



Midwest Fish and Wildlife Health Committee Meeting

May 19-20, 2009
Fort Collins, CO

Hosted by:
Colorado Division of Wildlife



Meeting Time and Place

The Midwest Fish & Wildlife Health Committee conducted its annual meeting May 19-20, 2009 at the Hilton in Forth Collins, CO.

Attendance

Representatives from 7 state fish and wildlife agencies (CO, KS, MI, MN, ND, NE, and OH), the United States Department of Geological Survey's National Wildlife Health Center, the United States Department of Agriculture - Wildlife Services (USDA-WS), and University of Tennessee-Knoxville, attended this year's Midwest Fish and Wildlife Health Committee Meeting. A total of 18 individuals were in attendance and two others joined by speaker phone. Illinois, Indiana, Kentucky, Missouri, South Dakota, Wisconsin; and the Canadian Provinces of Manitoba, Ontario, and Saskatchewan were not represented.

Executive Summary

Status of the National Fish and Wildlife Initiative

Rebecca Humphries, Chair of AFWA Fish and Wildlife Health Committee and Director of the Michigan Department of Natural Resources, led a discussion via conference call on the status of the National Fish and Wildlife Health Initiative.

The two over-arching goals of this initiative are to:

- Facilitate establishment and enhancement of state, federal, and territorial fish and wildlife management agency capability to effectively address health issues involving free-ranging fish and wildlife;
- Minimize the negative impacts of health issues affecting free-ranging fish and wildlife through surveillance, management, and research.

The Initiative has been passed and a steering committee was formed in 2007. This steering committee has met four times (2 in-person meetings and 2 conference calls) and is continuing to work on the creation of a charter. USDA assisted the steering committee with development of a simple survey that was sent out to all state directors to gauge each state's capacity to deal with fish and wildlife health issues. The results of that survey are still being compiled.

The online version of the National Fish and Wildlife Health Initiative (NFWHI) Toolkit has been updated. The toolkit now includes Model State Fish Health Programs in addition to the Model State Wildlife Health Programs. Both documents can be found in Chapter 5 of the Toolkit (www.fishwildlife.org/about_comm_fwhealth_toolkit.html). There will be a link on the AFWA home page (www.fishwildlife.org) to promote the addition, and the AFWA will also put a note in the next AFWA newsletter to the state directors.

Lead in Venison

Dave Schad, member of AFWA Fish and Wildlife Health Committee and Chair of the Lead Toxicosis Committee, and Director of the Minnesota Department of Natural Resources, requested the committee discuss the issue of lead in venison. There is increasing concern in how this issue will affect venison donation programs and hunting traditions across all the Midwest states. Some states have an interest in developing a coordinated communication strategy to ensure all state fish and wildlife agencies are sending a consistent message to their stakeholders on this issue; the committee thought this was not possible due to differences within each state on how public health related topics are dealt with and thus, opted for a resolution supported by a list of common ground statements (see Lead Fragments in Venison under the Director Information Items for the resolution and common ground statements).

Disease Reports

Each state and the National Wildlife Health Center provided an update on the wildlife disease issues within their jurisdiction.

International Avian Influenza Surveillance Efforts

Tom DeLiberto, USDA-Wildlife Services, presented an update on international avian influenza surveillance efforts.

Currently, USDA-WS is working in 29 countries both conducting surveillance and capacity-building. Many of these countries lack infrastructure, thus partnering with cooperators and building relationships is vital to the success of the projects. The capacity-building workshops are catered to meet the needs of each individual country, as most lack wildlife agencies. Training includes responding to mortality events or zoonotic outbreaks, with a focus on necessary personal protective equipment.

Tom pointed out that wildlife is viewed as more of a food source than a recreational or sporting opportunity by most of these countries. He has found that politicians tend to carry the dogma of attitudes toward the US, but in working with the people in these countries, these issues tend to disappear; having patience is critical. Through this international work, much can be learned about bird ecology as well as how different countries approach science. Village food markets are an important place to spend time, as many of the wildlife species living in that country appear in these places. There are vast culture differences between these countries and the US, which create unique experiences along the lines of food and transportation. This year, USDA-WS is working on a wildlife disease surveillance and research consortium between the US and China, with focus on avian influenza, plague, rabies, and rodent diseases; including the establishment of a Chinese Chapter of the Wildlife Disease Association.

Wild Sheep Diseases

Mike Miller, Colorado Division of Wildlife, gave a presentation on wild sheep diseases, focusing primarily on respiratory illness.

