

38th Midwest Deer and Wild Turkey Study Group Meeting
YMCA Trout Lodge, Potosi, MO September 9-12, 2014
Notes by Robert E. Rolley

The meeting was held at the YMCA Trout Lodge near, Potosi, Missouri.

Welcome to Missouri. We were welcomed by John Vogel of the Missouri Department of Conservation.

Reframing the Pb discussion: Understanding the complexity of the decision landscape – John Schultz. Lead poisoning is a “wicked problem” with no simple and single solution. More than 130 species of wildlife are affected by lead in spent ammunition and fishing tackle including condors, eagles, loons, swans, and mourning doves. An estimated 18-24 million doves die of lead poisoning annually. Lead fragments in venison is also a human health concern. Ammunition expended at shooting ranges generates considerable funds for Pittman-Robertson federal aid. Small lead sinkers were recently banned in Maine and New Hampshire and California banned lead ammunition starting in 2019. John concluded that we have sufficient reliable knowledge to demonstrate the scope of the problem and it is irresponsible to continue to do nothing. He advocated for a voluntary approach that is nationally coordinated and implemented at the state level. He felt this was the optimal approach given the current political landscape.

Biological and sociopolitical impacts of CWD in Missouri – Jason Summers, Missouri Dept. of Conservation. Missouri has a long history with captive cervids dating back to the late 1800s. Elk were classified as livestock in 1995. A white paper produced by the Wildlife Division in 2000 recommended banning new big game shooting areas but no action was taken. Missouri began testing for CWD in 2002 and through 2011 had tested >36,000 deer. Their first detection was in a hunting preserve in 2010. That facility was depopulated with no additional positives. In 2011, 2 deer from a 2nd captive cervid facility tested positive. Testing of deer surrounding the facility in fall 2011 detected 2 free-ranging positives. Subsequent testing has detected a total of 10 free-ranging deer with CWD from within 2 miles of the captive facility. Management strategies to limit the spread have included intensive, focused culling within 1 mile of known positives, landowner permits, lifting the 4-point antler restriction, banning feeding of deer in the containment zone and discouraging the transportation of carcasses from the zone. No positives were detected in fall/winter 2013-14. Missouri has about 200 captive cervid breeders with ~10,000 deer, and 39 big game hunting preserves. A bill was passed by the legislature to transfer authority to regulate captive cervids from the MDOC to their Ag department. The governor vetoed the bill and a vote to override the veto was held the day of the meeting and was narrowly defeated.

Statistical population reconstruction as a tool to model deer and turkey populations – Joshua Millsaugh, University of Missouri. Harvest data is useful for monitoring population status and trends over large areas. Age-at-harvest models provide a framework for incorporating data on harvest size, sex and age structure, hunter effort and auxiliary information to estimate population size and precision and other components of population dynamics (e.g., harvest rates, recruitment, etc.). Uses likelihood framework, requires individual hand-tailored models to deal with the complexity of season structure and available data. Requires a minimum of 5 years of harvest/age data. Age data can be collapsed to 2 age classes but this limits precision of estimates. Consistency in season frameworks for several years is important.

Using statistical population reconstruction to estimate demographics in wild turkey populations – Jason Isabelle, Missouri DOC. Missouri is exploring the use of statistical population reconstruction to model turkey abundance. They have developed a proof of concept model from eastern Ozark data. They obtained good correlations with bowhunter observation data and recruitment indices. Estimated harvest rates were 25-30% for adult males and approximately 10% for juvenile males. Will need to develop additional models for other regions of the state. They are currently using AD Model Builder to develop models but are trying to develop user-friendly software.

Midwest Wild Turkey Consortium: a collective assessment of the factors that drive Midwestern turkey populations – Chad Parent, Michigan State University. The consortium has compiled turkey harvest and hunter data from most Midwestern states and are relating harvest data to weather and land cover data. Presented trends in catch/effort data, most states show an initial increasing trend followed by stability or a decline. Turkey hunter effort is declining in most states. In southern and western states habitat is the strongest driver of harvest patterns while in northern and eastern states weather and harvest appear to have the strongest effects. Snow was not important in any top model, rather rain effects tended to be important in northeastern states. The response of turkeys to landscape and weather differed among states.

