

MINUTES OF THE HOUSE AGRICULTURE AND NATURAL RESOURCES COMMITTEE

The meeting was called to order by Chairman Larry Powell at 3:30 p.m. on January 20, 2009, in Room 783 of the Docking State Office Building.

All members were present except:

Representative Bill Light - excused

Committee staff present:

Pat Matzek, Administrative Assistant
Corey Carnahan, Kansas Legislative Research Department
Raney Gilliland, Kansas Legislative Research Department
Mike Corrigan, Office of the Revisor of Statutes

Conferees appearing before the committee:

Thomas Gross, Bureau of Air and Radiation, Kansas Department of Health and Environment
Chris Tymeson, Chief Legal Counsel, Kansas Department of Wildlife and Parks
Kevin Jones, Law Enforcement Division Director, Kansas Department of Wildlife and Parks
Mike Miller, Special Assistant to the Assistant Secretary for Operations, Kansas Department of Wildlife and Parks
Dr. Lloyd Fox, Big Game Coordinator, Kansas Department of Wildlife and Parks

Others attending:

See attached list.

Thomas Gross, Kansas Department of Health and Environment (KDHE), (Attachments 1 and 2) spoke on Mercury Wet Deposition Monitoring in Kansas. K.S.A. 75-5673 requires KDHE to establish a statewide atmospheric mercury deposition monitoring network.

There are six sites in Kansas that met the criteria and there are agreements in place. These sites are designed to study and quantify atmospheric fate and deposition of mercury. One of the site partners is Sac and Fox Nation of Missouri in Kansas and Nebraska. The factors affecting mercury deposition are atmospheric concentration which is the amount of mercury present in the water collected by the sampler, precipitation which removes mercury from the atmosphere, and location of the monitor in relation to local sources.

Next year will represent the first full year of sampling across the entire Kansas Mercury Deposition Monitoring Network. By the end of the year, ten months of data will be available for each of the six sites. It is expected that all six Kansas sites will have collected enough data to appear on the 2009 national network maps, which are scheduled for publication by September 2010. Estimated cost for 2009 including network development and operating costs is \$141,821.

Chris Tymeson, Chief Legal Counsel, Kansas Department of Wildlife and Parks (KDWP), introduced Kevin Jones, Law Enforcement Division Director with KDWP. Mr. Jones gave a brief synopsis concerning the discovery of dead turkeys at Russell Springs, Kansas (Attachment 3). On January 6, 2009, 26 dead turkeys were collected; a large number from the City Park in Russell Springs, nine recovered west of Russell Springs, and a dead hawk found south of Russell Springs. On January 7, 2009, six turkeys and one raccoon carcass were shipped to the Southeastern Cooperative Disease Laboratory in Athens, Georgia for examination. It was determined the turkeys actually died of zinc phosphide poisoning. The turkeys also showed they had been exposed to chlorophacinone at some point in time, but this was not the cause of the death. Both of these chemicals are used to control prairie dogs. The use of any type of poison or toxicant is not allowed in the taking of wild turkeys or raccoons.

The Department of Agriculture is the state agency responsible for the registration and permitting of pesticide chemicals and applicators. Any misuse of such chemicals would be referred to this agency for investigation and action.

Chris Tymeson then introduced Mike Miller, KDWP (Attachment 4), who reported on the deer permit program. The Wildlife, Parks and Tourism Committee requested the KDWP examine deer-related statutes in order for them to be simplified and condensed. A ten-member Deer Task Force of KDWP employees

CONTINUATION SHEET

MINUTES OF THE House Agriculture And Natural Resources Committee at 3:30 p.m. on January 20, 2009, in Room DSOB 783 of the Capitol.

began meeting weekly and found it could not change one part of the deer program without affecting it all, so it explored a complete redesign. One of the Task Force goals was to develop a formula to establish nonresident deer permit numbers to satisfy the desire of resident landowners and protect resident hunting opportunities.

In 2007, HB 2437 was passed and the changes as a result of that bill are what went into effect for deer hunting procedures for the 2008 season. One of the changes for residents was establishment of a statewide, whitetail either sex, any season permit. Also, establishment of two units for use of limited either species, either sex firearms and muzzleloader permits and elimination of whitetail antlerless only game tags, and instead establishment of one type of whitetail antlerless only permit.

For nonresident deer permits, elimination of the landowner/transferable nonresident permit and establishment of nonresident permit quotas based on demand, landowner tolerance and resource biology. That was one of the most controversial issues because of questions as to whether or not the permits were distributed in a fair way. A permit application process set quotas of whitetail deer permits and allowed applicants to designate either archery, muzzleloader or rifle upon application. A mule deer stamp also was established.

For simplification, a resident hunter was able to purchase a whitetail either sex permit and a whitetail antlerless only permit over the counter or online.

Chris Tymeson introduced Dr. Lloyd Fox, Big Game Coordinator, KDWP, reporting on Deer Management in Kansas for 2009 (Attachment 5). A national survey conducted by the United States Fish and Wildlife Service of Fishing, Hunting and Wildlife-Associated Activities estimated that big game hunters spent an average of \$1,100 per year on trip related expenses (http://library.fws.gov/nat_survey2006_final.pdf).

Minimizing deer related vehicle accidents is a major priority objective in the Kansas Deer Management Program. A report prepared by State Farm Insurance Companies of deer related vehicle accidents nationwide showed that the potential for an accident with a deer was lower in Kansas than in any other state in the Midwest (http://www.statefarm.com:80/about/media/media_releases/wv_deer_collisions.asp).

Landowners have several options for controlling deer on their property: 1) they may allow or increase hunting; 2) they may encourage hunters to harvest antlerless deer; 3) they may contact KDWP at 620-672-5911 for the hunter referral list; or 4) they may apply for a deer control permit that may be used when damage is occurring outside the regular hunting seasons.

At the conclusion of the presentations, questions were asked and comments were made by members of the Committee.

Upon completion of the questions and discussion, the following bills were introduced:

Representative Prescott introduced a concurrent resolution (Attachment 6) urging the United States Congress to oppose federal legislation that interferes with a state's ability to direct the transport or processing of horses. Representative Svaty seconded the motion. The motion was carried.

Representative Fund introduced an act concerning a hunter safety orientation program in schools. Representative Hayzlett seconded the motion. The motion was carried.

The next meeting is scheduled for January 21 , 2009.

The meeting was adjourned at 4:55 p.m.

AG. & NATURAL RESOURCES COMMITTEE GUEST LIST

DATE: 1-20-09

NAME	REPRESENTING
Tom Thompson	Sierra Club
Shari Albert	KDHE
Tom Gross	KDNE
Rick Brunetti	KDNE
Chris Tymen	KDWP
Kevin Jones	KDWP
Mike Mills	KDWP
Steve Fox	KDNP
Matt Casey	KDNP GIRA
Lindsey Douglas	KDA
John C Grange	Ks House of Rep's
Mike Beam	K2 Livestock Comm.
BRAD HARRISON	KF13
JJ Jones	Commerce

Mercury Wet Deposition Monitoring in Kansas

Report to the House Agriculture and Natural
Resources Committee
January 20, 2008

Thomas Gross, Bureau of Air and Radiation
Kansas Department of Health and
Environment



Background

- Update is a requirement of K.S.A. 75-5673
- H.B. 2526 passed in 2007
- K.S.A. 75-5673 requires KDHE to establish a statewide atmospheric mercury deposition monitoring network
- No fewer than six sites in Kansas
- At least two sites to measure mercury deposition entering the state from prevailing winds
- Contract with a proven laboratory
- Data and analysis reports provided to the public via web



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Ag & Natural Resources Committee
Date 1-20-09
Attachment 1

Mercury Network Siting Process

- Site selection
 - Find location meeting siting criteria
 - Locate owner, obtain permits, negotiate use agreement
 - Obtain national MDN approval
 - Find operator and negotiate contract
- Site development
 - Install electrical service
 - Install equipment
 - Conduct operational tests
- Operator training
 - Schedule and conduct operator training session
- Routine operation



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Part of National Mercury Deposition Network

- All 6 Kansas sites in the national Mercury Deposition Network (MDN) for comparability and quality assurance
- Coordinated through the National Atmospheric Deposition Program (NADP)
- Designed to study and quantify atmospheric fate and deposition of mercury
- Weekly samples of wet deposition



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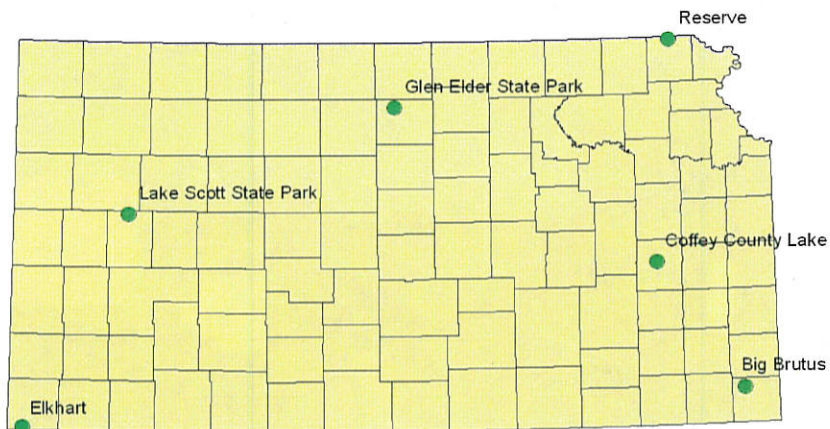
Site Partners

- Sac and Fox Nation of Missouri in KS and NE
- Glen Elder State Park – KDWP
- Lake Scott State Park – KDWP/Private Contract Operator
- Cimarron National Grassland – USDA
- Big Brutus, Inc. – Big Brutus Board
- Coffey County Lake – Wolf Creek/KDHE



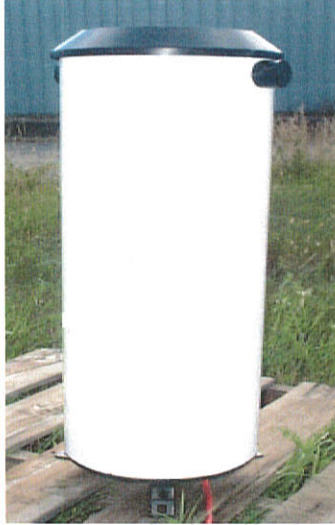
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Mercury Wet Deposition Network



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Automated Rain Gauge and Deposition Collector

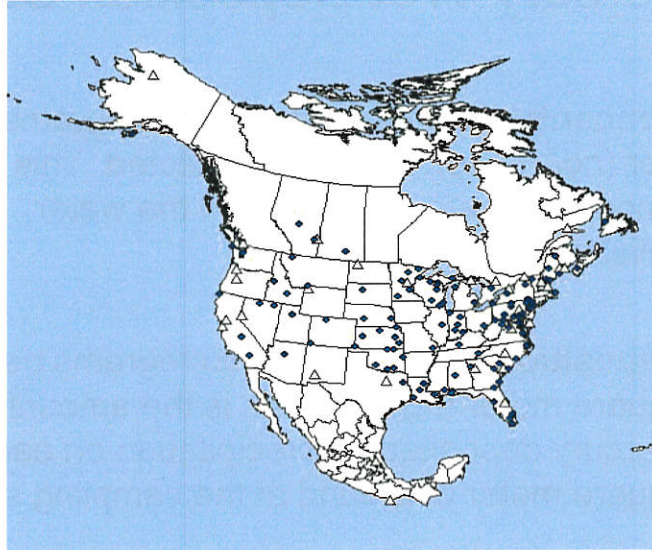


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Reserve, Kansas Site



Current Active MDN Sites



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Factors Affecting Mercury Deposition

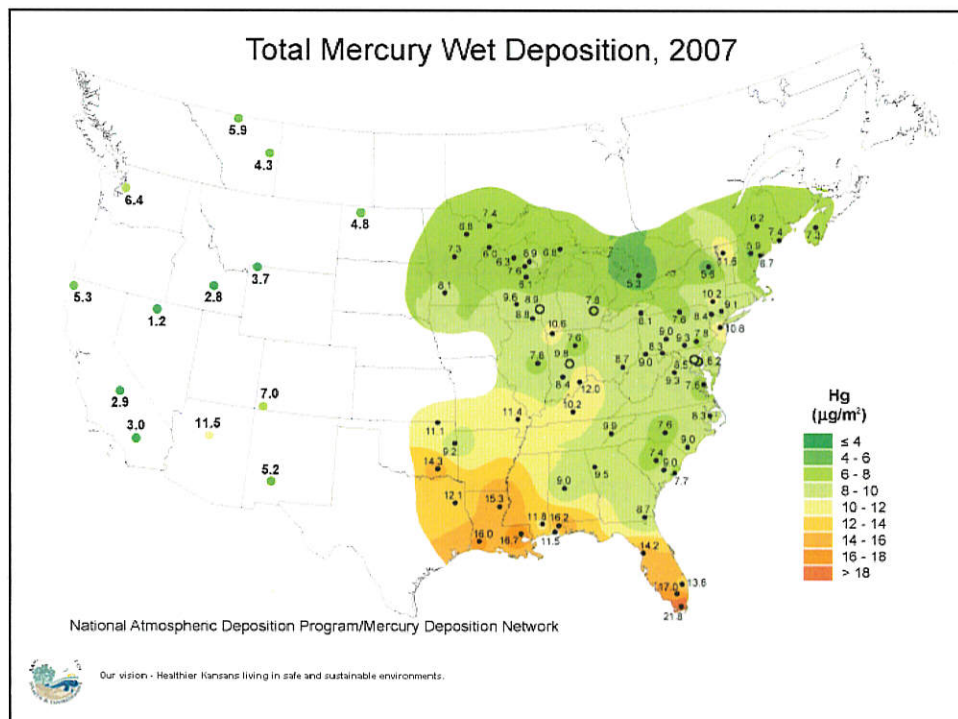
- **Atmospheric Concentration** is affected by local, regional and global sources
- **Precipitation** removes mercury from the atmosphere
- **Location** of monitor in relation to local sources

Mercury Wet Deposition Data

- **Concentration**, expressed in nanograms per liter (ng/L) of precipitation collected. This is the amount of mercury present in the water collected by the sampler.
- **Deposition**, expressed in micrograms per square meter ($\mu\text{g}/\text{m}^2$). This is the amount of mercury deposited by precipitation on each square meter of ground at the sampling site.

