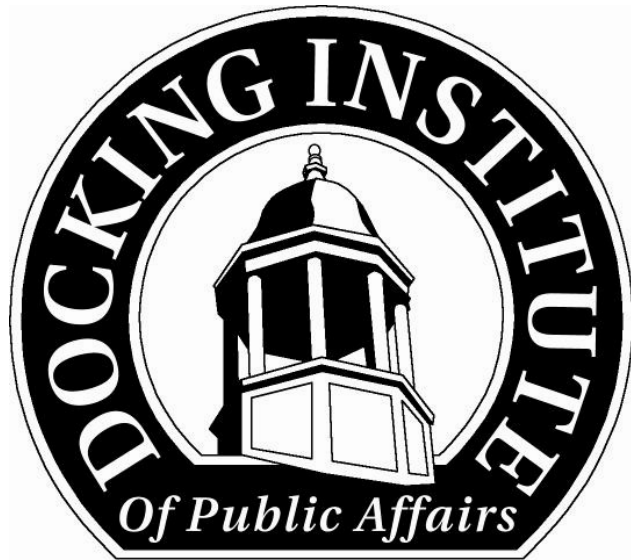


Public Opinion Survey of Deer Management in Kansas

**Fort Hays State University
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January 2007



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The staff of the **Docking Institute of Public Affairs** and its
University Center for Survey Research are dedicated to
serving the people of Kansas and surrounding states.

Please do not hesitate to contact our staff with questions, comments or for assistance.

Public Opinion Survey of Deer Management in Kansas

Report by

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January 2007

This research is conducted on behalf of the Kansas Department of Wildlife and Parks. All interpretations and conclusions herein are those of the authors.

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Executive Summary

The Docking Institute of Public Affairs at Fort Hays State University conducted a telephone survey of a random sample of Kansas residents. Between 30 November 2006 through 8 January 2007, 1116 contacts were made with 629 successfully completed surveys. This report provides responses of the non-hunting general public, which made up 517 of the original 629, resulting in a cooperation rate of 56%.

The Docking Institute's independent analysis of survey data finds that:

- Half of the respondents reported seeing deer in their neighborhood or area near their house. The majority of the general public (61%) wants the deer population in their neighborhood or near around their house to remain the same. Less than one-quarter (22%) want fewer deer in their neighborhood. The majority of the general public (54%) also reports that the deer population in their neighborhood or area near their house has remained the same over the last three years. Forty percent of the general public enjoys having the deer in their neighborhood or area near their house.
- Of those who reported seeing deer in their neighborhood or area near their house, almost half (46.1%) reported that they would like the same amount, while 45.3% reported that they would like fewer deer. One-third of these respondents also claimed that the deer population in their neighborhood or area near their house has increased over the past three years and 44.5% indicated that the deer population has remained the same. Over half of these respondents indicated that they enjoy deer, while 29.3% reported that they did not have strong feelings for or against deer.
- Of those who reported not seeing deer in their neighborhood or area near their house, 75.0% reported that they would like the population to remain the same, and similarly, 63.5% reported that the deer population has remained the same over the past three years. Thirty percent of these respondents reported that they enjoy the deer, while 35.4 percent did not have strong feelings for or against deer. Almost 30% did not want deer nearby.
- Most respondents reported that they have seen deer while driving on Kansas roads and highways in the past year. Further, 64% of respondents perceive deer as an important part of the wildlife community in Kansas.
- Over 80% of respondents agreed or strongly agreed that deer are a major safety hazard on highways in Kansas, and almost half of respondents agreed or strongly agreed that deer cause severe or major damage to crops. Less than 20% of respondents agreed or strongly agreed that deer damage habitat for other wildlife, deer carry or spread diseases to livestock, deer carry or spread diseases to people, or that deer are more of a safety hazard in Kansas than other states.
- Over 75% of respondents agreed or strongly agreed that the grace and beauty of deer make them enjoyable to watch and photograph, that deer are an important part of the wildlife community and natural ecosystem in the area, and that people interested in deer for hunting or photography may pay landowners to use their land. To a lesser extent, over 60% of respondents agreed or strongly agreed that people benefit from the venison hunters share with others, that urban and non-resident deer hunters bring needed money to some rural communities, and that people associate deer with enjoyable times with their family and friends.
- Over 80% of respondents agreed or strongly agreed that KDWP should promote safe and ethical behavior by hunters, ensure that hunters maintain the deer herd at appropriate levels, and ensure that the deer population remains healthy and vigorous.

- More than 50% of respondents indicated that enforcing regulations to ensure equal opportunities to enjoy the deer resource and managing the activities of people to reduce the potential for disease in the deer population were very important issues regarding deer management. Moreover, over 80% of respondents felt that controlling the number of deer to the level people desire and improving habitat for deer were either very important or somewhat important.
- Most respondents seemed concerned about wildlife health issues, and particularly wildlife diseases, in Kansas. Over 80% of respondents either agreed or strongly agreed that the shipment of deer to reduce disease transmission and artificially feeding deer if it threatens to spread disease should be regulated.
- One-third of respondents indicated that KDWP relies too heavily on hunters to control deer populations. Of these respondents, over half either agreed or strongly agreed that deer populations should be allowed to grow or decline by the forces of nature. Alternatives that incorporate the use of tax money were less popular.
- Nearly 75% of respondents either agreed that Kansas resident hunters should be favored over out-of-state hunters during the allocation of deer hunting permits. Further, over 60% of respondents disagreed that deer permits should be allocated without preference to any hunter type.
- One-third of respondents reported spending their childhood years in an urban setting, while 43% grew up in a rural area or small town. Only 24% reported growing up on a farm or ranch. Seventy-five percent of respondents have close family or friends that hunt deer and almost 90% are not opposed to deer hunting. Almost half (44.1%) of respondents reported that they photograph deer or go deer watching, and nearly 90% reported that they did not feed deer. Over half of the respondents considered themselves to have a moderate interest in outdoor activities and one-third considered themselves a broad and active outdoor enthusiast.

Introduction

A growing constituency has become involved with natural resource issues and it is no longer appropriate to formulate management priorities and decisions concerning the interests from a limited sector of stakeholders. Although traditionally, hunters have formed the primary constituency regarding natural resource issues (particularly when related to game species), many of these issues now stimulate the interests of several stakeholder groups.

The objectives of this study are to:

- Categorize residents' perceptions of change in deer populations in the previous few years
- Assess residents' attitudes toward deer populations
- Assess residents' experiences with deer for their potential to cause damage or be a nuisance to people
- Determine residents' knowledge of deer hunting as a source of funds for natural resource conservation
- Assess residents' knowledge of public resource and private lands issues
- Determine residents' support of deer hunting and other deer population management techniques
- Determine residents' support for actions taken by KDWP to manage deer population levels
- Determine residents' general preference for various deer management proposals suggested by the agency Deer Task Force

Methods

Between 30 November 2006 and 8 January 2007, the Docking Institute of Public Affairs, Center for Survey Research conducted a telephone survey of 629 individuals in Kansas. The survey was conducted by using a Computer Aided Telephone Interviewing (CATI) system. The CATI system allows interviewers to code survey information into a computer database while the interviewer administers a questionnaire to a respondent. A total of 1116 individuals were contacted successfully and 629 agreed to complete the survey, resulting in a cooperation rate of 56%. Although 629 individuals were surveyed, the original purpose for this survey regarded the perceptions of deer management issues of a non-hunting general public in Kansas. Individuals who hunt ($n = 111$, 17.6%) were subsequently removed from the sampled population reducing the sample to 517. This report focuses entirely upon responses of non-hunters. The survey margin of error for entire group of non-hunter respondents ($N=517$) is 4.3% at a 95% confidence level, assuming no response bias.

The Docking Institute of Public Affairs and the Kansas Department of Wildlife and Parks (KDWP) agreed on 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 of Public Affairs to develop survey items that were technically correct and without bias. Question wording and the design of the survey are the property of the Docking Institute of Public Affairs and are not to be used for additional surveys unless written permission is granted by the Director of the Docking Institute of Public Affairs. A copy of the survey items is provided in Appendix 2.

Deer population issues within the neighborhood

Respondents were asked a series of questions regarding deer and the deer population located in their neighborhood or area near their residence. Almost half (49.5%) of respondents reported seeing deer in their neighborhood or in the area near their house while slightly over half (50.3%) do not. Because respondents were almost equally split, further analyses were performed to compare these two groups on the following page. Figure 1 shows that 60% of respondents would like the deer population to remain the same in their neighborhood or near their house. Twenty-two percent of respondents would like to have fewer deer in their neighborhood or near their house, and only six percent of respondents reported wanting to have more deer. Similarly, Figure 2 shows that 54% of respondents reported that the deer population has remained about the same during the past three years (2004-2006). Fifteen percent of respondents reported that the deer population increased in their neighborhood or near their house and 11% of respondents reported that the deer population decreased. Almost 20% of respondents reported that they did not know how the deer population fluctuated in the past three years. Respondents were provided with three statements and were asked which statement best describes how they feel about having deer in their neighborhood or near their house. Figure 3 indicates that 40% of respondents enjoy the deer, whereas almost 24% did not want deer nearby. Thirty-two percent of respondents did not have strong feelings for or against the deer.

Figure 1. Desired condition of deer population in respondent's neighborhood or area near house.

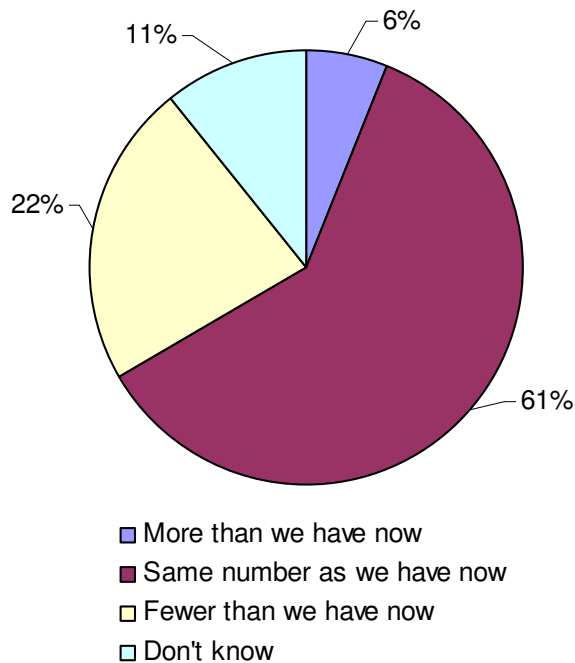


Figure 2. Perceptions of how deer populations have fluctuated in the past three years in respondent's neighborhood or area near house.

