



Midwest Fish and Wildlife Health Committee Meeting

April 17-19, 2012
Manhattan, Kansas

Hosted by:

Kansas Department of Wildlife, Parks & Tourism



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Meeting Time and Place

April 17-19, 2012 Manhattan, KS

Attendance

Attending this year's Midwest Fish and Wildlife Health Committee Meeting were representatives from 12 state fish and wildlife agencies: Iowa, Illinois, Indiana, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin; and representatives from three federal agencies:

- the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (USDA-APHIS-WS),
- the United States Geological Survey, Kansas Cooperative Fish and Wildlife Research Unit, Kansas State University (USGS-KS-CRU),
- and the United States Geological Survey, National Wildlife Health Center (USGS-NWHC),

A total of 18 individuals were in attendance. In addition, 8 individuals participated in the meeting via WebEx. Ohio and the Canadian provinces of Manitoba, Ontario, and Saskatchewan were not represented.

Executive Summary

DISEASE REPORTS

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

Update on White-nose Syndrome in North American Bats, Anne Ballmann, NWHC

Anne began with a review of the timeline of white-nose syndrome (WNS) events in North America. During winter 2010-11, no significant westward movement of the disease was reported; however, the most recent winter season had an advancement of WNS into eastern Missouri, Delaware, and northern Alabama. These new detection sites have not had much associated mortality at this point. In the older sites, mortalities have become more notable. Some encouraging news has come out of NY where multi-year contaminated sites have shown a stabilization in the bat counts since the earlier declines; not really sure what this is attributed to. Winter field signs including abnormal behavior, wing damage, and possibly visible fungus (not always). NWHC has confirmed WNS in 14 of 23 events (61%) that were reported to them. Some superficial fungal infections have also been found, but were not confirmed as WNS. There has been no new bat species added to the list since last year. As for testing, histopathology remains the gold standard, but PCR and fungal culture methods are still used to confirm the disease. A survey was sent out to state agencies last year to identify what labs are certified to conduct WNS diagnostics. Highlights in WNS research in the past year: *Geomyces destructans* (GD) has been identified as the causative agent of WNS; GD has been detected in soil and wall substrates, showing that there is an environmental reservoir for this disease; and little brown bats are susceptible to both NA and European strains of the disease. Bats can recover from active infections and significant wing damage with some support in a captive setting; GD is susceptible to common antifungal drugs. However, how can effective treatment be conducted on free-ranging animals? This remains a challenge. The national plan for WNS is the phase of developing implementation strategies for WNS management and monitoring.

Update on major avian mortality events in the Midwest in 2011, LeeAnn White, NWHC

There were 47 epizootic events reported to or investigated by NWHC from the Midwest; this included about 27,000 estimated dead birds. Of the Midwestern states, most of the mortality came from Minnesota. Trematodiasis made up the largest mortality category; which is 2.5 times higher than last year. Most of this mortality was associated with the upper Mississippi River NWR and Lake Winnibigoshish, and affected mostly American coots and lesser scaup. Fungal pneumonia (aspergillosis) in mallards in South Dakota was the second largest mortality event (7,000 mallards). Spoiled grain is the primary source for this fungal disease.

Avian botulism (Type C) continues to be a significant cause of mortality; 11 events killed about 2,200 birds. Type E botulism is associated primarily with the Great Lakes; about 450 mortalities were reported in 2011. Research continues into Type E botulism including citizen volunteers monitoring for lakeshore events to enhance carcass management, as well as development of a new bioassay. Wildlife agencies can always check out the NWHC website for updates on mortality events, www.nwhc.usgs.gov

Tom DeLiberto, USDA-WS Update

The field disease program was combined with the research center this past year; this was driven by dramatic decreases in funding. In avian health, the national surveillance program for highly pathogenic avian influenza (HPAI) has concluded; however, some pockets of surveillance continue. There are some publications underway and the benefit of the massive collection of HPAI data is just now being realized. Newcastle research continues in Minnesota with USGS-NWHC, USDA-WS, and MNDNR. Feral swine issues are probably going to be a driver for funding, both due to agricultural damage and health concerns. The guidance document for disease surveillance for wildlife is now available on the website. It is likely that CWD funds will not be available at the federal level in the President's budget. African swine fever is present in wild boar in Europe and getting a lot of attention; possibly moving this disease up the concern list in North America. Interest in raccoon roundworm, leptosporosis, and hepatitis E is gaining. Pandemic H1N1 was picked up in 2 swine trapped in Texas; epidemiological investigation into this finding continues. There has also been a national scan in coyotes for canine parvovirus.

