Midwest Fish & Wildlife Health Committee Meeting

May 1-2, 2007
Guttenberg, Iowa

Hosted by:

Iowa Department of Natural Resources

Table of Contents

Meeting Time and Place

May 1-2, 2007 Guttenberg, Iowa

Attendance

Representatives from 10 state fish and wildlife agencies (IA, OH, MN, MI, NE, KS, ND, SD, WI, CO) and the United States Department of Agriculture - Wildlife Services (USDA-WS), USDA- Agricultural Research Services (ARS), United States Department of the Interior - National Wildlife Health Center, Native American Fish & Wildlife Society, and Iowa State University - Department of Natural Resource Ecology and Management, attended this year's Midwest Fish and Wildlife Health Committee Meeting. A total of 23 individuals were in attendance (Appendix I).

Executive Summary

The Midwest Fish & Wildlife Health Committee conducted its annual meeting May 1-2, 2007 at The Landing in Guttenburg, Iowa (see Appendix II for Agenda). The states of Colorado, Iowa, Kansas, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin were represented. Illinois, Indiana, Kentucky and Missouri, and the Canadian Provinces of Manitoba, Ontario, and Saskatchewan were not represented. Also attending were representatives from USDA-APHIS-Wildlife Services, USDA-Agricultural Research Service, USGS-National Wildlife Health Center, Iowa State University - Department of Natural Resource Ecology and Management, and the Native American Fish and Wildlife Society.

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 most recent draft of the plan was circulated to the committee members. At this point, a steering committee is being formed to implement the plan. Director Humphries asked that each state representative talk to their Director to generate interest in serving on the steering committee, as one State Director is need to represent the Midwest Association of Fish and Wildlife Agencies. The first meeting of this steering committee is planned for the AFWA meeting in Louisville this fall.

Each state provided an update on the wildlife disease issues within their jurisdiction (see Appendix III). For your convenience, an index of disease by state is included in Appendix IV. The Native American Fish and Wildlife Society provided an update on their CWD surveillance activities and the committee discussed the need to include the Society in other regional meetings of the fish and wildlife health committees. The National Wildlife Health Center also provided an update on their work in avian influenza surveillance, CWD research, and recent mortality events (see Appendix V).

Tom DeLiberto, USDA-WS, provided an overview of the results of the 2006 national avian influenza surveillance program, and laid out the plans for sampling in 2007. In total, 125,000 samples were

collected nationwide; every state had at least one matrix-positive strain of low pathogen AI except Hawaii. No strain of highly pathogenic H5N1 was detected in any wild bird sampled. Changes to the 2007 surveillance plan were highlighted, including a new biological sampling year (April 1-March 31), no more pooling of samples, enhancing morbidity/mortality surveillance, and prioritizing H5 carrier species. Also discussed was better communication between USDA and state directors regarding the notification of positive test results.

Julie Blanchong, Iowa State University - Department of Natural Resource Ecology and Management, presented information about her research on landscape genetics and the spatial distribution of CWD in Wisconsin. Julie's project is aimed at identifying how landscape features influence population genetic structure and dispersal distance and direction. Her objective is to understand if deer population genetic structure can be used to identify barriers to gene flow (i.e., deer movement) and explain the current spatial distribution of CWD in WI. Her findings thus far suggest that the deer population in southwestern WI is genetically different from deer in the CWD-core area, and this difference was related to CWD prevalence across the region (i.e., genetic distance is a good predictor of disease prevalence). The next steps for this project are to use deer population structure and landscape features to predict risks of disease spread into populations not yet infected.

Julie Langenburg, Wisconsin DNR, provided an update on CWD research projects. They are currently working to understand the apparent spread of the disease in their state and how to manage for that potential spread. One major question is how effective intensive culling is at hot spots. Since 2002, Wisconsin DNR has been trying to reduce deer densities over a broad area in hopes of reducing disease prevalence; however, the trends show that his reduction has not happened. Hunter participation remains a challenge in their disease management efforts.

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, the have found 7 wild deer with the disease through hunter-harvested surveillance. An intensive winter deer removal project was just completed, removing approximately half of the deer population in the localized area where the disease has been found, and 6 new "suspect" deer have been discovered. Minnesota DNR will be conducting hunter-harvested surveillance again this fall, as well as liberalizing the fall hunting season to encourage the taking of more deer in the infected area.

Steve Schmitt, Michigan DNR, continued the discussion of bovine tuberculosis in wild deer, providing an update on Michigan's activities. Last fall's surveillance indicated an increase in prevalence from the past year; however, the long-term decreasing trend for disease prevalence remains statistically significant. Field research is continuing, including the trap, test and cull pilot project as well as vaccine development.