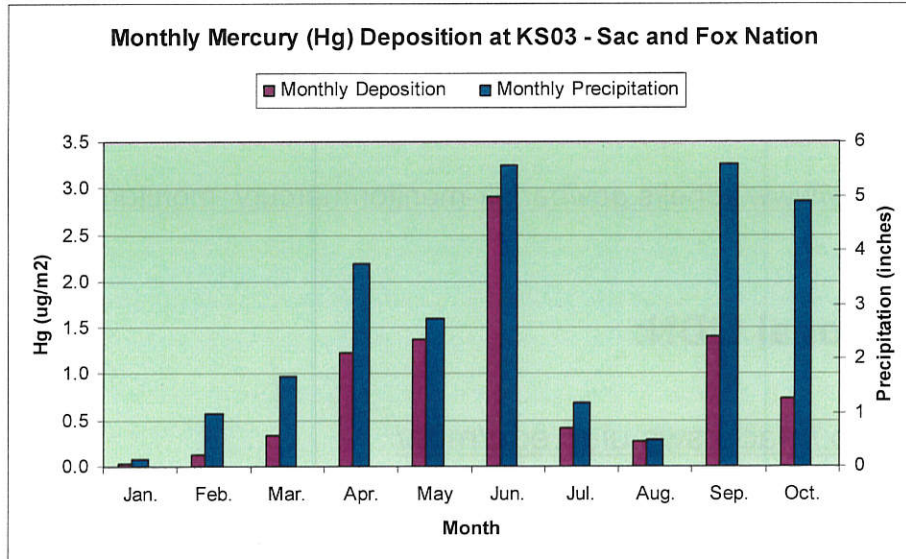


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Seasonal variability in data from Reserve, KS.



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Kansas Network Budget

- **Network development: June 1, 2007 – Dec. 31, 2008**
 - Salaries: \$ 35,537
 - Equipment: \$ 59,128
 - Training: \$ 1,400
 - Site development: \$ 5,958
 - Total: \$ 102,023
- **Operating costs: Jan. 1, 2008 – Dec. 31, 2008**
 - Salaries: \$ 28,909
 - Supplies & travel: \$ 484
 - Operator & Site use fees: \$ 12,788
 - Sample shipping: \$ 5,162
 - Laboratory analysis: \$ 29,957
 - Total: \$ 77,300
- **Estimated total costs for 2009**
 - First full year of network operation: \$ 141,821



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For more information...

Kansas MDN:

http://www.kdheks.gov/bar/air-monitor/mercury_monitoring.htm

National MDN:

<http://nadp.sws.uiuc.edu/mdn/>



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Mercury Deposition Monitoring in Kansas: Implementation and Network Status Report



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December 31, 2008

**Kansas Department of Health and Environment
Bureau of Air and Radiation
1000 SW Jackson – Suite 310
Topeka, KS 66612-1366**

Ag & Natural Resources Committee
Date 1-20-09
Attachment 2

Mercury Deposition Monitoring in Kansas: Implementation and Network Status Report

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Mercury Deposition Monitoring in Kansas: Implementation and Network Status Report

Summary of Mercury Deposition Network Development and Monitoring

Introduction

KSA 75-5673 requires that the Kansas Department of Health and Environment (KDHE) establish a statewide mercury deposition network consisting of at least six monitoring sites. Monitoring for a period of time long enough to determine trends (five or more years) is also specified.

The network has been designed to assure compatibility with the national Mercury Deposition Network (MDN). The MDN, coordinated through the National Atmospheric Deposition Program (NADP), is designed to study and quantify the atmospheric fate and deposition of mercury. The MDN collects weekly samples of wet deposition (rain and snow) for analysis to determine total mercury.

Sampling at all sites is performed on a weekly basis, with sample retrieval every Tuesday. Clean sample glassware is installed for collection of the next week's sample at the time of the operator's site visit. All samples are sent to a national contract laboratory utilized by the MDN. Sample analysis and coordination through this national cooperative research program are performed under contract.

Preliminary site evaluation began upon signing of the legislation. Equipment was bid, selected and purchased at the time the site selection process was initiated.

Kansas Mercury Deposition Network Siting Process

The steps required to select and develop a site and subsequently initiate mercury wet deposition sampling can be separated into four phases: site selection; site development; operator training; and routine operation. The time required for each site to become operational varies. Each site requires a contract, use permit and/or easement to document permission for use of the site, and several contracts also address operation of the sites. Some steps are conducted simultaneously, while others must occur independently at a particular point in the process.

1. Site Selection. The following steps must be completed to select a site for placement of mercury wet deposition sampling equipment:

- Select potential sites for each region using a map
- Conduct scouting trips for preliminary evaluation of sites in each region
- Reduce list of sites to only those which will meet national network siting criteria
- Locate land/property owner or entity controlling access to site
- Select final site
- Obtain any necessary permits and/or easements
- Negotiate site use agreement with appropriate authorities
- Conduct official candidate site review
- Submit site review documentation to Network Coordinator at Illinois State Water Survey for final approval
- Upon official approval, add site to MDN contract
- Locate interested operator candidates
- Interview and select operator(s)
- Negotiate operator contract

2. Site Development. Site development must be completed prior to operator training. The following steps must be completed to prepare a site for mercury wet deposition sampling:

- Set the mounting post for the MDN sampler and platform for rain gauge
- Install electrical service at site (via independent electrical contractor)
- Install sampler and rain gauge
- Conduct operational tests of sampler and rain gauge
- Configure and test hand-held electronic communications device with rain gauge data logger

3. Operator Training. Each site has at least one operator who must be properly trained in site operation and sampling handling procedures. The first training session, at Reserve, KS, was conducted by personnel from the national MDN program. All subsequent operator training sessions have been conducted by KDHE personnel. Operator training must be completed prior to initiation of sampling. The following steps are necessary for an on-site operator training session:

- Select date for operator training session
- Conduct on-site operator training
- Install software drivers on operator computer and synchronize with hand-held electronic communications device

4. Routine Operation. Routine site operation is initiated as soon as possible following the operator training session. This is usually on the day of training.

- Add site/operator to shipping list
- Initiate operation as soon as possible after operator training
- Provide ongoing network management, technical consultation, troubleshooting and repair for site

A timeline showing the development of the statewide network appears below in Table 1.

Table 1. Timeline for Development of the Kansas Mercury Deposition Monitoring Network

March 2007	Consultation w/ national MDN Coordinator Re: equipment, siting criteria and operation
May 19, 2007	Purchase requests for equipment submitted via BAR Fiscal Officer
May 2007	Initiated contact w/ potential host agencies Re: siting and contract operation of sites
May 29, 2007	Equipment out for bid
July 17, 2007	Equipment ordered
August 21, 2007	Initiated on-site evaluations for MDN sites
August 2007	Draft of contracts for host agencies (KDW&P, USDA, Sac & Fox Nation), operators and MDN
Aug./Sept. 2007	Delivery of equipment
Sept. 2007	MDN site evaluations submitted to MDN Coordinator
October 22, 2007	Sac & Fox site - Agreement signed
November 13, 2007	Sac & Fox site - Install/training
December 4, 2007	MDN cooperative agreement signed
Dec. 2007/Jan. 2008	Receipt of sampling media
January 10, 2008	Glen Elder site - Agreement signed
March 14, 2008	Scott State Park site - Operator agreement signed
April 22, 2008	Glen Elder site - Install/ Configure samplers
May 20, 2008	Glen Elder site - Training for operators/Site operating
June 3, 2008	Scott State Park site - Install/configure samplers
June 4, 2008	Scott State Park site - Training for operator/Site operating
August 21, 2008	Big Brutus site - Agreement signed
October 2, 2008	Big Brutus site - Install/configure samplers
October 7, 2008	Big Brutus site - Training for operators/Site operating
October 28, 2008	Coffey Co. Lake (Wolf Creek) site - Easement obtained
November 2008	Ongoing negotiation with USDA Forest Service Re: Cimarron Nat'l. Grassland site use agreement
December 16, 2008	Cimarron National Grassland - Install/configure samplers
December 17, 2008	Cimarron National Grassland - Training for operators
December 22, 2008	Coffey Co. Lake - Install/configure samplers; training for operators
December 30, 2008	Cimarron Nat'l. Grassland & Coffey Co. Lake sites operating

Description of the Kansas Mercury Wet Deposition Network

The complete Kansas Mercury Wet Deposition Monitoring Network (KMDN) consists of six sites distributed across the state. The locations of existing and future sites in the states of Nebraska and Oklahoma were also taken into consideration to optimize regional mercury network coverage. A map of the network appears below in Figure 1.



Figure 1. Kansas Mercury Deposition Network and sites in Nebraska and Oklahoma

The first operational site in the network is at Reserve, KS. This site is located at an existing ambient air monitoring station belonging to and operated by the Sac and Fox Nation of Missouri in Kansas and Nebraska. The Tribe's environmental department is operating the sampler under contract with KDHE. A photograph of the site at Reserve is included below as Figure 2.



Figure 2. Kansas Mercury Deposition Sampling Site KS03, Reserve, KS

In Figure 2, the white cylinder to the left is a digital rain gauge. The operator is opening the mercury deposition sampler. The building houses visibility monitoring equipment (i.e., an IMPROVE-protocol sampler), and the tower supports meteorological monitoring instruments, which are operated by the Tribe's environmental department. Only the rain gauge and mercury deposition sampler are owned by the State of Kansas.

The Kansas Department of Wildlife and Parks (KDWP) hosts two sites. The second site to become operational is at Glen Elder State Park, between Glen Elder and Cawker City, KS. This site is operated by KDWP personnel. The third operational site, located north of Scott City, KS, at Scott State Park, is operated by an independent contract operator.

The fourth KMDN site is located near West Mineral, KS, at the Big Brutus Museum. This site is hosted and operated by Big Brutus, Inc.

The fifth site in the network is located at Coffey County Lake (Wolf Creek). This site is operated by KDHE ambient air monitoring field staff.

The United States Department of Agriculture hosts the sixth site, which is located at the Cimarron National Grassland near Elkhart, KS. This site is operated by personnel at the Cimarron National Grassland.

Each site was chosen to meet particular criteria. Specific regional and local siting criteria must be met before any site is accepted into the national MDN. A major consideration, at both the state and national levels, was relatively even distribution of monitoring sites across Kansas. Some other considerations, especially of interest from the State's perspective, were distance and direction to potential sources of airborne mercury, proximity to fish tissue monitoring locations, and distance to neighboring state boundaries. Mercury deposition sampling locations in the States of Oklahoma and Nebraska also affected placement of samplers in the network.

Specific information about the sampling sites appears below in Table 2. As used in Table 2, the term "downwind" refers to the location of a monitor relative to a potential mercury source with regard to prevailing winds during the late spring, summer and early fall months. In most locations across Kansas, this would mean that a monitor is located to the north or northeast of a source.

Table 2. Kansas Mercury Deposition Network Siting Information

MDN Site No.	Location	Reasons for Selection^a	Initial Sampling Date
KS03	Sac and Fox Nation of Missouri Brown County Reserve, KS	<ul style="list-style-type: none"> ◆ Downwind of NE KS sources (EGUs) ◆ Existing IMPROVE-protocol site ◆ Near Nebraska border ◆ Coordinated with Nebraska mercury monitors 	2-Jan-08
KS04	Big Brutus, Inc. Cherokee County Near West Mineral, KS	<ul style="list-style-type: none"> ◆ Proximity to "hot spot" on national MDN maps ◆ Downwind of sources (cement kilns) ◆ Near Missouri border ◆ Coordinated with Oklahoma mercury monitors 	7-Oct-08
KS24	Glen Elder State Park Mitchell County Between Glen Elder and Cawker City, KS	<ul style="list-style-type: none"> ◆ Fills gap in network ◆ Proximity to fish tissue sampling (alternate years) ◆ No urban influences ◆ Near Nebraska border ◆ Coordinated with Nebraska mercury monitors 	20-May-08
KS32	Scott State Park Scott County North of Scott City, KS	<ul style="list-style-type: none"> ◆ Existing NADP/NTN^b site ◆ Downwind of source (EGU) ◆ Fills gap in network ◆ No urban influences ◆ Near Colorado border 	4-Jun-08
KS99	Cimarron National Grassland Morton County Near Elkhart, KS	<ul style="list-style-type: none"> ◆ Remote site ◆ No urban influences ◆ Near Oklahoma and Colorado borders ◆ Coordinated with Oklahoma mercury monitors 	30-Dec-08
KS05	Coffey County (Wolf Creek) Lake Coffey County Near Burlington, KS	<ul style="list-style-type: none"> ◆ Downwind of sources (cement kilns) ◆ Potential for fish tissue sampling ◆ No urban influences 	30-Dec-08

^aSpatial distribution of samplers throughout the network was a primary consideration for each site.

^bNADP/NTN: National Atmospheric Deposition Network/National Trends Network

Network Cost Analysis

Costs associated with the KMDN are presented in Table 3 below. All costs are covered by Air Fee Fund revenues. This table is divided into a section for network development, and a section for the cost of the first year of operation. The costs associated with network development include all capital equipment purchases as well as site preparation costs. Costs associated with operation are relatively low for 2008 because sampling was phased in as development was completed and each site became operational. A much higher annual network operating cost is anticipated for 2009, when all six sites will be active.

Table 3. Kansas Mercury Wet Deposition Network Costs

Kansas Mercury Deposition Network Development Costs: June 1, 2007 – Dec. 31, 2008					
Cost Category	Item Description	Cost Each	Qty.	Total Cost	Category Totals
Salaries and Fringes				\$35,537	\$35,537
Equipment	MDN Collector	\$4,748	6	\$28,488	
	Digital Precipitation Gauge	\$5,640	5	\$28,200	
	Precipitation Gauge Windscreen	\$640	1	\$640	
	Communications Device (PDA)	\$300	6	\$1,800	
	Total Capital Equipment				\$59,128
Training	On-site MDN Training	\$1,400	1	\$1,400	
	Total Training				\$1,400
Site Development	Material	\$300	6	\$1,800	
	Travel (Average = \$0.45/mile)	\$0.45	6,996	\$3,148	
	Installation of Electrical Service			\$1,010	
	Total Site Development				\$5,958
Total Network Development Cost					\$102,023
Kansas Mercury Deposition Network Operating Costs: Jan. 1, 2008 – Dec. 31, 2008					
Cost Category	Item Description	Category Totals			
Salaries and Fringes		\$28,909			
Supplies	Low toxicity antifreeze	\$230			
Operator and Site Use Fees		\$12,788			
Travel	Travel (\$0.505/mile)	\$254			
Shipping	Samples to Laboratory	\$5,162			
Laboratory Analysis	Mercury Analysis	\$29,957			
Total Operating Cost					\$77,300

National MDN Data

The purpose of the MDN is to collect mercury deposition data over a long period of time to monitor trends in the levels of mercury deposited over the earth's surface. Short term data analysis is difficult because of seasonal and year to year variability in precipitation amounts and mercury concentrations.