There have been declines in bighorn sheep since the late 1800's, due to market hunting, disease, and habitat loss and degradation. The die-offs coincide with livestock ingress. Bighorn sheep numbers have not really recovered, and there are fewer than 7,500 sheep statewide in Colorado. Causes of death most commonly noted are pneumonia, sudden death, mange/scabies, or pinkeye/conjunctivitis. One of the main problems is a lack of long-term datasets on population performance or health.

Mike's research has been focused on dealing with pneumonia or respiratory diseases, primarily caused by bacteria in the pasteuraceae family, although other bacteria such as mycoplasma and moraxella have been detected. The population-level effects seen from these respiratory disease epidemics include reduced adult survival (dramatic or subtle) and poor lamb recruitment, which lead to reductions in population sizes, instability and local extinctions. The general source of causative pathogens is introduced or endemic (with endemic not necessarily meaning "natural"). It is likely that all highly pathogenic strains of bighorn pasteurellosis have been introduced, given supporting evidence of no epidemics in northern wild sheep species and an exaggerated host response (suggesting these sheep have not evolved with exposure to these strains). Strategies for managing wild sheep health should focus on preventing pathogen introductions and reducing endemic pathogen resurgence.

Chronic Wasting Disease Research and Surveillance Strategies

Mike Miller, Colorado Division of Wildlife, led a discussion on chronic wasting disease research and surveillance strategies.

The two main research projects that Mike has been involved in include his recent paper on impacts of CWD on mule deer survival with strong evidence that the disease shortens the life of adult mule deer, and enhancing surveillance strategies with focus on the ability to detect new disease foci. Mike feels we now have better surveillance tools available (e.g., alternatives to hunter harvest sampling, designs based on sampling theory, etc.), and we can exploit the biases in CWD occurrence to improve surveillance strategies. For example, it is known that prevalence of CWD differs among sample sources, between sexes and age classes. The best sample source is targeted sampling, followed by roadkills, and then hunter-harvested adult males (>5 years old). Currently, Mike and Dan Walsh have a paper in review that offers a weighted system of points to design enhanced CWD surveillance strategies.

Eco-epidemiology of Lyme Disease in Tennessee

Michelle Rosen, University of Tennessee, presented information on the eco-epidemiology of Lyme Disease in Tennessee.

Michelle conducted a study with 3 main objectives: 1) determine the current distribution of *Ixodes scapularis* (deer ticks) in Tennessee; 2) determine their seasonal phenology or life-cycle; 3) determine if they are carrying Lyme's disease (*Borrelia burgdorferi*). They collected 4,200 ticks across the state and found many of the counties to have moderate to high levels of tick infestations.

She found no correspondence between peak lymphal activity and cases of Lyme's disease in humans, suggesting that these ticks might not be causing the disease. The disease was not detected in nearly 1,200 ticks sampled. The study concluded that deer ticks are more widespread and abundant in TN than previously realized; season activity of nymph does not correspond with human cases of Lyme's disease; and they did not detect the pathogen in any of the ticks tested. Thus, perhaps another tick is the culprit, such as the Lone Star Tick, and perhaps the disease in humans is not Lyme's, but Southern Tick Associated Rash Illness (STARI).

Bovine Tuberculosis in Minnesota

Michelle Carstensen, Minnesota DNR, provided an overview of the bovine tuberculosis outbreak in cattle and wild deer in the northwestern corner of the state.

To date, they have found 25 wild deer with the disease and 12 infected cattle

herds. An intensive winter deer removal project was just completed, removing approximately 740 deer in the localized area where the disease has been found (February population estimate was 650 +/- 80 deer), and only one new case of the disease was discovered. Minnesota DNR will be conducting hunter-harvested surveillance again this fall, as well as again liberalizing the fall hunting season to encourage the taking of more deer in the infected area. The state was granted Split-State Status in 2008, following a cattle buy-out program that removed 46 of 68 herds from the endemic area. If no additional cattle herds are detected, the state expects to regain its TB-Free status statewide within 5 years.

Plague in Colorado

Dan Tripp, Colorado State University, gave a talk on plague in Colorado.

Plague is caused by the bacteria *Yersinia pestis*, which is endemic to Asia and parts of Africa and is mostly a disease of rodents. Today, more than 200 mammalian species have been reported positive for plague as the disease has moved globally. The major forms of plague include bubonic (transmitted by fleas) and Pneumonic/Septic (transmitted through direct contact).