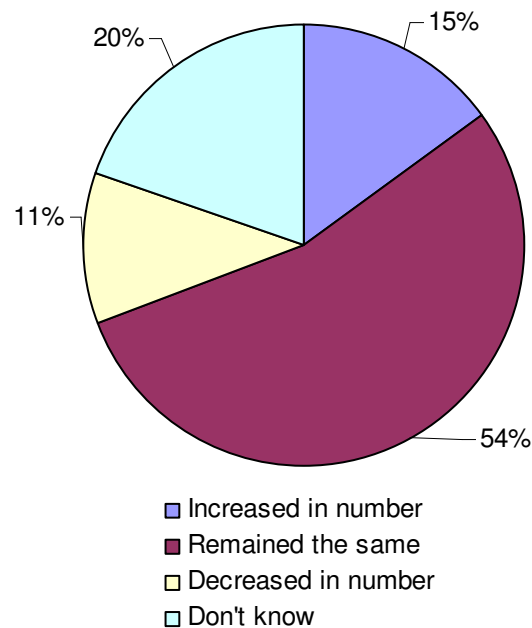
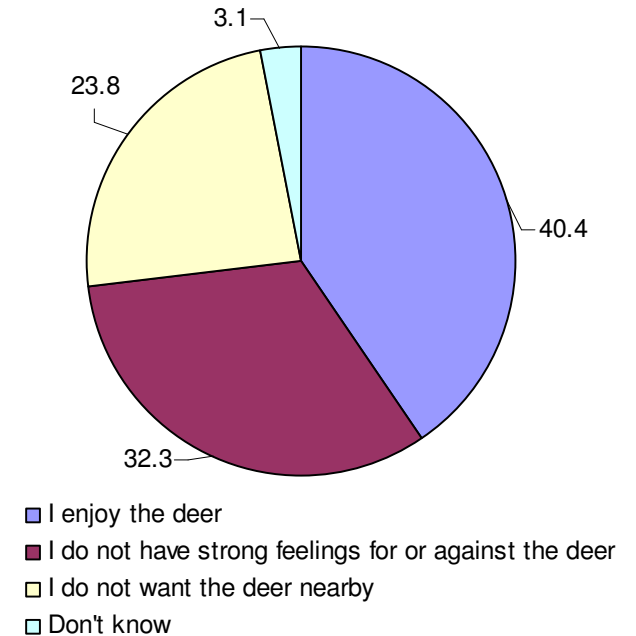


Figure 3. Categorical response to perceptions of deer in respondent's neighborhood or area near their house.



Several patterns emerged when the respondents were split according to their response to seeing deer in their neighborhood or area near their house. Only seven percent of respondents that reported seeing deer in their neighborhood want more deer in their neighborhood, whereas 46% and 45% wanted the same amount or fewer deer in their neighborhood, respectively. Of the respondents that reported not seeing deer in their neighborhood, almost 75% wanted the same amount of deer in their neighborhood, whereas only about five percent wanted more. Twenty percent did not know how many deer they wanted in their neighborhood.

Forty-four percent of respondents that reported seeing deer in their neighborhood indicate that during the last three years the deer population has remained the same and 30% of these respondents indicated that the deer population has increased. Almost 13% of these respondents indicated that the deer population has decreased. About 12% of these respondents did not know how the deer population has fluctuated during the past three years. Sixty-three percent of the respondents that reported not seeing deer in their neighborhood thought the deer population has remained the same during the past three years. Almost nine percent of respondents indicated that the deer population in their neighborhood has decreased, while 27% of respondents reported that they did not know how the deer population has fluctuated during the past three years.

Over 50% of respondents that reported seeing deer in their neighborhood or areas near their house indicated that they enjoy deer. Twenty-nine percent of these respondents that see deer in their neighborhood indicated that they did not have strong feeling for or against deer and about 19% did not want deer near their neighborhood. Of the respondents that have reported not seeing deer in their neighborhood or area near their house, 30% of respondents indicated that they enjoy deer and 35% did not have strong feelings for or against deer. Almost 29% of respondents that did not report seeing deer in their neighborhood or near their house did not want deer near their neighborhood.

Table 1. Cross-tabulation analysis of respondents reporting seeing and not seeing deer in their neighborhood or are near their house with responses to items regarding other aspects of the deer population in their neighborhood or area near their house.

| | | Do you see deer in your neighborhood or area near your house | |
|---|---------------------------|---|-----------|
| | | Yes | No |
| Would you like to have more, same or fewer deer in neighborhood or area near your house? | More | 7.4 | 4.6 |
| | Same | 46.1 | 75.0 |
| | Fewer | 45.3 | --- |
| | Don't know | 1.2 | 20.0 |
| During the past 3 years, has the deer population... | Increased | 30.5 | --- |
| | Remained the Same | 44.5 | 63.5 |
| | Decreased | 13.3 | 8.8 |
| | Don't know | 11.7 | 27.7 |
| Which statement best describes how you feel about deer in your neighborhood or near your house? | I enjoy deer | 50.8 | 30.0 |
| | No strong feelings | 29.3 | 35.4 |
| | I do not want deer nearby | 18.8 | 28.8 |
| | Don't know | 0.8 | 5.4 |

--- Those who reported not seeing deer in their neighborhood were not given this answer option.

Deer population issues throughout Kansas

Respondents were presented with two questions that relate to the status of deer and their perceptions of deer populations in the Kansas. First, respondents were asked if they have seen deer while driving on Kansas roads and highways in the past year. Figure 4 shows that 86% of respondents reported seeing deer while driving while 14% reported not seeing deer while driving in Kansas during the past year. Respondents were then presented with a series of statements about deer and were asked to identify the statement that best describes how they feel about the existence of deer populations in the state. Figure 5 indicates that 63% of respondents recognize deer as an important part of the wildlife community in Kansas. Twenty-nine percent of respondents indicated that they did not have strong feelings for or against deer in the state, while almost five percent of respondents reported that they did not want deer in the state.

Figure 4. Response to whether deer have been seen while driving on Kansas roads and highways in the past year.

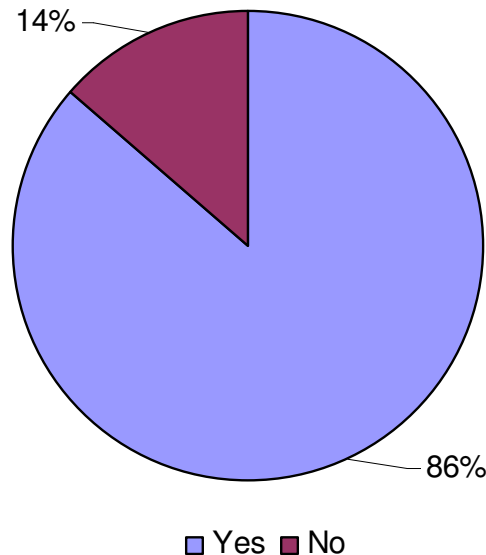
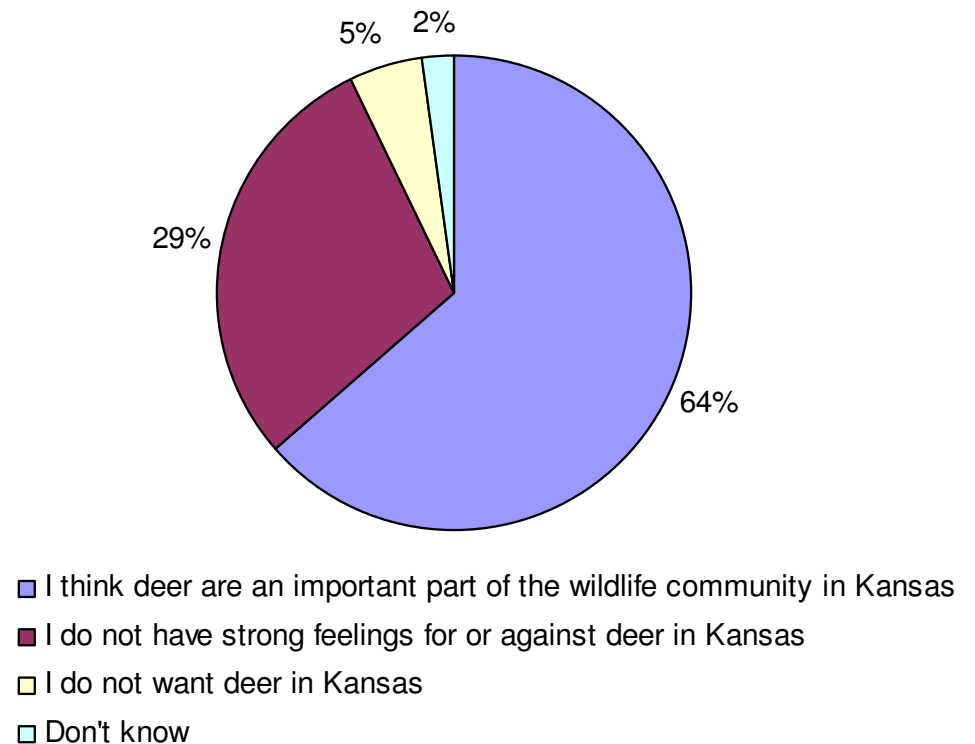
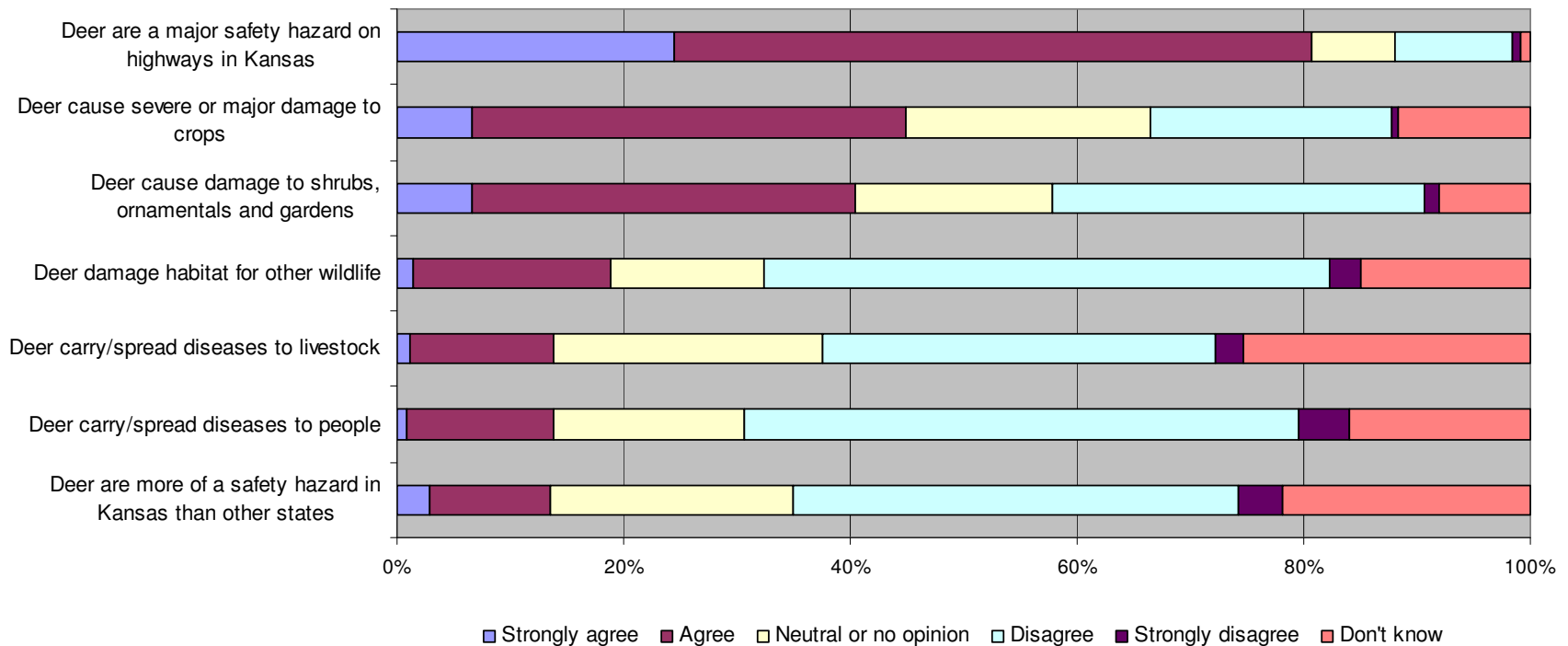


Figure 5. Categorical response to perceptions of deer in Kansas.



