



Midwest Furbearer Group

Annual Report

May 2009



Meeting Time and Place

The Kentucky Department of Fish and Wildlife Resources (KDFWR) hosted the Midwest Furbearer Resources Workshop on April 14 – 17, 2009. Presentations and discussions took place at the Capital Plaza Hotel in Frankfort, Kentucky.

Attendance

Twenty-five participants attended the workshop including state furbearer biologists (6) and representatives (19) from USDA / APHIS / Wildlife Services, U.S. Fish and Wildlife Service, Southeastern Cooperative Wildlife Disease Study, United Trappers of Kentucky, Fur Takers of America, KDFWR, Kansas Department of Wildlife and Parks, MAFWA CITES, University of Kentucky, University of Tennessee, University of Nebraska-Lincoln, University of Missouri-Columbia, and Southern Illinois University-Carbondale. A complete list of attendees and contact information for state furbearer biologists is available in Appendices 1&2.

Executive Summary

Attendees at the 2009 Midwest Furbearer Resources Workshop were welcomed by Dr. Karen Alexy, KDFWR Wildlife Division Director. Several speakers presented timely information on issues related to furbearer research and management (Appendices 3&4). Those included the eastward expansion of cougars, status of river otters and effects of river otters on fish populations, wildlife poisoning, illegal trafficking of furbearers, best management practices for trapping, and trapper education. The group participated in numerous discussions throughout the course of the meeting. Topics included monitoring trap incidents, urban coyote management, issues related to the live sale of coyotes and foxes to hound running pens, the use of body-gripping traps on land and associated regulations, and promoting trapper education. Everyone agreed that these discussions were extremely informative and beneficial.

Forums such as the Midwest Furbearer Resources Workshop provide valuable opportunities for state furbearer biologists to become acquainted with emerging

issues and exchange information and ideas related to furbearer research and management. The need for state fish and wildlife agencies to establish and maintain furbearer biologist positions and support travel of furbearer biologists to the annual Midwest Furbearer Resources Workshop is imperative for exchanging information to promote quality furbearer management and research in each state. It is more important than ever that state agencies are in the forefront of issues related to furbearer management and trapping in order to protect the heritage and recreational opportunities of hunting and trapping for future sportsmen.

Director Action Items

1. The Midwest Furbearer Working Group asks that the Association of Fish and Wildlife Agencies (AFWA) adopt a position statement pertaining to hound coursing pens and associated commercialization, translocation, and use of wildlife within fenced enclosures.
2. The Midwest Furbearer Working Group requests continued strong support and funding for Best Management Practices (BMPs) for trapping. The Furbearer Working Group would like to emphasize the need to maintain commitment to BMPs by AFWA and Directors. BMPs have been used by several states to defend trapping through science and even allow new types of traps which were previously prohibited.
3. The Midwest Furbearer Working Group requests commitment by state Directors to support and encourage travel of state furbearer biologists to the annual Midwest Furbearer Resources Workshop.

Only six states were represented at the 2009 Midwest Furbearer Resources Workshop. These included Kansas, Kentucky, Michigan, Minnesota, Missouri, and Wisconsin. Of these, Michigan's furbearer biologist was actually funded by union funds and Wisconsin's furbearer biologist was able to attend via AFWA funds, as he is an active member of the Trap Research Committee of AFWA. States that were unable to attend include Colorado, Illinois, Indiana, Iowa, Nebraska, North Dakota, Ohio, and South Dakota.

The Midwest Furbearer Resources Workshop is a critical place for the exchange of ideas and information related to furbearer biologists' responsibilities. Just as Director attendance is critical to the success of the MAFWA Directors Meeting, attendance at this and other statewide coordinator meetings (deer, turkey, waterfowl, disease specialist, etc.) by a representative from each state is critical to the success of their programs. Though many states are experiencing travel restrictions due to the current economy, we hope Directors realize that it is an economically sound decision to send a representative to these meetings. Travel costs are easily recouped in the form of increased employee efficiency and improved job performance, and improved program quality for sportsmen and constituents. We ask that state

Directors support a representative each year with travel allocation to this important meeting.

Director Information Items

1. The Furbearer Working Group, led by Dwayne Etter and Adam Bump of the Michigan Department of Natural Resources, completed an issue paper for MAFWA Directors regarding hound dog training (coursing) enclosures (Appendix 5). The paper describes the history of hound hunting, the emergence of field trial competition, types of training pens and wildlife used in them, disease implications resulting from translocation of wildlife to pens, commercialization of wildlife, and fair chase. The Furbearer Working Group suggests that the MAFWA, and AFWA as a whole (see Director Action Item 1), draft a position statement regarding hound dog training pens. State Wildlife Society Chapters should also draft position statements on this issue.
2. The AFWA Furbearer Conservation Technical Work Group is excited to announce the release of a brand new document *Modern Snares for Capturing Mammals: Definitions, Mechanical Attributes and Use Considerations*. This publication is an all inclusive reference for resource professionals regarding snare components, modern snares, and snare performance. The document is available online: http://www.fishwildlife.org/pdfs/Modern_Snares_final.pdf
3. A formal announcement is expected at the 2009 AFWA meeting regarding CITES tagging, whereby states will no longer be required to distribute CITES tags for river otter and bobcat. The proposed change allows states to continue their tagging programs if they desire, however the USFWS will no longer supply the tags. States should amend regulatory language, if necessary, prior to the 2010 hunting and trapping seasons.

Time and Place of Next Meeting

South Dakota Game, Fish and Parks will host the 2010 Midwest Furbearer Resources Workshop. A complete list of past host states is available in Appendix 6.

Respectfully submitted by Laura Patton, Furbearer Biologist, KDFWR on behalf of the MAFWA Furbearer Working Group

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**APPENDIX 1. 2009 MIDWEST FURBEARER RESOURCES WORKSHOP
ATTENDEES**

Name	Agency / Affiliation
Karen Alexy	Kentucky Dept. of Fish and Wildlife Resources
Erin Barding	University of Kentucky
Jeff Beringer	Missouri Dept. of Conservation
Tina Brunjes	Kentucky Dept. of Fish and Wildlife Resources
Adam Bump	Michigan Dept. of Natural Resources
Carolyn Caldwell	Ohio Dept. of Natural Resources, CITES Committee Rep.
Joe Corn	Southeastern Cooperative Wildlife Disease Study
Steven Dobey	Kentucky Dept. of Fish and Wildlife Resources
John Erb	Minnesota Dept. of Natural Resources
Jeff Finn	Kentucky Dept. of Fish and Wildlife Resources
Chet Hayes	United Trappers of Kentucky
Tim Hiller	University of Nebraska-Lincoln, Fur Takers of America Rep.
Gabe Jenkins	Kentucky Dept. of Fish and Wildlife Resources
Joe Kramer	Kansas Dept. of Wildlife and Parks
Rebecca Mowry	University of Missouri, Columbia
Clay Nielsen	Southern Illinois University, Carbondale
John Olson	Wisconsin Dept. of Natural Resources
Erin Patrick	USDA/APHIS/Wildlife Services, Kentucky
Laura Patton	Kentucky Dept. of Fish and Wildlife Resources
Matt Peek	Kansas Dept. of Wildlife and Parks
Kyle Sams	Kentucky Dept. of Fish and Wildlife Resources
Bob Snow	U.S. Fish and Wildlife Service, Kentucky
Chad Soard	Kentucky Dept. of Fish and Wildlife Resources
Stacy White	United Trappers of Kentucky
Ryan Williamson	University of Tennessee