Quality assurance of MDN data occurs at two levels. All data are first reviewed by the national contract laboratory for completeness and accuracy, and assigned codes for samples that were mishandled, contaminated, or affected by equipment malfunction. The final laboratory data set is then forwarded to the national MDN Program Office for final quality assurance before generation of annual concentration and deposition maps and posting to the Web.

Data generated by the KMDN will be posted to the KDHE Web site as available and annually to a national database. Total mercury results are reported as:

- 1) Concentration, expressed in nanograms of mercury per liter (ng/L) of precipitation collected.

This is the amount of mercury present in the precipitation collected by the sampler. Concentration measurements provide a long-term record of mercury levels in precipitation across the United States.

- 2) Total precipitation depth collected, expressed in millimeters (mm).

This is the depth of snow or rain collected, which when multiplied by the concentration, gives total deposition of mercury to the surface. (See #3 below.)

- 3) Deposition, expressed in micrograms of mercury per square meter ($\mu\text{g}/\text{m}^2$).

This is the amount of mercury deposited by precipitation on each square meter of ground at the sampling site. The deposition numbers are important because they provide estimates (weekly, monthly and annual) of the amount of mercury loaded onto the surface of the earth in the vicinity of each sampling site. It is a portion of this mercury which enters bodies of water and ultimately can enter the food chain through aquatic systems.

National mercury data are summarized for each year by calculating the annual values from each site and plotting the information on a national map. The most recent national average concentration and total deposition maps (for calendar year 2007) appear in Figures 3 and 4. The Kansas sites will begin to appear on the 2008 maps, which will be issued by September 2009. It is expected that all six Kansas sites will have collected enough data to appear on the 2009 maps, which are scheduled for publication by September 2010. A set of these MDN maps, dating back to 1998, can be found at <http://nadp.sws.uiuc.edu/mdn/maps/>.

Total Mercury Concentration, 2007

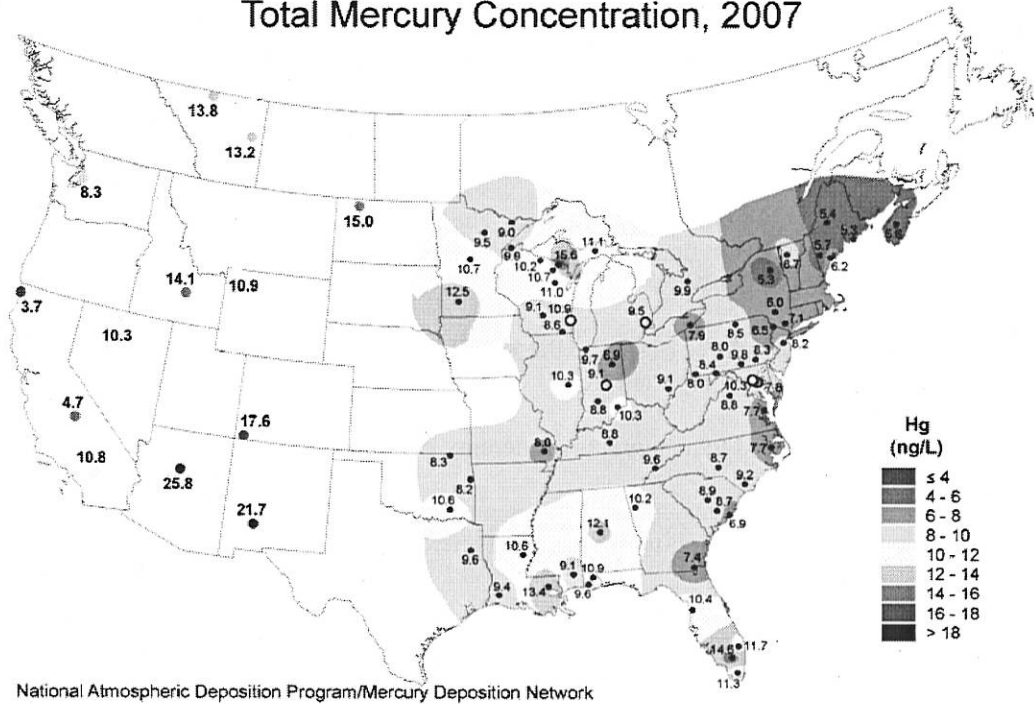


Figure 3. Total Mercury Concentration (ng/L), 2007

Total Mercury Wet Deposition, 2007

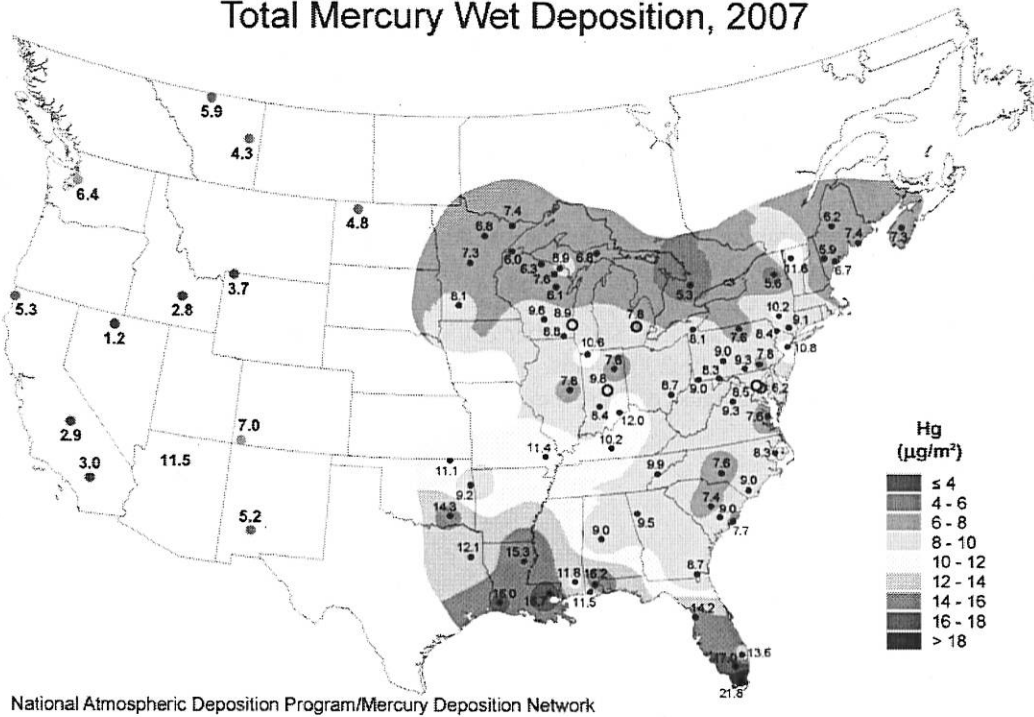


Figure 4. Total Mercury Wet Deposition ($\mu\text{g}/\text{m}^2$), 2007

Kansas Deposition Data for 2008

All currently available data from the KMDN appears below in Table 4. Preliminary data has been obtained through October 2008. The four sites that were operational before the end of October are included, with the data set for each site beginning with the first month of operation. These data sets have not been subjected to complete quality assurance procedures. The “raw” data may contain some values that could later be invalidated, but little change is expected and general conclusions can be made. The values shown are mercury deposition amounts expressed in $\mu\text{g}/\text{m}^2$ per month. The annual mercury deposition maps (example in Figure 4 above) will express mercury deposition as $\mu\text{g}/\text{m}^2$ per year. Monthly plots of mercury deposition at these sites in Kansas appear below as Figures 5 – 8.

Table 4. Kansas Mercury Wet Deposition Data (Preliminary): Jan. – Oct. 2008 ($\mu\text{g}/\text{m}^2$ per month)

Site	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
KS03	0.0357	0.1317	0.3431	1.2275	1.3771	2.9086	0.4117	0.2684	1.4127	0.7295		
KS24					1.8115	1.3353	1.5015	1.4677	0.5741	0.7202		
KS32						0.6556	1.2629	0.8322	0.3574	0.6367		
KS04										0.3864		

Seasonal variability is evident in the graph of data from the Reserve, KS, site (KS03; Sac and Fox Nation) presented in Figure 5a. This graph shows monthly mercury deposition and monthly precipitation totals. It can be seen that the months during which higher deposition values occurred were also months in which precipitation amounts were higher.

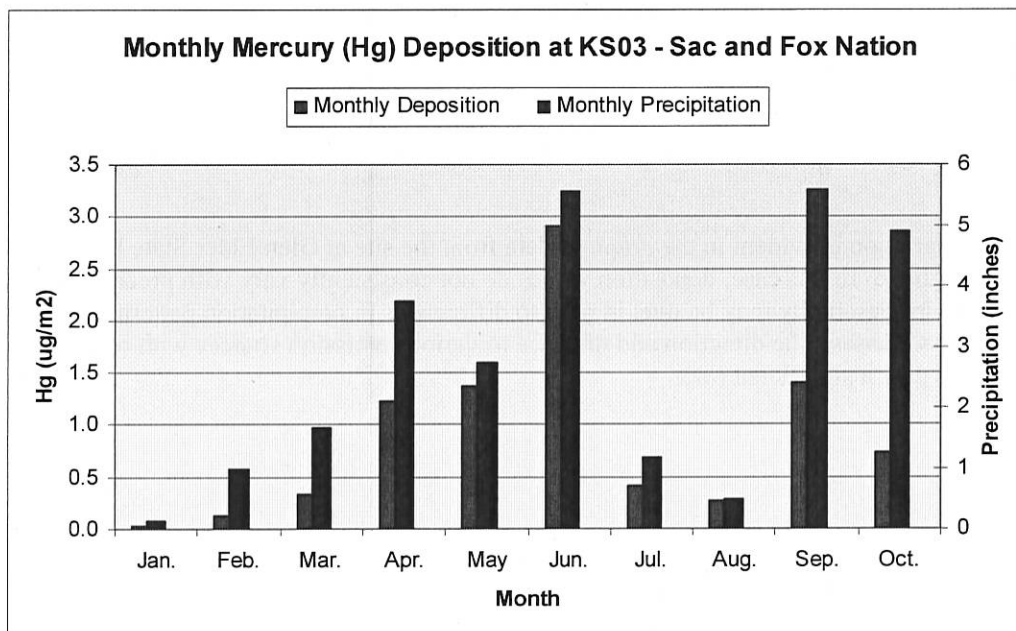


Figure 5a. 2008 Monthly Hg Deposition and Precipitation at KS03 – Sac and Fox Nation

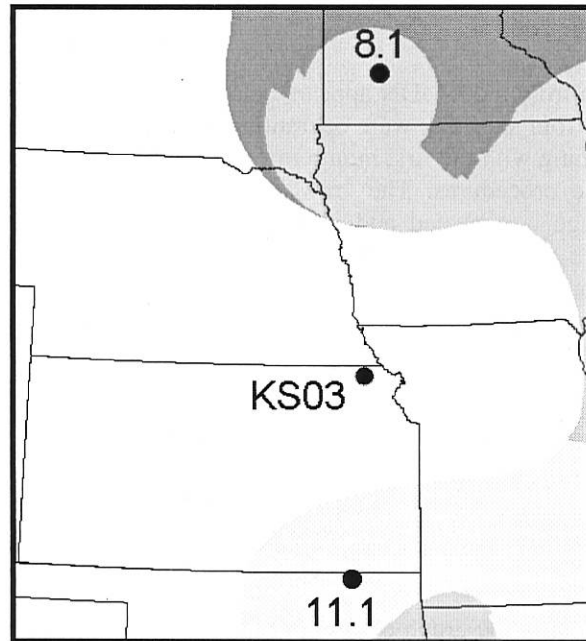


Figure 5b. Location of KS03 Relative to Nearest 2007 MDN Map Sites in Oklahoma and Minnesota

Figure 5b. above shows the location of KS03 at Reserve, KS, in relation to the nearest samplers to the north and south. Based on last year's values from the Oklahoma and Minnesota monitors, the interpolated value for KS03 would be about 10.5 ug/m^2 . Based on the first ten months of data from KS03, the estimated value for 2008 is 10.6 ug/m^2 . While this involves data from two different years, and each value is mathematically estimated, it serves as an indication that KS03 occupies a good position for filling a gap in the national network.

Less seasonal variation is evident in the graph of data from the site at Glen Elder State Park (KS24) presented in Figure 6. In this case, deposition values do not consistently vary with precipitation amounts. This difference in seasonality may be due, in part, to differences in precipitation patterns and amounts from site to site across Kansas. The direction and distance to various emission sources with regard to prevailing winds may also play a significant role.

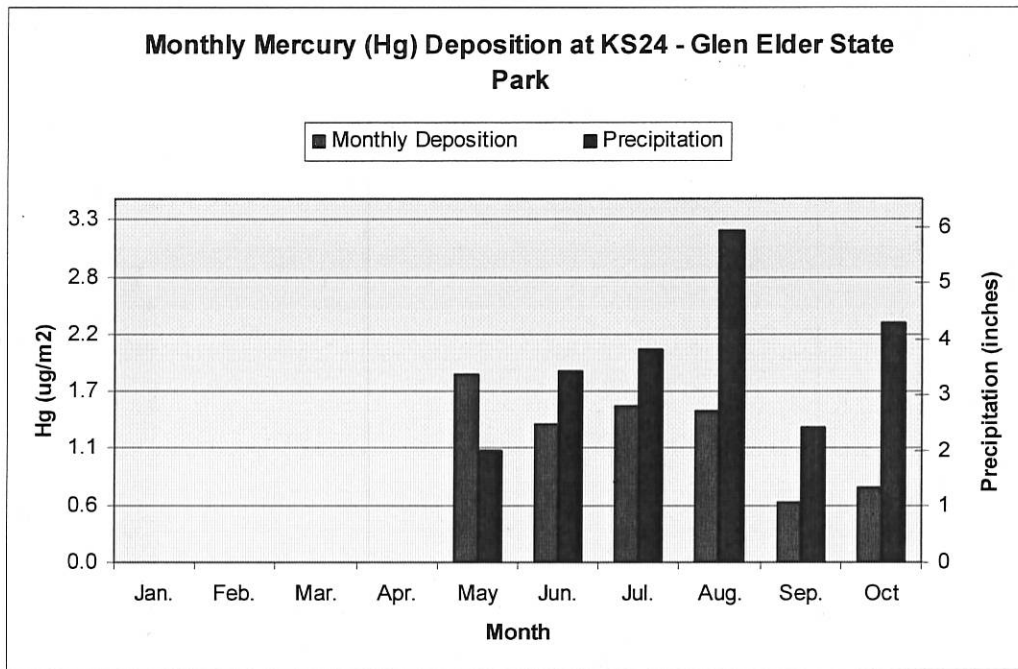


Figure 6. 2008 Monthly Hg Deposition and Precipitation at KS24 – Glen Elder State Park

A seasonal pattern related to precipitation is evident in the graph of data from the Scott State Park site (KS32) presented in Figure 7.

