

Dr. Liska is a member of the SAC representing the department. The SAC reviews applications for Homeland Security Grant (HSG) funds. Representation by the Department of livestock is important because the committee does not have any other livestock representation to work with the committee to understand the importance of protecting livestock/agriculture in the state and to promote agriculture based proposals to the SAC. Unfortunately funding for state agencies is very limited so grant money awarded to a State agency program is limited. There was only one application directly related to agricultural issues and it was not funded. Over time, with continued livestock representation, this may change.

Figure 19: Bioterrorism graphic
Source: http://comps.canstockphoto.com/can-stock-photo_csp11727273.jpg

Traceability

Montana Department of Livestock (MDOL) conducted a draft proposal for a United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) funded ultra-high frequency (UHF) Radio Frequency Identification (RFID) pilot project. The pilot project involves the use of UHF tags in cattle moving through marketing channels in order to demonstrate the usefulness of the tags to:

- Reduce the number of times that animals must be handled in order to capture accurate traceability data
- Increase the amount of data captured in an electronic format
- Improve the reporting of traceability data

Two livestock markets, the corresponding market veterinarians, and a heifer development feedlot participated in Montana's pilot. Additionally, MDOL hired a contract position to provide oversight of the project.

For the livestock markets, the project focused on bred cow sales, specifically animals sold interstate at these sales. This population of animals is historically worked through the chute twice during these sales. Presale animals are: pregnancy tested, aged, checked for a legible tattoo, brucellosis tested as appropriate, and identified if existing identification was not already present. Post sale these animals were worked a second time to read the official identification for population of the certificate of veterinary inspection. Results from the study show that markets/veterinarians are able to significantly reduce the number of personnel and hours spent post sale by reducing the amount of required handling on animals for interstate commerce. Additionally, all traceability data collected at the yard was used to generate electronic certificates of veterinary inspection and was electronically reported to fulfill the responsibility and duties of the accredited veterinarians participating in the pilot.

For the heifer development feedlot, tags were put in animals at the time of initial processing. The animals are worked multiple times while in the feedlot for vaccination, synchronization, and artificial insemination. The UHF tags will be used to record animal information during processing and hopefully decrease the amount of time spent working animals. Finally when the animals are sold as bred heifers, the tags will be used to populate health certificate data for animals sold across state lines. This project is ongoing at this time.

MDOL continues to provide support /training for veterinarians in Montana who are using electronic technologies for official disease work, including the fillable PDF CVI, the iCVI iPad app, state developed Excel based forms, and USDA's MIMS PDA. This support includes:

- An afternoon at Headwaters Livestock with the yard veterinarian and his crew in an attempt to better understand their needs in regards to the use of electronic technology for capture of animal health information and electronic generation of health papers.
- Support for a Three Forks veterinary clinic in the use of various electronic technologies; including MIMS PDA, the iCVI iPad app, and the new Excel based forms for serology and official vaccination, by veterinarians in the area.
- Support for a Billings veterinarian issuing CVI's for heifers moving out of state after a sale. The animals all had RFID tags in their ear and the veterinarian was capturing official identification to include on the CVI. Worked with veterinarian on the process needed to include this information to meet state of destination requirements as well as federal traceability requirements.

MDOL presented a continuing education session at the Montana Veterinary Medical Association's (MVMA) summer meeting. The session was a 3 hour summary of the use of electronics in regulatory veterinary medicine, current traceability requirements, and available electronic technologies. The session included four breakout sessions that allowed veterinarians the opportunity to get hands-on experience with the different technologies, including MIMS PDA and the handheld PDA, RFID wands, iPads, and federal systems for the issuance of health certificates.

MDOL is required to complete a minimum number of test or real trace exercises on an annual basis as part of the animal disease traceability cooperative agreement funding. Test trace exercises involve tracing a tag number that has been selected by another state or federal animal health official to evaluate the efficacy of our state implemented animal disease traceability program. The goal of ADT is to reduce the time spent and the number of animals involved in a trace. For test trace exercises MDOL must identify where a tag was applied and where in the state the animal was shipped from or to.