Bolded Names Denote State Furbearer Biologists

APPENDIX 2. MIDWEST FURBEARER BIOLOGISTS – CONTACT INFORMATION

Colorado

Contact Info Needed

Illinois

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Position Vacant

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Minnesota

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Missouri

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Nebraska

Sam Wilson
Nebraska Game and Parks Commission
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North Dakota

Vacant

Ohio

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APPENDIX 3. AGENDA

Midwest Furbearer Resources Workshop Capital Plaza Hotel, Frankfort, KY April 14 – 17, 2009



- Tuesday, April 14** **Registration & Evening Social**
- 6:00 – 9:00 pm Registration and evening social (light appetizers) in Suite 807
- Wednesday, April 15** **Selected Speakers & State Reports**
- 7:15 – 8:00 Registration and Breakfast in the Kentucky Room
- 8:00 – 8:05 *Announcements and Introductions*
Laura Patton, Furbearer Biologist, KY Dept. of Fish & Wildlife Resources
- 8:05 – 8:30 *Welcome*
Dr. Karen Alexy, Wildlife Division Director, KY Dept. of Fish & Wildlife Resources
- 8:30 – 9:00 *GPS Technology and Black Bear Research*
Steven Dobey, Wildlife Program Coordinator, KY Dept. of Fish & Wildlife Resources
- 9:00 – 9:25 *Status of the River Otter (Lontra canadensis) in Kentucky*
Erin Barding, University of Kentucky
- 9:25 – 9:50 *Muskrat-River Otter Interactions in and Adjacent to Mammoth Cave National Park, KY*
Ryan Williamson, University of Tennessee
- 9:50 – 10:05 Break
- 10:05 – 10:25 *A Genetic Approach to Determine River Otter (Lontra canadensis) Abundance and Effects on Fish Populations in Missouri*
Rebecca Mowry, University of Missouri-Columbia
- 10:25 – 10:50 *Furbearer Carcass Collections - What We've Learned*
John Olson, Furbearer Specialist, Wisconsin Dept. of Natural Resources
- 10:50 – 11:10 *Mountain Lion Dispersal in the Midwest, from a Kansas Perspective*
Matt Peek, Furbearer Biologist, Kansas Dept. of Wildlife & Parks
- 11:10 – 12:00 *Cougars in the Midwest: potential habitat, population viability, and human dimensions*
Dr. Clayton Nielsen, Director of Scientific Research, The Cougar Network & Associate Scientist / Wildlife Ecologist, Southern Illinois University Carbondale
- 12:00 – 1:00 Lunch
- 1:00 – 2:30 State Reports
- 2:30 – 2:45 Announcements and Depart on Field Trip

Thursday, April 16

Selected Speakers & Discussions

- 8:00 – 9:00 Breakfast in the Kentucky Room
- 9:00 – 9:30 *Wildlife Poisoning Investigations: Case Studies and Partnerships*
Bob Snow, Special Agent, U.S. Fish & Wildlife Service
- 9:30 – 9:55 *Best Management Practices for Trapping in the United States*
John Olson, Furbearer Specialist, Wisconsin Dept. of Natural Resources
- 9:55 – 10:20 *Modern Snares: Definitions, Mechanical Attributes, and Use Considerations*
John Erb, Wolf/Furbearer Biologist, Minnesota Dept. of Natural Resources
- 10:20 – 10:35 Break
- 10:35 – 11:05 *Exotic Ticks and Wildlife*
Dr. Joseph Corn, Southeastern Cooperative Wildlife Disease Study, Georgia
- 11:05 – 11:30 *Rabies Surveillance Update*
Erin Patrick, Rabies Wildlife Biologist, USDA/APHIS/Wildlife Services
- 11:30 – 12:00 *CITES Update*
Carolyn Caldwell, CITES Rep., Midwest Fish & Wildlife Agencies & Program Administrator, Ohio Dept. of Natural Resources
- 12:00 – 1:00 Lunch
- 1:00 – 1:45 *Illegal Trafficking of Wildlife/Furbearers*
Jeff Finn, Internet Investigator for the Special Investigations Unit, KY Dept. of Fish & Wildlife Resources
- 1:45 – 2:05 *Trapper Education in Kentucky*
Stacy White, United Trappers of Kentucky & County Extension Agent, University of KY
- 2:05 – 2:15 Break
- 2:15 – 2:40 *Trap Incidents - Have You Hugged a Trapper Today?*
John Olson, Furbearer Specialist, Wisconsin Dept. of Natural Resources
- 2:40 – 3:30 Group Discussion – Body-gripping Trap Issues and Regulations
- 3:30 – 3:45 Announcements and Depart for Cookout / Discussions / Body-gripper Demo / Silent Auction

Friday, April 17

Business Meeting & Discussions

- 8:00 – 9:00 Breakfast in the Kentucky Room
- 9:00 – 9:30 Group Discussion – Euthanasia Methods for Furbearers
- 9:30 – 10:00 Group Discussion – Trapper Education Materials
- 10:00 – 10:10 Break
- 10:10 – 12:00 Business Meeting, Adjourn

APPENDIX 4. ABSTRACTS

GPS Technology and Black Bear Research in Kentucky

Steven Dobey, Kentucky Department of Fish and Wildlife Resources, #1 Sportsman's Lane, Frankfort, KY 40601, email: steven.dobey@ky.gov, phone: 1-800-858-1459.

Since 2002, the Kentucky Department of Fish and Wildlife Resources and the University of Kentucky have been involved in cooperative black bear research in the Southern Appalachian region. In 2007, researchers began equipping black bears with GPS-enabled radio collars in an effort to evaluate this evolving technology, and to better understand the movement dynamics and habitat use of bears in eastern Kentucky. Since 2007, researchers have captured 49 (30M:19F) bears on 55 (34M:21F) occasions. Bears were equipped with VHF and GPS-enabled radio collars on 22 and 30 instances, respectively. Currently, researchers are monitoring 9 (3M:6F) bears with VHF collars and 15 (8F:7M) with GPS radio collars. Collectively, over 100,000 radio locations have been collected from GPS radio collars since 2007 and those data are providing extensive illustrations of movement dynamics and habitat use by bears in eastern Kentucky. Collected data illustrate the effects of topographical influences on bear movements, and the effects of human-related foods on the establishment of home ranges. Analytical concerns associated with the use of locational data collected from GPS-enabled radio collars have included reliability, expense, and fix-rate bias. Collectively, however, researchers in Kentucky have found the quantity and quality of data collected from black bears far exceed those gained from previous research involving VHF radio collars.