Mitch Palmer, USDA-ARS, provided an overview of bovine tuberculosis vaccine development. Mitch's project has expanded the research previously conducted with the Pasteur BCG vaccine in red deer in New Zealand. Mitch found that vaccinated animals had fewer total lesions and fewer advanced stage lesions. An additional study with an oral vaccine (Danish strain) showed even more promise, as the delivery system appeared feasible for wild deer and the protection from disease development was improved over the Pasteur strain.

Tom Hutton, USDA-Wildlife Services, provided an update on feral hogs in the Midwest. Feral hogs are known carriers of 30 diseases and 37 parasites that can affect wildlife, pets and people. States with feral hog populations need tougher penalties for intentional releases. Also, more information is needed to educate conservationists, the general public, agencies, legislators, law enforcement, prosecutors, and judges. There is also a need to collect more blood samples from feral hogs to help with the early detection of pseudorabies, swine brucellosis, and the possibility of other foreign animal diseases.

During the wrap-up, the committee decided the location of the 2008 meeting would be in Minnesota in early May. Also discussed was the need for committee members to urge their state directors to rally support for increased funding for CWD in the President's Budget. Committee members also agreed to the need for a CWD Surveillance Workshop to address concerns about how to continue conducting surveillance in each state.

This year's meeting was judged a success and the best Midwest Health Committee meeting by the attendees. 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 the future meetings.

Director Action Items

In December 2002, the USGS National Wildlife Health Center hosted an interdisciplinary, inter-agency group for a 3-day workshop to develop guidance for surveillance strategies for Chronic Wasting Disease (CWD) in free-ranging deer and elk. The workshop dealt mainly with the question of how to best conduct surveillance to detect the presence of CWD. The proceedings of the workshop were published in the form of a white-paper, distributed to the states, and made available on the internet. This white paper, "Surveillance Strategies for Detecting Chronic Wasting Disease in Free-Ranging Deer and Elk" (http://www.nwhc.usgs.gov/publications/fact_sheets/pdfs/cwd/CWD_Surveillance_Strategies.pdf), has subsequently been used by numerous states and other entities to develop and implement surveillance programs for CWD.

Virtually every state, and numerous tribes, parks, and refuges, have conducted CWD surveillance, resulting in disease detection in free-ranging populations in several additional locations, and many jurisdictions where CWD has not yet been detected. However, several states have recently decreased the level of surveillance that they are conducting; available resources have been cited as one rationale. For most states; this trend may accelerate, given the decreased funding for CWD proposed in the FY08 federal budget. Therefore, there are critical questions all states are asking regarding CWD surveillance: (1) how should states that have not detected CWD in their free-ranging populations continue to conduct detection surveillance in an efficient and cost-effective manner, and (2) how can states with CWD in their free-ranging populations best conduct surveillance to monitor changes in disease prevalence and geographic distribution, again, in a more efficient and cost-effective manner?

These topics were discussed at the annual meeting of the Midwest Fish & Wildlife Health Committee in Guttenberg, IA. The Committee recommends:

(1) That a second CWD Surveillance Workshop be organized and conducted;
(2) That this workshop consider the two surveillance questions identified above;
(3) That proceedings of the workshop be published and distributed to the states;
(4) That the USGS National Wildlife Health Center be asked to sponsor this workshop; and
(5) That the Directors of the Midwest Association of Fish & Wildlife Agencies support this process in a written request to Dr. Susan Haseltine, Associate Director for Biology, U.S. Geological Survey, 12201 Sunrise Dr., Mail Stop 300, Reston, VA 20192-0002.

Director Information Items

Viral Hemorrhagic Septicemia

Viral hemorrhagic septicemia (VHS) is a viral fish disease that has caused large-scale mortalities in rainbow trout aquaculture operations in Europe and in Pacific herring populations in Washington's Puget Sound. The disease is caused by Viral Hemorrhagic Septicemia Virus (VHSv). This virus has four unique genetic types; three from Europe and one from North America. The isolate recently found in the Great Lakes Basin is most similar to the VHSv strain previously isolated from the Maritime Provinces of Canada.

VHS is a reportable disease that requires notification of Departments of Agriculture, United States Department of Agriculture - Animal and Plant Health Inspection Service (USDA-APHIS), appropriate Canadian Agencies and OIE (International Organization for Animal Health). It is also listed as an emergency disease by the Great Lakes Fishery Commission - Great Lakes Model Fish Health Program. If this pathogen gets into a fish production facility or hatchery in the Great Lakes Region, the facility must be de-populated and all fish destroyed under the current Great Lakes Model Fish Health Program for public hatcheries and under USDA-APHIS and State Veterinarian guidelines for private hatcheries..