Import/Export

Export Certificate Data

A summary of the export data for fiscal year 2015 shows 394,298 cattle and 98,589 porcine exported. This data is from the all uploaded electronic certificates and data captured by hand from paper certificates that were issued for cattle 18 months and older. Most Montana export certificates issued for swine are electronic, so that information is complete. At this time, paper certificate data is not entered for the other species.

During the reporting period we issued 4,491 permits for 156,459 cattle and 11,018 permits for 39,305 horses to enter Montana. Montana offers an after-hours permit option to callers through an answering service; 1,881 permits were issued by that service. We are working on developing an on-line permit system to possibly replace the after-hours service.

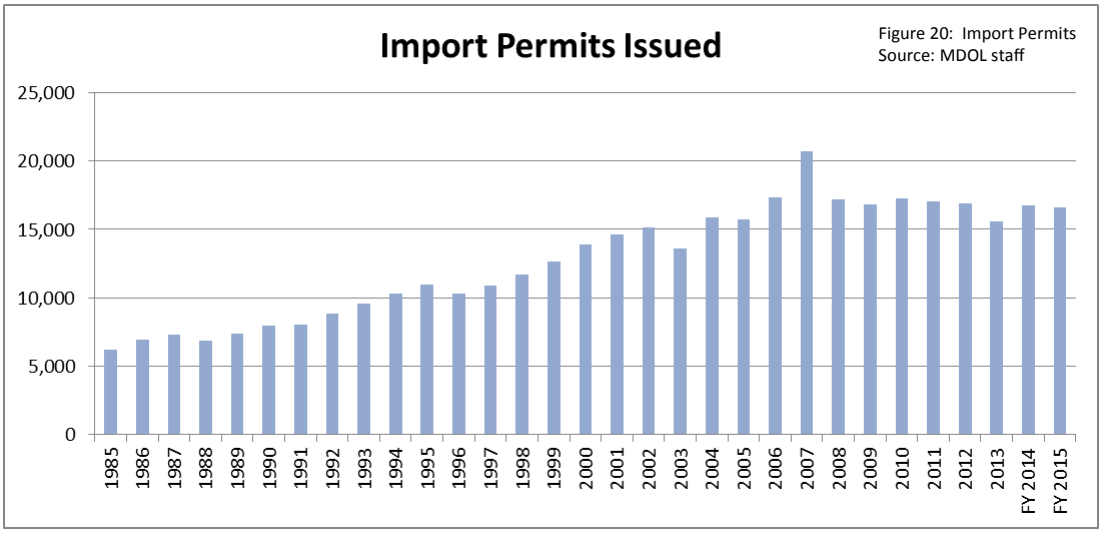


Figure 20: Import Permits
Source: MDOL staff

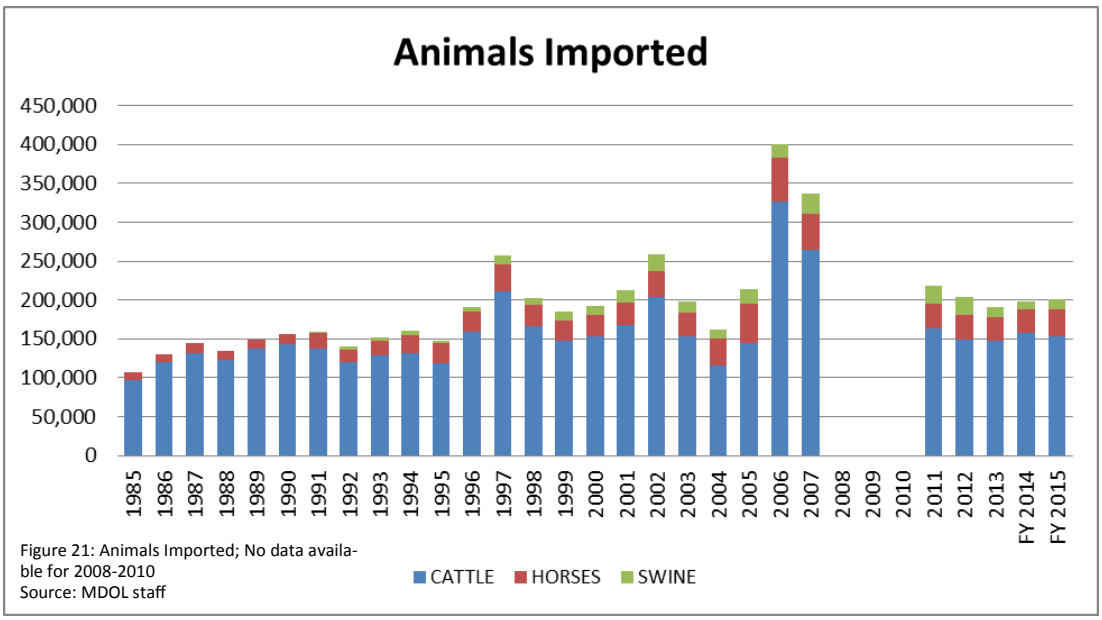


Figure 21: Animals Imported; No data available for 2008-2010
Source: MDOL staff

Exotic Imports

July 1, 2014 through June 30, 2015

Figure 22: Green Tree Frog
Source: MDOL staff

FAMILY NAME	COMMON NAME	QUANTITY
AGAMIDAE	Bearded Dragons, Chinese Water Dragons	512
AILURIDAE	Red Panda*	2
BOIDAE	Sand Boas	2
BUFONIDAE	Marine Toads	6
CANIDAE	Red Fox, Grey Fox, Coyote*	6