Status of the River Otter (*Lontra canadensis*) in Kentucky

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Michael J. Lacki, Dept. of Forestry, University of Kentucky, 214 T.P. Cooper Building, Lexington, KY 40546, email: mlacki@email.uky.edu, phone: 859-257-8571

Historically, river otters (*Lontra canadensis*) were widely distributed in Kentucky. Otter populations declined during the early 1900s due to unregulated harvest and anthropogenic destruction of riparian habitat, and by the 1950s, otter distribution in Kentucky was limited to the far western portion of the state. During 1991-1994, 355 otters were released in central and eastern Kentucky. Increased frequency of sightings, incidental trappings, road kills and complaints of nuisance otters throughout Kentucky during the past several years are likely indicative of increasing populations. The high frequency and quantity of reports of river otter occurrence and activity throughout the state prompted KDFWR to implement a statewide trapping season in 2006. A comprehensive study of river otters in Kentucky has never been conducted; therefore, the main objectives of this study are to determine the population status and most appropriate management strategies for otters in the state. The presence or absence of otter sign detected during sign surveys was used as an index of abundance and distribution of otters in Kentucky. When survey data is combined with trapping data, river otters were reported in every major watershed in the state. A total of 150 necropsies on trapper-donated river otter carcasses from the last 3 trapping seasons have been performed. To date, there have been signs of reproductive activity in over half of the females. Stomachs were removed from all otters and dissected to identify contents for the food habit analysis portion of this study. To date, 140 stomachs have been dissected and the following have been found: 65% contain fish remains; 25% contain crayfish; 5% contain amphibian remains. Predictive habitat models for river otters in Kentucky will be constructed based on riparian and landscape measurements and otter presence/absence data from field surveys, and a population model for otters in Kentucky will be constructed based on reproductive measurements taken from carcass analysis including pregnancy rates and average litter sizes, mortality rates, and other population parameters. Kentucky is supporting healthy populations of river otters in many areas of the state, which may suggest that the most appropriate management strategy is to continue the statewide trapping season in order to manage the population and alleviate nuisance complaints.

Muskrat-River Otter Interactions in and Adjacent to Mammoth Cave National Park, Kentucky

Ryan Williamson, Dept. of Forestry, Wildlife and Fisheries, University of Tennessee, 274 Ellington Plant Sciences, Knoxville, TN 37996, email: rwilli49@utk.edu, phone: 865-974-0204

The North American river otter (*Lontra canadensis*) was once considered imperiled but, due to recent reintroduction programs in 21 states, otter populations are on the increase. Anecdotal evidence suggested that muskrat (*Ondatra zibethicus*) populations were dramatically reduced in streams where otters were reintroduced. The muskrat, being a known predator of threatened and endangered freshwater mussel populations, predated extensively upon this fauna group. My objectives were to evaluate the ecological relationship between otter, muskrat, and mussels on the Green and Nolin rivers in Mammoth Cave National Park (MCNP). I accomplished this on an intensive scale by comparing baseline information of mussels, muskrats, and otters prior to the river otter augmentation (Asmus 2004) with information that I obtained after an augmentation of the otter population. On a more extensive level, I used an occupancy model to evaluate interactions of the 2 species at bridge crossings in and adjacent to the park.

Scent-station surveys, trap site visitation, and scat collection indicated that otters had become established on the Green River since Asmus' (2004) study. Spotlight surveys indicated that there was a significant decline in the muskrat population along the Green River from 2002 to 2008 ($F = 36.56$, $P < 0.0001$). This was also substantiated by the reduction in muskrat middens along that section. To eliminate predation as the causal mechanism of the muskrat population decline, otter scat was collected and sorted to identify muskrat hair. Muskrat hair was only found in 2% ($n=1$) of the 48 river otter scats analyzed, therefore, muskrat predation was minimal.

On a more extensive scale, I collected data on muskrat and otter presence at 95 randomly selected bridges in and adjacent to MCNP. I recorded otter and muskrat field sign within 2, 0.54 km survey sections upstream and 2 of equal distance downstream of the bridge crossing. I used a 2 species co-occurrence model in Program PRESENCE to determine if the presence of river otters was related to the presence of muskrats. This occupancy model indicated that muskrats occurred independently of river otters ($\phi = 1.02$). The observer, water level, and substrate were important determinants of detection while straight line distance from original river otter release sites was an important occupancy covariate for river otters. Therefore, both my intensive and extensive data analyses do not support the hypothesis of a negative interaction between the two species.

**A Genetic Approach to Determine River Otter (*Lontra canadensis*)
Abundance and Effects on Fish Populations in Missouri**

Rebecca Mowry, University of Missouri-Columbia, 303 Anheuser-Busch Natural Resources Building, Columbia, MO 65211, email: ram5g8@mizzou.edu

The reintroduction of apex predators can precipitate direct and indirect ecosystem responses that are often poorly understood. The reintroduction of the river otter (*Lontra canadensis*) to Missouri streams has sparked controversy due to unanticipated effects on fish populations. The Missouri Department of Conservation uses regulated trapping seasons to manage river otters, but these harvests have not addressed angler concerns. Estimates of river otter populations have been highly variable and potentially inaccurate, sparking additional controversy. To address these issues, we propose to 1) develop a model to accurately estimate river otter populations based on latrine site counts validated by fecal genotyping, and 2) study the effects of otter depredation on fish populations by monitoring both predator and prey abundances on eight Ozark streams in Missouri. A better understanding of this situation is crucial for addressing public concerns and managing populations in a manner to ensure the long-term maintenance of Missouri's aquatic ecosystems.

Furbearer Carcass Collections – What Have We Learned?

John F. Olson, Bureau of Wildlife Management, Wisconsin Department of Natural Resources, email: JohnF.Olson@wisconsin.gov, phone: (715) 685-2934

To better understand and manage populations of bobcat, fisher and river otter, the Department began collections of otter carcasses in 1979, bobcat in 1983, and fisher in 1985. Depending on the species or the need, collections are statewide or by harvest zone, and are either whole carcasses or only skulls. Important information collected includes harvest sex ratio, harvest age structure, pregnancy rates, and litter size. Over time this base line information has been important in predicting respective furbearer populations through computer modeling. This tool has given us a method of monitoring effects of harvest, changes in harvest selectivity and a convenient tool for conducting or collaborating on local or regional research.

Mountain Lion Dispersal in the Midwest – From a Kansas Perspective

Matt Peek, Kansas Department of Wildlife and Parks, PO Box 1525, Emporia, KS 66801, email: MattP@wp.state.ks.us, phone: 620-342-0658

Since the early 1990s, mountain lions have been reoccurring with relative frequency in Midwestern states in which they had previously been undetected for decades, or in some cases, over a century. Despite lying somewhat in the middle of numerous confirmed cases, only one mountain lion has been documented in Kansas in modern times. Though it has been speculated that mountain lions may be present in Kansas but undetected, it does not seem plausible that mountain lion detection rates should be much lower in Kansas than surrounding states. Therefore, mountain lions must be scarcer in Kansas than other nearby states, including those to the east. I'll consider facts of known mountain lion populations, landscape topography, mountain lion dispersal characteristics, and other research to provide a scenario in which mountain lions may be going around Kansas.

Cougars in the Midwest: Potential Habitat, Population Viability, and Human Dimensions

Dr. Clayton K. Nielsen, Cooperative Wildlife Research Laboratory, Southern Illinois University, Carbondale, IL 62901-6504, email: kezo92@siu.edu, phone: 618-453-6930

Cougar (*Puma concolor*) presence has increased in the Midwest during the past decade, largely due to dispersal of subadults from growing western populations such as the Black Hills. In this presentation, I will discuss my research into potential habitat, population viability, and human dimensions of cougars in the Midwest. Habitat modeling has indicated that 8% of a 9-state portion of the Midwest contains highly-suitable habitat for cougars. A study of rural and urban residents of North Dakota and Kentucky indicated that humans are generally accepting of cougars should they ultimately recolonize the Midwest, but that differences in attitudes exist among survey groups. I will also describe ongoing population viability analyses that will determine, based on suitable habitat and demographic estimates from other cougar populations, which portions of the Midwest may be eventually recolonized by cougars, over what temporal period this may occur, and how likely those founding populations will remain viable. These studies represent the first predictive models of cougar potential in the Midwest and should serve as useful proactive planning tools for furbearer biologists in the region.