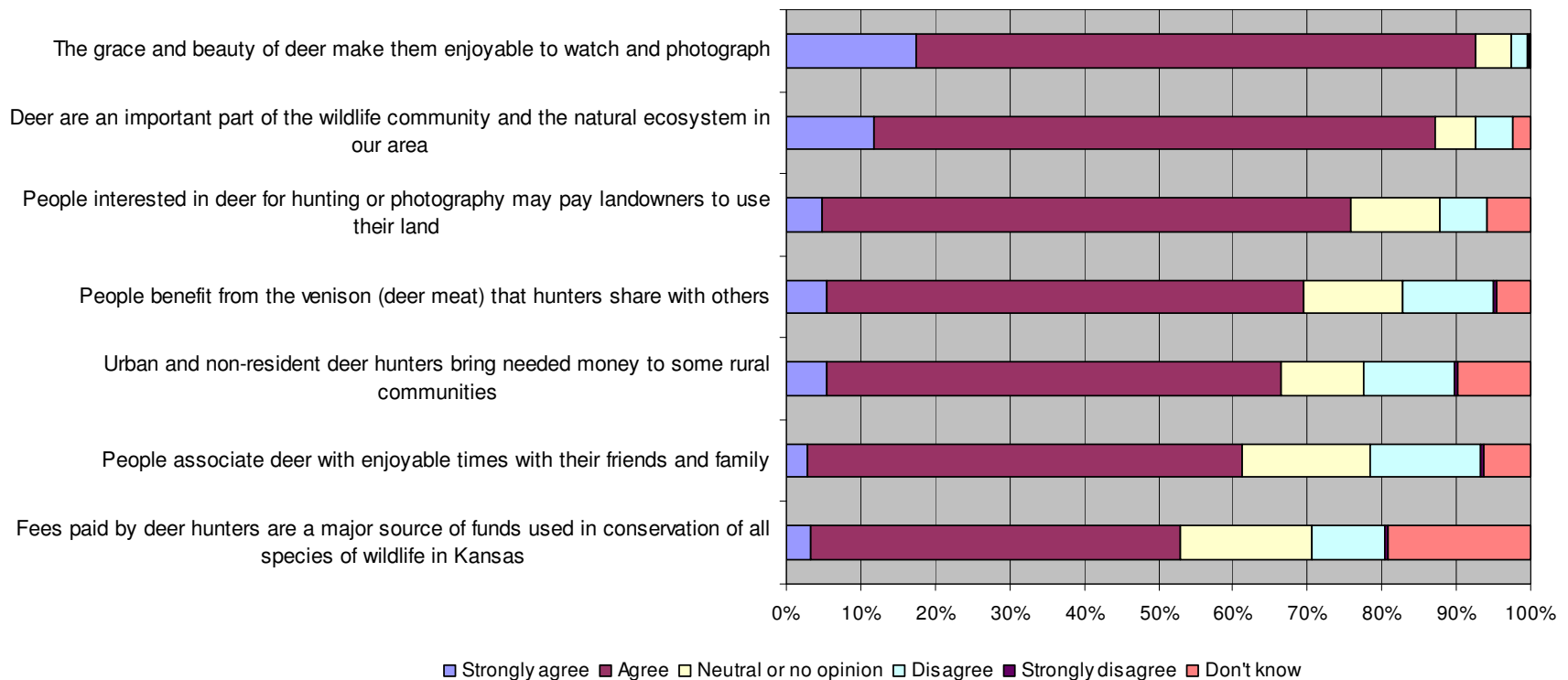
Respondents were presented with a series of statements regarding the detrimental aspects of deer and were asked if they agreed or disagreed with each statement. The majority of respondents either agreed (56.3%) or strongly agreed (24.4%) that deer are a major safety hazard on highways in Kansas. Only 10.4% of respondents disagreed and less than one percent strongly disagreed. Many respondents also either agreed (38.3%) or strongly agreed (6.6%) that deer cause severe or major damage to farmers crops. However, 21.3% disagreed and less than one percent strongly disagreed. About 22% responded neutrally. When asked if deer cause damage to shrubs, ornamentals and gardens, a similar number of respondents agreed (33.8%) as disagreed (32.9%). Few either strongly agreed (6.6%) or strongly disagreed (1.2%), and 17.4% responded neutrally. Almost half (49.7%) of respondents disagreed that deer damage habitat for other wildlife while 17.2% agreed. Almost 15% of respondents reported that they did not know if deer damage habitat that is essential for other species of wildlife. Respondents were variable when asked if deer carry or spread diseases to livestock. Although 34.6% disagreed, 23.8% responded neutrally and over a quarter (25.3%) reported that they did not know. Only 13.8% of responses were divided between strongly agree (1.2%) and agree (12.6%). Similarly, few agreed (13.0%) or strongly agreed (0.8%) that deer carry or spread diseases to people. Conversely, almost half (48.9%) of respondents disagreed while 16.8% responded neutrally. About 16% reported that they did not know. Relatively few respondents agreed (10.6%) or strongly agreed (2.9%) that deer were more of a safety hazard in Kansas than in most other states. Although 39.3% disagreed, 21.5% responded neutrally and 21.9% reported that they did not know.

Figure 6. Agreement in detrimental aspects of deer in Kansas.



Respondents were presented with a series of statements regarding the potential positive aspects of deer in Kansas and were asked if they agreed or disagreed with each statement. Over 50% of respondents either agreed or strongly agreed with every statement included in the series. However, it might be noted that the responses for agree were consistently more prevalent than those respondents who strongly agreed. Over ninety percent (92.5%) of respondents agreed (75.0%) or strongly agreed (17.4%) that deer are enjoyable to watch and photograph. Similarly, 87.0% of respondents either agreed (75.2%) or strongly agreed (11.8%) that deer are an important part of the wildlife community and natural ecosystem. It is important to note that no respondents strongly disagreed with this statement. Over three-quarters (75.8%) of respondents either agreed (71.0%) or strongly agreed (4.8%) that people interested in deer for hunting or photography may pay landowners to use their land. The majority of the remainder of respondents (12.0%) responded neutrally to this statement. Nearly 70% (69.4%) of respondent either agreed (64.0%) or strongly agreed (5.4%) that people benefit from venison that hunters share with others. This value might be exceptionally high when considering that respondent hunters were removed from the analysis. Twelve percent of respondents disagreed, and 13.3% responded neutrally about people benefiting from venison. Over 65% (66.5%) of respondents either agreed (61.1%) or strongly agreed (5.4%) that urban and non-resident deer hunters bring needed money to some rural communities. Although 11.0% responded neutrally, 12.2% disagreed with this statement. Over 60% (61.3%) of respondents either agreed (58.4 percent) or strongly agreed (2.9%) that people associate deer with enjoyable times with their friends and family. Seventeen percent responded neutrally while 14.7% of respondents disagreed. Nearly half (49.7%) of respondents agreed that fees paid by deer hunters are used in the conservation of all species of wildlife in Kansas. Almost 18% (17.6%) responded neutrally, while 19.1% of respondents indicated that they did not know.

Figure 7. Agreement in positive aspects of deer in Kansas.



Perceptions of deer management

Respondents were presented with a series of statements regarding directions that KDWP could take with respect to deer management. Respondents then were asked if they agreed or disagreed with each statement (Figure 8). Almost all respondents either agreed (69.6%) or strongly agreed (27.3%) that KDWP should promote safe and ethical behavior by hunters. Most respondents also agreed (77.0%) or strongly agreed (9.1%) that KDWP should ensure that hunters maintain the deer herd at an appropriate level. This might suggest that a strong sentiment against hunting is not predominant in the general public in Kansas, as only 5.6% disagreed and 0.6% strongly disagreed. Over 85% (85.7%) of respondents either agreed (74.9%) or strongly agreed (10.8%) that KDWP should ensure that the deer population should remain healthy and vigorous. Almost 8% (7.9%) responded neutrally, while less than 5% (4.4%) disagreed. Over 70% (71.6%) of respondents either agreed (66.3%) or strongly agreed (5.2%) that KDWP should maximize the economic benefits that hunters have on Kansas, particularly farmers, ranchers and businesses. Sixteen percent of respondents answered neutrally to this statement. Almost 65% (64.2%) of respondents either agreed (57.3%) or strongly agreed (7.0%) that KDWP should allow hunters maximum opportunities to hunt deer. Almost 17% (16.8%) of respondents disagreed, and 14.9% responded neutrally. Over half (50.1%) of respondents agreed that KDWP should minimize the damage deer cause to landowners, motorists and citizens. Nearly 20% (19.9%) of respondents disagreed that KDWP should minimize the damage deer cause to landowners, motorists and citizens, while 18.0% responded neutrally. Over half (51.1%) of respondents either agreed (43.9%) or strongly agreed (7.2%) that KDWP should have the authority to regulate deer hunting inside privately owned pens. However, almost one-third (28.8%) of respondents disagreed that KDWP should have the authority to regulate deer hunting inside privately owned pens. Almost half (47.0%) of respondents either agreed (41.2%) or strongly agreed (5.8%) that KDWP should increase the level of deer hunting in Kansas. Twenty percent of respondents disagreed, and 24.2% responded neutrally.

