



Midwest Wildlife and Fish Health Committee Meeting

April 7-8, 2015

Madison, WI

Hosted by:

Wisconsin Department of Natural Resources



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Meeting Time and Place

April 7-8, 2015
Madison, WI

Agenda: see Appendix II

Attendance

Attending this year's Midwest Wildlife and Fish Health Committee Meeting were representatives from 10 state fish and wildlife agencies: Illinois, Iowa, Kansas, Kentucky, Minnesota, Missouri, North Dakota, South Dakota, Virginia, and Wisconsin, and representatives from two federal agencies:

- the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (USDA-APHIS-WS),
- the United States Geological Survey, National Wildlife Health Center (USGS-NWHC),

A total of 20 individuals were in attendance (Appendix I). In addition, 10 individuals participated in the meeting via WebEx, including representatives from 5 state or provincial fish and wildlife agencies (Indiana, Manitoba, Ohio, Ontario, and Saskatchewan) and the United States Fish and Wildlife Service. Nebraska and Michigan were not represented.

Executive Summary

Disease Reports

Each state in attendance and the National Wildlife Health Center provided an update on the wildlife disease issues within their jurisdiction. In addition, the states of Michigan and Nebraska submitted a disease report to the Committee even though their representatives were not able to participate in the meeting. The only state that did not provide a disease update was Ohio. For your convenience, an index of disease reports is included in Appendix III.

National Fish and Wildlife Health Initiative Update, Ed Boggess, Director Liaison

Ed is the current President of MAFWA and also the Director-liaison to this Committee. He stated that our work is important and wildlife diseases are a growth industry. Ed provided brief update to the Committee on the current status of the Initiative, which started in 2005. AWFA developed a tool kit for fish and wildlife health, but the fisheries component is lacking. Efforts are underway to enhance the fisheries-related components in the tool kit. Becky Humphries is trying to energize the steering committee and a meeting is being planned for June 2015; Ed participates on this steering committee. They proposed fisheries health as a national conservation need, but it did not make the cut for funding within the national conservation need program. Ed would appreciate any comments from the Committee on how to more effectively work on national coordination of the Initiative and utilization of the tool kit.

Highly Pathogenic Avian Influenza Update, Bob Dusek, National Wildlife Health Center

There are 144 subtypes of avian influenza classified by their hemagglutinin protein (H1-H16) and neuraminidase protein, of which there are 9 (N1-N9). The highly pathogenic (HPAI) forms refer to those viruses with H5 and N7 proteins that have mutated from lowly pathogenic viruses into highly pathogenic viruses. The pathogenicity of viruses is determined by the virus' ability to cause morbidity and mortality in domestic poultry. Low pathogenic influenza viruses (LPAI) are fairly common in wild waterfowl. It can be prevalent in as many as 80% of birds in staging areas in late summer. HPAI can be detected from bodily secretions and organs throughout the body whereas LPAI is typically only shed in the gastrointestinal tract.

In the fall of 2013 H5N8 emerged in Asia. It was first detected in black-tailed teal in South Korea and Japan, and in Eurasian widgeon in Russia. Last fall, H5N8 was identified in domestic poultry in Europe and subsequently, it was found in wild birds. There were no wild bird mortalities attributed to this strain in Europe. In late November 2014, H5N2 was identified in British Columbia. There had been a history of several reports of this strain since 2000 in the Fraser Valley. The virus appears to be a reassortment of the Asian-Eurasian strains. On December 8, 2014, a northern pintail and a widgeon tested positive for H5N8 during routine testing following an aspergillosis die-off on Wiser Lake in Washington. Swabs taken from the birds tested negative but virus was found within the carcass at necropsy. Prevalence of virus was around 17% (n=29). Since the initial detection, H5N8 has been attributed to clinical disease to a wild Canada goose in Wyoming, and it has been detected in the Mississippi and Central flyways. Raptors appear to be highly susceptible. No human illness has been associated with these viruses to date.

Southeastern Poultry Cooperative Research group has conducted several initial susceptibility studies on H5N8 and H5N2 in chickens, mallards and turkeys. Turkeys are the most susceptible to H5N2. Turkeys exposed to high doses of virus became infected and were able to infect 100% of contact turkeys. No obvious gross lesions were present, and it killed up to 100% of infected birds. Chickens exposed to varying doses of H5N8 had varying levels of clinical disease with signs increasing as the infectious dose increased. Contact chickens did not become infected. Mallards exposed to H5N2 had some weight loss but no mortality or gross lesions; however, they continued to shed virus for 14 days post-inoculation. Mallards exposed to H5N8 had high oral shedding at 11 days out. Oral shedding was greater than cloacal for detection probability, but tracheal swabs yielded the best results. A low amount of virus is needed to cause infection in contact birds. The viruses are well adapted to gallinaceous birds. Ultimately, biosecurity is needed if migratory birds are present.