Wildlife Poisoning Investigations in Kentucky: Case Studies & Partnerships

Bob Snow, U.S. Fish and Wildlife Service, 601 W. Broadway, Suite 115 A, Louisville, KY 40202, email: Robert_Snow@fws.gov, phone: 502-582-5989 x29

Kentucky leads the nation in the frequency of reported wildlife poisoning incidents with over 20 in the past 7 years. These incidents are investigated with a partnership approach by Special Agents of the U.S. Fish & Wildlife Service, Office of Law Enforcement; Environmental Protection Agency, Criminal Investigations Division; Kentucky Department of Fish & Wildlife Resources, Law Enforcement Division; and the Kentucky Department of Agriculture, Division of Pesticide Regulation. Investigations routinely substantiate violations of the Migratory Bird Treaty Act (MBTA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Carbofuran, a restricted-use pesticide sold under the trade name "Furadan" has been documented in 85% of wildlife poisoning incidents in Kentucky. When unlawfully applied to carcasses or other types of bait, Furadan leaves a "ring of death", with victims including hawks, eagles, vultures, coyotes, and other carnivorous wildlife and domestic pets.

Best Management Practices for Trapping in the United States

John F. Olson, Bureau of Wildlife Management, Wisconsin Department of Natural Resources, email: JohnF.Olson@wisconsin.gov, phone: (715) 685-2934

Best Management Practices for Trapping in the United States (BMP) have been under development since 1998. Research to develop trapping BMPs was undertaken by the Association of Fish and Wildlife Agencies (AFWA) as a response to the European Union's ban on the import of furs from countries continuing to use foothold traps. BMPs will identify and recommend the most humane, efficient, selective, safe, and practical trapping devices. BMPs will serve as a standard that can be voluntarily adopted and used by state and federal wildlife agencies, trapper organizations, and individuals to improve trapping, trapper education, and furbearer management programs. The AFWA Furbearer Resources Technical Work Group has identified and prioritized 23 species of furbearers for trap testing. Over 100 trap types have been tested through the assistance and participation of 39 state fish and wildlife agencies.

Best Management Practices for Trapping beaver, bobcat, coyotes in the eastern U.S. (revised), coyotes in the western U.S. (revised), fisher, gray fox, American marten, muskrat, nutria, raccoon, red fox, river otter, opossum, weasels and an Introduction BMP have been published. Completion of BMPs for mink and striped skunk are expected in 2009.

Other projects conducted during BMP development include the Trapping Matters Workshop, new Web-based Trapper Education Program, Train the Trainers Workshop, National Trapper Education Program, Ownership and Use of Traps by Trappers in the United States, On-line National Furbearer Harvest Database and numerous other projects that support regulated trapping in the U.S.

Exotic Ticks and Wildlife

Dr. Joseph L. Corn, Southeastern Cooperative Wildlife Disease Study, 589 D.W. Brooks Drive, College of Veterinary Medicine, University of Georgia, Athens, GA 30602, email: jcorn@uga.edu, phone: 706-542-1741

Exotic ticks may be introduced into the United States and can survive where environmental conditions are suitable and where hosts are available. Exotic ticks are significant because of the affects of tick infestations on animals and because these ticks can serve as vectors of both exotic and domestic disease agents. Surveillance for exotic ticks, and surveillance conducted during tick-borne disease outbreaks often includes examination of wildlife, including furbearing mammals. The role of wildlife as hosts for ticks and the role of surveillance for ticks on wildlife was discussed in regards to the tropical bont tick in the Caribbean, international trade, the cattle fever tick in Texas, the recent outbreak of equine piroplasmiasis in Florida, and the 2010 World Equestrian Games.

Rabies Surveillance Update

Erin Patrick, USDA/APHIS/Wildlife Services, email: Erin.Patrick@aphis.usda.gov, phone: 865-771-7256

Since the 1960s raccoon (*Procyon lotor*) variant rabies has spread from its endemic range in Florida northward into Canada and westward into the Appalachian Mountains. USDA APHIS Wildlife Services (WS) has been conducting an Oral Rabies Vaccination (ORV) program in the Eastern United States since 1995 in an effort to create a barrier of vaccinated animals to stop the progression of raccoon variant rabies. Portions of the ORV zone run through Ohio and Tennessee but lies east of Kentucky. WS carefully monitors areas west of the ORV zone in an effort to identify breaks in the ORV barrier. Enhanced rabies surveillance activities include collecting and testing animals for rabies, determining raccoon densities, and developing county specific protocols for counties within the surveillance zone. County protocol meetings enable WS to establish relationships with local agencies and entities that have a vested interest and can assist WS in the Rabies Management initiative. In 2007, 921 animals were tested for the rabies virus in Ohio, 20 animals tested positive for rabies. Tennessee WS conducted rabies tests on 1,509 animals in 2007, 20 animals tested positive for rabies. Kentucky WS tested 132 animals for rabies in 2007, no animals tested positive for rabies.

CITES UPDATE

Carolyn Caldwell, Division of Wildlife, Ohio Dept. of Natural Resources, 2045 Morse Road Building G, Columbus, Ohio 43229-6693, email: carolyn.caldwell@dnr.state.oh.us, phone: 614.265.6329

CITES (Convention on the International Trade in Endangered Species of Wild Flora and Fauna) is an agreement to ensure that international trade in specimens of wild animals and plants does not threaten species' survival. All imports, exports, re-exports, of species covered by CITES have to be authorized. In the United States it is administered by the USFWS. CITES impacts state fish and wildlife agencies and represents a continuous and pressing challenge to resource management. The CITES Technical Work Group of the International Relations Committee of AFWA work on behalf of state wildlife agencies in concert with the USFWS on CITES matters. Five issues will be highlighted for the Midwest Furbearer Resources Working Group concerning CITES and include: 1) A national survey to assess the status of bobcat throughout its North American range was initiated in 2008 and the results will be published later this year by Nathan Roberts of Cornell University, 2) Three members of the CITES Technical Work Group were part of the US delegation that met with representatives of the European Commission (EC) and Canada on October 29, 2008 to discuss possible problems of illegal trade of the Eurasian Lynx (*Lynx lynx*) and Iberian Lynx (*Lynx pardinus*), 3) Cornell University researchers are developing improved Lynx identification materials for full pelts, furs lacking ear tufts and tails, as well as a hair identification for use by custom officers, 4) The 5-year non-detriment nationwide finding for the export of river otter (*Lontra canadensis*) was distributed to the states in August 2008 and the revised 5-year non-detriment finding for bobcat (*Lynx rufus*) will be completed within a year, and 5) The USFWS has used a plastic pelt seal to confirm that any given bobcat or river otter pelt could be exported out of the US. Significant progress is being made to implement a new procedure for the 2010 hunting and trapping seasons that will mean tagging is no longer required by the USFWS. States should review and revise, if necessary, their regulatory language prior to the 2010 hunting and trapping seasons.