Figures 9a and 9b represent the Potential for Conflict Index (PCI) values for these various management options. In general, the PCI measures the potential for conflict in attitudes by using dispersion in item response as a way to examine harmony versus disharmony in attitudes/opinions among respondents (Vaske et al, 2003). They explain,

“The greatest potential for conflict (PCI = 1) occurs when there is a bimodal distribution between the response scale’s 2 extreme values (e.g., 50% strongly support, 50% strongly oppose, 0% neutral). A distribution with 100% at any one point on the response scale yields a PCI of 0 and suggests no potential for conflict.” (Vaske et al., 2003: 45).¹

The Y-axis of the graphs in Figures 9a and 9b measure the mean response. The PCI bubbles are positioned at the mean score on the strongly agree to strongly disagree answer scale. Consistent with the illustration of findings in Figure 8, mean response on all items reflects more agreement than disagreement with the potential KDWP deer management actions. Examining the PCI magnitudes for each item, there is moderate to high harmony in response on all items, as none exceed a value of 0.30. Items with much harmony in agreement include: KDWP should promote ethical and safe hunter behavior (PCI = 0.01), KDWP should allow hunters maximum opportunity to hunt (PCI = 0.02) and KDWP should ensure that the deer population remains healthy and vigorous (PCI = 0.09). Less harmony in agreement exists for: KDWP should increase the level of deer hunting (PCI = 0.27); KDWP should minimize deer damage incurred by landowners, motorists, and citizens (PCI = 0.23); and KDWP should allow hunters the maximum opportunity to hunt deer (PCI = 0.20).

¹ For a full discussion of PCI and its formula, see Vaske et al., 2006.

Figure 8. Agreement with potential directions of KDWP and deer management issues.

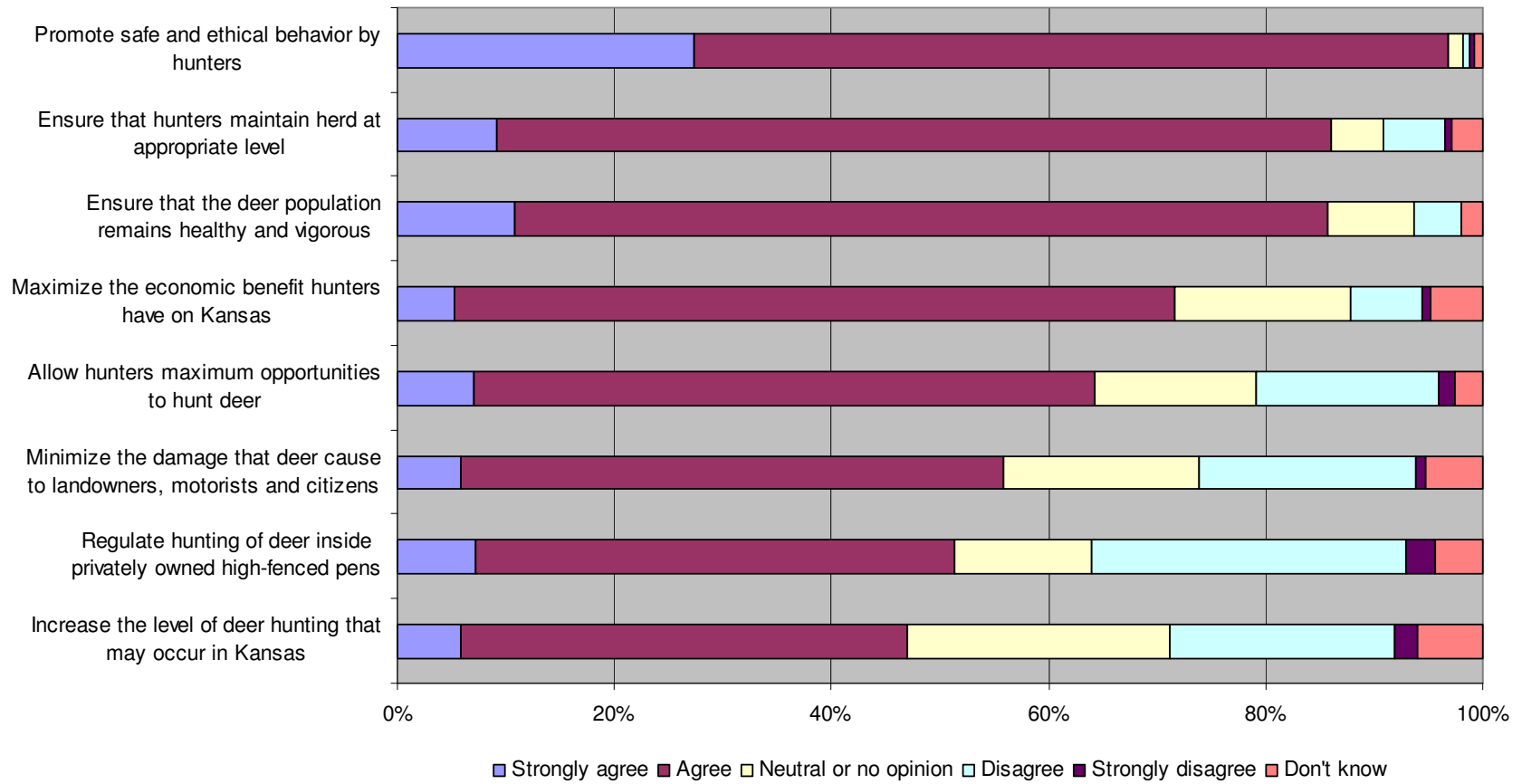


Figure 9a. Potential for Conflict Index values on potential KDWP deer management directions.

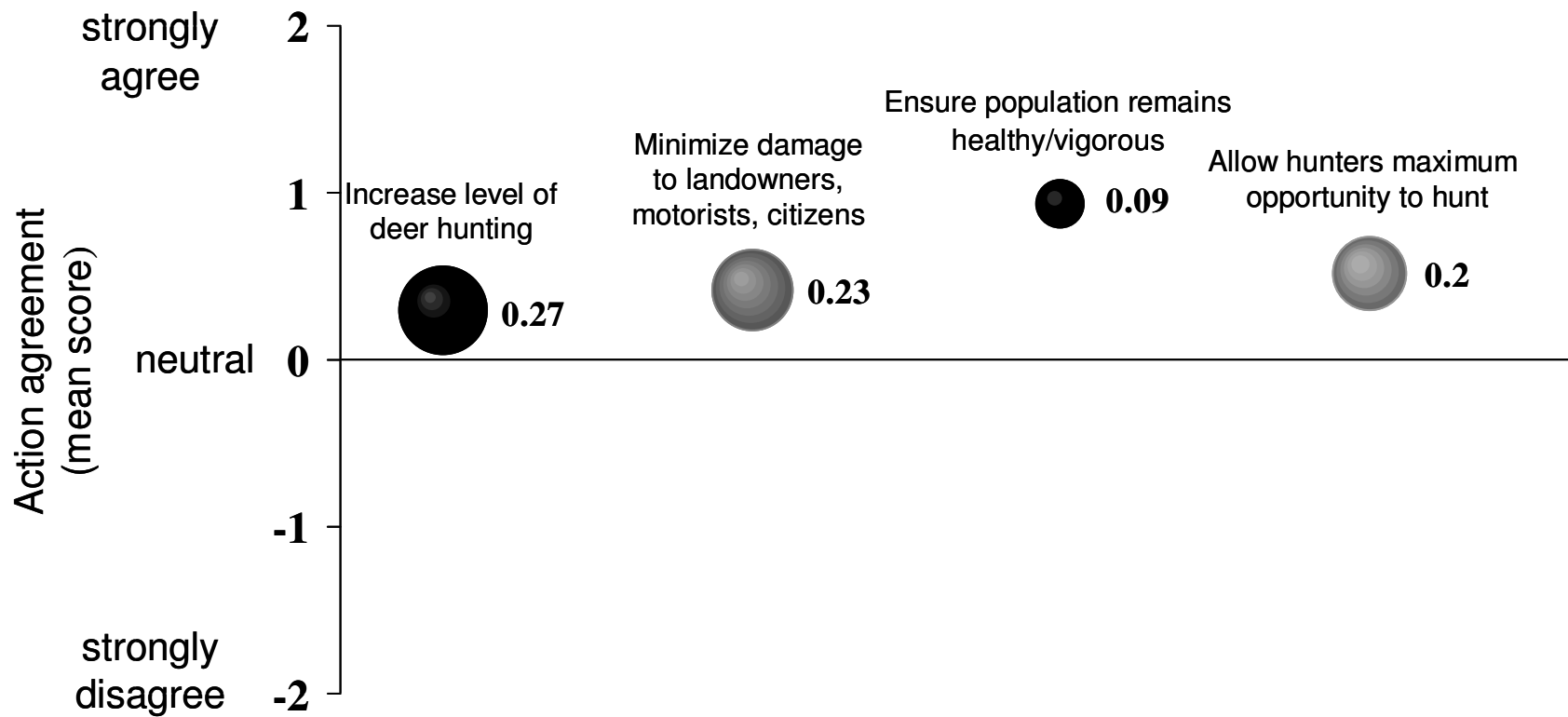
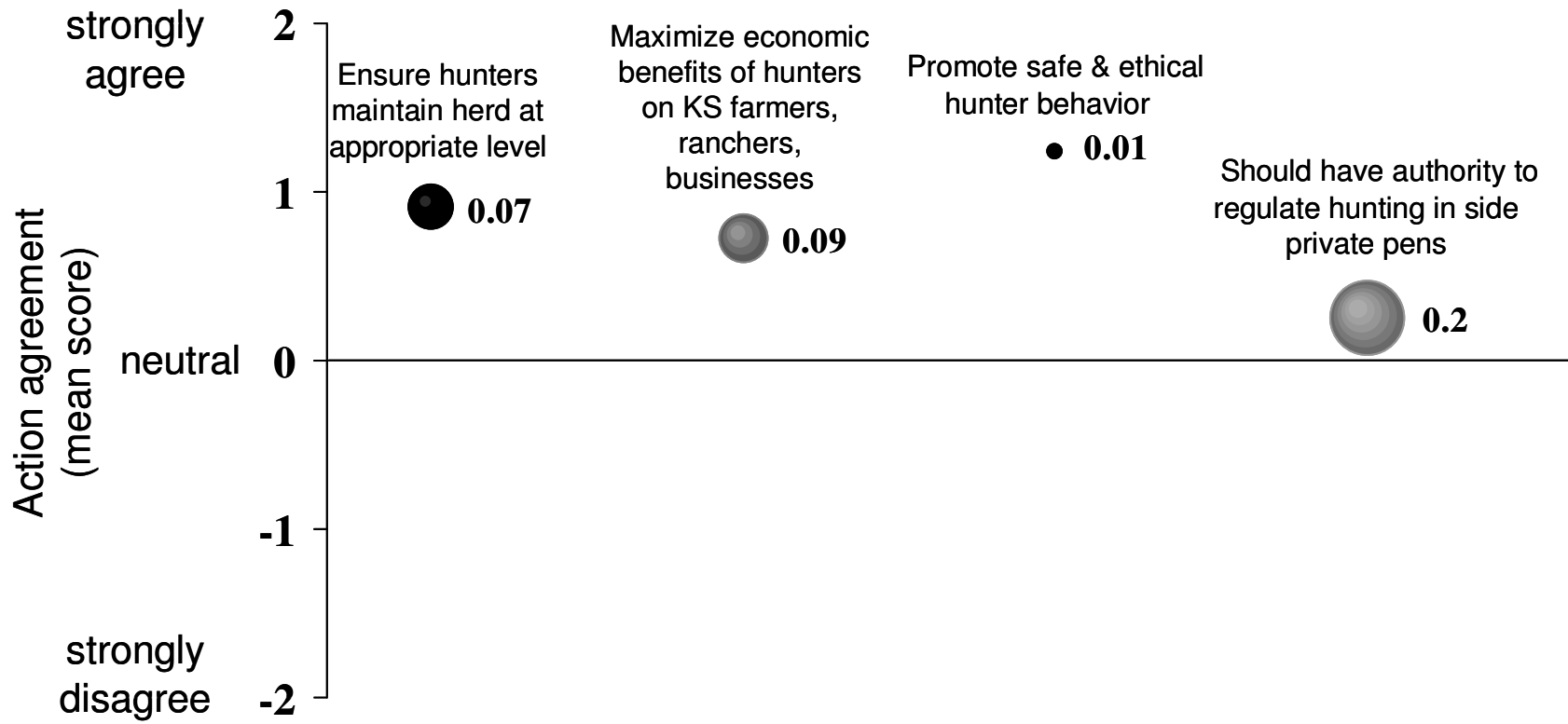
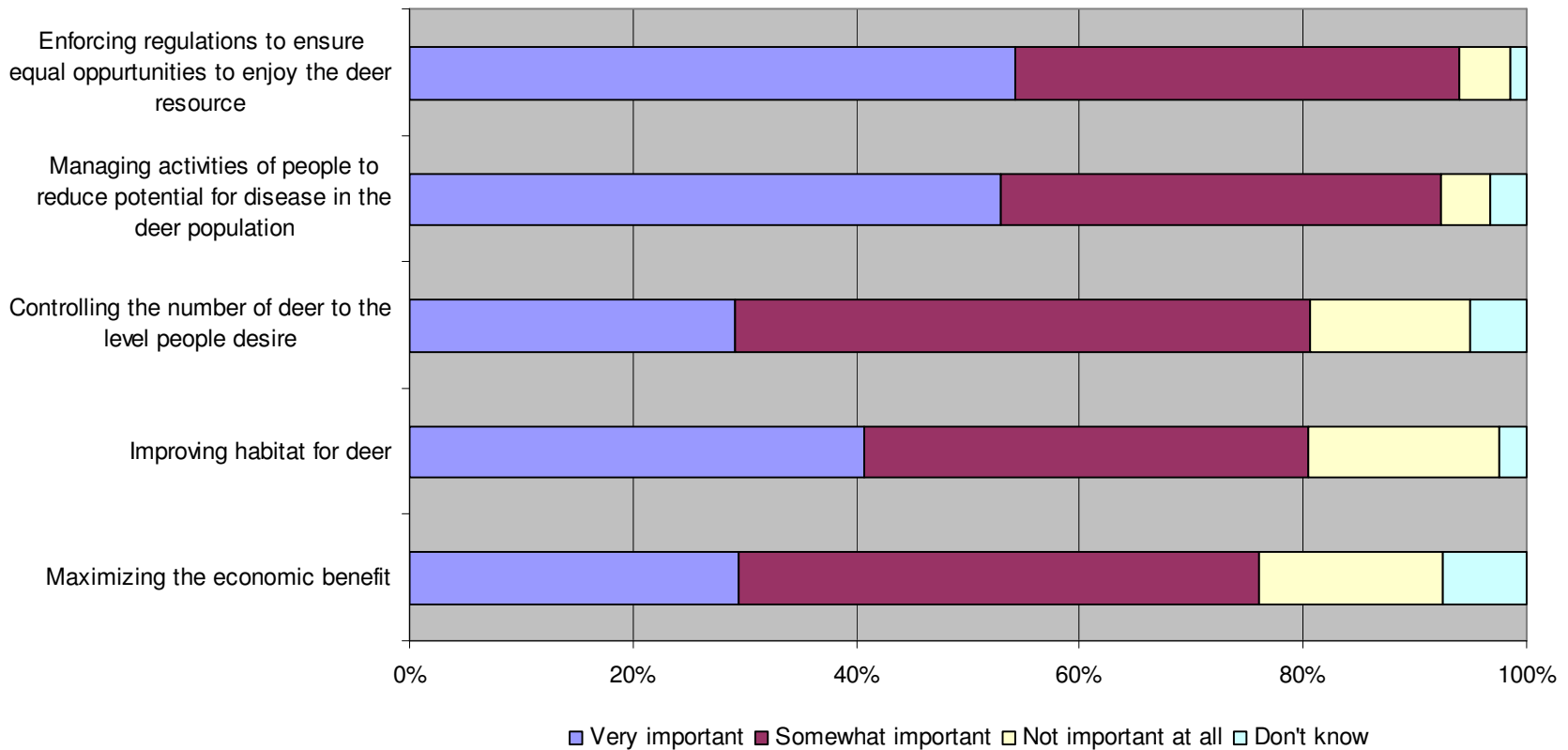