Lake Winnebago, WI

As of this date, VHSv has been confirmed from the following Great Lakes waters: Lake Michigan; Lake Huron; St. Clair River; Lake St. Clair; Lake Erie; Niagara River; Lake Ontario; and the St. Lawrence River. It has also been recently found in a few inland lakes in the region including the Lake Winnebago system in WI, Budd Lake in MI, and Conesus Lake in NY. It is not known exactly how this virus arrived in the Great Lakes nor is it exactly known how long the virus has been here. Ballast water discharge is considered as the likely vector given its distribution in the Great Lakes Basin and the likely origin of the virus, the Maritime Provinces of Canada. The earliest confirmed report is 2003 in a Great Lakes muskellunge from Lake St. Clair, so it is likely to have been introduced here in 2002 or 2003.

Budd Lake, MI

The first large fish kill associated with VHS was documented in freshwater drum in Spring 2005 in the Bay of Quinte, Lake Ontario in Ontario. In Spring 2006, large-scale fish mortalities associated with VHS were observed in Lake Huron (lake whitefish), Lake St. Clair (Great Lakes muskellunge and gizzard shad), Lake Erie (freshwater drum, white bass, and yellow perch), Lake Ontario (round goby), St. Lawrence River (Great Lakes muskellunge), and Conesus Lake in NY (walleye). VHSv was detected in other samples from Lake Huron, St. Clair River, Lake St. Clair, Lake Erie, Niagara River, and Lake Ontario in 2006. Thus far in 2007, large-scale mortalities associated with VHS have been observed in Lake Erie – East Basin (gizzard shad), Lake Winnebago in Wisconsin (freshwater drum) and Budd Lake in Michigan (black crappie, bluegill, pumpkinseed and largemouth bass). VHSv was detected in other samples from Lake Michigan in Spring 2007. VHSv isolated from the affected fish in 2005 and 2006 has been confirmed as Type 4b, the North American isolate from the Maritime Region of Canada.

There is a range of potential disease courses for VHS in the Great Lakes Basin ranging from a one-time mortality of susceptible and naïve fish to being an annual mortality factor for fish communities. It is most likely that VHSv infections will initially result in increased natural mortality and fish kills for the stocks involved but will not result in any appreciable long-term changes in most fish populations. Fish that have recovered from the infection are likely to serve as reservoirs to maintain the virus for future opportunistic

outbreaks which will occur when the system is stressed in someway and fish immune systems are suppressed.

This pathogen clearly has fish management implications for the use of fish from infected waters. Since this pathogen can clearly cause large-scale mortalities of valuable adult fish, and has a wide range of potential carriers, it is critical to make every attempt to contain the pathogen and prevent a rapid spread of the disease to all Great Lakes and other inland waters. It should be noted that once a pathogen gets into a wild fish community, it is impossible to eliminate and control is highly unlikely.

This virus does not infect humans. There are no concerns with respect to human health with this pathogen and it can not infect humans if they eat fish with the pathogen.

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 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. Stemming the tide will be complicated, time consuming and expensive, but adequate investment now can allow MAFWA states to avoid the fate of Texas and other states which are being devastated by feral swine.

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, that status could change overnight if infected swine are released into existing feral herds. In addition, these small herds will certainly become infected when they become continuous with already infected populations to the south.

The attached map shows the additional counties in MAFWA states where feral swine have been sighted beyond the counties identified by the Southeast Cooperative Wildlife Disease Study (SCWDS) in 2004. Gratefully, the populations in most of the "blue" counties are still relatively small and can be controlled. But Midwest Association states must act now - individually, cooperatively and in concert when possible – to address the situation.

Individually, each state should consider:

