

# Tennessee Residents' and Hunters' Knowledge of and Opinions on Sandhill Cranes 2013



Conducted for the Tennessee Wildlife Resources Agency  
By Responsive Management

TWRA Wildlife Technical Report 13-07

# Responsive Management™



## **TENNESSEE RESIDENTS' AND HUNTERS' KNOWLEDGE OF AND OPINIONS ON SANDHILL CRANES**

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KNOWLEDGE OF AND OPINIONS ON  
SANDHILL CRANES**

**2013**

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## **Acknowledgments**

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## **EXECUTIVE SUMMARY**

### **INTRODUCTION AND METHODOLOGY**

This study was conducted for the Tennessee Wildlife Resources Agency (TWRA) to determine residents' and hunters' knowledge of and experiences with sandhill cranes, their opinions on hunting sandhill cranes, and their experiences with the Tennessee Sandhill Crane Festival. The study entailed a telephone survey of residents of Tennessee, residents of the proposed sandhill crane hunt area, and hunters.

For the survey, telephones were selected as the preferred sampling medium because of the almost universal ownership of telephones among Tennessee residents and hunters (both land lines and cell phones were called in their proper proportion). Additionally, telephone surveys, relative to mail or Internet surveys, allow for more scientific sampling and data collection, provide higher quality data, obtain higher response rates, are more timely, and are more cost-effective. Telephone surveys also have fewer negative effects on the environment than do mail surveys because of reduced use of paper and reduced energy consumption for delivering and returning the questionnaires.

The telephone survey questionnaire was developed cooperatively by Responsive Management and the TWRA. Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey. The survey used three samples: residents of the state as a whole, a sample of residents of counties in which the Hiwassee Wildlife Management Area is located, and a sample of hunters in the state as a whole.

A central polling site at the Responsive Management office allowed for rigorous quality control over the interviews and data collection. Responsive Management maintains its own in-house telephone interviewing facilities. Telephone surveying times are Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday from noon to 5:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m., local time. The survey was conducted in April 2013. The software used for data collection was Questionnaire Programming Language.

Responsive Management obtained a total of 1,201 completed interviews in total, broken down as follows:

- 800 completed interviews from among residents of the state as a whole.
- 201 completed interviews from among residents of the Hiwassee area.
- 200 completed interviews from among hunters in the state as a whole.

The analysis of data was performed using Statistical Package for the Social Sciences as well as proprietary software developed by Responsive Management. The analyses considered six groups:

- Residents of the state as a whole (hereinafter referred to as the “general population” or “Tennessee residents”). This was taken from the sample of residents statewide.
- Residents of the hunt area (referred to as “hunt area residents”). This was taken from the sample of residents statewide and the sample of residents of the Hiwassee area, properly proportioned to represent all hunt area residents.
- Hunters in the state as a whole (referred to as “hunters statewide”). This was taken from the sample of hunters statewide.
- Hunters who reside in the hunt area (referred to as “hunt area hunters”). This was taken from the sample of hunters statewide, but only includes those who live in the hunt area.
- Wildlife watchers/birders in the state as a whole (referred to as “wildlife watchers statewide”). This was taken from the sample of residents statewide, but includes only those who did the activities.
- Wildlife watchers/birders who live in the hunt area (referred to as “hunt area wildlife watchers”). This was taken from the sample of residents statewide, but includes only those who did the activities and who lived in the hunt area.

### **SPECIES THAT ARE THE SUBJECT OF WILDLIFE-ASSOCIATED RECREATION**

- Those who had hunted were asked whether they had hunted nine species or species types. Whether among the general population, hunt area residents, or hunters statewide, the top species are white-tailed deer, turkey, squirrel, and rabbit (with white-tailed deer far above the rest).
- Those who had watched wildlife or gone birding were asked whether any of nine species or species types were among those they observed. Among the general population, a top tier emerges, all with more than 50% of participants observing them: white-tailed deer, squirrels, and rabbits. Sandhill cranes were observed by 20% of these respondents.

Species hunted	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
White-tailed deer	86	85	87	84	88	84
Turkey	45	39	38	48	49	31
Squirrels	45	46	48	36	45	42
Rabbits	30	31	28	12	33	29
Waterfowl	14	18	21	32	15	24
Other migratory birds	11	9	15	8	9	7
Bear	8	10	7	12	9	8
Quail	7	7	13	20	8	11
Grouse	5	10	7	8	5	13
None of these	4	6	2	4	2	9
Species observed	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
White-tailed deer	69	59	90	93	69	64
Squirrels	67	64	71	79	67	63
Rabbits	60	57	60	57	60	51
Turkey	48	39	72	79	48	38
Any other birds	42	42	29	43	42	32
Waterfowl	31	28	41	71	31	33
Other migratory birds	25	24	24	36	25	20
Sandhill cranes	20	23	19	50	20	27
Quail	16	10	26	36	16	11
Bear	14	9	15	7	14	10
Grouse	10	6	15	29	10	7
None of these	4	6	1	0	4	6
Don't know	1	1	0	0	1	1

Column for each question does not sum to 100% because multiple responses allowed.

## KNOWLEDGE OF SANDHILL CRANES

- Just more than 2 of 5 Tennessee residents statewide (41%) said that they had heard of sandhill cranes prior to the survey.
  - Among hunt area residents, 59% said that they had heard of sandhill cranes, considerably more than the general population across the entire state.
  - Hunters are more aware of sandhill cranes, compared to wildlife watchers or the general population: 66% of hunters statewide had heard of sandhill cranes, and 80% of hunters in the hunt area had heard of them.
  - Wildlife watchers were more likely to have heard of sandhill cranes than were the general population: 48% of wildlife watchers statewide had heard of them, and 69% of hunt area wildlife watchers had heard of them.

- Self-rated knowledge shows low knowledge levels about sandhill cranes. Less than 5% of Tennessee residents say that they know a great deal or moderate amount about sandhill cranes.
  - Self-rated knowledge levels are not greatly higher among hunt area residents: less than 10% say that they know a great deal or moderate amount about sandhill cranes.
  - The highest self-rated knowledge levels are among hunt area hunters: 40% of this group say that they know a great deal or a moderate amount.
  
- Three questions about sandhill cranes reveal a little about actual knowledge levels. Respondents from the hunt area were more knowledgeable than those not from the hunt area, and hunters were more knowledgeable than either the general population or wildlife watchers. A tabulation of the results of all knowledge questions is included on the following page.



	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
Had heard of sandhill cranes prior to survey	41	59	66	80	48	69
<b>SELF-PROFESSED LEVEL OF KNOWLEDGE BEFORE SURVEY</b>						
Knew a great deal	0	1	3	8	0	0
Knew a moderate amount	4	8	10	32	5	11
Knew a little	24	32	40	28	28	41
Knew nothing at all	12	17	13	12	14	17
Had never heard of sandhill cranes prior to survey (i.e., knew nothing at all)	59	41	35	20	52	31
<b>SANDHILL CRANES AND GREAT BLUE HERONS ARE DIFFERENT NAMES FOR THE SAME SPECIES OF BIRD (FALSE) (ASKED OF ALL RESPONDENTS)</b>						
Incorrect answer or don't know	65	60	59	36	61	48
Pretty sure it is false	24	28	20	24	28	41
Absolutely sure it is false	10	12	22	20	11	11
<b>Total false (correct answer)</b>	<b>35*</b>	<b>40</b>	<b>42</b>	<b>44</b>	<b>39</b>	<b>52</b>
<b>WHICH BEST DESCRIBES THE CURRENT STATUS OF SANDHILL CRANE POPULATIONS IN EASTERN US? (CORRECT ANSWER: INCREASING) (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Increasing (correct answer)	5	12	19	24	6	14
Stable and healthy (incorrect, but close)	7	14	16	32	8	17
Declining / endangered (both incorrect)	15	21	15	16	17	26
Don't know	14	13	16	8	16	12
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31
<b>WHICH OF THE FOLLOWING DO YOU THINK BEST DESCRIBES WHERE SANDHILL CRANES ARE FOUND IN TENNESSEE? (CORRECT ANSWER: SOUTHEASTERN TENNESSEE) (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Incorrect answer	29	31	45	36	33	31
Southeastern Tennessee (correct answer)	12	29	21	44	15	38
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31
<b>PRIOR TO THIS SURVEY, DID YOU KNOW THAT SANDHILL CRANE POPULATIONS MIGRATE THROUGH OR SPEND THE WINTER IN TENNESSEE? (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Yes	11	29	24	60	13	35
No / don't know	30	30	42	20	34	34
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31

Column for each question may not sum to 100% because of rounding.

\*Rounding causes apparent discrepancy in sum.

## EXPERIENCE WITH SANDHILL CRANES

- The survey described sandhill cranes and then asked respondents if they had ever seen a one.
  - Among Tennessee residents as a whole, just more than a quarter (28%) had seen a sandhill crane. Not surprisingly, hunt area residents were more likely to have seen one: 45% had seen one.
  - Hunters statewide had seen sandhill cranes at a greater rate than the general population: among hunters statewide, 44% had seen one. Among hunters in the hunt area, 60% had seen one.
  - Wildlife watchers were just slightly more likely than the general population to have seen a sandhill crane: 33% among them statewide, and 60% among hunt area wildlife watchers.

	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
Based on the description, thinks had seen a sandhill crane in Tennessee	28	45	44	60	33	60
Based on the description, thinks had not seen a sandhill crane in Tennessee	61	46	48	32	56	31
Don't know	11	9	9	8	11	9

Column for each question may not sum to 100% because of rounding.

## APPROVAL OR DISAPPROVAL OF HUNTING IN GENERAL

- Among Tennessee residents statewide, 84% approve of legal hunting, while 11% disapprove. Among hunt area residents, there are similar results: 80% approve, and 14% disapprove. Among wildlife watchers, results are similar: 86% of them approve statewide; 83% of hunt area wildlife watchers approve. (Among hunters, approval is almost universal.)

	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>Strongly approve of legal hunting</b>	60	56	92	96	62	70
<b>Moderately approve of legal hunting</b>	24	23	8	4	24	13
<b>Total approval</b>	84	80	100	100	86	83
<b>Neither approve nor disapprove / don't know</b>	5	6	0	0	3	2
<b>Moderately disapprove of legal hunting</b>	5	4	1	0	5	5
<b>Strongly disapprove of legal hunting</b>	6	10	0	0	6	10
<b>Total disapproval</b>	11	14	1	0	10	15

Column for each question may not sum to 100% because of rounding.

## OPINIONS ON HUNTING SANDHILL CRANES

- While approval of hunting is high (ranging from 80% on up to nearly 100% among the six groups studied), there is little support for the hunting of sandhill cranes—even among hunters there is not a majority in support.
  - Among Tennessee residents overall, 19% support, while 62% oppose, with similar results among hunt area residents.
  - Among hunters, while support exceeds opposition, less than a majority support. Among hunters statewide, 42% support and 35% oppose; among hunt area hunters, 44% support and 36% oppose.
  - Wildlife watchers are similar to the general population. Statewide, 21% of wildlife watchers support, while 62% oppose; among hunt area wildlife watchers, 24% support and 57% oppose.
  
- The question above was asked again, but the wording was changed to say, “If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee?” Only among hunters did the wording markedly increase support: with the wording, hunters, particularly

in the hunt area, were more supportive. Among the other groups, support generally grew just slightly, except among hunt area residents.

- Among residents statewide, support went from 19% to 25%; opposition went from 62% to 60%. However, in the hunt area, support remained the same at 20%, but opposition went from 60% to 68%.
- Among hunters statewide, support increased from 42% to 48%, while opposition went from 35% to 29%. This difference was more pronounced among hunt area hunters, whose support increased from 44% to 56%, while their opposition dropped from 36% to 24%.
- Among wildlife watchers statewide, support went from 21% to 24% (opposition was about the same, going from 62% to 61%), and among hunt area wildlife watchers, support went from 24% to 26% (opposition increased from 57% to 61%).

	Tennessee residents		Hunt area residents		Hunters statewide		Hunt area hunters		Wildlife watchers statewide		Hunt area wildlife watchers	
<b>IN GENERAL, DO YOU SUPPORT OR OPPOSE HUNTING SANDHILL CRANES IN TENNESSEE? (left side of column)</b>												
<b>IF THERE WERE NO CONVINCING REASONS AT ALL TO PREVENT OR TO ALLOW HUNTING SANDHILL CRANES IN TENNESSEE, WOULD YOU PERSONALLY SUPPORT OR OPPOSE HUNTING SANDHILL CRANES IN TENNESSEE? (right side of column)</b>												
<b>Strongly support</b>	7	10	8	8	17	20	28	32	7	9	8	8
<b>Moderately support</b>	12	15	12	11	25	28	16	24	14	15	16	18
<b>Total support</b>	19	25	20	20	42	48	44	56	21	24	24	26
<b>Neither support nor oppose / don't know</b>	19	15	20	12	24	24	20	20	17	16	19	13
<b>Moderately oppose</b>	19	18	18	21	18	13	16	8	18	18	15	16
<b>Strongly oppose</b>	43	41	43	47	17	16	20	16	45	43	43	45
<b>Total opposition</b>	62	60	60	68	35	29	36	24	62	61	57	61
<b>Change in support</b>	+6		0		+6		+12 +3				+2	
<b>Change in opposition</b>	-2		+8		-6		-12 -1				+4	

Column for each question may not sum to 100% because of rounding.

- The survey included two series of questions pertaining to support for or opposition to hunting of sandhill cranes. In one series the questions included statements that would tend to encourage support, and in the other series the questions included statements that would tend

to encourage opposition. Which series was given first to the respondent was randomized, as was the order within the series.

- In general, support was higher with the statements added, even statements encouraging opposition. Also in general, opposition was *lower* with the statements encouraging support; opposition was higher for only some of the statements that encouraged more opposition.
- Another part of the analysis looks at *which* added statements made for the most support.
  - That sandhill cranes have been involved in crop damage resonated well. It produced the most support among the general population statewide, hunters statewide and in the hunt area, and wildlife watchers statewide.
  - Telling respondents that the estimated sandhill crane population has more than doubled since 1996 also resonated well among residents and among wildlife watchers.
  - Another statement that resonated well among all groups, including wildlife watchers, is that sandhill crane hunting has occurred long-term in other states without negative impacts on sandhill crane populations, being the second- or third-ranked statement in support among the groups.
  - Finally, the last statement that produced markedly more support than the other statements is that a limited number of permits would be made available—respondents apparently wanted to know that the population would be protected.
- Regarding statements that produced opposition:
  - That there might be confusion between whooping cranes and sandhill cranes is the statement that produced the most opposition in every group.
  - The second-ranked statement in producing opposition for each group was that some wildlife watching and birdwatching groups oppose the hunting of sandhill cranes.

WOULD YOU SUPPORT OR OPPOSE THE HUNTING OF SANDHILL CRANES IN TENNESSEE IF YOU KNEW:		Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
Q49. Sandhill crane population in Eastern U.S. has more than doubled since 1996 from approx. 30K to 84K birds	Support	49	46	68	68	50	54
	Oppose	39	44	21	16	39	38
Q50. Sandhill cranes are hunted in other U.S. states / Canadian prov. / Mexico where pops. are sufficient to allow hunting	Support	44	36	71	72	46	40
	Oppose	42	49	19	16	41	44
Q51. Sandhill crane hunting has occurred long-term in other states without neg. impacts on health / size of populations	Support	49	43	73	72	50	53
	Oppose	39	44	20	16	39	41
Q52. Hunting for sandhill cranes will only be allowed in Southeastern Tennessee	Support	38	35	63	72	39	39
	Oppose	47	50	24	16	48	50
Q53. Hunting for sandhill cranes will not be allowed on Hiwassee Refuge for migratory birds in TN	Support	37	35	66	68	39	37
	Oppose	49	55	24	24	49	53
Q54. TN Wildlife Resources Agency and Atlantic and Miss. Flyway Councils have determined that harvest would have minimal impact on overall pop. growth of sandhill cranes	Support	41	39	70	72	43	38
	Oppose	46	54	20	16	46	58
Q55. A limited number of sandhill crane hunting permits would be available in Tennessee	Support	46	41	71	72	48	42
	Oppose	43	49	19	12	43	52
Q56. Sandhill cranes are classified as migratory birds, and U.S. Fish & Wildlife Service closely monitors harvest of all migratory birds, including sandhill cranes	Support	41	35	68	72	43	34
	Oppose	47	52	22	20	47	55
Q57. Sandhill cranes have been increasingly involved in ag. / crop damage	Support	52	46	76	76	54	47
	Oppose	37	45	17	16	35	45
Q58. Hunting / fishing license sales / fees / taxes fund nearly all fish / wildlife mngmnt. / conserv. in TN	Support	43	39	65	72	43	42
	Oppose	43	48	25	20	43	47
Q61. Some wildlife watching and birdwatching groups, such as the Tennessee Ornithological Society, oppose hunting sandhill cranes	Support	27	28	53	60	26	26
	Oppose	56	59	30	20	57	60
Q62. There are more wildlife watchers and birdwatchers than there are hunters in Tennessee	Support	31	29	59	68	33	33
	Oppose	52	52	26	20	52	52
Q63. While some believe agricultural damage by sandhill cranes is increasing, others say the damage is not that extensive and that other means of control are sufficient, such as federal depredation or kill permits as well as non-lethal control methods	Support	37	35	64	68	38	36
	Oppose	48	53	28	20	48	52
Q64. Although adult sandhill cranes are gray and adult whooping cranes are white, juveniles birds look v. similar / often share habitat. Some have expressed concern re: possibility of whooping crane being mistaken for sandhill crane and accidentally shot	Support	21	18	47	56	21	18
	Oppose	67	70	40	32	68	66

Column for each question may not sum to 100% because neutral and "don't know" responses not shown.

**POSSIBLE RECREATION CONFLICTS WITH HUNTING**

- Despite relatively low support for the hunting of sandhill cranes, the majority of every group agrees that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers.
  - Among residents statewide, 64% agree and 24% disagree; among hunt area residents, 53% agree and 32% disagree.
  - Among hunters statewide, 85% agree and only 9% disagree; among hunt area hunters, 88% agree and 12% disagree.
  - Among wildlife watchers statewide, 66% agree and 23% disagree, while among hunt area wildlife watchers, 58% agree and 32% disagree.
  
- A follow-up question asked respondents if they thought that the Hiwassee community would benefit more from only holding the Tennessee Sandhill Crane Festival, only allowing hunting, or doing both. There is almost no support for only hunting—even among hunters. Otherwise, doing both is the preferred option for five of the six groups.
  - Among Tennessee residents overall, 53% say both, and 25% want the festival only. Among hunt area residents, 40% say both, while 42% say the festival only.
  - Interestingly, hunters are the most likely to say “both,” obviously feeling that hunting does not impinge on otherwise enjoying wildlife. Statewide, 72% of hunters say both, and 14% say the festival only (only 4% said hunting only); among hunt area hunters, 76% say both and 20% say the festival only (none said hunting only).
  - Wildlife watchers are quite similar to the general population. Statewide, 53% say both and 27% say the festival only. Hunt area wildlife watchers are at 42% for both and 41% for the festival only.

	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>DO YOU AGREE OR DISAGREE THAT IT IS POSSIBLE TO SUCCESSFULLY ALLOW SANDHILL CRANE HUNTING AND MAINTAIN SANDHILL CRANE VIEWING OPPORTUNITIES FOR WILDLIFE WATCHERS IN TENNESSEE?</b>						
<b>Strongly agree</b>	33	24	58	68	34	27
<b>Moderately agree</b>	31	29	27	20	32	31
<b>Total agree</b>	64	53	85	88	66	58
<b>Neither agree nor disagree / don't know</b>	12	15	7	0	10	10
<b>Moderately disagree</b>	8	11	4	4	9	13
<b>Strongly disagree</b>	16	21	5	8	15	19
<b>Total disagree</b>	24	32	9	12	23	32
<b>DO YOU THINK IT IS MORE BENEFICIAL OVERALL TO THE HIWASSEE AREA COMMUNITY TO HOLD THE TENNESSEE SANDHILL CRANE FESTIVAL, TO ALLOW SANDHILL CRANE HUNTING, OR TO HAVE BOTH?</b>						
<b>Festival (only)</b>	25	42	14	20	27	41
<b>Hunting (only)</b>	1	2	4	0	1	0
<b>Both</b>	53	40	72	76	53	42
<b>Don't know</b>	22	16	11	4	19	17

Column for each question may not sum to 100% because of rounding.

## TENNESSEE SANDHILL CRANE FESTIVAL

- The survey asked about awareness of the Tennessee Sandhill Crane Festival in Birchwood. Awareness, obviously, is higher in the hunt area.
  - Among the general population statewide, 6% had heard of the festival, and 24% of hunt area residents had heard of the festival.
  - Hunters are quite similar to the general population: 7% of hunters statewide and 20% of hunt area hunters had heard of the festival.
  - Wildlife watchers are the most aware, but only slightly more than the general population: 8% of wildlife watchers statewide and 33% of them in the hunt area had heard of the festival.
    - The actual rate of attendance at the festival is no more than 8% of any group, including those in the hunt area.



	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>Had heard of the Tennessee Sandhill Crane Festival in Birchwood prior to survey</b>	6	24	7	20	8	33
<b>Attended in past 2 years</b>	0.4	2.7	0.5	0.0	0.5	3.4
<b>Attended, but not in past 2 years</b>	0.4	2.9	1.5	8.0	0.4	2.5
<b>Total attended</b>	<b>0.8</b>	<b>5.6</b>	<b>2.0</b>	<b>8.0</b>	<b>0.9</b>	<b>5.9</b>
<b>Have never attended</b>	98.7	93.7	98.0	92.0	98.5	92.1
<b>Don't know</b>	0.5	0.7	0.0	0.0	0.6	2.1

Column for each question may not sum to 100.0% because of rounding.

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## **INTRODUCTION AND METHODOLOGY**

This study was conducted for the Tennessee Wildlife Resources Agency (TWRA) to determine residents' and hunters' knowledge of and experiences with sandhill cranes, their opinions on hunting sandhill cranes, and their experiences with the Tennessee Sandhill Crane Festival. The study entailed a telephone survey of residents of Tennessee, residents of the proposed sandhill crane hunt area, and hunters. Specific aspects of the research methodology are discussed below.

### **USE OF TELEPHONES FOR THE SURVEY**

For the survey, telephones were selected as the preferred sampling medium because of the almost universal ownership of telephones among Tennessee residents and hunters (both land lines and cell phones were called in their proper proportion). Additionally, telephone surveys, relative to mail or Internet surveys, allow for more scientific sampling and data collection, provide higher quality data, obtain higher response rates, are more timely, and are more cost-effective. Telephone surveys also have fewer negative effects on the environment than do mail surveys because of reduced use of paper and reduced energy consumption for delivering and returning the questionnaires.

### **QUESTIONNAIRE DESIGN**

The telephone survey questionnaire was developed cooperatively by Responsive Management and the TWRA, based on the research team's familiarity with natural resources and outdoor recreation. Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey.

### **SURVEY SAMPLES**

The survey used three samples: residents of the state as a whole, a sample of residents of counties in which the Hiwassee Wildlife Management Area is located, and a sample of hunters in the state as a whole. The sample of Tennessee and Hiwassee area residents was obtained from a firm that specializes in providing scientific telephone samples of various populations. The sample of Tennessee hunters was obtained from the TWRA. See the section titled, "Data Analyses," for details about how these three samples were used in the data analyses.

## **TELEPHONE INTERVIEWING FACILITIES**

A central polling site at the Responsive Management office allowed for rigorous quality control over the interviews and data collection. Responsive Management maintains its own in-house telephone interviewing facilities. These facilities are staffed by interviewers with experience conducting computer-assisted telephone interviews on the subjects of outdoor recreation and natural resources.

To ensure the integrity of the telephone survey data, Responsive Management has interviewers who have been trained according to the standards established by the Council of American Survey Research Organizations. Methods of instruction included lecture and role-playing. The Survey Center Managers and other professional staff conducted a project briefing with the interviewers prior to the administration of this survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey questionnaire, reading of the survey questions, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey questionnaire.

## **INTERVIEWING DATES AND TIMES**

Telephone surveying times are Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday from noon to 5:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m., local time. A five-callback design was used to maintain the representativeness of the sample, to avoid bias toward people easy to reach by telephone, and to provide an equal opportunity for all to participate. When a respondent could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. The survey was conducted in April 2013.

## **TELEPHONE SURVEY DATA COLLECTION AND QUALITY CONTROL**

The software used for data collection was Questionnaire Programming Language (QPL). The survey data were entered into the computer as each interview was being conducted, eliminating manual data entry after the completion of the survey and the concomitant data entry errors that may occur with manual data entry. The survey questionnaire was programmed so that QPL

branched appropriately, based on the survey responses, to ensure that respondents received the correct questions and to maintain the integrity and consistency of the data collection.

The Survey Center Managers and statisticians monitored the data collection, including monitoring of the actual telephone interviews without the interviewers' knowledge, to evaluate the performance of each interviewer and ensure the integrity of the data. The survey questionnaire itself contains error checkers and computation statements to ensure quality and consistent data. After the surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness.

Responsive Management obtained a total of 1,201 completed interviews in total, broken down as follows:

- 800 completed interviews from among residents of the state as a whole.
- 201 completed interviews from among residents of the Hiwassee area.
- 200 completed interviews from among hunters in the state as a whole.

## **DATA ANALYSIS**

The analysis of data was performed using Statistical Package for the Social Sciences as well as proprietary software developed by Responsive Management. Weighting based on age and gender were applied to both the samples of residents. In addition, when data runs were made on various groups within the general population (explained further below), weighting based on geographic factors was applied so that the samples were properly proportioned in the data analyses.

The analyses considered six groups:

- Residents of the state as a whole (hereinafter referred to as the “general population” or “Tennessee residents”). This was taken from the sample of residents statewide.
- Residents of the hunt area (referred to as “hunt area residents”). This was taken from the sample of residents statewide and the sample of residents of the Hiwassee area, properly proportioned to represent all hunt area residents.
- Hunters in the state as a whole (referred to as “hunters statewide”). This was taken from the sample of hunters statewide.
- Hunters who reside in the hunt area (referred to as “hunt area hunters”). This was taken from the sample of hunters statewide, but only includes those who live in the hunt area.

- Wildlife watchers/birders in the state as a whole (referred to as “wildlife watchers statewide”). This was taken from the sample of residents statewide, but includes only those who did the activities.
- Wildlife watchers/birders who live in the hunt area (referred to as “hunt area wildlife watchers”). This was taken from the sample of residents statewide, but includes only those who did the activities and who lived in the hunt area.

Note that the graphs are always presented in that order: general population, hunt area residents, hunters statewide, hunt area hunters, wildlife watchers statewide, and hunt area wildlife watchers.

### SAMPLING ERROR

For the sample of residents statewide, the sampling error at the 95% confidence interval is at most plus or minus 3.46 percentage points, with a sample of 800 and a population size of 4,850,104 residents 18 years old and older. For the sample of hunters statewide, the sampling error at the 95% confidence interval is at most plus or minus 6.93 percentage points, with a sample of 200 hunters and a population size of 454,914 residents 18 years old and older.

Sampling error was calculated using the formula described below.

#### Sampling Error Equation

$$B = \left( \sqrt{\frac{N_p(.25)}{N_s} - .25} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)  
 $N_p$  = population size (i.e., total number who could be surveyed)  
 $N_s$  = sample size (i.e., total number of respondents surveyed)

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

**Note:** This is a simplified version of the formula that calculates the maximum sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

**ADDITIONAL INFORMATION ABOUT THE PRESENTATION OF RESULTS IN THE REPORT**

In examining the results, it is important to be aware that the questionnaire included several types of questions:

- Single or multiple response questions: Some questions allow only a single response, while other questions allow respondents to give more than one response or choose all that apply. Those that allow more than a single response are indicated on the graphs with the label, "Multiple Responses Allowed."
- Scaled questions: Many closed-ended questions (but not all) are in a scale, such as "a great deal," "a moderate amount," "a little," or "nothing at all."
- Series questions: Many questions are part of a series, and the results are primarily intended to be examined relative to the other questions in that series (although results of the questions individually can also be valuable). Typically, results of all questions in a series are shown together.

Most graphs show results rounded to the nearest integer; however, all data are stored in decimal format, and all calculations are performed on unrounded numbers. For this reason, some results may not sum to exactly 100% because of this rounding on the graphs. Additionally, rounding may cause apparent discrepancies of 1 percentage point between the graphs and the reported results of combined responses (e.g., when "strongly support" and "moderately support" are summed to determine the total percentage in support).

## **SPECIES THAT ARE THE SUBJECT OF WILDLIFE-ASSOCIATED RECREATION**

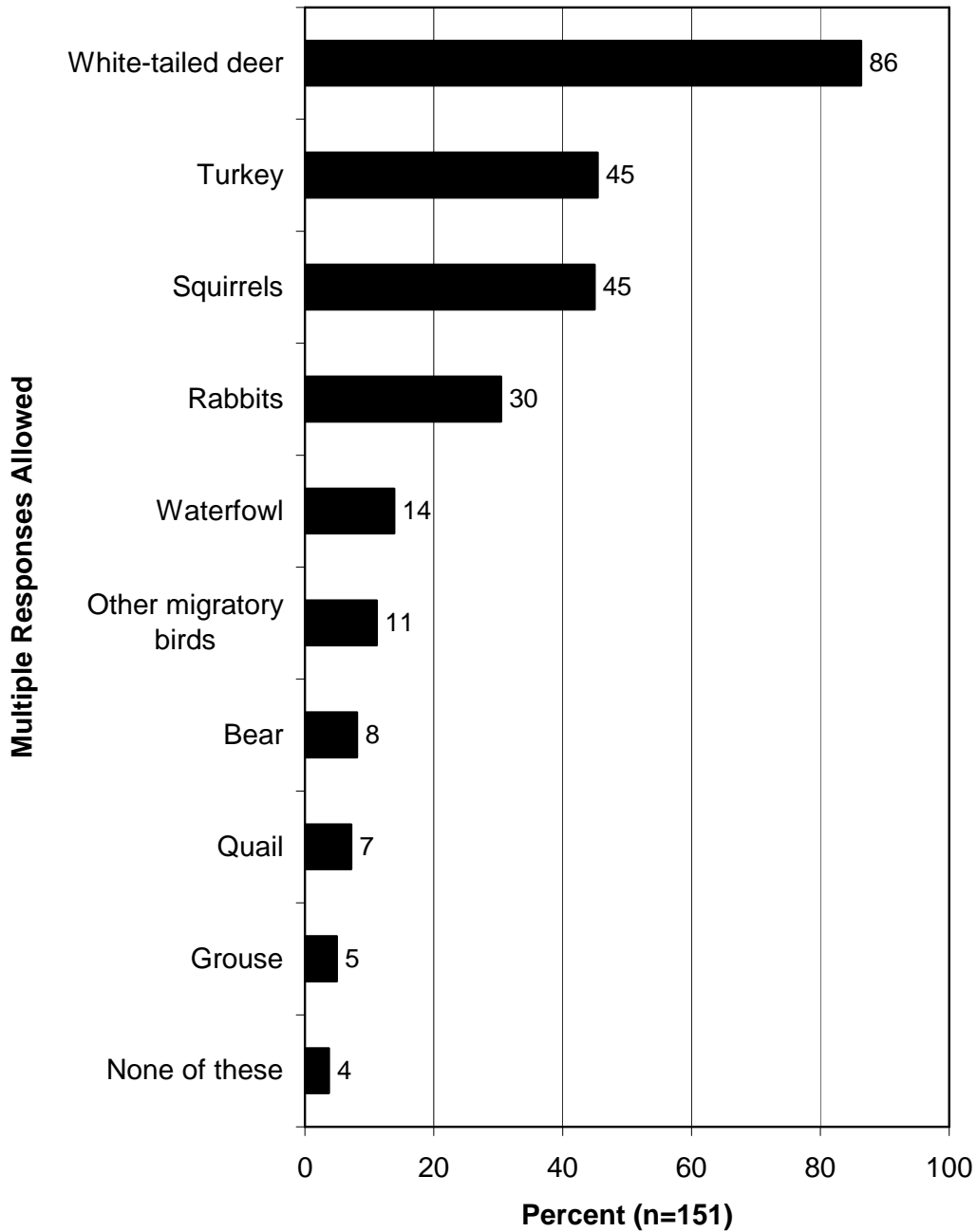
- Those who had hunted were asked whether they had hunted nine species or species types. Whether among the general population, hunt area residents, or hunters statewide, the top species are white-tailed deer, turkey, squirrel, and rabbit (with white-tailed deer far above the rest). Among hunt area hunters, waterfowl are also quite popular.
  
- Those who had watched wildlife or gone birding were asked whether any of nine species or species types were among those they observed. Among the general population, a top tier emerges, all with more than 50% of participants observing them: white-tailed deer, squirrels, and rabbits. Sandhill cranes were observed by 20% of these respondents.
  - The differences among the samples in reported observation of sandhill cranes is slight, with two exceptions: among hunt area hunters, half (50%) have observed sandhill cranes (but the sample size is low), and among hunt area wildlife watchers, 27% have observed sandhill cranes.
  
- Tabulations of all the data in this section are included, followed by the graphs.



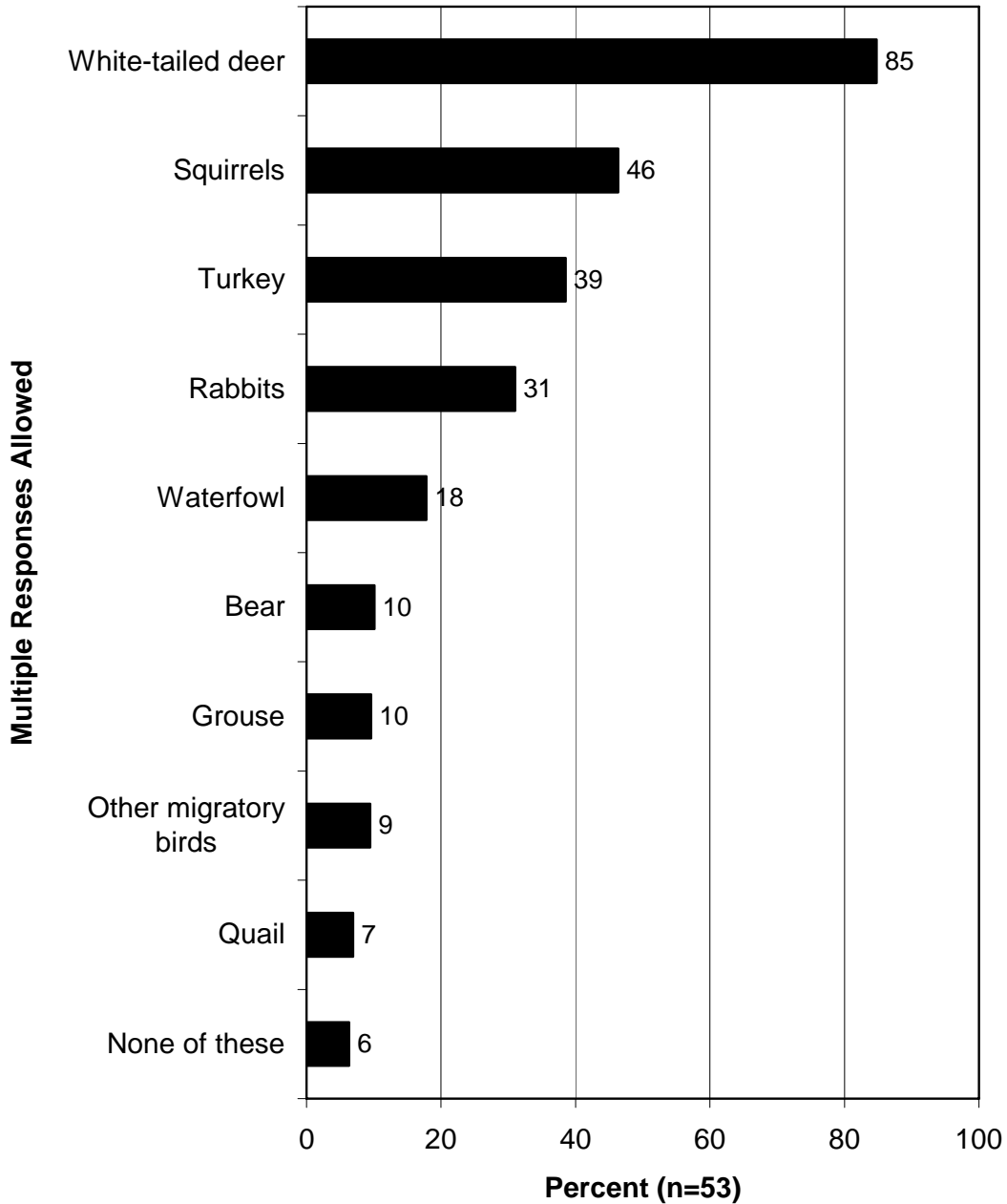
Species hunted	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
White-tailed deer	86	85	87	84	88	84
Turkey	45	39	38	48	49	31
Squirrels	45	46	48	36	45	42
Rabbits	30	31	28	12	33	29
Waterfowl	14	18	21	32	15	24
Other migratory birds	11	9	15	8	9	7
Bear	8	10	7	12	9	8
Quail	7	7	13	20	8	11
Grouse	5	10	7	8	5	13
None of these	4	6	2	4	2	9
<b>Species observed</b>						
Species observed	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
White-tailed deer	69	59	90	93	69	64
Squirrels	67	64	71	79	67	63
Rabbits	60	57	60	57	60	51
Turkey	48	39	72	79	48	38
Any other birds	42	42	29	43	42	32
Waterfowl	31	28	41	71	31	33
Other migratory birds	25	24	24	36	25	20
Sandhill cranes	20	23	19	50	20	27
Quail	16	10	26	36	16	11
Bear	14	9	15	7	14	10
Grouse	10	6	15	29	10	7
None of these	4	6	1	0	4	6
Don't know	1	1	0	0	1	1

Column for each question does not sum to 100% because multiple responses allowed.