Figure 9b. Potential for Conflict Index values on potential KDWP deer management directions (continued).



Respondents were presented with a series of statements regarding deer management goals and were asked if they felt these goals were very important, somewhat important or not at all important. All of the statements were regarded as either very important or somewhat important by at least 75% of respondents. Over 90% of respondents indicated that both enforcing regulations to ensure equal opportunities to enjoy the deer resource and managing activities of people to reduce potential for disease in the deer population were either very important or somewhat important. Over 50% of respondents reported that both of these statements were very important. To a lesser extent, over 80% of respondents indicated that controlling the number of deer to the level people desire and improving habitat for deer were either very important or somewhat important, with over half (51.5%) of respondents indicating that this statement was somewhat important. Finally, over three-quarters (76.0%) of respondents indicated that maximizing the economic benefit for people and businesses in Kansas was either very important or somewhat important. Also, almost half (46.6%) of these respondents indicated that this statement was somewhat important.

Figure 10. Importance of deer management goals.



Respondents were presented with a series of four statements regarding wildlife health issues and how regulations and the actions of people might affect deer. Respondents were then asked whether they agreed or disagreed with each statement. Over 60% of respondents either agreed or strongly agreed to all of the statements provided. Two of the statements were regarding regulations to reduce the threats of disease in deer. These two statements had the highest of respondents that either agreed or strongly agreed. Over 80% of respondents either agreed or strongly agreed to both of these statements. Over three-quarters (76.6%) of respondents either agreed (70.2%) or strongly agreed (6.4%) that KDWP should have the authority to regulate the use of chemicals and drugs and vaccines that might be detrimental to deer. Finally, over 60% (61.9%) of respondents either agreed (54.0%) or strongly agreed (7.9%) that KDWP should regulate or prohibit the use of bait by hunters. However, almost 20% (18.0%) of respondents disagreed that KDWP should regulate or prohibit the use of bait by hunters. It is interesting to note the differences in responses to feeding deer when provided that feeding might affect the transmission of disease.

Figure 11. Agreement with potential regulations related to deer health issues in Kansas.

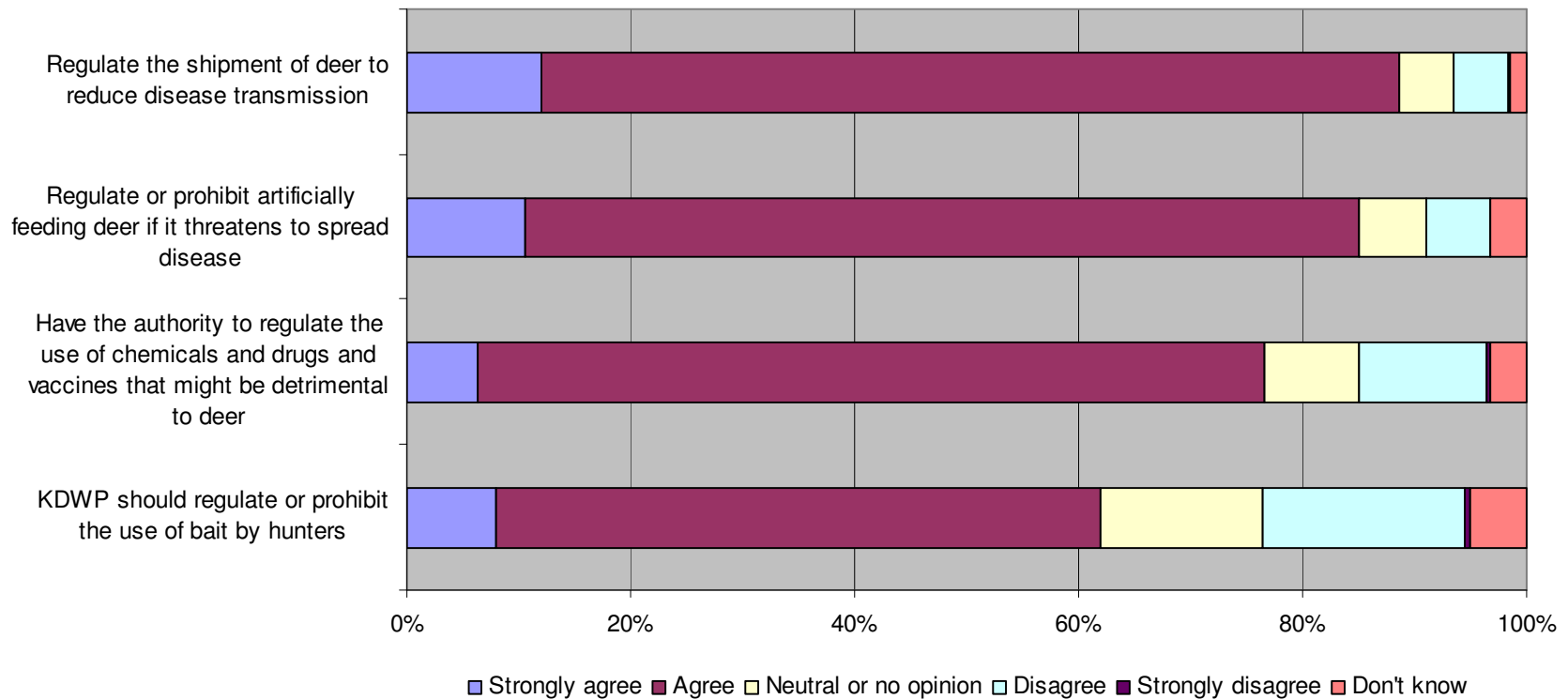
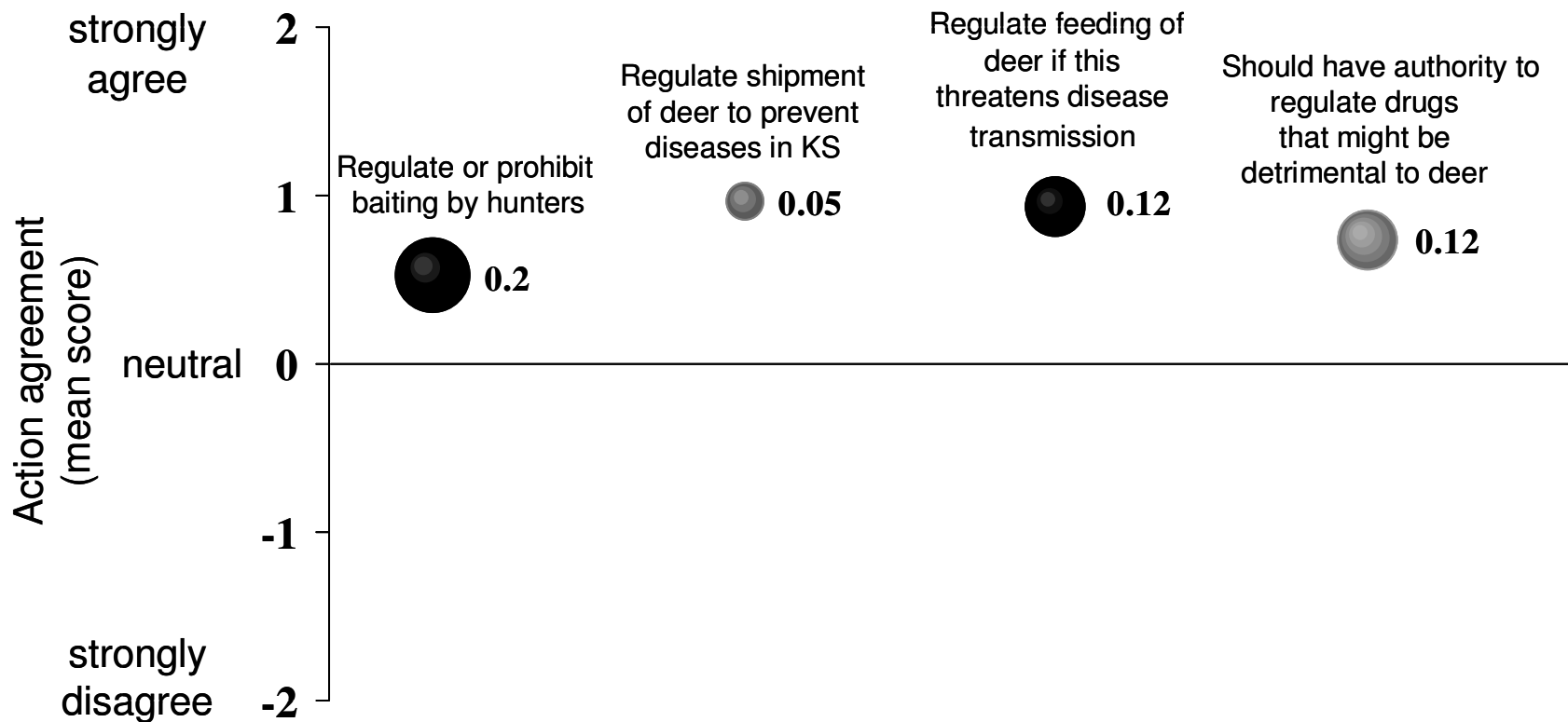


