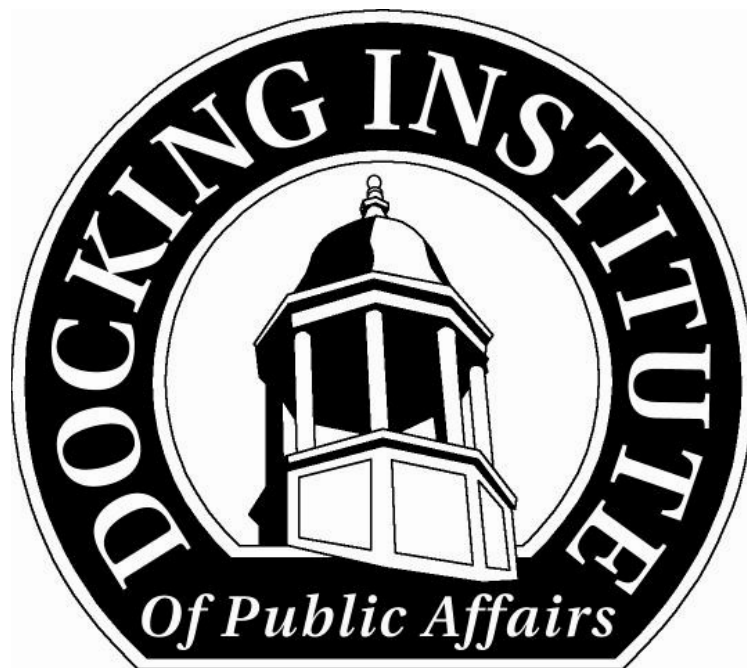
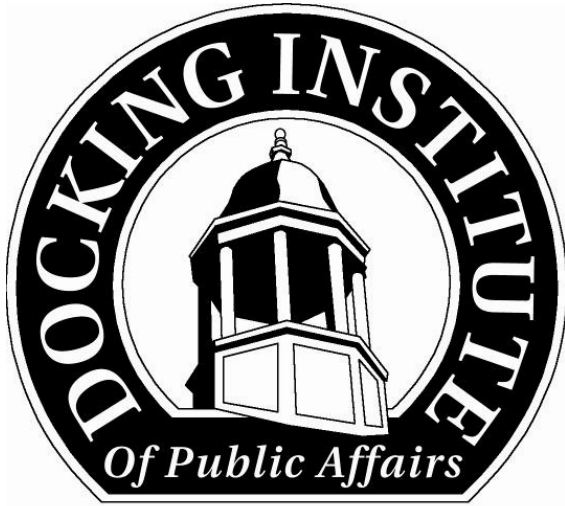


**Kansas Department of Wildlife and Parks
Survey of Land Operators on Opinions of
Furbearers in Kansas**



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Kansas Department of Wildlife and Parks Survey of Land Operators on Opinions of Furbearers in Kansas

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**Kansas Department of Wildlife and Parks
Survey of Land Operators on Opinions of
Furbearers in Kansas**

**Conducted
20 February 2007 through 4 April 2007**

Executive Summary

The primary objectives of this survey for the Kansas Department of Wildlife and Parks were to:

- Assess the general attitudes of land operators toward furbearers.
- Assess land operator perceptions toward furbearer harvest activities.
- Assess prominence and characteristics of furbearer damage.
- Assess land operator response to furbearer damage.
- Assess relative importance of furbearer damage as compared to other species.

The Docking Institute's independent analyses find that:

- The mean number of acres owned or operated was considerably greater in western Kansas than eastern Kansas and the corresponding districts consistently contained the greatest and least mean number of acres owned or operated, respectively. The most predominant land uses in Kansas are rangeland, hay pasture, and wheat.
- The mean number of years Kansas land operators have been working on their operation was 30.5 years. Generally, the mean number of years was greater for respondents in western Kansas than eastern Kansas. Almost 75% of Kansas land operators reported that they reside on their farm or ranch.
- The statewide mean percentage of household income derived from the sale of agricultural products was 39.5%. The proportion of income derived from the sale of agricultural products decreases from western Kansas to eastern Kansas. Over 90% of Kansas land operators indicated they were the primary decision maker for their agricultural operation, and almost 50% indicated that others share in the decision making.
- Statewide, 44.3% of respondents indicated coyote populations have increased over the past 5 years, while 35.7% indicated coyote populations have remained the same. Respondents from eastern Kansas had the greatest proportion of respondents indicating coyote populations increased.
- The most popular response, statewide, was that land operators did not know how beaver populations had changed over the past 5 years. However, 31.4% of

respondents indicated beaver populations have remained the same over the past 5 years.

- The proportion of Kansas land operators who indicated that raccoon populations had increased and remained the same over the past 5 years was similar.
- The furbearer species Kansas land operators most frequently reported to occur on their land were coyote, striped skunk, and raccoon, while the furbearer species reported least frequently were the river otter, swift fox, and gray fox. Generally, species that were infrequently reported by Kansas land operators also included high levels of uncertainty to their occurrence.
- Almost half of Kansas land operators indicated that they enjoy furbearers, but some cause problems at times. The percentages of Kansas land operators who indicated they enjoy having furbearers around and those who indicated that they have no particular feelings about furbearers were similar. Those who indicated they generally regard furbearers as a nuisance were slightly more prevalent.
- Over 40% of respondents indicated that someone hunts furbearers on their property. Over half of those who indicated that nobody hunts furbearers on their property reported that no one asked to hunt furbearers on their property.
- About one-quarter of respondents indicated that someone traps furbearers on their property. Over half of those who indicated that nobody traps furbearers on their property reported that no one asked to trap furbearers on their property.
- Over three-quarters of Kansas land operators either strongly agreed or agreed that they are supportive of hunting as a way to control problem furbearers while over 65% either strongly agreed or agreed that they are supportive of trapping as a way to control problem furbearers.
- Almost half of Kansas land operators indicated that they experienced damage by furbearers in 2006. Of those who reported damage by furbearers in 2006, about 40% experienced light or moderate damage, while about 20% experienced either substantial or severe damage by furbearers.
- Those who owned or operated more acres were more likely report that they received damage by furbearers. Those who owned or operated land where someone either hunted or trapped furbearers were more likely to report that they received damage on their land by furbearers. In addition, those who reported experiencing damage by furbearers were more likely to agree that hunting or trapping is the main way they control problem furbearers. Those who reported damage by furbearers also were more likely to indicate that populations of coyote, beaver, and raccoon had increased on their property over the past five years.
- Among those who reported experiencing damage by furbearers, those who reported a greater level of damage were more likely to report that allowing hunting or trapping access was the main way they control problem furbearers. Of those who reported experiencing damage by furbearers, greater levels of damage

were correlated with perceived population increases of coyote, beaver, and raccoon on their property over the past five years.

- Statewide, the most prevalent types of damage were digging holes by badgers, skunks, and coyotes, loss of upland birds to furbearers, and crop damage by raccoons. The least prevalent types of damage reported by Kansas land operators were flooding or pond drain tube plugging by beavers, poultry predation by furbearers, and crop damage by other furbearers.
- The types of furbearer damage with the greatest mean dollar value of loss were flooding or pond drain tube plugging by beavers, pond dam or creek bank damage by beavers, and livestock predation by coyotes. Interestingly, flooding or pond drain tube plugging was among the least prevalent types of damage reported by Kansas land operators.
- More than half of Kansas land operators who reported experiencing damage by furbearers indicated that they tolerated the damage without taking action. The least common action land operators who reported experiencing damage by furbearers engaged in was to receive help in removing offending animals.
- The species reported causing damage most frequently by Kansas land operators were deer, rats and mice, and gophers and moles. The species reported least frequently to cause damage were elk, bat, and antelope.
- Only two furbearer species (coyote and raccoon) identified by Kansas land operators among the five most problematic species while five furbearer species (coyote, raccoon, badger, beaver, and skunk) were identified among the ten most problematic species.

Methods

Between 20 February and 4 April 2007 the Docking Institute's Center for Survey Research conducted a survey of 2,468 randomly selected land operators in Kansas from a list of agricultural operators maintained by the Kansas Agricultural Statistics Service (KAS). Two waves of a self-administered mail survey were sent by the KAS on behalf of the Docking Institute's Center for Survey Research to a sample of land operators from all counties in Kansas. The number of land operators sampled from each county was proportionate to the total number of land operators in the county according to KAS lists.

The self-administered mail survey included return postage to the Docking Institute paid by the Docking Institute. The first copy of the survey was mailed with a cover letter briefly explaining the survey. Signatures of both the assistant secretary of the Kansas Department of Wildlife and Parks (KDWP) and the director of the Docking Institute appeared on the cover letters. The follow-up wave followed the initial mailing to all those who had not yet responded to the previous waves of mailing. Of 2,468 questionnaires mailed, 30 were undeliverable, 21 were sent to individuals who had deceased or no longer owned or operated land, and 1090 were returned, resulting in a response rate of 45%. Non-respondent bias was not assessed.

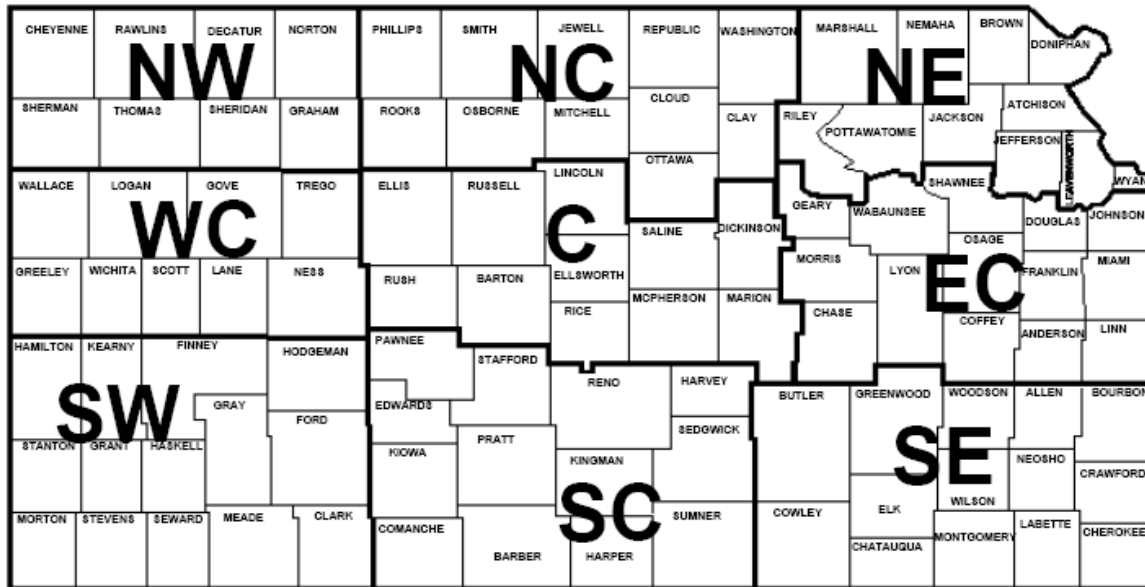
Survey Instrument

The Docking Institute and the KDWP agreed on the survey items used. It was the responsibility of KDWP to identify information areas and objectives of the survey. It was the responsibility of the Docking Institute to develop survey items that were technically correct and without bias. Question wording and the design of the survey instrument are the joint property of the Docking Institute and KDWP and are not to be used for additional surveys unless written permission is granted by both entities.

Demographics of Respondents

Although this survey was administered statewide, regional trends might be evident. Respondents were asked which county most of their farm or ranch was located and were then assigned to a region based upon districts used by the Kansas Agricultural Statistics Service (KAS).

Figure 1. Map of Kansas with the associated KAS districts. The districts are designated as follows: Northwest (NW), West Central (WC), Southwest (SW), North Central (NC), Central (C), South Central (SC), Northeast (NE), East Central (EC), and Southeast (SE).



More respondents were from central and eastern Kansas than from western Kansas. The KAS districts that had the greatest number of respondents were East Central, South Central, and Northeast. The KAS districts that had the fewest number of respondents were West Central, Northwest, and Southwest. County level responses are presented in Appendix 1.

Table 1. Overall frequency and percentage of responses by KAS district.

District	N	Percent
Northwest	55	5.2
West Central	45	4.3
Southwest	68	6.4
North Central	123	11.6
Central	140	13.2
South Central	162	15.3
Northeast	148	14.0
East Central	171	16.2
Southeast	145	13.7
Statewide	1090	100

The mean number of acres owned or operated by Kansas land operators was 1019.6 (Table 2). The mean number of acres owned or operated was considerably greater in western Kansas than Eastern Kansas and these corresponding districts consistently contained the greatest and least mean number of acres owned or operated, respectively. The districts with the greatest mean number of acres owned or operated were Southwest, Northwest, and West Central. The districts with the least mean number of acres owned or operated were Northeast, Southeast, and East Central. The magnitude of difference in mean number of acres owned or operated between western Kansas and eastern Kansas is profound. The mean number of acres owned or operated in all western Kansas districts was at least twice as great as those in eastern Kansas districts.