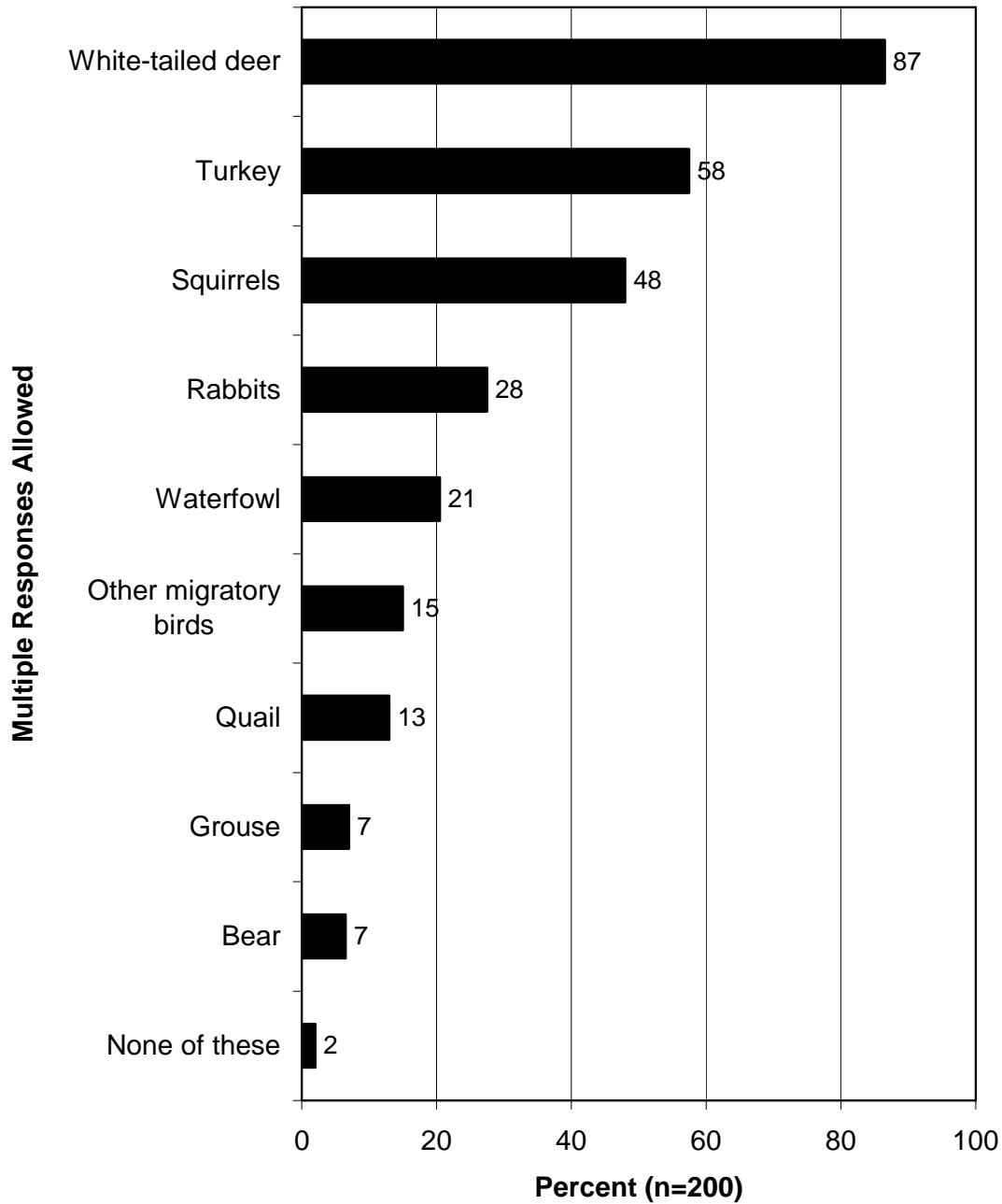
**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (General population.)**



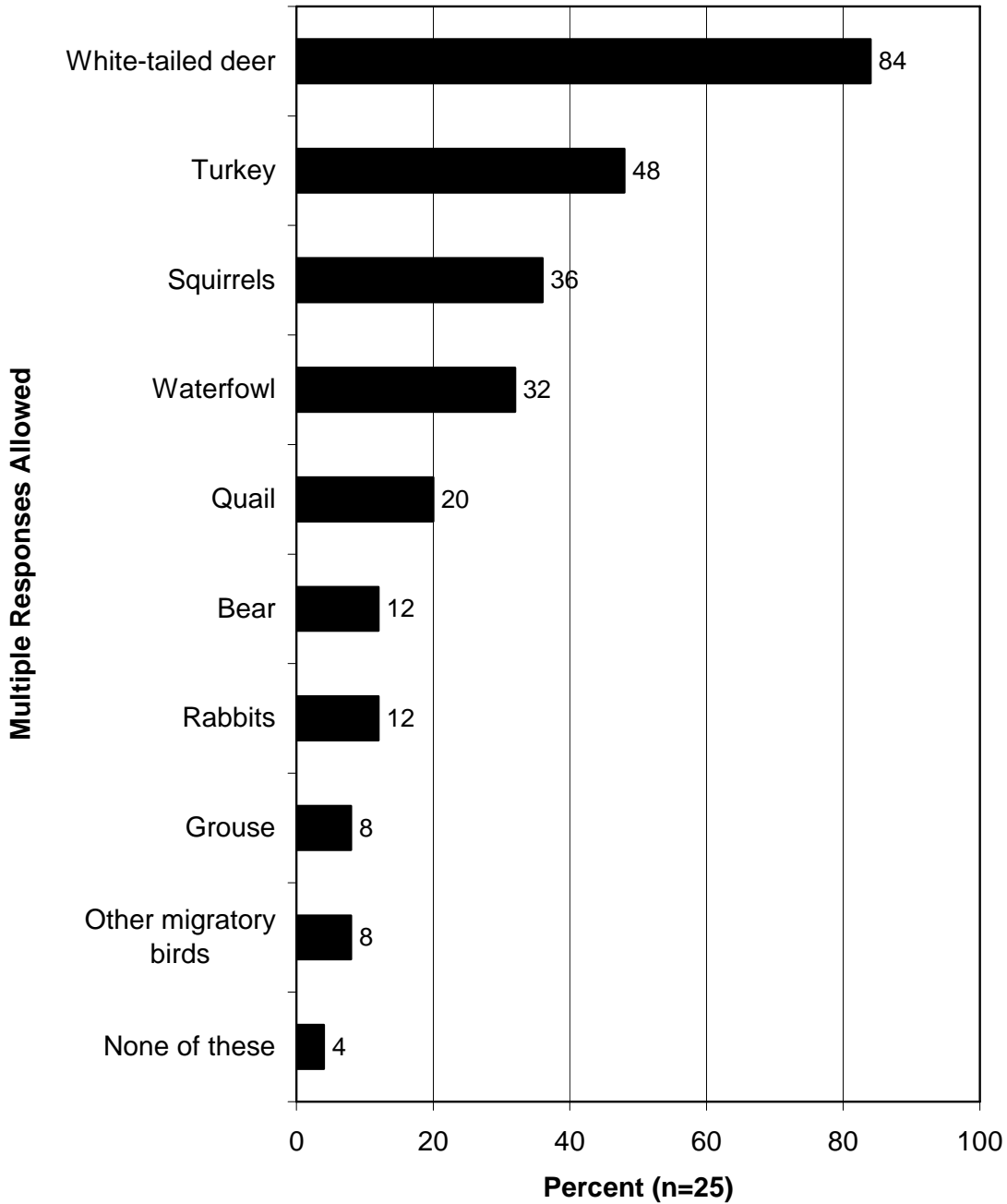
**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (Hunt area residents.)**



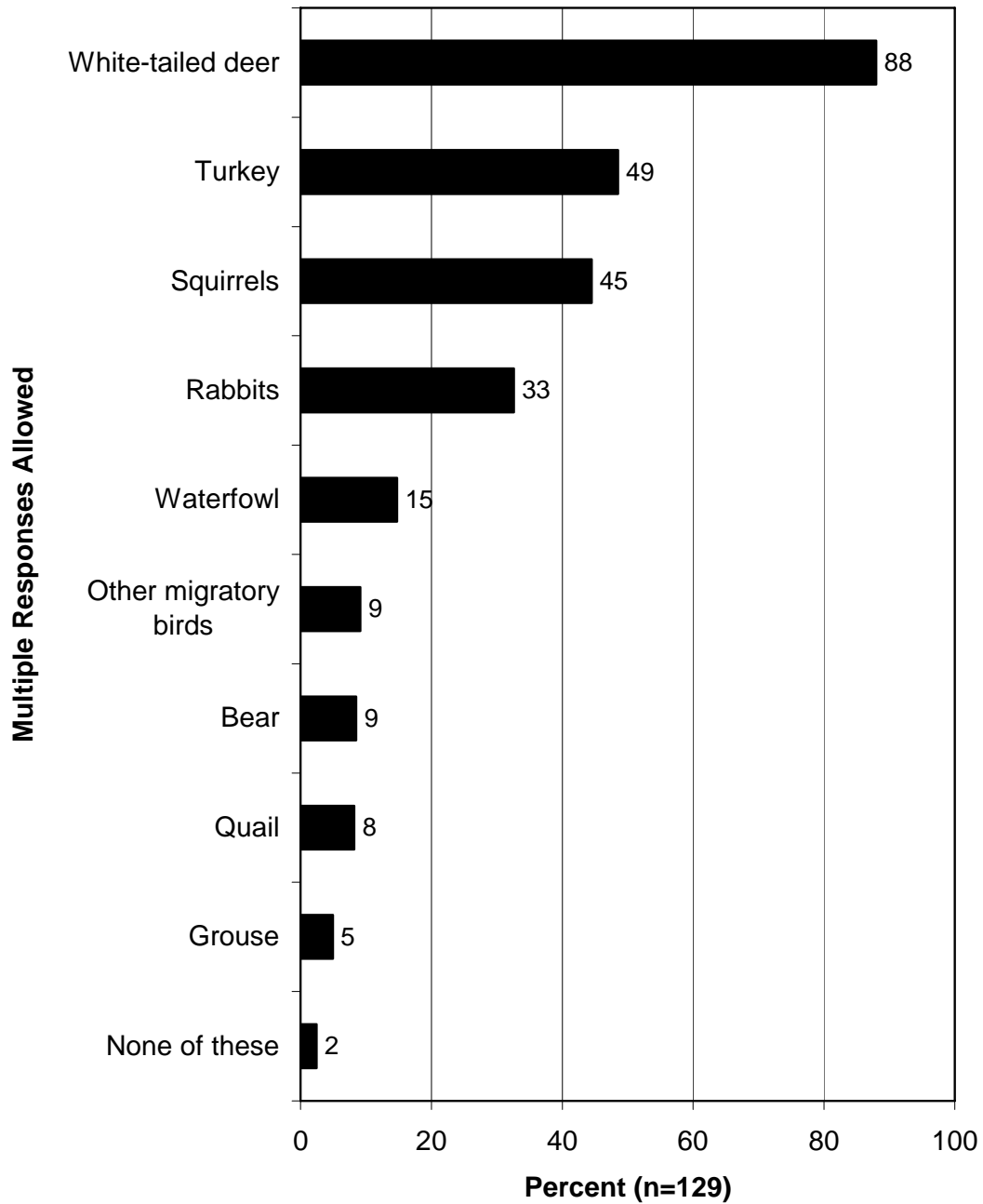
**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (Hunters statewide.)**



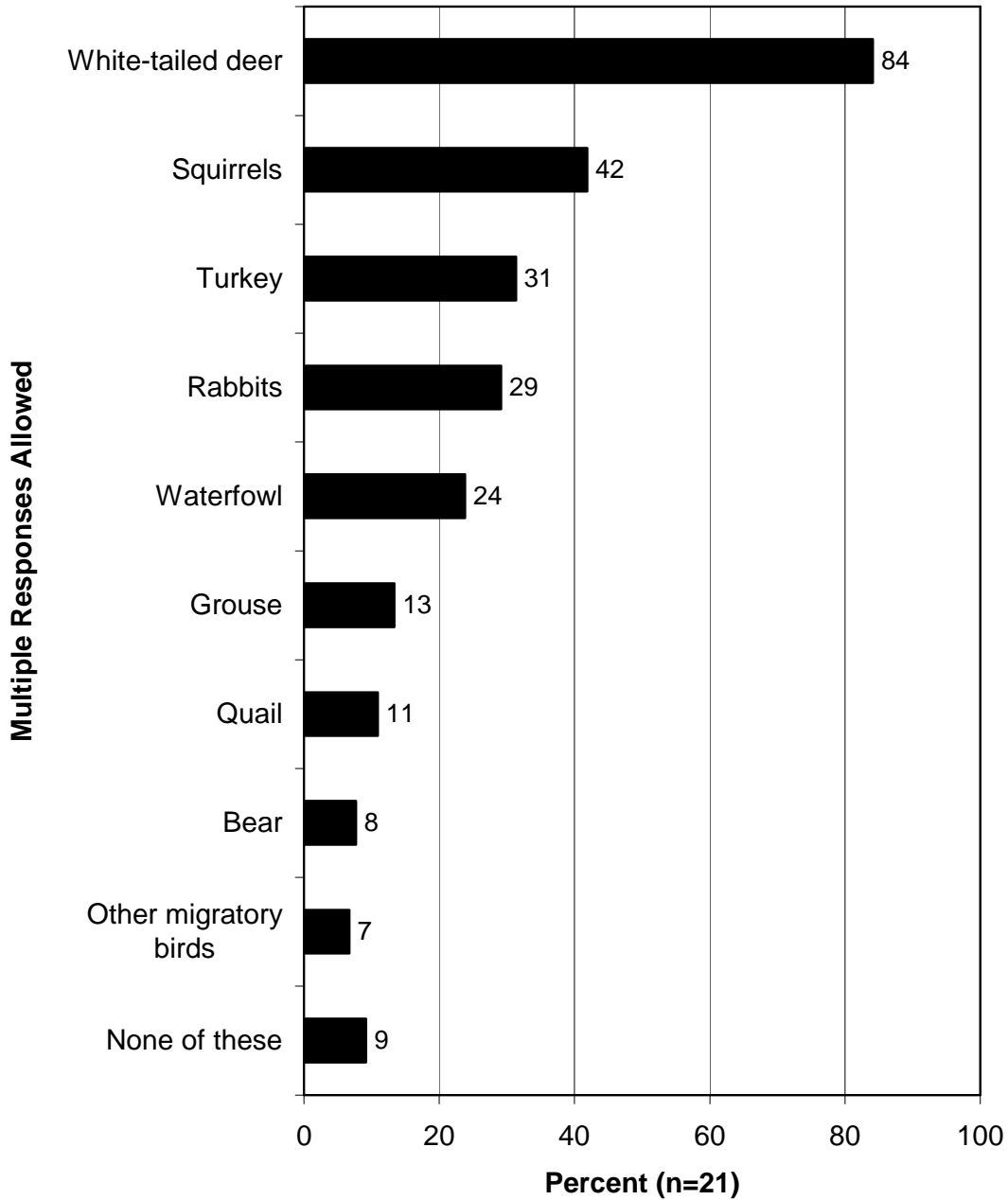
**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (Hunt area hunters.)**



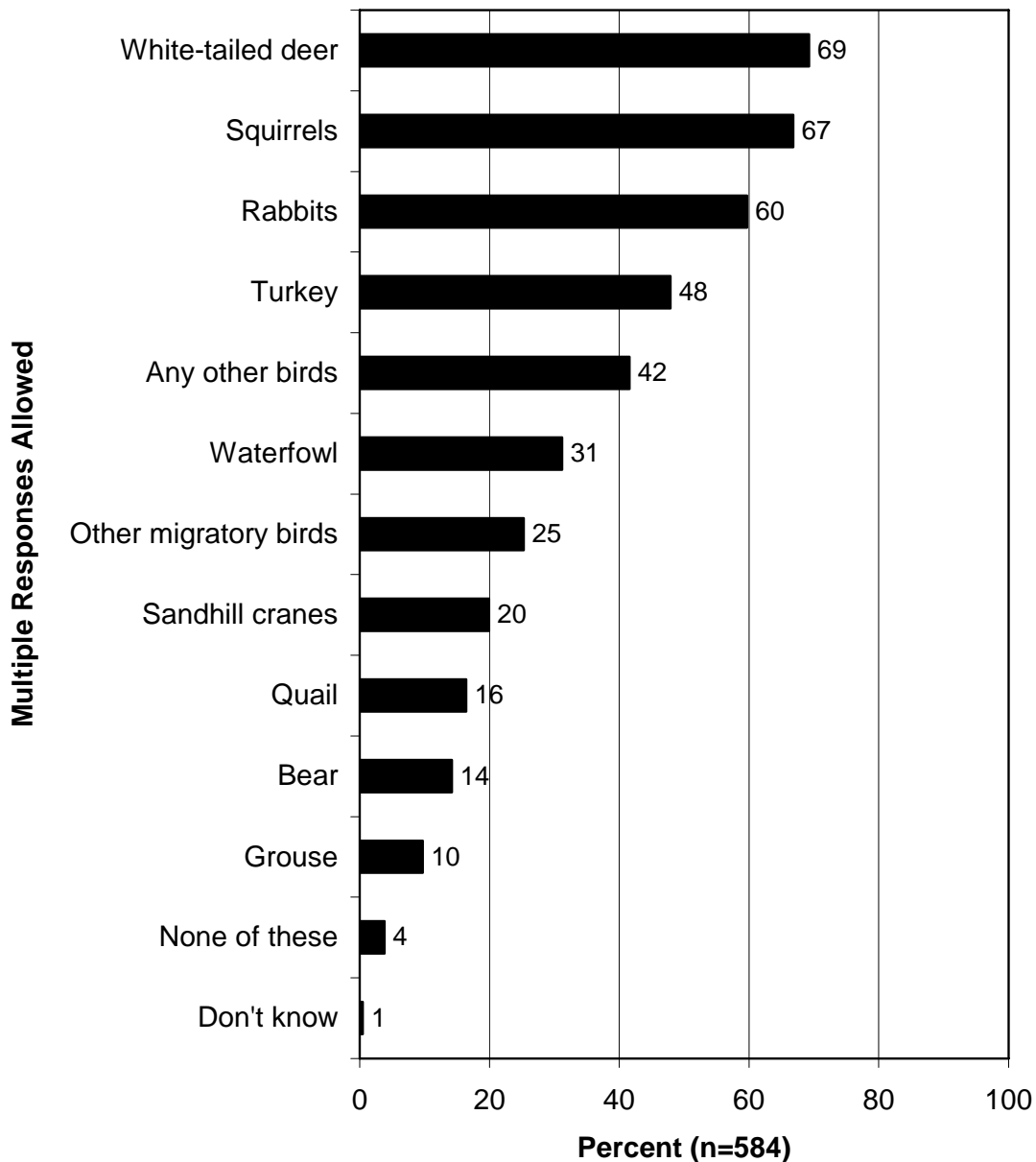
**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (Wildlife watchers statewide.)**



**Q21. Which of the following have you hunted in the past 2 years in Tennessee? (Asked of those who participated in hunting in Tennessee in the past 2 years.) (Hunt area wildlife watchers.)**

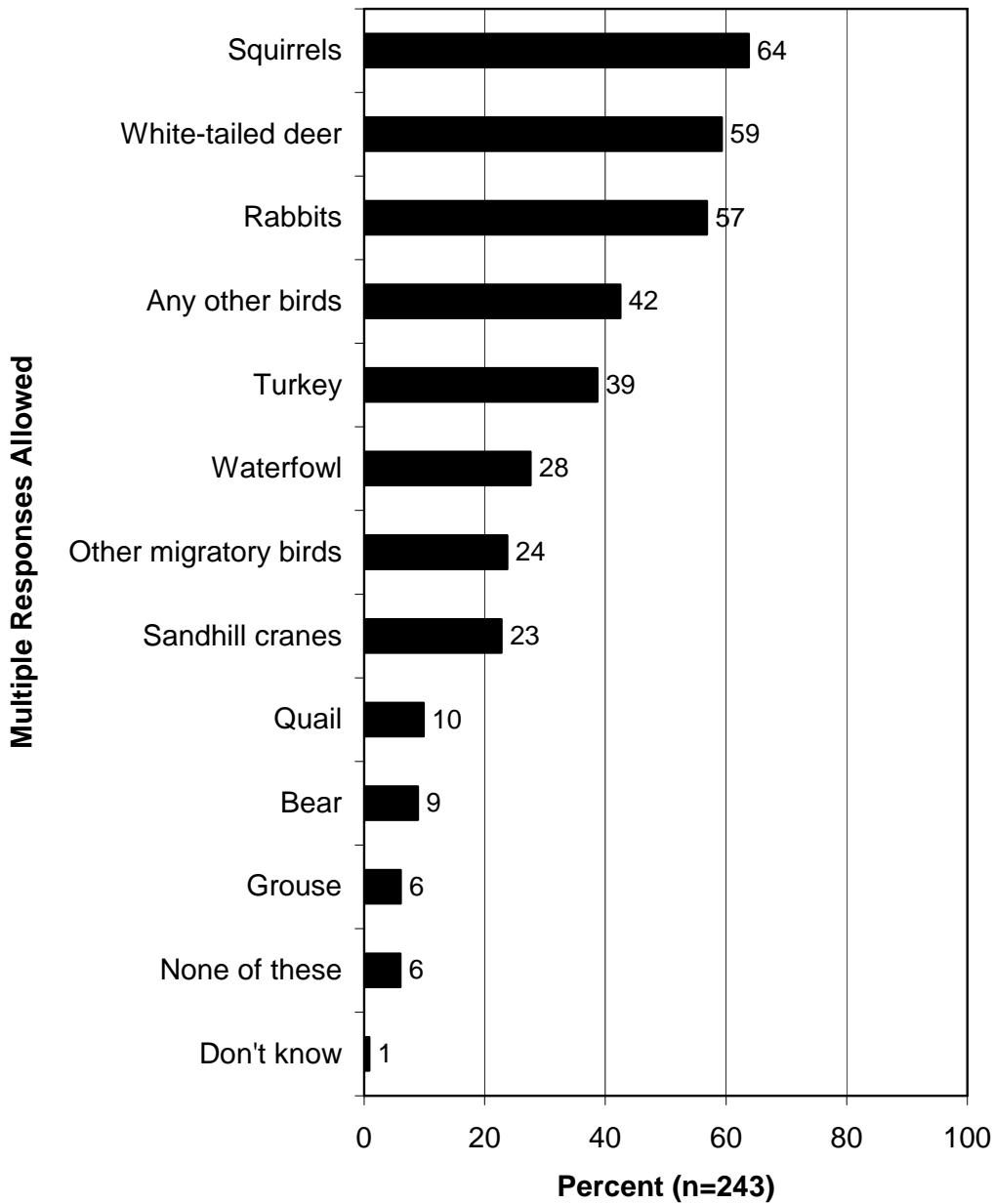


**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (General population.)**

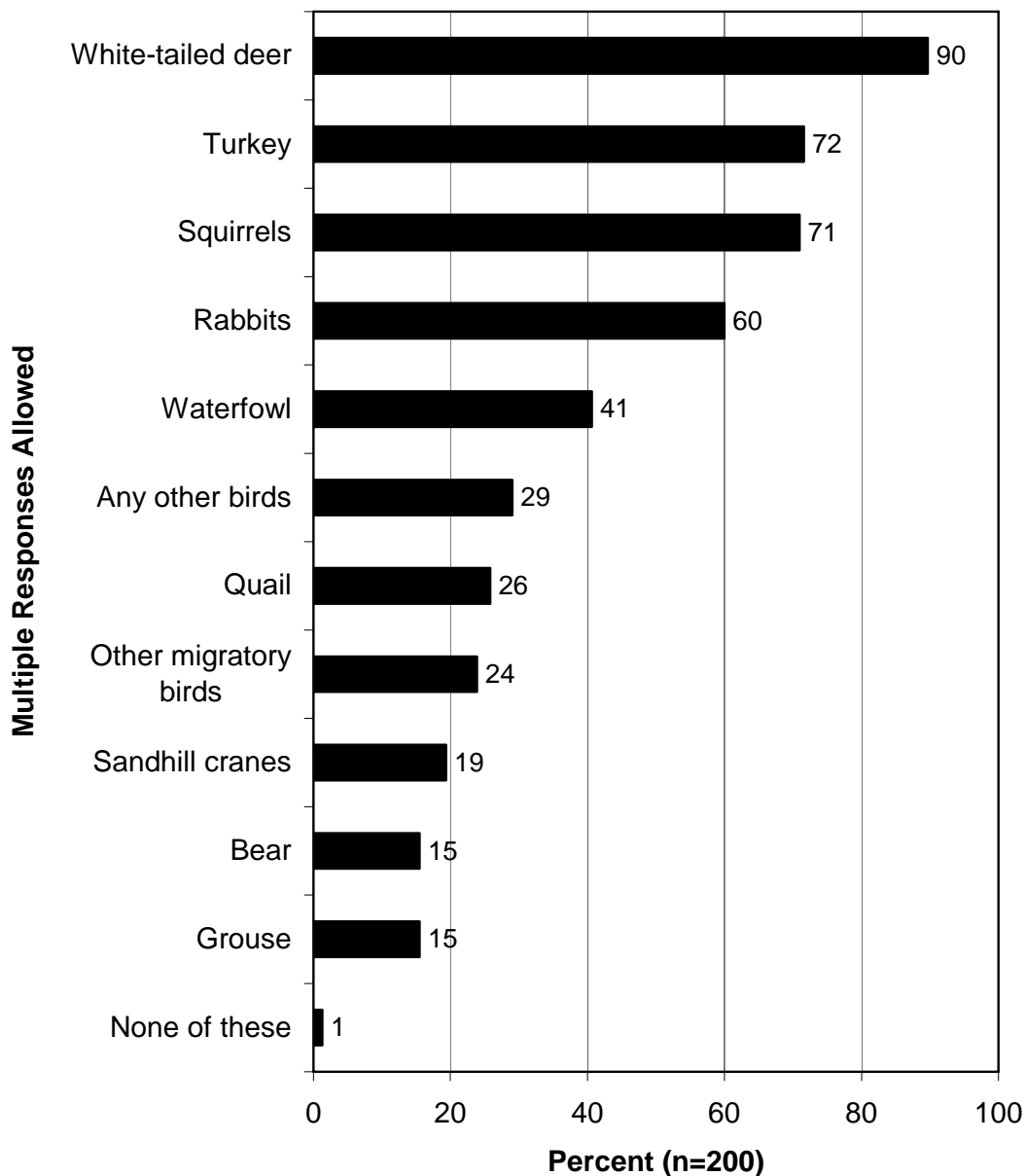




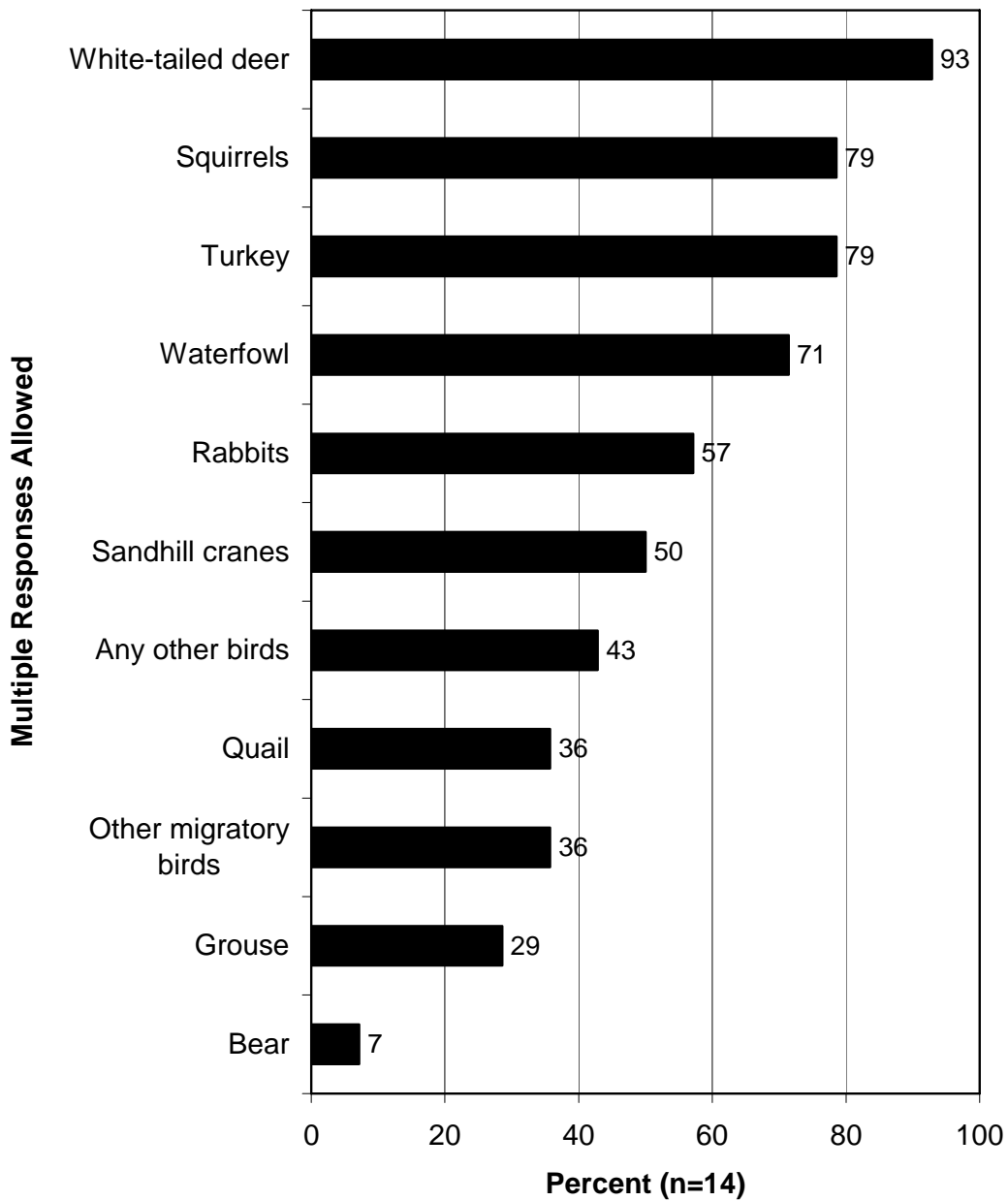
**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (Hunt area residents.)**



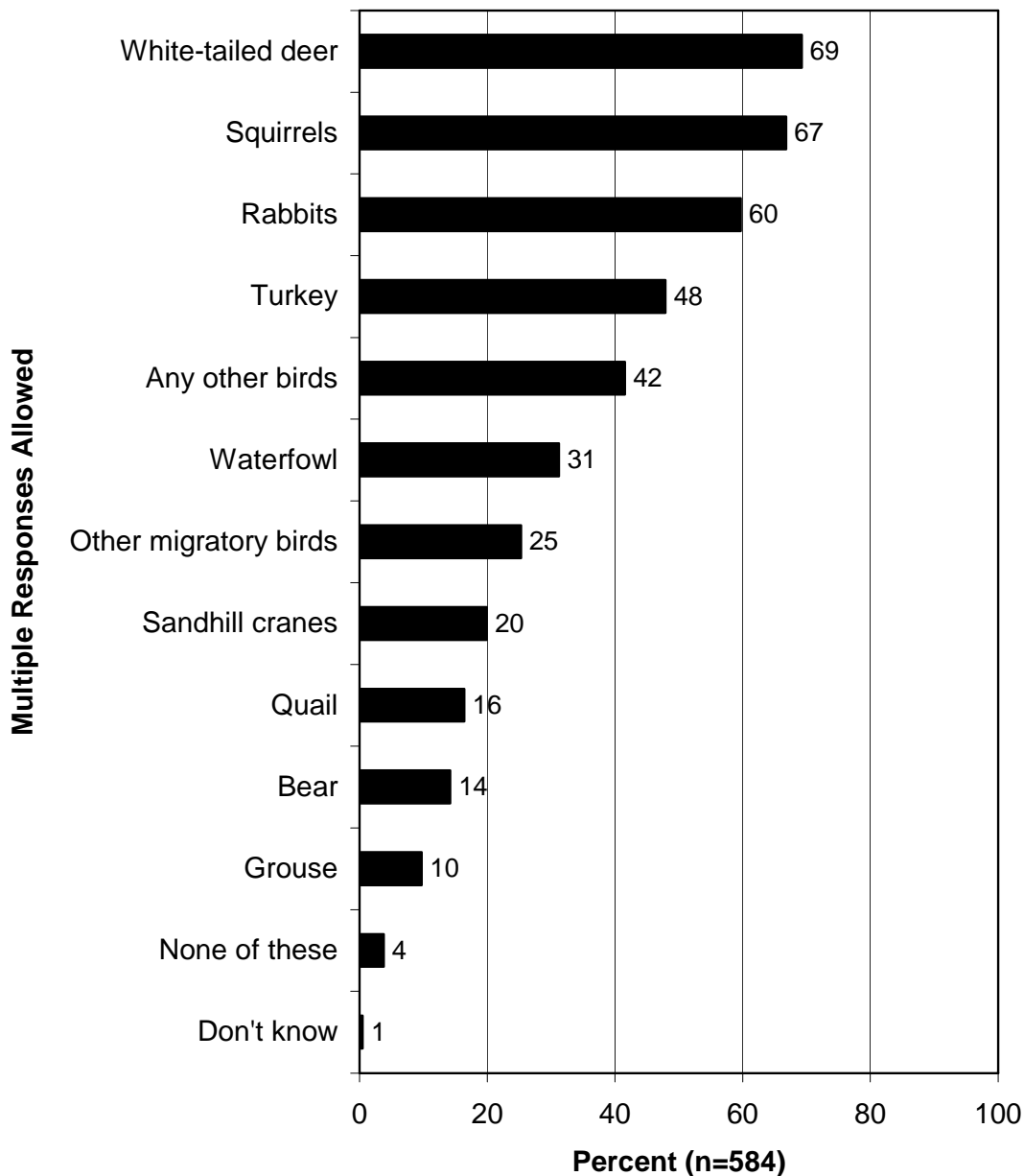
**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (Hunters statewide.)**



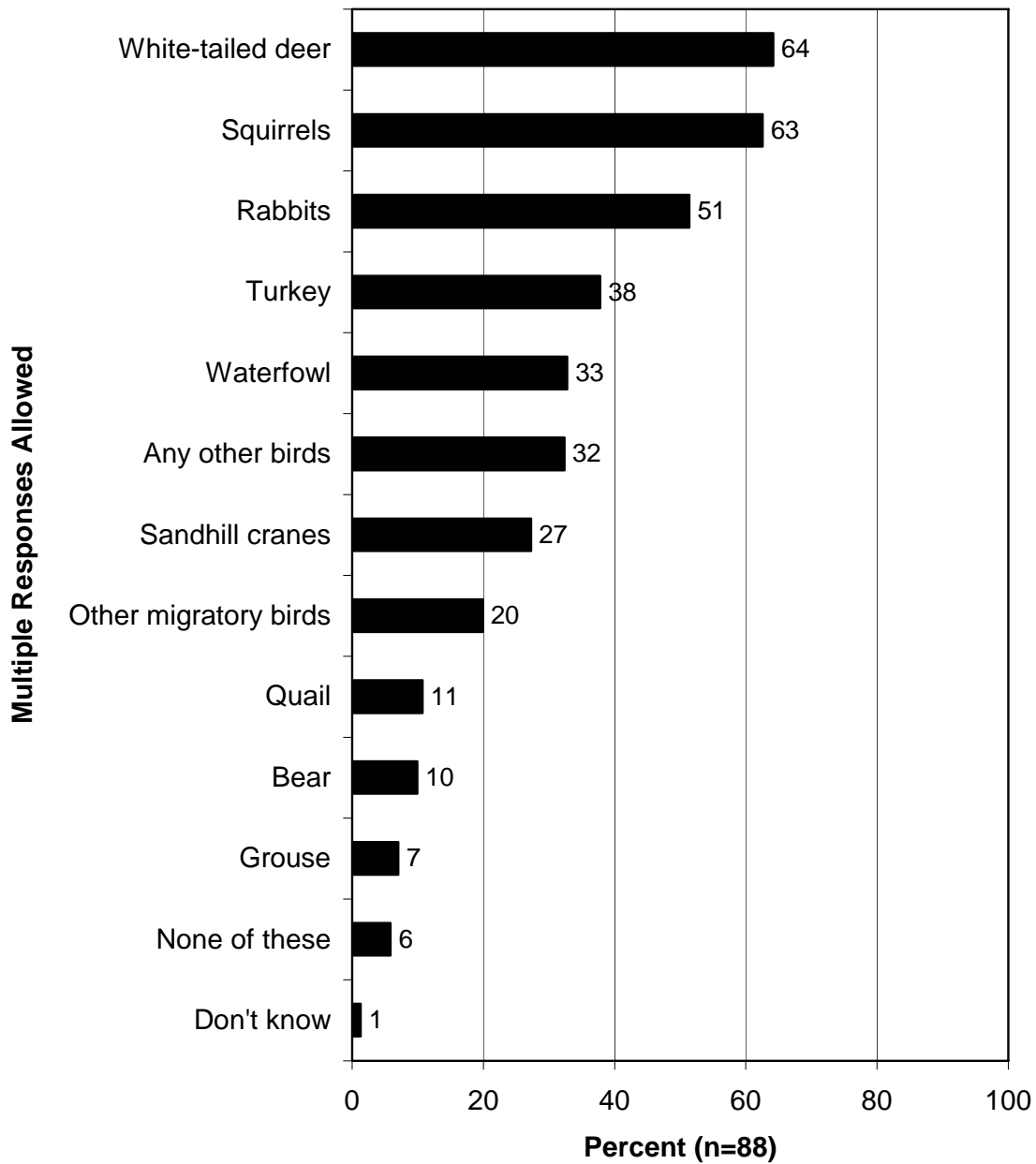
**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (Hunt area hunters.)**



**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (Wildlife watchers statewide.)**



**Q28. Have you participated in [wildlife watching and/or birding] for the primary purpose of observing any of the following in the past 2 years in Tennessee? (Asked of those who viewed wildlife and/or went birding in Tennessee in the past 2 years.) (Hunt area wildlife watchers.)**



## KNOWLEDGE OF SANDHILL CRANES

- Just more than 2 of 5 Tennessee residents statewide (41%) said that they had heard of sandhill cranes prior to the survey.
  - Among hunt area residents, 59% said that they had heard of sandhill cranes, considerably more than the general population across the entire state.
  - Hunters are more aware of sandhill cranes, compared to wildlife watchers or the general population: 66% of hunters statewide had heard of sandhill cranes, and 80% of hunters in the hunt area had heard of them.
  - Wildlife watchers were more likely to have heard of sandhill cranes than were the general population: 48% of wildlife watchers statewide had heard of them, and 69% of hunt area wildlife watchers had heard of them.
  
- Self-rated knowledge shows low knowledge levels about sandhill cranes. Less than 5% of Tennessee residents say that they know a great deal or moderate amount about sandhill cranes.
  - Self-rated knowledge levels are not greatly higher among hunt area residents: less than 10% say that they know a great deal or moderate amount about sandhill cranes.
  - The highest self-rated knowledge levels are among hunt area hunters: 40% of this group say that they know a great deal or a moderate amount.
  
- Three questions about sandhill cranes reveal a little about actual knowledge levels.
  - The first asked respondents to say whether this statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. The correct answer is false. To help discern actual knowledge from guesses, the response set used a scale.
    - Among the general population, only 35% gave a correct answer, but only 10% appear to have actually been sure of this knowledge. Among hunt area residents, 40% gave the correct answer, with 12% being sure.
    - A greater percentage of hunters are correct, compared to the general population: 42% of hunters statewide gave the correct answer, with 22% being sure, with similar results among hunt area hunters.

- Wildlife watchers also have more accurate knowledge, compared to the general population: 39% of wildlife watchers statewide correctly answered (but only 11% were sure), while 52% of hunt area wildlife watchers correctly answered (but, again, only 11% were sure).
- The second knowledge question asked about the status of sandhill crane populations in the eastern U.S. Four choices were read to respondents: increasing (correct answer), stable and healthy, declining, and endangered.
  - Only 5% of Tennessee residents statewide correctly indicated that the status of sandhill crane populations in the eastern U.S. is increasing, and 12% of hunt area residents correctly said this.
  - Hunters were more knowledgeable: 19% of hunters statewide and 24% of hunt area hunters gave the correct answer.
  - Wildlife watchers are in the middle between the general population and hunters: 6% of wildlife watchers statewide and 14% of hunt area wildlife watchers gave the correct answer.
- The third knowledge question asked respondents to indicate, choosing from a list, where sandhill cranes are found in Tennessee (the correct answer is in southeastern Tennessee).
  - Among the general population, 12% correctly named southeastern Tennessee. Hunt area residents were much more knowledgeable: 29% correctly named southeastern Tennessee.
  - Hunters were more knowledgeable than the general population, particularly hunt area hunters: 21% of hunters statewide and 44% of hunt area hunters named the correct area of Tennessee.
  - Likewise, wildlife viewers were more knowledgeable than the general population (but not hunters): 15% of wildlife watchers statewide and 38% of hunt area wildlife watchers chose the correct answer.
- To summarize the results, respondents from the hunt area were more knowledgeable than those not from the hunt area, and hunters were more knowledgeable than either the general population or wildlife watchers.

- A final question in this section asked if respondents knew that sandhill cranes migrate through or spend the winter in Tennessee (this was a yes-no question, simply asking if respondents knew the fact that was given to them in the question—too many “knowledge” questions in a survey can lead to respondent drop-out if they do not know answers).
  - The results mirror the knowledge questions above: respondents from the hunt area were more knowledgeable than those not from the hunt area, and hunters were the most knowledgeable, followed by wildlife watchers, with the general population at the bottom in knowledge.
  
- Tabulations of all the data in this section are included, followed by the graphs.

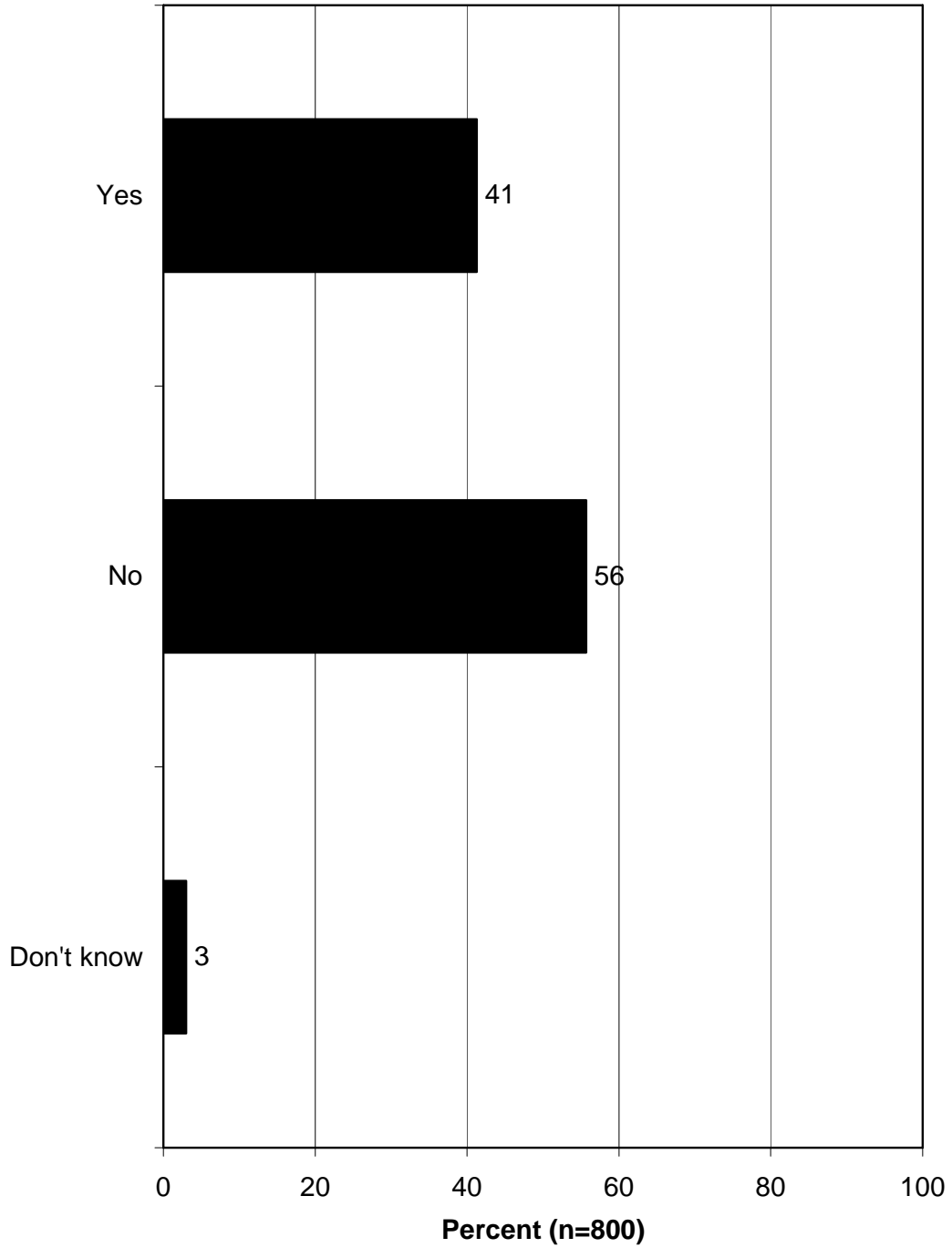


	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
Had heard of sandhill cranes prior to survey	41	59	66	80	48	69
<b>SELF-PROFESSED LEVEL OF KNOWLEDGE BEFORE SURVEY</b>						
Knew a great deal	0	1	3	8	0	0
Knew a moderate amount	4	8	10	32	5	11
Knew a little	24	32	40	28	28	41
Knew nothing at all	12	17	13	12	14	17
Had never heard of sandhill cranes prior to survey (i.e., knew nothing at all)	59	41	35	20	52	31
<b>SANDHILL CRANES AND GREAT BLUE HERONS ARE DIFFERENT NAMES FOR THE SAME SPECIES OF BIRD (FALSE) (ASKED OF ALL RESPONDENTS)</b>						
Incorrect answer or don't know	65	60	59	36	61	48
Pretty sure it is false	24	28	20	24	28	41
Absolutely sure it is false	10	12	22	20	11	11
Total false (correct answer)	35*	40	42	44	39	52
<b>WHICH BEST DESCRIBES THE CURRENT STATUS OF SANDHILL CRANE POPULATIONS IN EASTERN US? (CORRECT ANSWER: INCREASING) (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Increasing (correct answer)	5	12	19	24	6	14
Stable and healthy (incorrect, but close)	7	14	16	32	8	17
Declining / endangered (both incorrect)	15	21	15	16	17	26
Don't know	14	13	16	8	16	12
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31
<b>WHICH OF THE FOLLOWING DO YOU THINK BEST DESCRIBES WHERE SANDHILL CRANES ARE FOUND IN TENNESSEE? (CORRECT ANSWER: SOUTHEASTERN TENNESSEE) (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Incorrect answer	29	31	45	36	33	31
Southeastern Tennessee (correct answer)	12	29	21	44	15	38
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31
<b>PRIOR TO THIS SURVEY, DID YOU KNOW THAT SANDHILL CRANE POPULATIONS MIGRATE THROUGH OR SPEND THE WINTER IN TENNESSEE? (ASKED ONLY OF THOSE WHO HAD HEARD OF SANDHILL CRANES PRIOR TO SURVEY)</b>						
Yes	11	29	24	60	13	35
No / don't know	30	30	42	20	34	34
Had never heard of sandhill cranes prior to survey	59	41	35	20	52	31

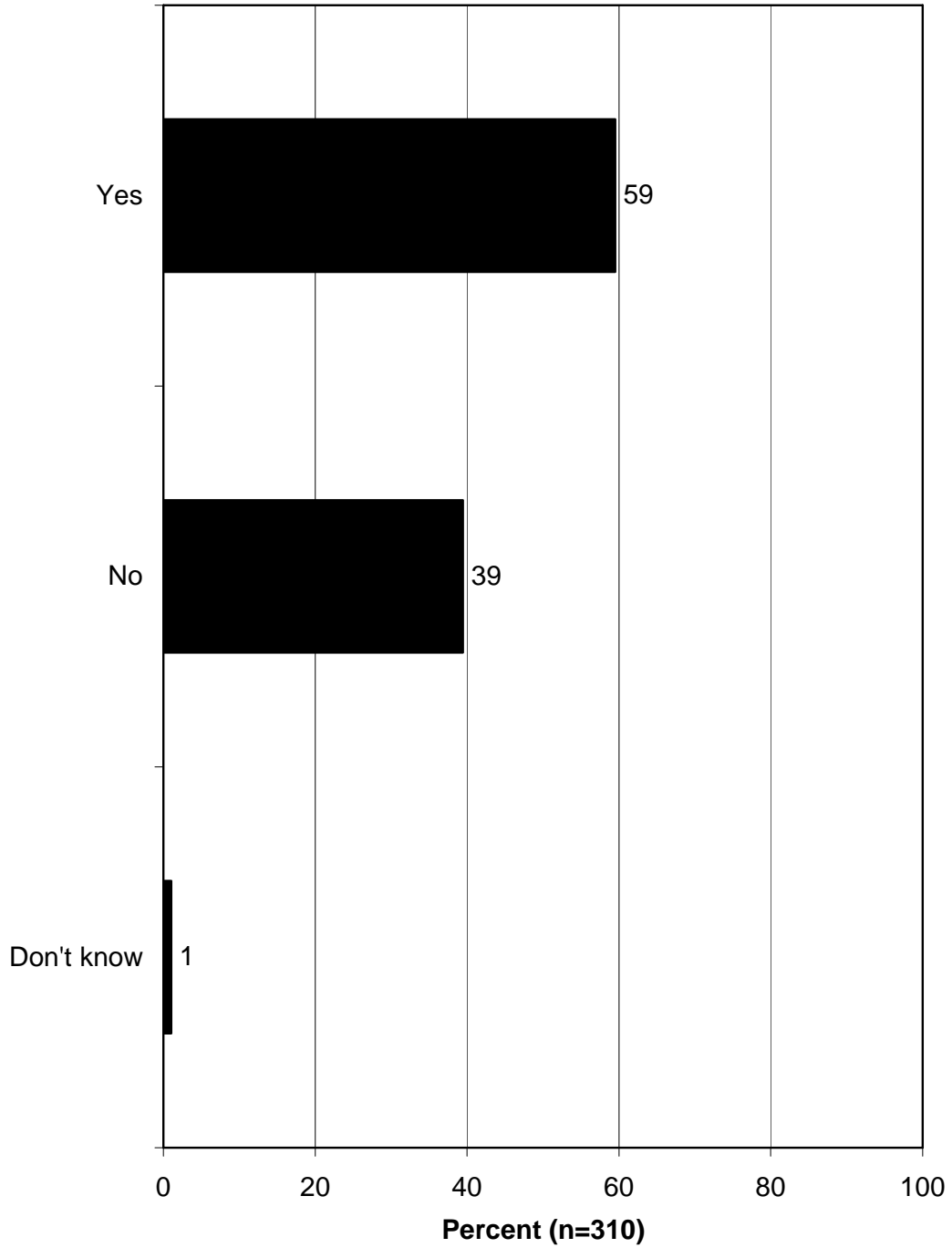
Column for each question may not sum to 100% because of rounding.