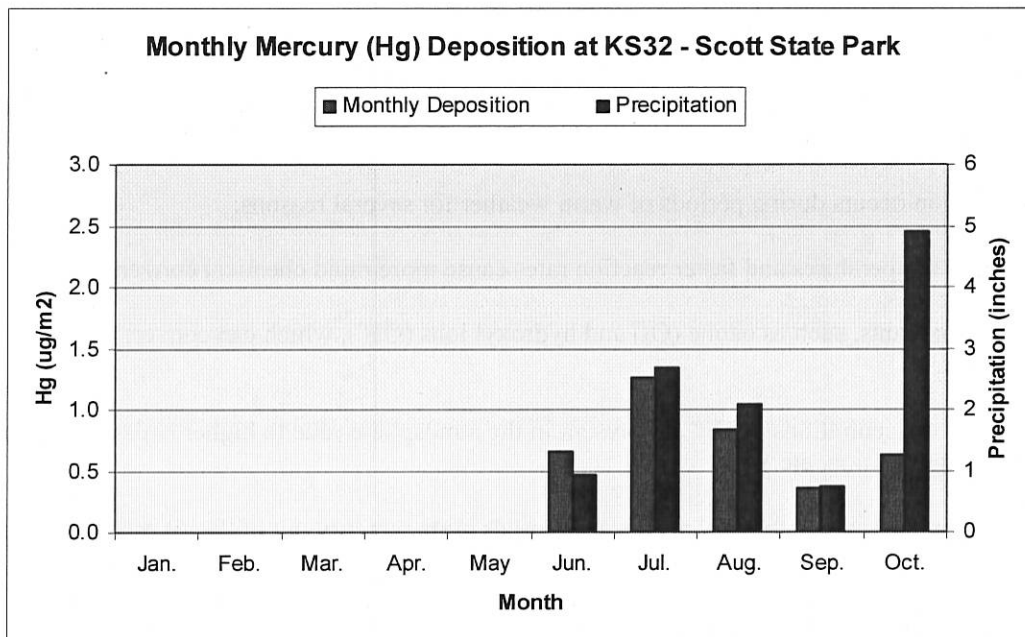


Figure 7. 2008 Monthly Hg Deposition and Precipitation at KS32 – Scott State Park

Only one month of data from the Big Brutus site (KS04) is presented in Figure 8 because operation of the sampler was initiated on October 7, 2008. The amount of data presented is too small to analyze.

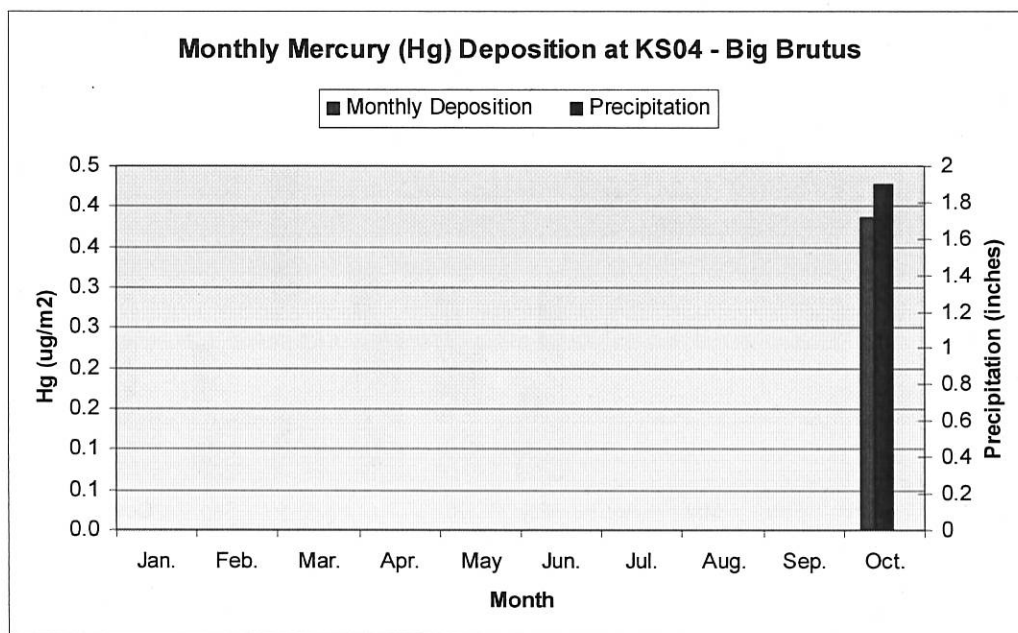


Figure 8. 2008 Monthly Hg Deposition and Precipitation at KS04 – Big Brutus

Discussion of Factors Affecting Mercury Deposition

Most mercury in the atmosphere is present as elemental mercury (Hg^0). Some of this mercury is converted to reactive gaseous mercury (Hg^{2+}), which is the predominant form flushed from the atmosphere by precipitation. It is generally believed that most atmospheric Hg^{2+} is in the form of mercuric chloride (HgCl_2). In general, concentration and deposition amounts are higher during the warmer months.

Higher deposition occurs during periods of warm weather for several reasons:

- 1) Higher temperatures and faster reaction rates cause more rapid chemical conversion.
- 2) More oxidants, such as ozone (O_3) and hydroxyl ions (OH^\cdot), which can convert Hg^0 to Hg^{2+} , are present.
- 3) Higher concentrations of Hg^0 are present in the atmosphere (due to higher emissions from increased power generation, etc.).
- 4) More precipitation generally occurs and flushes more mercury out of the air more efficiently.
- 5) The atmosphere contains more particulate matter (dust, etc.). Because some mercury is associated with the particles, and the particles are easily flushed from the atmosphere by rain, there is more mercury available to be flushed.

There are three factors which affect deposition of atmospheric mercury at any given location. These are:

- 1) **Concentration**, which is affected by local, regional and global sources.

The total amount of mercury from non-local sources circulating freely in the Earth's atmosphere at any given time constitutes the "global pool" of mercury. It is estimated that 95 per cent of the global pool is Hg^0 , and this mercury circulates for a period estimated at between 6 months to 2 years. Local contributions to mercury concentrations vary considerably across the planet and within the United States, depending upon the distance from the point of measurement to local and regional sources. Much of a local mercury contribution impacts local and/or regional deposition, especially if it is emitted in a reactive form (e.g., Hg^{2+}).

- 2) **Precipitation**, which removes mercury from the atmosphere.

Precipitation essentially "flushes" mercury from the atmosphere. It is this mercury that is measured to determine our deposition data. In general, mercury concentrations appear to be higher when it begins to rain or snow, and lower at the end of a precipitation event. This is most evident during periods of prolonged precipitation (i.e., over a period of several hours to several days).

- 3) **Location** with regard to proximity of local sources.

As stated above (Factor 1), local mercury concentrations vary considerably across the planet and within the United States, depending upon the distance from the point of measurement to local and regional sources. This factor also varies with wind direction, i.e., whether the sampling point is upwind or downwind of such sources at the time of sampling. In general, the closer a monitor is to a source, provided that it is downwind of that source, the higher the mercury concentration.

Atmospheric mercury concentrations also tend to be higher at positions near to and downwind of emitting sources. This is described as "local influence" with regard to higher mercury concentration and deposition measurements. These are the local contributions described above (under Factor 1) which impact local and/or regional deposition. Across Kansas, there can also be dramatic shifts in sources of the air coming in from out of state. For example, southeast Kansas is much more likely to receive tropical air from the south. Out west, flow is dominated by the flows from farther west (i.e., Pacific air, continental air, etc). This can exert a significant influence on what the atmosphere contains and what gets flushed out.

An example of the effects of local and regional influences can be seen on MDN maps in the case of sites in the State of Indiana, where one site (IN21) exhibits significantly higher deposition than the surrounding sites. A data history of this site appears below in Figure 9.

A HISTORY OF MERCURY DEPOSITION AT MDN SITE IN21

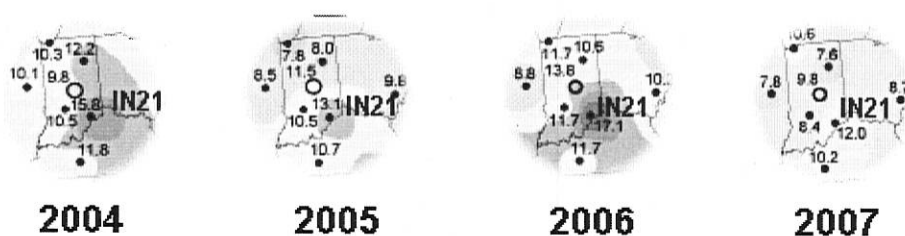


Figure 9. Mercury Deposition at MDN Site IN21

It is readily evident that the amount of mercury deposited annually at this site from 2004 through 2007 is higher than at the surrounding sites. This particular site is in the Ohio River valley, and occupies a position in the industrial heartland of the United States. Mercury deposition values tend to be at least 20-30 per cent higher at IN21 than at the surrounding sites.

A number of sources in Kansas also have a potential to affect mercury deposition at some of our sampling sites. These sources include electrical generating units, cement kilns and mining operations. The number of sources potentially contributing to local mercury deposition is certainly greater in the eastern half of Kansas. We do not yet have enough data to see whether effects of local and/or regional influences apply to Kansas in a manner similar to IN21, but this may become evident after several years of sampling.

Looking Ahead

Next year will represent the first full year of sampling across the entire KMDN. By the end of the year, 10 months of data will be available for each of the 6 sites. It is expected that all six Kansas sites will have collected enough data to appear on the 2009 national MDN maps, which are scheduled for publication by September 2010. After several years of data have accumulated, it should be possible to begin to evaluate trends in atmospheric mercury concentrations over Kansas. If certain sampling sites appear as "hot spots" with concentrations or deposition levels that are significantly higher than surrounding sites, possible contributing sources and atmospheric conditions will be evaluated.

**A Report of Current Findings Concerning the Discovery of Dead Turkeys at Russell
Springs, Kansas
To
The House Committee on Agriculture and Natural Resources**

**By Kevin Jones
Law Enforcement Division Director
Kansas Department of Wildlife and Parks**

20 January 2009

On January 3, 2009, Natural Resource Officer Benny Young, Colby, received a report of dead turkeys being found north of Russell Springs, Kansas. Officer Young went to the reported location on January 4, 2009 and collected a total of eight turkeys and one raccoon. This location was west of Kansas Highway 25 along Quail Road. On the evening of January 5, 2009 Officer Young received a report that a large number of turkeys were found dead at the City Park in Russell Springs. A report was also received of dead turkeys being found five miles west of Russell Springs. Officer Young and KDWP Biologists Matt Bain and Josh Williams went to Russell Springs on January 6, 2009 and collected 26 dead turkeys. Nine turkeys were recovered from the location west of Russell Springs. On January 8, 2009, Natural Resource Officer Mike Hopper, Goodland, picked up a dead hawk found six miles south of Russell Springs, and Biologist Bain collected one dead turkey at the location five miles west of Russell Springs and two dead turkeys at the City Park in Russell Springs. Officer Young collected a dead owl 1½ miles west of Russell Springs on January 14, 2009.

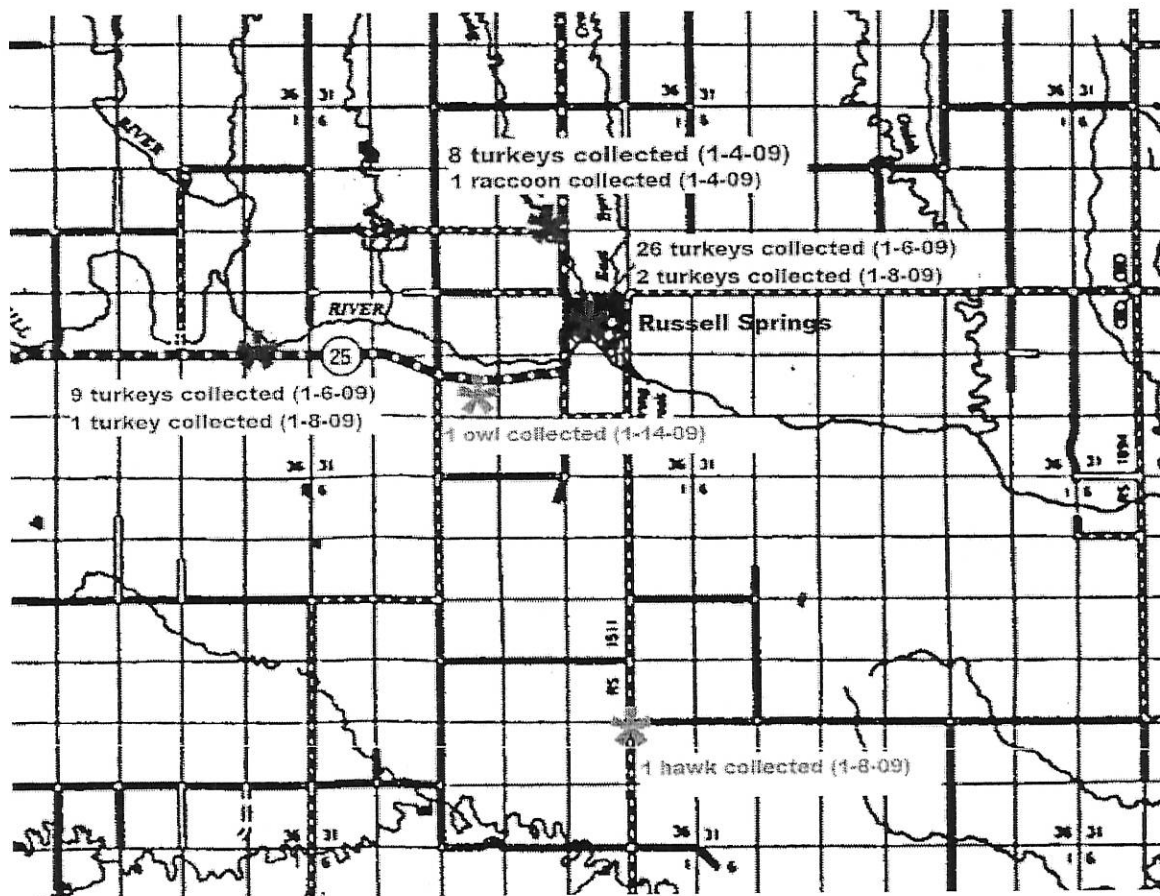
On January 7, 2009, a total of six turkey carcasses and one raccoon carcass were shipped to the Southeastern Cooperative Disease Laboratory in Athens, Georgia for necropsy. Laboratory examination of the turkey carcasses showed the birds to have been in good physical condition with no signs of parasites. Indications were found that suggest the birds died of poisoning, possibly some type of anticoagulant. The examination of the raccoon carcass showed the animal to have been in good physical condition and also showed signs consistent with poisoning from an anticoagulant chemical. Samples from the turkeys and raccoon were sent to the University of California-Davis for toxicology screening. It is hoped that this screening will be able to specifically confirm if a poison was consumed by the animals, and if so, identify the chemical used. At the time of this report, no toxicology results have been received.