Table 2. Mean number of acres owned or operated by Kansas land operators in 2006. Estimates are displayed statewide and by KAS district.

District	Acres	Standard deviation
Northwest	1700.6	1514.5
West Central	1666.8	1969.8
Southwest	2113.0	2178.8
North Central	1027.0	1269.1
Central	828.6	953.2
South Central	1290.6	2020.0
Northeast	595.3	901.2
East Central	732.8	2443.3
Southeast	713.6	1296.3
Statewide	1019.6	1729.5

Respondents were asked to report the number of acres in their farm or ranch dedicated to particular types of land use. A percentage for land use by type was calculated by dividing the acres dedicated to a particular type of land use by the total acres reported.

Throughout Kansas, the most predominant land uses are rangeland, hay pasture, and wheat, which encompass 26.62%, 19.90%, and 19.83% of statewide land use, respectively. The least prevalent land use types throughout Kansas were nursery, orchard, and garden crop, which occupied 0.22%, 0.26%, and 0.53% of statewide land use, respectively.

Wheat was a commonly predominate land use pattern in western and central Kansas, but was not very prevalent in the three eastern Kansas districts. The three eastern districts shared hay pasture as the predominant land use type. Consequently, hay pasture was substantially less prevalent in the western Kansas districts. Although rangeland was a common land use type in all districts, it was the predominant land use type in only the North Central district.

Table 3. Mean percentage (standard deviation) of land use reported by Kansas land operators in 2006. Estimates are displayed statewide and by KAS district.

	Northwest	West Central	Southwest	North Central	Central	South Central	Northeast	East Central	Southeast	Statewide
Alfalfa %	1.85 (4.9)	0.43 (1.1)	5.03 (16.3)	5.80 (11.4)	3.59 (10.4)	6.12 (13.6)	1.19 (4.5)	1.48 (5.4)	1.20 (5.7)	3.08 (9.5)
Corn %	8.30 (15.2)	5.96 (12.8)	8.01 (17.1)	4.17 (10.3)	2.58 (10.9)	3.11 (8.5)	12.95 (18.8)	5.12 (10.2)	2.29 (6.7)	5.47 (12.6)
Milo %	5.06 (9.7)	7.43 (12.7)	8.50 (12.9)	5.54 (8.1)	6.26 (9.6)	5.16 (12.0)	3.03 (10.6)	2.62 (10.5)	1.35 (3.9)	4.38 (10.2)
Soybean %	0.77 (3.7)	0 (0)	0.61 (2.9)	5.66 (9.8)	2.76 (6.8)	3.76 (10.7)	15.00 (18.5)	12.34 (19.9)	8.83 (18.3)	7.05 (14.9)
Wheat %	37.23 (28.3)	35.70 (30.3)	32.99 (30.9)	25.65 (25.8)	32.09 (26.5)	29.07 (26.7)	5.57 (10.2)	5.80 (14.4)	7.57 (13.5)	19.83 (25.3)
Forage sorghum %	1.53 (2.7)	1.63 (4.3)	1.51 (4.3)	1.62 (3.9)	2.32 (5.5)	2.32 (8.4)	0.41 (2.4)	0.10 (0.5)	0.35 (3.3)	1.21 (4.7)
Hay pasture %	6.86 (20.0)	8.01 (23.0)	2.62 (12.0)	11.93 (23.1)	14.15 (23.4)	11.95 (23.0)	24.37 (29.6)	34.97 (35.6)	34.27 (36.9)	19.90 (30.1)
Rangeland %	29.86 (31.7)	30.10 (36.1)	24.91 (31.8)	27.93 (29.1)	25.57 (30.7)	28.07 (32.0)	21.28 (29.7)	24.59 (33.7)	31.08 (35.2)	26.62 (32.1)
Nursery %	0 (0)	0 (0)	0 (0)	0 (0.1)	0.08 (0.8)	0.12 (1.5)	0.60 (6.0)	0 (0)	0.73 (8.5)	0.22 (4.0)
Orchard %	0 (0)	0 (0)	0 (0)	0.07 (0.5)	0 (0)	0.19 (1.4)	1.11 (8.7)	0.40 (4.3)	0.02 (0.2)	0.26 (3.8)
Woodland %	1.08 (6.9)	0.35 (1.2)	0.02 (0.1)	1.76 (5.3)	2.62 (10.0)	2.18 (8.4)	7.45 (13.9)	5.58 (12.2)	6.51 (13.4)	3.84 (10.6)
Garden crop %	0.01 (0)	0.01 (0.1)	0.01 (0)	1.03 (9.4)	0.15 (1.2)	0.12 (1.4)	0.09 (0.4)	1.42 (9.9)	0.91 (8.5)	0.53 (6.1)
Ponds/lakes %	0.01 (0)	0.04 (0.2)	0.20 (1.2)	0.24 (0.6)	0.48 (1.6)	0.68 (2.7)	1.09 (3.4)	0.91 (1.7)	1.29 (3.0)	0.69 (2.2)
Other %	7.45 (20.3)	10.35 (25.0)	15.60 (30.0)	8.59 (21.8)	7.36 (18.4)	7.16 (19.8)	5.87 (16.9)	4.67 (18.0)	3.61 (14.7)	6.92 (19.7)

Respondents were asked to report the number and species of livestock on their farm or ranch. Throughout Kansas, the type of livestock with the greatest mean number of head per land operator was cattle. The mean head of cattle reported by Kansas land operators was 87.42. Hogs and poultry had the second and third greatest mean number of head per landowner in Kansas with a mean of 28.31 and 20.39 head respectively.

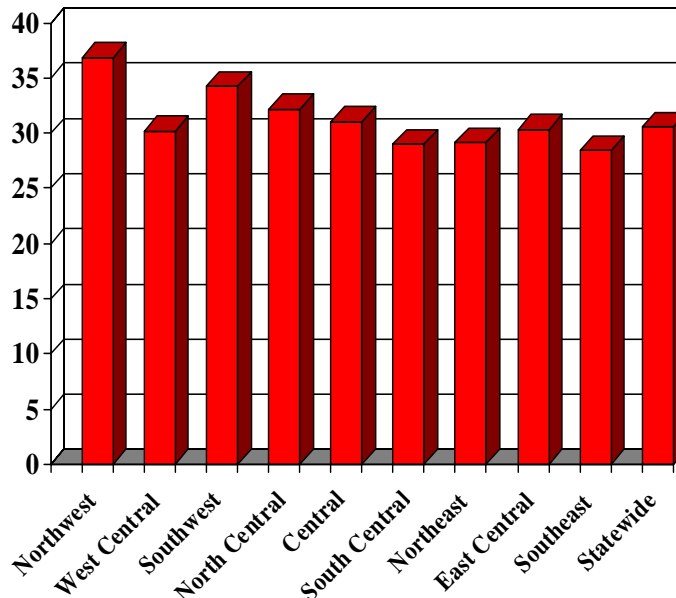
Cattle had the greatest mean number of head per land operator among other types of livestock in seven of the nine KAS districts in Kansas. The West Central, South Central, and Northwest KAS districts contained the greatest mean head of cattle among districts with 186.64, 135.12, and 117.33 individuals, respectively. The greatest mean number of head of livestock per land operator in the Northeast district was poultry and the greatest mean number of head of livestock per land operator in the Central district was hogs. However, only 20 respondents reported having hogs and two Central district respondents reported having large operations with over 6000 and 12000 head of hogs. This likely inflated the mean head of hogs for the Central district considerably.

Table 4. Mean head (standard deviation) of livestock by type reported by Kansas land operators in 2006. Estimates are displayed statewide and by KAS district.

	Northwest	West Central	Southwest	North Central	Central	South Central	Northeast	East Central	Southeast	Statewide
Cattle	117.33 (474.8)	186.64 (580.3)	58.63 (157.9)	77.13 (283.2)	75.57 (274.3)	135.12 (405.4)	55.68 (162.8)	69.09 (196.7)	79.68 (212.6)	87.42 (297.6)
Poultry	2.31 (11.4)	1.22 (5.8)	0.29 (2.4)	2.90 (14.6)	24.49 (253.6)	2.41 (7.9)	84.32 (986.3)	26.58 (305.9)	1.06 (5.0)	20.39 (399.7)
Hogs	55.45 (404.5)	0 (0)	0 (0)	0.17 (1.8)	85.86 (1014.2)	39.78 (502.8)	53.74 (326.4)	2.50 (30.6)	0.03 (0.4)	28.31 (445.3)
Horses	1.00 (2.39)	1.09 (3.7)	1.09 (3.2)	1.24 (4.9)	0.71 (2.7)	1.38 (4.09)	0.86 (3.4)	1.39 (3.7)	1.40 (4.0)	1.15 (3.7)
Sheep	0.18 (1.3)	0 (0)	0.74 (6.1)	3.25 (21.1)	0.41 (3.0)	3.01 (20.8)	0.68 (5.3)	0.04 (0.4)	0.10 (1.2)	1.07 (11.3)
Other	0.38 (2.0)	0 (0)	1.06 (4.7)	1.12 (6.9)	2.37 (15.5)	2.06 (16.5)	1.45 (13.0)	12.20 (152.9)	1.54 (8.9)	3.24 (62.4)

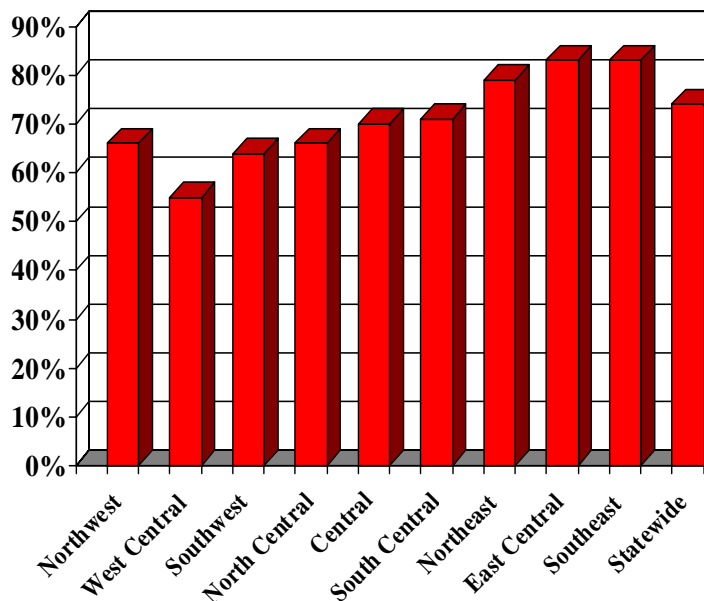
Respondents were asked to report how many years they had been working on their agricultural operation. The mean number of years throughout Kansas was 30.5 years. Generally, the mean number of years was greater for respondents in western Kansas than eastern Kansas. The KAS districts with the greatest mean of years working on an agricultural operation were Northwest (36.9 years), Southwest (34.2 years), and North Central (32.2 years).

Figure 2. Mean number of years Kansas land operators reported working on their agricultural operation. Estimates are displayed statewide and by KAS district.



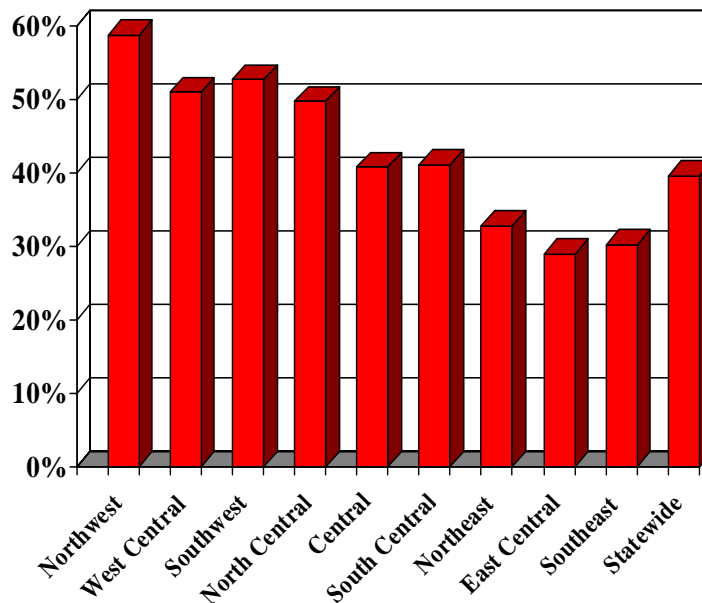
Respondents were asked if they reside on their farm or ranch. Statewide, 74% of Kansas land operators reported that they reside on their farm or ranch. Respondents from eastern Kansas were more likely to reside on their farm or ranch than respondents from western Kansas.