\*Rounding causes apparent discrepancy in sum.

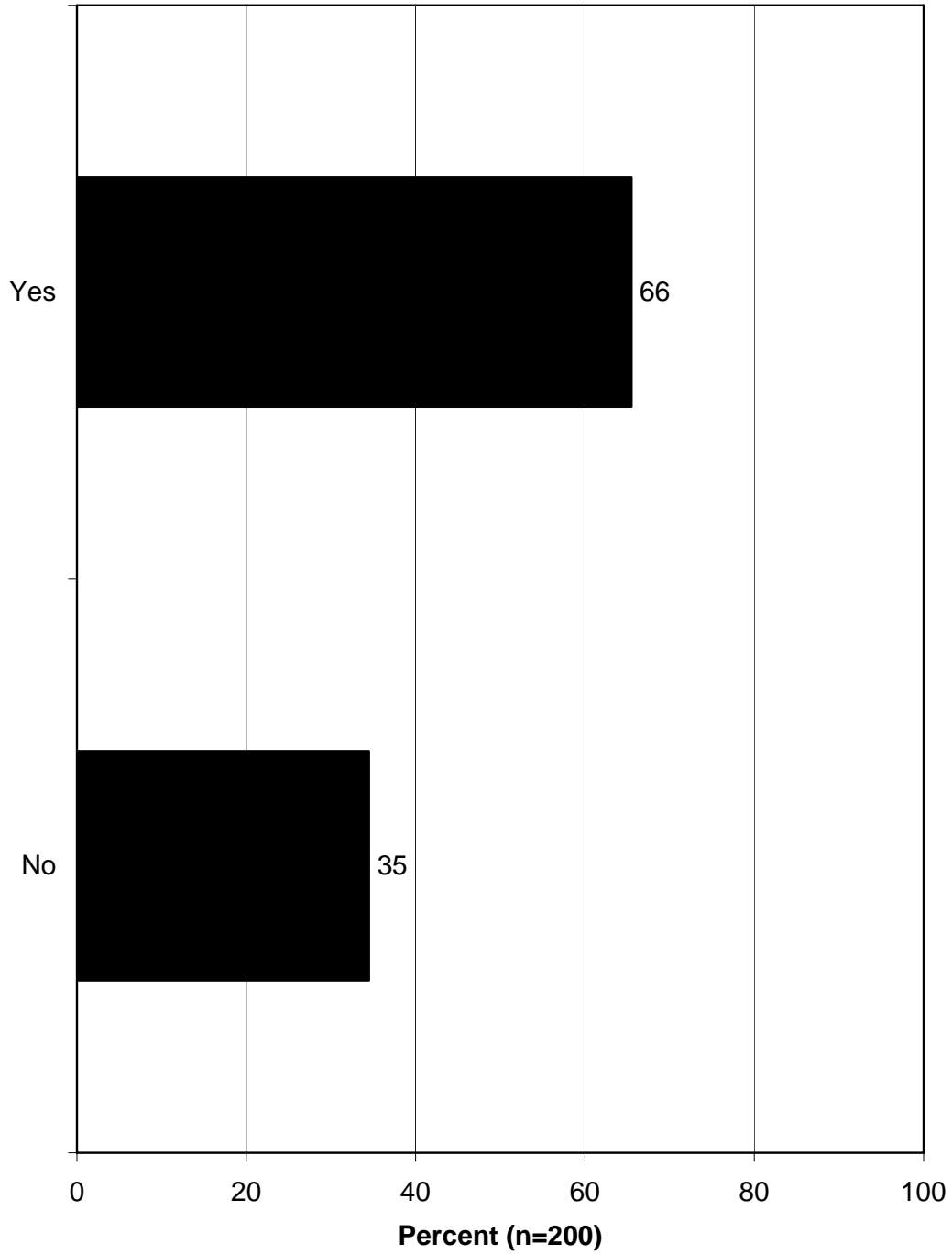
**Q31. Prior to this survey, had you heard of sandhill cranes? (General population.)**



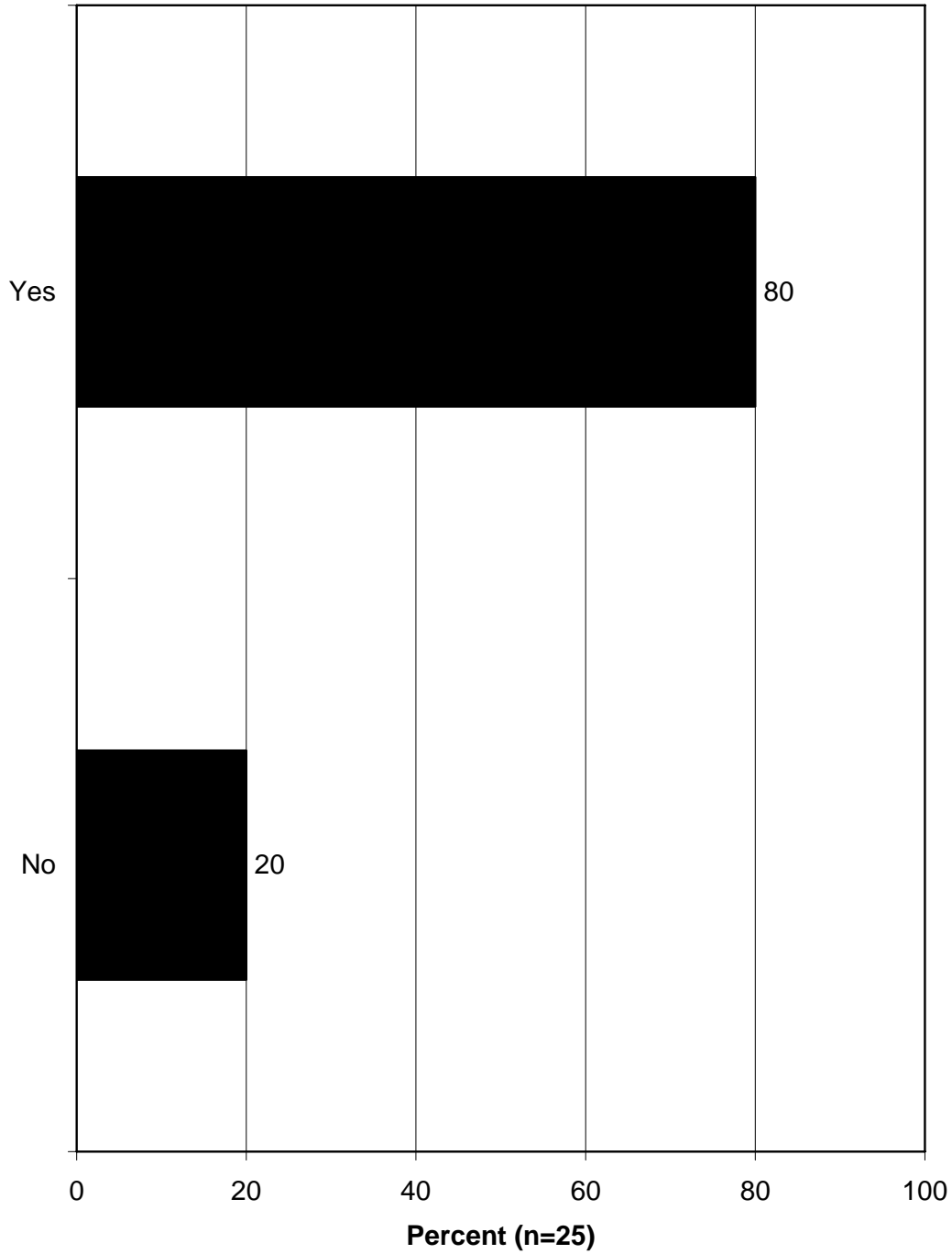
**Q31. Prior to this survey, had you heard of sandhill cranes? (Hunt area residents.)**



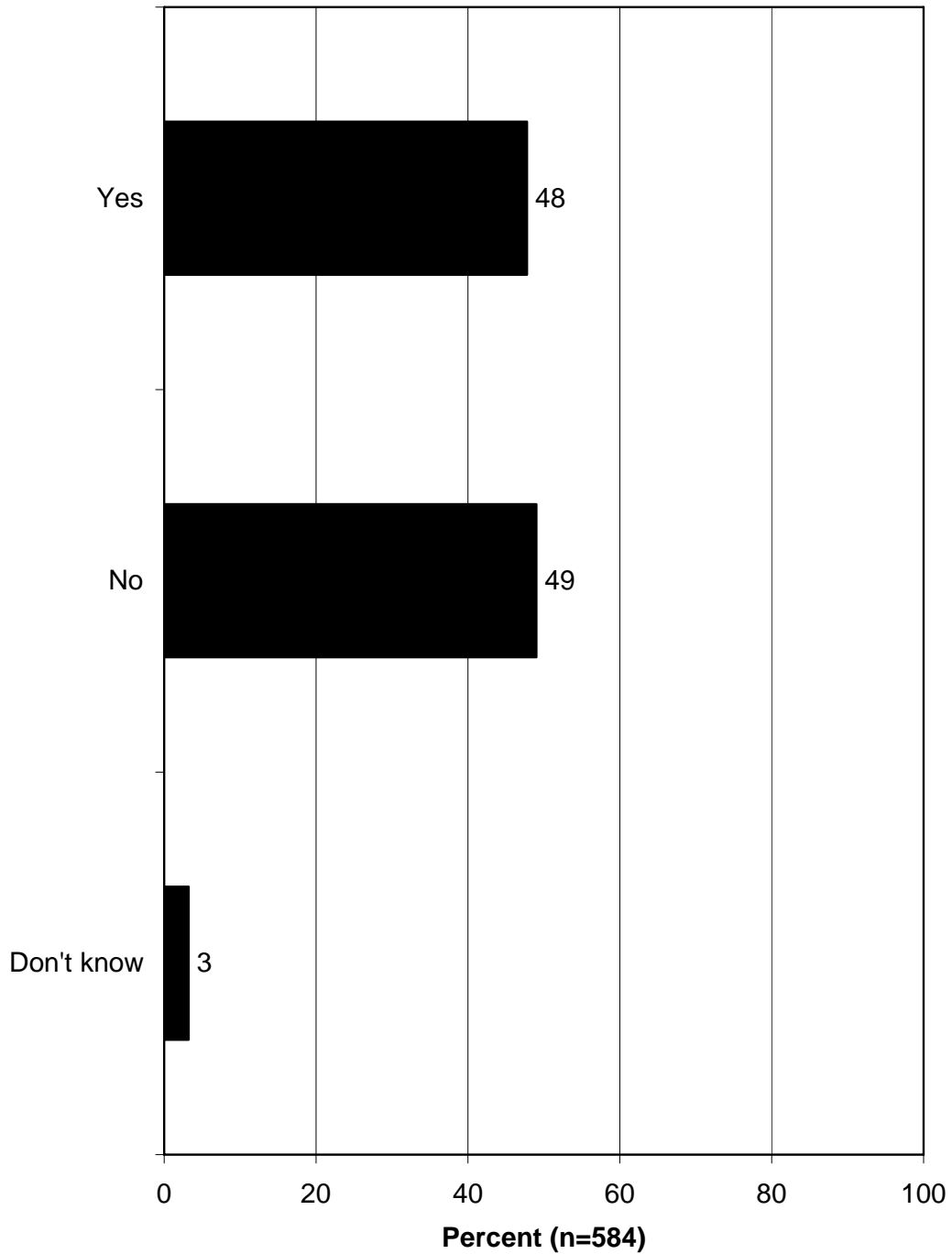
**Q31. Prior to this survey, had you heard of sandhill cranes? (Hunters statewide.)**



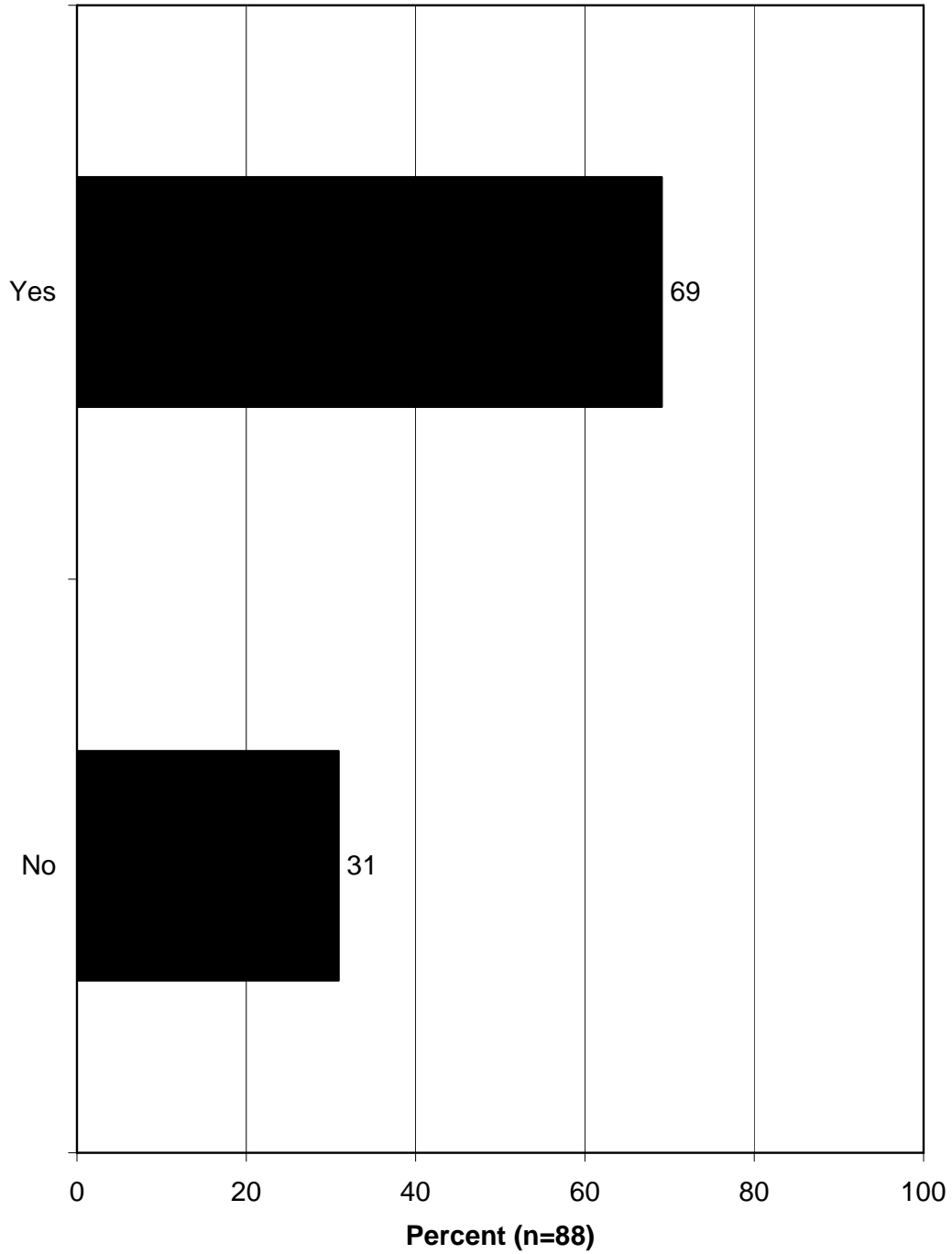
**Q31. Prior to this survey, had you heard of sandhill cranes? (Hunt area hunters.)**



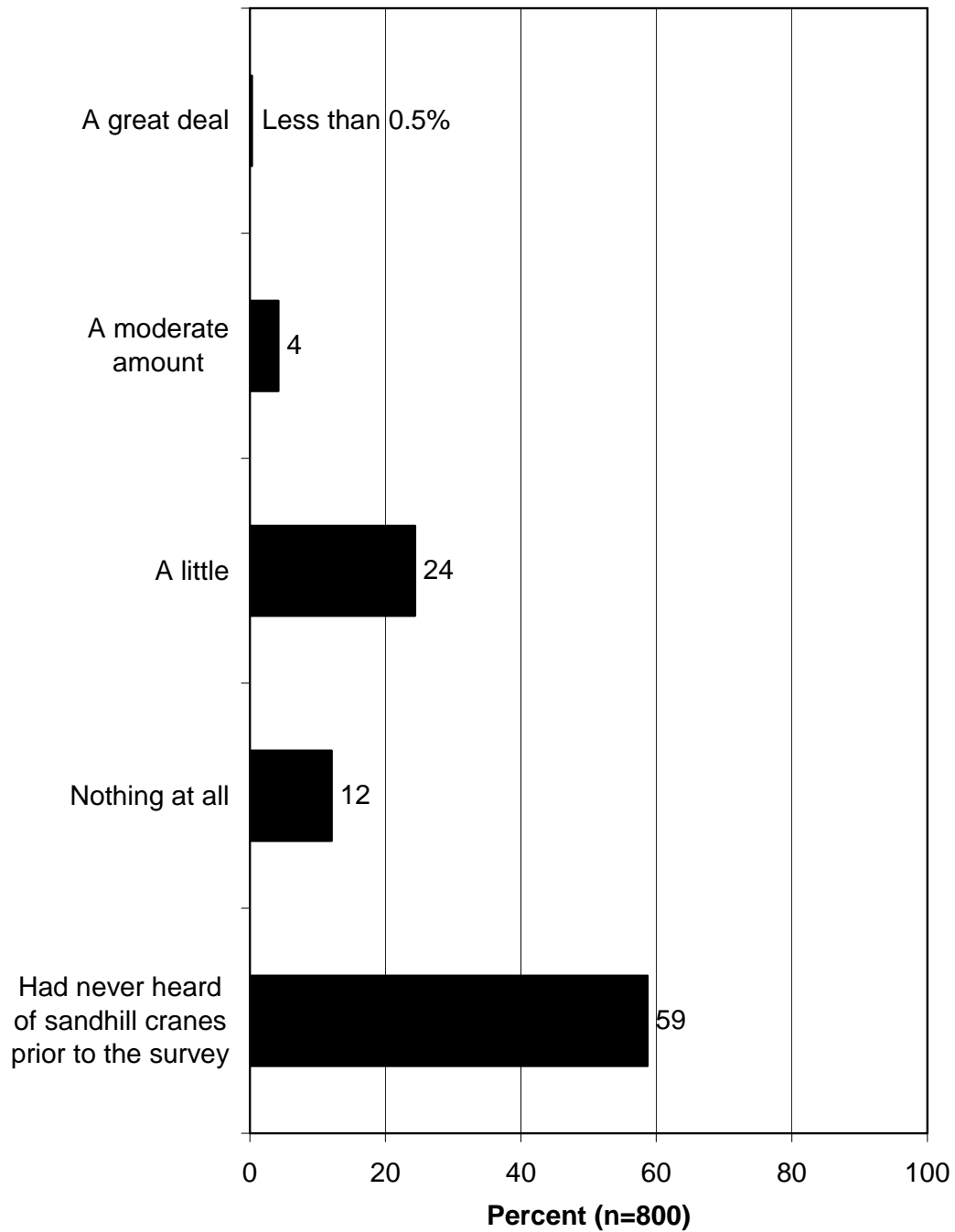
**Q31. Prior to this survey, had you heard of sandhill cranes? (Wildlife watchers statewide.)**



**Q31. Prior to this survey, had you heard of sandhill cranes? (Hunt area wildlife watchers.)**

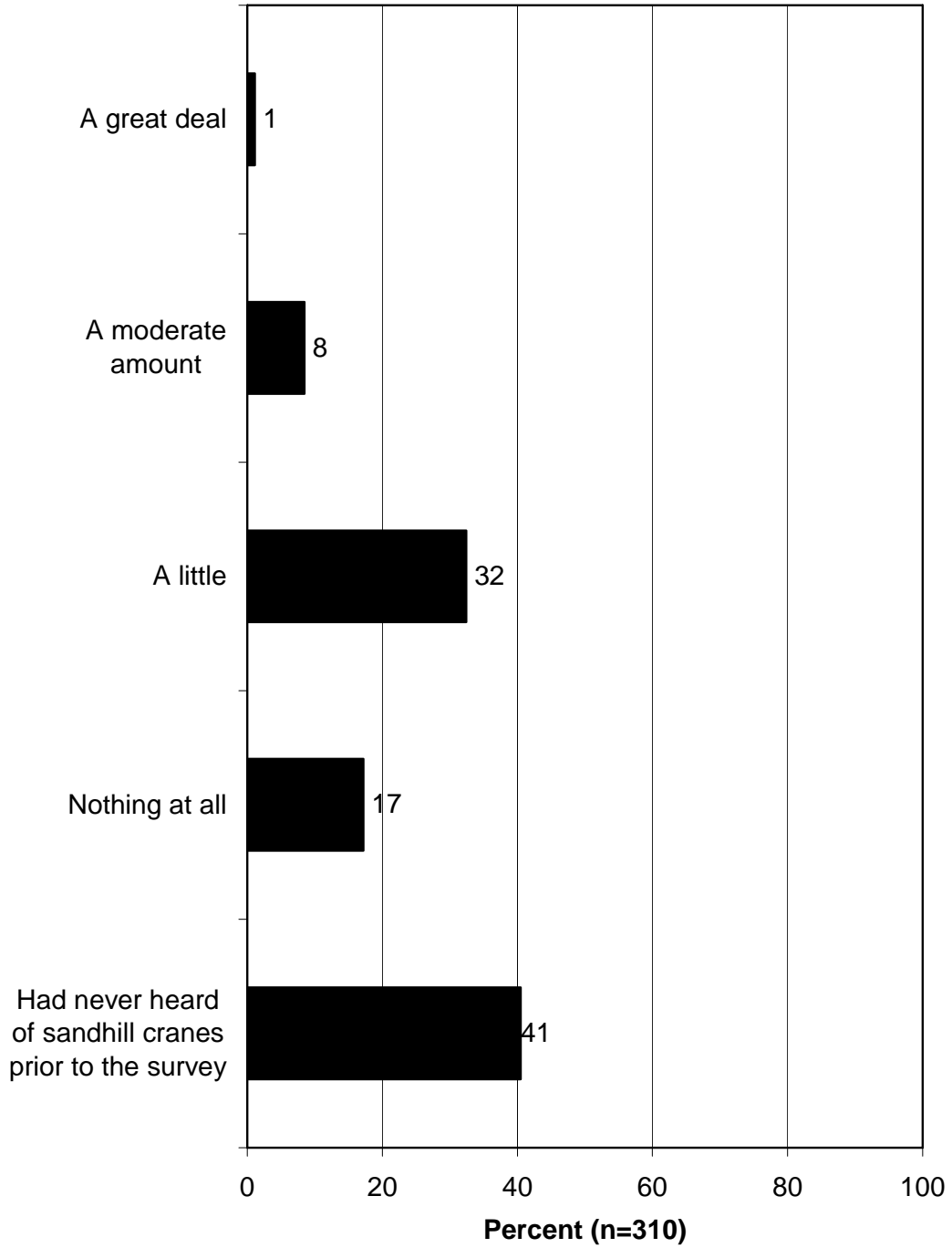


**Q32. How much would you say you know about sandhill cranes? (General population.)**

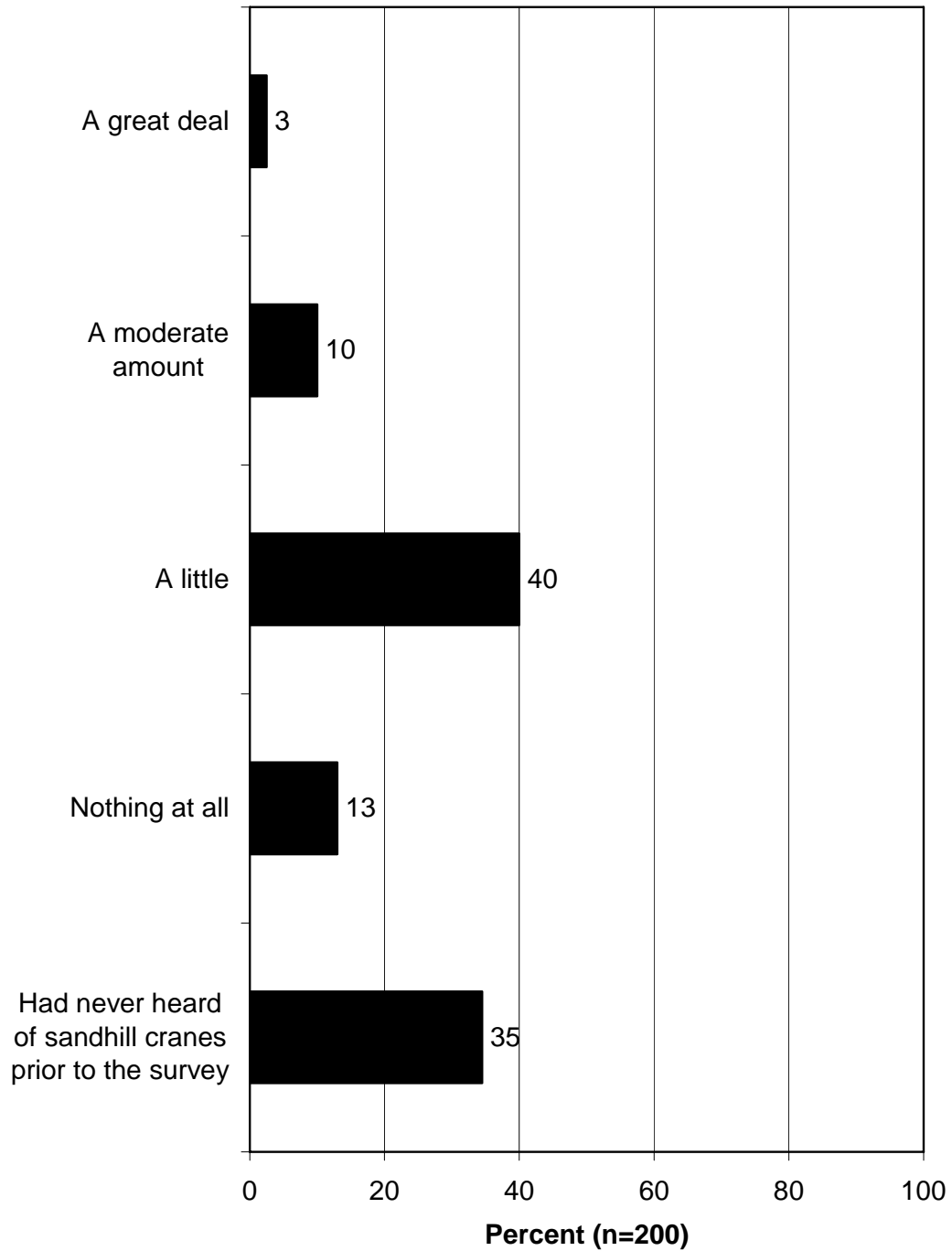




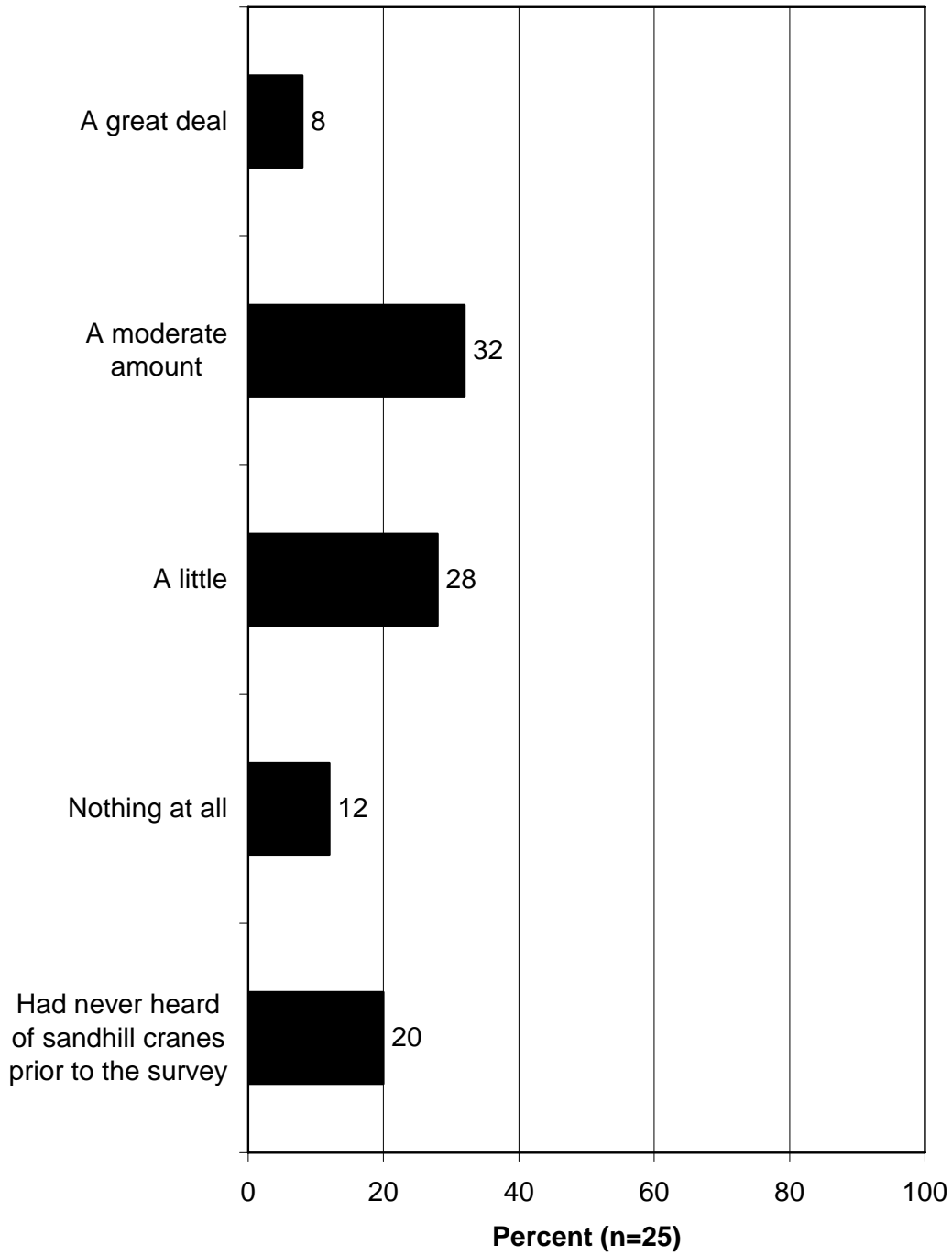
**Q32. How much would you say you know about sandhill cranes? (Hunt area residents.)**



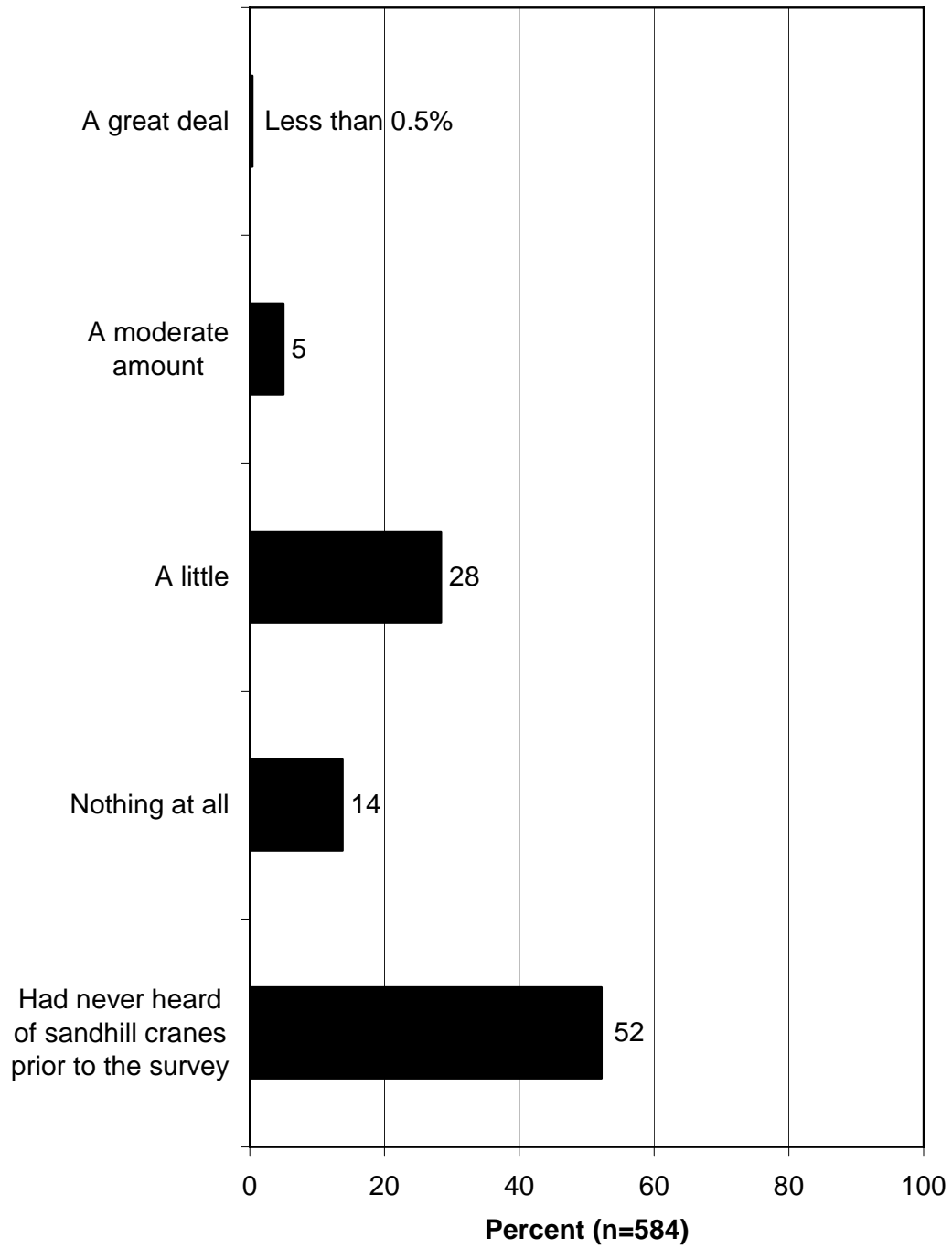
**Q32. How much would you say you know about sandhill cranes? (Hunters statewide.)**



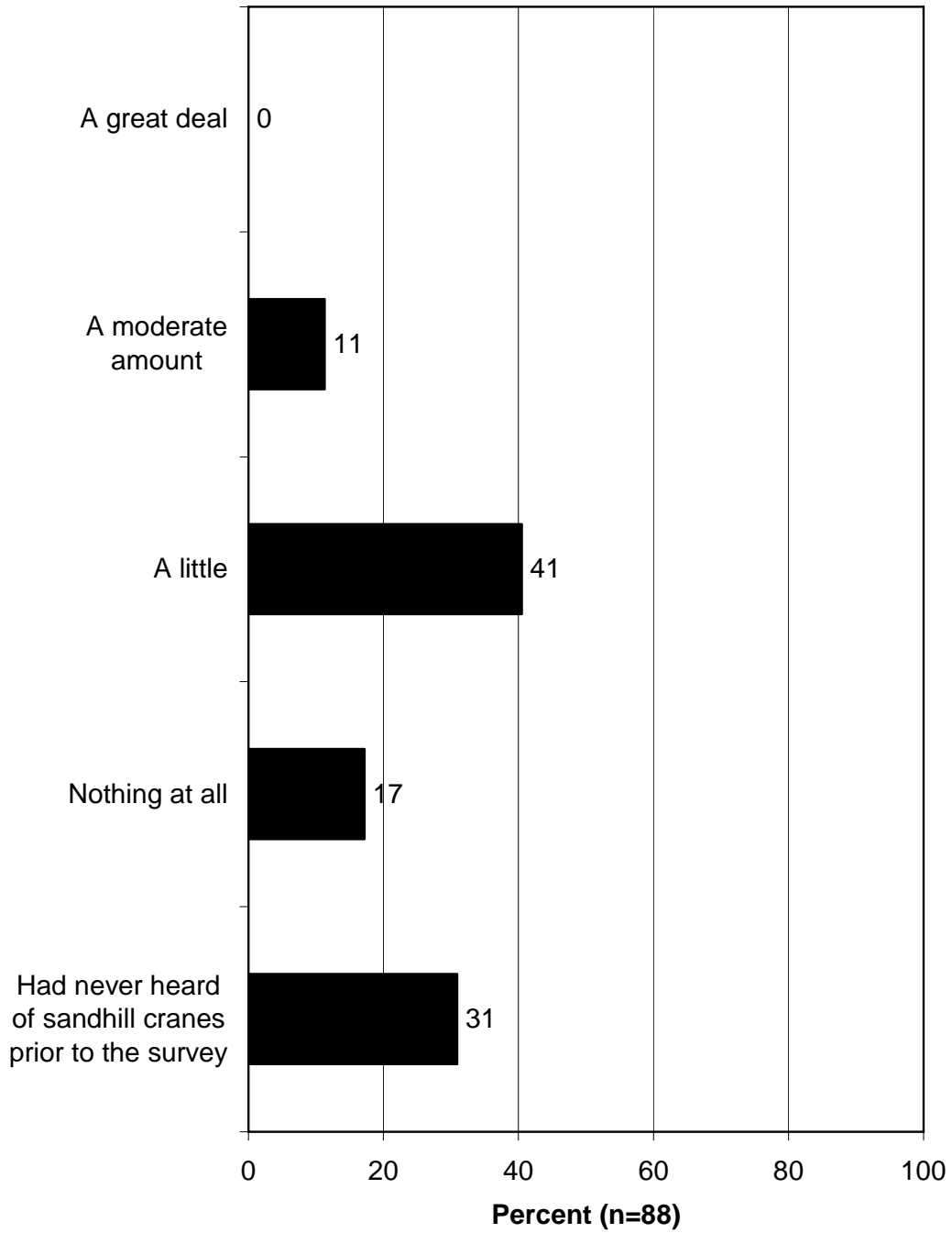
**Q32. How much would you say you know about sandhill cranes? (Hunt area hunters.)**



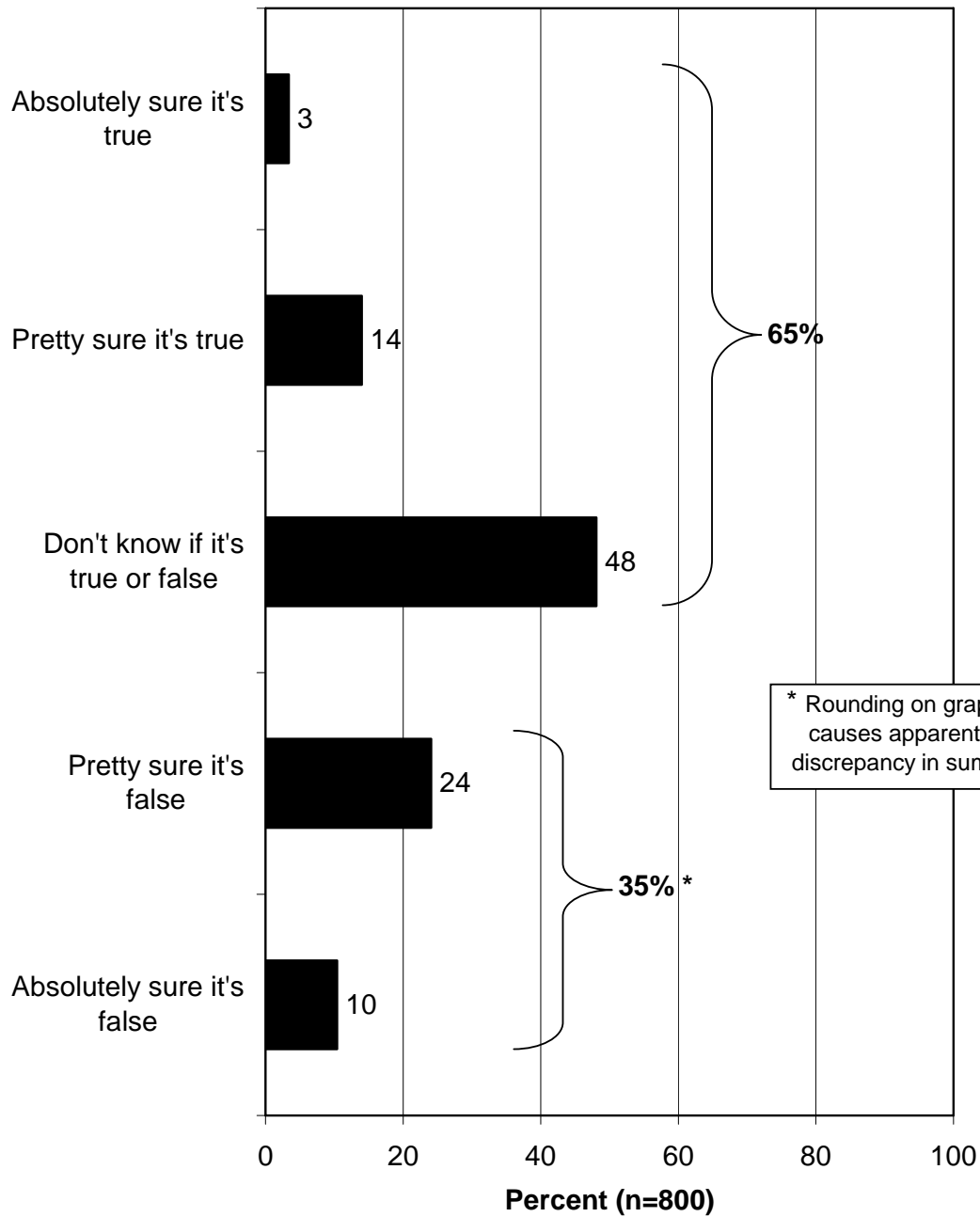
**Q32. How much would you say you know about sandhill cranes? (Wildlife watchers statewide.)**



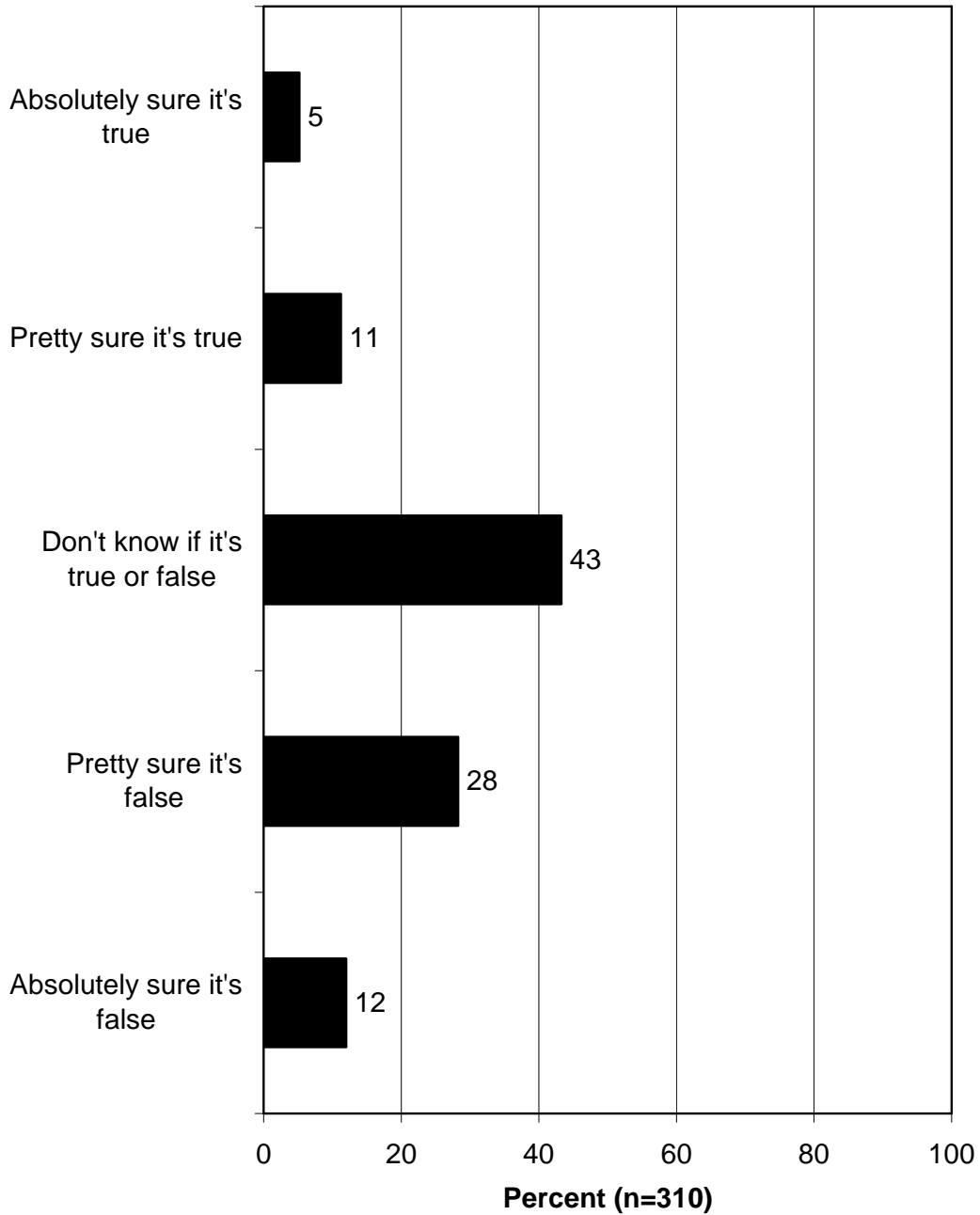
**Q32. How much would you say you know about sandhill cranes? (Hunt area wildlife watchers.)**