CHAMAELEONIDAE	Veiled Chameleons, Jackson's Chameleon	58
COLUBRIDAE	King Snake, Corn Snake, Milk Snake	69
CORYTOPHANIDAE	Green Basilisk Lizards	3
DASYPODIDAE	Three Banded Armadillo*	1
EMYDIDAE	Mississippi Map Turtle, Western Painted Turtle	36
ERETHIZONTIDAE	Porcupine*	3
FELIDAE	Canadian Lynx*	2
GEKKONIDAE	Leopard Geckos, Eyelash Crested Geckos	275
HYLIDAE	Green Tree Frogs	118
LACERTIDAE	Steppe Runner Lizards	4
MEPHITIDAE	Spotted Skunk*	2
MUSTELIDAE	Fisher, Pine Marten, Badger*	5
NON-HUMAN PRIMATES	Cynomolgus, Rhesus Macaques**	64
PAGURIDAE	Hermit Crabs	24
PELOMEDUSIDAE	African Aquatic Side-Neck Turtle	31
PETAURIDAE	Sugar Gliders	485
POLYCHROTIDAE	Green Anoles, Bahaman Anoles, Longtail Lizards	207
PYTHONIDAE	Bally Pythons	77
SCINCIDAE	Skinks	3
SCIURIDAE	Marmot*	1
TESTUDINIDAE	Russian Tortoise	54
THERAPHOSIDAE	Chilean Rose Tarantula, Rose-Haired Tarantula	2
UROMASTYX	Uromastyx, Spiny Tailed Lizards	1

*** Licensed Menagerie Premises**
****Research Labs**
Table 23: Exotic Imports
Source: MDOL staff

Revenue for Special Licenses, Permits , and Veterinarian Forms

January 2015—June 30, 2015

May 22, 2014 the Montana Department of Livestock adopted rules raising Animal Health fees to cover administration costs. The implementation of those fees began January 2015. The tables adjacent and below show the Animal Health Division internal tracking of these fees.