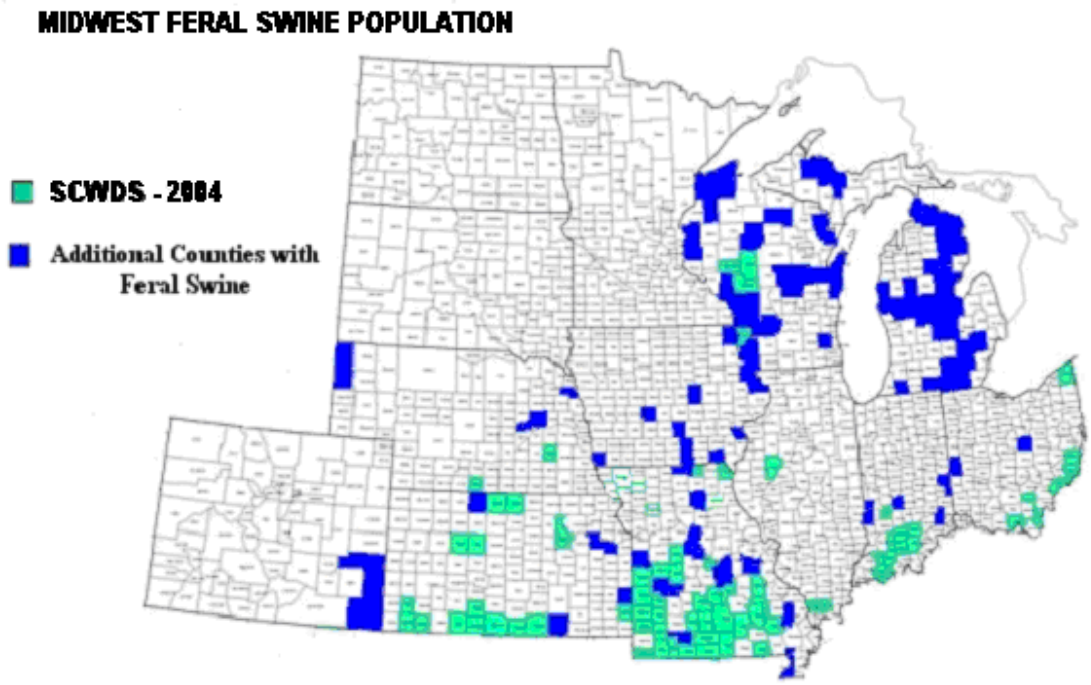
1. Making feral swine control a high priority for their agency, directing appropriate staff to help identify existing populations and assisting with eradication.
2. Identifying a member of their staff to coordinate feral swine issues for their agency.
3. Mounting a robust I & E campaign to educate the general citizenry and key stakeholders to the damage and risks associated with feral swine.
4. Organizing a state feral hog task force comprised of state and federal agencies, agricultural organizations and conservation groups to address the problem.
5. Suggesting stiffer penalties for people who intentionally release swine, commensurate with the damage the released swine can cause.
6. Placing priority on obtaining more samples from feral swine for disease testing.

Cooperatively, the states should consider:

1. Establishing law enforcement working groups to overtly and covertly investigate networks of people involved in intentional releases.
2. Forming regional control groups from adjacent states to control populations that occupy border areas.

State should act in concert when possible:

Controlling feral swine will require a protracted effort and will be expensive. It will take the concerted efforts of all the states, and stakeholders within the states, to insure that adequate funds are made available to address this problem. Recent eradication efforts on the California Channel Islands have cost approximately $500/pig for direct control. This must be considered a minimum cost since these efforts took place on 74-96 square mile islands 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.



Time and Place of Next Meeting

The next meeting of the Midwest Fish and Wildlife Health Committee will be in Minnesota in early May 2008, at a location to be determined.

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

APPENDIX I. ATTENDEE NAMES AND CONTACT INFORMATION

Name	e-mail	Office Phone
Blanchong, Julie	julieb@iastate.edu	(515) 294-9699
Butler, Erika	ebutler@nd.gov	(701) 328-6345
Caldwell, Carolyn	carolyn.caldwell@dnr.state.oh.us	(614) 265-6329
Carstensen, Michelle	michelle.carstensen@dnr.state.mn.us	(651) 296-2663
Chafa, Doug	doug.chafa@dnr.state.ia.us	(563) 425-4257
Colboth, Ernie	Ernie.Colboth@aphis.usda.gov	(515) 256-5558
Davies, Bob	Bob.Davies@state.co.us	(970) 472-4300
Deliberto, Thomas	Thomas.J.Deliberto@aphis.usda.gov	(970) 266-6088
Dolan, Robert	Robert.Dolan@dnr.state.ia.us	(515) 281-8071
Emerson Bull Chief	ebullchief@nafws.org	(406) 666-2313
Fox, Lloyd	lloydf@wp.state.ks.us	(620) 342-0658
Garner, Dale	Dale.Garner@dnr.state.ia.us	(515) 281.6156
Griffin, Mike	Michael.Griffin@dnr.state.ia.us	(563) 872-5700
Griffin, Steve	steve.griffin@state.sd.us	(605) 394-6786
Hutton, Thomas	Thomas.A.Hutton@aphis.usda.gov	(573) 522-4115 x3422
Jansen, Jim	jim.jansen@dnr.ia.state.us	(563) 927-3276
Langenburg, Julie	Julia.Langenberg@wisconsin.gov	(608) 266-3143
Mosher, Ruby	rubym@wp.state.ks.us	(620) 343-2492
Palmer, Mitch	mpalmer@nadc.ars.usda.gov	(515) 663-7474
Richards, Bryan	brichards@usgs.gov	(608) 270-2485
Schmitt, Greg	Greg-A.Schmitt@dnr.state.ia.us	(563) 422-6201
Schmitt, Steve	schmitts@michigan.gov	(517) 336-5040
Trindle, Bruce	bruce.trindle@ngpc.ne.gov	(402) 370-3374