Health Considerations in Translocation Events: Wisconsin Elk and North Dakota Bighorn Sheep, Dr. Lindsey Long, Wisconsin DNR and Dr. Dan Grove, North Dakota G&F

Dr. Lindsey Long, WIDNR, facilitated a discussion on issues surrounding translocation of wildlife between states. Considerations include more than just disease surveillance. Translocation event can involve an individual animal or multiple animals at the same time. Methods of trapping must be considered. Important questions would include: Are active or

passive methods to be employed? What are the risks for capture myopathy? Each species of ungulate has a different susceptibility to capture myopathy. There are also concerns regarding human safety when handling and moving large ungulates. Consideration should be given to the current health of the animals so as not to move diseased animals, but also so that animals are not moved into an area with diseases that they are naïve to.

Wisconsin Elk Translocation KY-WI: A research population of elk was introduced into northern Wisconsin in 1995. That population has now grown to approximately 120 animals. Biologists have wanted to supplement the population, but since CWD was found in 2002, all movements and release of wild cervids was stopped. In 2013 the process of importing elk from a wild population in Kentucky was initiated. All animals were required to be tested for bovine tuberculosis, epizootic hemorrhagic disease, blue tongue virus, and bovine viral diarrhea. Animals were captured in coral traps in KY, eartagged, and placed in a holding pen for quarantine. At the 30 day post-capture workup, all animals were provided with a long-acting antibiotic, vitamin E, and selenium and then transported from KY to WI. All animals are currently being held in a holding pen under a 120-day quarantine period. At the time of the report, all animals were doing well. Subsequently, 5 animals have been lost to babesiosis in May. At 120 days post-translocation, the elk will be tested again for bovine tuberculosis, fitted with proximity collars linked to collared wolves in the area, and released. Animals approaching roadways will be hazed. The project is a 5-year effort, with a total of 150 elk planned to be moved.

Dr. Daniel Grove, NDGFD, provided an update on the die-off of bighorn sheep in ND (see appendix of state reports) and the issues involved with translocating animals across international borders.

Neonicotinoids – Presented by Lisa Williams, USFWS

Concern of the use of pesticides on seeds and plants has arisen as a result of declines in bee and butterfly populations. There seems to be an increasing number of species of insects disappearing, as the use of neonicotinoids has increased. The first neonicotinoids were introduced in the mid-1990's. In 2004, there was an exponential increase in the use of this class of pesticides. The top 3 used neonicotinoids are Imidacloprid, thiamethoxam and clothianadin.

Neonicotinoids are based on the structure of nicotine. They are neurotoxins that bind to the nicotinic acetylcholine receptors. In insects, they bind more strongly than in vertebrates. The binding to the receptors is nearly irreversible. They essentially lock the receptors in the open position which causes constant neuromuscular stimulus and ultimately the overstimulation leads to death. These pesticides are used in seed treatments, in irrigation water, soil drenches, foliar sprays, granules placed on pastures, injected into trees, and topically on pets. Neonicotinoids applied to seeds becomes distributed in all plant tissues. The highest concentrations occur in growing leaves and shoots. Non-target species, such as bees, are exposed from drinking plant guttation fluid. Neonicotinoids are water soluble and much of the pesticide ends up in the soil. It can be found up to 100m away from the planting due to wind dispersal.

Studies looking at concentrations of neonicotinoids have shown that there is a correlation between use of drain tiles and concentrations in wetlands. The concentrations of pesticide were highest in the tile, tile wetlands next, then in the wetland water. Although the water concentrations were below the EPA's acute levels, neonicotinoids have a cumulative dosing effect. The persistence of these pesticides in the environment is variable: Imidacloprid 30-1250 days, thiamethoxam 7-353 and clothianadin 148-6931. Neonicotinoids are very persistent in wetlands. The LD50 for bees exposed to clothianadin is 4ng. The average kernel of corn is coated with 1.25mg.

Ultimately in July 2014, the USFWS decided to phase out use of neonicotinoids by 2016. All neonicotinoids will be banned on USFWS managed lands. The use of GMO's will also be phased out.

CWD Discussion – Bryan Richards, USGS NWHC

An update on the bovine spongiform encephalopathy case in Alberta was given. The affected cow was a 6 year old born in 2009. This animal came from the same farm near Edmonton as the last case in 2010. The previous animal was born before the feed ban was initiated in 2007. Updates were given on the most recent CWD cases within the captive cervid industry. Dale provided an overview of the Iowa facility that had >80% infection rate, as well as current efforts to enhance surveillance in the location of the several infected wild deer that were found in the northeast part of the state.