Illegal Wildlife Trafficking

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Approximately two years ago Virginia and Alabama conducted a covert campaign named "Operation Foxote". This investigation uncovered the rising black market of illegal fox and coyote trafficking. The information shared from this investigation assisted other states, including Kentucky, to more closely examine this illegal trafficking in their states.

Approximately three years ago Pennsylvania and Ohio contacted Kentucky over the illegal trafficking of live venomous snakes. Investigators from those states assisted the KDFWR with launching its own investigation into this black market. This covert operation was named "Operation Twice Shy".

Kentucky formed its own Special Investigations Unit and Internet Investigations Unit to investigate the illegal trafficking of wildlife. These units share information with other states and countries to combat the illegal black market of wildlife trafficking.

Trapper Education in Kentucky

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United Trappers of Kentucky is a 300+ member trapper organization in Kentucky. An effective trapper education program is a significant component of our mission. Many of our members take an active role in providing trapping seminars to a multitude of audiences across the state. In particular, this presentation will discuss trapper education for public school students in southeastern Kentucky. How do we get into the schools? What venues work best? How do we identify students who are interested in trapping? What negatives have we encountered? Is there a demand for this type of educational program?

Trap Incidents – Have You Hugged a Trapper Today?

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Trap incidents were occurring in Wisconsin, yet detailed records, important in making informed decisions, were not available. In an effort to learn of the extent and magnitude of trapping concerns, a systematic method of collecting information was developed in 1997. With field law enforcement staff as the primary contact and investigator of trap incidents, the electronic data collection format allowed officers to consistently collect important information, and promptly forward findings to administration.

Results of the first eleven years of data collection suggests that when information is collected in a systematic, detailed manner, recurring issues are easily detected, and through proactive action, where appropriate, the Department and interested user groups may work toward corrective measures. This standard procedure integrates field input into management recommendations, provides the public with assurances that we care about their experience(s), and we're willing to review and take corrective action when needed. The low number of actual trap incidents recorded has created an awareness of the high level of responsible action taken by regulated, licensed trappers in Wisconsin.

APPENDIX 5. HOUND DOG TRAINING (COURSING) PEN ISSUE PAPER

See next page.

Hound Dog Training (Coursing) Pen Issue Paper

Prepared by:

The Midwest Association of Fish and Wildlife Agencies

Furbearer Working Group

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Introduction

In most Midwest states there is increasing interest from private citizens to hold wildlife in captivity for the purpose of training hound breeds of hunting dogs. The interest for these facilities likely stems from declining access to private lands, reduced risk of trespass, guaranteed location of specific furbearer species for dog training purposes, and possible increased interest in competitive events for hounds (field trials). However, these facilities pose many challenges for agencies charged with their regulation. In most Midwest states, the agencies mandated to protect and manage wildlife are the same agencies responsible for regulating hound dog training facilities, but additional agencies (i.e., departments of agriculture and public health) may also have some jurisdiction and/or concerns.

The intent of this issue paper is to summarize existing information on hound dog training facilities and to outline potential issues these facilities pose to the regulating agencies. This paper was prepared by the Midwest Association of Fish and Wildlife Agencies-Furbearer Working Group.

Background

Hound dog breeds were imported from European countries during settlement of North America. The original use of these breeds was primarily for obtaining game for subsistence. With changes in culture this use shifted from subsistence to sporting. Using hounds to harvest furbearers not only provides recreation, but it can assist in the management of populations (Clark et al., 1989, Knowlton, 1972). In 2004, houndsmen took 57% (91,827 of 161,883) of the raccoons harvested from Michigan (Frawley, 2006). Some houndsmen receive income for providing guiding services and from the sale of pelts harvested with hounds.

Houndsmen face the challenge of decreasing access to private lands for pursuing furbearers. This may be in part due to changing public perceptions about hunting with hounds and changes in land ownership (Hunting with hounds in Virginia: a way forward, <http://www.dgif.virginia.gov/hunting/hounds>). Conflicts between houndsmen and private property owners can occur when dogs trail game onto private property. Training pens provide consistent access to game for houndsmen to train dogs under controlled conditions which may decrease potential conflicts with private property owners.

Many of the furbearing species used in training pens have large home-ranges (i.e., at least several square miles). Because of this, chases not only have the potential to cross onto private property, but they may also venture into areas that are otherwise inaccessible to houndsmen (i.e., lowland areas without accessible roads or trails). The duration of chases in free-ranging situations also are not under the control of the houndsmen. Control of individual dogs during a chase, particularly young or inexperienced dogs, is important to ensure their safety and

recovery. Training pens provide an opportunity to train young or inexperienced dogs under relatively controlled conditions compared to training on free-ranging furbearers. Dogs can also be retrieved from a chase at any time.

Another issue in regards to duration and accessibility of the chase is group or family participation. The relative difficulty of keeping up with free-ranging chases of furbearers can make it difficult for the young or elderly to participate in hounding. Penned facilities allow for full participation in the chase including observations of furbearers and dogs.

Organized competitions (field trials) among sporting dog owners, including houndsmen, have increased in popularity in recent decades. Competitions can range in size from a few individual members of a local club to national and even international competitions. One of the issues faced by houndsmen competing in field trials is ready access to specific furbearer species. This is not always possible with free ranging wildlife, but it can be provided in a captive pen. Additionally, judging field trials frequently requires being able to physically identify individual dogs during the chase. Although this is possible in open country, it is more feasible inside a pen where conditions (e.g., size of area, hiding cover, etc.) can be more easily manipulated.

Many hound dogs are trained to pursue multiple species of furbearers. For example, the same dog that is used to pursue coyotes in winter may also be used to chase bears in fall. Chasing larger furbearers requires a dog with good stamina. Some states have “quiet periods” when free range training of dogs is not permitted. In Michigan, training dogs on free ranging game is not permitted from April 16 through July 7 (MI Wildl. Conser. Order Sec. 14.3). During these periods, dogs can continue to be conditioned in training pens.

Review of Issues

Regulatory Authority:

Each individual state may vary in the authority to regulate training pens. However, in many states this authority falls to the agency/department responsible for regulating wildlife (Table 1). A regulatory analysis conducted by WI DNR concluded that regulation of training pens is the authority of individual states granted under 50 CFR 10. “Provided state rules and statutes do not relieve individuals from the restrictions, requirements and conditions of Federal statutes and regulations, regulation of hunting and trapping of native species has been delegated to state fish and wildlife agencies” (WI Adm. Code WM-51-04NR).

Types of Wildlife Typically Held in Captivity:

Wildlife species held for training purposes are typically furbearing species including coyote (*Canis latrans*), red fox (*Vulpes vulpes*), cottontail rabbit (*Sylvilagus spp.*) and snowshoe hare (*Lepus americanus*). Other less commonly held species include bobcat (*Lynx rufus*), black bear (*Ursus americanus*), gray

fox (*Urocyon cinereoargenteus*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). Unless otherwise stated, future reference to *furbearers* in this paper refers to all of the above listed species. Some states do not limit the types of species permitted for training in pens and thus additional species may be used (Table 1).