Name	Organization	Address	City	State	Zip
Blanchong, Julie	ISU Department of Natural Resource Ecology & Management	339 Science II ISU	Ames	IA	50011
Butler, Erika	NDG&F	100 N. Bismarck Expressway	Bismarck	ND	58501
Caldwell, Carolyn	Ohio Division of Wildlife	2045 Norse Road Bldg G-3	Columbus	OH	43229-6693
Carstensen, Michelle	Minnesota DNR	5463-C W. Broadway	Forest Lake	MN	55025
Chafa, Doug	Iowa DNR	Sweet Marsh WMA, PO Box 550	Fayette	IA	52142
Colboth, Ernie	USDA/APHIS Wildlife Services	6000 Fleur Drive	Des Moines	IA	50321
Davies, Bob	Colorado Division of Wildlife	317 West Prospect	Fort Collins	CO	80526
Deliberto, Thomas	USDA/APHIS Wildlife Services	4101 LaPorte Avenue	Fort Collins	CO	80521
Dolan, Robert	Iowa DNR	502 East 9th Street	Des Moines	IA	50319
Emerson Bull Chief	Native American Fish & Wildlife Society	HC 36 Box 360	St. Xavier	MT	59075
Fox, Lloyd	Kansas Department Wildlife & Parks	PO Box 1525	Emporia	KS	66801
Garner, Dale	Iowa DNR	502 East 9th Street	Des Moines	IA	50319
Griffin, Mike	Iowa DNR	Bellevue LTRM Station, 206 Rose St.	Bellevue	IA	52031
Griffin, Steve	South Dakota Game Fish & Parks	3305 West South Street	Rapid City	SD	57702
Hutton, Thomas	USDA/APHIS Wildlife Services	PO Box 180	Jefferson City	MO	65102
Jansen, Jim	Iowa DNR	22693 205th Avenue	Manchester	IA	52057
Langenburg, Julie	Wisconsin DNR	1015 Webster Street Box 7921	Madison	WI	53707-7921
Mosher, Ruby	Kansas Department Wildlife & Parks	1830 Merchant	Emporia	KS	66081
Palmer, Mitch	USDA/ARS National Animal Disease Center	2300 Dayton Avenue	Ames	IA	50010
Richards, Bryan	USGS NWHC	6006 Schroeder Road	Madison	WI	53711
Schmitt, Greg	Iowa DNR	120 N. Industrial Pkwy #4	West Union	IA	52175
Schmitt, Steve	Michigan DNR Wildlife Division	4125 Beaumont Road #250	Lansing	MI	48910
Trindle, Bruce	Nebraska Game and Parks Commission	2201 N. 13th Street	Norfolk	NE	68701

APPENDIX II. AGENDA

Tuesday, May 1, 2007

1:00 PM	Welcome	Dale Garner
1:15 PM	Opening Remarks and Introductions	Steve Schmitt
1:30 PM	National Fish and Wildlife Health Initiative – via Speaker Phone	Rebecca Humphries
2:00 PM	State Disease Reports	State Representatives
3:00 PM	BREAK	
3:15 PM	State Disease Reports (Continued)	State Representatives
4:30 PM	Avian Influenza Surveillance Update	Tom Deliberto
5:00 PM	Adjourn	

Wednesday, May 2, 2007

8:00 AM	CWD Discussion	Julie Langenburg
8:30 AM	CWD Research	Julie Blanchong
9:00 AM	Bovine Tuberculosis in Minnesota	Michelle Carstensen
9:15 AM	Bovine Tuberculosis in Michigan	Steve Schmitt
9:30 AM	Bovine Tuberculosis Vaccine	Mitch Palmer
10:00 AM	BREAK	
10:15 AM	Feral Swine	Thomas Hutton
10:45 AM	National Wildlife Health Center Update	Brian Richards
11:00 AM	Action Items	All
11:30 AM	Wrap Up and Next Years Host	All
12:00	Adjourn	