At the time of this report, no cause of death has been determined for either the hawk or the owl that was collected. These carcasses will be submitted to the U.S. Fish and Wildlife Forensics Laboratory in Ashland, Oregon for examination.

Chapter 32 of the Kansas State Statutes addresses the use of poisons for taking wildlife. KSA 32-1003 states that it is unlawful for a person to use poison to take wildlife unless authorized by law, rule or regulation of the Secretary. Kansas Department of Wildlife and Parks

regulation, K.A.R. 115-20-2, does allow the use of poison to take certain species of wildlife, including prairie dogs and gophers, provided that the "toxicant is registered and labeled for that use and if all permit requirements for use of the poison, poisonous gas, or smoke have been met;". The use of any type of poison or toxicant is not allowed in the taking of wild turkeys or furbearers (raccoon).

The Kansas Department of Agriculture is the state agency responsible for the registration and permitting of pesticide chemicals and pesticide applicators. Any misuse of such a chemical would be referred to this agency for further investigation and action. Shortly after the discovery of the dead turkeys and raccoon, Officer Young contacted the Kansas Department of Agriculture and reported his findings. Once the toxicology results have been obtained, the Kansas Department of Agriculture can determine if further action is necessary on their part.



Locations are for general reference only and should not be considered exact locations where collections were made.

**A Report of Current Status for Deer Related Statutes and Regulations
To
The House Committee on Agriculture and Natural Resources**

**By Mike Miller
Special Assistant to the Assistant Secretary for Operations
Kansas Department of Wildlife and Parks**

In 2005, the House Wildlife, Parks, and Tourism Committee requested that the Department examine deer-related statutes and report back in 2006 on ways those statutes could be simplified and condensed. A 10-member Deer Task Force of KDWP employees was then assembled.

The deer permit program was complicated and confusing for even veteran hunters. One analogy compares the history and evolution of our deer permitting program to that of a house. We started in 1965, the first modern deer season, with a small number of permits and opportunities – a one-room house. As deer numbers grew through the 1980s, more permits and hunting opportunities were added – rooms were added to our house. In the 1990s, things really began to change, and more permits and permit types were added. And changes weren't always made through regulation. Groups lobbied the legislature and statutes governing deer permitting and management were added or changed. We ended up with a large, many-roomed house that was a labyrinth, difficult to navigate through and understand.

The Task Force began meeting weekly and quickly discovered that it could not change one part of the deer program without affecting it all, so it explored a complete redesign. In January 2006, the Task Force presented draft recommendations to the Kansas Legislature and asked for a year to gain public input before making final recommendations. House committee members agreed since the changes would affect such a wide array of deer resource stakeholders.

Public input was solicited immediately, through email, telephone and a department BLOG site. The recommendations were discussed at the public Kansas Wildlife and Parks Commission meetings held throughout the state. Hunters, landowners, and nonhunters were mailed surveys. In August 2006, 14 public meetings were held throughout the state and more than 600 attended. Task force members looked at and considered all comments, then went back to the drawing board in the fall of 2006. In November of 2006, it presented a set of revised recommendations to KDWP's Management Team. Final department recommendations were presented to the legislature in January 2007. In April of 2007, the Governor signed a bill enacting into law the department's proposals, effective Jan. 1, 2008. Regulations were then tailored to accommodate the statutes in time for the 2008 season.

- Eliminate transferable Hunt-Own-Land permits – instead allow lineal family members, two generations up or down from landowner to qualify for HOL, regardless of residency – one per 80 acres.

RESIDENT DEER OPPORTUNITIES

PERMIT TYPES	WHERE VALID	AVAILABLE
*Hunt-Own-Land (either species, either sex)	land owned or operated (80-acre minimum)	Over the counter/internet
Whitetail either sex, any season	statewide	Over the counter/internet
Archery either species, either sex	statewide	Over the counter/internet
Muzzleloader, either species, either sex	West Unit 1 or West Unit 2	Over the counter/internet
Firearms, either species, either sex	West Unit 1 or West Unit 2	Pratt office, limited draw
Antlerless only (any deer)	West Unit 1 or West Unit 2	Pratt office, limited draw
Whitetail antlerless only	First permit valid statewide public/private land, others, up to four private land in designated units.	Over the counter/internet

*Hunt-own-land permit is not transferable. A landowner and lineal relatives, two generations up or down from landowner are eligible, regardless of residence. 80 acres required for each family member permit.

Whitetail antlerless only permits are \$15. An antlered permit is required prior to purchase antlerless permits through Dec. 30. A hunter may purchase five whitetail antlerless only permits; the first one is valid statewide on public and private land; the subsequent permits are valid only in designated management units on private land and designated public areas.

Nonresident Deer Permit recommendations:

- Eliminate the landowner/transferable nonresident permit – establish nonresident permit quotas based on demand, landowner tolerance and resource biology. An adjustment number was determined using seven factors: Population trends, deer-related vehicle accidents, age structure, deer damage, landowner desire for NR deer permits, general public desires, and health and habitat (professional judgment). The adjustment factor was used to determine 2008 permit numbers based on an average of NR demand from the previous 6 years, however, we recommended not less than a 10 percent increase per DMU and not more than 50 percent increase per unit (Unit 16 was the exception).
- Maintain 19 Deer Management Units for all nonresident hunting
- Establish “Hunter Designate” permit application process – setting quotas of whitetail deer permits and allowing applicants to designate season/hunt type – either archery, muzzleloader or rifle upon application.
- Establish a mule deer stamp. When a nonresident applied for an archery or muzzleloader whitetail either sex permit in DMU 1, 2, 3, 4, 5, 7, 16, 17, or 18, they had the option of

applying for a limited number of mule deer stamps that, if they were drawn, converted their muzzleloader or archery whitetail either sex permit to an either species permit. Stamp cost -- \$100.

NONRESIDENT DEER OPPORTUNITIES

PERMIT TYPES	WHERE VALID	AVAILABLE
*Hunt-Own-Land (either species, either sex)	land owned or operated (80 acre minimum)	Over the counter/internet
**Whitetail either sex, rifle	One of the 18 Deer Management Units	Pratt office, limited draw
**Whitetail either sex, muzzleloader	One of the 18 Deer Management Units	Pratt office, limited draw
**Whitetail either sex, archery	One of the 18 Deer Management Units	Pratt office, limited draw
Archery whitetail either sex (either species with stamp)	One of 9 units for either species (DMU 1, 2, 3, 4, 5, 7, 16, 17, 18)	Pratt office, limited draw
Muzzleloader whitetail either sex (either species with stamp)	One of 9 units for either species (DMU 1, 2, 3, 4, 5, 7, 16, 17, 18)	Pratt office, limited draw
Whitetail antlerless only	First permit valid statewide public/private land, others, up to four, private land in designated units.	Over the counter/internet

*Hunt-own-land permit is not transferable.

**Applicant will specify permit type on application.

Successful archery and muzzleloader permit applicants in DMUs 1, 2, 3, 4, 5, 7, 16, 17, and 18, can also apply for a limited number of mule deer "stamps" that convert their whitetail only permits to either species permits. Whitetail antlerless only permits are \$77.15. An antlered permit is required prior to purchase of antlerless permits until after Dec. 30. A hunter may purchase five whitetail antlerless only permits; the first one is valid statewide on public and private land; the subsequent permits are valid only in designated management units on private land and designated public areas.

Example of how nonresident permit allocation formula could work

UNIT	2006 ALLOCATION	2008 MODEL	2008 ALLOCATION	UNIT	2006 ALLOCATION	2008 MODEL	2008 ALLOCATION
1	299	524 (+75%)	449 (+50%)	10	1174	1174 (-0%)	1291(+10%)
2	225	657 (+192%)	338 (+50%)	11	2492	2492 (+10%)	2741(+10%)
3	450	531 (18%)	531 (18%)	12	1067	1606 (50%)	1606 (50%)
4	303	303 (+0%)	333 (+10%)	13	301	446 (+48%)	446 (48%)
5	350	365 (+4%)	385 (+10%)	14	1419	1464 (-3%)	1561 (+10%)
6	463	463 (+0%)	509 (+10%)	15	1006	1134 (+13%)	1134 (13%)
7	768	867 (+13%)	867 (+13%)	16	1168	2358 (+102%)	2336 (+100%)
8	1006	1550 (+40%)	1550 (+40%)	17	365	365 (+0%)	402 (+10%)
9	837	837 (+0%)	920 (+10%)	18	217	217 (+0%)	239 (+10%)
					14,046	17,353 (+23%)	17,638 (+25%)

Percent of deer harvested by nonresidents would go from 11 percent to 13 percent.

2008 Model numbers are figured using an adjustment factor based on an average slope number from seven factors, including deer population trend, deer/vehicle accidents, landowners' desire for more nonresident permits, deer damage complaints, age structure in harvest, nonhunting public opinion, health habitat - professional input.

To ensure support from agriculture groups, a minimum increase of 10 percent was added for allocation, and to prevent over-saturation in western units, a maximum increase of 50 percent (except for Unit 16) was set.

Seasons:

- Open youth and persons with disabilities season on the Friday before the second to last full weekend in September, running it through Sunday (Sept. 13-21, 2008). Establish half-price permits for youth.
- Open the muzzleloader and archery seasons on the following Monday. Run the muzzleloader season through two full weekends Sept. 22-Oct. 5, 2008), and the archery season through(Sept. 22-Dec. 31, 2008).
- Maintain season structure for all other seasons.

Landowner/Tenant:

- Reduce fraudulent landowner/tenant permit purchases by adding “teeth” to qualification requirement. *“Evidence of tenancy, if requested, shall be provided to the department and may include, but is not limited to, Natural Resource Conservation Services records, Farm Service Agency records, or written agricultural contract or lease documentation.”*

Simplification:

- A resident hunter was be able to purchase a whitetail either sex permit and a whitetail antlerless only permit over the counter or online. With those two permits, he or she was be able to hunt anywhere in the state on public or private land during any open season with the equipment legal for that season.



DEPARTMENT OF WILDLIFE AND PARKS

Kathleen Sebelius, Governor
J. Michael Hayden, Secretary

www.kdwp.state.ks.us

**A Report on Deer Management in Kansas for 2009
To
The House Committee on Agriculture and Natural Resources**

**By Dr. Lloyd Fox
Big Game Coordinator
Kansas Department of Wildlife and Parks**

20 January 2009

Public opinion surveys have shown that Kansans consider deer to be a highly valued member of the wildlife community. They bring pleasure to many people and contribute economic opportunities for many Kansans. Deer management in Kansas has been refined as a result of more than 45 years of experience by the Kansas Department of Wildlife and Parks. Kansas landowners and hunters are periodically surveyed to ensure that the management program is adequate and meeting their desires.

A national survey conducted by US Fish and Wildlife Service of Fishing, Hunting and Wildlife-Associated Activities estimated that big game hunters spent an average of \$1,100 per year on trip related expenses, (http://library.fws.gov/nat_survey2006_final.pdf). There were more than 100,000 people that hunted deer in Kansas during the 2007-08 seasons, thus generating an estimated \$110 million dollars in economic benefit.

Conflicts between deer and people can arise. The Department of Wildlife and Parks has instituted numerous program and procedures to minimize the problems that people have with deer.

Minimizing deer related vehicle accidents is a high priority objective in the Kansas deer management program. Accident reports submitted by KHP, County Sheriff officers and other law enforcement officers are compiled by KDOT and evaluated annually by KDWP. The trend in deer-related vehicle accidents in Kansas had steadily increased for decades. However, as a result of actions taken by KDWP the accident rate has stabilized since 1999.

A report prepared by State Farm Insurance Companies of deer related vehicle accidents nationwide showed that the potential for an accident with a deer was lower in Kansas than in any other state in the Midwest (see Table 1). (http://www.statefarm.com:80/about/media/media_releases/wv_deer_collisions.asp).

Hunting is the most effective wildlife management tool to control deer populations. It is used to control deer numbers where the herd exceeds the environment's ability to sustain them in a healthy state. The history of deer seasons in Kansas has been an expansion of opportunities for both residents and non-residents as opportunities became available (see

Table 2). The number and types of permits have been adjusted through the years to reach herd management goals (see Table 3).

Deer occasionally exceed people's tolerance for the damages and disturbances they may cause. Hunting may be used in those areas to control the number of deer and reach a level that the community supports. In Kansas the white-tailed deer is most often associated with high herd levels and conflicts with people while mule deer are generally seen as the species that needs greater protection. A permitting system has been developed that encourages hunters to harvest white-tailed deer while providing elevated protection for mule deer.

Hunters harvesting female white-tailed deer are often the cornerstone of a herd control program. Hunters removing just male deer from a population will be unsuccessful in controlling the growth of the herd as most female deer will continue to find a mate and produce offspring. However, a herd with a skewed sex ratio after years of buck hunting often lacks the animals and the quality of deer that motivates hunters to spend their time hunting deer. It is the number of female deer and their distribution that determines the future herd levels in an area. Without the support of hunters to take antlerless deer, it would be nearly impossible to control deer numbers in Kansas.

Deer frequently travel and use property owned by more than one person. Deer adapt to hunting pressure and find areas where they can evade hunters. In some cases those areas are created because a particular landowner desires to restrict or prohibit hunter access. These areas act as refuges and may result in future herd increases and higher conflicts due to deer damage on adjacent properties, or even areas far removed where that herd of protected deer spend time when the hunting season is closed. For this reason, the KDWP encourages landowners and community leaders to evaluate their management and consider its consequences for their neighbors.

Landowners have several options for controlling deer on their property: 1) they may allow or increase hunting; 2) they may encourage hunters to harvest antlerless deer; 3) they may contact KDWP at 620-672-5911 for the hunter referral list; 4) they may apply for a deer control permit that may be used when damage is occurring outside the regular hunting seasons.