Bryan provided an update on CWD prevalence and distribution in Wisconsin, with time-lapse slides that highlight the increasing incidence and spread of this disease. This was a powerful demonstration that underscores the need to continue efforts to manage for this disease, even under unfavorable political climates.

Steve Griffin shared South Dakota's recent experiences with Wind Cave National Park (WICA) and the South Dakota Department of Game Fish, and Parks intentionally hazing elk out of WICA and into Custer State Park as a mechanism to reduce population size (hunting is not allowed in Wind Cave National Park). However, the elk within WICA have a high prevalence of CWD, which had been relatively contained with a high fence between WICA and Custer State Park. The intentional movement of potentially CWD-infected elk out of Wind Cave National Park represents an additional disease risk to wildlife managed by the State. The Committee further discussed what actions could be taken to help educate federal and state decision-makers about the serious risk involved with moving wild animals from infected populations.

National Fish and Wildlife Health Network-WHISPers, Bryan Richards, USGS-NWHC

The National Wildlife Health Center has developed a web-based disease outbreak identification system, called Wildlife Health Information Sharing Partnership-event reporting system (WHISPers). WHISPers is a partner-driven, web-based repository for sharing basic information about historic and ongoing wildlife mortality and morbidity events involving five or more wild animals. The system provides natural resource managers with timely, accurate information on these events to facilitate disease management and planning. The system is also a searchable

archive of historic wildlife mortality and morbidity event data. The records in WHISPers can be searched by species, disease, location (to county level), and event start and end dates. The system currently contains the verified (laboratory diagnosed) records that the NWHC has maintained on wildlife mortality events, which includes event information shared by state and federal partners, and probably represents the largest wildlife disease database available in the U.S. However, the information is opportunistically collected and voluntarily reported to NWHC and, therefore, does not contain all the mortality events that have been documented in North America. Concern about sharing confidential location information during a disease event was discussed, as this could limit a partner's ability to accurately portray the extent of a disease outbreak. The success of this system will ultimately come down to the commitment of partners to use it. NWHC is now encouraging partners to input information into the system.

Primarily, WHISPers is intended to be used as a wildlife health management tool. The intent is that this system will provide management agencies with situational awareness regarding diseases affecting wildlife populations. Many diseases are predictable, occurring in the same locations at similar times each year. By chronicling these "typical" events, we can develop a better picture of disease impacts on wildlife across North America. With knowledge of "typical" events, it is also easier to identify departures from baseline, including new species or geographic areas affected by known diseases, or new diseases as they emerge and potentially spread across the landscape. A centralized repository of this information promotes better awareness of wildlife diseases and augments opportunity for both proactive and timely reactive response by natural resource managers. More information can be found online at:

<http://www.nwhc.usgs.gov/whispers/site/contact> or via whispers@usgs.gov.

ACTION ITEMS

- With recent reports of HPAI outbreaks in poultry and wildlife in several states, the Committee requested that members working directly on this issue within their state share informational materials being distributed to stakeholders, including hunters, wildlife rehabilitators, falconers, wildlife exhibitors, and others. Members agreed that they will begin by sharing communication materials already developed in Minnesota and Missouri, and continue to distribute surveillance plans and findings of wild bird monitoring for HPAI. The National Wildlife Health Center staff asked Committee members to increase vigilance and reporting of wild bird morbidity and mortality events and continue to submit birds for diagnostics, regardless of the species.
- Draft a position letter from the Committee to the Directors regarding the intentional movement of wildlife from areas with known disease occurrence. Case in point is the movement of wild elk from a known CWD-infected herd in Wind Cave National Park into Custer State Park in South Dakota, as a population reduction effort. Introduction of wildlife diseases or parasites into new areas can be an unintended consequence of wildlife translocation and reintroduction projects as well.

Director Action Item

Resolution in Support of Discontinuing the Use of Neonicotinoids on State Managed Lands

The Midwest Wildlife and Fish Health Committee at its annual meeting in Madison, Wisconsin on April 7-8, 2015 discussed and propose the following resolution in support of discontinuing use of neonicotinoids on seeds and plants on state managed lands.