Training Pen Facilities:

Fencing serves two primary functions: 1) to keep animals intended for training purposes and dogs inside an enclosure, and 2) to keep animals outside the enclosure from getting inside. Training pens are typically several acres to several hundred acres in size and enclosed by fences of a height sufficient to restrict the movements and/or escape of a desired species. Each of the 50 states has statutory legislation describing fences and most include minimum and maximum heights and construction details (MI DNR 1999). All states allow fences less than 54 inches (1.37 m) in height for the purpose of restricting the movements of livestock (MI DNR 1999). Most states do not regulate minimum fence heights, but rules typically specify that the fence must be of sufficient height to exclude the egress or ingress of the specific species that the facility is designed to hold. Wisconsin maintains specific codes for training pen fencing for holding fox and coyote (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045; Hound dog training enclosure permit). Additionally, some states also regulate the maximum height and length of fences because of the potential to exclude free-ranging native wildlife from critical habitats and seasonal migration routes, an issue that is also addressed in The Wildlife Society's Position Statement on Confinement of Wild Ungulates within High Fences (MI DNR 2006 and TWS POC position statement).

Fences designed to keep furbearers in captivity are frequently modified to keep animals from digging under and/or scaling fences. Most furbearers are efficient diggers, so facilities designed to hold these species may include angled and/or buried fencing or skirting around the bottom (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045; Hound dog training enclosure permit). Fences are sometimes ringed with electrified wires at the bottom and top to discourage animal contact with fences. Additionally, young or immature furbearers are smaller in size and may have increased potential to escape pens designed to contain mature, larger animals.

Wisconsin allows hound training on bobcat, raccoon and black bear only if these species are confined in training cages (WI Adm. Code WM-51-04NR, Sec. 21. NR 17.07). This is to reduce the likelihood of escape of these climbing species from a training pen. However, Michigan specifically prohibits training on a captive, tethered, or caged bear (MI Wildl. Conser. Order Sec. 14.5).

Access to and from facilities is necessary for dog training and to provide the necessary care for captive furbearers. However, access points (i.e., gates) are likely escape points for furbearers. Electronic gates may increase the likelihood

of escape because individuals do not have to be physically present when gates are opened and closed.

The regulated size of enclosures varies according to the species being held in captivity (Table 1). Some states regulate the size of pens to give animals a chance to escape pursuit by dogs. Missouri limits the minimum size of training pens to 40 acres for fox and coyote (MDC Wildlife code: 3 CSR 10-9.575). Wisconsin requires a minimum area of 0.5 acre for rabbits and 75 acres for fox and coyote, except that inexperienced dogs can be trained in pens no smaller than 15 acres in size (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045; Hound dog training enclosure permit).

Treatment of Captive Animals and Dogs:

Most states require minimum standards for housing animals. Minimum standards are designed to provide a safe and secure environment for animals held in captivity. Specific to wildlife held in captivity, most regulations are addressed by the state agency with authority over wildlife (MI DNR, PA 451, Sec. 324.42714, and WI DNR, PUB-CS-20), but in some instances other regulatory agencies may also have authority. For example, in Minnesota captive cats, bears and primates are regulated by the Board of Animal Health (Minnesota Statute 346.155).

Although all of the furbearer species referenced in this paper are commonly hunted with hounds in free ranging situations, some may be more vulnerable to being captured by dogs in an enclosure. In a Virginia study where 70 coyotes were radio-collared and released into a 950 acre training pen, most of the coyotes confirmed dead were killed by dogs (Fies 2007). Missouri and Wisconsin code specify that furbearers in hound training pens may be chased with dogs, but not with the intent to capture, injure or kill (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045, MDC Wildlife code: 3 CSR 10-9.575). Some states require access to refuge areas to ensure the safety of furbearers during a pursuit. Missouri code requires that a minimum of one dog-proof escape area (culvert, brush piles, or other structure inaccessible to dogs) be provided for each twenty-five acres of pen (MDC Wildlife code: 3 CSR 10-9.575). Wisconsin requires not less than one refuge area for each captive animal within an enclosure and not less than one area per fifteen acres of pen (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045).

Several furbearer species (black bear, bobcat, opossum, raccoon, and sometimes gray fox) are excellent climbers and frequently attempt to escape pursuing hounds by climbing trees or other structures. If permitted in training pens, these species should be afforded refuge cover that includes trees or elevated structures away from dogs. Wisconsin further limits the training of hounds on bear, bobcat, and raccoon to “only in cages” within enclosures (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045).

Furbearers released into training pens will be unfamiliar with their surroundings and an acclimation period is required by some states before furbearers can be pursued by dogs. Missouri and Wisconsin require a seven day acclimation period for fox and coyote, and Wisconsin requires a two day acclimation period for rabbits (MDC Wildlife code: 3 CSR 10-9.575, and WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045).

Individual furbearers within training pens could potentially be subjected to multiple training events in a twenty-four hour period if fresh packs of dogs were continuously introduced to a pen. Michigan has specific regulations about the number of dogs and dog packs that can be used to pursue individual free-ranging black bears (MI Wildl. Conser. Order Sec. 6.6). Furbearers inside training pens should be provided periods of rest and ready access to food and water. Wisconsin specifies no more than 12 hours of training in a pen within a 24 hour period. Additionally, there must be 8 consecutive hours when no training can occur (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045).

Some species of wild furbearers display territorial behavior and typically occur at low density (Fritzell 1987, Voigt 1987, Voigt and Berg 1987). Individuals of the same species will compete for food resources and this competition frequently overlaps with other furbearer species (Voigt 1987). Coyotes are also known to prey on fox (Gosselink et al. 2007). Limiting pens to containing a single species and limiting the number of individuals in an enclosure will reduce intra-and-interspecific competition.

Young or immature animals also may be more susceptible to capture by dogs. Limiting furbearers to physically mature individuals will likely decrease potential capture by dogs. Additionally, injured or debilitated wildlife has increased risk of being captured by dogs. Whenever possible, injured or debilitated wildlife should be removed from training facilities and treated or euthanized by a licensed veterinarian.

Fair Chase:

Several conservation organizations have recently prepared position statements condemning the take of game species in fenced facilities. These organizations generally perceive these activities as unethical or unsportsmanlike. There is general concern from these organizations that the non-hunting public may confuse the take of game animals behind fences (where the hunter has an unfair advantage) with the harvest of free-ranging, wild animals (www.boone-crockett.org). Although, most of these organization's position statements are specific to big game animals and so called, "canned hunts", the issue of fair chase might also be extended to coursing pens which would place hunting organizations in conflict.

Specific to the issue of "fair chase" as it relates to coursing pens may be the regularity with which dogs capture and kill furbearers. However, coursing (sight

chasing) hounds and falconry is a legal form of “equipment” for harvesting some game species in most Midwest states. States attempting to regulate the “welfare” of furbearers inside training pens should examine whether rules to protect a species in captivity conflict with similar activities for free-ranging animals. Additionally, any state considering regulating training pens, excluding complete prohibition, needs to identify the actual purpose of the pens, and ensure that the purpose of the pens and the intent of the regulations being considered by the state are compatible. If the purpose of the pens is in contrast to the intent of the state's regulations, then violations are inevitable. For example, if a state is attempting to regulate the welfare of furbearers held in captivity, but given the conditions of pens capture of the furbearer by dogs is inevitable, then violations will occur.

Diseases and Parasites:

Disease and parasite introduction and transmission between captive and wild animals are a significant public health concern with dog training facilities. Transmission can occur between captive animals and dogs, as well as between captive animals and humans.