Figure 3. Percent of Kansas land operators who reside on their farm or ranch. Estimates are displayed statewide and by KAS district.



Respondents were asked to report the percentage of their total household income in 2006 that was derived from the sale of agricultural products. The statewide mean percentage of household income derived from the sale of agricultural products was 39.5%. The proportion of income derived from the sale of agricultural products decreases from western Kansas to eastern Kansas. Correspondingly, the KAS districts with the greatest proportion of income derived from the sale of agricultural products were the western three districts in Kansas and the districts with the least proportion were the eastern three districts in Kansas. The mean percentages of total household income derived from the sale of agricultural products in the three western Kansas KAS districts were all greater than 50%, while the means of the three eastern Kansas districts were all less than 35%.

Figure 4. Mean percent of total household income from operation in 2006 reported by Kansas land operators. Estimates are displayed statewide and by KAS district.



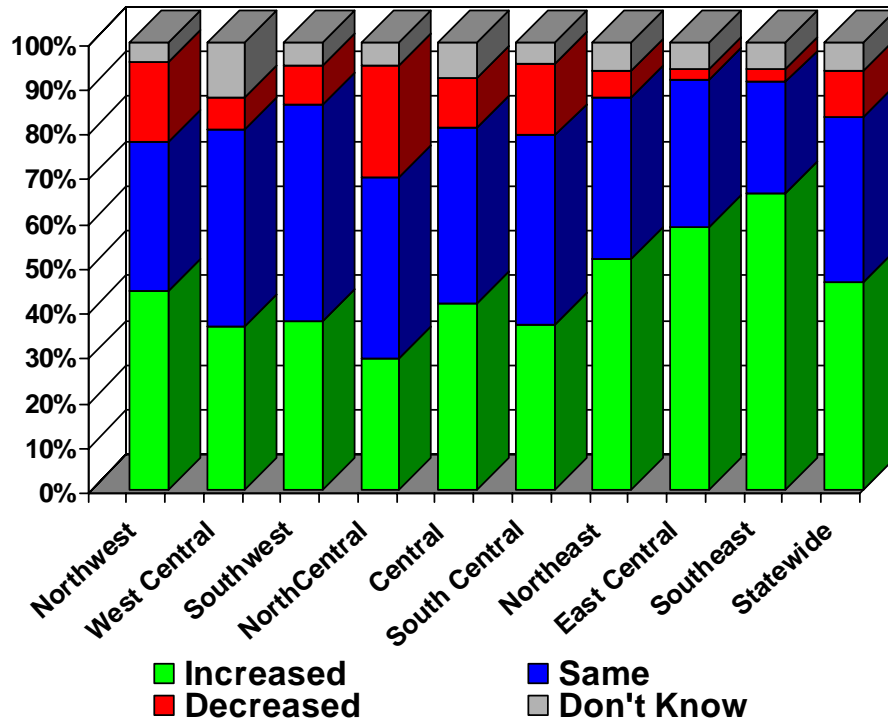
Respondents were asked if they were the primary decision maker for their agricultural operation. Statewide, 91% of Kansas land operators indicated they were the primary decision maker, with values ranging from 87% for the Northwest KAS district to 96% for the Southeast district.

Respondents were asked if anyone else shares in the decision making for the agricultural operation. Statewide, 49% of Kansas land operators indicated that others share in decision making, with values ranging from 41% in the Northwest and Southeast KAS districts, to 57% in the Southwest.

Perceptions about Furbearer Populations

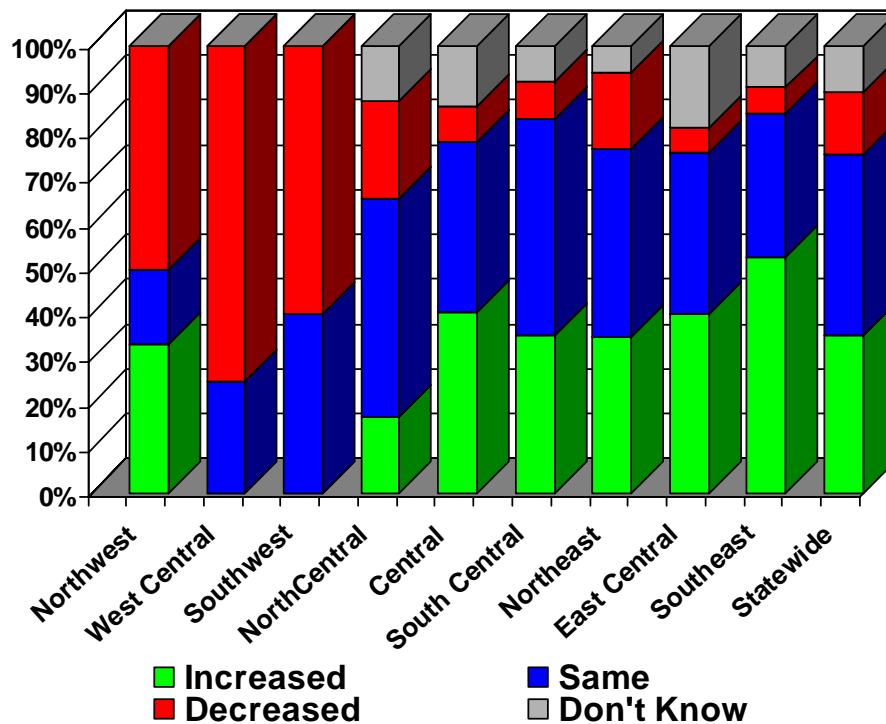
Respondents were asked whether coyote populations on their land have increased, remained the same, or decreased over the past 5 years. Statewide, 46.6% of respondents indicated coyote populations have increased over the past 5 years, while 36.7% indicated coyote populations have remained the same. Among all KAS districts, over 60% of respondents indicated coyote populations have either increased or remained the same. The eastern Kansas KAS districts had the greatest proportion of respondents indicate that coyote populations increased. Notably, 66.4% of respondents in the Southeast district indicated that coyote populations had increased over the past 5 years. Most districts had few respondents indicate that coyote populations had decreased over the past 5 years. The North Central district had the greatest proportion (25.0%) of respondents indicating that coyote populations had decreased.

Figure 5. Proportion of respondents who indicated coyote populations on their land had increased, decreased, or remained the same over the past 5 years. Estimates are displayed statewide and by KAS district.



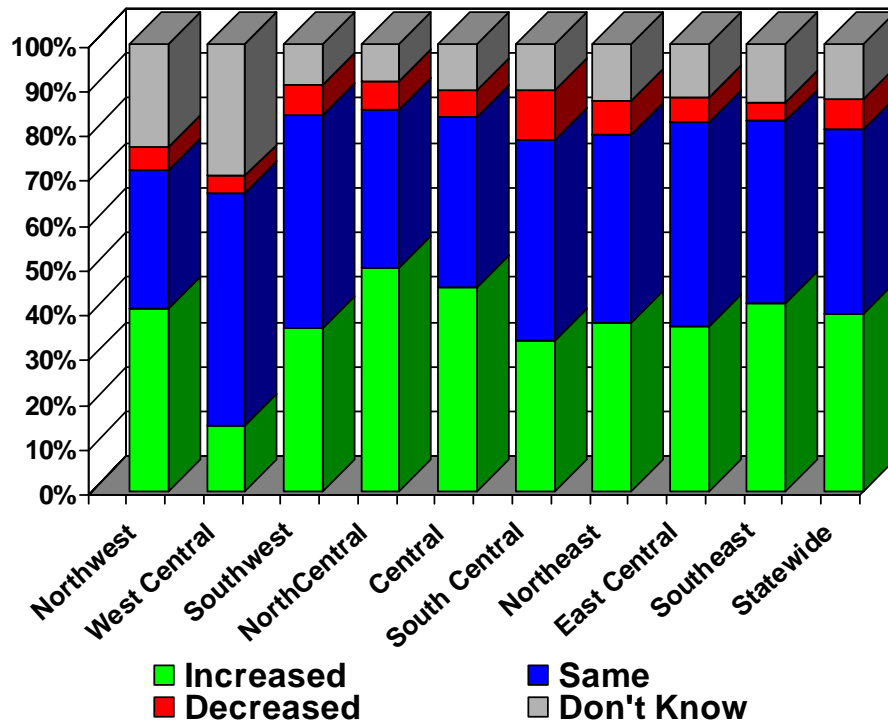
Respondents were asked whether beaver populations on their land have increased, remained the same, or decreased over the past 5 years. Statewide, the most prevalent response (40.4%) was land operators thought beaver populations have decreased over the past 5 years. However, 35.3% of respondents indicated beaver populations have increased over the past 5 years. At least 50% of land operators from the western Kansas districts thought beaver populations were decreasing. However, the most prevalent response among land operators from the central and eastern Kansas districts were either that beaver populations had increased or remained the same. The greatest rates of those reporting that beaver populations had increased over the past 5 years were in Southeast district, where 52.8% of land operators indicated that beaver populations had increased over the past 5 years.

Figure 6. Proportion of respondents who indicated beaver populations on their land had increased, decreased, or remained the same over the past 5 years. Estimates are displayed statewide and by KAS district.



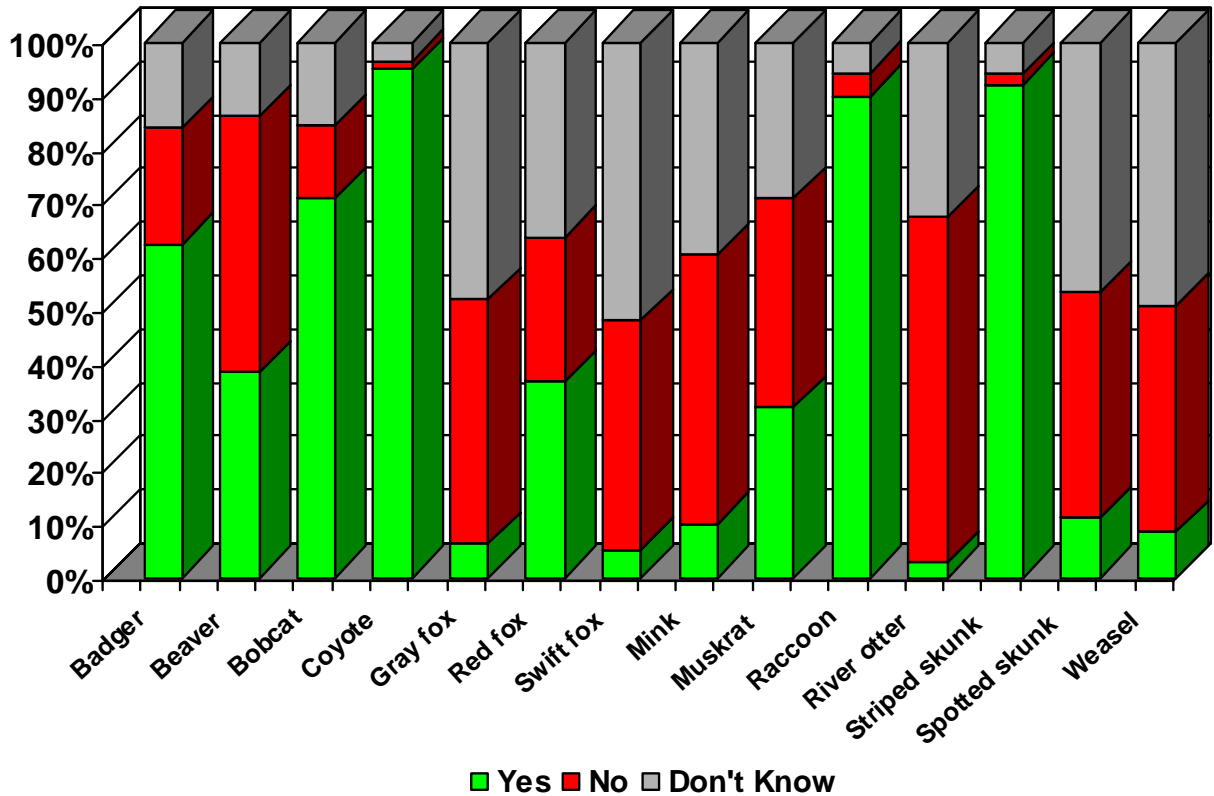
Respondents were asked whether raccoon populations on their land have increased, remained the same, or decreased over the past 5 years. Statewide, the proportion of land operators who indicated raccoon populations had increased (39.7%) and remained the same (41.3%) over the past 5 years was similar. Likewise, the proportion of land operators indicating that raccoon populations increased or remained the same was similar for most KAS districts. Fewer than 10% of respondents from all KAS districts except South Central indicated that raccoon populations had decreased over the past 5 years. The West Central district had the lowest percent (14.8%) of respondents indicating that raccoon populations had increased over the past 5 years.