Deer Breakout Session

Suggestions for applying statistical population reconstruction in assessments of deer population dynamics – Joshua Millsbaugh, University of Missouri. Missouri is interested in using SPR for assessing deer population dynamics. They will need to develop different models for counties with and without antler-point restrictions due to changes in harvest vulnerability. They plan to combine data from telecheck, post-season hunter surveys and meat locker surveys. Fawns are likely underrepresented in the meat locker samples. They are considering using eye-nose measurements and antler measurements to expand classifications from telecheck beyond doe/male fawn/adult buck. They used data on hunter behavior, antler point restrictions, harvest regulations, weather, and land cover to define 11 regions for modeling. Simulations suggested they should age 500 animals per region. They are planning to start telemetry studies to estimate survival in 2 regions (northern ag dominated and southern forest dominated) with 120-150 deer per sex-age class radioed for 5-6 years.

ABM for CWD: an adaptive disease management strategy – Aniruddha Belsare, Univ. of Missouri. Developed an individual-based model to simulate disease transmission in Missouri. Used forest cover in the 6 county containment zone as a basis for distribution of deer. Initial uses have been to assess surveillance effectiveness.

Assessment of deer-vehicle collision occurrence across agriculture, northern forest, and forest-agriculture matrix environments of the Midwest United States – Brent Rudolph, Michigan DNR. Compiled DVC data from Iowa, Illinois, Michigan and Wisconsin during 2000-2011. Collisions were a function of traffic and deer abundance. Collisions were most frequent in the portion of the region with a high interspersion of forests and agriculture. This is an area of growing suburban and exurban environments where DVCs can be expected to increase over time.

Survival and cause-specific mortality of white-tailed deer fawns in suburban, exurban, and rural areas – Chad Williamson, Ball State University. Research is being conducted in Bloomington, Indiana and rural areas east of town. Bloomington has developed a sizeable suburban deer population. Fawns were captured via foot searches and calls to the deer hotline.

Fawn survival was higher in urban than rural environments. Major causes of mortality were vehicle collisions, and coyote predation.

Community deer management in Town and Country, MO: sharpshooting and sterilization methods to reduce suburban deer density- Erin Shank, Missouri DOC. Town and Country is a 10 sq. mile community in St. Louis County with a long history of urban deer problems. During 1999-2001 trapped and moved 233 deer. A city task force developed a deer management plan in 2009 that used a dual approach, surgical sterilization and sharpshooting funded by the city. During 2009-2010, 130 does were sterilized in a mobile sterilization lab, 25 were radiocollared, most stayed in local area. Sharpshooting has been conducted by White Buffalo during 2009-14. An average of 135 deer were removed/year. The city has spent ~\$400,000 during past 5 years with sterilization costing ~\$1,500/deer. Deer population size has been reduced somewhat but a county park is serving as a refuge. Deer-vehicle collisions remain high.

National Deer Alliance. This is an outgrowth of the Whitetail Summit that was organized by QDMA this spring. NDA is organizing as a 501C4 to advocate and lobby on national deer issues. QDMA has a small role in the organization. Concern was expressed that the organization is focused on traditional hunter issues rather than focusing on deer as a public resource to be managed for all citizens. To date there is not a board of directors in place. Currently effective lines of communication have not been established between NDA and state managers. Managers felt they would not benefit from another organization accusing them of “mismanagement”.

Standardizing State Deer Reports. We discussed the idea of using a standardized format for state deer status report patterned after the format used by the Northeast Deer Study Group. Topic headings in the NE reports included current harvest, historical harvest, population estimates, deer management zones, regulation/legislation changes, urban and special hunts, deer management assistance and crop damage, diseases, research, hot topics, and relevant links. It was acknowledged that some states use a report they already produce for their publics as their state report and producing a separate report for the study group would be extra work. The idea of producing a summary table to capture the highpoints of each states management system and deer status was briefly discussed. It was pointed out that this was attempted a few years back but was found to be unwieldy due to all the differences in management systems. The group agreed to work toward more standardized reports in future years.

Population goal/objective setting.

Illinois just went through a revision of their population goals. Goals had previously been set by a legislative task force based on levels of deer-vehicle collisions and called for a reduction in deer population size. Their review included a series of public meetings, an online survey, and surveys of hunters and landowners regarding their attitudes about deer populations. Among the counties reviewed, approximately half saw no change in management objectives, approximately 30% saw small increases in objectives, and about 20% saw moderate increases in objectives.

Minnesota will be conducting another round of goal setting. Their last process in 2007 called for population reductions that have been achieved; now hunters are upset. They will be conducting human dimension surveys of hunters and landowners through University of Minnesota. They will be forming a number of stakeholder advisory teams. Teams will be provided with harvest data and human dimension survey data.