Hemorrhagic Disease Update, Aaron Hecht

There are two primary hemorrhagic diseases, epizootic hemorrhagic disease (EHD) and bluetongue caused by related viruses. There are 10 serotypes of epizootic hemorrhagic disease viruses (EDHV) and 26 for bluetongue viruses (BTV); both transmitted by midges. There are a wide variety of wild ruminants that are susceptible to infection with EHDV and BTV; however most of the infections causing disease are seen in white-tailed deer and mule deer. There is predictable seasonality for EHDV in late summer and early fall. In general, there are less frequent outbreaks but increase in disease severity with latitude in the US. Aaron presented slides depicted peracute/acute, subclinical and clinical signs of the disease. Virus isolation and PCR are important to conduct beyond the clinical signs seen upon necropsy. Over the past decade, there have been numerous changes in the epidemiology of EHDV and BTV. Lung, spleen, lymph node and/or blood tissues are the preferred samples to be submitted for diagnostics. There appears to be an increase in outbreaks in northern states, which could be due to overwintering of the virus, movement of viremic ruminant hosts, or movement of infected midges. For further information on hemorrhagic disease, please contact Mark Ruder, mark.ruder@ars.usda.gov.

Emerging Issues for Diseases of Migratory Birds of the Great Plains, David Haukos (Kansas Cooperative Fish and Wildlife Research Unit, Kansas State University)

There are many diseases that affect migratory birds, such as cholera, botulism, aspergillosis, duck plague, Newcastle disease, West Nile, and HPAI H5N1. Aflatoxis (aspergillosis, a fungal infection) is caused by an interaction between waste grain and environment (corn and peanuts. Much of this is observed in sandhill cranes, especially during spring migrations (Feb-April). Drought-resistant corn has allowed dryland farming to occur, thus areas of the crane migration are now in corn growing areas, and waste corn is abundantly available. Avian botulism can wipe out local groups of birds but David doesn't have a really good feel for how this disease affects populations. This is becoming more common in urban areas, which requires a different agency response than when die-offs occur at more traditional staging areas. Botulism outbreaks in Canada are reliable; whereas, in the US the events are more variable. Predictions with climate change include increased outbreaks of botulism. Cholera outbreaks, caused by bacterium *Pasteurella multocida*, are mostly reported in snow and Ross's geese. In ducks, pintails are the most susceptible. Transmission is thought to be related to crowding and cold weather. Snow geese populations are increasing in both central and Mississippi flyways; which is causing changes in wintering locations (declines in TX and increases in KS, MO, and AR). Management

and funding to respond to disease outbreaks requires planning at a field level (equipment, training, personnel). Avian Health and Disease Program with US Fish & Wildlife Service is available for consultation; Dr. Samantha Gibbs would be the appropriate contact.

Plague in Black-tailed Prairie Dogs, New Insights after a Decade of Research, Jack Cully (USGS)

Plague is caused by the bacteria *Yersinia pestis*; transmission is primarily by fleas. More than 200 mammal species have been implicated, but this is a zoonotic disease of rodents. The range of this disease was mostly established in North America by 1950. Is plague in prairie dogs polyhostal? Researchers used prairie dog colonies to create large-scale maps of 3 national grasslands to identify areas of die-offs. There was increased survivorship in prairie dogs with flea control; also increased survivorship in black-footed ferrets. There remains a problem of how plague is maintained between epizootics? Prairie dogs are not long-term reservoirs of plague, as 95% will die within 78hr of infection, yet the bacterium appears to be maintained in the population. Research studies have shown increases in survivorship via dusting or vaccine use. Fleas are involved in the transmission and maintenance of plague, even in colonies not experiencing an epizootic. Perhaps there is a fairly inefficient transmission of the bacteria from fleas to prairie dogs, which might allow plague to smolder enzootically until flea densities become high enough to kill off a colony.

Wisconsin CWD Update, Lindsey Long

March 28, 2012, WIDNR received confirmation of new CWD-positive case in a deer from Washburn County in northwestern WI. This deer was reported sick and thin; it was a 3.5 yr old female. WI's CWD Response Plan (2010) outlines what steps will be taken now in this new area. The state plans to evaluate the genetics of this new case to compare it to deer in the endemic area. Location of this deer is within ceded territory; so there will be tribal involvement in the response. A baiting/feeding ban will begin this spring in a 4-county area. Also, collections of sick deer and roadkills will begin in a 10-mi radius around the new case; including 2-mi radius for landowner permits to remove deer now. DNR plans to heighten awareness in the local area for sick deer reports. There are 6-8 captive cervid farms within 10-mi radius; these are large-scale operations. Compliance investigation did not turn up any information that might explain the origin of this new case, it's presumed to be a wild deer. In the southern part of the state, there is a trend of increasing prevalence; CWD infection in adult males increased from 8 to 18% this past year. Funding level for CWD management might be at \$600k next year.