- ***Table 24 right*** shows revenue generated from the increased fees for veterinary forms and tags. Source: MDOL staff
- ***Table 25 below*** shows the revenue generated from the special licenses and permits. Source: MDOL staff

FORM	OFFSETS
SV-7	$14,400.00
SV-7A	$182.00
SV-7B	$527.00
SV-7HP	$268.00
SV-7GF	$162.50
SV-7GFC	$30.00
GF TAGS	$489.50
TRICH FORMS	$1,443.00
TRICH TAGS	$5,583.90
TOTAL	**$23,085.90**

Permit/License+	New	Renewal	Permits/License Issued	$ Fees Collected FY15
Annual Equine Semen	85	NA	85	403.00
Annual Horse	`	NA	290	1392.00
B-Ovis	2	8	10	130.00
Biologics	52 (estimate)	566	618	6290.00
Bovine Semen	NA	6*	6	29.00
Bovine Semen	NA	2*	2	84.00
Equine Feedlot	NA	1	1	1450.00
Montana Bull	NA	3	3	1050.00
NPIP	44	NA	44	277.00
Seasonal Grazer	7	45	52	1051.00
Six-Month	329	NA	329	3139.00
Trich Quarantine Feedlot	NA	11	11	134.00
GRAND TOTAL	**809**	**642**	**1451**	**13,979.00**

Official Centralized Services (CS) analysis may differ due to actual dates and items that were received and processed. The Animal Health Division data is shown to display specific program item revenue.

2015 Administrative Rule Changes

Figure 26: Administrative Rules Books
Source: http://goo.gl/cPAvIJ

Rabies: Rule changes addressed discrepancies between livestock rules and Department of Public Health and Human Services (DPHHS) rules regarding management of dogs that bite humans. We standardized the language between our rules and their rules. We also updated language to be more consistent with the Compendium of Animal Rabies Prevention and Control.

Brucellosis Vaccinates: Amendments were adopted to address the negligible risk of brucellosis from imported cattle to Montana covering forty-six states that have been classified as brucellosis class free for ten or more years. Further, the change eliminates many import quarantines that could be a burden on producers and create additional costs to the department.

Tuberculosis: Historically, the department's cervid import tuberculosis (TB) test requirements were set to be consistent with the federal interstate test requirements. Rule amendments now make Montana's import requirements for TB testing of cervids to be consistent with federal requirements. State classification regarding state tuberculosis status of captive cervids is defined in Title 9 of the Code of Federal Regulations.

DSA: A recent elk study conducted in the Blacks Ford and Red Mountain areas (outside of the current designated surveillance area), by the Montana Department of Fish, Wildlife and Parks revealed a significant number of brucellosis-exposed elk. Due to the potential of *Brucella* exposure to livestock and to help protect Montana livestock producers and its trading partners, a designated surveillance area boundary change was necessary to include cattle operations that overlap with the range of these elk in the Designated Surveillance Area. (DSA).

Elephants: The previously recommended screening test, the Elephant TB Stat Pak, is no longer manufactured. Recommendations for testing elephants have received considerable discussion at the United States Animal Health Association (USAHA) and the USDA. Recommended testing is expected to change. The rule change allows the state veterinarian to require an alternate appropriate test.

Anthrax: Anthrax rules were reviewed and updated aligning the department's rules with current research and to eliminate unsupported requirements when addressing anthrax.

Exceptions/Waivers: February 26, 2015 the department proposed amendments granting exemption flexibility on a case-by-case basis for imports into the state of Montana. Rule amendments were also proposed to remove language specifying that permits must be obtained by phone and language requiring excessive documentation of prior animal movement history.

Canadian livestock producers annually request a CAN brand waiver to attend exhibitions in Montana; the department proposed providing an exemption for the required CAN brand for exhibition animals only.

A public hearing was held in May 2015, and the rules were approved and adopted as proposed July 2015.