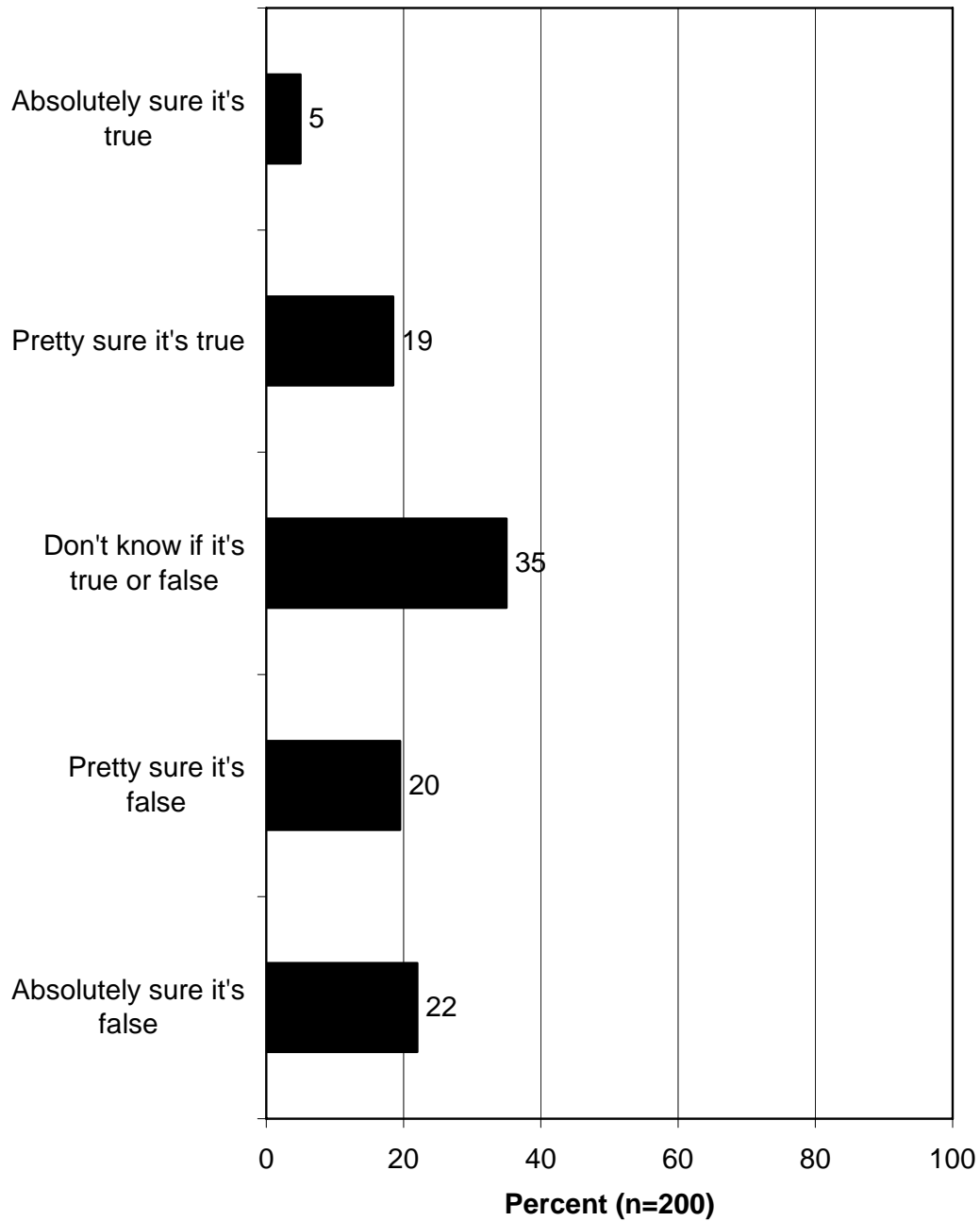
**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (General population.)**



**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (Hunt area residents.)**

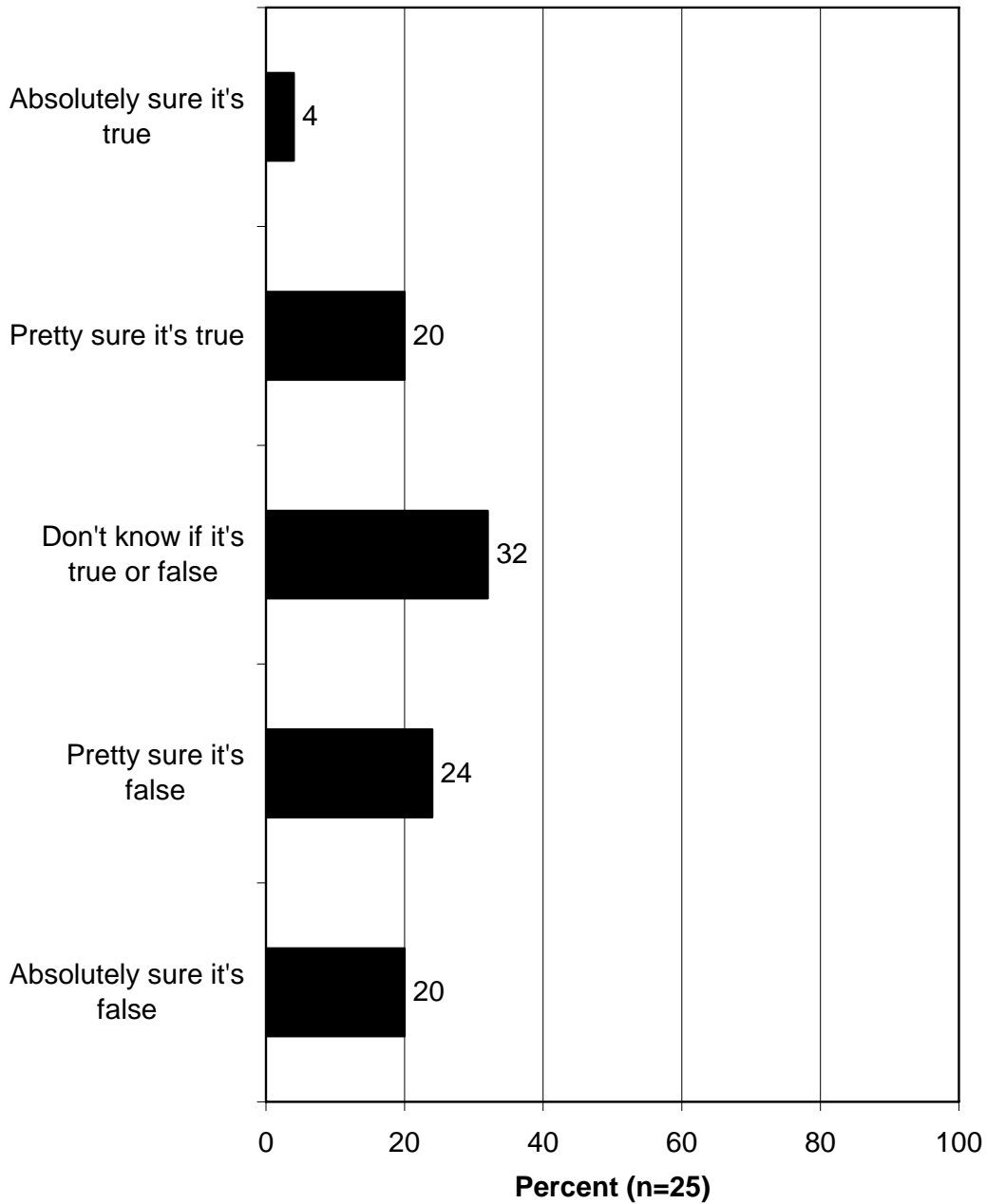


**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (Hunters statewide.)**

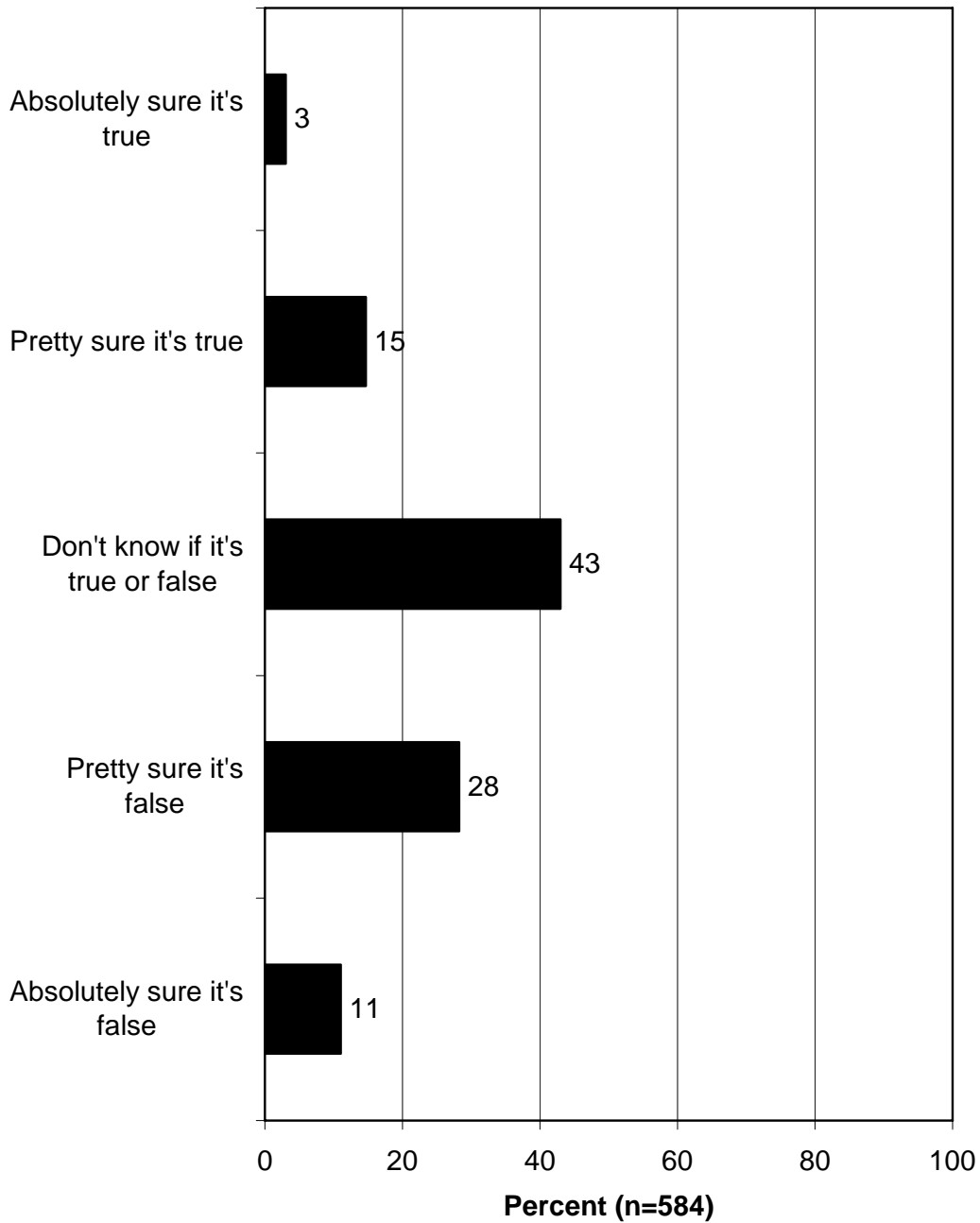




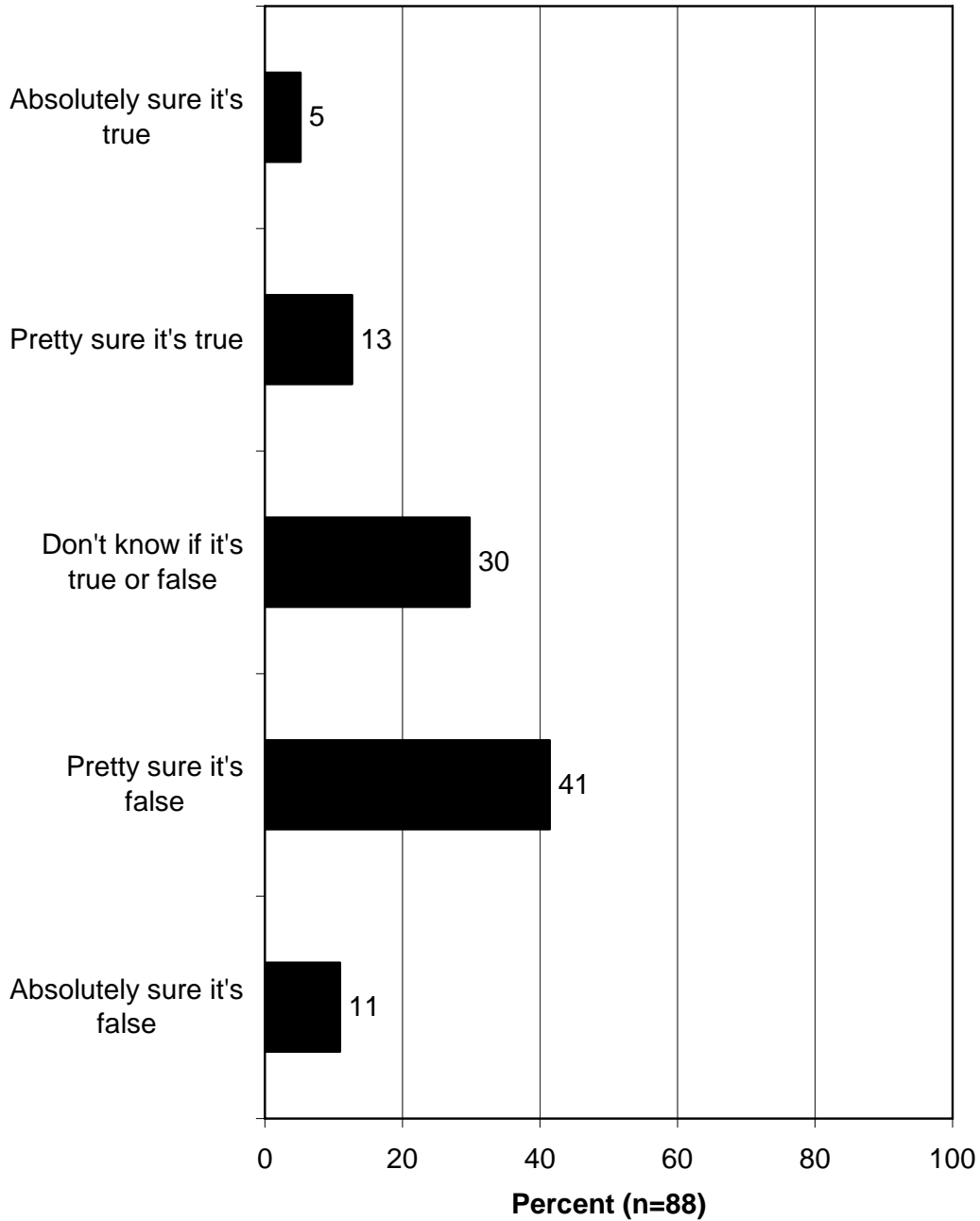
**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (Hunt area hunters.)**



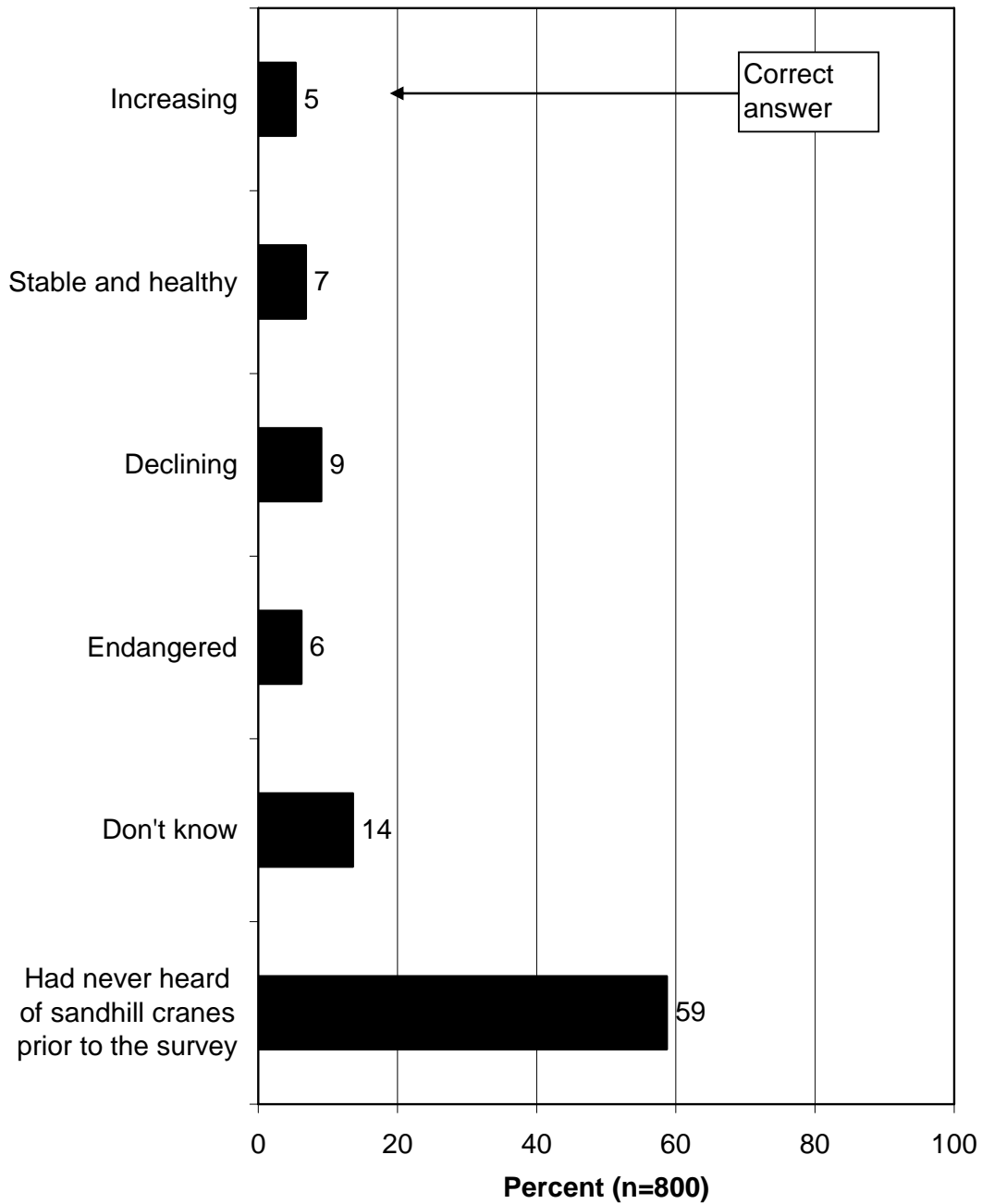
**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (Wildlife watchers statewide.)**



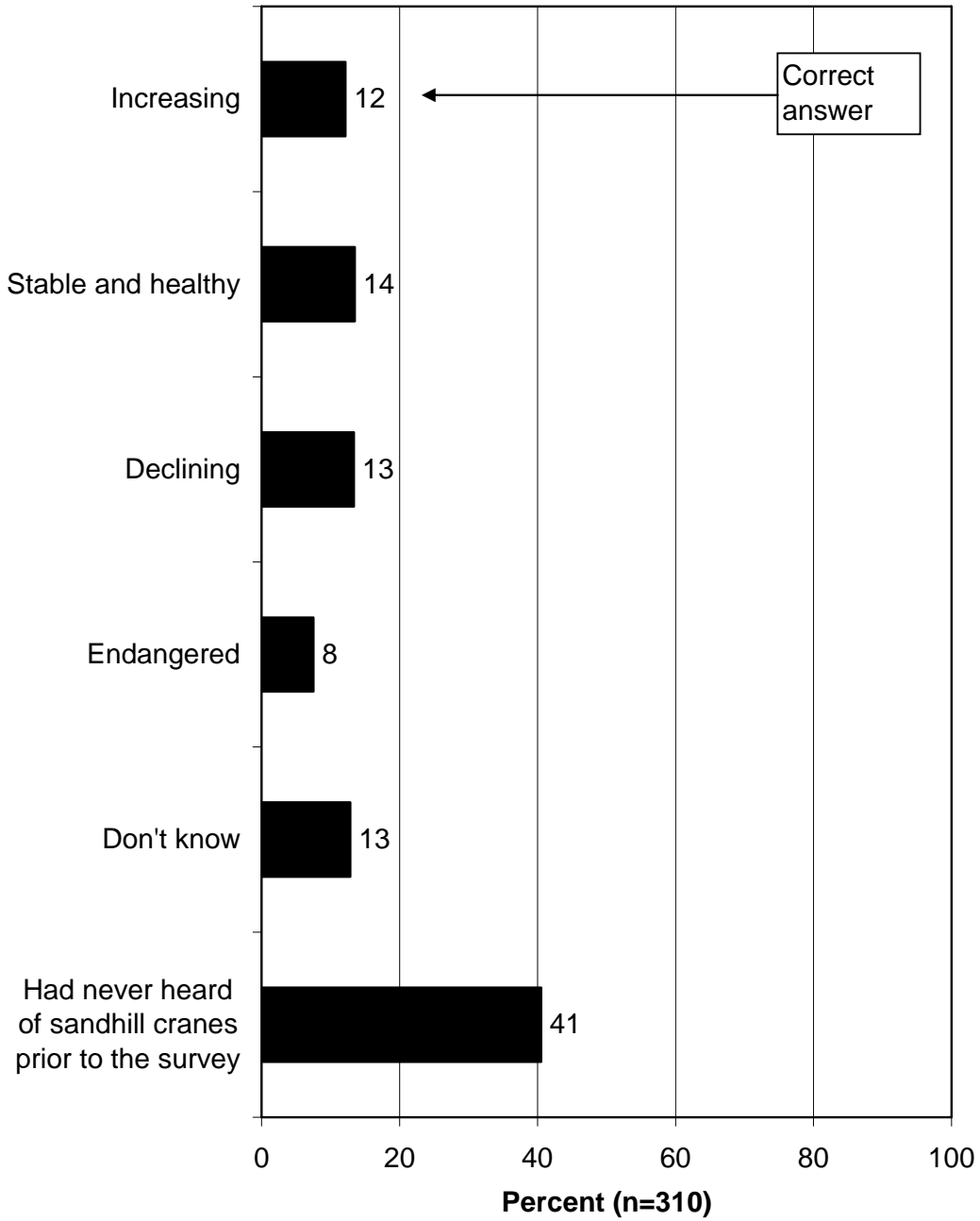
**Q33. Please tell me if you think the following statement is true or false: Sandhill cranes and great blue herons are different names for the same species of bird. (Hunt area wildlife watchers.)**



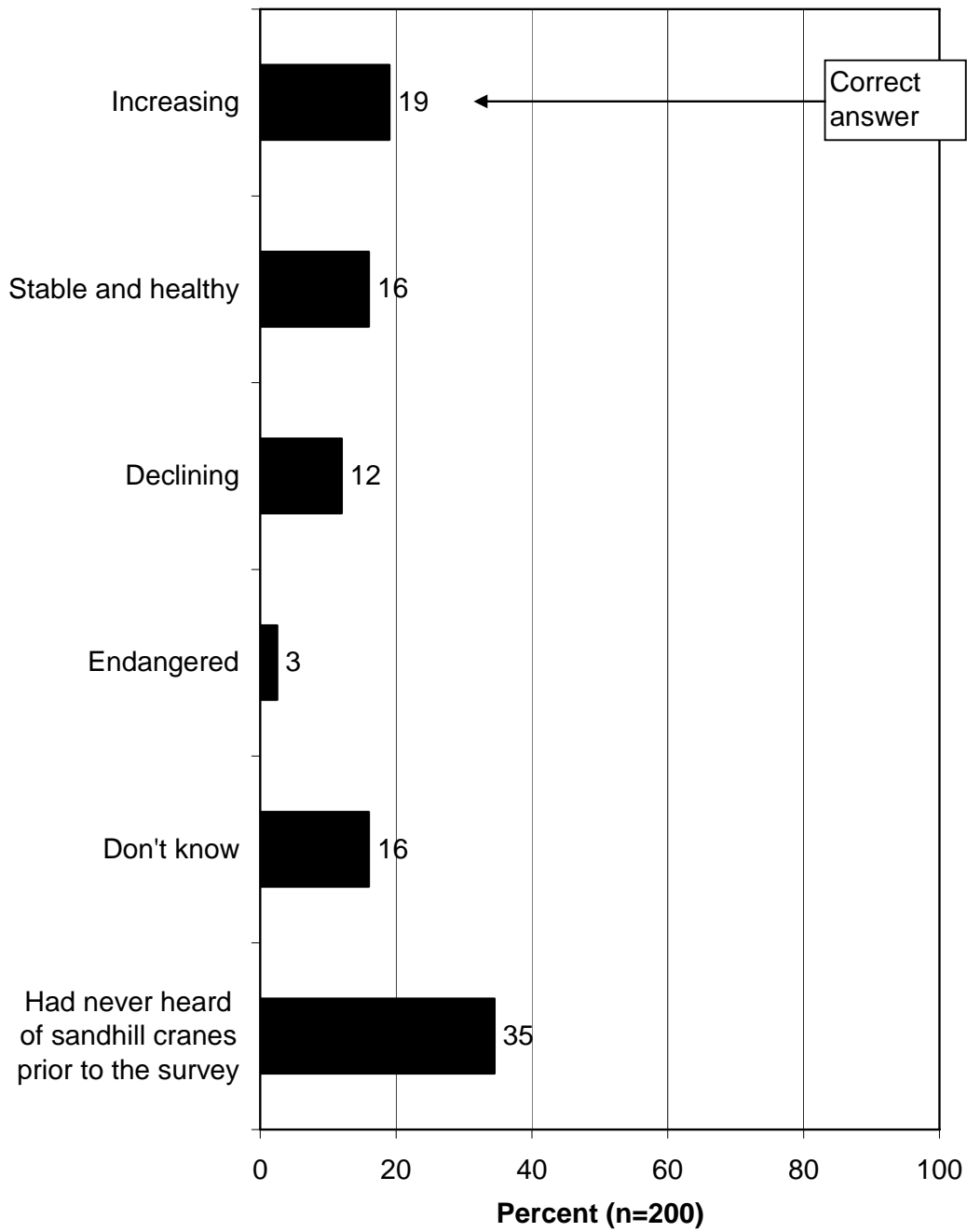
**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (General population.)**



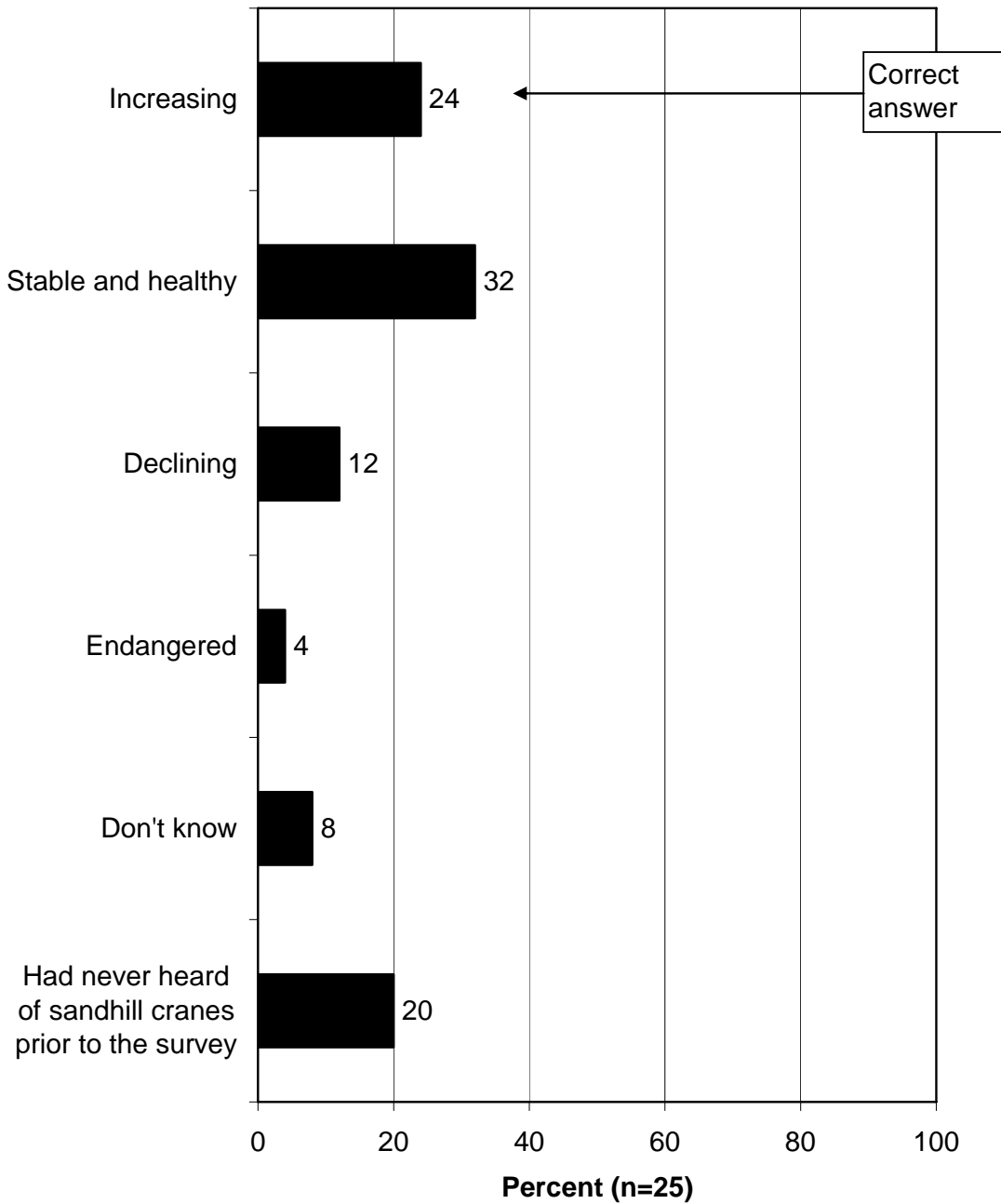
**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (Hunt area residents.)**



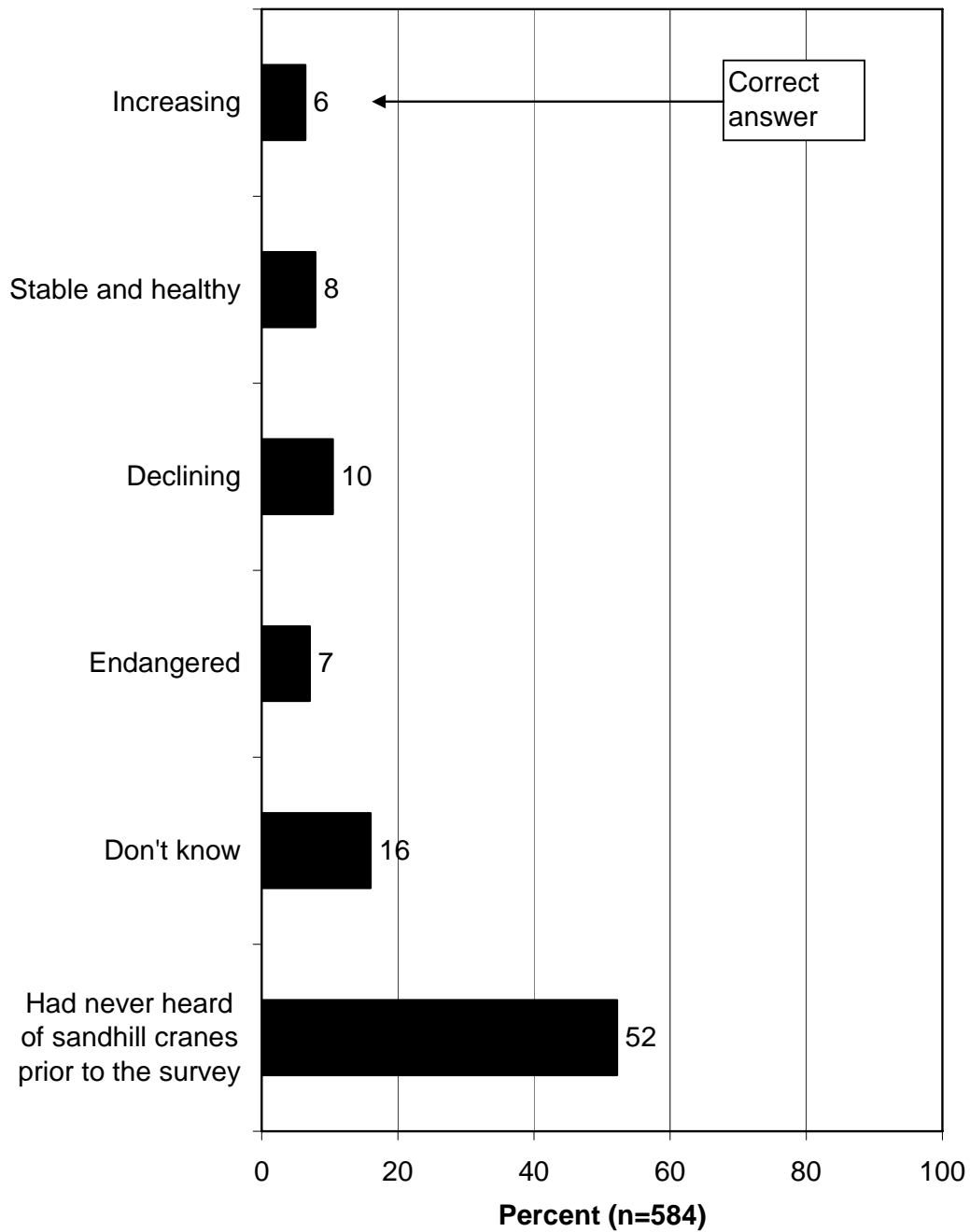
**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (Hunters statewide.)**



**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (Hunt area hunters.)**

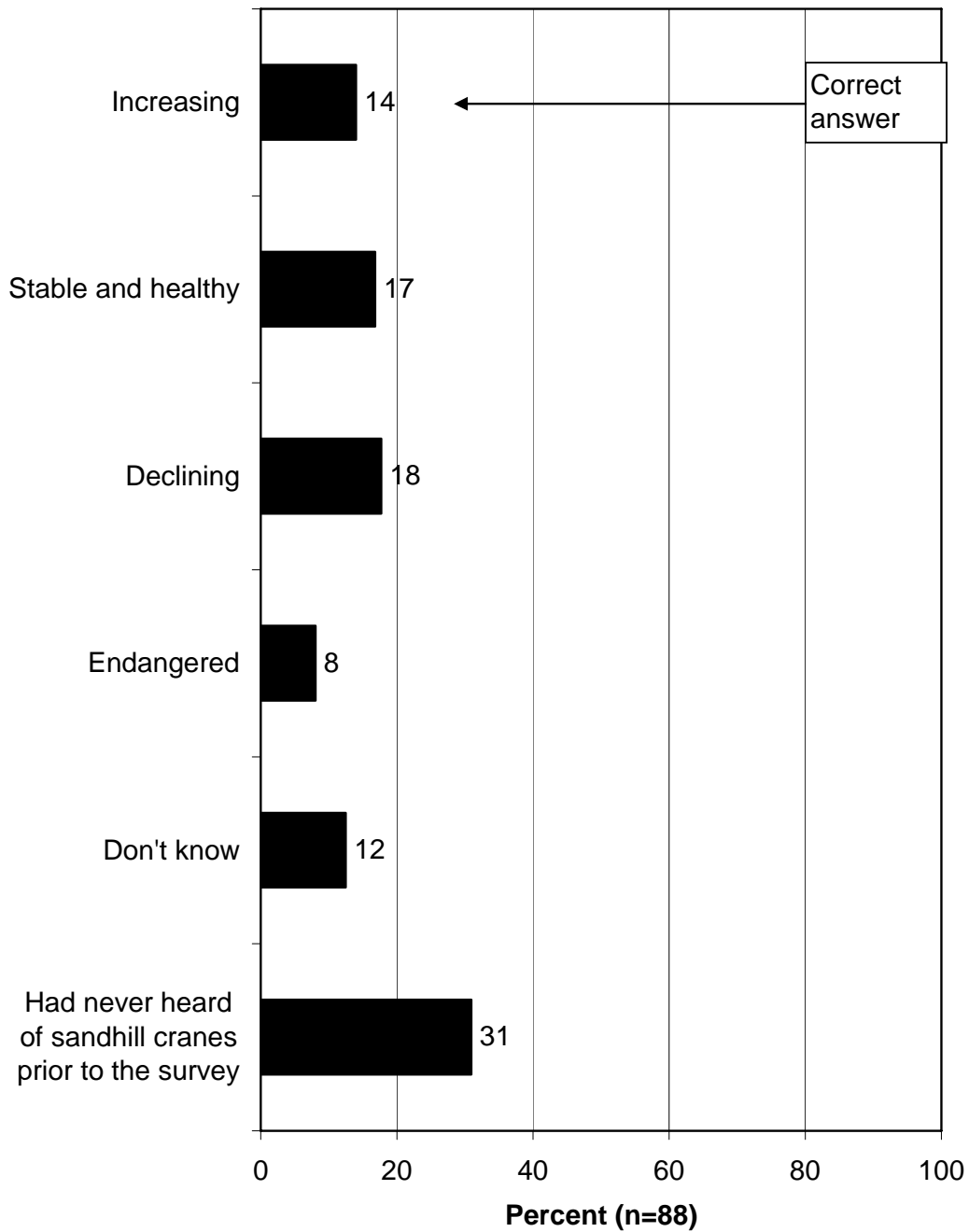


**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (Wildlife watchers statewide.)**

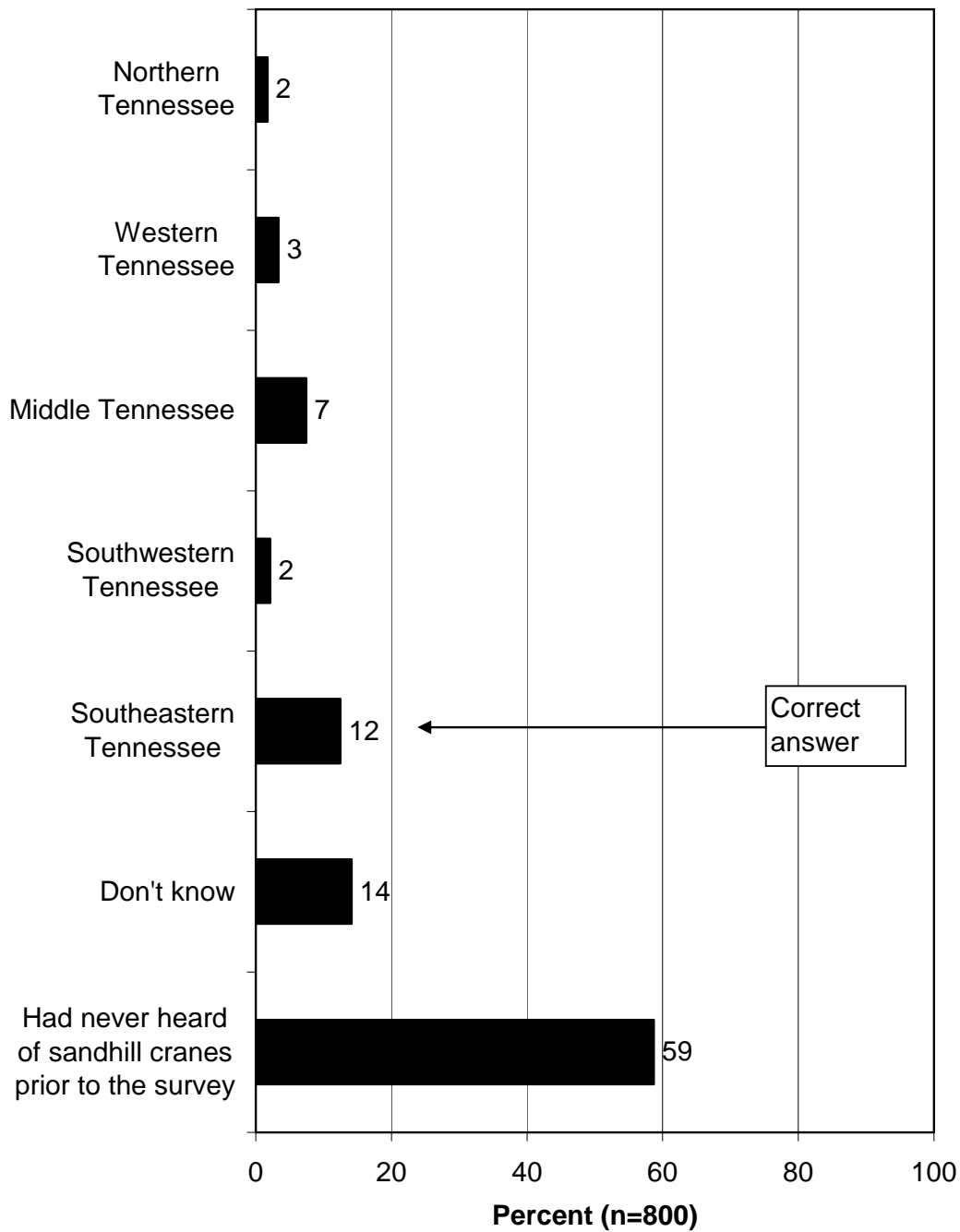




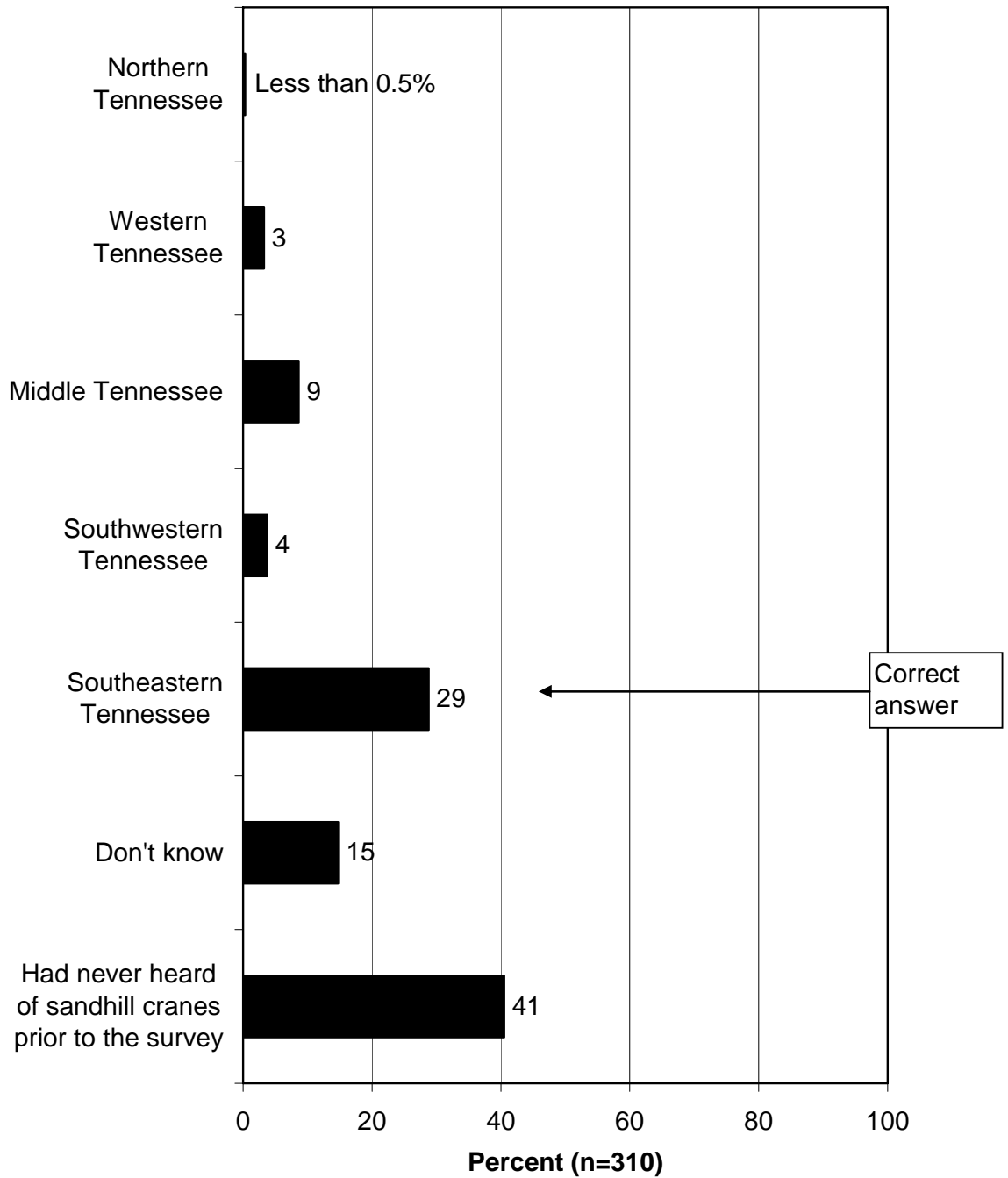
**Q37. Which of the following do you think best describes the current status of sandhill crane populations in the eastern U.S.? (Hunt area wildlife watchers.)**