There are numerous parasites and diseases that affect furbearers. Many of these parasites and diseases have minimal impact to the individual animal or the population of the species but may be present. There are also several diseases and parasites that can affect these species that are not likely present in particular regions of the country, but could be introduced by animals being translocated from other states or provinces. The translocation of raccoon strain rabies from the southeastern to Mid-Atlantic States resulted from the shipment of raccoons by private hunting clubs in the late 1970s (Nettles et al., 1979, Smith et al., 1984). As of 2002, an estimated US\$58-US\$148 million had been spent on management and education about this invariably fatal zoonotic disease (Kemere et al., 2002). Additionally, an oral vaccination effort designed to halt and/or slow the spread of this disease in eight states continues to cost in excess of seven million dollars annually (Dennis Slate, USDA-WS, pers. comm.). Specific to training pens, movement of 20-25 coyote from south Texas to a Florida pen in 1994 could have resulted in the translocation of coyote variant canine rabies (Rupprecht et al. 1995). Five hounds trained in the pen were later confirmed with canine variant rabies and had to be euthanized (Chipman et al. *in press*). Additionally, twenty-four people who had contact with these animals received post exposure prophylaxis treatment for rabies. A similar incident involving the movement of coyote from Texas to a training pen in Alabama occurred in 1993 (Chipman et al. *in press*).

Some diseases and parasites common in fox and coyote that can infect domestic canids include Canine Distemper, Canine Heartworm (*Dirofilaria immitis*), Sarcoptic Mange, Rabies, Parvovirus Enteritis, Leptospirosis (fox are reservoir), and Infectious Canine Hepatitis. The internal parasites (*Toxocara canis*, *Capillaria* spp., *Crenosoma vulpis*, *Echinococcus multilocularis* (with the proper

intermediate host), *Taenia pisiformis*, *Multiceps serialis*, *Sarcocystis cuniculi*, and *Baylisascaris procyonis*) also pose a threat to domestic canids. Ectoparasites such as ticks and fleas may also be transmitted from wild animals to domestic canids. These diseases and parasites could also pose a risk to native populations of fox and coyote.

Bobcat can carry Feline Distemper and *Toxoplasma gondii*. Parasites (the protozoa, *Cytauxzoon* and the tapeworm, *Spirometra*) are documented in bobcat populations in some parts of the Midwest, but may be more prevalent in the southern United States. These diseases and parasites pose health risks to humans or domestic animals such as cats. In addition to many of the diseases and parasites found in fox and coyote, the roundworm *Baylisascaris procyonis* is common in raccoon. Black bear can also carry *Trichinella spiralis* (Trichinosis), and Internal parasites (*Baylisascaris transfuga* and *Dirofilaria ursi*). Cottontail rabbit are known to carry *Franciscella tularensis* (Tularemia), Rabbit Fibromatosis, and internal parasites (Warbles, *Baylisascaris procyonis* (abnormal host), *Taenia pisiformis*, *Multiceps serialis*, and *Sarcocystis cuniculi*).

The most significant diseases and parasites to the health of humans are Rabies, *Franciscella tularensis* (Tularemia), *Baylisascaris procyonis*, *Trichinella spiralis*, *Echinococcus multilocularis*, Bubonic plague and Sarcoptic mange. Rabies causes neurological disease and death in humans. *Baylisascaris procyonis* can cause neurological damage, blindness, and sometimes death. *Toxoplasma gondii* is known to cause birth defects in humans. *Trichinella spiralis* can be transmitted to wild and domestic swine and although it has little effect on pigs, it can cause vomiting and diarrhea, and sometimes death in humans. *Echinococcus multilocularis* causes hydatid disease in humans and if left untreated can be fatal. Ticks, mites and fleas may also be transferred from wild animals to humans and these parasites serve as vectors for some diseases. Bubonic plague is usually transferred from the bite of an infected flea. If left untreated it can be fatal to humans. Sarcoptic mange is transferred by mites and causes severe skin rash.

Several measures can be taken to decrease potential transmission of parasites and diseases. Several Midwestern states disallow the transport of wild furbearers (Table 1). Requiring measures that minimize escape of furbearing species should be a concern of regulating agencies. Minimum fencing requirements are common in most states that regulate training pens (see *Training Pen Facilities* above). However, even with regulated minimum fencing requirements, wild animals are likely to escape penned facilities. Seven to sixteen percent of radio-collared coyotes from a Virginia training pen escaped a 950 acre enclosure with 7-foot tall chain link fencing, electrified at the base (Fies 2007).

Eliminating movement of furbearers across state lines could significantly reduce potential translocation of diseases and parasites. Most states regulate the

transport of wild animals and some restrict import of furbearers from outside the state (Arkansas CR 15.18, WI Adm. Code WM-51-04NR, Sec. 18. NR 17.047). Further limiting the use of furbearers to only those that were bred and raised in captivity could provide an additional level of security against potential disease and parasite transmission. Animals raised in captivity could be vaccinated and monitored for any potential signs of diseases or parasites. Requiring disease and parasite testing, and inspection of all furbearers used in training pens by a licensed veterinarian is required in some states (Arkansas CR 15.17); however, clinical signs of many diseases are undetectable during incubation and there are no approved live animal tests available for many of the most virulent diseases (e.g., rabies). Additionally, requiring marking and record keeping of all furbearers used in training pens, and all dogs participating in training activities would be critical to identifying individual animals should a disease outbreak occur. Some states require that foxes and coyotes be vaccinated against rabies and distemper, and also be treated for common parasites (Arkansas CR 15.11). However, there are no USDA approved vaccines or treatments for the species of furbearers typically used in training pens.

Domestic dogs are required to be vaccinated against rabies in all fifty states (www.oregon.gov/ODA/AHID/animal_health/dog_cat_import.shtml#State_summary_requirements) and all dogs participating in training activities should be vaccinated against rabies. Requiring vaccination of dogs against additional diseases common in furbearers (e.g., Canine Distemper, and Parvovirus) would further protect dogs and captive furbearers against these potentially fatal diseases. Requiring vaccination records for all dogs provided access to training facilities would ensure compliance and the safety of dogs, their handlers, and captive furbearers.

Whenever possible, direct contact between dogs and furbearers should be avoided. Direct contact could result in physical injury to both and increases the likelihood of disease and parasite transmission. Wisconsin code specifies that the owner or operator of a dog training pen may not permit the release of any wild animals or dogs that are diseased or have been exposed to diseased animals (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045). Direct supervision of training activities could minimize potential contact between dogs and wildlife.

Sources of Furbearers for Training Pens:

Animals captured from the wild are the primary source for furbearers released into training pens and live trapping fox and coyote for sale to training pens is gaining popularity among trappers in some states (Eagle 2008). Regulations about the sale of live animals vary among Midwest states. Nebraska and South Dakota have specific regulations limiting possession and/or transport of live furbearers that would probably limit the ability of an individual to maintain wildlife in captivity for the purpose of training hounds (Sam Wilson, NE GPC, and Andy Lindbloom, SD DGFP, person. Comm.). Wisconsin limits furbearers used in training pens to those captured for nuisance control purposes (WI Adm. Code

WM-51-04NR, Sec. 18. NR 17.045), while Missouri allows the holder of a valid Hound Running Area Operator and Dealer Permit to purchase fox and coyotes from the holder of a valid trapping permit (MDC Wildlife code: 3 CSR 10-9.575). Indiana is considering changes to regulations that would prohibit the sale of coyote live captured outside of the regulated trapping season (March 16 through October 14).