Computer Systems

IT

The use of electronic official forms has many benefits, including reduced paper and postage costs, faster availability of documents and data, reduced data entry and processing time, and transcriptional errors. Animal Health staff continued efforts to increase the use of electronic forms by developing Excel-based test and vaccination forms and implementing a new iPad application for electronic health certificates.

In July, 2014, MDOL made the iPad application, "iCVI" available to Montana veterinarians. Nineteen veterinarians issued almost 1500 health certificates where the App migrates data automatically into our animal movement database, USAHerds. Due to increases in the use of electronic CVIs, the total number of cattle in our animal movement database increased 72% over last fiscal year, yet the number of cattle entered by hand increased only 14%. This increase improves our ability to respond to disease events as well as our compliance with federal animal traceability requirements.

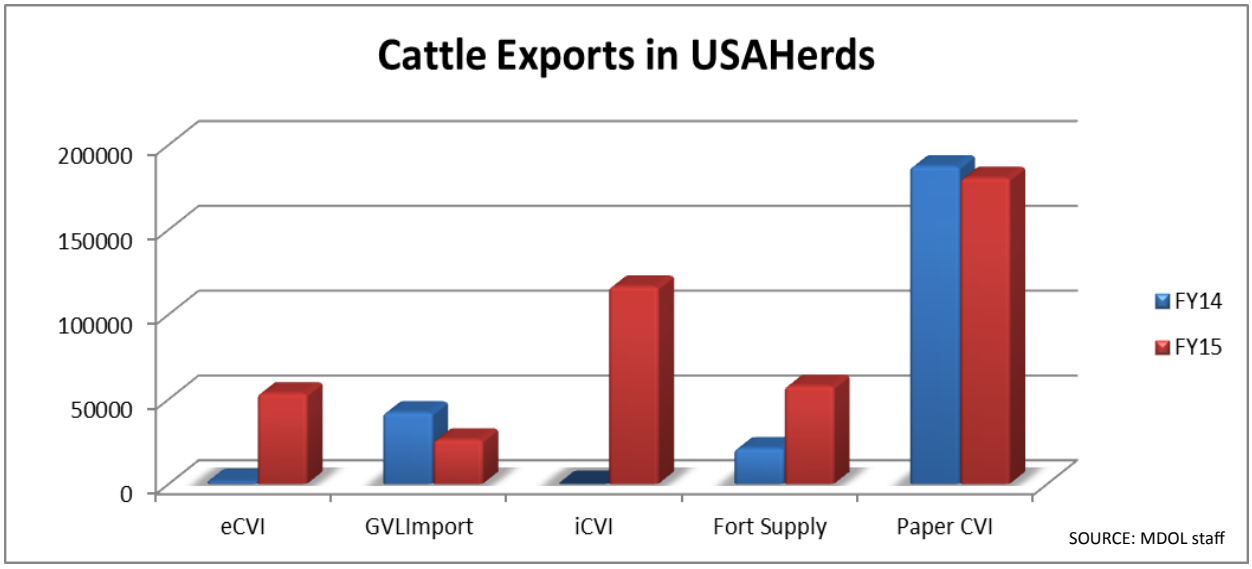


Figure 27 represents the number of cattle in the USAHerds database on paper and the different types of electronic Montana export health certificates for fiscal years 14 and 15, respectively.

Only certificates with cattle subject to the ADT Rule or that originate in Gallatin, Park, Madison and Beaverhead counties are hand-entered into USAHerds by the Helena office (this includes "Paper CVI" and "Fort Supply" categories). All cattle certificates from eCVI, iCVI and GVL are included.

Alternative Livestock

The Chronic Wasting Disease (CWD) Herd Certification program includes an annual review of each herd's records for inventory, deaths, and CWD testing. A status level is assigned according to Montana administrative rules. There are ten licensed ranches with no animals as of June 30, 2015. There are two ranches with only two animals and one ranch has 185 animals. There are elk, mule deer, white tail deer, mountain goats, and big horn sheep on these ranches. One ranch license was revoked; they paid fines and were ordered to liquidate their elk by October 27, 2015. They have 30 elk remaining at the time of this report.