Figure 7. Proportion of respondents who indicated raccoon populations on their land had increased, decreased, or remained the same over the past 5 years. Estimates are displayed statewide and by KAS district.



Respondents were provided with a list of 14 furbearer species and were asked to indicate which species occurred on their property. The species reported most frequently by Kansas land operators were coyote (95.0%), striped skunk (92.2%), and raccoon (90.0%). The species reported least frequently were the river otter (2.9%), swift fox (5.3%), and gray fox (6.4%). Generally, species that were infrequently reported by Kansas land operators also included high levels of uncertainty to their occurrence. For instance, although 10% or less of respondents indicated that gray fox, swift fox, mink, and weasel occurred on their land, at least 40% of respondents indicated that they were uncertain if these species occurred on their land.

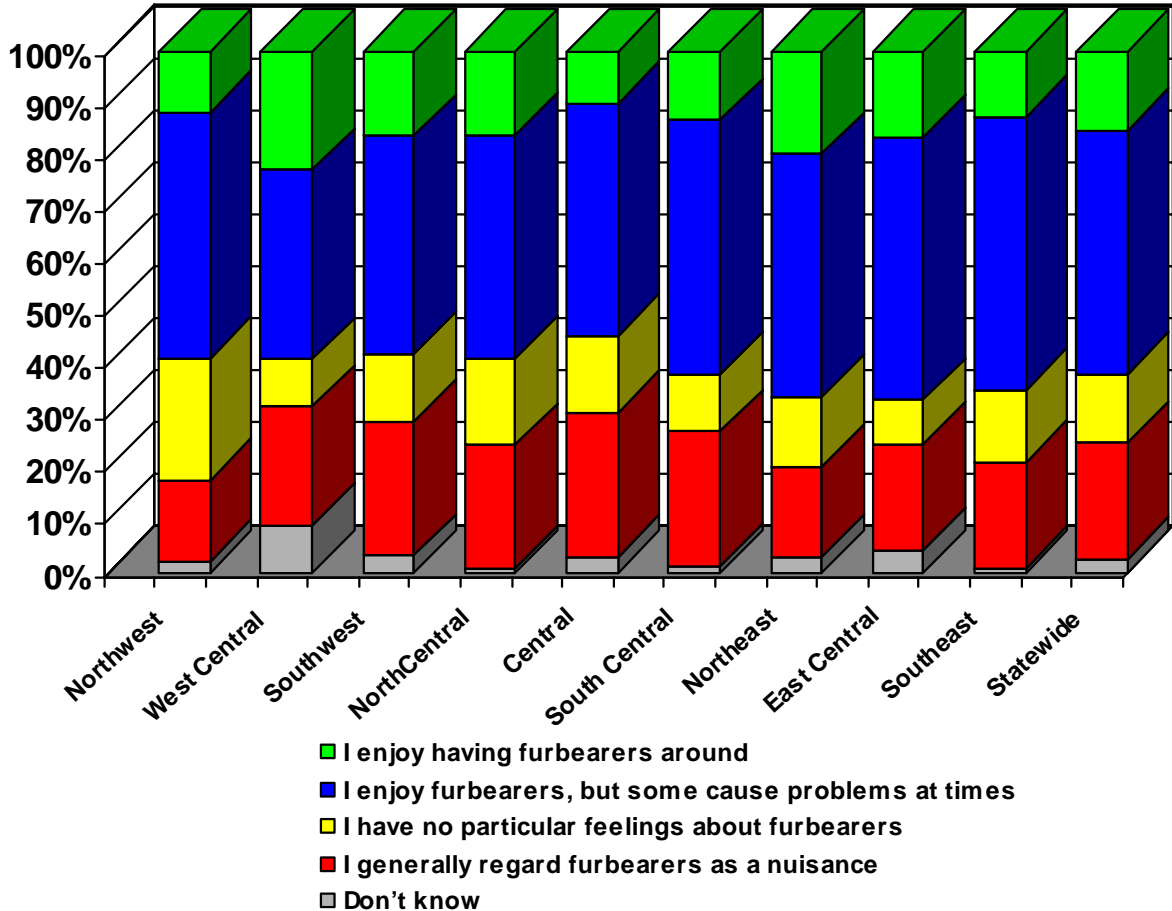
Figure 8. Kansas land operator perception of presence of furbearer species on their property.



Attitudes Toward Furbearers

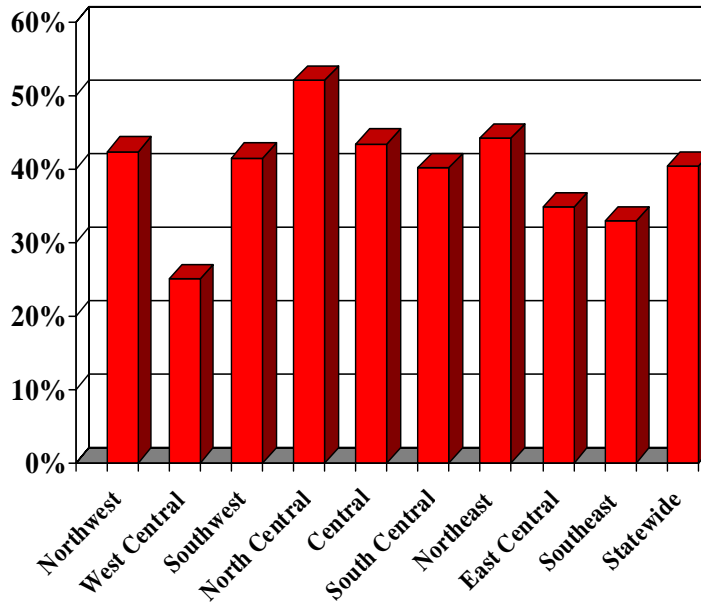
Respondents were provided with five statements regarding feelings toward furbearers and were asked to indicate which statement most corresponds with how they feel about having furbearers on or around their property. Statewide, almost half (47.0%) of Kansas land operators indicated they enjoy furbearers, but some cause problems at times. The percentages of Kansas land operators who indicated they enjoy having furbearers around (15.0%) and those who indicated that they have no particular feelings about furbearers (13.2%) were similar. Those who indicated they generally regard furbearers as a nuisance were slightly more prevalent (22.3%). Among all KAS districts, the most common response was that land operators enjoyed furbearers, but some cause problems at times. The districts with the greatest percentage of respondents indicating that they enjoy having furbearers around were West Central (22.7%), Northeast (19.7%), and East Central (16.3%). The districts with the greatest percentage of respondents indicating that they generally regard furbearers as a nuisance were Central (27.7%), Southwest (25.8%), and North Central (25.7%).

Figure 9. Kansas land operator attitudes toward furbearers. Estimates are displayed statewide and by KAS district.



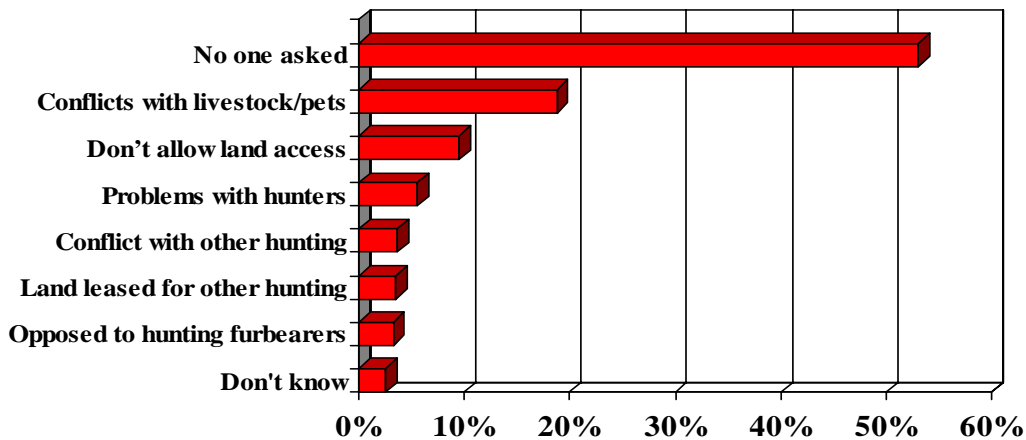
Land operators were asked if someone participates in activities that involve hunting furbearers on their property. Statewide, 40.3% of respondents indicated that someone does hunt furbearers on their property. The KAS districts with the greatest proportion of respondents indicating that someone hunts furbearers on their property were North Central (52.0%), Northeast (44.1%), and Central (43.5%). The KAS districts with the lowest proportion of respondents indicating that someone hunts furbearers on their property were West Central (25.0%), Southeast (32.9%), and East Central (34.8%).

Figure 10. Percent of Kansas land operators reporting that someone participates in hunting furbearers on their property. Estimates are displayed statewide and by KAS district.



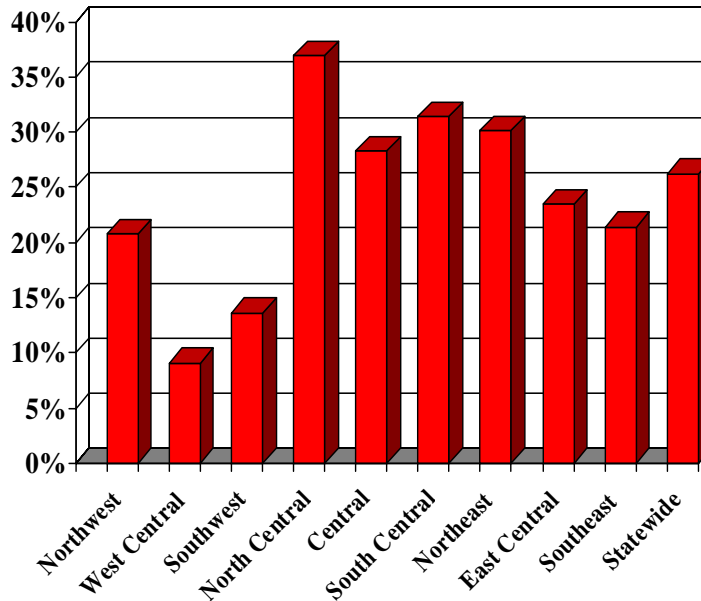
Respondents who indicated that nobody hunts furbearers on their property were asked to provide reasons nobody hunts furbearers on their property. Over half (53.0%) reported that no one asked to hunt furbearers on their property, while 18.8% cited conflicts with livestock and pets.

Figure 11. Percent of land operators reporting reasons why nobody hunts furbearers on their property.



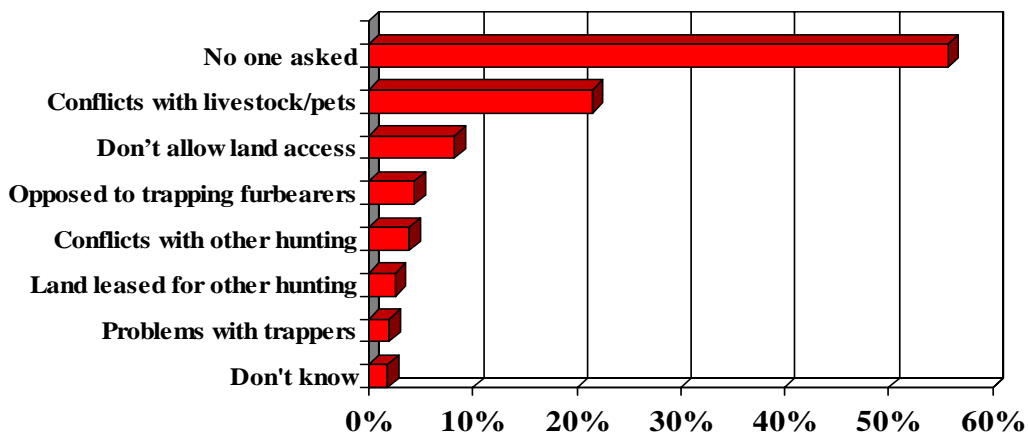
Land operators were asked if someone participates in activities that involve trapping furbearers on their property. Statewide, 26.2% of respondents indicated that someone does trap furbearers on their property. The KAS districts with the greatest proportion of respondents indicating that someone traps furbearers on their property were North Central (36.9%), South Central (31.4%), and Northeast (30.1%). The KAS districts with the lowest proportion of respondents indicating that someone traps furbearers on their property were West Central (9.1%), Southwest (13.6%), and Northwest (20.8%).