SUPPORT FOR DISCONTINUING USE OF NEONICOTINOIDS ON STATE MANAGED LANDS

WHEREAS, neonicotinoid pesticides, including but not limited to imidacloprid, thiamethoxam, and clothianidin, are insecticides that are applied seed treatments, in foliar sprays, applied granularly to pastures, and injected into trees;

WHEREAS, neonicotinoid pesticides are increasing in use and wide range application and are considered to be moderately persistent in the environment;

WHEREAS, the Midwest Association of Fish and Wildlife Agencies (MAFWA) states are concerned about the deleterious toxic effects of broad spectrum pesticide use on seeds and plants as it pertains to declining native pollinator populations; and

WHEREAS, native pollinators are defined as but not limited to bees and butterflies (e.g. Poweshiek Skipperling and Dakota Skipper);

WHEREAS, the MAFWA states are concerned that the loss of these pollinators will potentially have wider scale impacts on the loss of essential biodiversity needed to maintain healthy and sustainable wildlife populations;

WHEREAS, recent studies have shown native bird populations may also be at risk from neonicotinoid treatments;

WHEREAS, the United States Fish and Wildlife Service have already implemented a program to phase out the use of neonicotinoid pesticides in agricultural practices on National Wildlife Refuges by January 2016;

NOW, THEREFORE BE IT RESOLVED, that the Midwest Association of Fish and Wildlife Agencies Directors at its annual meeting in Duluth, Minnesota on June 28 – July 1, 2015 support discontinuing use of neonicotinoids on State managed lands.

AFWA Federal Appropriations Recommendations for 2017 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, Avian Health for \$10M
- Ranking #3, White Nose Syndrome for \$15M
- Ranking #4, Invasive Species for \$30M
- Ranking #5, Neonicotinoids for \$3M
- Ranking #6, Bovine Tuberculosis for \$5M
- Ranking #7, Aquaculture/VHS for \$3M
- Ranking #8, Amphibians and Reptile Health for \$5M

We recommend funding is continued \$500,000 for Southeast Cooperative Wildlife Disease Study. We also recommend funding for USDA-APHIS-WS for the Wildlife Disease Monitoring and Surveillance program for \$10M. 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 for the 2016 meeting would be in Illinois in early April. Should that state be unable to host, Michigan would be the alternate.

This year's meeting was 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 Wisconsin Department of Natural Resources for hosting this year's meeting.

Submitted by: Michelle Carstensen, Chair and Dan Grove, Vice-Chair

APPENDIX I. ATTENDEE NAMES AND CONTACT INFORMATION

Name	Email	Office Phone
Batten, Jasmine	jasmine.batten@mdc.mo.gov	573-815-7901x.3934
Carstensen, Michelle	michelle.carstensen@state.mn.us	651-296-2663
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Griffin, Steve	steve.griffin@state.sd.us	605-394-6786
Grove, Dan	dmgrove@nd.gov	701-202-0775
Hesting, Shane	shane.heisting@ksoutdoor.com	620-450-8122
Hildebrand, Erik	erik.hildebrand@state.mn.us	651-259-5920
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Johnson, Derek	derek.johnson@wi.gov	608-767-2090
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Straka, Kelly	kelly.straka@mdc.mo.gov	573-815-7901x.3617
Wolf, Paul	paul.c.wolf@aphis.usda.gov	651-224-6027

Attended via Webex	Email	Office Phone
Bodenstein, Barb	bbodenstein@usgs.gov	608-270-2447
Boggess, Ed	ed.boggess@state.mn.us	651-259-5180
Buchanan, Tore	tore.buchanan@ontario.ca	705-755-2275
Cornicelli, Lou	lou.cornicelli@state.mn.us	651-259-5202
Davis, Rich	Richard.davis@gov.mb.ca	420-622-2474
Mehl, Katherine	katherine.mehl@gov.sk.ca	306-953-2695
Slack, Dawn	dslack@dnr.in.gov	812-334-1137
Strom, Sean	sean.strom@wisconsin.gov	920-832-1803
Tonkovich, Mike	michale.tonkovich@dnr.state.oh.us	740-589-9922
Williams, Lisa	lisa_williams@fws.gov	517-351-8324