Missouri annually surveys hunters (35,000) for hunter effort data along with production landowners (USDA, 9,000) and hunters (18,000) to assess desired population trend. They recently held 14 public meetings and received 5,000 responses to an online survey.

Ohio has relied on surveys of rural landowners (USDA production landowners). They were last surveyed in 2000. Goals were to reduce populations which has occurred, now hunters want more

deer. They are planning another round of goal setting in 2015 with surveys of production landowners, deer hunters, and general citizenry/rural landowners.

Iowa surveys hunters and production landowners every 5 years to assess desired population goals.

Wisconsin discussed the County Deer Advisory Councils that are currently being formed. All states indicated struggles with how divergent public attitudes are integrated in setting population goals. How much weight should be given to the desires of hunters versus landowners? The goal setting processes have been receiving increased scrutiny.

Private land deer management

Wisconsin described the Deer Management Assistance Program that is being developed. The program was recommended by the Deer Trustee, details were developed with input from a citizen action team and an advisory committee with representatives from 16 partner groups. In Wisconsin DMAP is not designed to address crop damage, there is a separate program for that. Program objectives include promoting sound land stewardship and providing a mechanism for site-specific deer management while improving relationships between the WDNR and landowners. Landowners can enroll in one of three program levels. Level 1 has no minimum acreage and no enrollment fee. Level 2 has a 160 acre minimum and a \$75 enrollment fee. Level 3 has a 640 acre minimum and a \$150 enrollment fee. Landowners in Levels 2 and 3 receive site visits from wildlife managers and foresters who will provide a management plan. Landowners at these levels can receive reduced cost antlerless permits.

North Dakota has a program to match landowners and hunters that has been well received.

Minnesota has been issuing permits to landowners to issue to hunters during the hunting season. Several states allow landowners to shoot deer at night with spotlights. There was general discussion related to how best to deal with local deer damage issues, in-season permits versus out-of-season permits, paid permits versus free permits.

Michigan obtained a license fee increase and some of the money was targeted for grants to private landowners for deer habitat management. Michigan will be partially funding (with QMAP and Pheasants Forever) a position to coordinate deer management coops.

Missouri has a private lands biologist for every 2-3 counties that works with deer coops. Interest in coops is growing.

Deer population monitoring.

Kansas has been conducting spotlight surveys that are on public and private land. Contrary to generally accepted impressions, deer densities were higher on public land than on nearby private land due to better habitat quality and refuge situations (waterfowl refuges, campgrounds, etc.). Stressed the importance of quantifying actual density differences.

Missouri is struggling with how to provide opportunity for hunters without access to private land while still maintaining quality. They have experimented with archery only areas but these tend to attract hunters who have access to private lands.

South Dakota is starting to fly fixed wing surveys and have been developing sightability models.

Nebraska has been conducting flights in mule deer range in areas of concern.

Iowa has discontinued fixed wing surveys, still conducting spotlight surveys, still using roadkill index, using bow hunter observation survey. These data are combined with a population model. Analyses are conducted for 4-5 county management units.

North Dakota relies heavily on fixed-wing surveys, flown in spring and fall along with hunter observation surveys. Their highway patrol stopped compiling data on deer-vehicle collisions.

Minnesota uses helicopter surveys and spotlight surveys to calibrate population models.

Southeast Deer Study Group. Missouri will host this meeting in 2017 in St. Louis.

Deer Status Reports

Illinois. Total harvest ~148,600 (39% antlered, 61% antlerless). Total harvest decreased 18% from 2012, due to ongoing population reduction toward established management goals, 2 years of measureable hemorrhagic disease (HD) mortality, and adverse weather during the firearm hunt that likely affected hunter participation and/or deer movements. Total harvest was lowest since 1999. 20 counties will be removed from late-winter season in 2014-15 as they have reached goal levels. They believe archery hunting may be impacting firearm opportunities in a number of counties. The decline in harvest was of concern to hunters, a new organization (Illinois Whitetail Alliance) formed to influence deer management. They have requested a 1 buck limit and eliminating or moving the late-winter season to pre-rut (September). 70% of hunters oppose a pre-rut hunt. Research by the University of Illinois using genetic techniques suggested considerable long-distance dispersal movements in the fragmented habitats of northern Illinois with implications on disease surveillance and management strategies. Relatively significant HD mortality was noted in 2013 but less than in 2012. CWD samples during 2013-14 included 2,292 from staffed checkstations in CWD affected counties, 3,780 from drop-off stations/meat processors, 720 from agency culling, 515 from special permits (population control permits or nuisance control permits), 48 from roadkills, and 42 from suspects. A total of 59 deer tested positive out of 7,397 tested. Sharpshooting continues to be used to focus culling in sections within 2 miles of where positives had been detected.