Chronic Wasting Disease Update for Minnesota, Michelle Carstensen

The MN DNR discovered their first case of CWD in wild deer during the 2010 hunting season. Since that time, a ban on recreational feeding in 4 counties was instituted. A CWD Management Zone was created, which included a 10 mile radius around the CWD-positive case. A sharpshooting effort removed 1,200 deer during winter 2011; no additional CWD-positive deer were discovered. This past fall, 2,390 samples were collected in the southeast portion of the state, including 1,125 from the CWD Management Zone. All deer were negative for CWD. This was the first time MNDNR instituted a mandatory surveillance effort as well as carcass movement restrictions; cooperation from hunters was excellent. These results are encouraging, as it suggests MN might be on the front end of a recent CWD infection with limited disease prevalence and distribution. Surveillance will continue this coming fall in the CWD Management Zone and will expand to include 3 deer permit units along the border of WI/MN; closest to the newly detected CWD-positive deer near Shell Lake, WI.

CWD/Bovine TB Discussion, Minnesota/Michigan/South Dakota

Steve Schmitt pointed out the importance of state agencies responding to new detections of disease (CWD or TB) to try to get ahead of an outbreak before it becomes established in wildlife. At current times, most of our states are feeling some sort of CWD/TB "fatigue" and getting support from stakeholders is tough. The social sciences behind disease management has changed much more than the biology. Selling aggressive response strategies and finding the funding and political will to support them remains a challenge.

ACTION ITEM

Feeding and Baiting Risk Communication Devices

Momentum for creating risk communication devices started 2 yrs ago at the Midwest Deer & Turkey Group meeting, where the group wanted some type of actions taken regarding feeding/baiting of deer and turkeys. Last year, Bill Jensen (ND) got involved as well. Last year, our committee and the deer/turkey working group passed a joint resolution, which Dale Garner (IA) took to Midwest directors last June. They passed the resolution but would like both committees to develop a brochure to convey the message that all states could use.

How do you address vendors in your state (Cabelas, Bass Pro, etc.) that sell deer baiting/feeding products in your state when that activity is prohibited? Dale discussed how his working with Drury Brothers Outdoors led to Biologic deciding not to market deer feeding products (e.g. mineral licks, etc.) and instead focus on marketing food plot products because of health concerns for deer.

If you have a tradition of baiting/feeding in your state, you are going to have a difficult time changing those behaviors. However, states that don't have this tradition should be proactive in preventing these activities now.

Michelle, Dale and Dan formed a sub-committee on collecting language for the baiting/feeding brochure and trying to turn it into a final product. Comments are due to us by end of April. Dale will present our final project at the Directors meeting in June.

AFWA Federal Appropriations Recommendations for 2014 Federal Budget –

We recommend the following funding is needed to support state and tribal monitoring, research and management of these diseases in free-ranging wildlife:

- Ranking #1, Chronic Wasting Disease for \$20M
- Ranking #2, Bovine Tuberculosis for \$5M
- Ranking #3, Aquaculture/VHS for \$18M
- Ranking #4, Invasive Species for \$30M
- Ranking #5, White Nose Syndrome for \$10M
- Ranking #6, Avian Health for \$10M
- Ranking #7, Brucellosis for \$13M
- Ranking #8, Amphibians and Reptile Health for \$1M

We recommend funding be continued for \$250,000 for Southeast Cooperative Wildlife Disease Study. We also recommend funding for USDA-APHIS-WS for the Wildlife Disease Monitoring and Surveillance program for \$8M. This program funds wildlife disease assistance to states at no cost, such as CWD and bovine TB surveillance, and participation of wildlife disease biologists in state agency wildlife disease management activities.

Time and Place of Next Meeting –

During the wrap-up, the committee decided the location of the 2013 meeting would be in Kentucky, 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. Also, we thank Kansas Department of Wildlife, Parks & Tourism for hosting this year's meeting.

Lastly, Steve Schmitt announced that he is stepping down after seven years as Chair of this committee and Michelle Carstensen (MN) will take over responsibilities as incoming Chair; Dan Grove (ND) was appointed Vice-Chair.

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