Figure 12 shows the PCI values for agreement with the various regulations related to deer health issues illustrated above in Figure 11. Location of the bubbles on the Y-axis (all above the value 0) indicates more agreement than disagreement in the various management options as measured by mean scores. There is more harmony in agreement that KDWP should regulate shipment of deer to prevent diseases in Kansas (PCI = 0.05) than in agreement that KDWP should regulate or prohibit deer baiting by hunters (PCI = 0.20).

Figure 12. Potential for Conflict Index values for deer health issues in Kansas.



Perceptions of deer hunting

Respondents were asked if they thought KDWP relies too heavily on citizens that are hunters to control deer populations. Figure 11 indicates that 32.5% thought KDWP does rely too heavily on hunters to control deer populations while 36.9% did not think KDWP relies too heavily on hunters. Thirty percent indicated that they did not know. Those respondents that thought KDWP relies too heavily on hunters to control deer populations were provided with three additional statements regarding alternatives to hunting as a way to control deer populations and were asked if they agreed or disagreed with each statement. Two of the statements regarded the use of tax money as a way of funding these alternatives and were less popular than the alternative that did not suggest the use of tax money. Among the individuals that thought KDWP relies too heavily on hunters to control deer, almost half (48.8%) reported that deer populations should be allowed to grow or decline by the forces of nature, while one-third (33.3%) disagreed. The same amount of respondents (42.9%) agreed and disagreed that we should use tax money to research ways of reducing deer without killing adult deer, such as birth control. The majority of respondents (56.5%); however, disagreed that we should use tax money to remove deer where people want fewer deer. This might reflect a sentiment against killing deer among individuals who reported that KDWP relies too heavily on hunters to control deer populations. A higher rate of agreement was achieved when not killing deer was specifically presented in the alternative. Conversely, the option of removing deer in areas where people want fewer deer did not specify whether removal referred to lethal or non-lethal means, and subsequently was less popular among these respondents.

Figure 13. Agreement with options for deer population control.

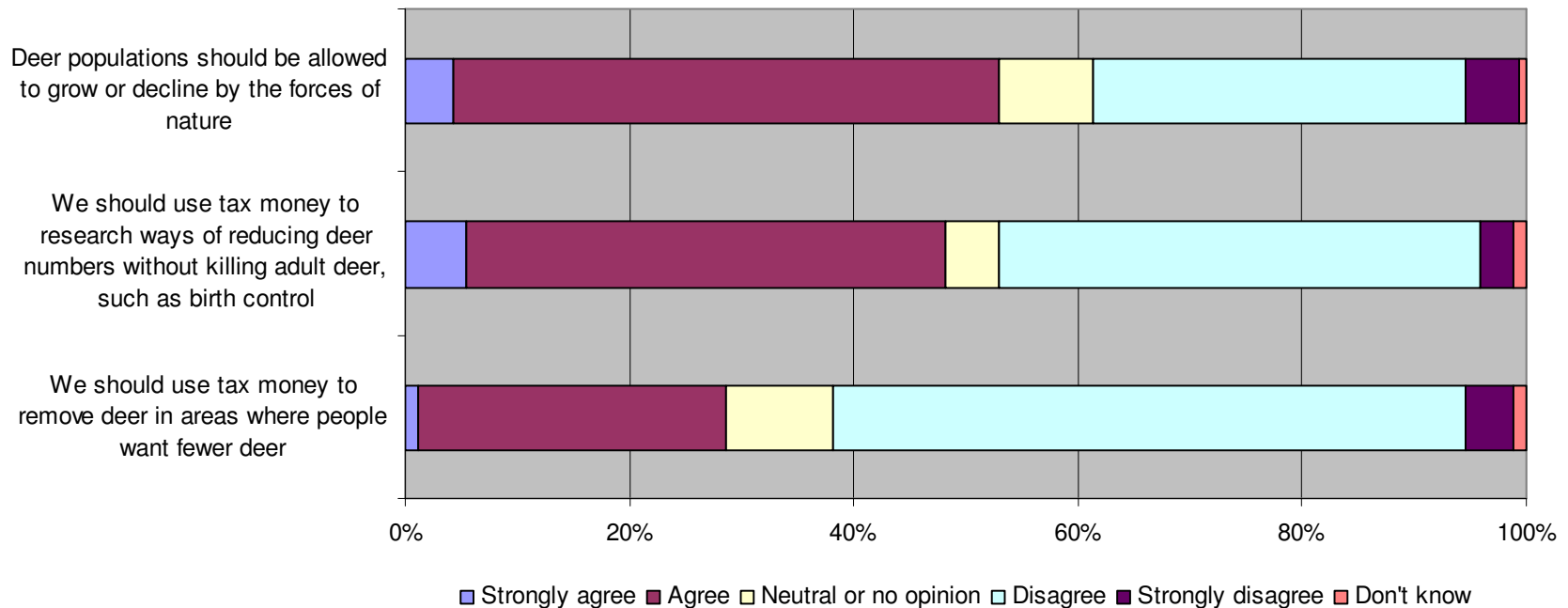
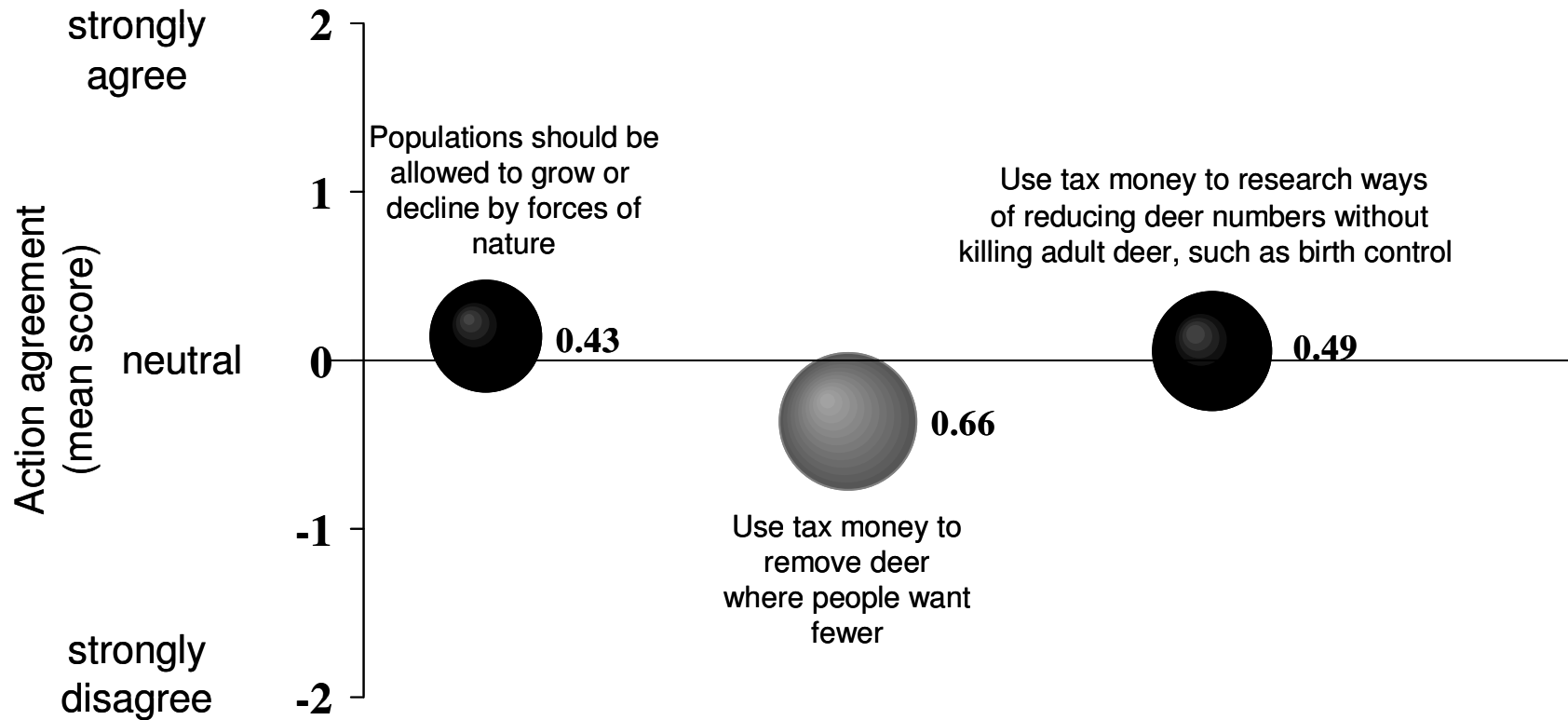