Figure 12. Percent of Kansas land operators reporting that someone participates in trapping furbearers on their property. Estimates are displayed statewide and by KAS district.



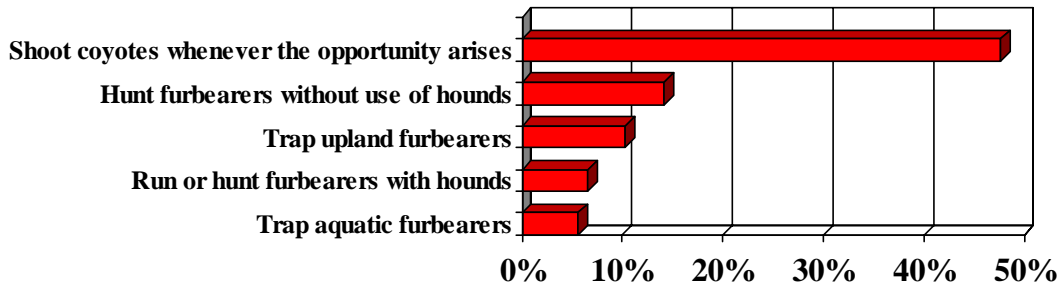
Respondents who indicated that nobody traps furbearers on their property were asked to provide reasons nobody traps furbearers on their property. Over half (55.7%) reported that no one asked to traps furbearers on their property, while 21.5% cited conflicts with livestock and pets.

Figure 13. Percent of land operators reporting reasons why nobody traps furbearers on their property.



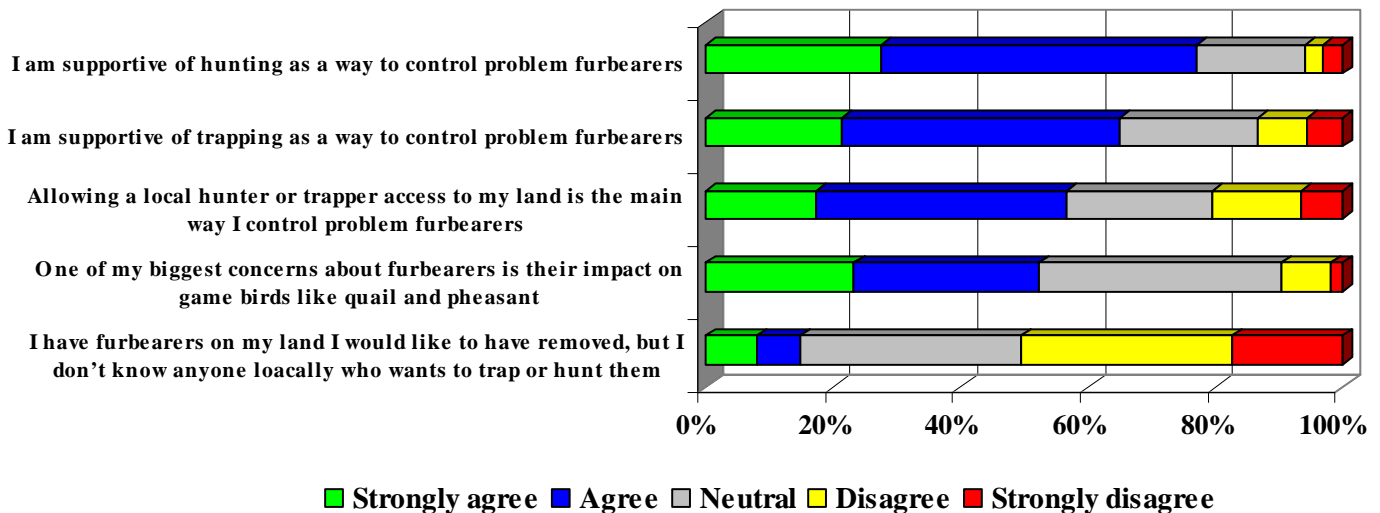
Respondents were provided with five recreational activities involving furbearers and were asked whether they or members of their immediate family participate in these activities. Almost half (47.7%) indicated that they shoot coyotes whenever the opportunity arises. Participation in other recreational activities involving hunting and trapping furbearers was reported less frequently.

Figure 14. Percent of land operators indicating they or their family participate in recreational activities involving furbearers.



Respondents were presented with a series of five statements regarding concerns about furbearers and were asked to indicate whether they agreed or disagreed with the statement. Results from the statement “allowing a local hunter or trapper access to my land is the main way I control problem furbearers” are reported only for those land operators who indicated that someone either hunts or traps furbearers on their property. In addition, results from the statement “I have furbearers on my land I would like to have removed, but I don’t know anyone locally who wants to trap or hunt them” are reported only for those land operators who indicated that no one hunts or traps furbearers on their property. Over three-quarters (77.2%) of Kansas land operators either strongly agreed or agreed that they are supportive of hunting as a way to control problem furbearers, while over 65% either strongly agreed or agreed that they are supportive of trapping as a way to control problem furbearers. Over half (56.6%) either strongly agreed or agreed that allowing a local hunter or trapper access to their land is the main way they control problem furbearers. Over half (52.4%) of Kansas land operators either strongly agreed or agreed that one of their biggest concerns about furbearers is their impact on game birds like quail and pheasant. Half (50.6%) of Kansas land operators either strongly disagreed or disagreed that they have furbearers on their land that they would like to have removed, but they don’t know anyone locally to hunt or trap them.

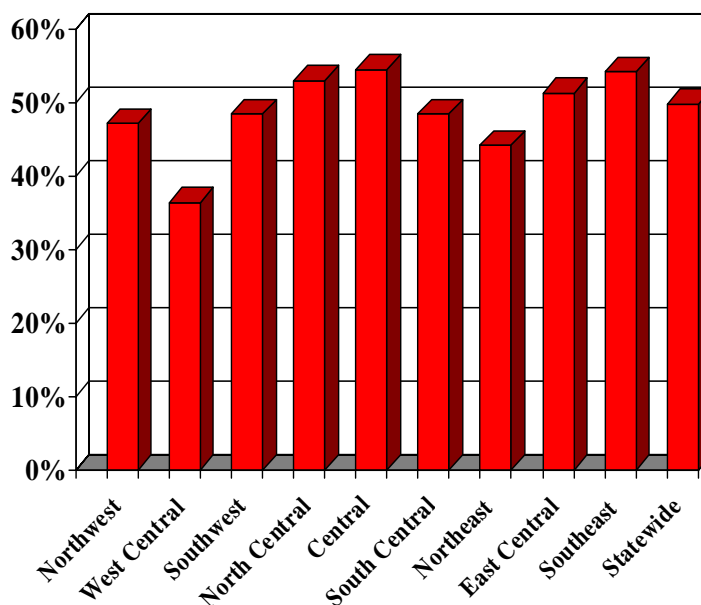
Figure 15. Level of agreement by Kansas land operators to specific concerns about furbearers.



Damage by Furbearers

Respondents were asked whether they experienced any damage from furbearers in 2006. Statewide, almost half (49.8%) of land operators indicated that they experienced damage by furbearers in 2006. KAS districts with the greatest percentage of reported damage by furbearers in 2006 were Central (54.4%), Southeast (54.1%), and North Central (53.0%). Interestingly, the Central and North Central districts had the greatest percentage of respondents indicating that they generally regard furbearers as a nuisance. KAS districts with the lowest percentage of reported damage by furbearers in 2006 were West Central (36.4%), Northeast (44.1%), and Northwest (47.1%).

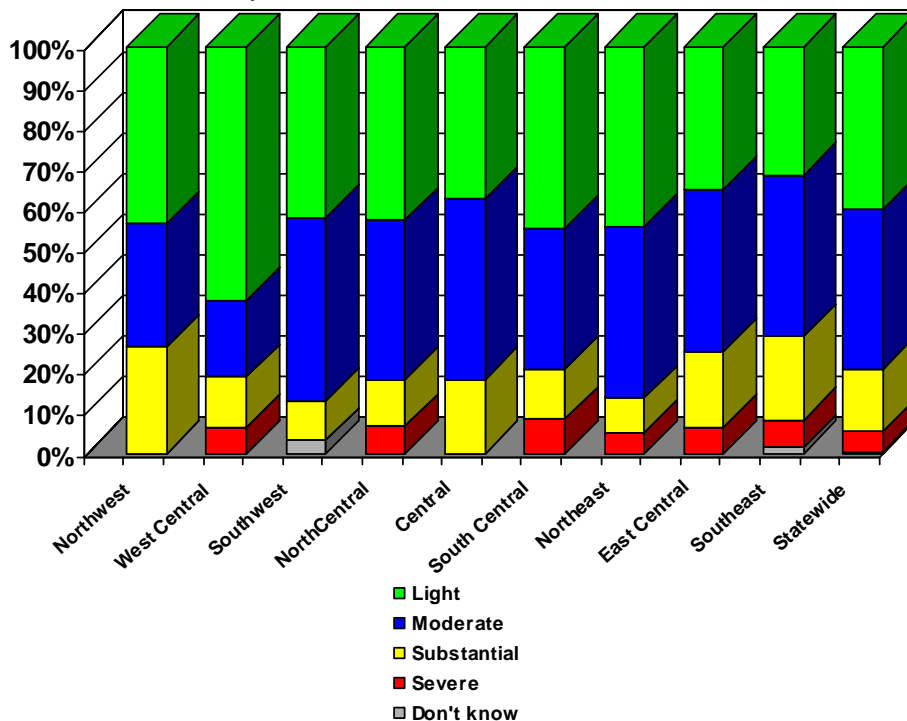
Figure 16. Percent of Kansas land operators indicating they experienced damage by furbearers in 2006. Estimates are displayed statewide and by KAS district.



Those who owned or operated more acres were more likely report that they received damage by furbearers ($[r_s]_{0.05[2], 1020} = -0.144, P < 0.001$). However, the strength of this relationship is weak. Those who owned or operated land where someone either hunted or trapped furbearers were more likely to report that they received damage on their land by furbearers ($[r_s]_{0.05[2], 1050} = 0.233, P < 0.001$). In addition, those who reported experiencing damage by furbearers were more likely to agree that hunting or trapping is the main way they control problem furbearers ($[r_s]_{0.05[2], 960} = 0.157, P < 0.001$). Again, although significant, this relationship is relatively weak. Those who reported damage by furbearers also were more likely to indicate that populations of coyote ($[r_s]_{0.05[2], 887} = 0.163, P < 0.001$), beaver ($[r_s]_{0.05[2], 521} = 0.211, P < 0.001$), and raccoon ($[r_s]_{0.05[2], 776} = 0.181, P < 0.001$) had increased on their property over the past five years.

Respondents who indicated they had experienced damage by furbearers in 2006 were asked to describe the level of damage caused by furbearers in the last 12 months. Statewide, 40.0% of Kansas land operators experienced light damage while 39.2% reported experiencing moderate damage by furbearers. Only 15.4% of Kansas land operators reported experiencing substantial damage and 4.9% reported experiencing severe damage by furbearers. Among all KAS districts, at least 30% of respondents reporting damage by furbearers indicated that the damage experienced was light. The KAS districts that had the highest percentage of respondents reporting that they experienced either substantial or severe damage by furbearers were Southwest (27.3%), Northwest (26.1%), and South Central (25.1%). In all KAS districts, the percentage of land operators reporting light damage and the percentage of land operators reporting moderate damage were equal to or greater than the combined percentage of those reporting substantial or severe damage.

Figure 17. Proportion of respondents indicating light, moderate, substantial, or severe damage by furbearers in the last 12 months. Estimates are displayed statewide and by KAS district.



Of the respondents who reported experiencing damage by furbearers, the level of damage was not significantly correlated to the amount of acres owned or operated ($[r_s]_{0.05[2], 491} = 0.009, P = 0.884$). Similarly, among those who reported experiencing damage by furbearers, the level of damage was not significantly correlated to whether someone either hunts or traps furbearers on their land ($[r_s]_{0.05[2], 493} = -0.057, P = 0.212$). However, among those who reported experiencing damage by furbearers, those who reported a greater level of damage were more likely to report that allowing hunting or trapping access was the main way they control problem furbearers ($[r_s]_{0.05[2], 469} = -0.125, P = 0.007$). Although this correlation is statistically significant, it is relatively weak. Of those who reported experiencing damage by furbearers, greater levels of damage were correlated with perceived population increases of coyote ($[r_s]_{0.05[2], 460} = -0.131, P < 0.005$), beaver ($[r_s]_{0.05[2], 283} = -0.140, P < 0.019$), and raccoon ($[r_s]_{0.05[2], 424} = -0.199, P < 0.001$) on their property over the past five years.