Iowa. Total harvest ~99,400 (39% antlered, 61% antlerless). Estimated harvest was 14% lower than in 2012 and 34% lower than in 2006. Reduced harvest was related to reduced deer populations, lower license sales, and colder than normal weather in December and January. Antlerless harvest opportunities are being reduced especially in northwestern Iowa. The January antlerless season was eliminated and hunters in 27 counties will be restricted to bucks-only in the first shotgun and early muzzleloader seasons. Iowa detected their first CWD positive among free-ranging deer in northeast Iowa adjacent to the Mississippi River. Genetic analysis is suggestive of a Wisconsin origin. Will sample intensely this fall and are working to build relationships with landowners. Iowa is still in litigation over an infected captive cervid facility.

Indiana. Total harvest ~125,600 (37% antlered, 63% antlerless). Harvest was down 8% compared to 2012 but was similar to levels during the mid 2000s. HD losses were documented in 2013 but less than in 2012. A legislative summer study committee examined the issue of shooting preserves. The state is still involved in a 9 year litigation process over efforts to regulate shooting preserves. Indiana is partnering with some local communities to offset costs of managing hunts on community owned land.

Kansas. Total harvest ~89,700 (~86,900 WTD [55% antlerless], 2,700 MD [20% antlerless]). The department enacted regulations to allow any center fire rifle or handgun to be used during a deer firearm season. Previously center fire rifles had to be .243 or larger. This change was promoted by some with arguments they would be used by youths and women but survey data did not indicate that the change resulted in any increased participation. The legislature mandated a pre-rut antlerless-only season in 2013. The 2 day season was statewide in mid-October. Only about 6,600 hunters participated and only 2,000 deer were taken. Most management units show a decreasing or stable trend in deer-vehicle collisions; however, spotlight surveys suggest an increasing trend in the statewide population. Crossbows were authorized for all hunters during the archery season. With elimination of USDA funding for CWD sampling the number of deer sampled annually has decreased substantially, only 420 deer and elk were sampled in 2013.

Kentucky. Total harvest ~144,400 (54% male, 46% female). 2013 was the highest harvest on record. In 2007, Kentucky experienced significant HD mortality and subsequently reduced

antlerless harvest opportunity. The population has recovered and antlerless harvests have increased. License sales are increasing with an emphasis on recruiting young hunters. Archery harvest is strong in September with demand for bucks in velvet. Kentucky tests about 1,000 deer annually for CWD focusing around cervid facilities and in high density areas. They have some HD activity in most years. Two research projects are ongoing focusing on fawn and adult doe survival/mortality.

Michigan. Total harvest ~385,000 (~53% antlered, 47% antlerless). The estimated number of hunters increased 1% from 2012 but total harvest decreased 8%. This was the first time that harvest was below 400,000 since the early-mid 1990s. The drop in harvest was attributed to severe winter weather in the Upper Peninsula and antler point restrictions in portions of the Lower Peninsula. 42% of hunters purchased an antlerless deer license. Use of crossbows is expanding. Approximately 50% of archers used crossbows during 2013. Total archery participation is stable, existing archers are switching to crossbows. The number of youth deer hunting license buyers increased from ~15,000 in 2006 to nearly 35,000 in 2013. Increased sales were associated with reductions in minimum age requirements. Two proposals to impose antler-point restrictions in additional areas did not receive the required 2/3s support.

Minnesota. Total harvest ~172,800 (~53% antlered, 47% antlerless with firearm licenses). Total harvest decreased 6% and was the lowest harvest since 1998. The reduced harvest was believed to be partly due to adverse weather conditions (wind and rain) during the firearm season. Due to 2 severe or moderately severe winters and public concerns about reduced population levels the 2014 season will be fairly conservative with bucks-only harvests in several units in northeastern forest zone. Bucks-only regulations will apply to youth, disabled, and archery hunters as well as regular firearms hunters. Minnesota is conducting research to better understand the relationship between local deer abundance and damage to agricultural crops. Conducting helicopter quadrat surveys to calibrate population models, 6 management zones were flown in winter 2013-14. Experimented with using a thermal imager acquired by the department for enforcement and search and rescue. Equipment modifications will be needed before further tests are conducted. Will be sampling for CWD in southeastern border units adjacent to Iowa due to recent detection in northeast Iowa.