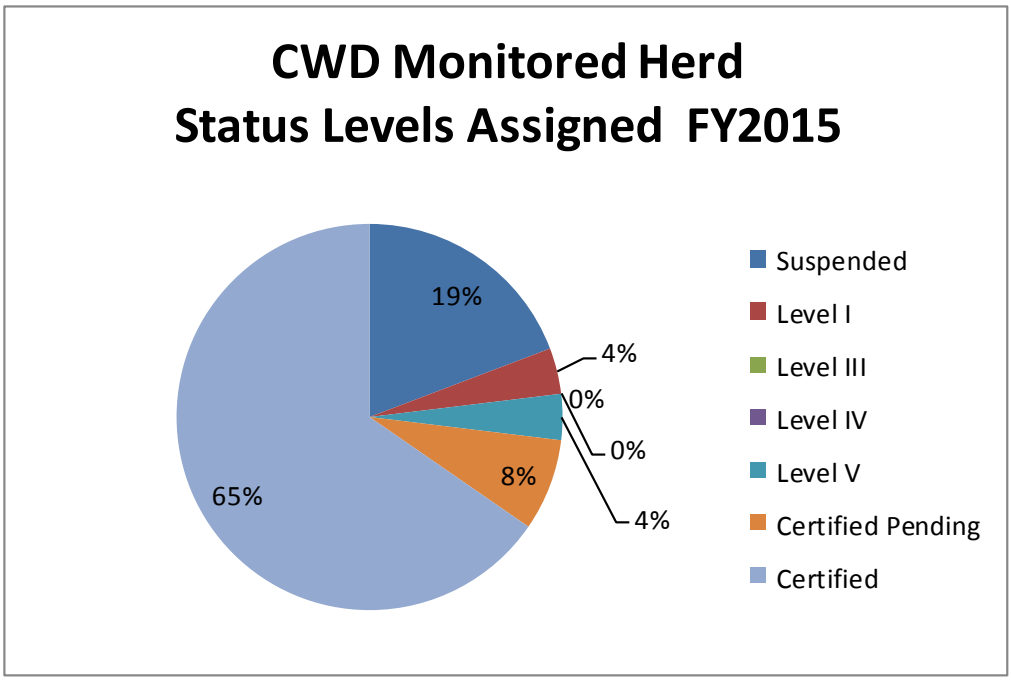


Figure 28: Level indicates degree of compliance with federal/state Chronic Wasting Disease surveillance activities in a herd with the highest level achieved being "Certified."

Alternative Livestock Statistics

Date	FWP Licensed Facilities	MDOL Computer Animal Inventory	Calves/Fawns Born
2010	41	2,056	336
2011	41	2,061	279
2012	39	1,206	265
2013	39	1,226	252
FY2014	35	888	252
FY2015	33	875	259

Table 29: AL Statistics
Source: MDOL staff

FIELD REPORTS

Western District—Ernie McCaffree, Area Manager

Alternative Livestock: Fish, Wildlife and Parks and Department of Livestock were instrumental in investigating the Bowman Elk Ranch, DBA Judith River Elk. The investigation included unlawful possession of game animals, incomplete record-keeping, unlawfully allowing wild animals to enter their operation, and fencing violations. The case raised concerns about wild animals being shot by game farm hunters, the spread of disease and genetic mixing between wild and captive animals. Criminal and civil fines, penalties, restitution, and forfeitures were handed down by Fergus County. Bowman's alternative livestock ranch license was revoked and the animals are to be depopulated from the ranch by the end of October 2015.