Landowners seeking assistance with deer damage control may contact their local District Wildlife Biologist or Natural Resource Officer for assistance. Those local officials are authorized to issue damage control permits in situations where removal of deer would be beneficial for a reduction of future conflicts.

Likelihood of Collision with Deer

STATE	PROJECTED INDUSTRY COUNT 2007-2008	Motor Vehicle Registrations as of October 2006	Likelihood of collision with deer
ALABAMA	23,605	4,630,314	1/196
ALASKA	1,174	675,094	1/575
ARIZONA	2,413	4,182,332	1/1,733
ARKANSAS	18,498	1,994,255	1/108
CALIFORNIA	24,716	33,182,058	1/1,343
COLORADO	10,480	1,807,823	1/173
CONNECTICUT	10,029	3,051,952	1/304
DELAWARE	3,882	813,188	1/209
DISTRICT OF COLUMBIA	412	219,105	1/532
FLORIDA	13,665	16,373,565	1/1,198
GEORGIA	41,874	8,286,454	1/198
HAWAII	92	1,008,540	1/10,962
IDAHO	4,667	1,275,115	1/273
ILLINOIS	50,380	9,876,246	1/196
INDIANA	39,066	4,955,434	1/127
IOWA	31,737	3,345,951	1/105
KANSAS	11,306	2,389,192	1/211
KENTUCKY	18,214	3,558,122	1/195
LOUISIANA	9,391	3,872,744	1/412
MAINE	5,752	1,071,876	1/186
MARYLAND	29,075	4,488,397	1/154
MASSACHUSETTS	7,500	5,385,215	1/718
MICHIGAN	104,676	8,154,235	1/78
MINNESOTA	33,799	4,704,914	1/139
MISSISSIPPI	13,954	1,997,581	1/143
MISSOURI	31,667	4,957,172	1/157
MONTANA	9,498	1,066,562	1/112
NEBRASKA	11,180	1,733,133	1/155
NEVADA	1,197	1,366,557	1/1,142
NEW HAMPSHIRE	3,472	1,059,963	1/305
NEW JERSEY	33,342	5,957,988	1/179
NEW MEXICO	2,422	1,580,820	1/653
NEW YORK	80,022	11,283,896	1/141
NORTH CAROLINA	43,658	6,301,436	1/144
NORTH DAKOTA	6,204	712,169	1/115
OHIO	66,353	10,828,843	1/163
OKLAHOMA	7,518	3,201,831	1/426
OREGON	10,285	2,981,379	1/290
PENNSYLVANIA	102,166	9,894,163	1/97
RHODE ISLAND	1,429	805,548	1/564
SOUTH CAROLINA	23,174	3,453,843	1/149
SOUTH DAKOTA	7,647	843,984	1/110
TENNESSEE	20,612	5,091,328	1/247
TEXAS	40,378	17,538,388	1/434
UTAH	6,074	2,236,088	1/369
VERMONT	3,586	587,668	1/164
VIRGINIA	54,135	6,635,976	1/123
WASHINGTON	11,036	5,689,497	1/516
WEST VIRGINIA	31,967	1,441,099	1/45
WISCONSIN	45,008	4,971,461	1/110
WYOMING	3,730	645,192	1/173

Overall Likelihood of Collision with Deer in the next year - 1/209

Likelihood of winning state lottery grand prize - 1/50,000 (based on one ticket per day for one year)

Likelihood of being audited by the IRS in 2009 - 1/100

Table 2. History of deer hunting season dates in Kansas.

YEAR	FIREARMS		ARCHERY		MUZZLELOADER		YOUTH AND DISABILITY		EXTENDED		YEAR
	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	
1965	DEC. 11 - 15	5	OCT. 1 - NOV. 15	46	0	0	0	0	0	0	1965
1966	DEC. 10 - 14	5	OCT. 1 - DEC. 9	70	0	0	0	0	0	0	1966
1967	DEC. 8 - 12	5	OCT. 1 - NOV. 26	57	0	0	0	0	0	0	1967
1968	DEC. 13 - 17	5	OCT. 1 - DEC. 1	62	0	0	0	0	0	0	1968
1969	DEC. 6 - 10	5	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1969
1970	DEC. 5 - 9	5 - WEST	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1970
	DEC. 5 - 13	9 - EAST	0	0	0	0	0	0	0	0	1970
1971	DEC. 4 - 8	5 - WEST	OCT. 16 - NOV. 25, DEC. 11 - DEC. 31	62	0	0	0	0	0	0	1971
	NOV. 27 - DEC. 5	9 - EAST	0	0	0	0	0	0	0	0	1971
1972	DEC. 2 - 6	5 - WEST	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1972
	DEC. 2 - 10	9 - EAST	0	0	0	0	0	0	0	0	1972
1973	DEC. 1 - 9	9	OCT. 1 - NOV. 25, DEC. 15 - DEC. 31	73	0	0	0	0	0	0	1973
1974	DEC. 7 - 15	9	OCT. 1 - NOV. 30, DEC. 21 - DEC. 31	72	0	0	0	0	0	0	1974
1975	DEC. 6 - 14	9	OCT. 1 - NOV. 30, DEC. 20 - DEC. 31	73	0	0	0	0	0	0	1975
1976	DEC. 4 - 12	9	OCT. 1 - NOV. 30, DEC. 18 - DEC. 31	75	0	0	0	0	0	0	1976
1977	DEC. 3 - 11	9	OCT. 1 - NOV. 30, DEC. 17 - DEC. 31	76	0	0	0	0	0	0	1977
1978	DEC. 2 - 10	9	OCT. 1 - NOV. 30, DEC. 16 - DEC. 31	77	0	0	0	0	0	0	1978
1979	DEC. 1 - 9	9	OCT. 1 - NOV. 28, DEC. 12 - DEC. 31	79	0	0	0	0	0	0	1979
1980	DEC. 6 - 14	9	OCT. 1 - DEC. 3, DEC. 17 - DEC. 31	79	0	0	0	0	0	0	1980
1981	DEC. 5 - 13	9	OCT. 1 - DEC. 2, DEC. 16 - DEC. 31	79	0	0	0	0	0	0	1981
1982	DEC. 4 - 12	9	OCT. 1 - DEC. 1, DEC. 15 - DEC. 31	79	0	0	0	0	0	0	1982
1983	DEC. 3 - 11	9	OCT. 1 - NOV. 30, DEC. 12 - DEC. 31	79	0	0	0	0	0	0	1983
1984	DEC. 1 - 9	9	OCT. 1 - NOV. 30, DEC. 10 - DEC. 31	79	0	0	0	0	0	0	1984
1985	DEC. 7 - 15	9	OCT. 1 - DEC. 6, DEC. 16 - DEC. 31	79	0	0	0	0	0	0	1985
1986	DEC. 6 - 14	9	OCT. 1 - DEC. 5, DEC. 15 - DEC. 31	79	DEC. 6 - 14	9	0	0	0	0	1986
1987	DEC. 5 - 13	9	OCT. 1 - DEC. 4, DEC. 14 - DEC. 31	79	DEC. 5 - 13	9	0	0	JAN. 2 - 10, 1988	9	1987
1988	NOV. 30 - DEC. 11	12	OCT. 1 - NOV. 29, DEC. 12 - DEC. 31	79	Nov 30 - Dec 11	12	0	0	JAN. 2 - 10, 1989	9	1988
1989	NOV. 29 - DEC. 10	12	OCT. 1 - NOV. 28, DEC. 11 - DEC. 31	79	SEPT. 22 - 30	9	0	0	0	0	1989
1990	NOV. 28 - DEC. 9	12	OCT. 1 - NOV. 27, DEC. 10 - DEC. 31	79	SEPT. 22 - 30	9	0	0	1st seg Jan. 1 - 14, 2nd seg Jan 22 - Feb 4	28	1990
1991	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - DEC. 31	79	SEPT. 21 - 29	9	0	0	1st seg Jan. 1 - 13, 2nd seg Jan 21 - Feb 3	28	1991
1992	DEC. 2 - 13	12	OCT. 1 - DEC. 1, DEC. 14 - DEC. 31	79	SEPT. 19 - 27	9	0	0	Jan. 13 - 26	14	1992
1993	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - DEC. 31	79	SEPT. 18 - 26	9	0	0	Jan 11 - 24	14	1993
1994	NOV. 30 - DEC. 11	12	OCT. 1 - NOV. 29, DEC. 12 - DEC. 31	79	SEPT. 17 - 25	9	0	0	0	0	1994
1995	DEC. 1 - 10	12	OCT. 1 - NOV. 28, DEC. 11 - DEC. 31	79	SEPT. 16 - 24	9	0	0	0	0	1995
1996	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - DEC. 31	79	SEPT. 21 - 29	9	0	0	0	0	1996
1997	DEC. 3 - 14	12	OCT. 1 - DEC. 2, DEC. 15 - DEC. 31	79	SEPT. 20 - 28	9	0	0	0	0	1997
1998	DEC. 2 - 13	12	OCT. 1 - DEC. 1, DEC. 14 - DEC. 31	79	SEPT. 19 - 27	9	0	0	JAN. 9 - 10, 1999	2	1998
1999	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - DEC. 30	78	SEPT. 18 - 30	13	0	0	DEC. 31 - JAN. 9, 2000	10	1999
2000	NOV. 29 - DEC. 10	12	OCT. 1 - NOV. 28, DEC. 11 - 31	79	SEPT. 16 - 29	14	SEPT. 30 - OCT. 1	2	JAN. 1 - 14, 2001	14	2000
2001	NOV. 28 - DEC. 9	12	OCT. 1 - NOV. 27, DEC. 10 - 31	79	SEPT. 15 - 28	14	SEPT. 29 - 30	2	JAN. 1 - 13, 2002	13	2001
2002	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - 31	79	SEPT. 14 - 27	14	SEPT. 28 - 29	2	JAN. 1 - 12, 2003	12	2002
2003	DEC. 3 - 14	12	OCT. 1 - DEC. 2, DEC. 15 - 31	79	SEPT. 13 - 26	14	SEPT. 27 - 28	2	JAN 1 - 4, 2004	4	2003
DMU 19 *	Oct. 18 - 26	9	Jan. 5 - 31	26							
2004	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - 31	79	SEPT 11 - 24	14	SEPT. 25 - 26	2	JAN 1 - 2, 2005	2	2004
DMU 19 *	Oct. 16 - 24	9	Jan. 3 - 31	28							
2005	NOV. 30 - DEC. 11	12	Oct. 1 - Dec. 31	91	Sept 10. - 23	14	SEPT. 24 - 25	2	Jan 1 - 8, 2006	8	2005
DMU 19 *	Oct. 15 - 23	9	Jan. 9 - 31	23							
2006	NOV. 29 - DEC. 10	12	Oct. 1 - Dec. 31	91	Sept 9. - 22	14	SEPT. 23 - 24	2	Jan 1 - 7, 2007	7	2006
DMU 19 *	Oct. 14 - 22	9	Jan. 8 - 31	23							
2007	NOV. 28 - DEC. 9	12	Oct. 1 - Dec. 31	91	Sept 15. - 28	14	SEPT. 29 - 30	2	Jan 1 - 6, 2008	6	2007
DMU19	Oct. 13 - 21	9	Jan. 7 - 31	24							
2008	Dec 3 - 14	12	Sept. 22 - Dec. 31	100	Sept 22. - Oct 5	14	SEPT. 13 - 21	9	Jan 1 - 4, 2009	4	2008
DMU19	Oct. 11 - 19	9	Jan. 5 - 31	26							

* Additional days of hunting opportunity in DMU 19

Table 2. History of deer hunting season dates in Kansas.