Dan's research project focused on plague in black-tailed prairie dogs and their fleas. This species of rodent is highly susceptible to plague with numerous epizootics and nearly 100% mortality within 6-12 weeks. Epizootics are driven by flea abundance. The objectives of his research were to examine effects of seasonal variation in flea species diversity and abundance on epizootics in prairie dogs.

Dan found that most of the hosts had few fleas and only a few hosts had numerous fleas; flea load increased during epizootics. There were 23 epizootics occurring during their study, with 9 in the spring and 14 in the late summer/early fall. This disparity in the timing may be caused by climate or prairie dog behavior. They concluded that flea loads and frequency of large loads increased during epizootics; flea abundance and species diversity were seasonal; and carnivores may play a role in movement of flea species.

Feral Swine

Seth Swafford, USDA-Wildlife Services, led a discussion on feral swine.

One of the common issues among states dealing with feral swine cases is how to definitively define "feral swine". There is lots of variation among states and between state agencies in policies or approaches to dealing with feral swine issues.

The main problems with feral swine are agricultural crop damage, livestock predation, habitat destruction, endangered species predations, game species competition, and disease threats. Unfortunately, wild boar hunting has become popular and promoted by certain sporting groups. It is likely that the biggest problem to be addressed by states is the fact that pigs are being moved through human involvement and not their own range expansion. Feral swine are costly! The estimate for economic damage was \$200/pig per year or \$80 million annually in the US; and this is excluding the disease component. Feral swine are a huge disease threat, carrying over 30 known disease pathogens and parasites.

Director Action Item

The Midwest Fish and Wildlife Health Committee is up for action of a 3 year extension in 2010. Our committee has been active with annual meetings and has provided the Midwest Directors information on fish and wildlife health issues. The meetings have been successful in educating, sharing information and networking of committee members. It is unlikely that wildlife diseases will become less important in future years; in fact, the opposite will likely occur. The committee members unanimously agree that the Health Committee has been relevant and a real benefit to them, and voted their preference to continue the committee. We request that the Directors allow us to remain a sanctioned committee of the MAFWA.

Director Information Items

3rd International Chronic Wasting Disease Symposium

The Utah Division of Wildlife Resources would like to extend an invitation for you to attend the 3rd International Chronic Wasting Disease Symposium to be held in beautiful Park City, Utah on July 22-24, 2009. The theme for this symposium is “CWD – Advancing the Science and Developing the Tools”.

As new research continues to broaden our understanding of CWD, wildlife managers have been presented with new and unique challenges that necessitate a fresh look at how CWD should be managed in cervid populations. This symposium will explore issues such as prion research and biology, management and control of CWD in wild and captive cervids, human dimensions of CWD, and CWD surveillance, just to name a few.

The accommodations at the Park City Marriot are those of a First-class mountain hotel, and symposium registration includes breakfast, lunch, snacks, and a delicious banquet. Park City, Utah is a beautiful, historic Rocky Mountain town and premier summer vacation destination located only 36 miles from the Salt Lake International Airport. It is a great location to combine work and family, vacation, or to use as a starting point to tour some of the 7 National Parks of southern Utah that are within a 4-10 hour drive from Salt Lake City. Sign up now to take advantage of early registration pricing for this unique and informative symposium! Please visit our website at https://www.regionline.com/cwd_symposium for more information and to take advantage of early registration pricing today!!!

Addressing Feral Swine Populations in MAFWA States

Recognizing feral swine as one of the most destructive, invasive, vertebrate species in the United States, the Midwest Association of Fish and Wildlife Agencies, the American Association of Fish and Wildlife Agencies and the United States Animal Health Association have passed resolutions calling for feral swine control. While these resolutions are an essential first step toward addressing the problem, these resolutions must be followed by concerted action to stem the increasing number and distribution of feral swine in the Midwest.

Feral swine are conservatively estimated to cause \$800 million/year of damage in the United States. They cause \$52 million of agricultural damage in Texas annually. They are a major reservoir, amplifier, mixing vessel and vector for diseases that affect

people, pets, livestock and wildlife as presented to the Midwest Association Directors in “Disease Risks Associated with Increasing Numbers and Distribution of Feral Swine in the United States”. Feral swine should be treated with the gravity and commitment to eradication with which the diseases they carry would be treated. While small, isolated herds currently may be free of disease, they will almost certainly become infected from illegal releases of infected swine or from expansion of infected populations in states to the south. Discoveries of pseudorabies in Nebraska, Wisconsin, Michigan and Missouri and swine brucellosis in Iowa in the last few years are evidence of the illegal movements of infected swine that are occurring.