Herd plans were set up. Elk were double tagged meeting the double tagging CWD requirements.
Wellborn Elk Ranch in Dillon voluntarily depopulated its herd as well. Unreported escaped elk and other violations of identification were documented. Dan Bugni assisted Ernie McCaffree on this case.

Bouvry Exports: Monitoring continued at the Bouvry Exports horse feedlot in Shelby for compliance of the Memorandum of Understand (MOU) between Bouvry and the Department of Livestock. Roughly six periodic inspections were completed by Ernie McCaffree with reports submitted to the Helena Office.

Canadian Border Issues: Continued work with Canadian livestock officials pertaining to U.S. livestock crossing into Alberta Canada near Glacier Park, and Canadian livestock coming into the U.S. from British Columbia near Eureka.

Enforcement Cases: Lake County fraud and embezzlement case involving Andrew Jackson closed with Jackson pleading guilty to $186,000.00 in fraud. No jail time, but he is serving two consecutive ten-year probation sentences with restitution. The case was worked on by Tom Harmon and Laura Hughes. Ernie McCaffree investigated illegal branding case in Lake County on an Amish cow herd citation. Other cases involved citations, misdemeanor citations and livestock forfeitures and seizers in Flathead County.

Inspections (special events): Tom Harmon and Ernie McCaffree inspected livestock at the Majestic Valley Arena which included WTRC roping, PBR Bull Riding, Cinch Bucking Horse Championships and sale, NCHA cutting, Western Montana team penning. All livestock were inspected for brands and import requirements.

Livestock Sales: The Western Region worked sales in Missoula, Majestic Valley Arena, Northwest Montana Fair in Kalispell. All field men were busy with fall run of cattle at these markets, livestock shows, and 4-H events.

Personnel: Evaluations of employees were completed and submitted to the Helena office.

Quarantines: Quarantines were established on illegal imported livestock from Idaho, Colorado, and Wyoming for brucellosis, and EIA (Coggins) testing. Notices to Appear and warning citations were issued.

Stray Animals: A wide variety of stray sheep, goats, lamas, horse were picked up. Most were advertised, branded, and sold with no owner found.

Field Report Metric for FY2015	
Miles Driven:	25,547
Cattle Inspections:	1085
Horse Lifetime Inspections	127
Rodeo Bull L/T Inspection	1
Horse Annual	131
Estrays:	25
Truck Stops	10
NTA:	2
W/T:	11
Felony	NA

Figure 30: Field Report Metric
Source: MDOL staff

FIELD REPORTS

Eastern District—Travis Elings

Inspections*:* The Eastern Division was busy with many local inspections along with providing assistance for extensive herd testing for brucellosis.

Investigations: Investigations centered around cattle crossings property lines; horse traders, imports of horses and bulls with missing, incorrect, or forged documentation, and feuding neighbors.

Quite a few complaints of downed livestock were either the result of natural causes, traffic fatalities, or suspects shooting livestock. Some instances involved suspects threatening our officers. Those incidents ended in arrests.

One investigation of prominence involved a father/son team buying horses without a license. They would buy the horses, not get them inspected, and then haul them out-of-state to be resold. Two horses that were purchased by this team had been stolen from the Crow reservation. This part of the investigation went federal. Thirty NTAs were written to one of the buyers. This investigation involved five district men, the Montana Highway Patrol, the Sheriff's Office in two counties, and the Bureau of Indian Affairs.

Field Report Metric for FY2015	
Miles Driven:	30120
Cattle Inspections:	1185
Horse Lifetime Inspections	38
Rodeo Bull L/T Inspection	0
Horse Annual	47
Estrays:	52
Truck Stops	58
NTA:	47
W/T:	12
Felony	2

Figure 31: Field Report Metric
Source: MDOL staff

Violations/Notices to Appear (NTA): A number of NTAs were written to horse traders; others were for breaking quarantines and running a rodeo without inspections. Many violations were for lack of proper paperwork.