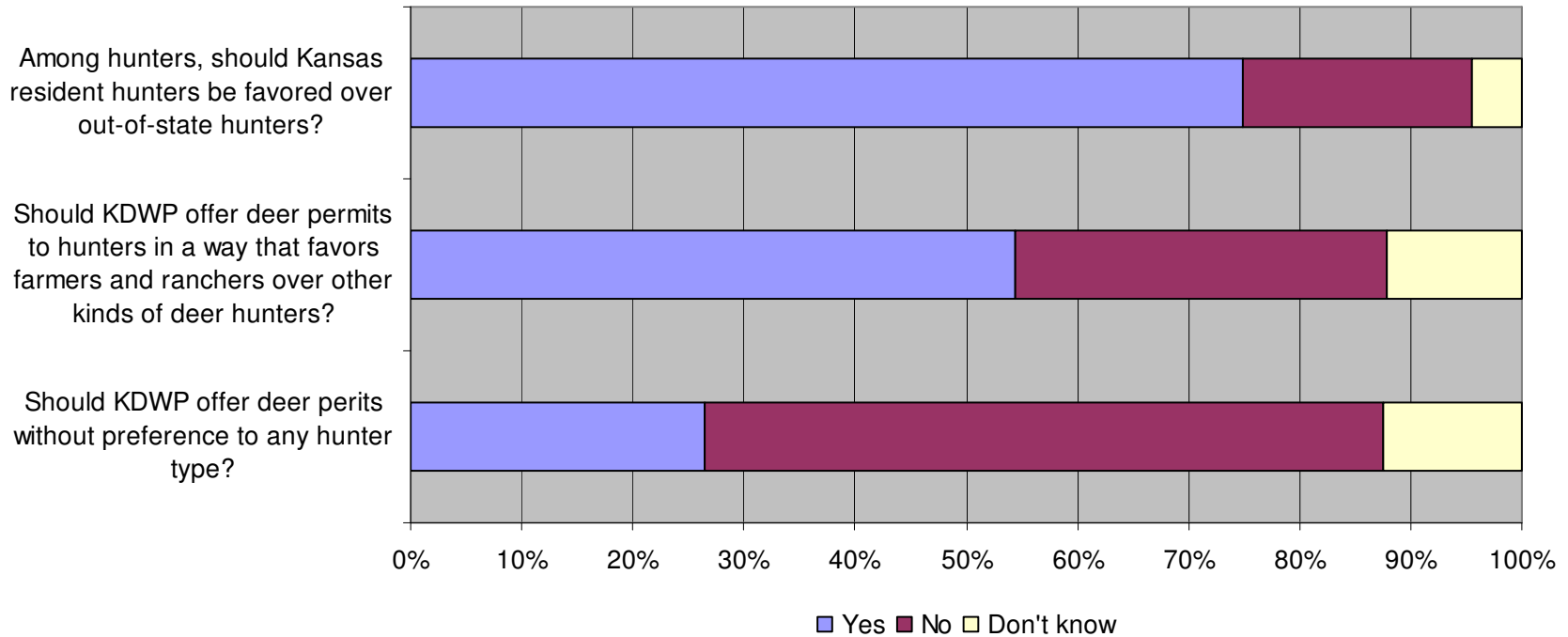
Figure 14. shows PCI values for agreement in deer population control options. Here there is much more disharmony in response than found in previous PCI graphs shown above. Not only is there a negative mean score on use of tax money to remove deer where people want fewer, the PCI value for this item is relatively high (PCI = 0.66). PCI values for the two other items in this graph are also higher than observed in graphs above.

Figure 14. Potential for Conflict Index values for deer population control options.



Respondents were asked a series of questions related to the allocation of permits for deer hunting. The responses of these statements suggest that the general public of Kansas would like preference to be given to certain types of hunters when allocating permits. Almost three-quarters (74.9%) of respondents indicated that Kansas resident hunters should be favored over out-of-state hunters when allocating permits. Furthermore, over half (54.4%) respondents thought that farmers and ranchers should be favored over other types of deer hunters. Slightly more than one quarter (26.4%) of respondents indicated that deer permits should be allocated without preference to the type of hunter. However, more than 60% (61.0%) disagreed, and thought that some type of preference should be given.

Figure 15. Approval of options for allocation of deer hunting permits in Kansas.



Exposure to deer

Respondents were presented with a series of questions regarding some background characteristics that might provide exposure to deer. Almost half (42.4%) of respondents spent their childhood years in a rural or small town, while one-quarter (24.2%) of respondents indicated that their childhood years were spent on a farm or ranch. One-third (32.7%) of respondents spent their childhood years in an urban area. Over three-quarters (75.4%) indicated that they have family members or close friends that hunt deer, while one-quarter (24.2%) do not. Similarly, almost 90% (89.6%) of respondents indicated that they were not opposed to hunting deer, although nearly 10% (9.3%) indicated that they were opposed to hunting deer. The majority (55.9%) of respondents do not photograph deer or go deer watching, and 87.0% of respondents indicated that they do not feed deer. Over half (54.0%) of respondents indicated that they had a moderate interest in outdoor activities, and more than one-third (34.0%) reported being a broad and active outdoor enthusiast. Only 11.4% suggested that they have little or no interest in outdoor activities. Respondents were asked if they have ever experienced damage to landscaping, vehicles or other property from deer. Almost three-quarters (72.5%) indicated that they have not experienced such damage, whereas slightly over one-quarter (26.9%) have. Of those respondents that reported experiencing damage to landscaping, vehicles or other property from deer, more than half did not report the incident to either KDWP or law enforcement. One-third (31.7%) contacted law enforcement regarding the damage.

Figure 16. Categorical response to location of childhood years.

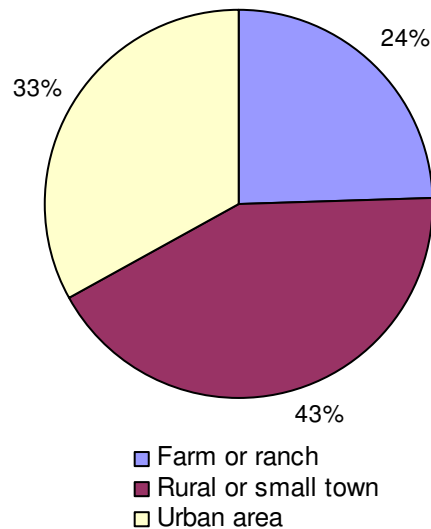
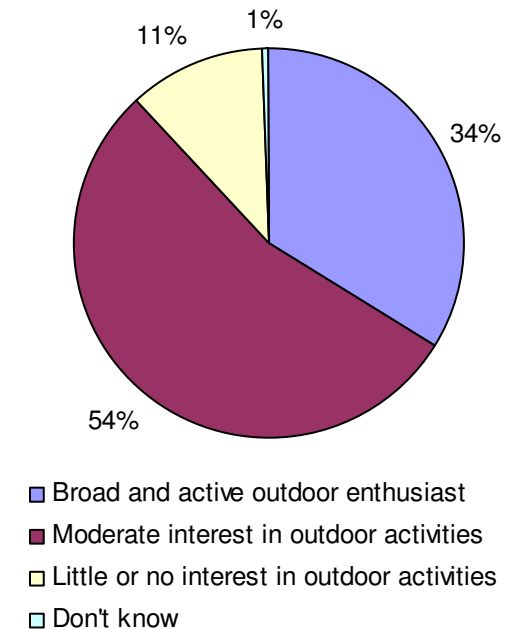


Table 2. Response to background variables related to exposure to deer.

| Background Indicators | Yes | No |
|---|------------|------------|
| Do you have family members or close friends that hunt deer? | 75.4 (390) | 24.2 (125) |
| Are you opposed to deer hunting? | 9.3 (48) | 89.6 (463) |
| Do you photograph deer or go deer watching? | 44.1 (228) | 55.9 (289) |
| Do you feed deer? | 13.0 (67) | 87.0 (450) |

Figure 17. Categorical response of individual perception related to outdoor recreation.



Literature Cited

Vaske, J. J., M. D. Needham, P. Newman, M. J. Manfredo, and J. Petchenik. 2006. Potential for conflict index: Hunters' responses to chronic wasting disease. *Wildlife Society Bulletin* 34: 44-50.

Appendix 1. Socio-demographic profile of respondents.

| Socio-Demographic Indicators | | Frequency | Percent |
|-------------------------------------|---|------------------|----------------|
| Sex | Male | 314 | 60.7 |
| | Female | 202 | 39.1 |
| Age | 18 to 25 | 17 | 3.4 |
| | 26 to 40 | 95 | 18.7 |
| | 41 to 65 | 270 | 53.3 |
| | Greater than 65 | 125 | 24.7 |
| Hispanic origin | Yes | 22 | 4.3 |
| | No | 494 | 95.6 |
| Racial background | White | 467 | 90.3 |
| | Black or African American | 17 | 3.3 |
| | Alaskan Native | 4 | 0.8 |
| | Asian | 3 | 0.6 |
| | Native Hawaiian or other Pacific Islander | 1 | 0.2 |
| | Biracial | 9 | 1.7 |
| | Some other race | 12 | 2.3 |
| | Refused | 4 | 0.8 |
| Marital status | Married | 368 | 71.2 |
| | Living with someone | 11 | 2.1 |
| | Single | 134 | 25.9 |
| | Refused | 4 | 0.8 |
| Employment status | Working | 301 | 58.2 |
| | Homemaker | 49 | 9.5 |
| | Unemployed | 12 | 2.3 |
| | Retired | 133 | 25.7 |
| | Disabled | 18 | 3.5 |
| | Don't know | 3 | 0.6 |
| | Refused | 1 | 0.2 |
| School age children | Yes | 179 | 34.6 |
| | No | 335 | 64.8 |
| Years lived in Kansas | 1 to 10 | 57 | 11.0 |
| | 11 to 20 | 46 | 8.9 |
| | 21 to 30 | 75 | 14.5 |
| | 31 to 40 | 71 | 13.7 |
| | 41 to 50 | 100 | 19.3 |
| | 51 to 60 | 61 | 11.8 |
| | 61 to 70 | 49 | 9.5 |
| | 71 to 80 | 37 | 7.2 |
| | Greater than 80 | 7 | 1.4 |

Appendix 1. *Continued.*

| | | | |
|----------------------|-----------------------|------|------|
| Total family income | Less than \$10,000 | 10 | 1.9 |
| | \$10,000 to \$20,000 | 34 | 6.6 |
| | \$20,000 to \$30,000 | 46 | 8.9 |
| | \$30,000 to \$40,000 | 45 | 8.7 |
| | \$40,000 to \$50,000 | 63 | 12.2 |
| | \$50,000 to \$60,000 | 46 | 8.9 |
| | \$60,000 to \$70,000 | 40 | 7.7 |
| | \$70,000 to \$80,000 | 25 | 4.8 |
| | Over \$80,000 | 100 | 19.3 |
| | Don't know | 24 | 4.6 |
| Refused | 84 | 16.2 | |
| Education achieved | Eighth grade or less | 5 | 1.0 |
| | Some high school | 17 | 3.3 |
| | High school graduate | 146 | 28.2 |
| | Vocational school | 27 | 5.2 |
| | Some college | 129 | 25.0 |
| | Collage graduate | 117 | 22.6 |
| | Post college graduate | 66 | 12.8 |
| | Don't know | 2 | 0.4 |
| Refused | 8 | 1.5 | |
| Landownership status | Yes | 97 | 18.8 |
| | No | 414 | 80.1 |

Appendix 2. Format for telephone questionnaire to general public regarding deer management issues in Kansas.