APPENDIX I. Attendee Names and Contact Information

Name	Organization	Address	City, State	Zip
Batten, Jasmine	Missouri Department of Conservations	3500 E Gans Rd	Columbia, MO	65201
Bodenstein, Barb	USGS National Wildlife Health Center	6006 Schroeder Rd	Madison, WI	53711
Bogges, Ed	Minnesota Department of Natural Resources	500 Lafayette Rd.	St. Paul, MN	55155
Buchanan, Tore	Ontario Ministry of Natural Resources	300 Waters St.	Peterborough, ON	K9J8M5
Carstensen, Michelle	Minnesota Department of Natural Resources	5463-C West Broadway	Forest Lake, MN	55025
Cornicelli, Lou	Minnesota Department of Natural Resources	500 Lafayette Rd.	St. Paul, MN	55155
Davis, Rich	Manitoba Department of Conservation	27 Second Ave SW	Dauphin, MB	R7N3B4
Dufford, Doug	Illinois Department of Natural Resources	8542 N. Lake Rd	Lena, IL	61048
Dusek, Bob	USGS National Wildlife Health Center	6006 Schroeder Rd	Madison, WI	53711
Garner, Dale	Iowa Department of Natural Resources	502 E. 9 th St.	Des Moines, IA	50319
Griffin, Steve	South Dakota Game Fish and Parks	4130 Adventure Trl	Rapid City, SD	57702
Grove, Dan	North Dakota Game and Fish	100 N. Bismarck Expwy	Bismark, ND	58501
Hesting, Shane	Kansas Dept of Wildlife, Parks & Tourism	1830 Merchant	Emporia, KS	66801
Hildebrand, Erik	Minnesota Department of Natural Resources	5463-C West Broadway	Forest Lake, MN	55025
Jennelle, Chris	Minnesota Department of Natural Resources	5463-C West Broadway	Forest Lake, MN	55025
Johnson, Derek	Wisconsin Department of Natural Resources	4742 5 th 78	Black Earth, WI	53515
Kamps, Mandy	Wisconsin Department of Natural Resources	5301 Rib Mountain Dr.	Wausau, WI	54401
Kirchgessner, Megan	Virginia Dept. of Game & Inland Fisheries	4010 W. Broad St.	Richmond, VA	23230
Larson, Erin	Wisconsin Department of Natural Resources	101 S. Webster St.	Madison, WI	53707
Long, Lindsey	Wisconsin Department of Natural Resources	2801 Progress Rd	Madison, WI	53716
Mehl, Katherine	Saskatchewan Ministry of Environment	P.O. Box 3003	Prince Albert, SK	S6V6G1
Richards, Bryan	USGS National Wildlife Health Center	6006 Schroeder Rd	Madison, WI	53711
Ryan, Tamara	Wisconsin Department of Natural Resources	2801 Progress Rd	Madison, WI	53716
Slack, Dawn	Indiana Department of Natural Resources	5596 E. State Rd 46	Bloomington, IN	47401
Stasiak, Iga	Kentucky Department of Fish & Wildlife	#1 Sportsman's Lane	Frankfort, KY	40601
Strom, Sean	Wisconsin Department of Natural Resources	3369 W. Brewster St.	Appleton, WI	54914
Straka, Kelly	Missouri Department of Conservation	3500 E Gans Rd	Columbia, MO	65201
Tonkovich, Mike	Ohio Department of Natural Resources	360 E. State St.	Athens, OH	45701
Williams, Lisa	US Fish & Wildlife Service	2651 Coolidge Rd	East Lansing, MI	48823

APPENDIX II. AGENDA

Tuesday, April 7

12:00	Arrival and welcome	Lindsey Long/Tami Ryan
12:15	Opening remarks and introductions	Michelle Carstensen
12:30	Greetings and Update on the National F&W Health Steering Committee from our Director Liaison to MAFWA	Ed Boggess
12:45	State disease reports	State Representatives
2:15	<i>Break</i>	
2:30	State disease reports (continued)	State Representatives
5:00	<i>Break for dinner</i>	

Wednesday, April 8

8:00	Wisconsin Wildlife Health Issues	Lindsey Long
8:30	Invited presentations	
	Suggested topics: HPAI Outbreak, Role of Wild Birds	Bob Dusek, NWHC
	State Wildlife Agency Responses	Michelle, Kelly, Steve
10:15	<i>Break</i>	
10:30	Invited presentations	
	Suggested topic: Health Considerations in Translocation Events	Lindsey Long
	Elk Interstate Movement	Lindsey/Iga
	Big Horn Sheep and Respiratory Disease	Dan Grove
12:00	<i>Lunch</i>	
12:45	Invited presentations	
	Suggested topic(s): Neonictinoids	Lisa Williams-USFWS/Tami Ryan
2:00	<i>Break</i>	
2:15	Invited presentations	
	Suggested topic: CWD Management	Facilitator, Bryan Richards /All
3:45	WHISPers Update and Next Steps	Bryan Richards
4:00	AFWA Federal Appropriations Recommendations	All
4:20	Action Items	All
4:30	Wrap up and next year's host	

Thursday, April 9

Morning: Tour of the National Wildlife Health Center, led by Chris Brand, 9am
Afternoon: Visit to Aldo Leopold's Shack, 12:30pm