Respondents who indicated they experienced damage by furbearers in 2006 were presented with 13 types of damage caused by furbearers and were asked if they experienced that type of damage. Statewide, the most prevalent types of damage reported by Kansas land operators were digging holes by badgers, skunks, or coyotes (84.1%), loss of upland wild birds to furbearers (61.3%), and crop damage by raccoons (47.7%). The least prevalent types of damage reported by Kansas land operators were flooding or pond drain tube plugging by beavers (16.8%), poultry predation by furbearers (23.3%), and crop damage by other furbearers (26.3%).

Digging holes by badgers, skunks, or coyotes was reported by land operators in all KAS districts as being among the most prevalent types of damage by furbearers. Further, loss of upland wild birds to furbearers was reported among the most prevalent types of damage by furbearers in all districts except the West Central district. Predation of dogs or cats by furbearers was reported among the most prevalent types of damage by furbearers in the Northwest, West Central, and Southwest district. Flooding or pond drain tube plugging by beavers was reported among the least prevalent types of damage by furbearers in the all districts except the Northeast district.

Table 5. Percent of Kansas land operators experiencing particular types of damage by furbearers. Estimates are displayed statewide and by KAS district.

	Northwest	West Central	Southwest	North Central	Central	South Central	Northeast	East Central	Southeast	Statewide
Crop damage by raccoons	54.5%	66.7%	33.3%	50.0%	45.2%	38.5%	58.8%	61.4%	32.2%	47.7%
Crop damage by other furbearers	27.8%	25.0%	25.0%	22.2%	28.3%	18.8%	42.9%	26.7%	22.2%	26.3%
Tree damage by beavers	0%	8.3%	16.0%	32.7%	26.2%	40.9%	72.2%	46.4%	51.7%	39.7%
Flooding or pond drain tube plugging by beavers	5.0%	8.3%	4.2%	9.3%	12.7%	18.5%	39.2%	16.4%	18.5%	16.8%
Pond dam or creek bank damage by beavers	0%	8.3%	8.3%	14.8%	11.3%	32.3%	56.9%	32.4%	42.4%	27.8%
Livestock predation by coyotes	36.8%	30.8%	34.6%	40.7%	49.2%	27.7%	38.5%	36.1%	38.2%	37.7%
Poultry predation by furbearers	21.1%	23.1%	12.0%	20.4%	30.6%	23.1%	26.0%	25.0%	20.0%	23.3%
Digging holes by badgers, skunks, or coyotes	66.4%	100%	88.9%	94.5%	86.6%	81.2%	74.5%	81.1%	81.3%	84.1%
Damage to stored grain by raccoons	31.6%	16.7%	20.0%	37.3%	43.8%	35.4%	33.3%	35.9%	35.7%	35.1%
Farm building structure damage by furbearers	45.0%	16.7%	25.0%	35.7%	39.1%	28.1%	19.6%	23.4%	39.7%	31.0%
Predation of dogs or cats by furbearers	65.0%	50.0%	44.4%	46.3%	45.5%	35.5%	21.6%	41.7%	37.5%	40.4%
Loss of upland wild birds to furbearers	61.1%	40.0%	65.4%	67.3%	60.3%	59.3%	60.6%	52.3%	64.4%	61.3%
Disturbance of garbage/trash by furbearers	35.3%	41.7%	22.7%	34.6%	35.6%	25.0%	42.6%	23.6%	40.0%	33.0%

Respondents who indicated they experienced a particular type of damage by furbearers were asked to report the estimated dollar value of loss attributable to each type of damage. Outlier values from respondents were excluded if their z -score exceeded 3 in absolute value. The types of damage with the greatest mean dollar value of loss were flooding or pond drain tube plugging by beavers, pond dam or creek bank damage by beavers, and livestock predation by coyotes. Interestingly, flooding or pond drain tube plugging was among the least prevalent types of damage reported by Kansas land operators. Pond dam or creek bank damage by beavers and livestock predation by coyotes also were types of damage with relatively low prevalence rates statewide, although livestock predation by coyotes was one of the most prevalent types of damage reported by land operators from the Central KAS district. The types of damage with the least mean dollar value of loss were predation of dogs or cats by furbearers, damage to stored grain by raccoons, and poultry predation by furbearers. Poultry predation by furbearers also was among the least prevalent types of damage reported by Kansas land operators; however, predation of dogs or cats by furbearers was among the most prevalent types of damage reported by respondents from the Northwest, West Central, and Southwest KAS districts.

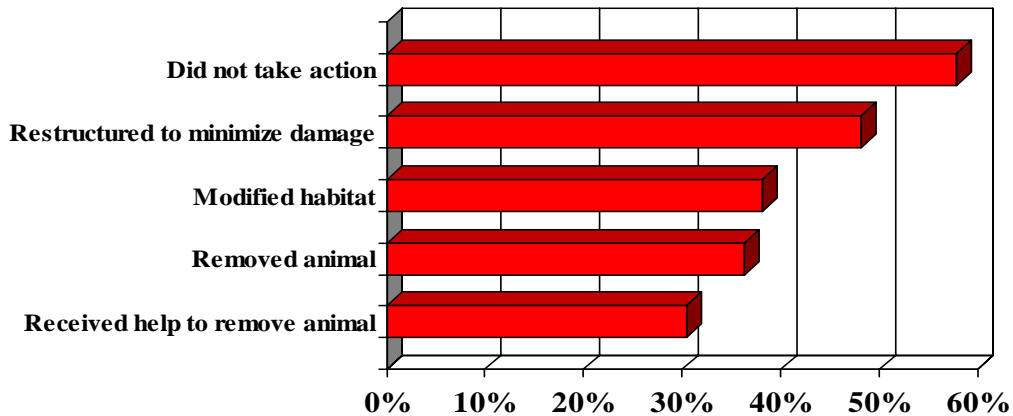
It is important to note that 81.2% of Kansas land operators who reported that beavers are present on their land also reported tree damage by beavers. Similarly, 54.5% of Kansas land operators who reported that beavers are present on their land also reported pond dam or creek bank damage by beavers. Over 40% of land operators who reported that coyotes were present on their land also reported predation of dogs or cats by furbearers. Almost 40% of Kansas land operators who reported that coyotes were present on their land also reported livestock predation by coyotes. In addition, the mean head of cattle, poultry, and hogs were greater for land operators that reported livestock predation by coyotes than for land operators that did not report livestock predation by coyotes. Almost half of Kansas land operators who reported that raccoons were present on their land also reported crop damage by raccoons. Also, 36.3% of land operators who reported that raccoons were present on their land reported damage to stored grain by raccoons.

Table 6. Mean dollar value of loss attributable to damage by furbearers reported by Kansas land operators.
*Outlier values from respondents were excluded if their z -score exceeded 3 in absolute value.

Type of damage	Mean	Max value	N	Standard deviation
Crop damage by raccoons	\$345.37	\$1,500.00	95	\$330.22
Crop damage by other furbearers	\$557.84	\$5,000.00	44	\$1,041.62
Tree damage by beavers	\$695.09	\$5,000.00	53	\$989.46
Flooding or pond drain tube plugging by beavers	\$1,363.26	\$7,500.00	19	\$2,103.22
Pond dam or creek bank damage by beavers	\$489.47	\$1,000.00	19	\$323.86
Livestock predation by coyotes	\$922.89	\$5,000.00	71	\$876.81
Poultry predation by furbearers	\$231.79	\$6,000.00	53	\$820.52
Digging holes by badgers, skunks, or coyotes	\$331.26	\$1,500.00	90	\$406.93
Damage to stored grain by raccoons	\$261.69	\$1,000.00	48	\$270.14
Farm building structure damage by furbearers	\$285.50	\$2,000.00	48	\$375.13
Predation of dogs or cats by furbearers	\$105.12	\$500.00	28	\$106.29

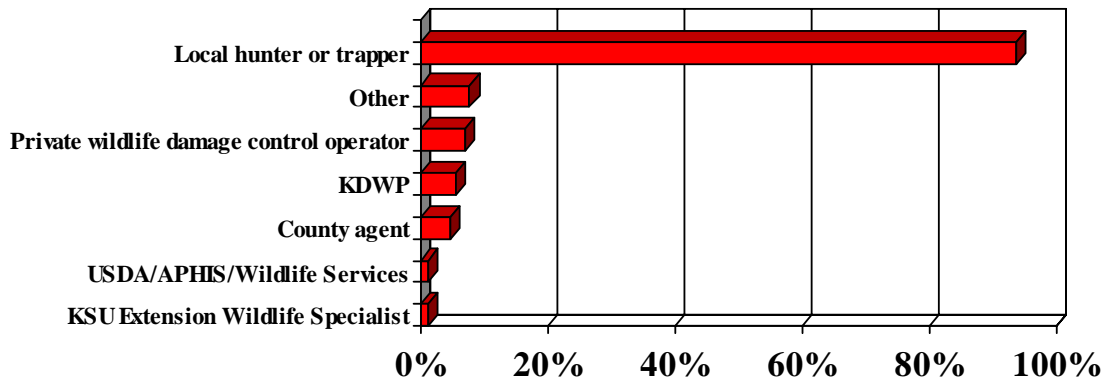
Respondents who experienced damage by furbearers were presented with five courses of action to minimize the damage caused by furbearers and were asked if they engaged in any of these actions. More than half (57.8%) of Kansas land operators who reported experiencing damage by furbearers indicated that they tolerated the damage without taking action. The least common action that land operators who reported experiencing damage by furbearers engaged in was to receive help in removing offending animals (30.4%).

Figure 18. Percent of Kansas land operators participating in action in response to furbearer damage.



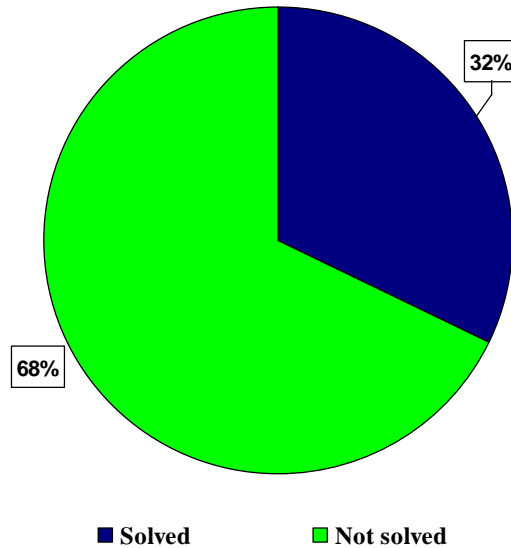
Respondents who reported receiving help to remove offending animals were asked to indicate who they received assistance from in removing offending animals. The vast majority (93.6%) indicated that they used the services of a local hunter or trapper to remove the offending animals. Few respondents indicated using official agency personnel to assist in resolving the problem.

Figure 19. Percent of Kansas land operators indicating particular sources of assistance to aid in reducing furbearer populations.



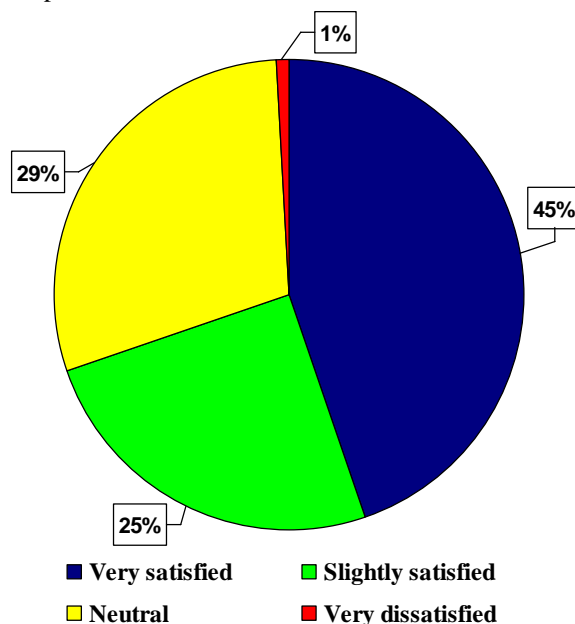
Respondents who reported receiving help to remove offending animals were asked if the problem was solved. About one-third of respondents indicated that the problem was solved while two-thirds indicated that the problem was not solved.

Figure 20. Extent to which furbearer damage was resolved among Kansas land operators receiving damage control assistance.