The average price for a live captured coyotes can range from \$US50.00 to \$US90.00 (www.stopindianacoyotes.com) compared to an average pelt price of approximately \$24.00 (www.furharvesters.com/Results/may08us.htm). However, many states prohibit the import of furbearers from other states (WI Adm. Code WM-51-04NR, Sec. 19. NR 17.047), while some prohibit the import of animals only from specific states (Arkansas CR 15.18). Some states also require that live animals sold or traded be marked and accompanied by written records (Arkansas CR 15.17, MDC Wildlife code: 3 CSR 10-9.575).

Even if regulations are in place, illegal activity may occur. In 2007, wildlife agents seized 25 fox, 55 coyotes, 2 bobcats, and 33 cardinals (used as bait) illegally possessed and sold to training pen operations in eight southeastern states (Frank Boyd, USDA-WS, Presentation at the Tenth Annual Rabies Management Team Meeting, Mobile, AL, April 1-3, 2008). This operation resulted in the temporary closure of 31 of 41 training pens suspected of illegal activities in Virginia (Michael Fies, VDGIF, person. comm.). In April 2009, 831 counts of illegally buying, selling or possessing wild-caught foxes and coyotes, and cruelty to animals, were filed in Kentucky after a 20 month investigation including Alabama, Indiana, Florida, South Carolina, Virginia, and West Virginia.

Another potential source of animals used in training pens is captive reared furbearers. Although some states specify that the purchase of furbearers from a captive breeder is permitted (MDC Wildlife code: 3 CSR 10-9.575, WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045), we were unable to locate a supplier through an extensive search of the internet. Advantages of using captive reared animals over wild furbearers are that detailed breeding and health records could potentially be required. This could decrease the likelihood of potential disease and parasite outbreaks.

Breeding among captive furbearers is another potential source. However, the successful rearing of young animals in a training pen would likely be difficult because immature animals of some species may be more susceptible to capture by dogs inside an enclosure. So that reproduction does not occur within a training pen, Wisconsin requires that furbearers be spayed or neutered by a licensed veterinarian (WI Adm. Code WM-51-04NR, Sec. 18. NR 17.045).

Additional Issues:

Social issues related to sale and confinement of wildlife include cultural and legal issues of privatization of natural resources, hunter ethics and public perception of

hunting, commercialization and domestication of wildlife, and ecological stewardship (TWS 2009). In Kentucky, United Trappers of Kentucky publicly opposed live sale of fox and coyote because of the negative image it portrays of hunting and trapping, while the Kentucky Houndsmen Association expressed opposition to live sale due to the potential for an increased number of traps in the field, especially if trapping were allowed year round (Laura Patton, KDFWR, person. comm.).

Regulation and inspection of training facilities may not be eligible to be funded with monies commonly used to manage wildlife and natural resources. For example, PR Funds are ineligible for uses, “providing services or property of material value to individuals or groups for commercial purposes or to benefit such individuals or groups” [50 CFR 80.5(a)(1), 50 CFR 80.14(c)], and “stocking of game animals for the purpose of providing hunting of the animals stocked without objectives for restoration or establishment of self-sustaining populations” [WR Act Sec 2, 50 CFR 80.5(a)(1)]. Each state would need to evaluate the appropriate funding source to regulate training pens.

Summary

There is increasing interest among some individuals to hold certain species of wild furbearers in captivity for the purpose of training hound breeds of hunting dogs. In most states, the authority to regulate these facilities falls to the agency responsible for regulating wildlife.

Fences designed to keep furbearers in captivity usually exceed in height those used to hold livestock, and additional modifications may be needed specific to the species of furbearer being held in captivity. Additionally, the maximum height and length of fences may need to be regulated because of the potential to exclude free-ranging native wildlife from critical habitats and seasonal migration routes.

Agencies should consider animal welfare issues when regulating training facilities to protect both furbearers and dogs. Additionally, the potential for increased transmission and spread of disease is always a concern when holding wildlife in captivity, and some diseases carried by furbearers pose significant health risks to people. Disease risk may be reduced by reinforcing up-to-date vaccination of dogs, maintaining facilities to appropriate specifications to hold wild furbearers in captivity, requiring inspection and record keeping of individual furbearers, and eliminating transport of furbearers from out of state sources.

Natural resource agencies responsible for regulating training pens may also face issues related to the privatization and commercialization of wildlife, fair chase, and use of restricted funds for regulating wildlife held in captivity.

Table 1. Status of training pens in the Midwest States.

State	Training Pens Allowed	Species Permitted	Regulating Authority	Specific Training Pen Regulations	Minimum Area (acres)
ILLINOIS	YES	Coyote and Fox	N/A	N/A	N/A
INDIANA	³ YES	⁴ Coyote, Gray and Red Fox, and Raccoon	IN DNR	NO	N/A
IOWA	YES	Coyote	N/A	NO	N/A
KANSAS	YES	Coyote, Gray and Red Fox, Opossum, and Raccoon	KS DWP	NO	N/A
KENTUCKY	YES	Furbearers	KDFWR	⁶ NO	⁷ NO
MICHIGAN	YES	N/A	MI DNR	NO	NO
MINNESOTA	YES	^{1a} Not specifically regulated	^{1b} Board of Animal Health	NO	NO
MISSOURI	YES	Coyote and Fox	MO DC	YES	40
NEBRASKA	² NO	N/A	N/A	NO	N/A
NORTH DAKOTA	² NO	N/A	N/A	NO	N/A
OHIO	YES	Native furbearers	OH DNR	NO	N/A
SOUTH DAKOTA	² NO	N/A	N/A	NO	N/A
WISCONSIN	YES	Bear, Bobcat, Coyote, Fox, Rabbits, and Raccoon	WI DNR	YES	⁴ 75 for fox and coyote; 0.5 for rabbit

^{1a} Live coyotes may be captured and transported and released at any time within Minnesota. Game species that are captured and reduced to possession must be killed before removal from the site where taken. ^{1b} Minnesota Board of Animal Health regulates captivity of bear, felids and primates.

²Nebraska, North Dakota and South Dakota have specific regulations limiting possession and/or transport of live furbearers that would likely limit the ability of an individual to maintain wildlife in captivity for the purpose of training hounds.

³Indiana allows individuals to chase and hunt coyotes, foxes, and raccoons inside enclosed areas during the open hunting season for that species.

⁴Recently changed rule to disallow the sale of live coyote outside of the hunting and trapping season.

⁵Wisconsin allows for a minimum pen size of 15 ac for training inexperienced dogs.

⁶Escape cover required if participants apply for the exemption to hunting licenses.

⁷200 acres if participants apply for the exemption to hunting licenses.

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**APPENDIX 6. HOST STATES - MIDWEST FURBEARER RESOURCES
WORKSHOP**

Year	State
1979	Kansas
1983	Wisconsin
1984	Illinois
1985	Iowa
1987	Minnesota
1988	Indiana
1989	Missouri
1990	Nebraska
1991	South Dakota
1992	Ohio
1993	Oklahoma
1994	North Dakota
1995	West Virginia
1996	Michigan
1997	Illinois
1998	Kansas
1999	Wisconsin
2000	Missouri
2001	Ohio
2002	Iowa
2003	Minnesota
2004	Illinois
2005	North Dakota
2006	Michigan
2007	Nebraska
2008	Kansas
2009	Kentucky