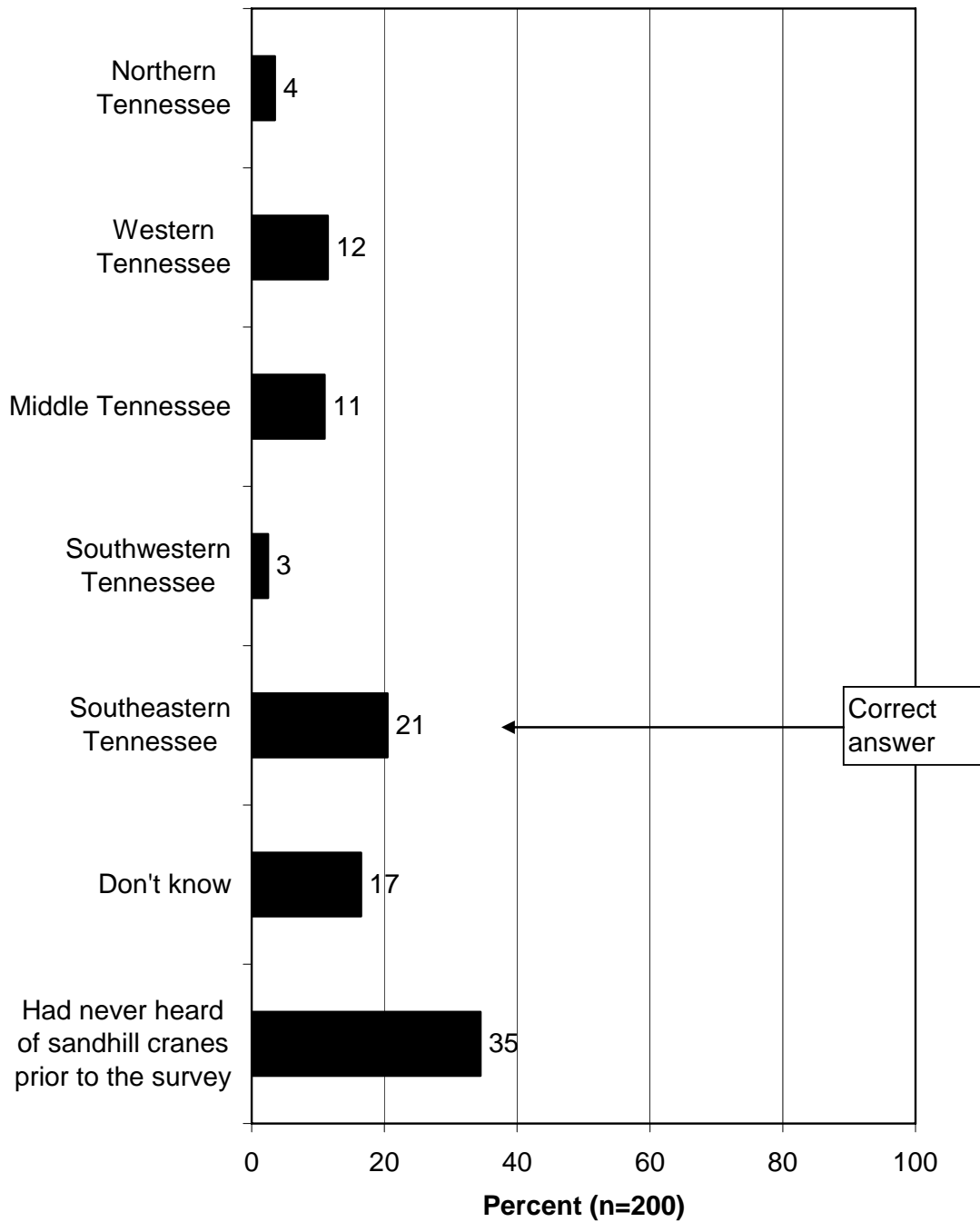
**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (General population.)**



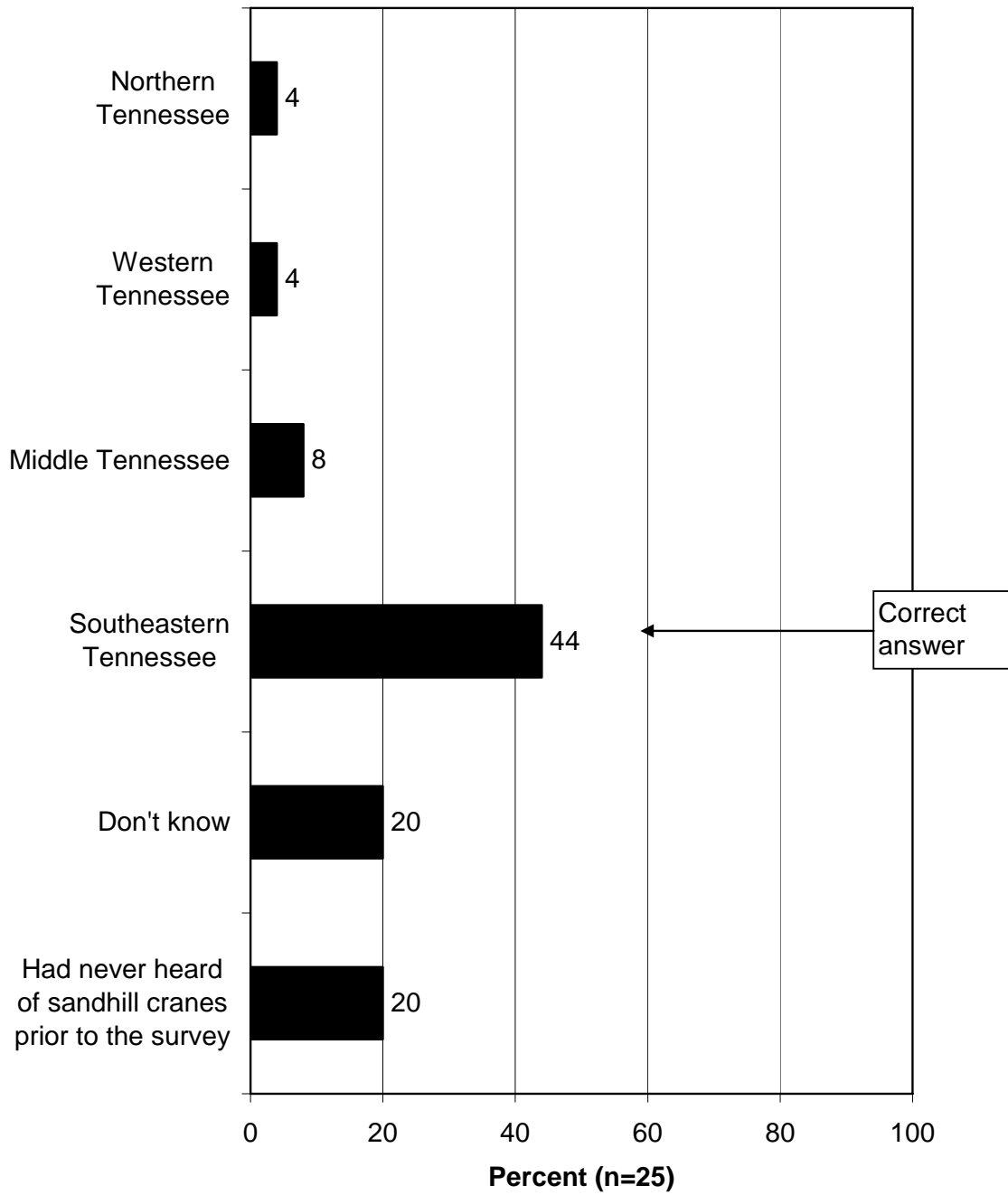
**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (Hunt area residents.)**



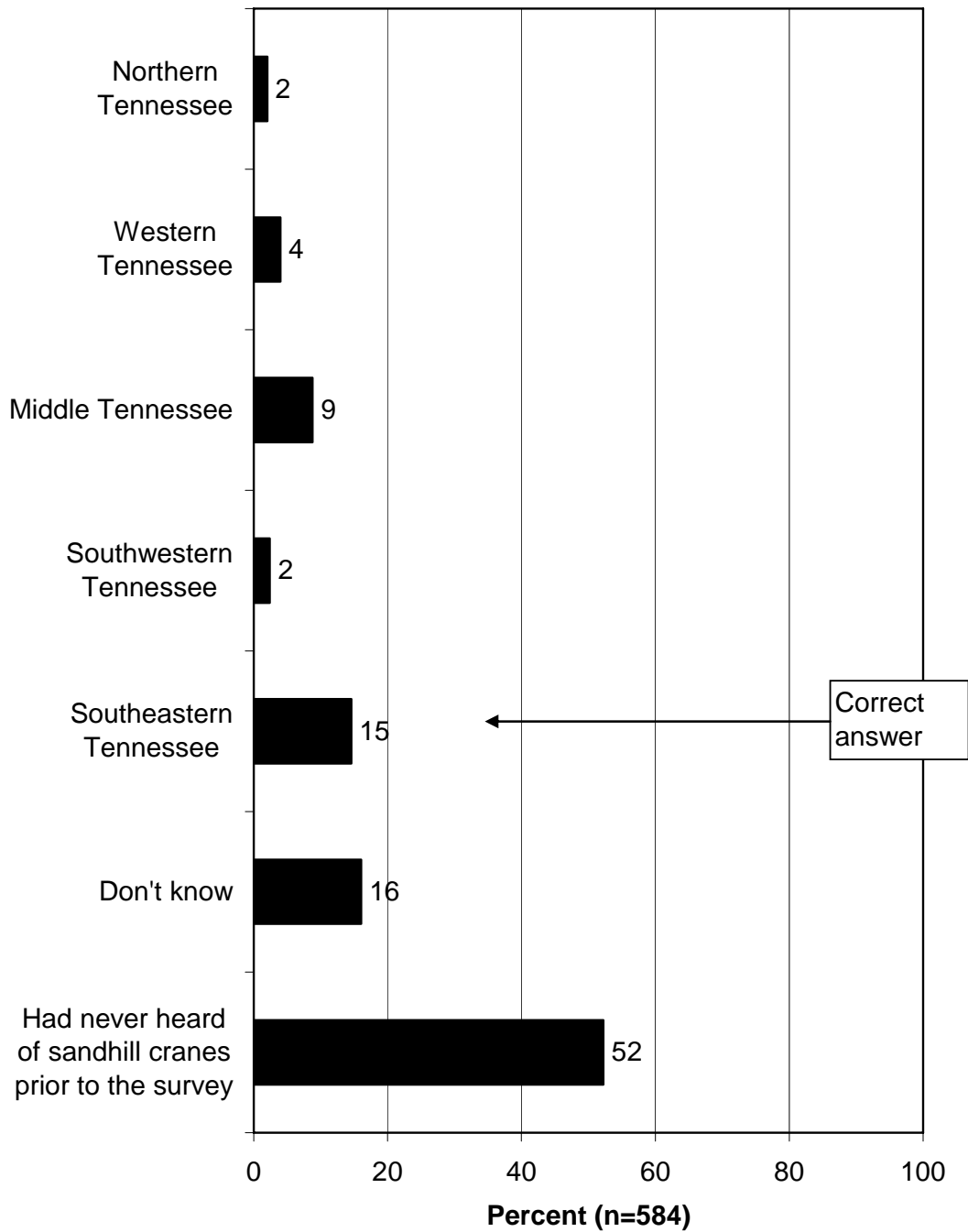
**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (Hunters statewide.)**



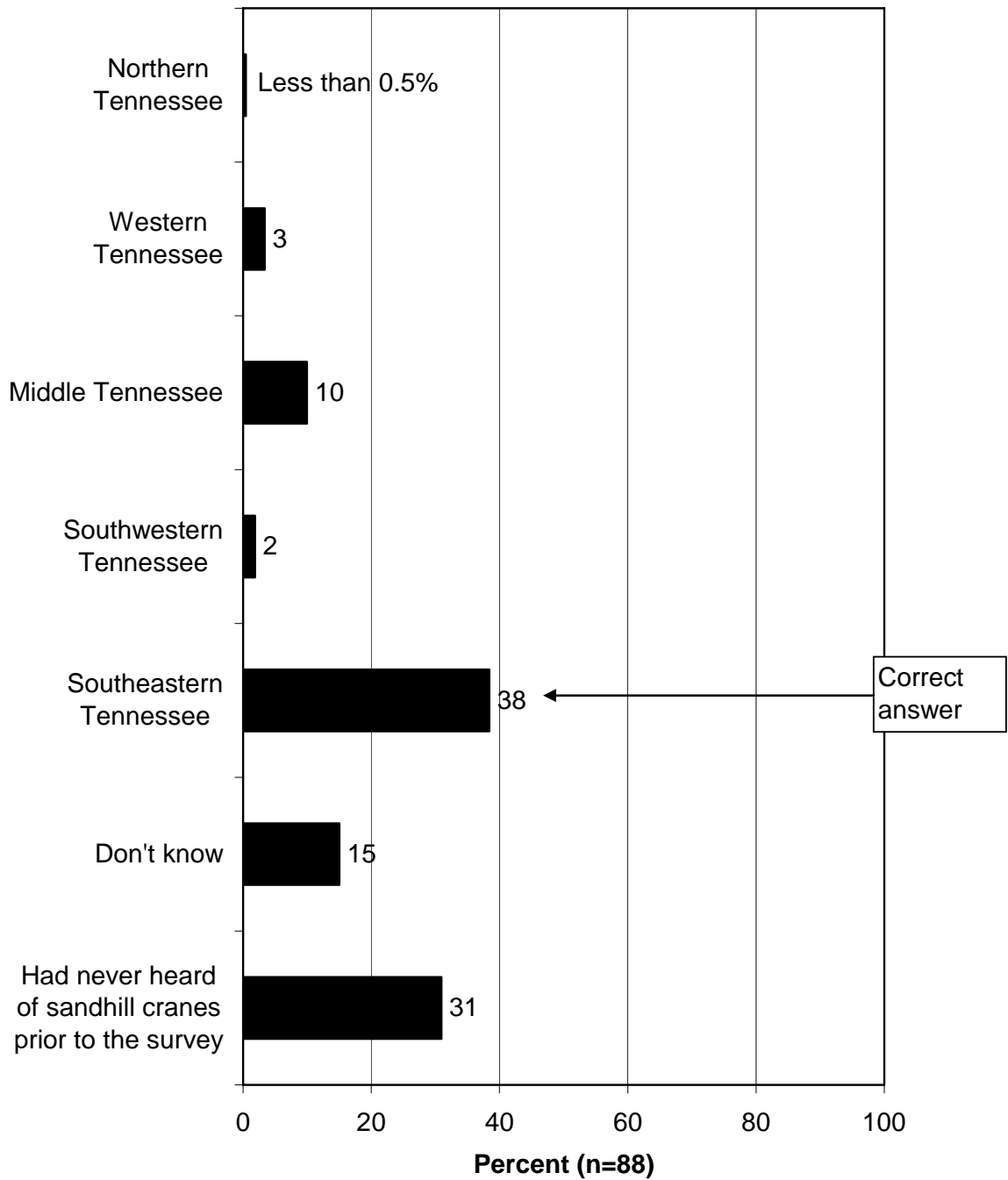
**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (Hunt area hunters.)**



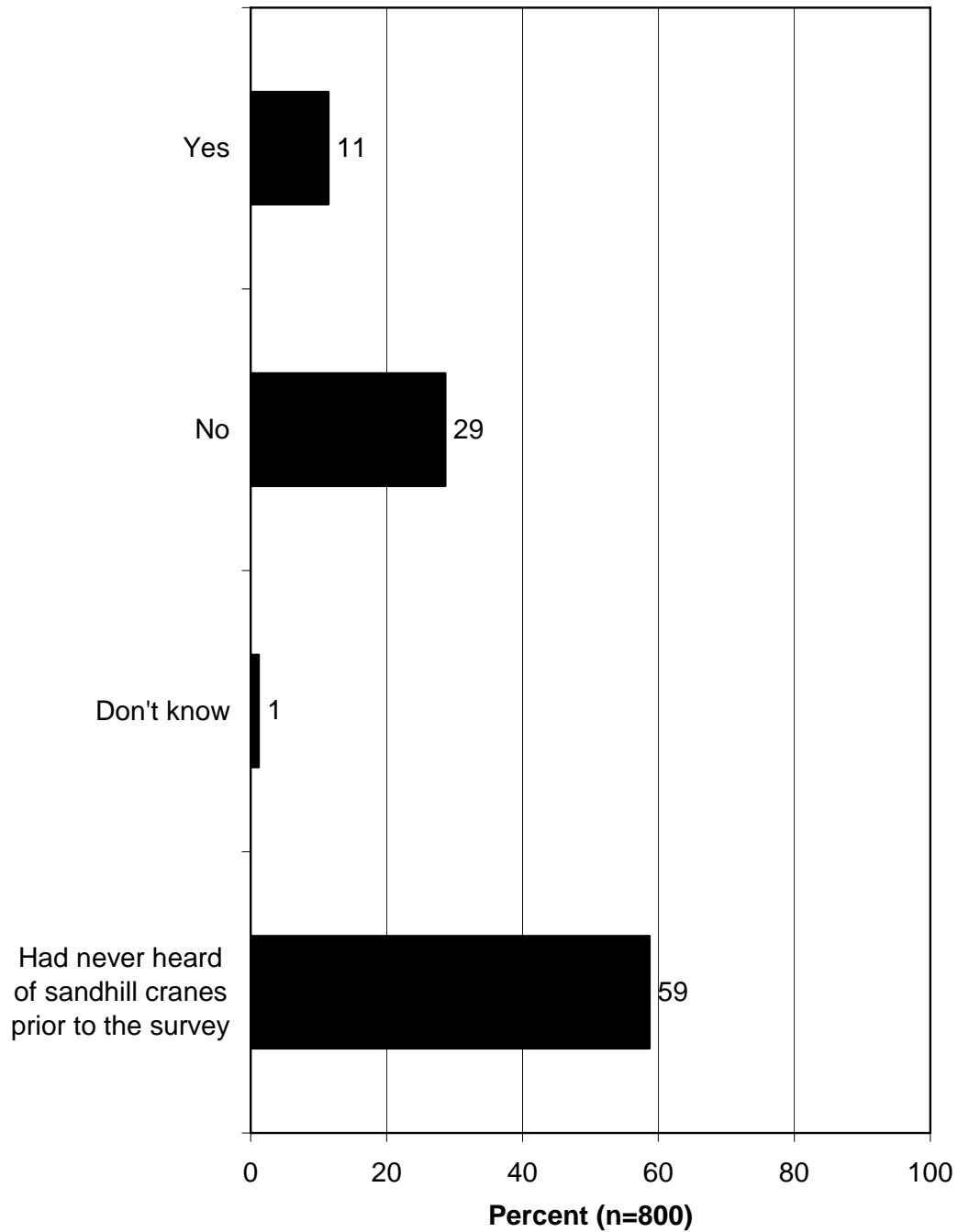
**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (Wildlife watchers statewide.)**



**Q38. Which of the following do you think best describes where sandhill cranes are found in Tennessee? (Hunt area wildlife watchers.)**

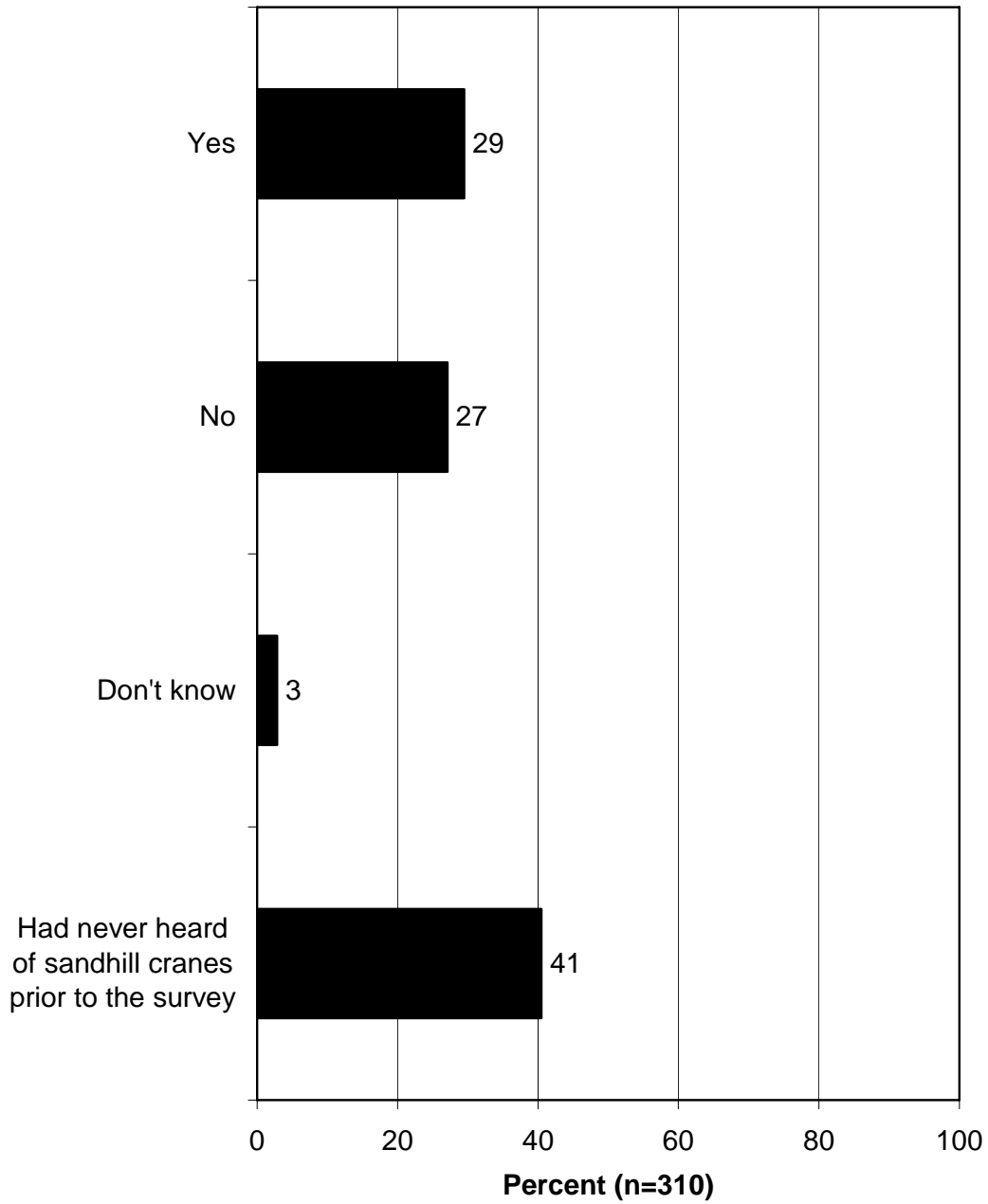


**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (General population.)**

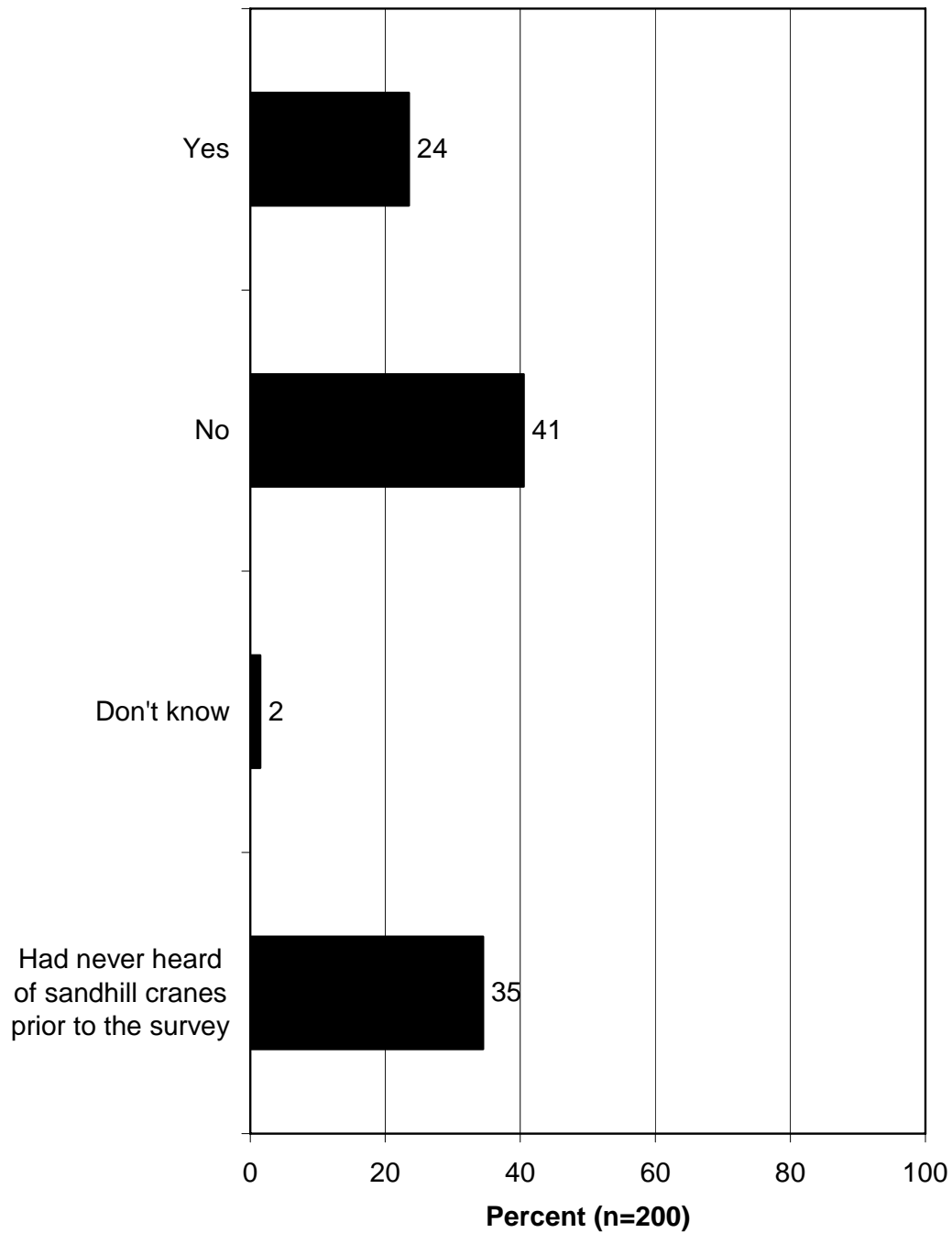




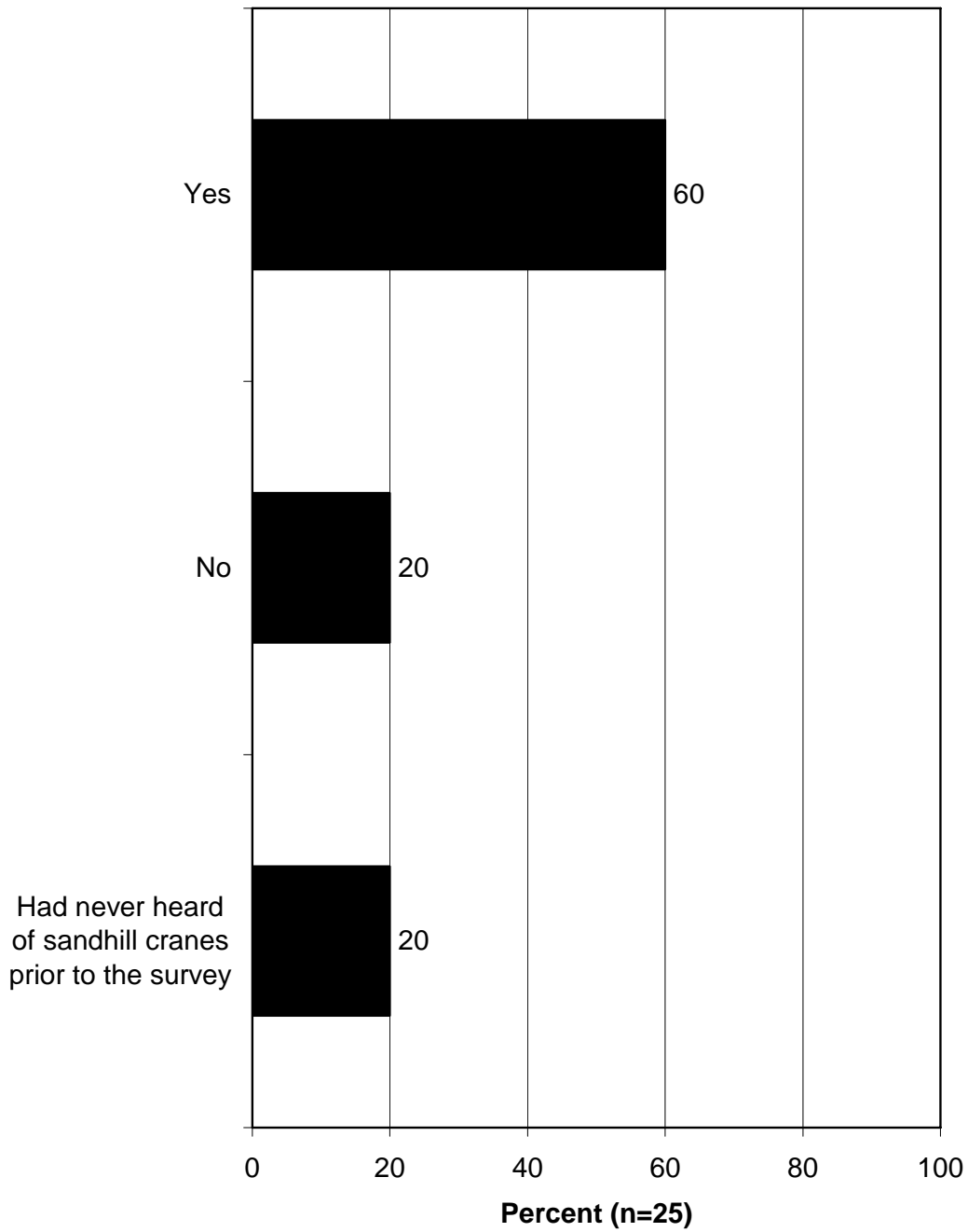
**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (Hunt area residents.)**



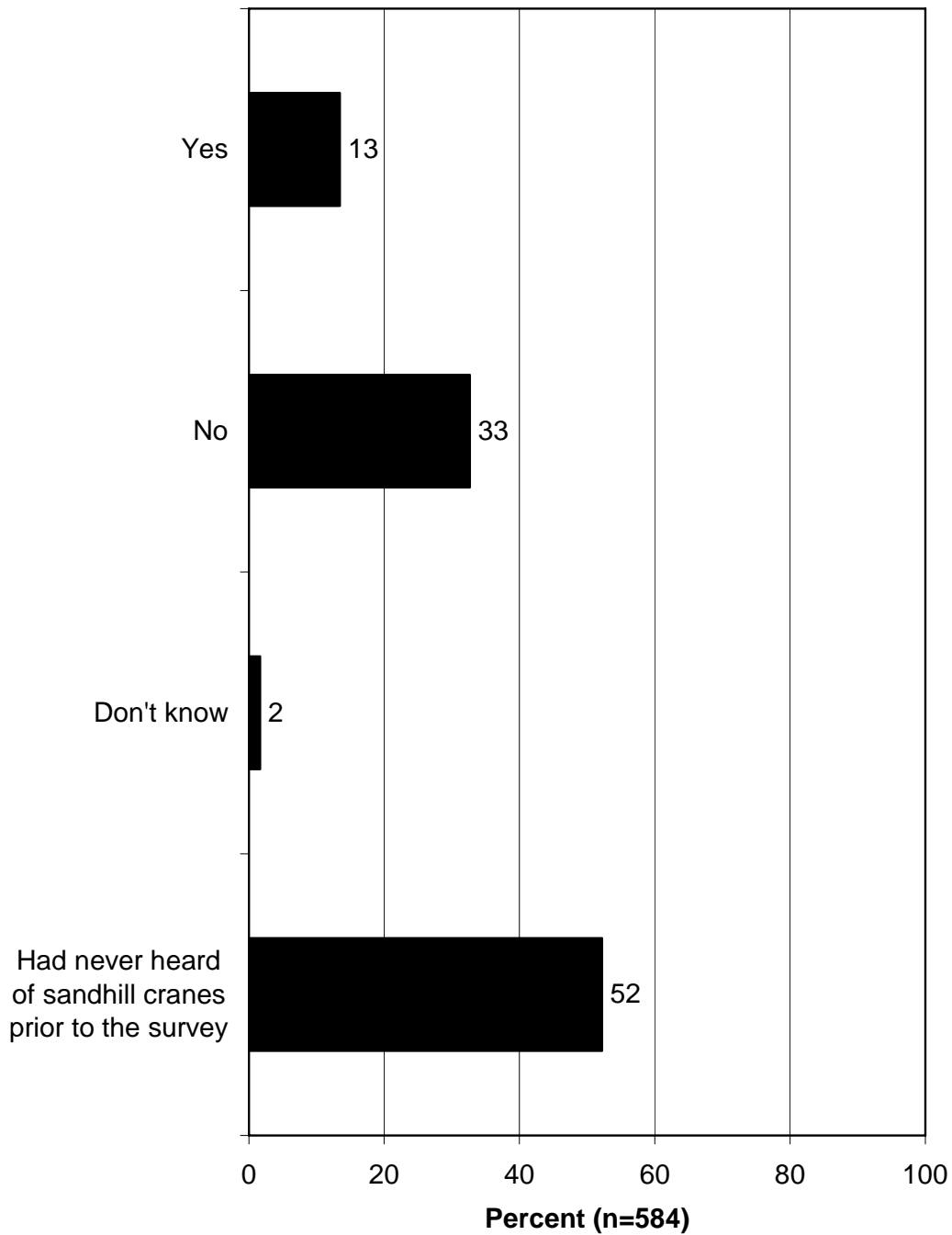
**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (Hunters statewide.)**



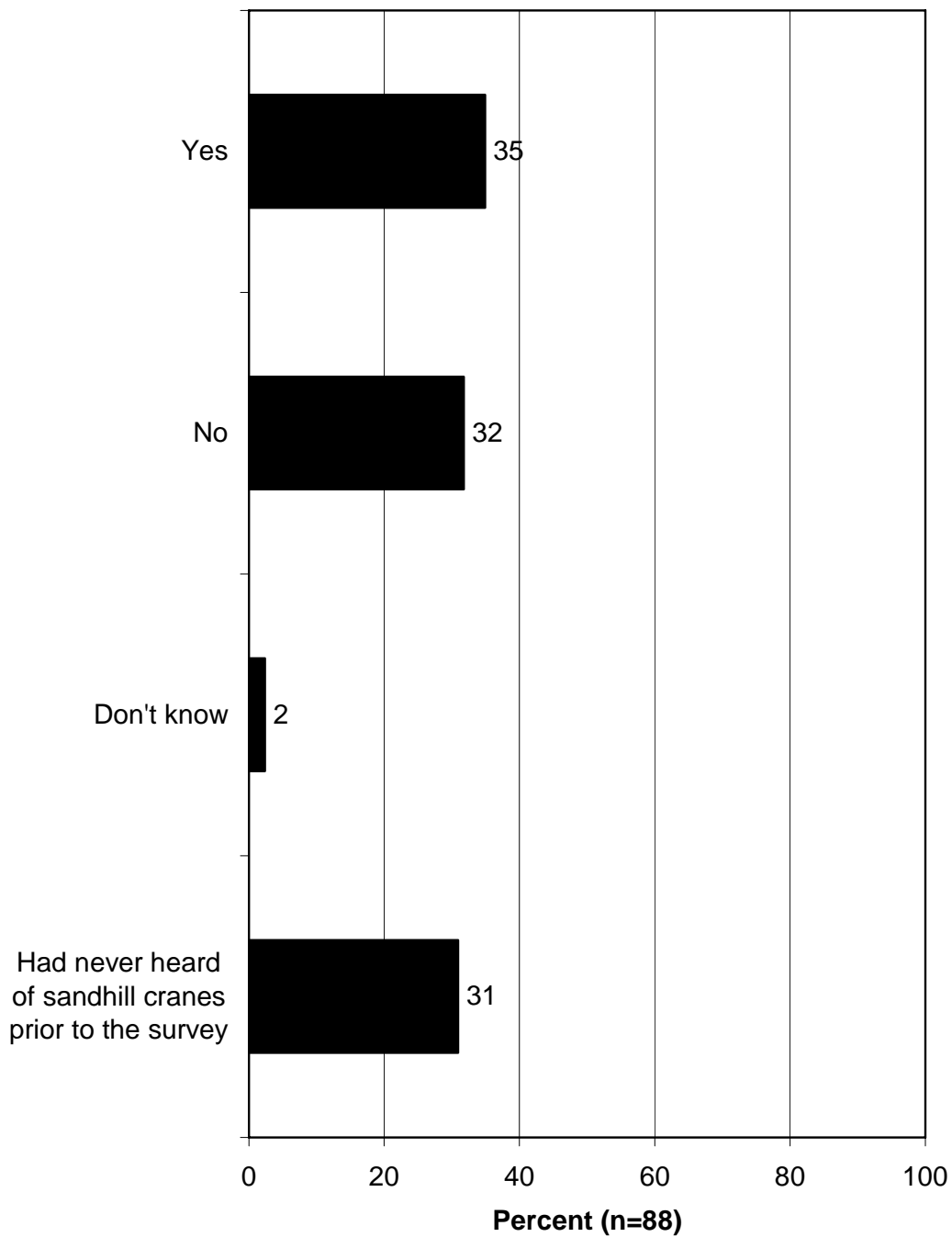
**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (Hunt area hunters.)**



**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (Wildlife watchers statewide.)**



**Q36. Prior to this survey, did you know sandhill crane populations migrate through or spend the winter in Tennessee? (Hunt area wildlife watchers.)**



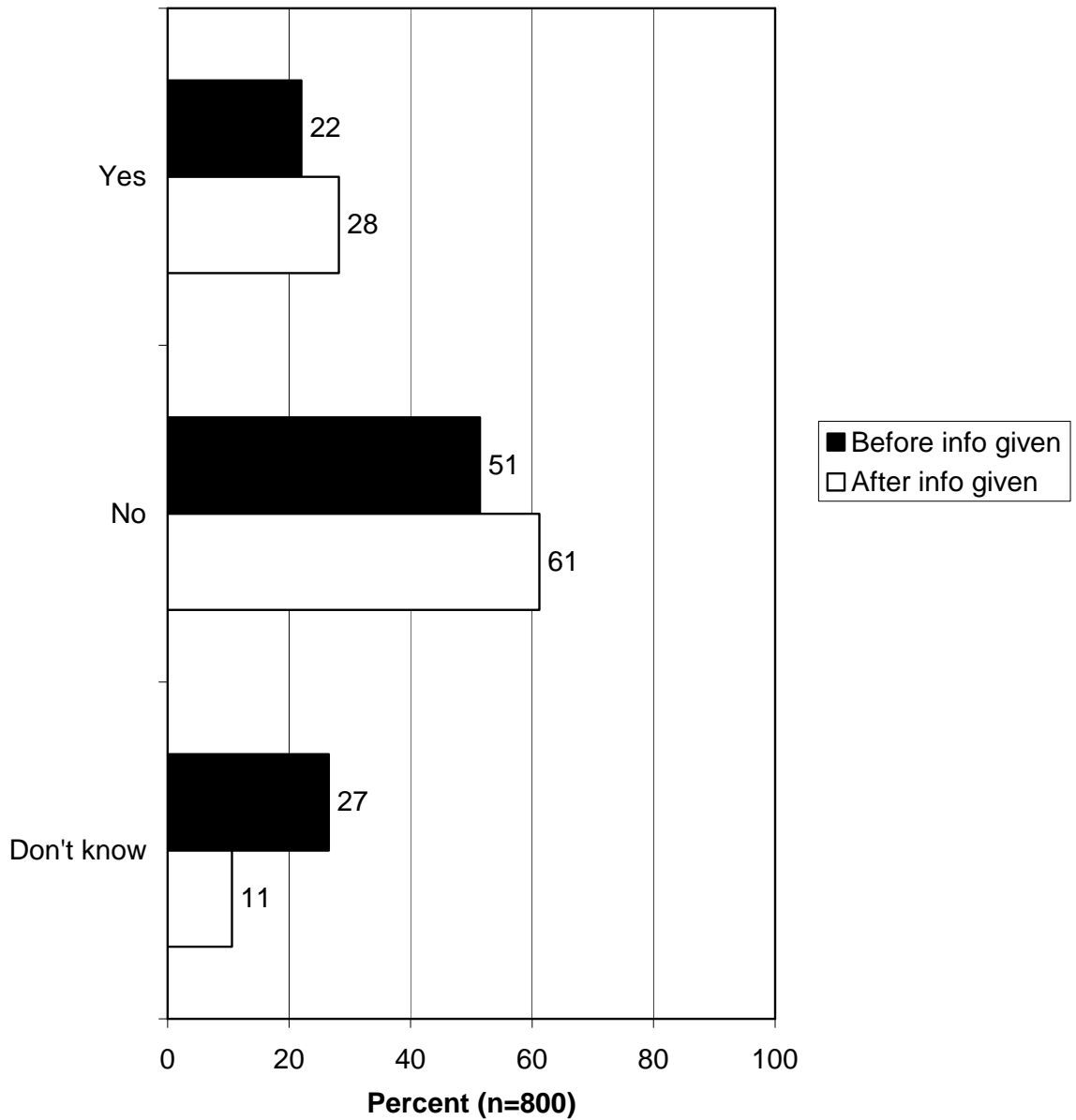
## EXPERIENCE WITH SANDHILL CRANES

- The survey first asked respondents if they had ever seen a sandhill crane. Then, after describing the sandhill crane, the survey again asked respondents if they had ever seen a sandhill crane.
  - Among Tennessee residents as a whole, about a quarter had seen a sandhill crane (22% prior to the description; 28% after). Not surprisingly, hunt area residents were more likely to have seen one: 45% had seen one (both prior and after the description).
  - Hunters statewide had seen sandhill cranes at a greater rate than the general population: among hunters statewide, 39% before and 44% after had seen one. Among hunters in the hunt area, 60% had seen one (same before and after).
  - Wildlife watchers were just slightly more likely than the general population (but a little less likely than hunters statewide) to have seen a sandhill crane: 26% before and 33% after among them statewide, and 56% before and 60% after among hunt area wildlife watchers.
    - In general, the description moved some people from the “don’t know” response to either the “yes” or the “no” response, suggesting that some people had seen a sandhill crane but had not known that they had seen one (those moved to “yes”). Conversely, some who thought perhaps they had seen one confirmed that they had not.
- Tabulations of all the data in this section are included, followed by the graphs.