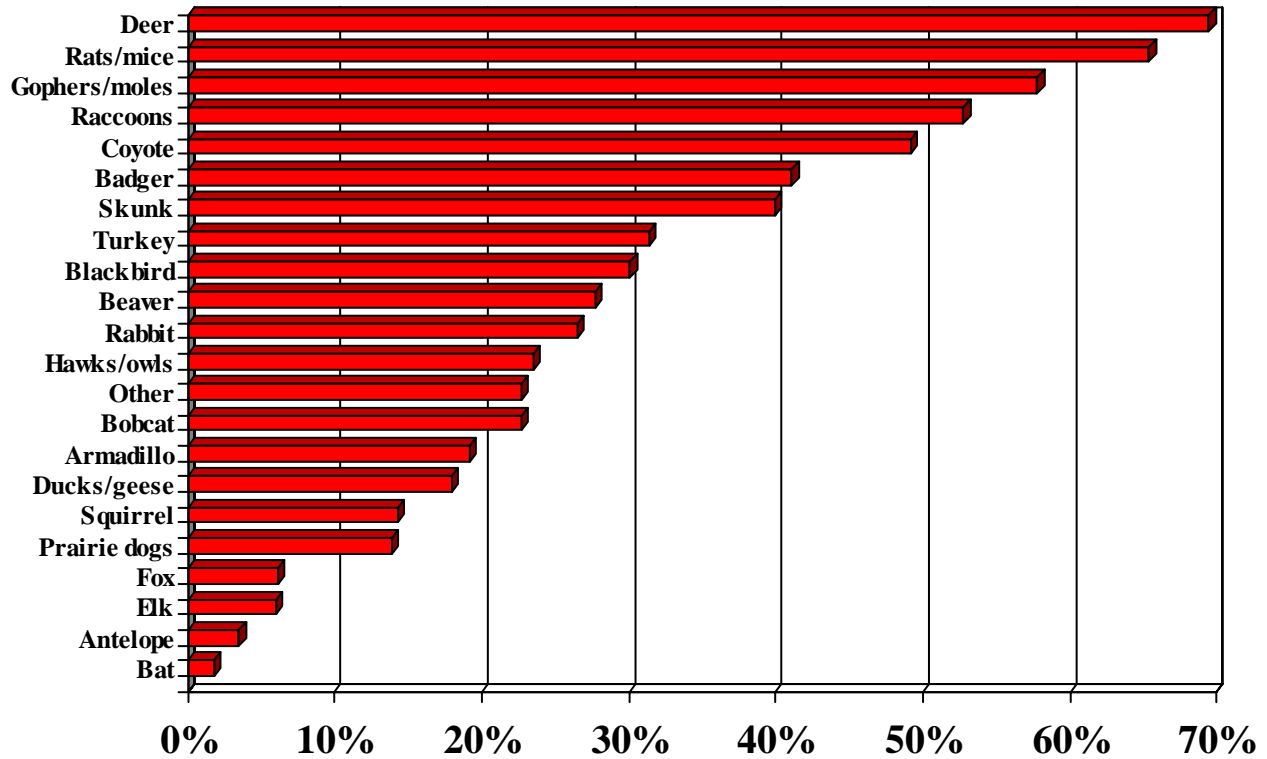
Respondents who reported receiving help to remove offending animals were asked if they were satisfied with the assistance they received. Almost half (44.8%) indicated that they were very satisfied with the assistance they received while 25.0% and 29.3% indicated that they were slightly satisfied or neutral respectively. Only 0.9% indicated that they were very dissatisfied with the assistance they received.

Figure 21. Satisfaction of Kansas land operators in the assistance they received to reduce furbearer problems.



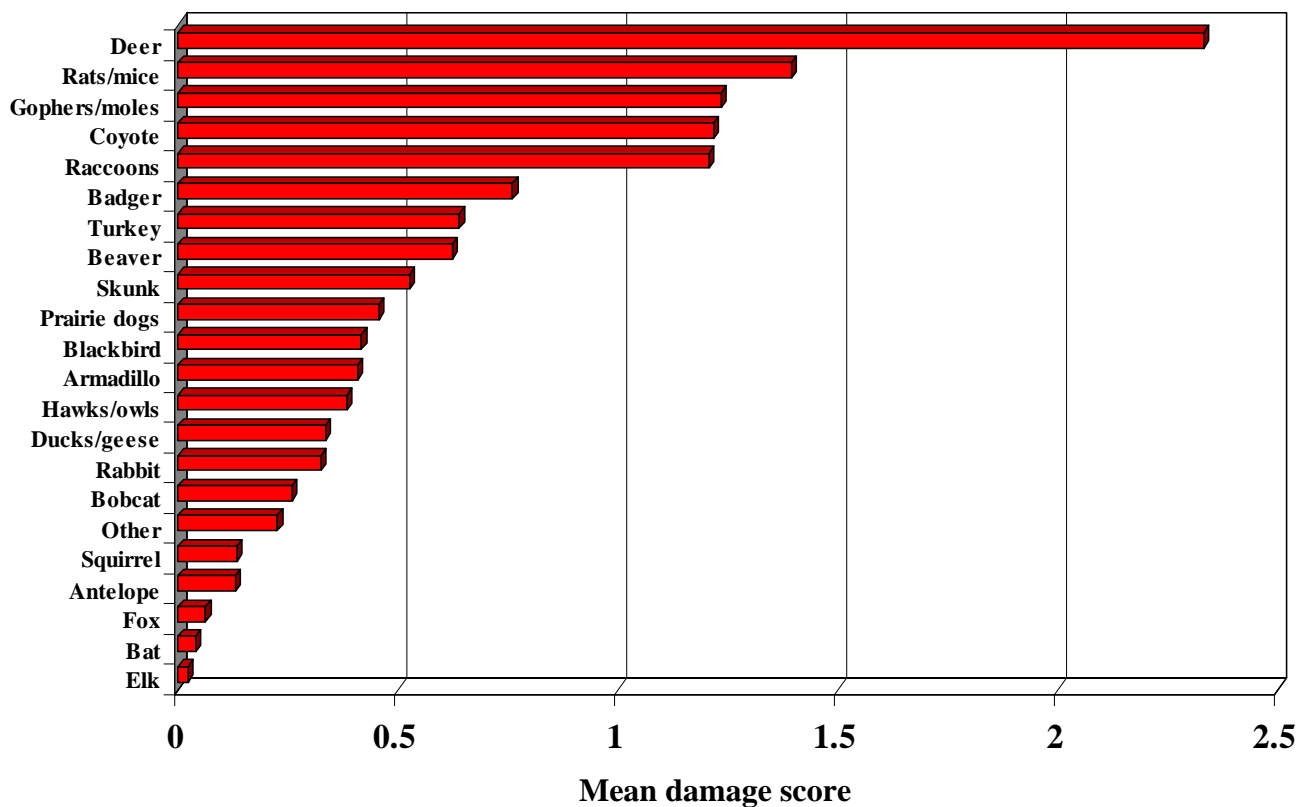
Respondents were provided with 21 species of mammals and birds in Kansas and were asked if they experienced damage by these species. The species reported causing damage most frequently by Kansas land operators were deer (69.5%), rats and mice (65.4%), and gophers and moles (57.8%). The species reported least frequently to cause damage were elk (0.6%), bat (1.8%), and antelope (3.5%).

Figure 22. Percent of Kansas land operators reporting damage by particular species.



Respondents were asked to identify which species were the most problematic, second most problematic, third most problematic, fourth most problematic, and fifth most problematic for their operation. A ranked score was applied to each category ranging from 5 for species identified as the most problematic and 1 for species identified as the fifth most problematic. The frequency of a species mention within each category (first to fifth most problematic) was multiplied by its ranked score for that category. The product of these calculations within species categories were summed for a total species score, which was then divided by the total number of responses ($n = 881$). This results in a mean damage score for each species, ranging from a possible low score of 0 to a high of 5.0. Figure 26 shows that deer were identified by Kansas land operators as being the most problematic followed by rats/mice, gophers/moles, coyote, and raccoons. Interestingly, these species were also among the five species most frequently reported by Kansas land operators to cause damage. Only two furbearer species (coyote and raccoon) identified by Kansas land operators among the five most problematic species while five furbearer species (coyote, raccoon, badger, beaver, and skunk) were identified among the ten most problematic species.

Figure 23. Relative importance of damage by various species of wildlife as indicated by Kansas land operators.



Appendix 1. Scientific names of species used in report.

Common name	Scientific name
Antelope	<i>Antilocapra americana</i>
Badger	<i>Taxidea taxus</i>
Bat	Order Chiroptera
Beaver	<i>Castor canadensis</i>
Blackbird	Family Icteridae
Bobcat	<i>Lynx rufus</i>
Coyote	<i>Canis latrans</i>
Deer	<i>Odocoileus spp.</i>
Ducks/Geese	Order Anseriformes
Elk	<i>Cervus elaphus</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Red fox	<i>Vulpes vulpes</i>
Swift fox	<i>Vulpes velox</i>
Gophers	Family Geomyidae
Hawks	Order Falconiformes
Mink	<i>Mustela vison</i>
Moles	Family Talpidae
Muskrat	<i>Ondatra zibethicus</i>
Opossum	<i>Didelphis virginiana</i>
Owls	Order Strigiformes
Prairie dogs	<i>Cynomys ludovicianus</i>
Rabbit	Family Leporidae
Raccoons	<i>Procyon lotor</i>
Rats/mice	Family Muridae
River otter	<i>Lutra canadensis</i>
Striped skunk	<i>Mephitis mephitis</i>
Spotted skunk	<i>Spilogale putorius</i>
Squirrel	Family Sciuridae
Turkey	<i>Meleagris gallopavo</i>
Weasel	<i>Mustela nivalis</i>
Alfalfa	<i>Medicago sativa</i>
Corn	<i>Zea mays</i>
Milo	<i>Sorghum bicolor</i>
Soybean	<i>Glycine max</i>
Wheat	<i>Triticum aestivum</i>
Forage sorghum	<i>Sorghum bicolor</i>

Appendix 2. Respondents by County in Kansas

County	N	Percent
Allen	9	0.9
Anderson	7	0.7
Atchison	9	0.9
Barber	10	1.0
Barton	15	1.4
Bourbon	14	1.3
Brown	12	1.1
Butler	14	1.3
Chase	7	0.7
Chautauqua	5	0.5
Cherokee	13	1.2
Cheyenne	5	0.5
Clark	6	0.6
Clay	11	1.0
Cloud	8	0.8
Coffey	9	0.9
Comanche	5	0.5
Cowley	17	1.6
Crawford	6	0.6
Decatur	4	0.4
Dickinson	22	2.1
Doniphan	13	1.2
Douglas	13	1.2
Edwards	8	0.8
Elk	6	0.6
Ellis	12	1.1
Ellsworth	7	0.7
Finney	7	0.7
Ford	11	1.0
Franklin	17	1.6
Geary	4	0.4
Gove	7	0.7
Graham	6	0.6
Grant	5	0.5
Gray	6	0.6
Greeley	4	0.4
Greenwood	9	0.9
Hamilton	4	0.4
Harper	5	0.5
Harvey	13	1.2
Haskell	3	0.3
Hodgeman	6	0.5
Jackson	17	1.6
Jefferson	17	1.6
Jewell	15	1.4
Johnson	10	1.0
Kearney	5	0.5
Kingman	13	1.2
Kiowa	7	0.7
Labette	21	2.0
Lane	3	0.3
Leavenworth	13	1.2
Lincoln	11	1.0

County	N	Percent
Linn	8	0.8
Logan	5	0.5
Lyon	16	1.5
Marion	17	1.6
Marshall	25	2.4
McPherson	18	1.7
Meade	7	0.7
Miami	23	2.2
Mitchell	9	0.9
Montgomery	8	0.8
Morris	10	1.0
Morton	3	0.3
Nemaha	17	1.6
Neosho	10	1.0
Ness	9	0.9
Norton	9	0.9
Osage	21	2.0
Osborne	9	0.9
Ottawa	9	0.9
Pawnee	8	0.8
Phillips	16	1.5
Pottawatomie	15	1.4
Pratt	13	1.2
Rawlins	14	1.3
Reno	32	3.0
Republic	10	1.0
Rice	6	0.6
Riley	10	1.0
Rooks	15	1.4
Rush	6	0.6
Russell	16	1.5
Saline	10	1.0
Scott	4	0.4
Sedgwick	21	2.0
Seward	2	0.2
Shawnee	15	1.4
Sheridan	4	0.4
Sherman	8	0.8
Smith	9	0.9
Stafford	14	1.3
Stanton	1	0.1
Stevens	3	0.3
Sumner	12	1.1
Thomas	5	0.5
Trego	4	0.4
Wabaunsee	10	1.0
Wallace	7	0.7
Washington	12	1.1
Wilson	1	0.1
Woodson	8	0.8
Wichita	4	0.4
Wyandotte	0	0

Appendix 3. Sample validation.

The sample respondents were compared with 2005 KAS census information to ensure a similar representation of respondents from associated KAS districts. A confidence interval of $\pm 2.96\%$ was calculated with a 95% confidence level. Survey response by district varied no more than $\pm 2.96\%$ from the relative distribution of operators by district in KAS census records.