Missouri. Total harvest ~251,900 (42% antlered, 58% antlerless). Harvest in 2013 was 19% below the 2012 harvest. Harvest reduction was largely attributed to reduced populations in northern and central regions due to liberalized harvests coupled with HD outbreaks in 2012 and 2013. Antlerless harvest permits are being scaled back. In the process of finishing a statewide management plan. Public review via 14 public meetings and draft plan was posted on the web. Hunters are fairly satisfied that the agency is responding to reduced population levels. Missouri is starting a major research effort to develop age-at-harvest models after an internal review of their management program.

Ohio. Total harvest ~191,500 (~37% antlered, 63% antlerless). Harvest decline was believed to be due mostly to lower population levels but also to adverse weather during the season. Deer populations peaked in the mid- to late 2000s. Higher antlerless harvests associated with reduced-cost antlerless permits appear to have reduced population size in much of the state. As populations grew during the 1990s and early 2000s the percentage of yearlings among harvested does declined from ~50% to ~30%. Deer-vehicle collisions and crop damage complaints have declined. Management objectives are shifting from population reduction to stabilization with reductions in bag limits and reduced antlerless harvest opportunities. Ohio has a research project to analyses harvest, landuse, and permit sales data to develop deer management units and move away from county management units toward ecologically based management units (hopefully 15-

20). Examination of 1,153 roadkilled does during 2010-12 revealed lower reproductive rates (fawn pregnancy rates, lower yearling litter sizes, etc.) than found in prior surveys in the 1980s and 1990s.

Nebraska. Total deer harvest ~48,300 (~39,600 WTD [38% antlerless]; 8,600 MD [20% antlerless]). Harvest was substantially lower than peak levels in 2010 and 2011. Populations reduced due to HD outbreaks in 2012 and 2013 as well as drought. Attempting to increase populations of mule deer in about 50% of management units and populations of white-tailed deer in most units. The percentage of bucks that were ≥ 2.5 years old was approximately 75% for white-tailed deer and ~83% for mule deer. Nebraska has moved the opening date of the archery season to September 1 to allow harvest of velvet antlered bucks.

North Dakota. Total deer harvest ~36,700 (~33,800 WTD; 2,900 MD). License sales peaked at over 140,000 during the late 2000s; in 2014, 48,000 licenses will be available. Deer populations are below objectives in most management units due to a series of severe winters that followed a decade of aggressive antlerless harvests. Deer habitat continues to be lost due to energy development and conversion to croplands. Mule deer populations in the badlands are starting to recover. HD mortality was documented in 2013 in the southwestern part of the state. Completed a research project that examined a long-term fawn recruitment data set. Winter weather was a major driver of variation in recruitment. North Dakota has ongoing research in 2 study areas examining population dynamics, survival, and reproduction. Liver samples are being analyzed for neonicotinoid insecticides. Also are evaluating the use of drones for monitoring deer populations.

South Dakota. Total deer harvest ~55,500 (~48,500 WTD [48% does]; 7,700 MD [39% does]). The harvest was the lowest since the early 2000s. Deer populations have been reduced due to several years of severe winters and HD outbreaks in 2012 and to a lesser extent in 2013. Substantially reducing antlerless harvest opportunity to rebuild populations. Population declines also occurred for pronghorns and elk. SD's management programs for deer, pronghorns, elk and mountain lions were review by the Wildlife Management Institute. The review provided support for increased research. They have numerous projects underway estimating population size, fawn and adult survival, reproductive rates, evaluating surveys, assessing forage quality, assessing impacts of energy development, and determining effects of neonicotinod insecticides on deer. Substantial mortality due to HD was documented in 2013 (850 reports) but this was markedly lower than in 2012 (3,714 reports).

Business Meeting

Wisconsin is next in line to host the meeting in 2015 and Kentucky is planning to host it in 2016. Proceedings, meeting notes and information about upcoming meetings are available on the web at: <http://mdwtsg.org/>. The Study Group is in need of a new web master.

Bill Jensen from North Dakota reviewed current knowledge related to neonicotinod insecticides based mostly on a webinar presented by the USFWS. There is concern about potential impacts on wildlife due to widespread use of these pesticides and limited research on game birds and small mammals. North Dakota is testing deer liver samples and research is starting in South Dakota to assess effects on pheasants and deer.

The next meeting of the MAFWA will Duluth, Minnesota in June so members from Minnesota should expect to attend and provide a short report.