Sales: Help was short this year and the Eastern District field men were kept busy assisting with numerous sales including the Nile, Midland Bull Sale, and Billings Livestock Sales. Bad checks were passed around on occasion and those matters were investigated and cleared up.

Strays/Missing Livestock: Received calls about bulls, steers, cows, and horses missing or running at large in Carbon, Yellowstone, and Big Horn counties. Follow-up ensued and the animals were either returned to their owners or the issue was kept under investigation.

FIELD REPORTS

Central Area District—Marty Clark, Area Manager

Inspections: Central Division performed preslaughter inspections at Stillwater Pack and Big Timber Meats. Marty met with Eastern Area supervisor, Travis Elings regarding the chief Joseph Trail Ride.

Investigations: Investigations included missing cattle in Ryegate, bucking bulls imported illegally, and check investigation issues.

One issue involved working with Evaleen Starkel, Animal Health, Helena regarding a resident in Butte who was in possession of two female foxes and one caiman and is moving to the country. The foxes were illegal to own and were given to Triple D game farm; but, the resident was allowed to keep the caiman because it was grandfathered in by regulation.

Investigation took place of horses that were left on premises where residents were evicted.

Received report of stolen horse case in the Chinook area – none found.

Neglect/Abuse: Ongoing paperwork issues for Ted Wall, investigator in Townsend regarding the Rocky Acres animal cruelty case. Several calls regarding complaints about horse stable in Helena. Several calls from Mark Simenson, District Investigator Chinook area, regarding starving horses and goats.

Quarantines: Quarantines include avian influenza in the Harlowton/Lewiston area, baby bull calves in Whitehall, some of which died en route from "shipping disease." More poultry quarantines set up in the Hobson/Moccasin area for avian influenza.

Firearms Qualifications: Schedules were set up for department and bison management employees for shotgun, pistol and rifle qualifications. Marty Clark renewed his POST (Public Safety Officer Standards and Training Council) certificate for Primary Instructor for the pistol, shotgun, and rifle.

Shows/Sales: Computer issues were worked out in Glasgow on sale days; testing took place in Great Falls for avian influenza – all poultry was negative.

Strays: Call from Big Sandy rancher regarding cattle in BLM; Rygate rancher missing cattle; Winnett rancher reported belief that some of his cattle had been stolen by his neighbor.

Violations: Reported rodeo bulls from Idaho/Wyoming had health violations.

Field Report Metric for FY2015	
Miles Driven:	13752
Cattle Inspections:	844
Horse Lifetime Inspections	51
Rodeo Bull L/T Inspection	0
Horse Annual	48
Estrays:	26
Truck Stops	29
NTA:	5
W/T:	12
Felony	NA

Figure 32: Field Report Metric
Source: MDOL staff

LOOKING FORWARD

Long-Term Outlook
Martin Zaluski, DVM

Digital systems keep advancing, and even government is not left out. One of our biggest challenges will be to ensure that the various vendors of software and electronic health certificates meet a common standard; otherwise we're no better off than paper files.

I anticipate some interesting information from elk collaring studies in 2016. Montana will be capturing elk in the Red Lodge area, and Wyoming will likely be conducting a project in the Bighorn Mountains. Both of these areas are of particular interest because they will help us better assess movement of elk between the two states with potential implications on where Montana's Designated Surveillance Area (DSA) should be in the east. I have my fingers crossed for no brucellosis-infected cattle herds for this coming year.

We try to stay ready for the next big disease outbreak, and not just prepare to refight the last battle. Over the last several years, we've worked through EHV-1 and horses, swine enteric coronavirus (SECD), vesicular stomatitis (VS) and most recently avian influenza which resulted in the most costly animal health response in US history. We will see what 2016 will bring.

We appreciate the food producers and veterinarians for what they do for this nation in keeping livestock healthy.

As always, keep in touch.

Figure 33: Martin Zaluski
Source: MDOL photo stock