YEAR	FIREARMS		ARCHERY		MUZZLELOADER		YOUTH AND DISABILITY		EXTENDED		YEAR
	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	OPEN DATES	NO. DAYS	
1965	DEC. 11 - 15	5	OCT. 1 - NOV. 15	46	0	0	0	0	0	0	1965
1966	DEC. 10 - 14	5	OCT. 1 - DEC. 9	70	0	0	0	0	0	0	1966
1967	DEC. 8 - 12	5	OCT. 1 - NOV. 26	57	0	0	0	0	0	0	1967
1968	DEC. 13 - 17	5	OCT. 1 - DEC. 1	62	0	0	0	0	0	0	1968
1969	DEC. 6 - 10	5	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1969
1970	DEC. 5 - 9	5 - WEST	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1970
	DEC. 5 - 13	9 - EAST	0	0	0	0	0	0	0	0	
1971	DEC. 4 - 8	5 - WEST	OCT. 16 - NOV. 25, DEC. 11 - DEC. 31	62	0	0	0	0	0	0	1971
	NOV. 27 - DEC. 5	9 - EAST	0	0	0	0	0	0	0	0	
1972	DEC. 2 - 6	5 - WEST	OCT. 1 - NOV. 30	61	0	0	0	0	0	0	1972
	DEC. 2 - 10	9 - EAST	0	0	0	0	0	0	0	0	
1973	DEC. 1 - 9	9	OCT. 1 - NOV. 25, DEC. 15 - DEC. 31	73	0	0	0	0	0	0	1973
1974	DEC. 7 - 15	9	OCT. 1 - NOV. 30, DEC. 21 - DEC. 31	72	0	0	0	0	0	0	1974
1975	DEC. 6 - 14	9	OCT. 1 - NOV. 30, DEC. 20 - DEC. 31	73	0	0	0	0	0	0	1975
1976	DEC. 4 - 12	9	OCT. 1 - NOV. 30, DEC. 18 - DEC. 31	75	0	0	0	0	0	0	1976
1977	DEC. 3 - 11	9	OCT. 1 - NOV. 30, DEC. 17 - DEC. 31	76	0	0	0	0	0	0	1977
1978	DEC. 2 - 10	9	OCT. 1 - NOV. 30, DEC. 16 - DEC. 31	77	0	0	0	0	0	0	1978
1979	DEC. 1 - 9	9	OCT. 1 - NOV. 28, DEC. 12 - DEC. 31	79	0	0	0	0	0	0	1979
1980	DEC. 6 - 14	9	OCT. 1 - DEC. 3, DEC. 17 - DEC. 31	79	0	0	0	0	0	0	1980
1981	DEC. 5 - 13	9	OCT. 1 - DEC. 2, DEC. 16 - DEC. 31	79	0	0	0	0	0	0	1981
1982	DEC. 4 - 12	9	OCT. 1 - DEC. 1, DEC. 15 - DEC. 31	79	0	0	0	0	0	0	1982
1983	DEC. 3 - 11	9	OCT. 1 - NOV. 30, DEC. 12 - DEC. 31	79	0	0	0	0	0	0	1983
1984	DEC. 1 - 9	9	OCT. 1 - NOV. 30, DEC. 10 - DEC. 31	79	0	0	0	0	0	0	1984
1985	DEC. 7 - 15	9	OCT. 1 - DEC. 6, DEC. 16 - DEC. 31	79	0	0	0	0	0	0	1985
1986	DEC. 6 - 14	9	OCT. 1 - DEC. 5, DEC. 15 - DEC. 31	79	DEC. 6 - 14	9	0	0	0	0	1986
1987	DEC. 5 - 13	9	OCT. 1 - DEC. 4, DEC. 14 - DEC. 31	79	DEC. 5 - 13	9	0	0	JAN. 2 - 10, 1988	9	1987
1988	NOV. 30 - DEC. 11	12	OCT. 1 - NOV. 29, DEC. 12 - DEC. 31	79	Nov 30 - Dec 11	12	0	0	JAN. 2 - 10, 1989	9	1988
1989	NOV. 29 - DEC. 10	12	OCT. 1 - NOV. 28, DEC. 11 - DEC. 31	79	SEPT. 22 - 30	9	0	0	0	0	1989
1990	NOV. 28 - DEC. 9	12	OCT. 1 - NOV. 27, DEC. 10 - DEC. 31	79	SEPT. 22 - 30	9	0	0	1st seg Jan. 1 - 14, 2nd seg Jan 22 - Feb 4	28	1990
1991	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - DEC. 31	79	SEPT. 21 - 29	9	0	0	1st seg Jan. 1 - 13, 2nd seg Jan 21 - Feb 3	28	1991
1992	DEC. 2 - 13	12	OCT. 1 - DEC. 1, DEC. 14 - DEC. 31	79	SEPT. 19 - 27	9	0	0	Jan. 13 - 26	14	1992
1993	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - DEC. 31	79	SEPT. 18 - 26	9	0	0	Jan 11 - 24	14	1993
1994	NOV. 30 - DEC. 11	12	OCT. 1 - NOV. 29, DEC. 12 - DEC. 31	79	SEPT. 17 - 25	9	0	0	0	0	1994
1995	DEC. 1 - 10	12	OCT. 1 - NOV. 28, DEC. 11 - DEC. 31	79	SEPT. 16 - 24	9	0	0	0	0	1995
1996	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - DEC. 31	79	SEPT. 21 - 29	9	0	0	0	0	1996
1997	DEC. 3 - 14	12	OCT. 1 - DEC. 2, DEC. 15 - DEC. 31	79	SEPT. 20 - 28	9	0	0	0	0	1997
1998	DEC. 2 - 13	12	OCT. 1 - DEC. 1, DEC. 14 - DEC. 31	79	SEPT. 19 - 27	9	0	0	0	0	1998
1999	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - DEC. 30	78	SEPT. 18 - 30	13	0	0	JAN. 9 - 10, 1999	2	1999
2000	NOV. 29 - DEC. 10	12	OCT. 1 - NOV. 28, DEC. 11 - 31	79	SEPT. 16 - 29	14	SEPT. 30 - OCT. 1	2	DEC. 31 - JAN. 9, 2000	10	2000
									JAN. 1 - 14, 2001	14	
2001	NOV. 28 - DEC. 9	12	OCT. 1 - NOV. 27, DEC. 10 - 31	79	SEPT. 15 - 28	14	SEPT. 29 - 30	2	JAN. 1 - 13, 2002	13	2001
2002	DEC. 4 - 15	12	OCT. 1 - DEC. 3, DEC. 16 - 31	79	SEPT. 14 - 27	14	SEPT. 28 - 29	2	JAN. 1 - 12, 2003	12	2002
2003	DEC. 3 - 14	12	OCT. 1 - DEC. 2, DEC. 15 - 31	79	SEPT. 13 - 26	14	SEPT. 27 - 28	2	JAN 1 - 4, 2004	4	2003
DMU 19 *	Oct. 18 - 26	9	Jan. 5 - 31	26							
2004	DEC. 1 - 12	12	OCT. 1 - NOV. 30, DEC. 13 - 31	79	SEPT 11 - 24	14	SEPT. 25 - 26	2	JAN 1 - 2, 2005	2	2004
DMU 19 *	Oct. 16 - 24	9	Jan. 3 - 31	28							
2005	NOV. 30 - DEC. 11	12	Oct. 1 - Dec. 31	91	Sept 10. - 23	14	SEPT. 24 - 25	2	Jan 1 - 8, 2006	8	2005
DMU 19 *	Oct. 15 - 23	9	Jan. 9 - 31	23							
2006	NOV. 29 - DEC. 10	12	Oct. 1 - Dec. 31	91	Sept 9. - 22	14	SEPT. 23 - 24	2	Jan 1 - 7, 2007	7	2006
DMU 19 *	Oct. 14 - 22	9	Jan. 8 - 31	23							
2007	NOV. 28 - DEC. 9	12	Oct. 1 - Dec. 31	91	Sept 15. - 28	14	SEPT. 29 - 30	2	Jan 1 - 6, 2008	6	2007
DMU19	Oct. 13 - 21	9	Jan. 7 - 31	24							
2008	Dec 3 - 14	12	Sept. 22 - Dec. 31	100	Sept 22. - Oct 5	14	SEPT. 13 - 21	9	Jan 1 - 4, 2009	4	2008
DMU19	Oct. 11 - 19	9	Jan. 5 - 31	26							

* Additional days of hunting opportunity in DMU 19

Likelihood of Collision with Deer

STATE	PROJECTED INDUSTRY COUNT 2007-2008	Motor Vehicle Registrations as of October 2006	Likelihood of collision with deer
ALABAMA	23,605	4,630,314	1/196
ALASKA	1,174	675,094	1/575
ARIZONA	2,413	4,182,332	1/1,733
ARKANSAS	18,498	1,994,255	1/108
CALIFORNIA	24,716	33,182,058	1/1,343
COLORADO	10,480	1,807,823	1/173
CONNECTICUT	10,029	3,051,952	1/304
DELAWARE	3,882	813,188	1/209
DISTRICT OF COLUMBIA	412	219,105	1/532
FLORIDA	13,665	16,373,565	1/1,198
GEORGIA	41,874	8,286,454	1/198
HAWAII	92	1,008,540	1/10,962
IDAHO	4,667	1,275,115	1/273
ILLINOIS	50,380	9,876,246	1/196
INDIANA	39,066	4,955,434	1/127
IOWA	31,737	3,345,951	1/105
KANSAS	11,306	2,389,192	1/211
KENTUCKY	18,214	3,558,122	1/195
LOUISIANA	9,391	3,872,744	1/412
MAINE	5,752	1,071,876	1/186
MARYLAND	29,075	4,488,397	1/154
MASSACHUSETTS	7,500	5,385,215	1/718
MICHIGAN	104,676	8,154,235	1/78
MINNESOTA	33,799	4,704,914	1/139
MISSISSIPPI	13,954	1,997,581	1/143
MISSOURI	31,667	4,957,172	1/157
MONTANA	9,498	1,066,562	1/112
NEBRASKA	11,180	1,733,133	1/155
NEVADA	1,197	1,366,557	1/1,142
NEW HAMPSHIRE	3,472	1,059,963	1/305
NEW JERSEY	33,342	5,957,988	1/179
NEW MEXICO	2,422	1,580,820	1/653
NEW YORK	80,022	11,283,896	1/141
NORTH CAROLINA	43,658	6,301,436	1/144
NORTH DAKOTA	6,204	712,169	1/115
OHIO	66,353	10,828,843	1/163
OKLAHOMA	7,518	3,201,831	1/426
OREGON	10,285	2,981,379	1/290
PENNSYLVANIA	102,166	9,894,163	1/97
RHODE ISLAND	1,429	805,548	1/564
SOUTH CAROLINA	23,174	3,453,843	1/149
SOUTH DAKOTA	7,647	843,984	1/110
TENNESSEE	20,612	5,091,328	1/247
TEXAS	40,378	17,538,388	1/434
UTAH	6,074	2,236,088	1/369
VERMONT	3,586	587,668	1/164
VIRGINIA	54,135	6,635,976	1/123
WASHINGTON	11,036	5,689,497	1/516
WEST VIRGINIA	31,967	1,441,099	1/45
WISCONSIN	45,008	4,971,461	1/110
WYOMING	3,730	645,192	1/173

Overall Likelihood of Collision with Deer in the next year - 1/209

Likelihood of winning state lottery grand prize - 1/50,000 (based on one ticket per day for one year)

Likelihood of being audited by the IRS in 2009 - 1/100

Table 3. History of deer permit availability and harvest in Kansas, 1994 to 2007.

Permit Type	1994*	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Difference 2006 vs 2007	Percent Change
RESIDENT																
Limited Quota																
Any Deer	25,380	26,995	27,850	31,150	37,200	40,000	45,175	4,373	3,270	2,855	2,439	2,440	2,453	2,477	24	1.0
Buck Only	5,850	5,000	5,250	4,675	0	0	0	0	0	0	0	0	0	0	0	0
W-T Either Sex	3,900	5,480	6,180	7,800	8,605	11,030	14,420	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	0	0
W-T Buck Only	1,220	670	320	0	0	0	0	0	0	0	0	0	0	0	0	0
Muzzleloader	3,000	3,350	3,645	3,945	4,755	5,140	5,985	1,186	1,172	1,024	1,049	841	778	756	-22	-2.8
Antlerless Only	2,950	4,785	8,835	13,835	9,660	8,760	12,405	1,385	1,223	903	174	0	0	0	0	0
W-T Antlerless Only	300	600	1,750	2,920	5,055	4,330	6,611	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	Unl Sales	0	0
Sub-total	42,600	46,880	53,830	64,325	65,275	69,260	84,596	6,944	5,665	4,782	3,662	3,281	3,231	3,233	2	0.1
Unlimited Availability Permit Sales																
Hunt-Your-Own-Land	13,881	14,654	15,507	16,407	16,521	16,119	16,151	12,658	11,983	8,962	8,719	9,120	8,440	8,312	-128	-1.5
W-T Either Sex								45,395	41,662	49,293	49,371	53,127	53,161	53,412	251	0.5
Game Tags Residents)	3,119	4,734	4,872	4,634	29,707	49,200	58,764	94,116	79,870	62,275	52,354	45,362	47,642	46,939	-703	-1.5
WT Antlerless Only								1,874	1,959	1,074	2,567	3,615	4,407	4,346	-61	-1.4
STWD Archery	16,156	16,106	16,429	16,299	17,330	19,180	19,831	17,315	17,340	17,134	17,822	18,458	19,497	20,175	678	3.5
Unit Archery	4,656	4,742	5,106	5,434	3,093	1,756	1,837	0	0	0	0	0	0	0	0	0
Sub-total	37,812	40,236	41,914	42,774	66,651	86,255	96,583	171,358	152,814	138,738	130,833	129,682	133,147	133,184	37	0.0
Sub-total Residents	80,412	87,116	95,744	107,099	131,926	155,515	181,179	178,302	158,479	143,520	134,495	132,963	136,378	136,417	39	0.0
NON RESIDENT																
Antlered (Firearms)	415	385	451	645	986	1587	3678	3965	4347	4086	6432	7304	8694	9725	1,031	11.9
Antlered (Muzzle loader)	18	0	43	141	154	237	461	240	244	159	194	197	221	241	20	9.0
Antlered (HOL)	207	245	268	520	700	1026	1190	1166	1372	1570	1706	2026	2258	2531	273	12.1
Antlerless (Firearms)	115	45	241	775	646	632	906	900	728	840	1101	350	411	421	10	2.4
Game Tags Nonresidents)						938	4,743	5,977	5,929	4,416	8,553	4,061	4,990	5,689	699	14.0
Antlered (Archery)	415	385	451	645	814	866	2877	2977	2600	2601	3258	3745	4248	4884	636	15.0
Antlerless (Archery)	115	45	241	775	271	154	207	0	0	0	0	0	0	0	0	0
Sub-total	1,285	1,105	1,695	3,501	3,571	5,440	14,062	15,225	15,220	13,672	21,244	17,683	20,822	23,491	2,669	12.8
GRAND TOTAL	81,697	88,221	97,439	110,600	135,497	160,955	195,241	193,527	173,699	157,192	155,739	150,646	157,200	159,908	2,708	1.7

History of deer harvest in Kansas, 1994 to 2007.

Permit Type	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Difference 2006 vs 2007	Percent Change
Regular Firearms (Res)	25,500	27,700	31,200	39,600	40,700	44,700	38,548	27,493	22,561	24,313	28,655	31,885	33,912	31,172	-2,740	-8.1
Hunt-Own-Land (Res + NR)	8,400	8,900	8,800	10,400	10,900	12,000	11,732	7,114	5,370	4,754	5,650	5,344	5,571	5,002	-569	-10.2
Game Tags (Res + NR)	1,800	2,500	3,100	2,800	20,300	31,000	44,216	56,164	43,002	30,372	29,328	22,354	22,427	20,422	-2,005	-8.9
Regular Firearms (NR)	340	290	450	640	1,200	1,600	4,776	2,768	2,832	2,672	3,867	4,170	5,596	5,501	-95	-1.7
Archery (Res + NR)	7,800	7,200	8,500	9,700	8,000	12,000	11,887	8,045	9,147	9,172	9,435	11,157	11,685	11,584	-101	-0.9
Grand Total	43,840	46,590	52,050	63,140	81,100	101,300	111,159	101,584	82,912	71,283	76,935	74,910	79,191	73,681	-5,510	-7.0

* First year of non-resident deer hunting in Kansas.



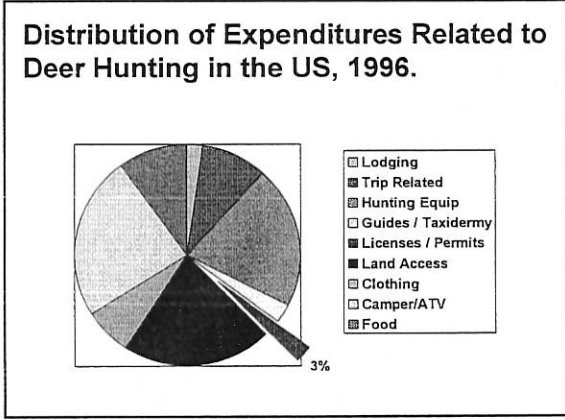
HISTORICAL

Early 1800's	-	Numerous Deer
1850-1900	-	High Exploitation
1900-1930	-	Nearly Extirpated
1930-1960	-	Popu colonization
1965	-	First Modern Season
1993-1996	-	Accelerated Growth
1997-2008	-	Intensified Controls

ECONOMIC IMPACTS OF DEER HUNTING IN KS, 1996.