DEER MANAGEMENT
PUBLIC OPINION SURVEY 2006

Introduction

Hi, and I'm calling from Fort Hays State University. We are calling Kansans for the Kansas Department of Wildlife and Parks which really needs the public's input on wildlife management issues. I need to speak to the adult in the household over the age of 17 who has had the most recent birthday. Is that you?

[REREAD IF RESPONDENT IS GIVEN THE PHONE]

Your answers will remain completely confidential. May I ask you a few questions?

Q1 In the past year have you seen deer while driving on Kansas roads and highways?

[THIS COULD BE RUNNING DEER, STANDING DEER, OR DEAD DEER.]

- 1 YES
- 2 NO

Neighborhood Questions

Q2. Do you ever see deer in your neighborhood or area near your house?

- 1 YES
- 2 NO

Q2a. Would you like to have more deer in your neighborhood or area near your house, about the same number, or fewer than you have now?

- 1 More than we have now
- 2 Same number as we have now
- 3 Fewer than we have now (not offered if no to Q2)
- 8 Don't know

Q3. During the past 3 years (2004 - 2006) has the deer population in your neighborhood or area near your house:

- 1 Increased in number (not offered if no to Q2)
- 2 Remained the same
- 3 Decreased in number
- 8 Don't know

Q4. In general, which of the following statements best describes how you feel about having deer in your neighborhood or near your house?

- 1 I enjoy the deer
- 2 I do not have strong feelings for or against the deer
- 3 I do not want deer nearby

Appendix 2. Continued.

Kansas Questions

Q5. Question omitted after pretesting

Q6. Which best describes how you feel about the existence of deer populations in the state?

- 1 I think deer are an important part of the wildlife community in Kansas
- 2 I do not have strong feelings for or against deer in the state
- 3 I do not want deer in the state

General Opinion Questions

Q7. The next set of statements include factors that some people mention as ways in which deer are a nuisance. Please tell me whether you: 1) strongly agree, 2) agree, 3) are neutral or have no opinion, 4) disagree or 5) strongly disagree with the statement....

- A. Deer cause severe or major damage to farmers' crops.
- B. Deer cause major damage to shrubs, ornamentals and gardens around homes.
- C. Deer carry or spread diseases to people.
- D. Deer carry or spread diseases to livestock.
- E. Deer are a major safety hazard on public highways in Kansas.
- F. Deer are more of a safety hazard in Kansas than in most other states.
- G. Deer damage habitat that is essential for other species of wildlife
- H. Question omitted after pretesting

Q8. The next set of statements include factors that some people mention as positive aspects of deer. Please tell me whether you: 1) strongly agree, 2) agree, 3) are neutral or have no opinion, 4) disagree or 5) strongly disagree with the statement....

- A. The grace and beauty of deer make them enjoyable to watch and photograph.
- B. Urban and non-resident deer hunters bring needed money to some rural communities.
- C. People interested in deer for hunting or photography may pay landowners to use their land.
- D. Deer are an important part of the wildlife community and the natural ecosystem in our area.
- E. Fees paid by deer hunters are a major source of funds used in conservation of all species of wildlife in Kansas.
- F. People associate deer with enjoyable times with their friends or family.
- G. People benefit from the venison (deer meat) that hunters share with others.

Appendix 2. Continued.

Q9. These next set of statements are about the emphasis that some people believe the Kansas Department of Wildlife and Parks should place on deer management. Please tell me whether you: 1) strongly agree, 2) agree, 3) are neutral or have no opinion, 4) disagree or 5) strongly disagree with the statement....

- A. The Kansas Department of Wildlife and Parks should increase the level of deer hunting that may occur in the state.
- B. The department should minimize the damage or harm that deer cause to landowners, motorists and citizens.
- C. Should ensure that the animals in the population remain healthy and vigorous.
- D. Should allow hunters maximum opportunities to hunt deer.
- E. Should ensure that hunters maintain the deer herd at the appropriate level.
- F. Should maximize the economic benefit hunters will have on Kansas farmers, ranchers, and businesses.
- G. Should promote safe and ethical behavior by hunters.
- H. Should have the authority to regulate hunting of deer inside privately owned high fenced pens.

Please answer yes or no to the following questions (Q10a through Q10c).

Q10a. Should the department offer deer permits to hunters in a way that favors farmers and ranchers over other kinds of deer hunters?

Q10b. Among hunters, should Kansas resident hunters be favored over out-of-state hunters?

Q10c. Should the department offer deer permits without preference to any hunter type?

Q11. These next set of statements are about issues of wildlife health and how regulations and actions of people may affect deer. Please tell me whether you: 1) strongly agree, 2) agree, 3) are neutral or have no opinion, 4) disagree or 5) strongly disagree with the statement....

- A. The Department should regulate or prohibit the use of bait by hunters.
- B. The department should regulate shipment of deer to ensure that diseases are not spread or brought to the state.
- C. Should regulate or prohibit people from artificially feeding deer if that activity threatens to spread disease.
- D. Should have the authority to regulate the private use of chemicals and drugs and vaccines that might be detrimental to deer in the wild.

Q12. Do you believe that the Kansas Dept. of Wildlife and Parks relies too heavily on citizens that are hunters to control deer populations?

- 1 YES
- 2 No (IF NO, SKP TO Q13a)

Q12. The next set of statements is about potential alternatives to hunting as a way to control deer populations. Please tell me whether you: 1) strongly agree, 2) agree, 3) are neutral or have no opinion, 4) disagree or 5) strongly disagree with the statement....

- A. Deer populations should be allowed to grow or decline by the forces of nature, such as food availability, predators, diseases and other natural factors.
- B. We should use tax money to remove deer in areas where people want fewer deer.
- C. We should use tax money to research ways of reducing deer numbers without killing adult deer, such as birth control.

Appendix 2. Continued.

Q13. I am going to mention a few deer management goals. Please tell us if they are very important, somewhat important, or not important at all.

- A. Controlling the number of deer to the level people desire.
- B. Maximizing the economic benefit for people and businesses in the state.
- C. Enforcing the laws and regulations to ensure fair and equal opportunities to enjoy the deer resource.
- D. Managing activities of people to reduce potential for disease problems in the deer population.
- E. Improving habitat for deer.
- F. Can you think of some other goals the Kansas Department of Wildlife and Parks should have regarding deer management in the state?
Q13g. If yes _____?

KDWP Satisfaction

Q14. What is your overall satisfaction with the way the Kansas Dept. Wildlife and Parks manages the deer resource of the state? Are you:

- A. Extremely Satisfied
- B. Satisfied
- C. Neutral
- D. Dissatisfied
- E. Extremely Dissatisfied
- F. No Opinion

Q15a. Question omitted after pretesting

Q15b. Question omitted after pretesting

Demographics

And now we have a few questions to help us analyze the results of the survey.

Q15. Did spend most of your growing up years:

- A. On a Farm or Ranch
- B. In a Rural or Small Town
- C. Or in an Urban area

Appendix 2. Continued.

Q16a1. Do you hunt deer? [HUNTED LAST YEAR OR THIS YEAR]

1 YES

2 NO (If, no)

Q16a2. Do you have family members or close friends that hunt deer?

1 YES

2 NO

Q16a3. Are you opposed to hunting deer?

1 YES

2 NO

Q16b1 Do you photograph deer or go deer watching?

1 YES

2 NO

Q16b2 Do you feed deer?

1 YES

2 NO

Q16c In the past three years, have you experienced any damage to landscaping, vehicles, or other property from deer?

1 YES

2 NO (if no, skip Q17)

Q16d Did you contact the Kansas Department of Wildlife and Parks, law enforcement, both, or neither regarding the damage?

Q17. In terms of your interest in outdoor activities, would you say:

D. You are a Broad and Active Outdoor Enthusiast

E. Have Moderate Interest in Outdoor Activities

F. Have Little or No Interest in Outdoor Activities

Q18. What year were you born?

8888 DON'T KNOW

9999 REFUSED

Q19 Are you of Mexican or some other Hispanic origin?

1 YES

2 NO

Appendix 2. Continued.

Q20. Do you consider yourself:

1. White
2. Black or African American
3. American Indian or Alaskan Native
4. Asian
5. Native Hawaiian or Other Pacific Islander
6. Biracial
7. Some other race

Q21. Are you married, living with someone, or single?

Q22. Are you working, a homemaker, unemployed, retired, or disabled?

Q23. Do you have school age children living at home?

Q24. Question omitted after pretesting

Q25. How many years have you lived in Kansas?

[WAIT FOR RESPONSE. IF LEFT AND CAME BACK, ADD UP ALL YEARS IN KANSAS.] [IF LESS THAN 1 YEAR ENTER 1]

Q26. Was your total family income for the last year above or below \$40,000?

[IF BELOW \$40,000, READ THE FOLLOWING RESPONSES]

- 1 Was it less than \$10,000,
- 2 Between \$10,000 and \$20,000,
- 3 Between \$20,000 and \$30,000?
- 4 Or was it between \$30,000 and \$40,000?

[IF ABOVE \$40,000, READ THE FOLLOWING RESPONSES]

- 5 Was it between \$40,000 and \$50,000,
- 6 Between \$50,000 and \$60,000,
- 7 Between \$60,000 and \$70,000,
- 8 Between \$70,000 and \$80,000
- 9 Or was it over \$80,000

88 DON'T KNOW

99 REFUSED

Appendix 2. Continued.

Q27. What is the highest level of education you completed?
[FIT ANSWER]

- 1 Eighth grade or less
- 2 Some high school
- 3 High school graduate
- 4 Vocational school
- 5 Some college
- 6 College graduate (Bachelors)
- 7 Post college graduate (Anything more than bachelors)
- 8 DON'T KNOW
- 9 REFUSED

Q28. Do you own, rent, lease or manage 80 acres or more of agricultural land?

Q29. That's all that I have. Thank you very much for your time.

SURVEYOR: WAS THE RESPONDENT...

- 1 FEMALE
- 2 MALE

Q30. WHAT SHIFT IS THIS?

- 1 MORNING
- 2 AFTERNOON
- 3 EVENING

Q31. AT WHAT STATION WAS THIS SURVEY COMPLETED?