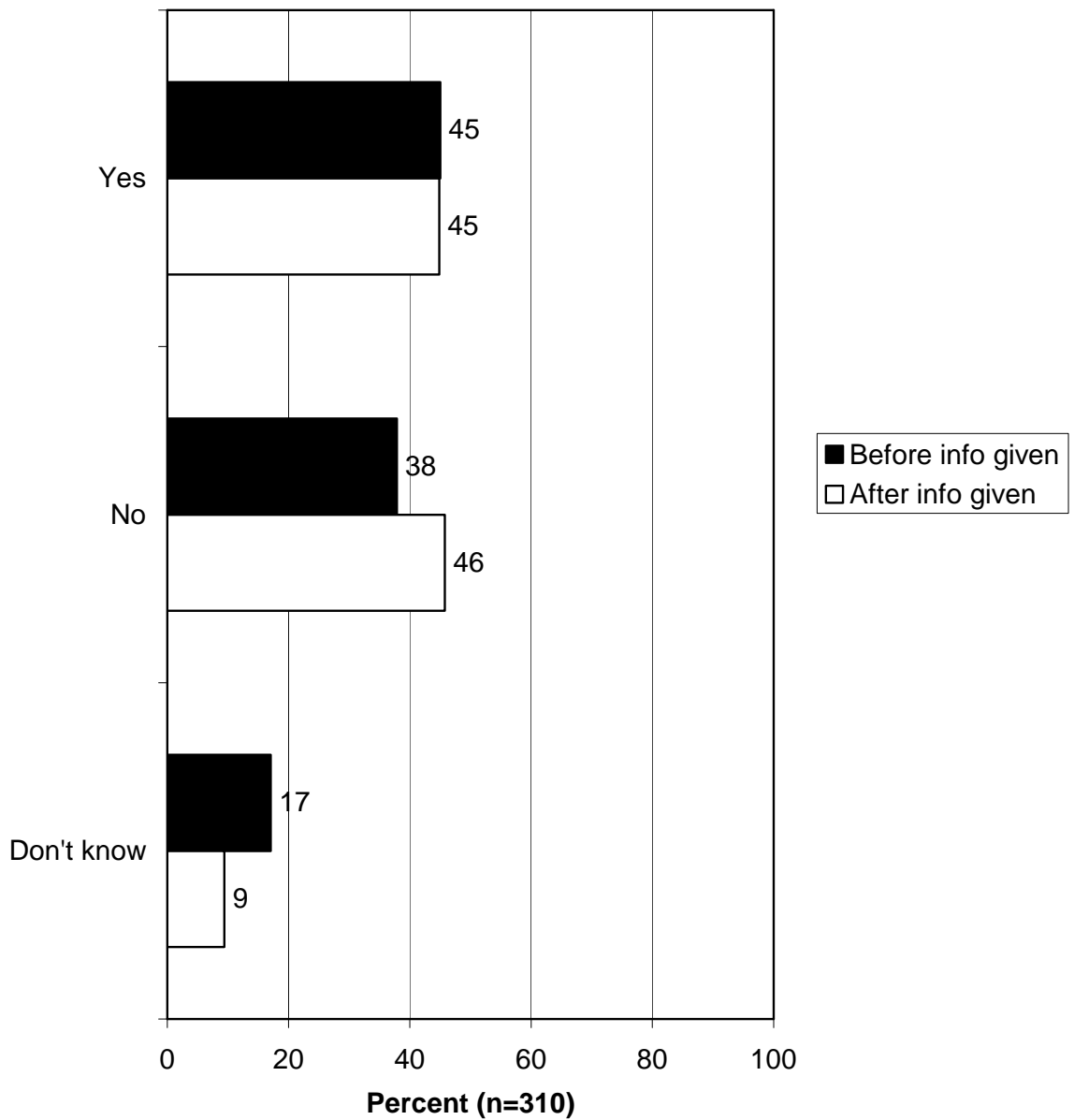
	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>Had seen a sandhill crane in Tennessee</b>	22	45	39	60	26	56
<b>Had not seen a sandhill crane in Tennessee</b>	51	38	37	28	46	28
<b>Don't know</b>	27	17	24	12	28	16
<b>Based on the description, thinks had seen a sandhill crane in Tennessee</b>	28	45	44	60	33	60
<b>Based on the description, thinks had not seen a sandhill crane in Tennessee</b>	61	46	48	32	56	31
<b>Don't know</b>	11	9	9	8	11	9

Column for each question may not sum to 100% because of rounding.

**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (General population.)**

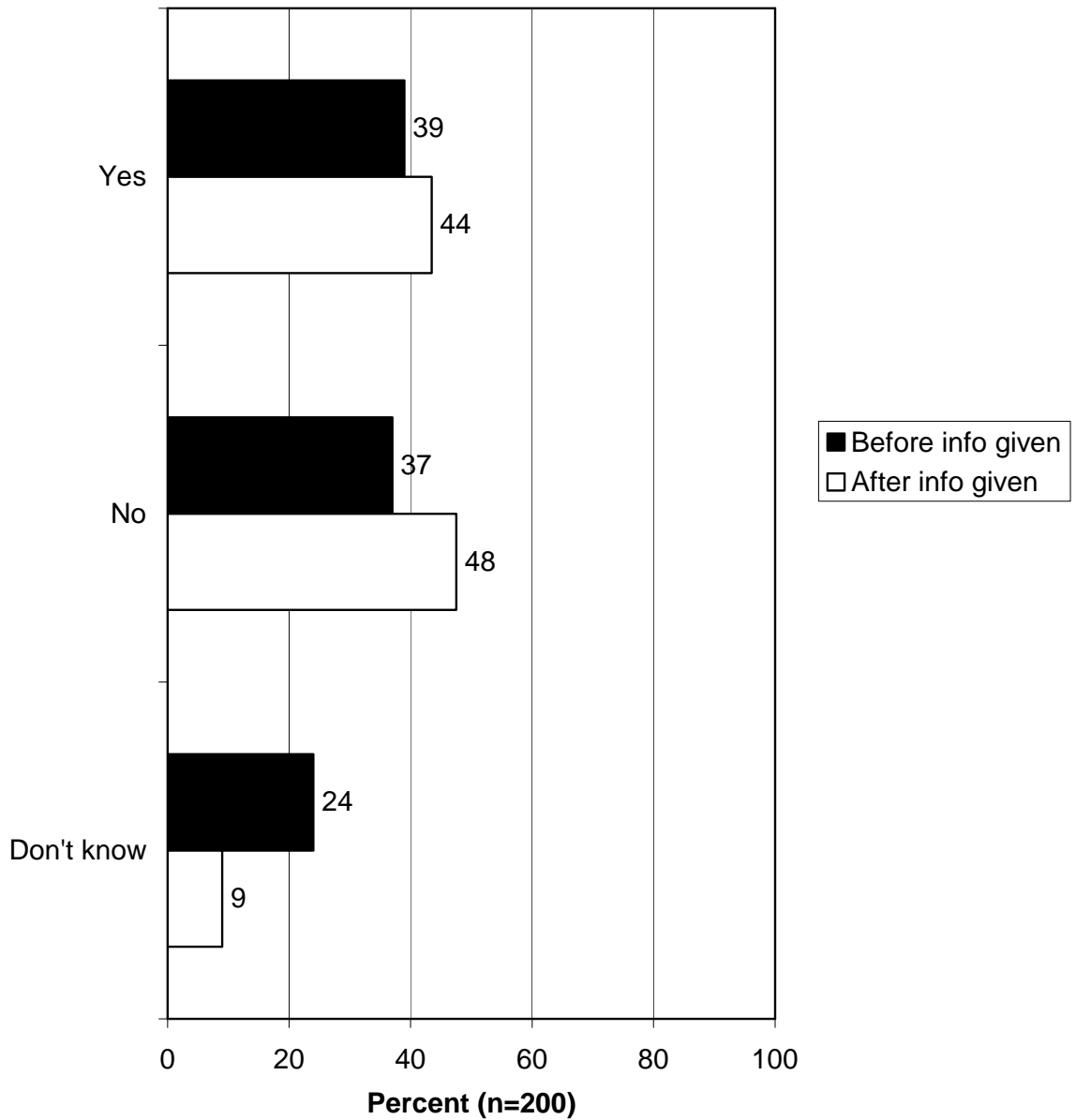


**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (Hunt area residents.)**

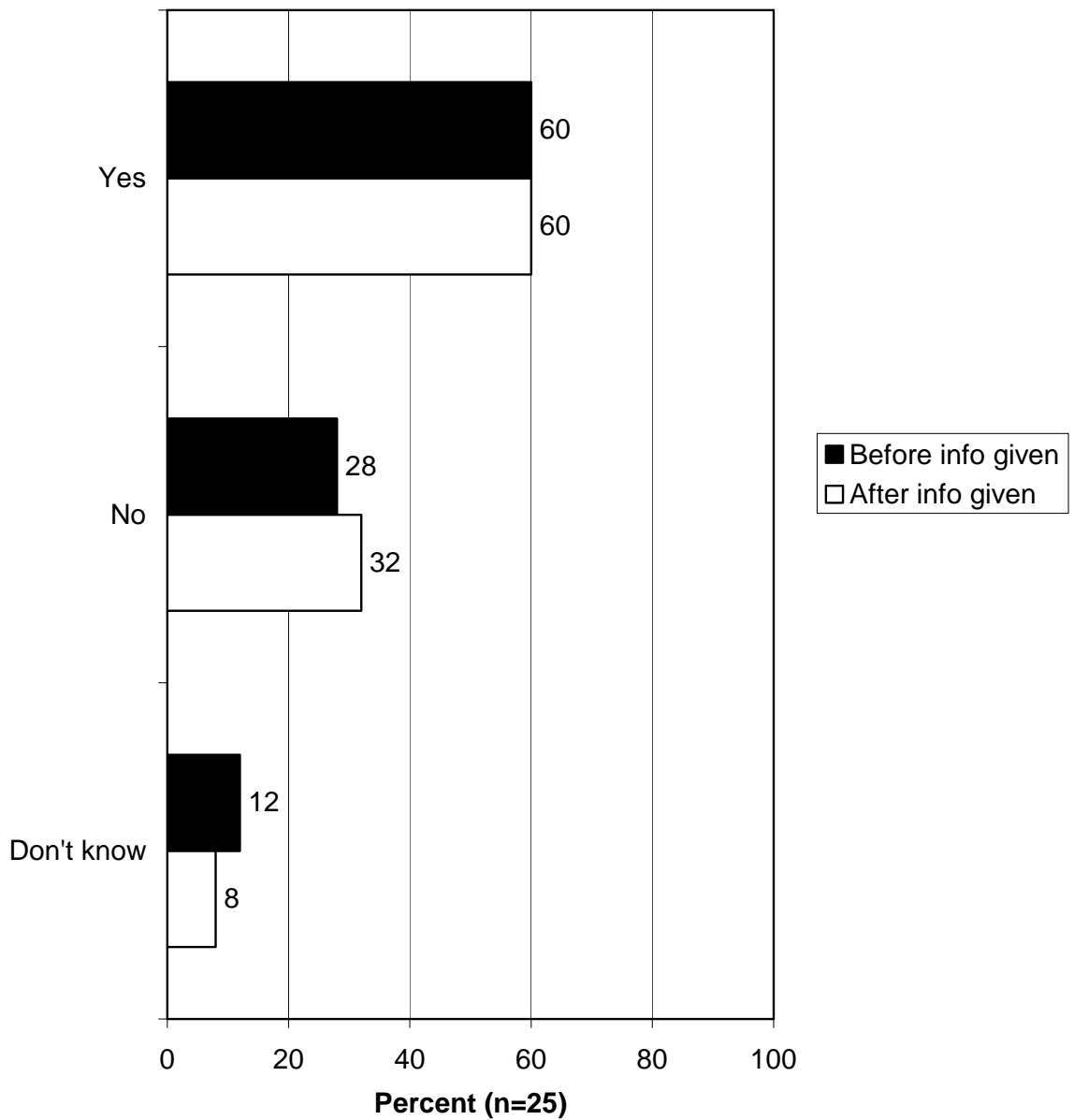




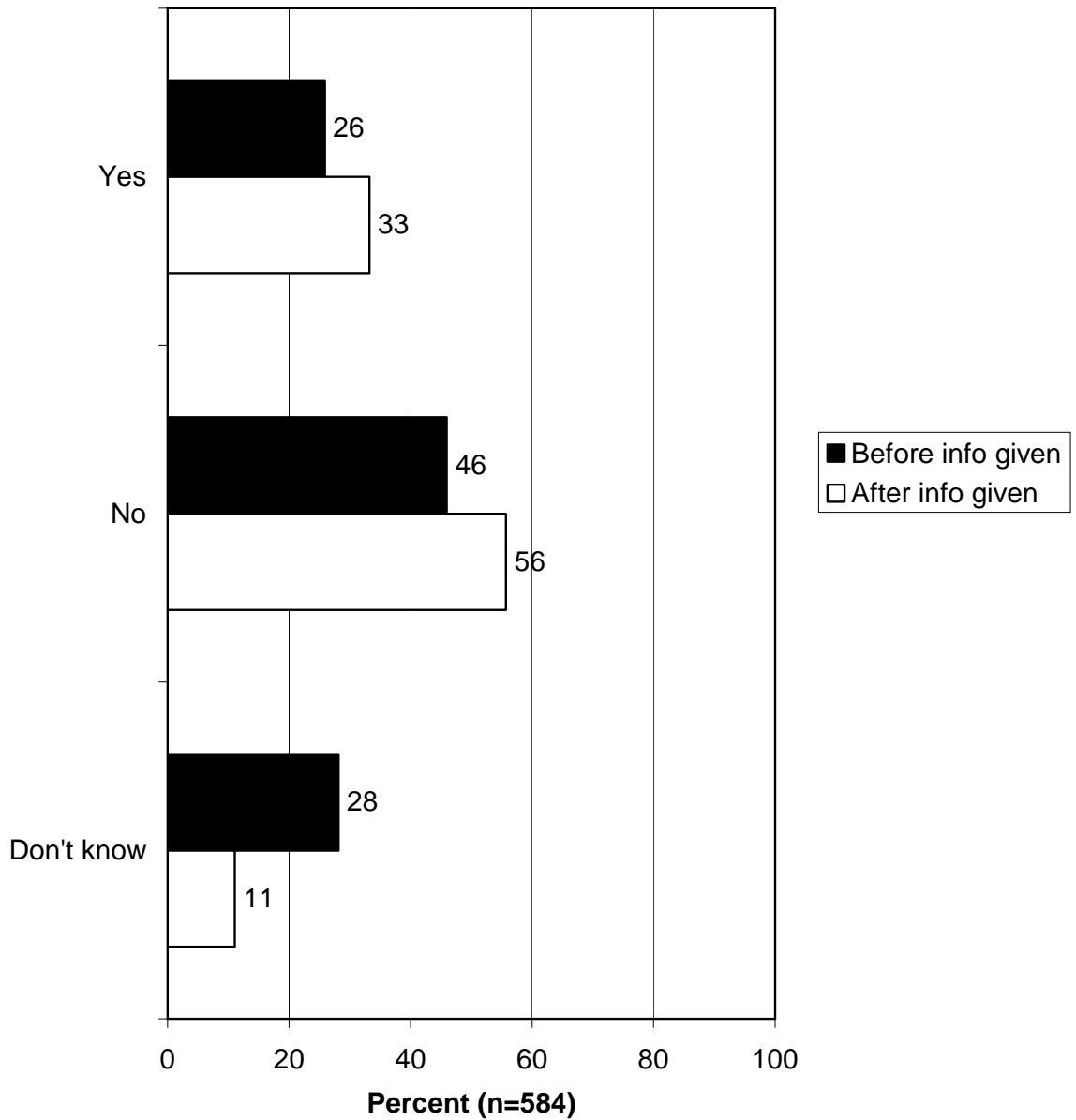
**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (Hunters statewide.)**



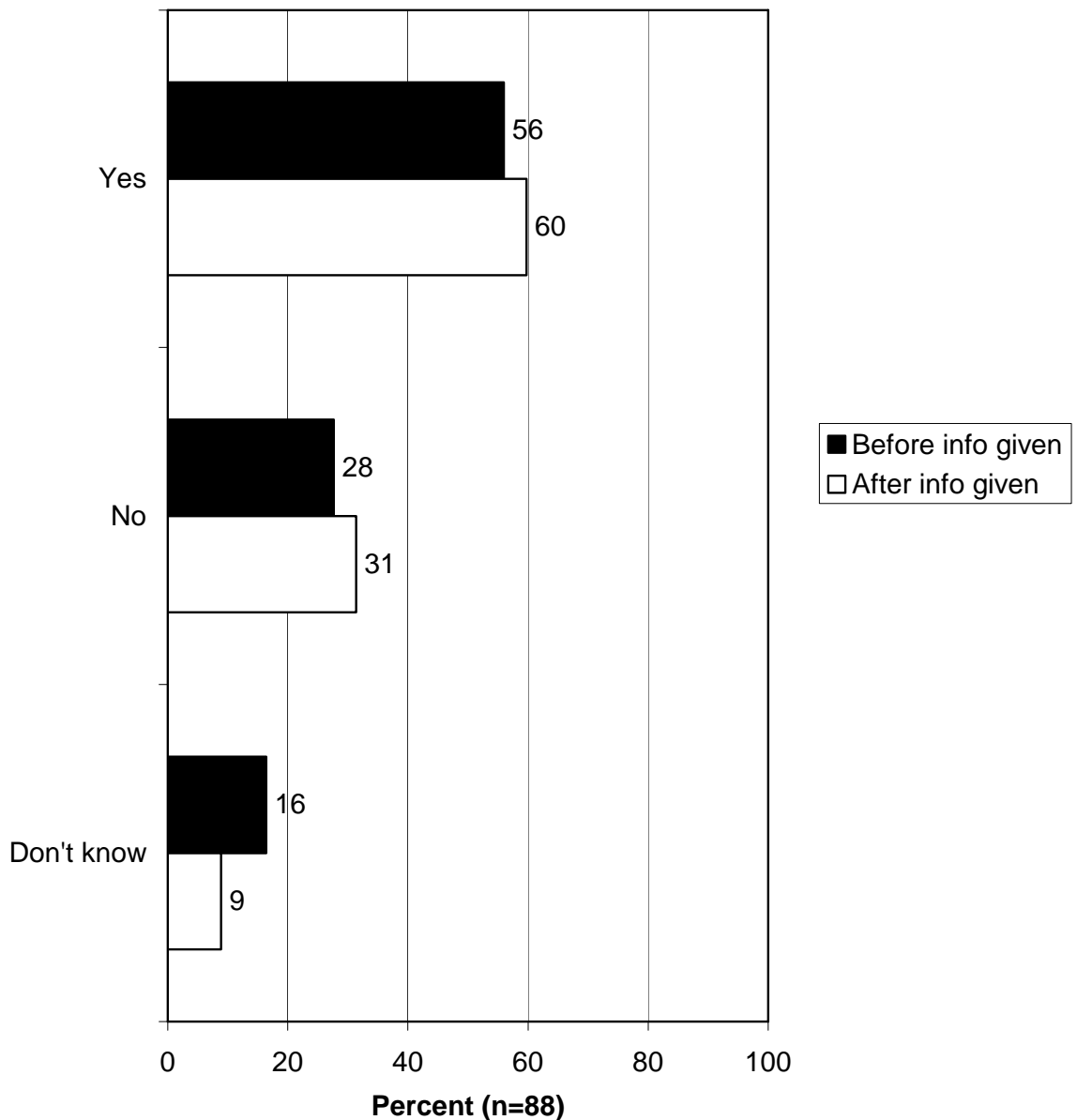
**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (Hunt area hunters.)**



**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (Wildlife watchers statewide.)**



**Q30. Have you ever seen a sandhill crane in Tennessee? Q35. Based on this description [the survey described the appearance of sandhill cranes to respondent], do you think you have ever seen a sandhill crane in Tennessee? (Hunt area wildlife watchers.)**



## OPINIONS ON HUNTING IN GENERAL AND HUNTING SANDHILL CRANES

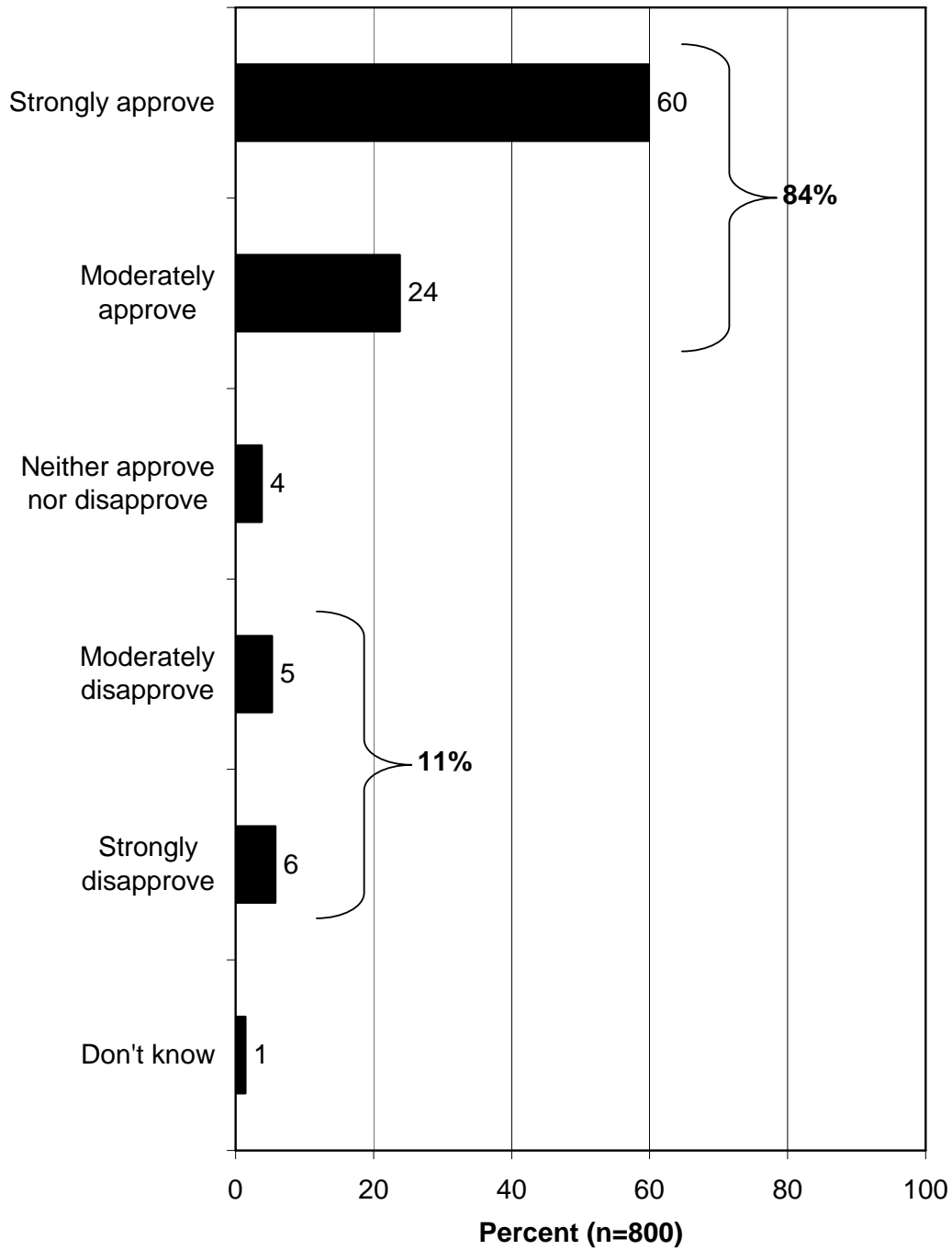
### APPROVAL OR DISAPPROVAL OF HUNTING IN GENERAL

- Among Tennessee residents statewide, 84% approve of legal hunting, while 11% disapprove. Among hunt area residents, there are similar results: 80% approve, and 14% disapprove. Among wildlife watchers, results are similar: 86% of them approve statewide; 83% of hunt area wildlife watchers approve. (Among hunters, approval is almost universal.)
  - Tabulations of all the data in this section are included, followed by the graphs.

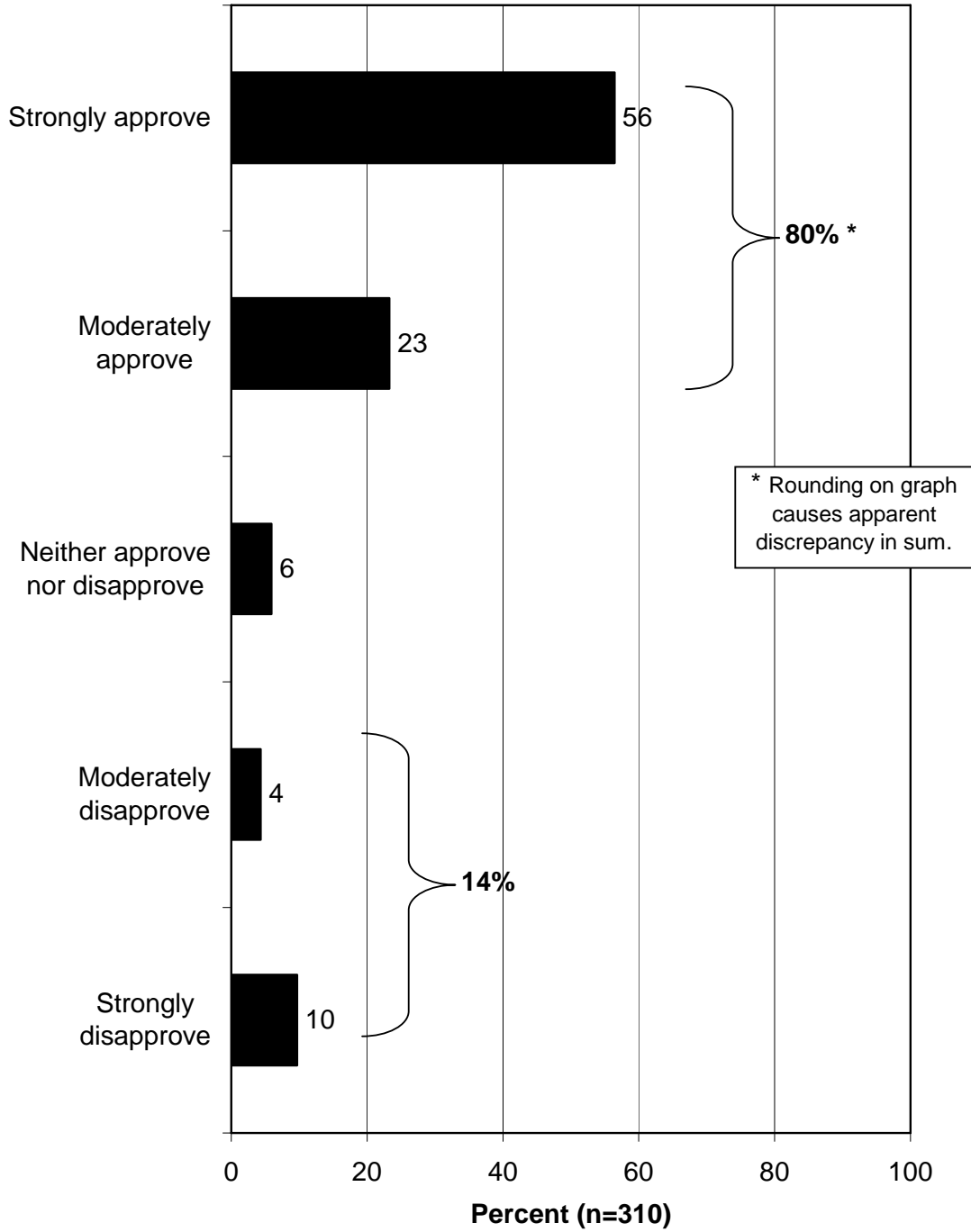
	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>Strongly approve of legal hunting</b>	60	56	92	96	62	70
<b>Moderately approve of legal hunting</b>	24	23	8	4	24	13
<b>Total approval</b>	84	80	100	100	86	83
<b>Neither approve nor disapprove / don't know</b>	5	6	0	0	3	2
<b>Moderately disapprove of legal hunting</b>	5	4	1	0	5	5
<b>Strongly disapprove of legal hunting</b>	6	10	0	0	6	10
<b>Total disapproval</b>	11	14	1	0	10	15

Column for each question may not sum to 100% because of rounding.

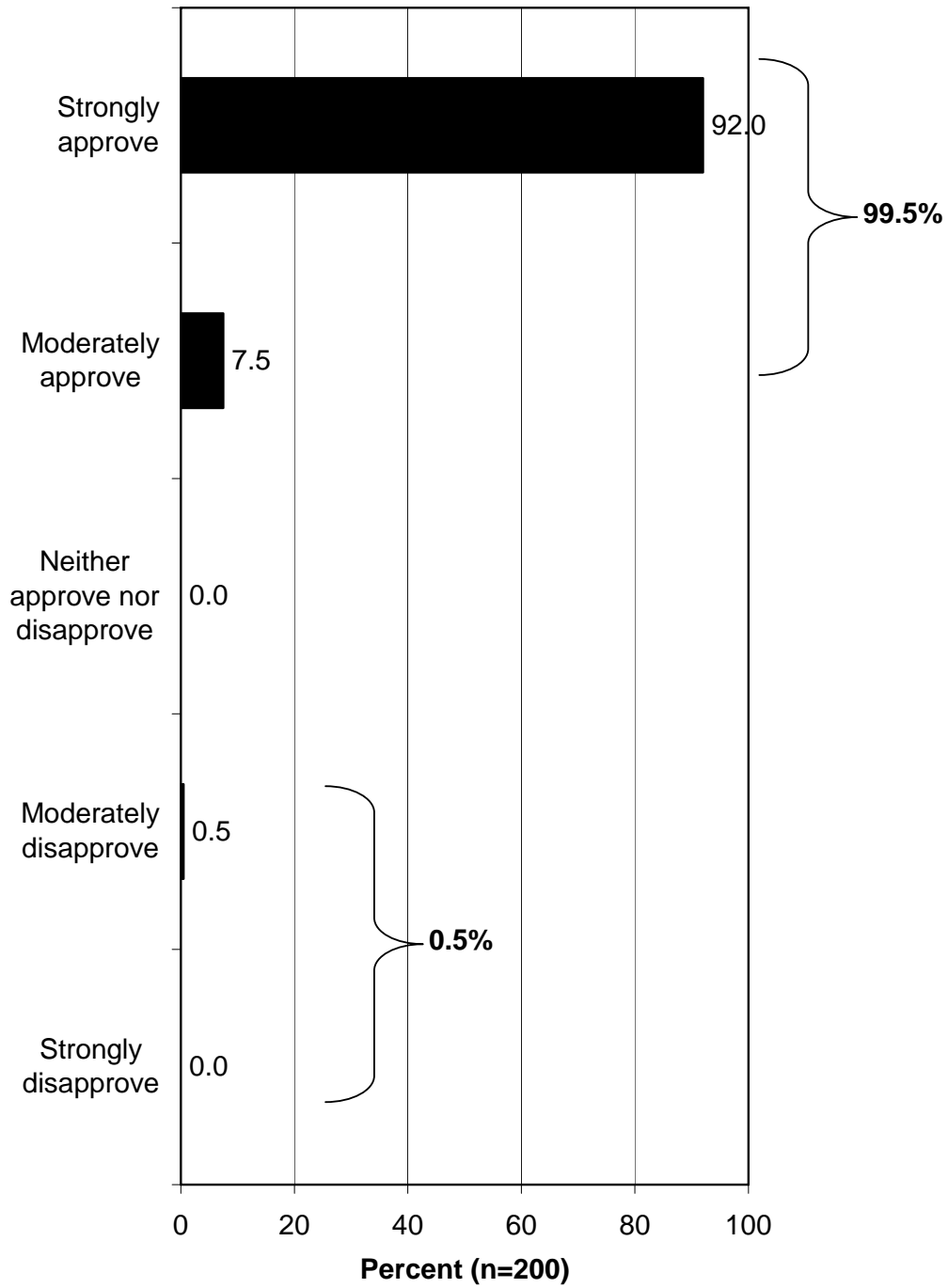
**Q18. In general, do you approve or disapprove of legal hunting? (General population.)**



**Q18. In general, do you approve or disapprove of legal hunting? (Hunt area residents.)**

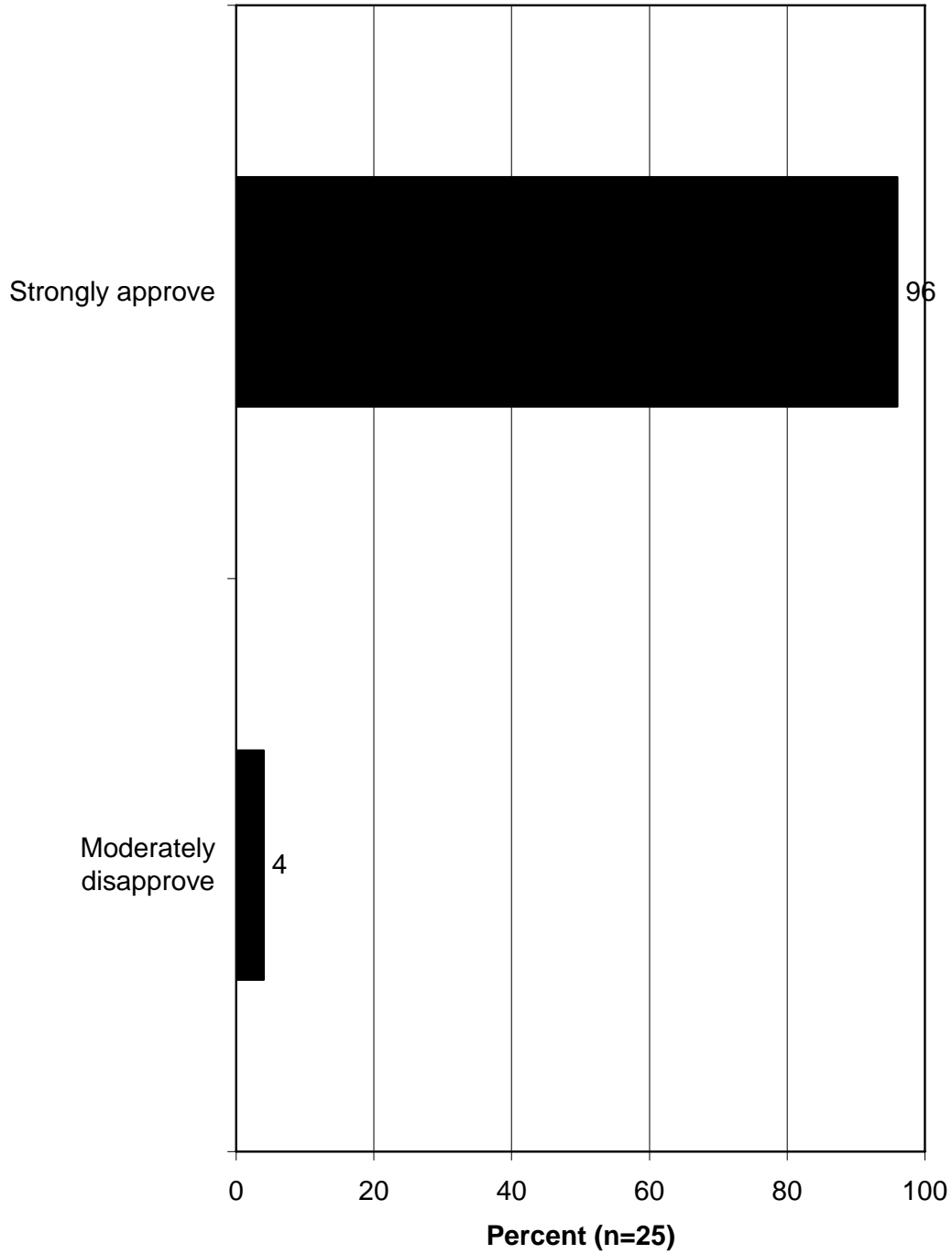


**Q18. In general, do you approve or disapprove of legal hunting? (Hunters statewide.)**

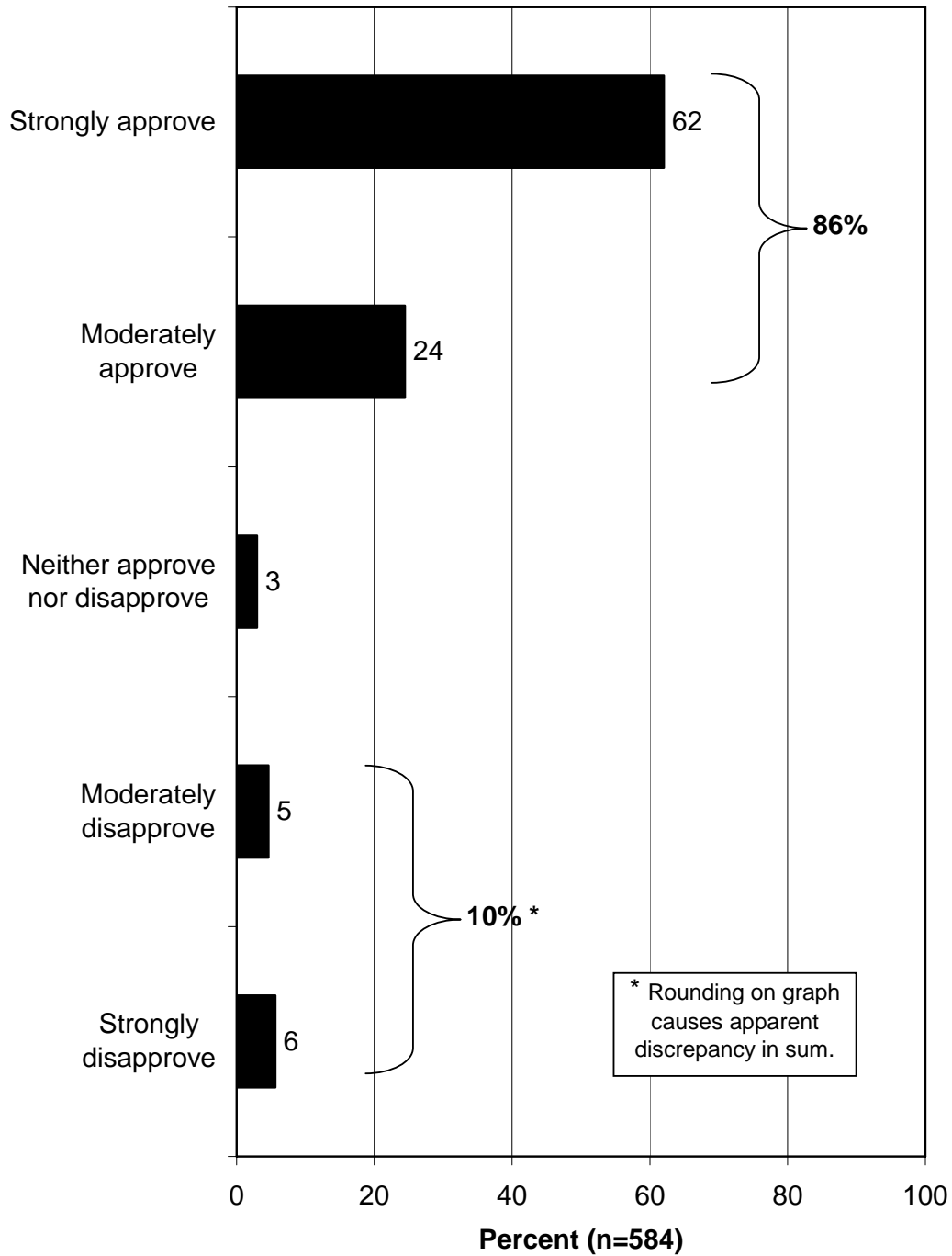




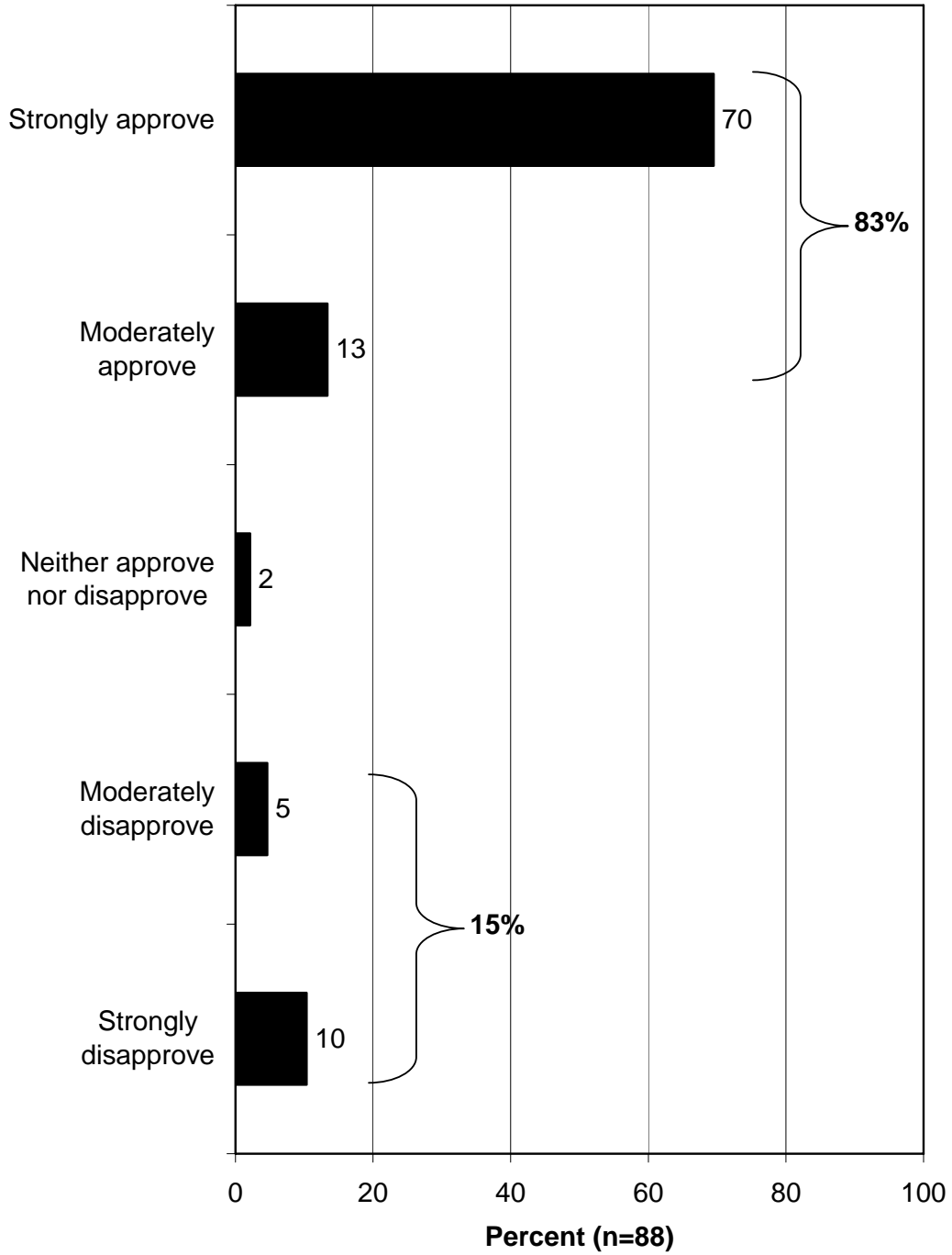
**Q18. In general, do you approve or disapprove of legal hunting? (Hunt area hunters.)**



**Q18. In general, do you approve or disapprove of legal hunting? (Wildlife watchers statewide.)**



**Q18. In general, do you approve or disapprove of legal hunting? (Hunt area wildlife watchers.)**



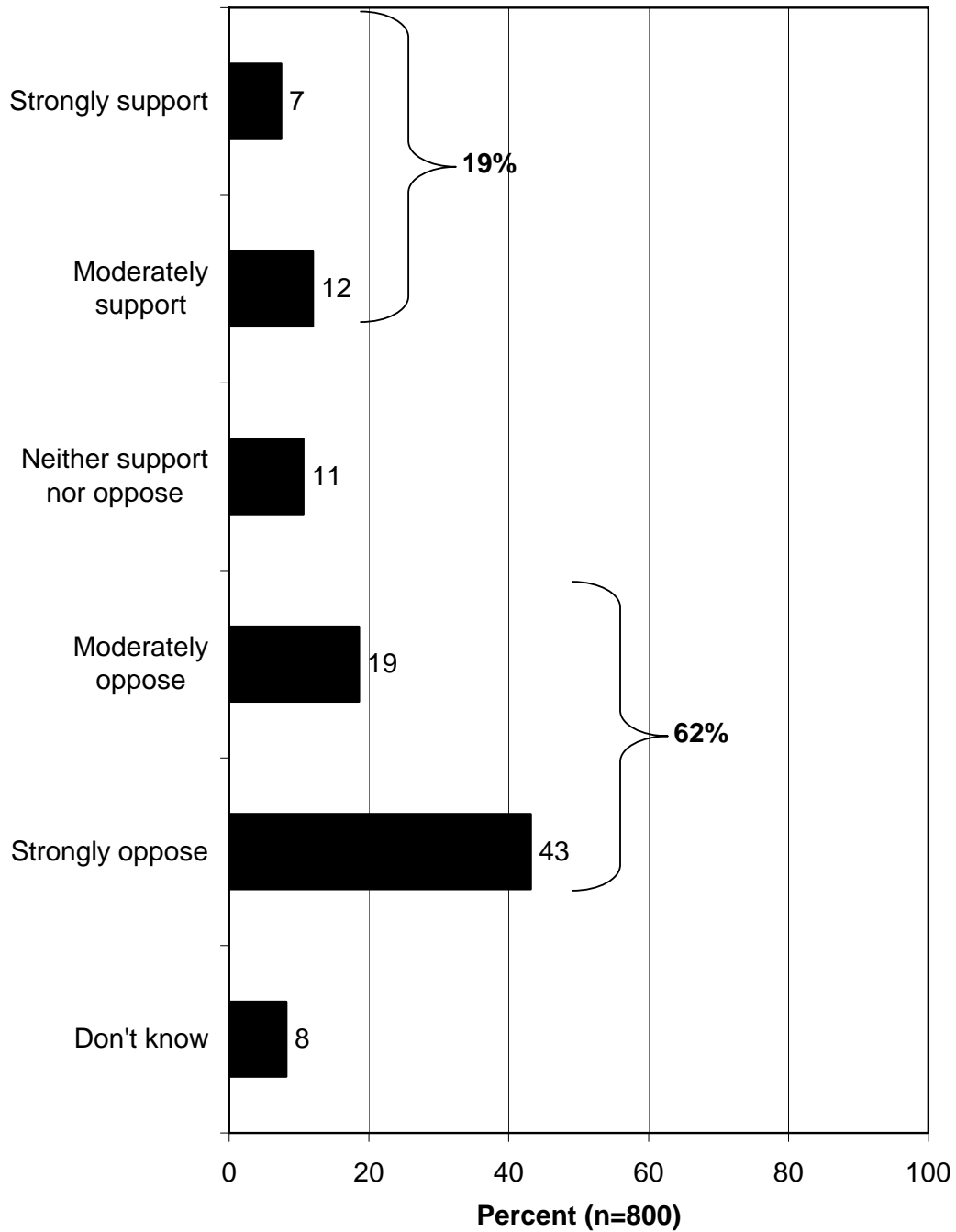
## OPINIONS ON HUNTING SANDHILL CRANES

- While approval of hunting is high (ranging from 80% on up to nearly 100% among the six groups studied), there is little support for the hunting of sandhill cranes—even among hunters there is not a majority in support.
  - Among Tennessee residents overall, 19% support, while 62% oppose (the remainder are neutral), with similar results among hunt area residents.
  - Among hunters, while support exceeds opposition, less than a majority support (because many are neutral at this point). Among hunters statewide, 42% support and 35% oppose; among hunt area hunters, 44% support and 36% oppose.
  - Wildlife watchers are similar to the general population. Statewide, 21% of wildlife watchers support, while 62% oppose; among hunt area wildlife watchers, 24% support and 57% oppose.
  