District	Sample		KAS	
	N	Percent	N	Percent
Northwest	55	5.2	3,500	5.4
West Central	45	4.3	3,300	5.1
Southwest	68	6.4	5,300	8.2
North Central	123	11.6	6,200	9.6
Central	140	13.2	8,000	12.4
South Central	162	15.3	9,200	14.3
Northeast	148	14.0	8,400	13.0
East Central	171	16.2	10,400	16.1
Southeast	145	13.7	10,200	15.8
Statewide	1090	100	64,500	100

At a KAS district level operation size in the survey sample was compared to 2005 KAS census data. The mean number of acres in the KAS census is lower than the lower bound of the confidence interval around the mean in the survey sample at a 95% confidence level for the following districts: Southwest, South Central, and Northeast. Because the item measuring total dollar value of loss due to furbearers was not significantly correlated with total acres ($r = 0.356$, $p = 0.088$), weighting of the sample by mean operation size within districts was not performed. It is also important to note that trends in average operation size for many years have been moving upward, so it is not surprising to see that without exception, the survey sample mean operations sizes by district are higher than the mean operation size in the KAS census data for 2005.

District	KAS mean acres	Sample mean acres	95% Confidence interval	
			Lower bound	Upper bound
Northwest	1,314.29	1,700.63	1,287.26	2,114.00
West Central	1,393.94	1,666.80	1,067.92	2,265.67
Southwest	1,320.75	2,112.98	1,573.10	2,652.87
North Central	854.84	1,026.97	799.50	1,254.44
Central	687.50	828.60	666.35	990.85
South Central	739.13	1,290.63	974.23	1,607.04
Northeast	392.86	595.31	447.90	742.71
East Central	432.69	732.78	360.62	1,104.95
Southeast	549.02	713.57	500.79	926.35

Appendix 4. Survey questionnaire.

Kansas Landowner Opinion Survey on Furbearers

We appreciate your help in monitoring the status of furbearer populations in Kansas. ***Furbearers in Kansas include badger, beaver, bobcat, coyote, gray fox, red fox, swift fox, mink, muskrat, opossum, river otter, raccoon, striped skunk, spotted skunk, and weasel.*** Your cooperation will help us measure changes in furbearer population levels, severity and extent of damages caused by furbearer species, and your opinion toward furbearer management in Kansas. Please complete the questionnaire regardless of the number of furbearers you have observed on your property. When the questions refer to your land or your farm or ranch, it is referring to all the rural land you own or operate in Kansas. Please take a few minutes to respond to the survey and return it in the self-addressed postage paid envelope. Your help with this survey is greatly appreciated.

FURBEARER POPULATIONS AND HARVEST IN YOUR AREA

1. Please indicate whether you think the following populations have increased, remained the same, or decreased on your land over the past 5 years. (Please circle the number that corresponds to your answer.)

	<u>Increased</u>	<u>Remained the Same</u>	<u>Decreased</u>	<u>Don't Know</u>
a. Coyote.....	1	2	3	8
b. Beaver.....	1	2	3	8
c. Raccoon.....	1	2	3	8

2. How do you feel about having furbearers on or around your property? (Circle one answer.)

- 1 I enjoy having furbearers around.
- 2 I enjoy furbearers, but some cause problems at times.
- 3 I have no particular feelings about furbearers.
- 4 I generally regard furbearers as a nuisance.
- 8 Don't know.

3. To the best of your knowledge, do you have these furbearer species on your property?

	<u>Yes</u>	<u>No</u>	<u>Don't Know</u>
a. Badger	1	2	8
b. Beaver.....	1	2	8
c. Bobcat.....	1	2	8
d. Coyote.....	1	2	8
e. Gray Fox	1	2	8
f. Red Fox	1	2	8
g. Swift Fox	1	2	8
h. Mink	1	2	8
i. Muskrat	1	2	8
j. Raccoon.....	1	2	8
k. River Otter.....	1	2	8
l. Striped Skunk.....	1	2	8
m. Spotted Skunk.....	1	2	8
n. Weasel	1	2	8

4. Does anyone hunt furbearers on your property? (Circle one answer.)

- 1 Yes (If yes, skip to question 5 now)
- 2 No

4a. Which of the following factors is the single most important reason that no one hunts furbearers on your land? (Circle one answer.)

- 1 No one has asked to hunt furbearers on my property.
- 2 I don't allow furbearer hunting because of potential conflict with livestock or pets.
- 3 I don't allow furbearer hunting because it may conflict with hunting of other species on my property.
- 4 My land is leased to people who hunt other species.
- 5 I have experienced problems with hunters, so now I don't allow furbearer hunting.
- 6 I'm opposed to hunting of furbearers.
- 7 I don't allow land access
- 8 Other (specify: _____)

5. Does anyone trap furbearers on your property? (Circle one answer.)

- 1 Yes (If yes, skip to question 6 now.)
- 2 No

5a. Which of the following factors is the single most important reason that no one traps furbearers on your land? (Circle one answer.)

- 1 No one has asked to trap furbearers on my property.
- 2 I don't allow trapping because of potential conflict with livestock or pets.
- 3 I don't allow trapping because it may conflict with hunting of other species on my property.
- 4 My land is leased to hunters.
- 5 I have experienced problems with trappers, so now I don't allow trapping.
- 6 I'm opposed to trapping of furbearers.
- 7 I don't allow land access.
- 8 Other (specify: _____)

6. Do you or members of your immediate family: (Please circle the number that corresponds to each answer.)

	<u>Yes</u>	<u>No</u>
a. Trap upland furbearers (for example: coyote, bobcat, fox, etc.)	1	2
b. Trap aquatic furbearers (for example: beaver, muskrat, mink, etc.)	1	2
c. Run or hunt furbearers with hounds.....	1	2
d. Hunt furbearers without the use of hounds.....	1	2
e. Shoot coyotes whenever the opportunity arises	1	2

7. Please tell us how much you agree or disagree with the following statements. (Circle one number for each.)

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
a. One of my biggest concerns about furbearers is their impact on game birds like quail & pheasant.	1	2	3	4	5
b. I have furbearers on my land I would like to have removed, but I don't know anyone locally who wants to trap or hunt them.	1	2	3	4	5
c. Allowing a local hunter or trapper access to my land is the main way I control problem furbearers.....	1	2	3	4	5
d. I am supportive of trapping as a way to control problem furbearers.....	1	2	3	4	5
e. I am supportive of hunting as a way to control problem furbearers.....	1	2	3	4	5

FURBEARER DAMAGE IN YOUR AREA

8. In 2006 did you experience any damage from furbearers (does not include deer)?



- 1 Yes
- 2 No (If no, skip this section and go to question 16 now)

9. How would you describe the overall damage caused by furbearers on your property within the last 12 months?

- 1 Light
- 2 Moderate
- 3 Substantial
- 4 Severe
- 8 Don't know

10. Please indicate whether you experienced the following types of damage from furbearers on your land in 2006, and if you did, the estimated dollar value of the loss.

	<u>Yes</u>	<u>No</u>	<u>Estimated \$ Amount of Loss</u>
a. Crop damage by raccoons.....	1	2	_____
b. Crop damage by other furbearers.....	1	2	_____
c. Tree damage by beavers.....	1	2	_____
d. Flooding or pond drain tube plugging by beavers.....	1	2	_____
e. Pond dam or creek bank damage (burrowing) by beavers.....	1	2	_____
f. Livestock predation by coyotes.....	1	2	_____
g. Poultry predation by furbearers.....	1	2	_____
h. Digging holes by badgers, skunks or coyotes.....	1	2	_____
i. Damage to stored grain by raccoons.....	1	2	_____
j. Farm building structure damage by furbearers.....	1	2	_____
k. Predation of dogs or cats by furbearers.....	1	2	_____
l. Loss of wild upland birds to furbearers.....	1	2	n/a
m. Disturbance of garbage/trash by raccoons.....	1	2	n/a
n. Specify other damage not above listed and the furbearer species involved:			
1. _____			_____
2. _____			_____
3. _____			_____

11. From question number 10 above, please list the letters (a through m) of the 3 types of damage most problematic for you.

- _____ Most problematic
- _____ Second most problematic
- _____ Third most problematic

12. For each course of action listed below, please indicate if you used it to minimize the damage caused by furbearers to your operation. (Please circle the number that corresponds to your answer.)

	<u>Yes</u>	<u>No</u>
a. I accepted or tolerated the damage and did not take any action	1	2
b. I altered the situation to reduce or minimize the potential damage (for example: beaver proof structures, etc.)	1	2
c. I removed the offending animal(s) (for example: removed brush piles, etc.)	1	2
d. I eliminated or modified the habitat where the offending animal(s) lived (for example: penned up chickens, closed or filled holes under buildings, modified grain storage, etc.)	1	2
e. Someone helped to remove the offending animal(s)	1	2



13. If someone else helped you remove the animals, please indicate if you received help from any of the following entities or individuals. (Please circle the number that corresponds to your answer.)

	<u>Yes</u>	<u>No</u>
a. Kansas Department of Wildlife and Parks.....	1	2
b. K.S.U. Extension Wildlife Specialist.....	1	2
c. A local hunter or trapper.....	1	2
d. USDA/ APHIS/ Wildlife Services.....	1	2
e. Private wildlife damage control operator.....	1	2
f. County Agent.....	1	2
g. Other (specify: _____).....	1	2

14. In total, how much did you pay for this work? (Please circle the number that corresponds to your answer.)

- 1 Work was provided for free
- 2 Less than \$25
- 3 \$25-50
- 4 \$51-100
- 5 More than \$100

15. To what degree was your problem solved? (Please circle the number that corresponds to your answer.)

- 1 Not Solved
- 2 Solved

15a. How satisfied were you with the assistance your received?

- 1 Very satisfied
- 2 Slightly satisfied
- 3 Neutral
- 4 Slightly dissatisfied
- 5 Very dissatisfied

To better understand your responses to the previous questions we would like to get some general information on descriptive characteristics of your farming/ranching operation.

Descriptive Characteristics

16. In which county is most of your farm or ranch located? _____
17. Do you live on this farm/ranch? (Circle your answer.)
- 1 Yes
 - 2 No
18. How many acres of land did you own or operate in 2006? _____ acres
19. How many years have you personally been working on this agricultural operation? _____ years
20. Are you the primary decision-maker for this agricultural operation? (Circle your answer.)
- 1 Yes
 - 2 No
21. Does anyone else share in the decision-making for the agricultural operation? (Circle your answer.)
- 1 Yes
 - 2 No
22. Approximately how many acres of your farm or ranch were in the following types in 2006:
- a. Alfalfa _____ acres
 - b. Corn _____ acres
 - c. Milo _____ acres
 - d. Soybean _____ acres
 - b. Wheat _____ acres
 - c. Forage Sorghum _____ acres
 - d. Hay Pasture _____ acres
 - e. Rangeland _____ acres
 - f. Nursery _____ acres
 - g. Orchard _____ acres
 - h. Woodlands _____ acres
 - i. Garden Crop _____ acres
 - j. Ponds/Lake _____ acres
 - k. Any Other _____ acres (List other: _____)
23. If you own or manage livestock, approximately how many head of each of the following species did you own in 2006?
- a. Cattle _____ head
 - b. Poultry _____ head
 - c. Hogs _____ head
 - d. Horses _____ head
 - e. Sheep _____ head
 - f. Other _____ head (List other: _____)
24. Approximately what percentage of your total household income in 2006 came from the sale of agricultural products? _____ %

25. Please indicate for each species if you experienced damage.

	<u>Yes</u>	<u>No</u>	<u>Don't Know</u>
a. Antelope	1	2	8
b. Badger	1	2	8
c. Bat	1	2	8
d. Beaver	1	2	8
e. Blackbird	1	2	8
f. Bobcat	1	2	8
g. Coyote	1	2	8
h. Deer	1	2	8
i. Ducks/Geese	1	2	8
j. Fox	1	2	8
k. Gophers/Mole	1	2	8
l. Hawks/Owls	1	2	8
m. Prairie Dogs	1	2	8
n. Rabbit	1	2	8
o. Raccoons	1	2	8
p. Rats/Mice	1	2	8
q. Skunk	1	2	8
r. Squirrel	1	2	8
s. Turkey	1	2	8
t. Elk	1	2	8
u. Armadillo	1	2	8
v. Other (_____)	1	2	8

26. From question number 25 above, please list the letters (a through v) of the 5 species most problematic for you.

- _____ Most problematic
- _____ Second most problematic
- _____ Third most problematic
- _____ Fourth most problematic
- _____ Fifth most problematic

Thank you for completing the Kansas Landowner Opinion Survey on Furbearers. Please place the questionnaire in the postage paid pre-addressed envelope and drop it in the mail. Your cooperation and input is greatly appreciated.