- \$139 Million in Retail Sales
- \$236 Million Economic Effects
- 2,870 Jobs Created
- \$48 Million in Earnings
- \$12.24 Million in State, Fed and Sales taxes

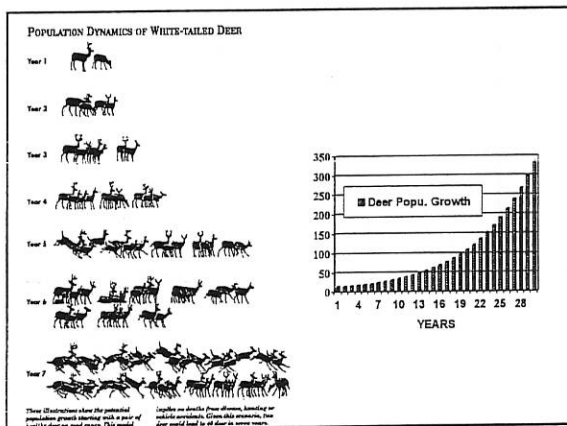
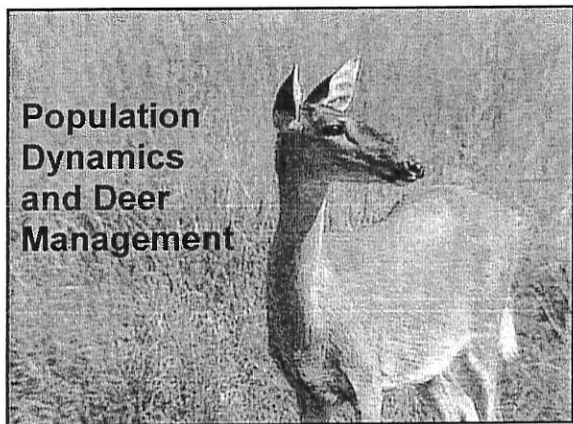
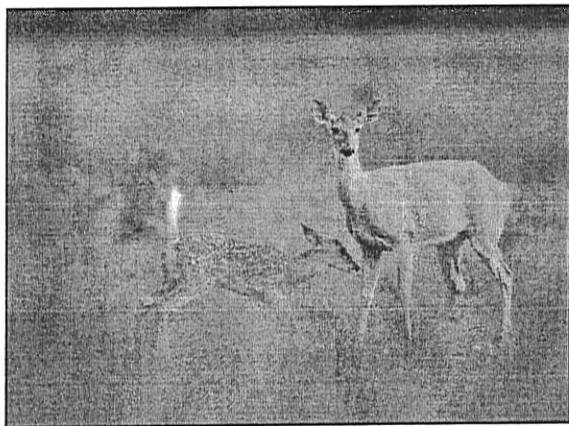
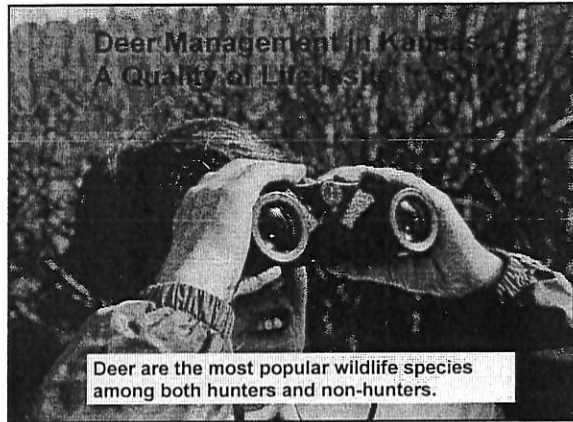
From US F&WS Survey, conducted by Southwick Assoc.

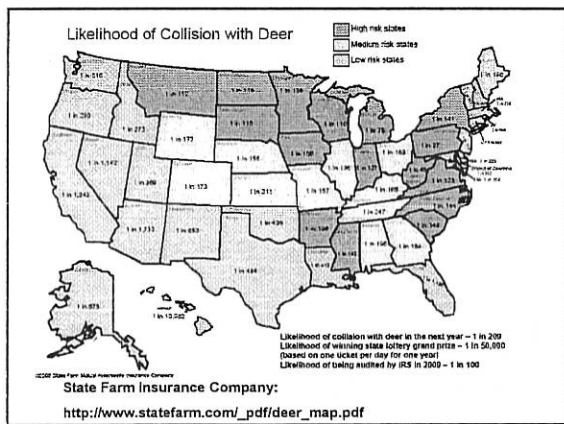
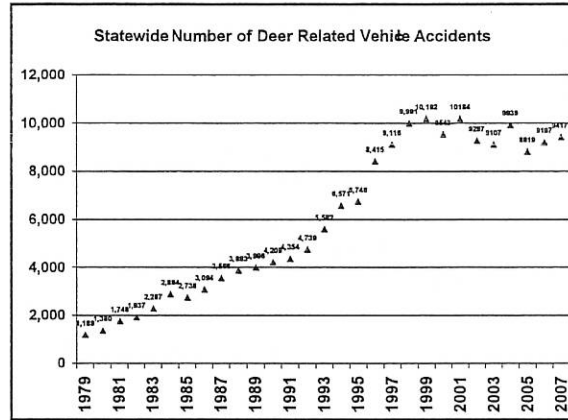


KANSAS DEER HERDS

- Two Species, Mule Deer and White-tailed Deer
- West to East Gradients
- Age and Sex Components
- Health and Characteristics

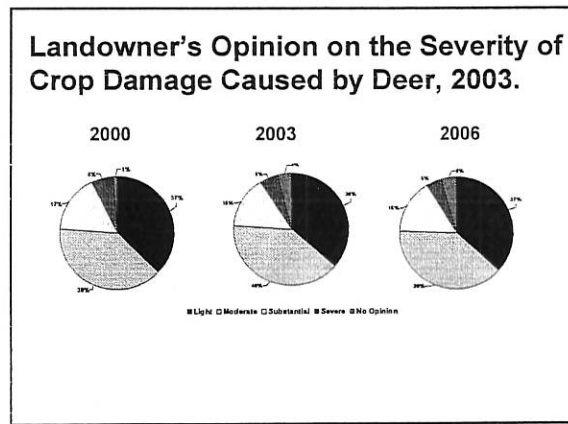
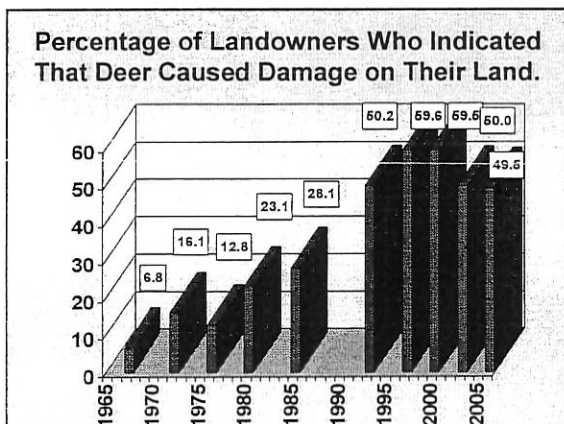


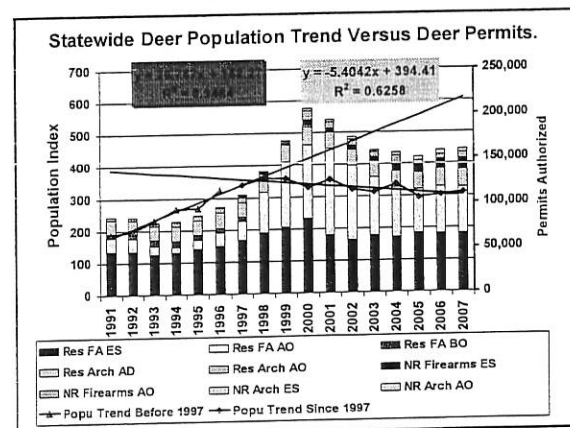
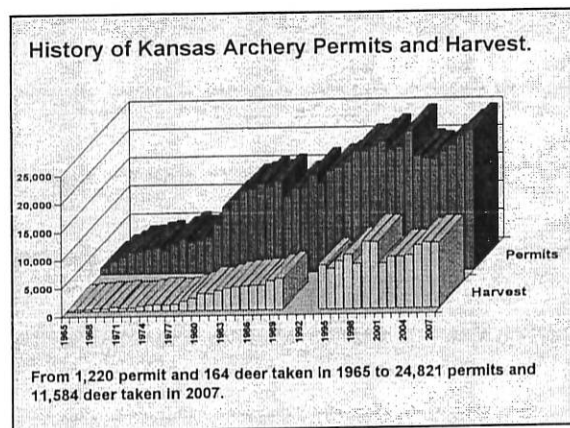
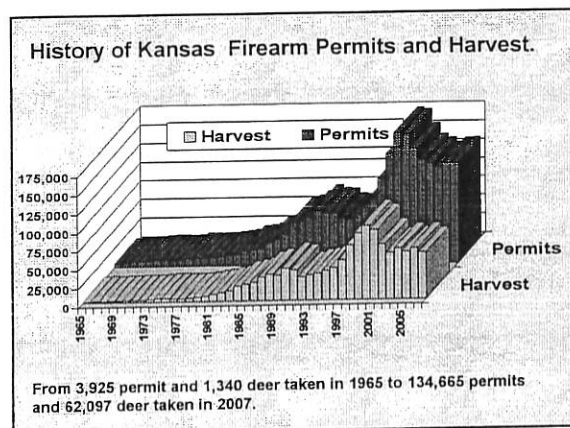
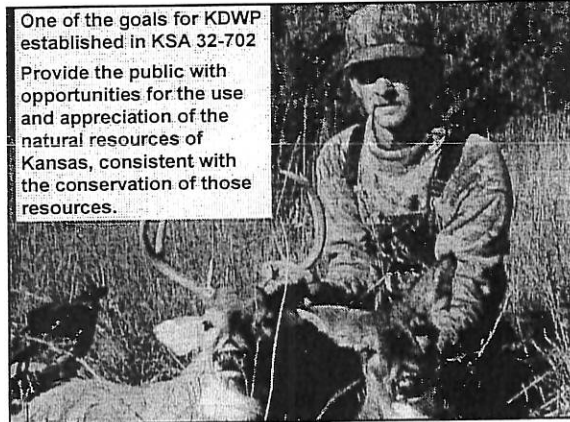
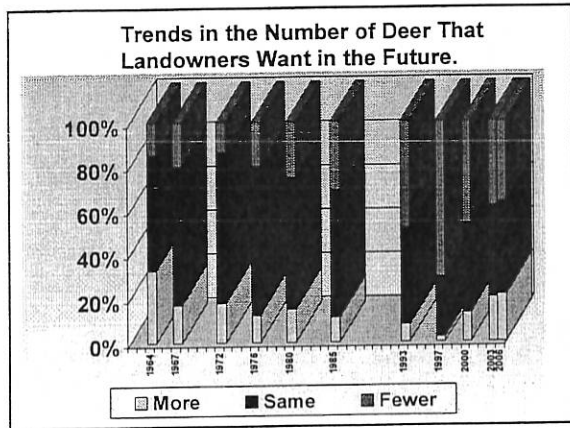




LANDOWNER TOLERANCE FOR DEER

- KDWP has monitored since 1964
- Influenced by economics, experience, even weather
- Changed by public attitudes and available options



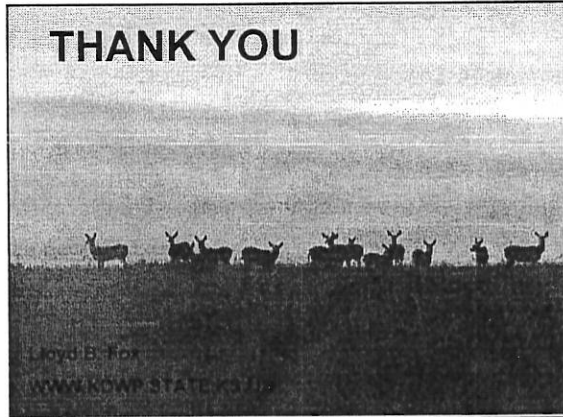


- ### Efforts to Reduce Deer Population.
- Encourage Landowners to Allow Adequate Access to Property and Harvest of Deer.
 - Emphasize to Hunters the Need to Harvest Antlerless Deer.
 - Develop Improved Methods of Directing Hunters to Areas That Need Higher Harvest of Deer (Hotspots).
 - Develop Community Based Programs That Support and Benefit From Deer Population Control.

SUMMARY

- Deer Populations Are a Keystone Species
 - Influence Habitat for Other Species
 - Influence Public Debate on Conservation
- People Exploited Deer Populations to the Edge of Extinction, People Also Allowed Deer to Flourish and Even to Become Overabundant.
- Properly Managed the Deer Resource Provides Kansans with Benefits.

THANK YOU



HOUSE CONCURRENT RESOLUTION NO. _____

By

A CONCURRENT RESOLUTION urging the United States Congress to oppose federal legislation that interferes with a state's ability to direct the transport or processing of horses.

WHEREAS, The processing of horses has become a controversial and emotional issue and has resulted in the closing of all horse processing facilities throughout the United States; and

WHEREAS, Federal legislation was introduced to amend the 1970 Horse Protection Act to prohibit the shipping, transporting, moving, delivering, receiving, possessing, purchasing, selling or donation of horses and other equines for processing and other purposes; and

WHEREAS, The loss of secondary markets has severely impacted the livestock industry by eliminating the salvage value of horses and has significantly reduced the market value of all horses; and

WHEREAS, Prohibitions regarding the processing of horses have resulted in significant increases in abandoned and starving animals and have had significant economic impact on the entire equine industry; and

WHEREAS, The increase in unwanted or unusable horses has overwhelmed private animal welfare agencies and the public's ability to care for surplus domestic horses; and

WHEREAS, The annual number of unwanted or unusable surplus domestic horses is estimated to be 100,000, compounding annually; and

WHEREAS, Issues related to the humane handling and slaughter

of surplus domestic horses are best addressed by proper regulations and inspection and not by banning or exporting the issue; and

WHEREAS, State agriculture and rural leaders recognize the necessity and benefit of a state's ability to direct the transport and processing of horses. Now, therefore:

Be it resolved by the House of Representatives of the State of Kansas, the Senate concurring therein: That the United States Congress is urged to oppose federal legislation that interferes with a state's ability to direct the transport or processing of horses; and

Be it further resolved: That the Secretary of State be directed to send an enrolled copy of this resolution to the President of the United States, the President of the United States Senate, the Speaker of the United States House of Representatives and each member of the Kansas legislative delegation.