- The question above was asked again, but the wording was changed to say, “If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee?” Only among hunters did the wording markedly increase support: with the wording, hunters, particularly in the hunt area, were more supportive. Among the other groups, support generally grew just slightly, except among hunt area residents.
  - Among residents statewide, support went from 19% to 25%; opposition went from 62% to 60%. However, in the hunt area, support remained the same at 20%, but opposition went from 60% to 68%.
  - Among hunters statewide, support increased from 42% to 48%, while opposition went from 35% to 29%. This difference was more pronounced among hunt area hunters, whose support increased from 44% to 56%, while their opposition dropped from 36% to 24%.
  - Among wildlife watchers statewide, support went from 21% to 24% (opposition was about the same, going from 62% to 61%), and among hunt area wildlife watchers, support went from 24% to 26% (opposition increased from 57% to 61%).
  
- Tabulations of all the data in this section are included, followed by the graphs.

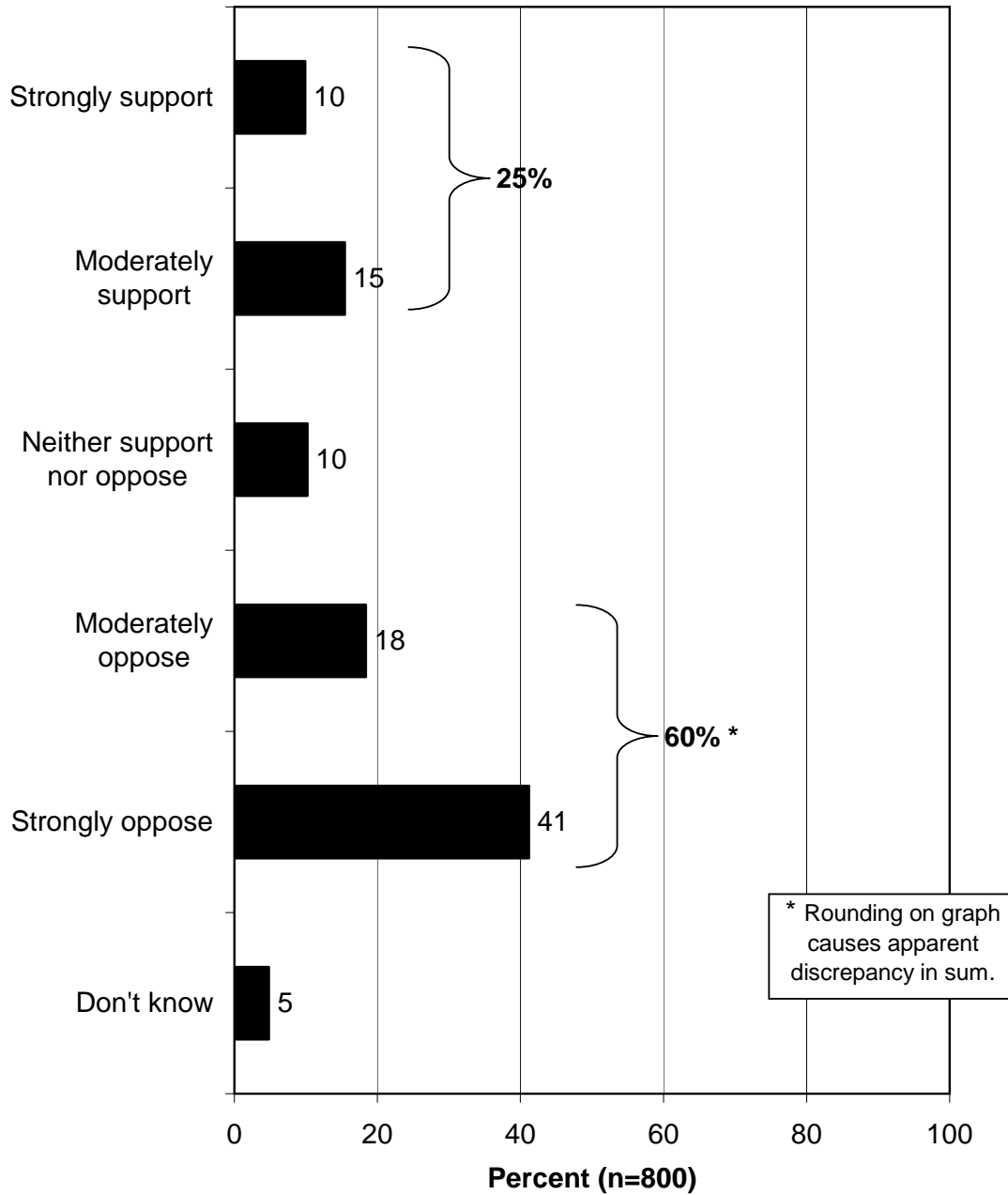
	Tennessee residents		Hunt area residents		Hunters statewide		Hunt area hunters		Wildlife watchers statewide		Hunt area wildlife watchers	
<b>IN GENERAL, DO YOU SUPPORT OR OPPOSE HUNTING SANDHILL CRANES IN TENNESSEE? (left side of column)</b>												
<b>IF THERE WERE NO CONVINCING REASONS AT ALL TO PREVENT OR TO ALLOW HUNTING SANDHILL CRANES IN TENNESSEE, WOULD YOU PERSONALLY SUPPORT OR OPPOSE HUNTING SANDHILL CRANES IN TENNESSEE? (right side of column)</b>												
<b>Strongly support</b>	7	10	8	8	17	20	28	32	7	9	8	8
<b>Moderately support</b>	12	15	12	11	25	28	16	24	14	15	16	18
<b>Total support</b>	19	25	20	20	42	48	44	56	21	24	24	26
<b>Neither support nor oppose / don't know</b>	19	15	20	12	24	24	20	20	17	16	19	13
<b>Moderately oppose</b>	19	18	18	21	18	13	16	8	18	18	15	16
<b>Strongly oppose</b>	43	41	43	47	17	16	20	16	45	43	43	45
<b>Total opposition</b>	62	60	60	68	35	29	36	24	62	61	57	61
<b>Change in support</b>	+6		0		+6		+12 +3				+2	
<b>Change in opposition</b>	-2		+8		-6		-12 -1				+4	

Column for each question may not sum to 100% because of rounding.

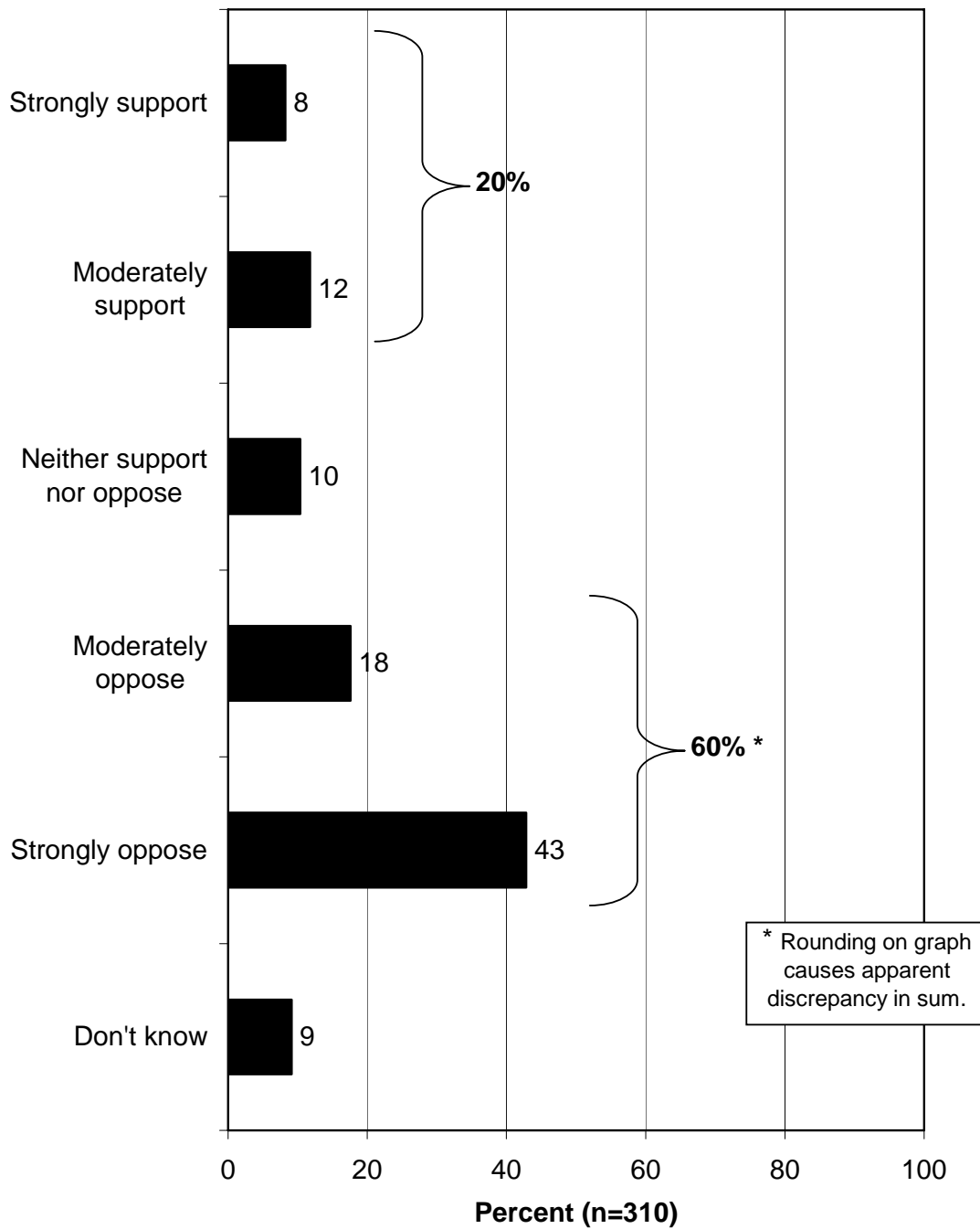
**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (General population.)**



**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (General population.)**

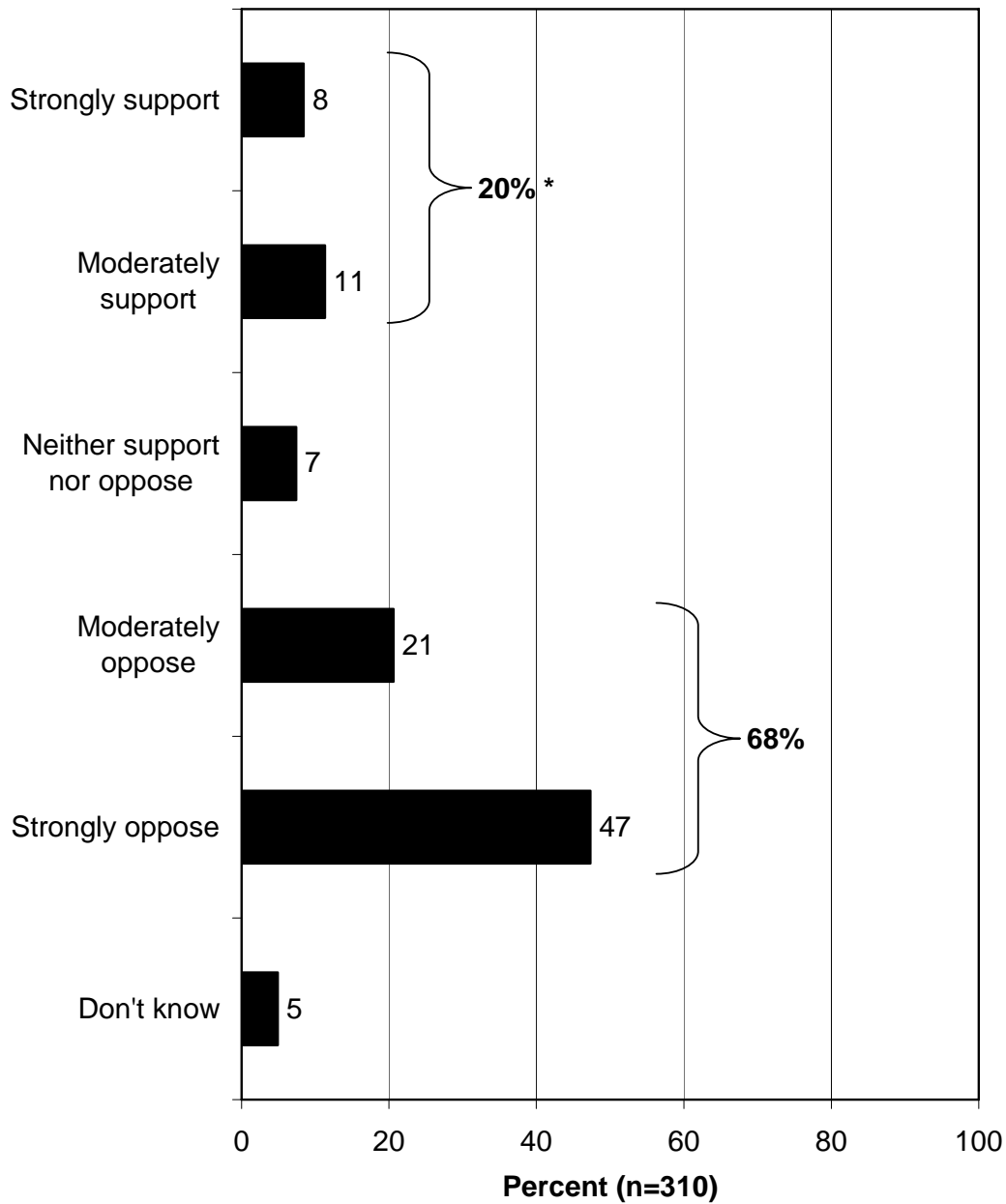


**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (Hunt area residents.)**

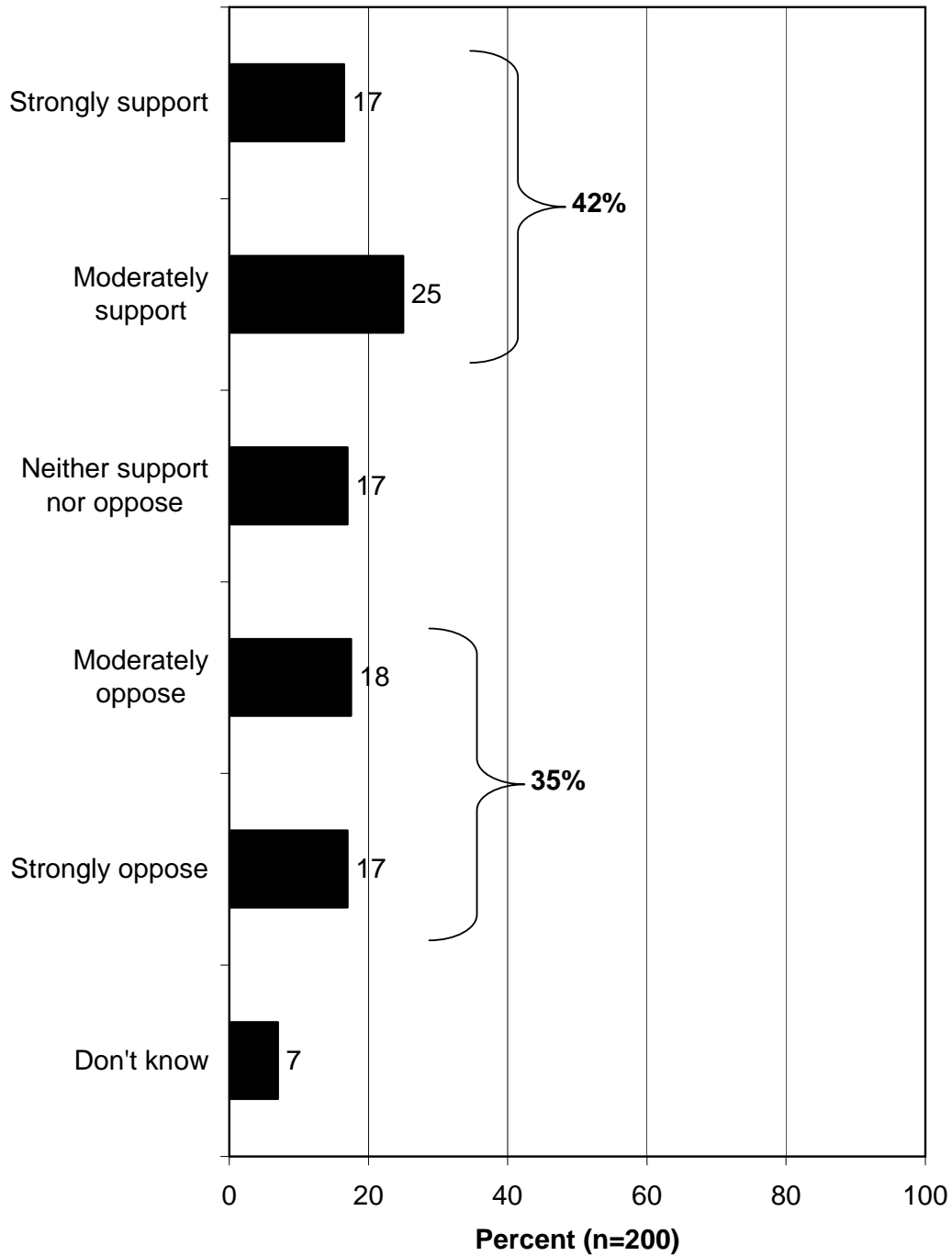




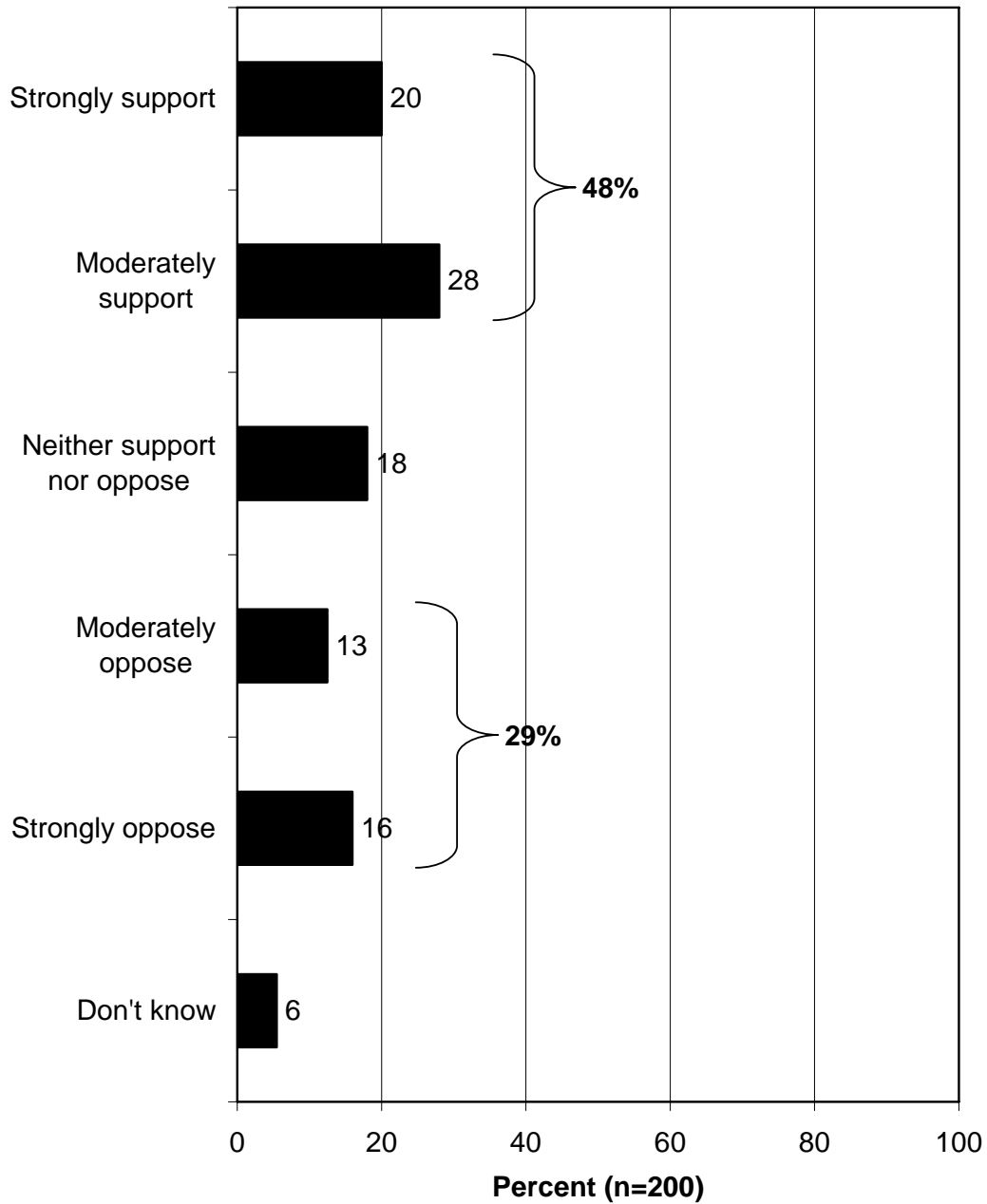
**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (Hunt area residents.)**



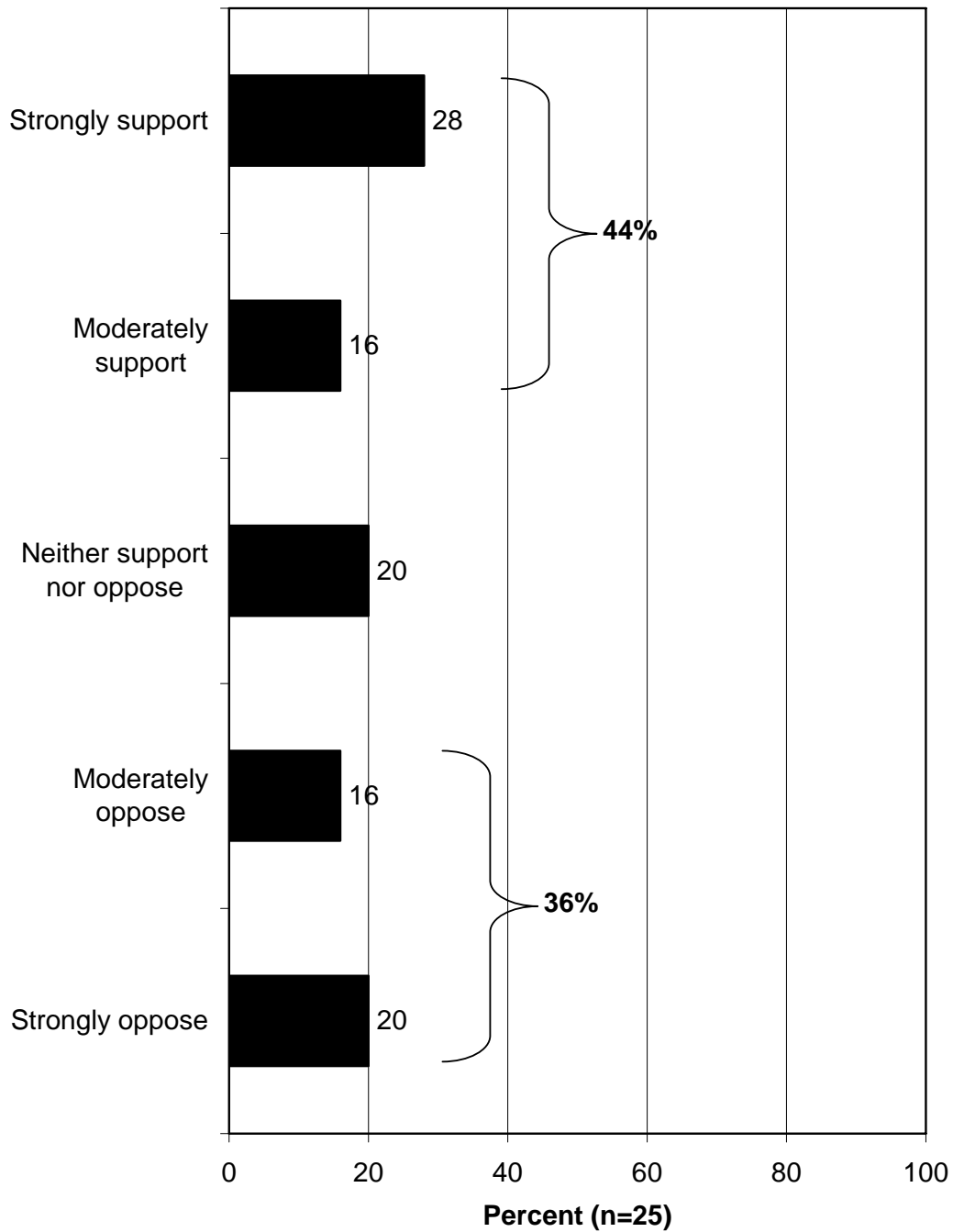
**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (Hunters statewide.)**



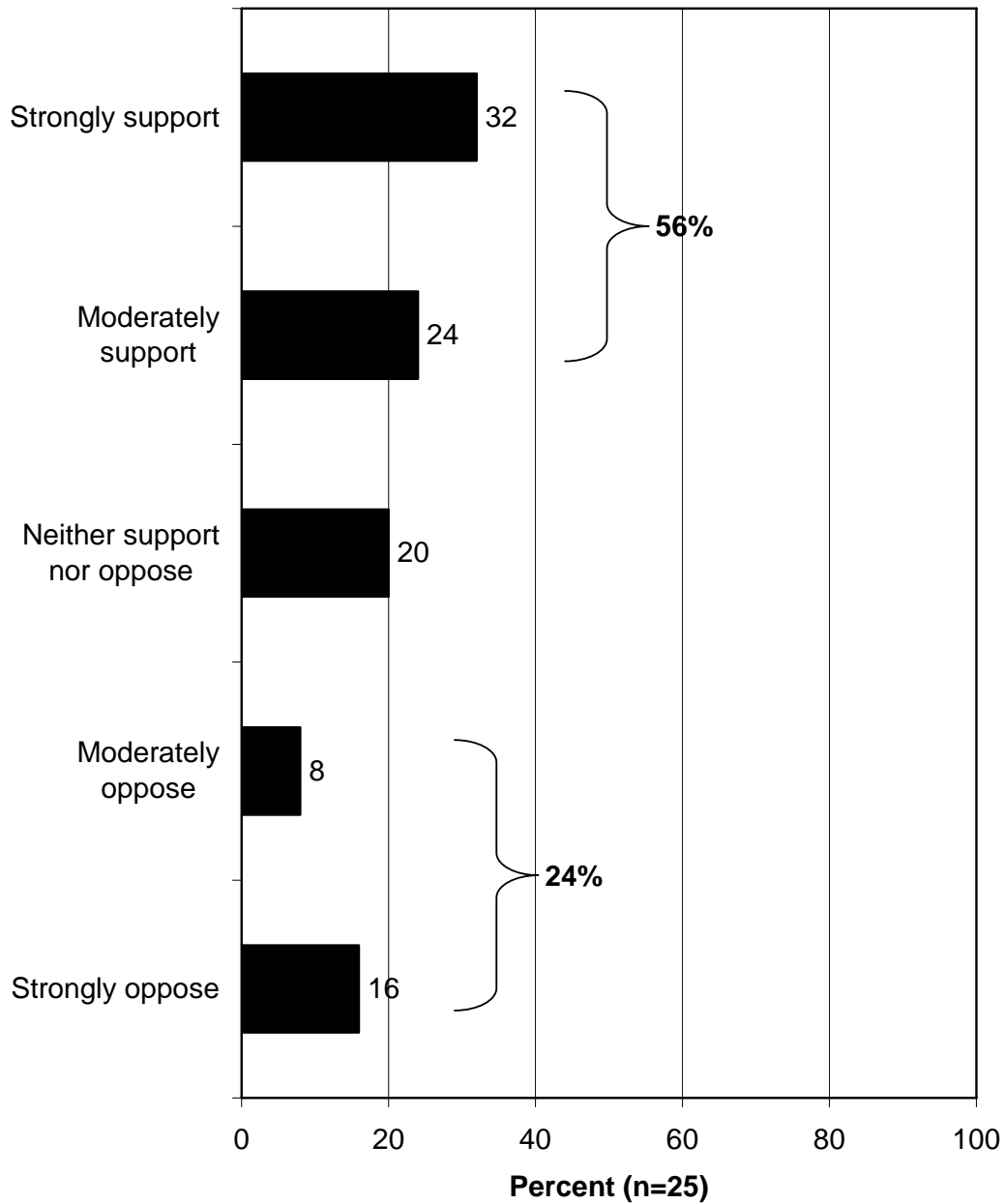
**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (Hunters statewide.)**



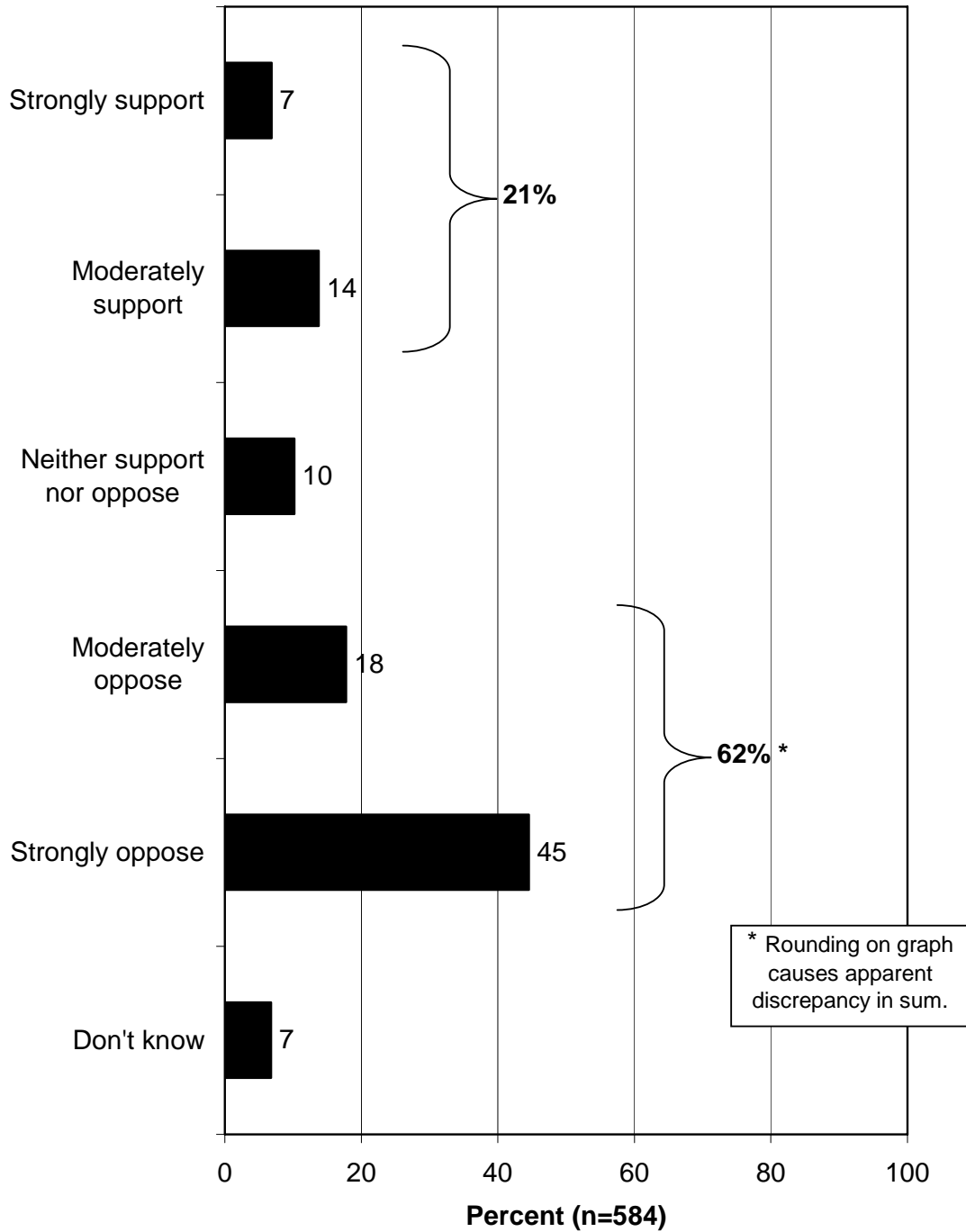
**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (Hunt area hunters.)**



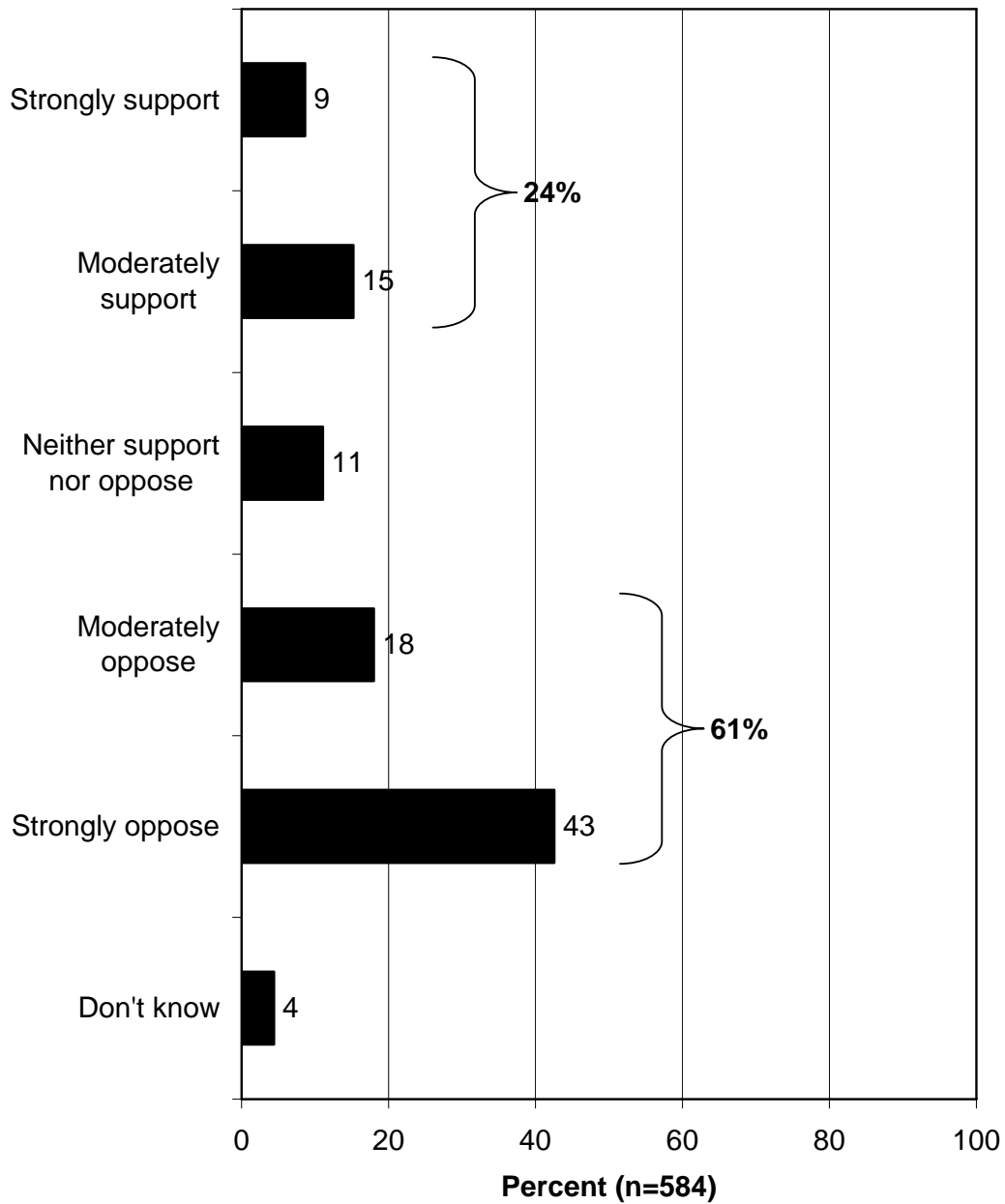
**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (Hunt area hunters.)**



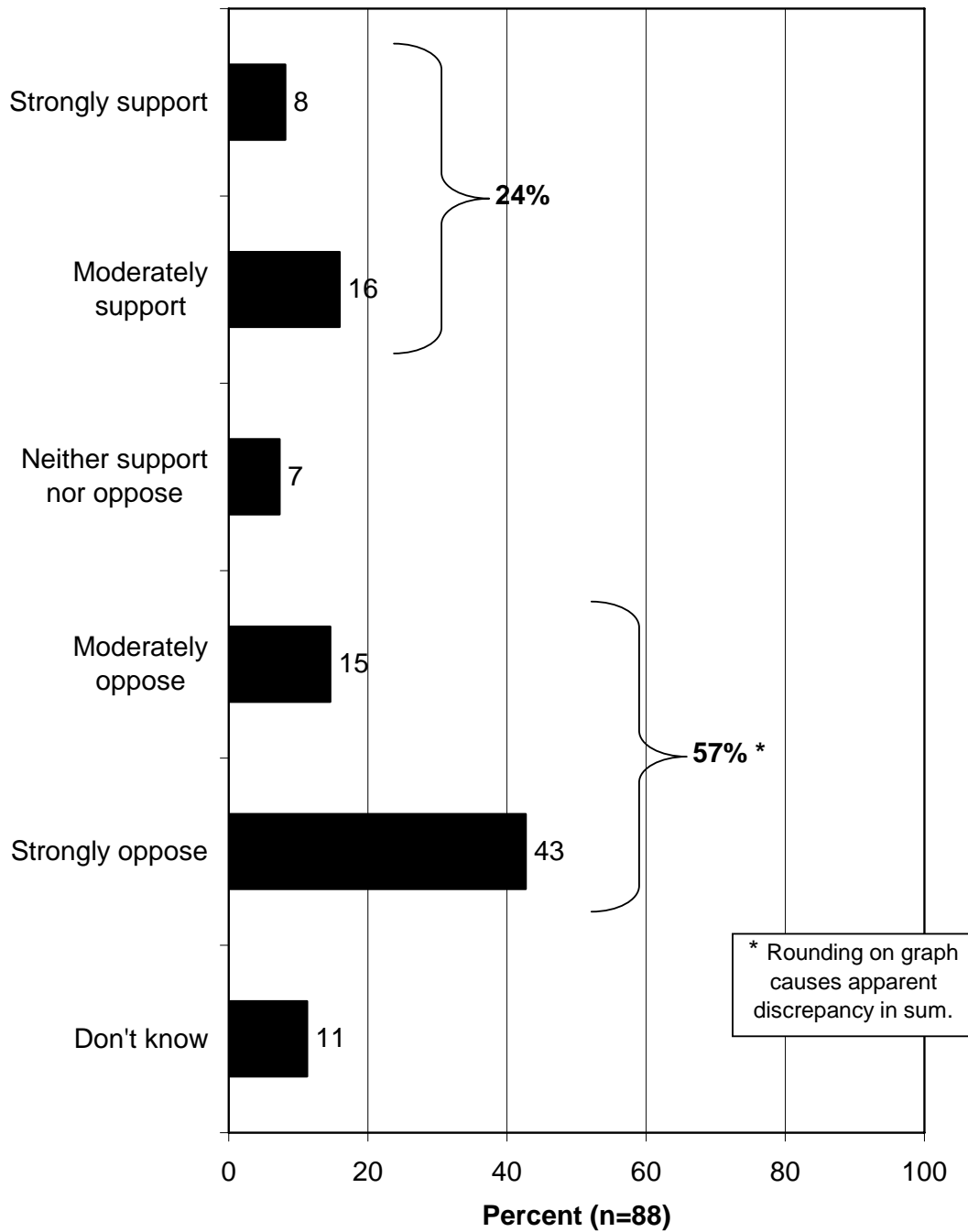
**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (Wildlife watchers statewide.)**