Feral swine continue to increase in number and distribution. North Dakota has confirmed feral swine in three areas of the state, and has unconfirmed reports in 3-4 other counties. In so doing, it joins Missouri, Kansas, Illinois, Colorado, Iowa, Indiana, Nebraska, Ohio, Michigan and Wisconsin with feral swine populations, leaving only South Dakota and Minnesota among the MAFWA states without confirmed populations.

Adequate investment now can allow MAFWA states to avoid the fate of Texas and other states which are being devastated by feral swine. The key to success with the least cost is to quickly and aggressively attack the problem on public and private land with a variety of techniques when feral hogs are discovered. Both Nebraska and Iowa appear to be controlling their populations using this approach. In other MAFWA states with larger populations and different terrain and cover, controlling feral swine will be harder and more expensive, but it can be done. The most recent eradication effort on Santa Cruz Island cost approximately \$1000/pig for direct control. This must be considered a minimum cost for direct control since it took place on a 96 square mile island and herds on the U.S. mainland will be harder to contain and eliminate. While that cost is substantial, it pales in comparison to the damage caused by these animals, and to the ultimate cost if their numbers continue to increase and they become infected with a serious foreign animal disease.

While funds generally become available when diseased feral swine are discovered, similar resources are not available to control feral swine themselves. MAFWA states must work to muster the resources to address the problem before a serious disease becomes entrenched in their feral swine, rather than after. It will take the concerted efforts of all the MAFWA states, and agricultural and natural resource stakeholders within the states, to insure that adequate state and federal funds are made available to address this problem.

MAFWA should consider:

1. Writing letters to the Congressional delegations of all MAFWA states asking that funds be appropriated to control this destructive, invasive species through a matching grant program to states that have a functioning feral swine task force and a written plan for feral swine control/eradication and disease testing.
2. Contacting the other U. S. fish and wildlife associations to enlist their support of this effort to establish a feral swine control/eradication grant program.
3. Contacting the United States Animal Health Association (USAHA) to enlist their support of this effort to establish a feral swine control/eradication grant program.

Each state should consider:

1. Contacting state political leaders to support state appropriations to address the problem.
2. Enlisting the support of state agricultural departments and stakeholders to encourage Congress and state legislatures to pass such appropriations.
3. Energize natural resource stakeholders to support both state and federal appropriations to address the problem.

Lead Fragments in Venison Resolution and Common Ground Statements

Resolution:

Lead can be toxic for both wildlife and humans and there are numerous routes of exposure. State fish and wildlife agencies maintain authority over wildlife management while state public health agencies have authority over human health issues.

We resolve that since multiple agencies with interest are involved, state fish and wildlife agencies should work with their state's public health agency to develop key messages for hunters, address the potential sources of lead exposure and suggest ways in which exposure can be minimized.

Common ground statements:

- 1) There may be lead fragments in game species that are hunter harvested with lead-based ammunition and it is possible that lead may be consumed.
- 2) The human health risks associated with consuming game taken with lead-based ammunition are not completely known at this time.
- 3) Authority over the human health risks of lead exposure lie with state public health agencies, not with state fish and wildlife agencies.
- 4) Authority over use of lead based ammunition and its impact on wildlife and the environment lie with state fish and game agencies.
- 5) State fish and wildlife agencies are encouraged to have dialogue with their state public health agency. Language that advised the public to not consume wild game should be avoided, if possible.
- 6) Alternatives to lead based ammunition are available and will reduce the risks of lead exposure.
- 7) State fish and wildlife agencies have a responsibility to educate the public so that they may make informed decisions. Information may be disseminated via states' websites, hunting regulation guides, and hunter safety education programs.
- 1) State fish and wildlife agencies recognize the value of venison donation programs, not only for supplying meat to food pantries, but in helping reduce the deer population and agencies meeting harvest goals. Use of lead-based ammunition may adversely impact these programs.

Time and Place of Next Meeting

During the wrap-up, the committee decided the location of the 2010 meeting would be in North Dakota, either in late April or early May.

This year's meeting was judged a success and we want to thank the Directors who sent representatives to this meeting and encourage those who did not to consider sending one to next year's meeting and as a reminder, this is the Midwest *Fish* and Wildlife Health Committee meeting and we would like to see more Fish Health Specialists attend future meetings.

Submitted by: Stephen M. Schmitt, Chair
 Michelle Carstensen, Vice-Chair