**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (Wildlife watchers statewide.)**

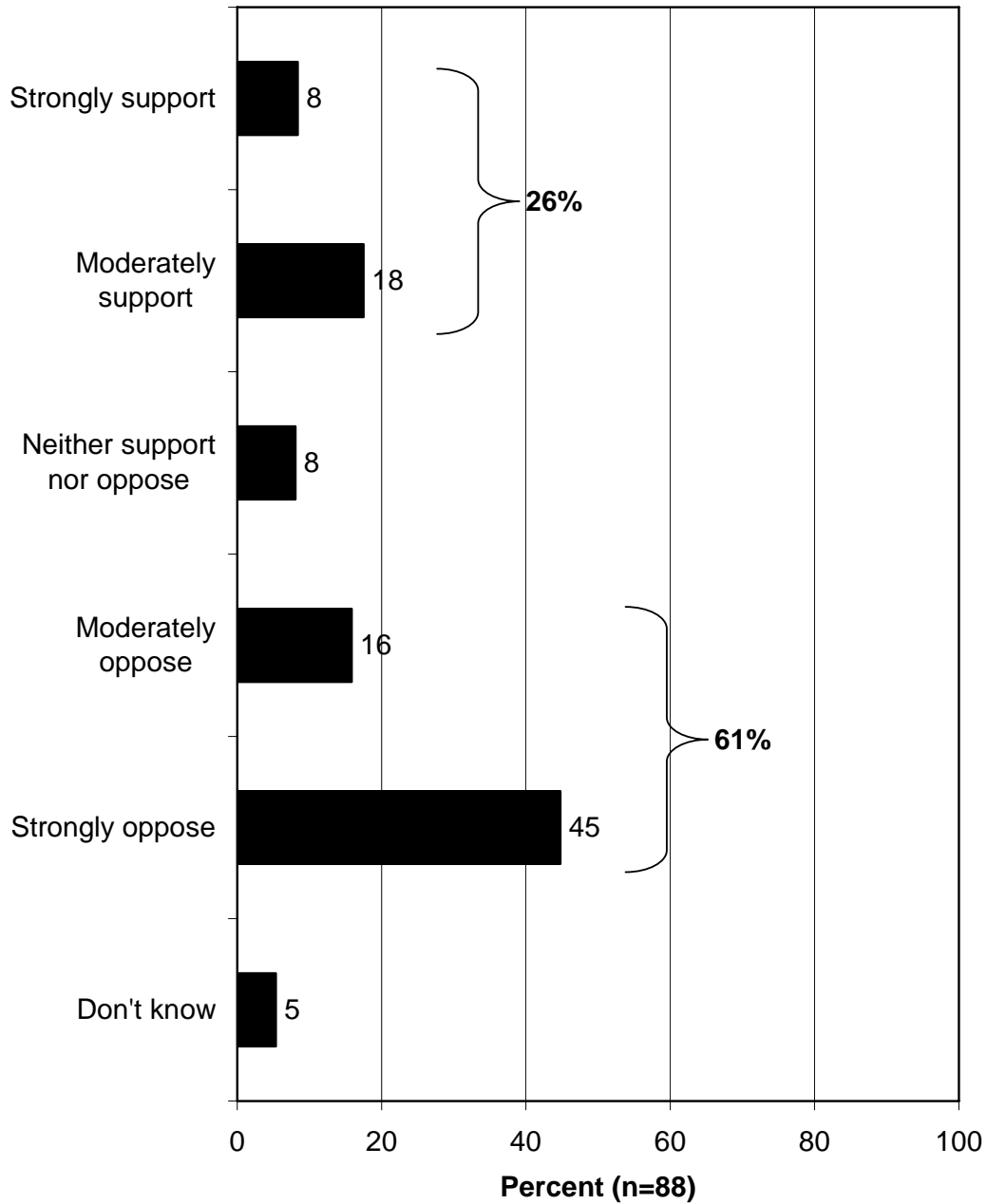


**Q44. In general, do you support or oppose hunting sandhill cranes in Tennessee? (Hunt area wildlife watchers.)**





**Q45. If there were no convincing reasons at all to prevent or to allow hunting sandhill cranes in Tennessee, would you personally support or oppose hunting sandhill cranes in Tennessee? (Hunt area wildlife watchers.)**



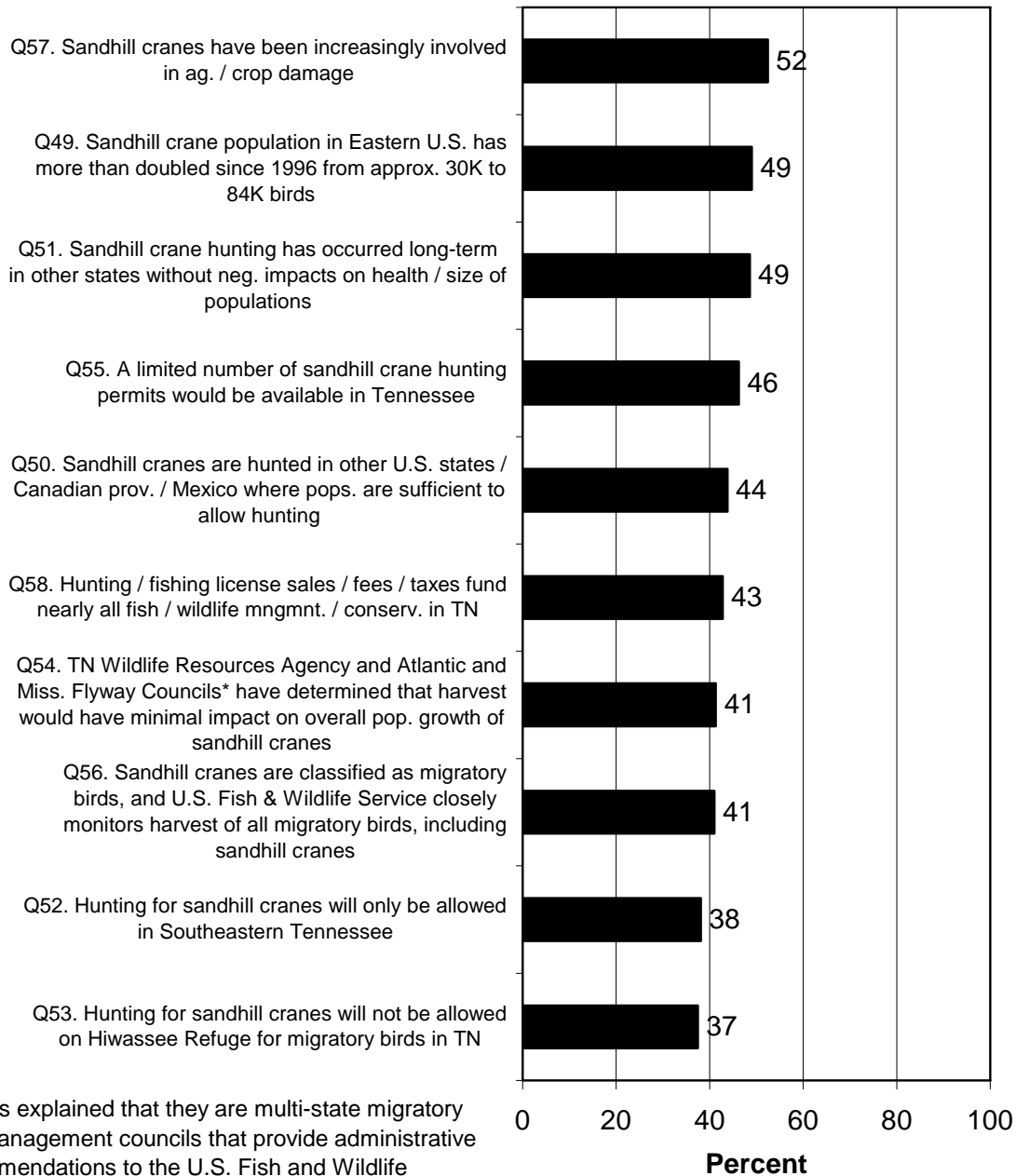
- The survey included two series of questions pertaining to support for or opposition to hunting of sandhill cranes. In one series the questions included statements that would tend to encourage support, and in the other series the questions included statements that would tend to encourage opposition. Which series was given first to the respondent was randomized, as was the order within the series.
- In general, support was higher with the statements added, even statements encouraging opposition. Also in general, opposition was *lower* with the statements encouraging support; opposition was higher for only some of the statements that encouraged more opposition.
  - Another part of the analysis looks at *which* added statements made for the most support.
    - That sandhill cranes have been involved in crop damage resonated well. It produced the most support among the general population statewide, hunters statewide and in the hunt area, and wildlife watchers statewide.
    - Telling respondents that the estimated sandhill crane population has more than doubled since 1996 also resonated well among residents and among wildlife watchers.
    - Another statement that resonated well among all groups, including wildlife watchers, is that sandhill crane hunting has occurred long-term in other states without negative impacts on sandhill crane populations, being the second- or third-ranked statement in support among the groups.
    - Finally, the last statement that produced markedly more support than the other statements is that a limited number of permits would be made available—respondents apparently wanted to know that the population would be protected.
  - Regarding statements that produced opposition:
    - That there might be confusion between whooping cranes and sandhill cranes is the statement that produced the most opposition in every group.
    - The second-ranked statement in producing opposition for each group was that some wildlife watching and birdwatching groups oppose the hunting of sandhill cranes.
  - Each group's results are discussed below in summary.
    - Among residents statewide: support was at 19% with no caveats. Support ranged from 37% to 52% with the support statements, and support ranged from 21% to 37%

- with the opposition statements. (Opposition, at 62%, ranged from 37% to 49% with the support statements and ranged from 48% to 67% with the opposition statements.)
- Among hunt area residents: support was at 20% with no caveats. Support ranged from 35% to 46% with the support statements, and support ranged from 18% to 35% with the opposition statements. (Opposition, at 60%, ranged from 44% to 55% with the support statements and ranged from 52% to 70% with the opposition statements.)
  - Among hunters statewide: support was at 42% with no caveats. Support ranged from 63% to 76% with the support statements, and support ranged from 47% to 64% with the opposition statements. (Opposition, at 35%, ranged from 17% to 25% with the support statements and ranged from 26% to 40% with the opposition statements.)
  - Among hunt area hunters: support was at 44% with no caveats. Support ranged from 68% to 76% with the support statements, and support ranged from 56% to 68% with the opposition statements. (Opposition, at 36%, ranged from 12% to 24% with the support statements and ranged from 20% to 32% with the opposition statements.)
  - Among wildlife watchers statewide: support was at 21% with no caveats. Support ranged from 39% to 54% with the support statements, and support ranged from 21% to 38% with the opposition statements. (Opposition, at 62%, ranged from 35% to 49% with the support statements and ranged from 48% to 68% with the opposition statements.)
  - Among hunt area wildlife watchers: support was at 24% with no caveats. Support ranged from 34% to 54% with the support statements, and support ranged from 18% to 36% with the opposition statements. (Opposition, at 57%, ranged from 38% to 58% with the support statements and ranged from 52% to 66% with the opposition statements.)
- For each group, along with tabulations, four graphs are shown, two from each series:
    - Total support with the statements encouraging support, and total opposition with the statements encouraging support.
    - Total support with the statements encouraging opposition, and total opposition with the statements encouraging opposition.

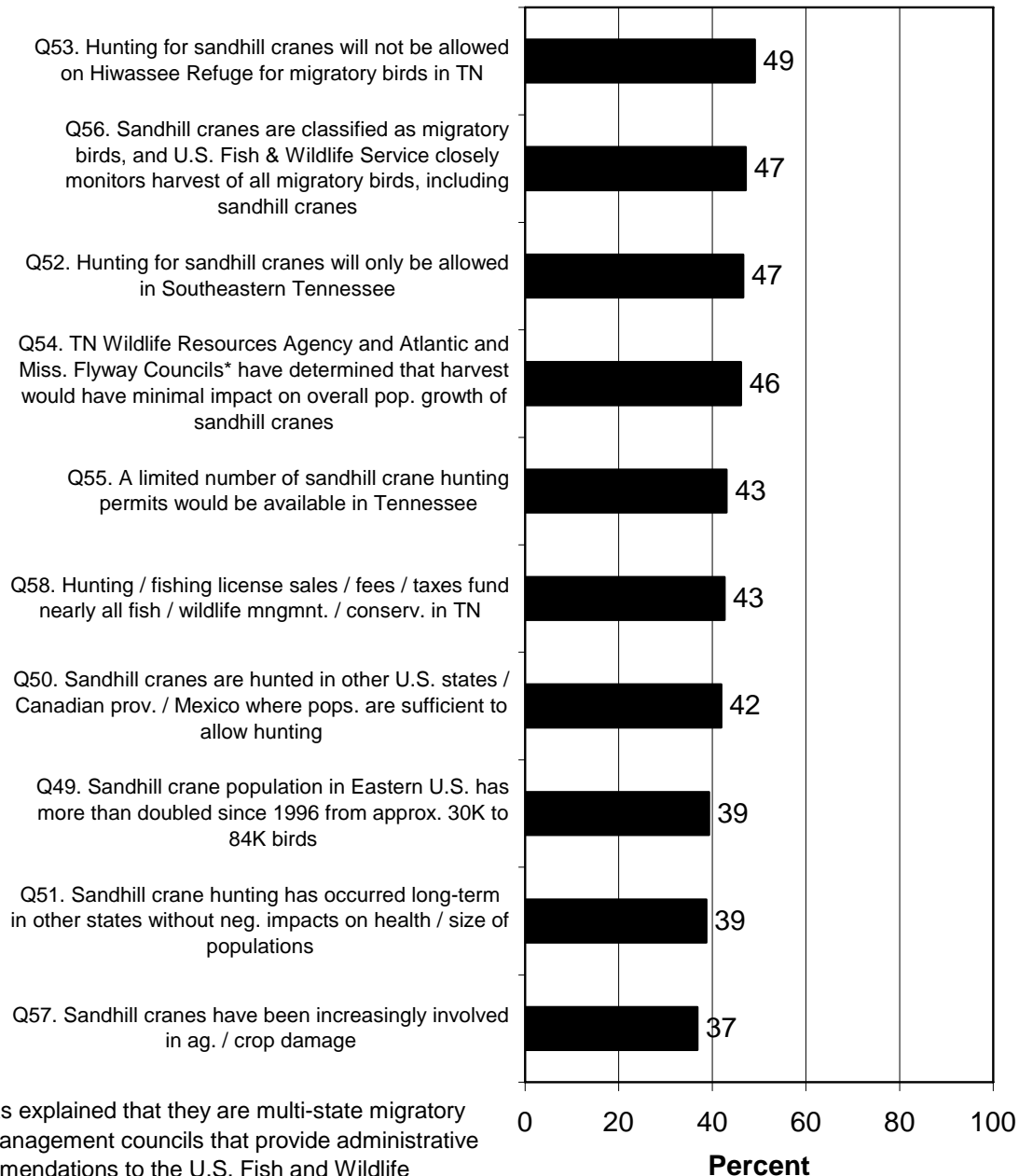
<b>WOULD YOU SUPPORT OR OPPOSE THE HUNTING OF SANDHILL CRANES IN TENNESSEE IF YOU KNEW:</b>		<b>Tennessee residents</b>	<b>Hunt area residents</b>	<b>Hunters statewide</b>	<b>Hunt area hunters</b>	<b>Wildlife watchers statewide</b>	<b>Hunt area wildlife watchers</b>
Q49. Sandhill crane population in Eastern U.S. has more than doubled since 1996 from approx. 30K to 84K birds	<b>Support</b>	49	46	68	68	50	54
	<b>Oppose</b>	39	44	21	16	39	38
Q50. Sandhill cranes are hunted in other U.S. states / Canadian prov. / Mexico where pops. are sufficient to allow hunting	<b>Support</b>	44	36	71	72	46	40
	<b>Oppose</b>	42	49	19	16	41	44
Q51. Sandhill crane hunting has occurred long-term in other states without neg. impacts on health / size of populations	<b>Support</b>	49	43	73	72	50	53
	<b>Oppose</b>	39	44	20	16	39	41
Q52. Hunting for sandhill cranes will only be allowed in Southeastern Tennessee	<b>Support</b>	38	35	63	72	39	39
	<b>Oppose</b>	47	50	24	16	48	50
Q53. Hunting for sandhill cranes will not be allowed on Hiwassee Refuge for migratory birds in TN	<b>Support</b>	37	35	66	68	39	37
	<b>Oppose</b>	49	55	24	24	49	53
Q54. TN Wildlife Resources Agency and Atlantic and Miss. Flyway Councils have determined that harvest would have minimal impact on overall pop. growth of sandhill cranes	<b>Support</b>	41	39	70	72	43	38
	<b>Oppose</b>	46	54	20	16	46	58
Q55. A limited number of sandhill crane hunting permits would be available in Tennessee	<b>Support</b>	46	41	71	72	48	42
	<b>Oppose</b>	43	49	19	12	43	52
Q56. Sandhill cranes are classified as migratory birds, and U.S. Fish & Wildlife Service closely monitors harvest of all migratory birds, including sandhill cranes	<b>Support</b>	41	35	68	72	43	34
	<b>Oppose</b>	47	52	22	20	47	55
Q57. Sandhill cranes have been increasingly involved in ag. / crop damage	<b>Support</b>	52	46	76	76	54	47
	<b>Oppose</b>	37	45	17	16	35	45
Q58. Hunting / fishing license sales / fees / taxes fund nearly all fish / wildlife mngmnt. / conserv. in TN	<b>Support</b>	43	39	65	72	43	42
	<b>Oppose</b>	43	48	25	20	43	47
Q61. Some wildlife watching and birdwatching groups, such as the Tennessee Ornithological Society, oppose hunting sandhill cranes	<b>Support</b>	27	28	53	60	26	26
	<b>Oppose</b>	56	59	30	20	57	60
Q62. There are more wildlife watchers and birdwatchers than there are hunters in Tennessee	<b>Support</b>	31	29	59	68	33	33
	<b>Oppose</b>	52	52	26	20	52	52
Q63. While some believe agricultural damage by sandhill cranes is increasing, others say the damage is not that extensive and that other means of control are sufficient, such as federal depredation or kill permits as well as non-lethal control methods	<b>Support</b>	37	35	64	68	38	36
	<b>Oppose</b>	48	53	28	20	48	52
Q64. Although adult sandhill cranes are gray and adult whooping cranes are white, juveniles birds look v. similar / often share habitat. Some have expressed concern re: possibility of whooping crane being mistaken for sandhill crane and accidentally shot	<b>Support</b>	21	18	47	56	21	18
	<b>Oppose</b>	67	70	40	32	68	66

Column for each question may not sum to 100% because neutral and "don't know" responses not shown.

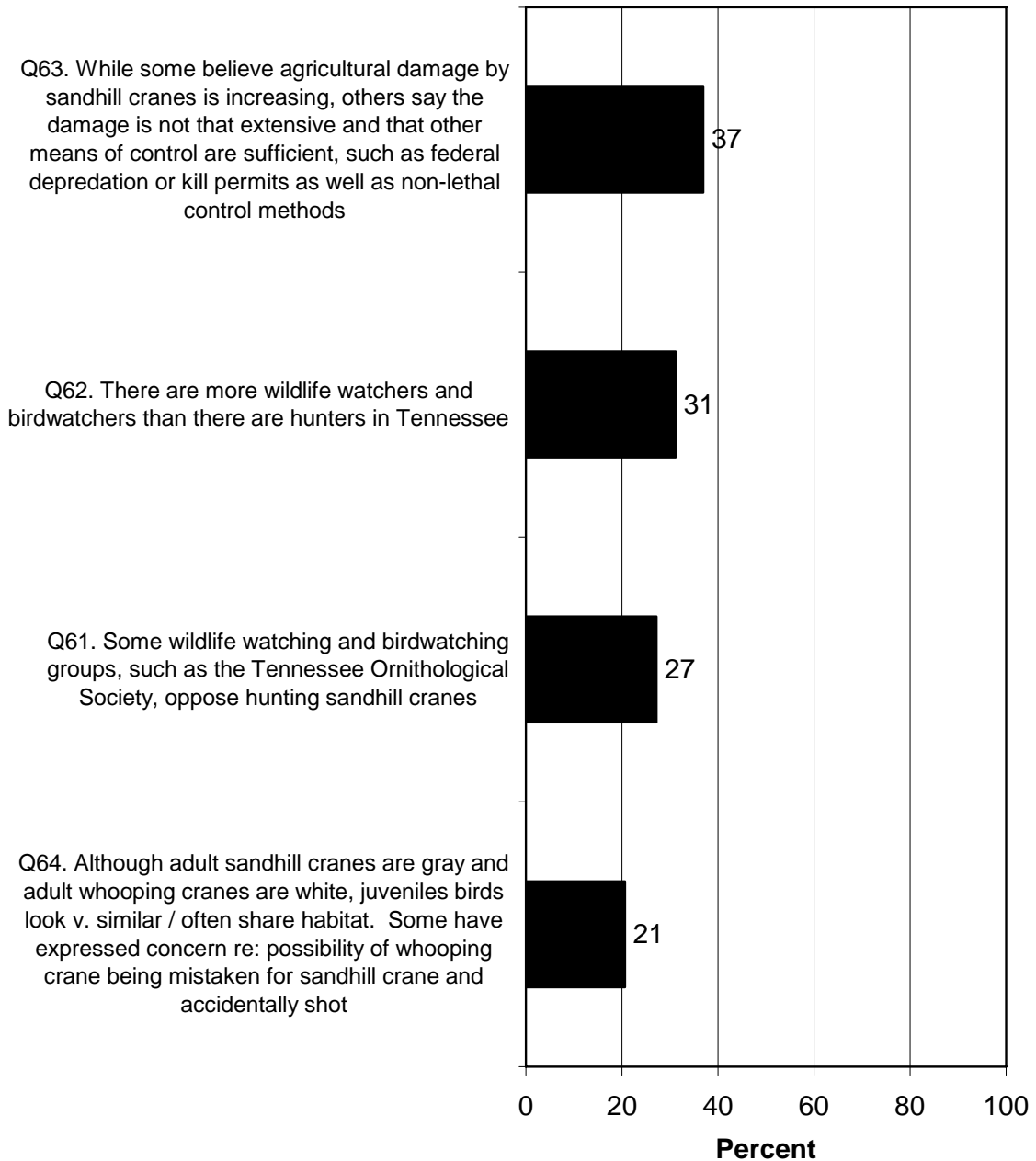
**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (General population.)**



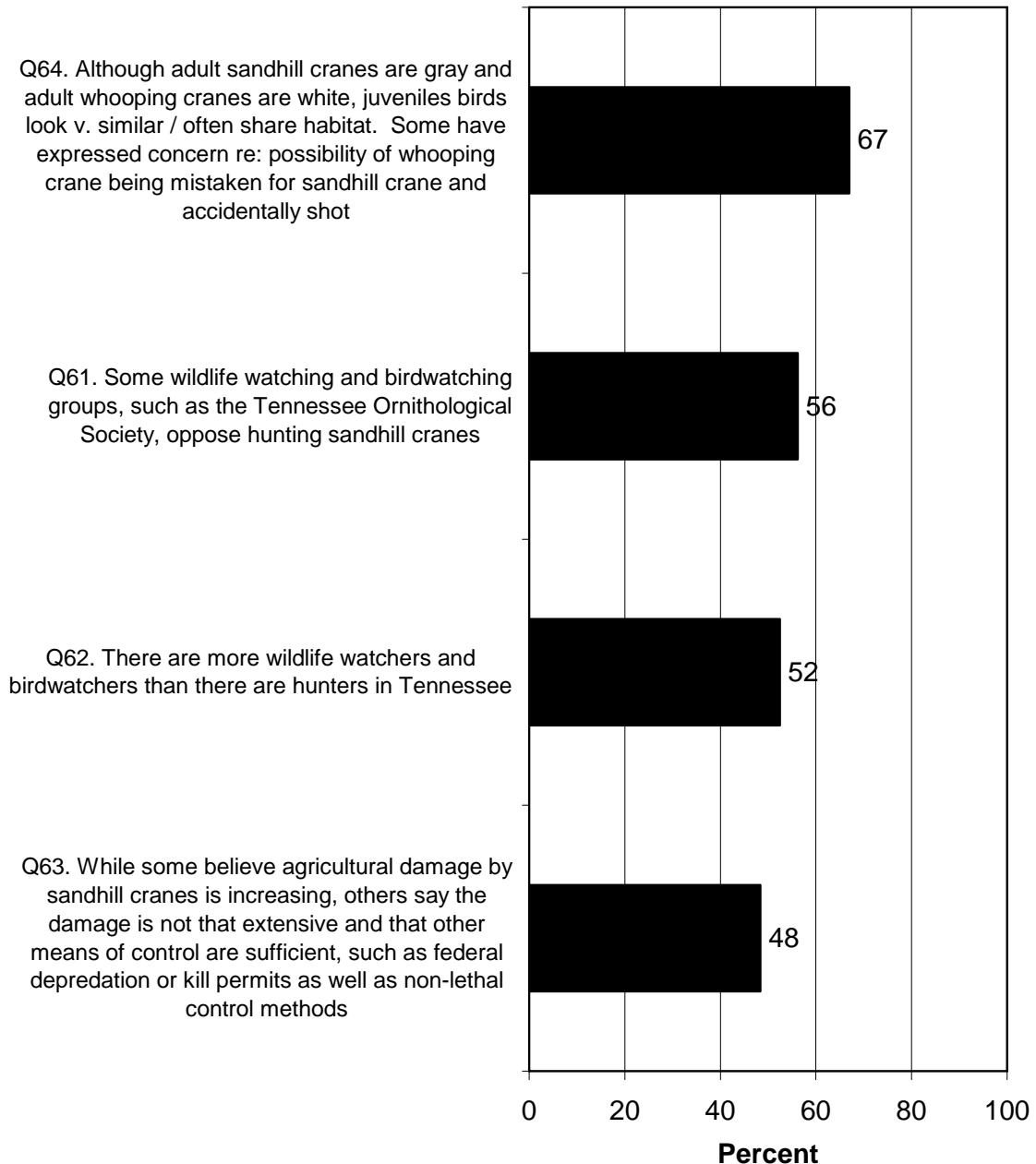
**Q49-58. Percent who indicated that they would strongly or moderately oppose the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (General population.)**



**Q61-64. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons to oppose. (General population.)**

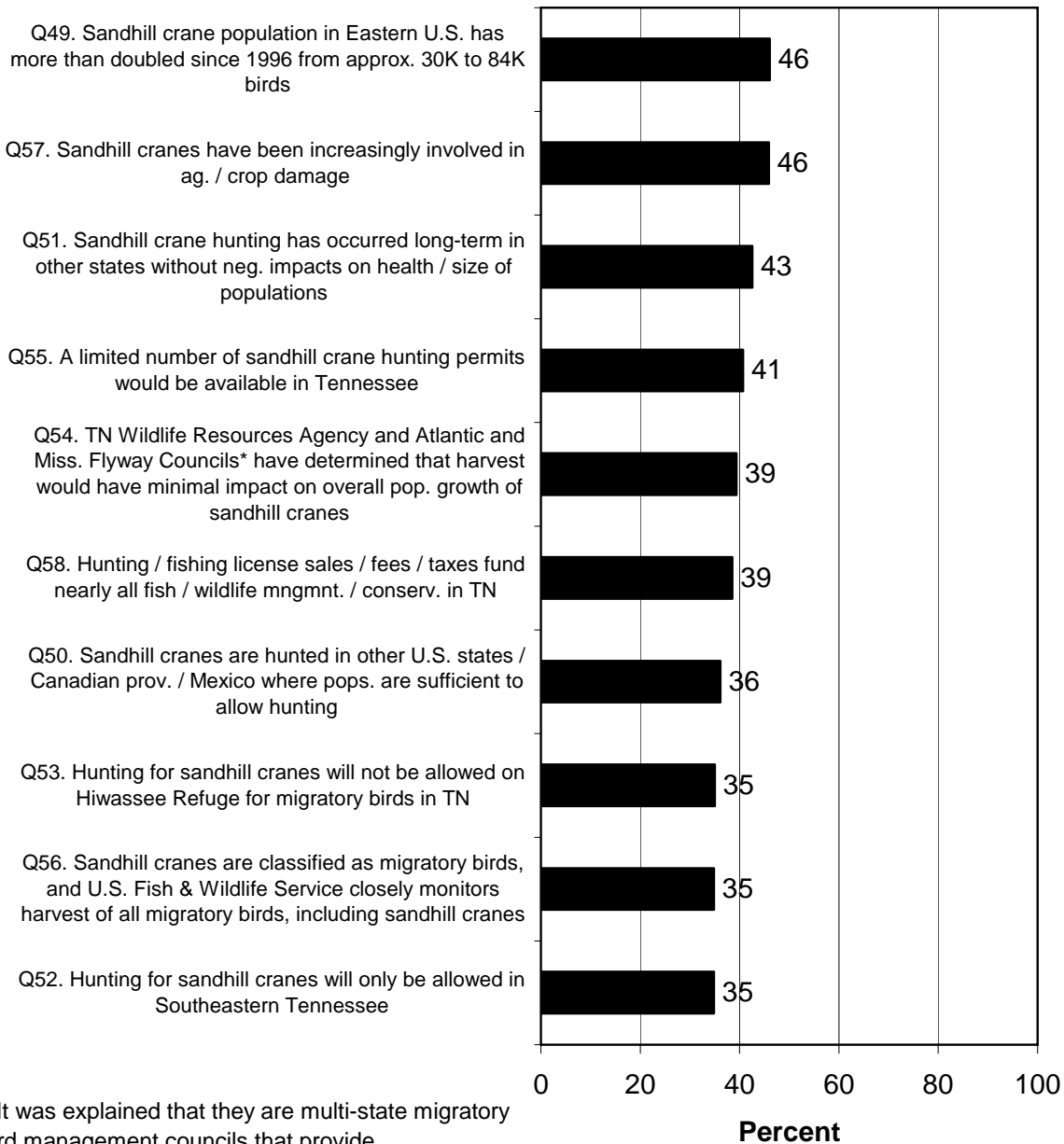


**Q61-64. Percent who indicated that they would strongly or moderately oppose the hunting of sandhill cranes in Tennessee if they knew each of the following reasons to oppose. (General population.)**

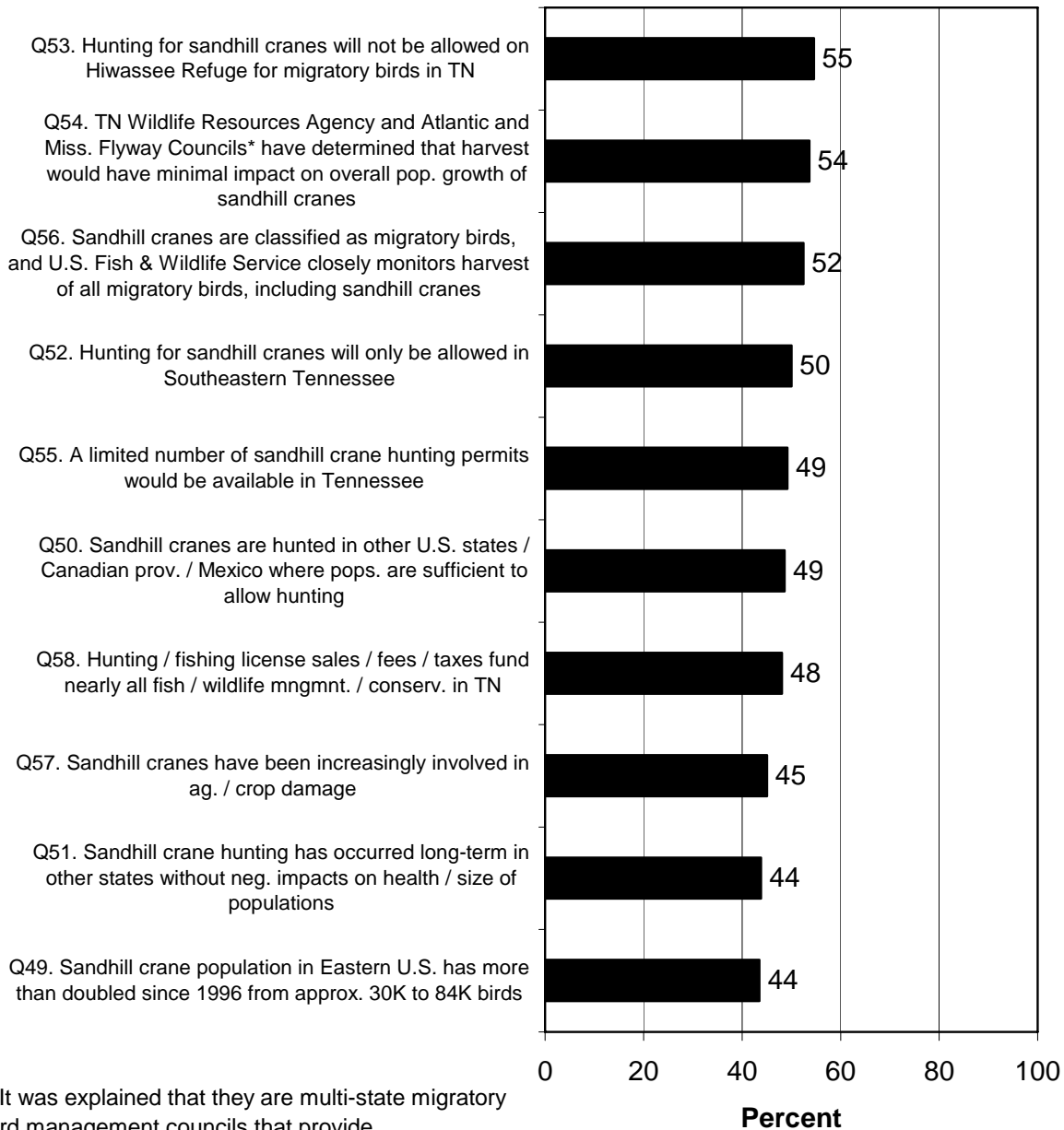




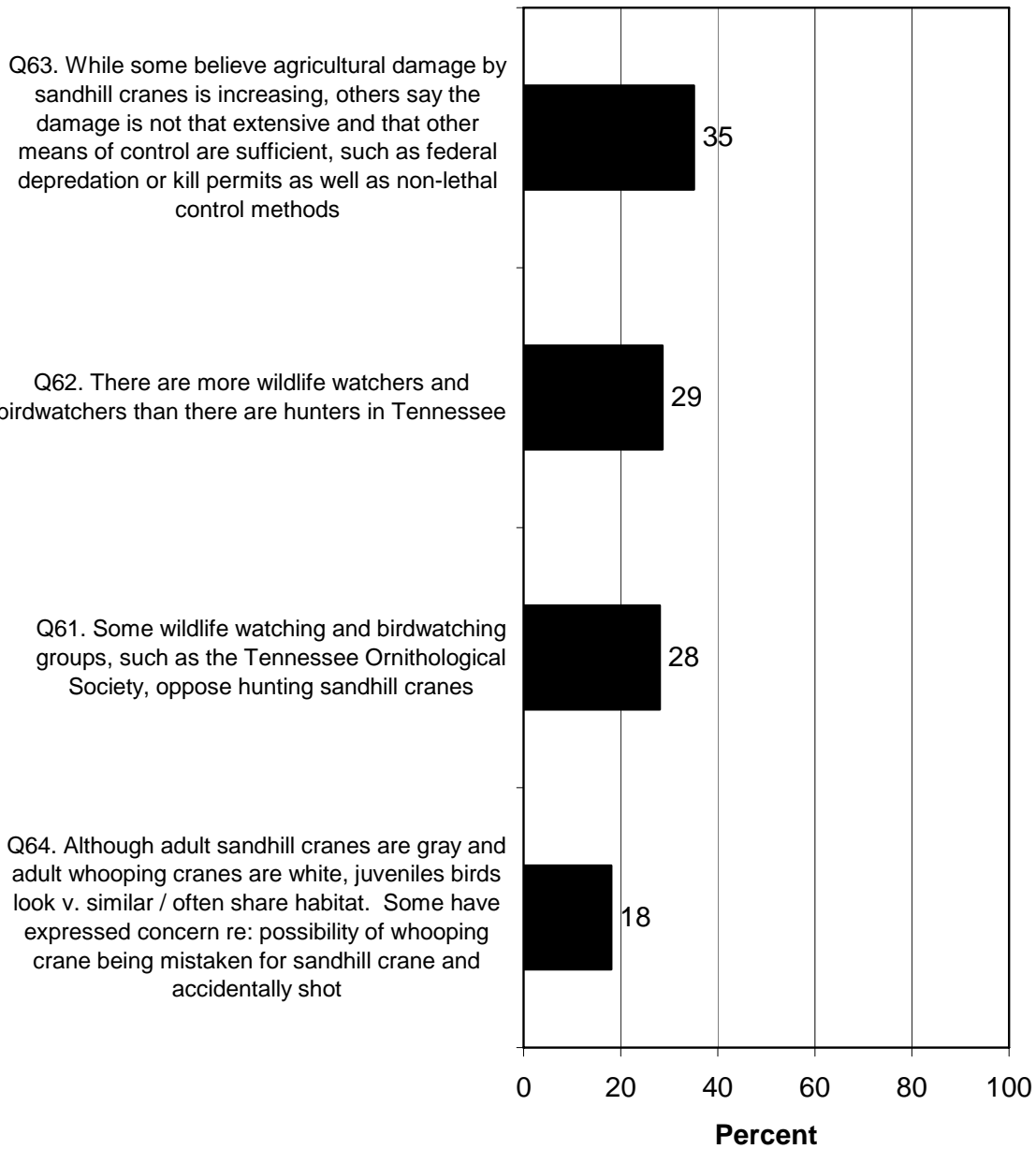
**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (Hunt area residents.)**



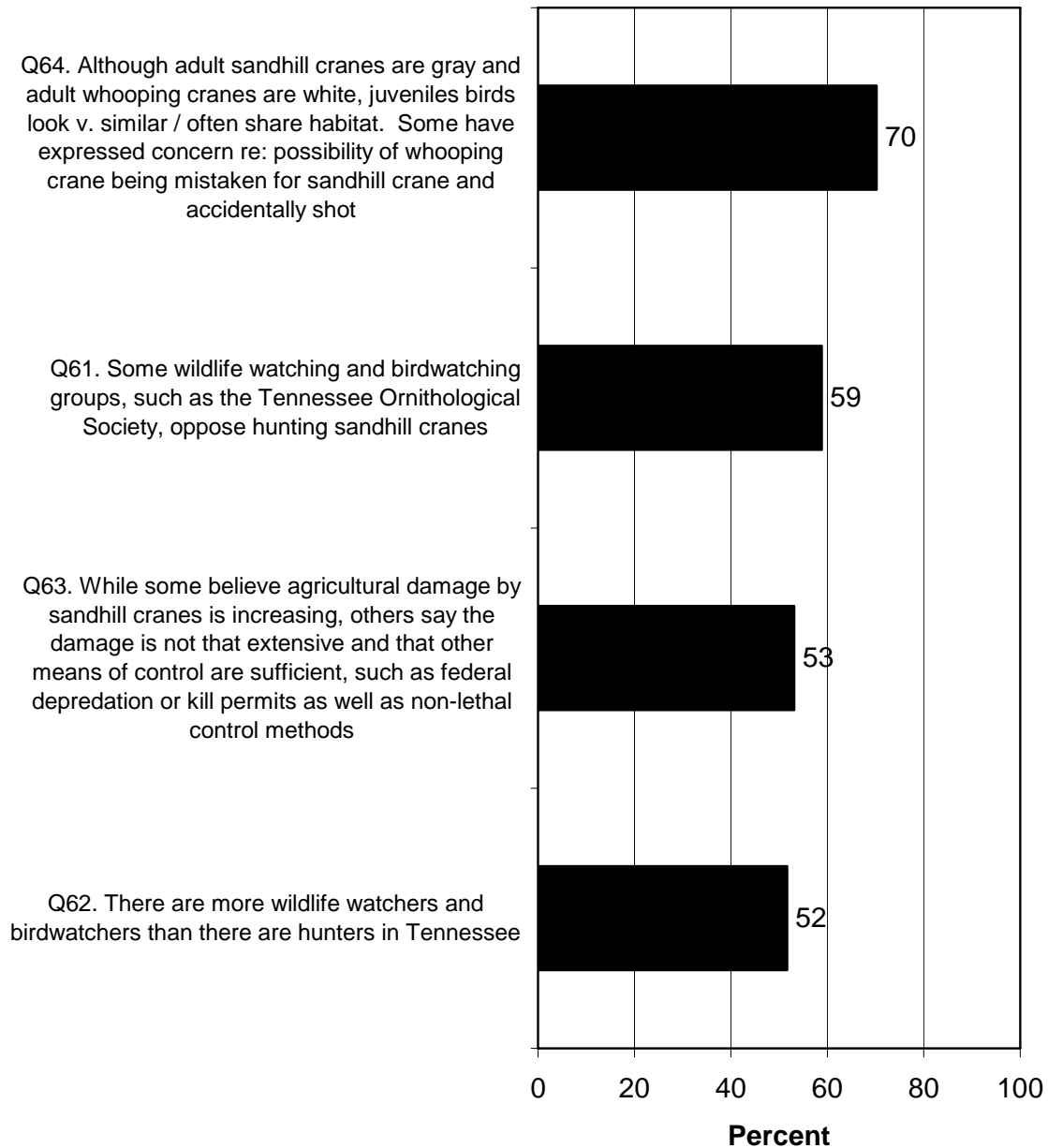
**Q49-58. Percent who indicated that they would strongly or moderately oppose the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (Hunt area residents.)**



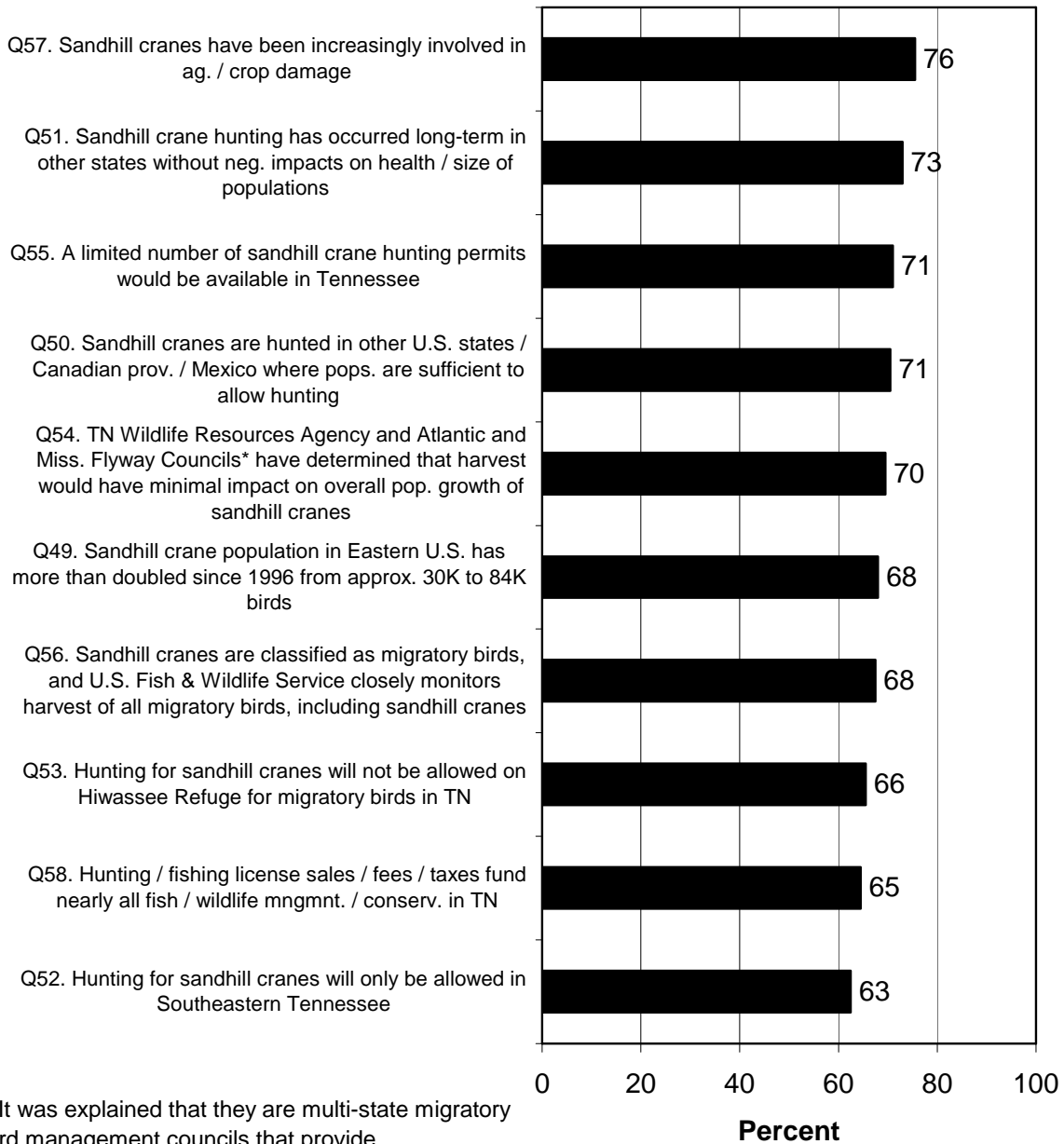
**Q61-64. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons to oppose. (Hunt area residents.)**



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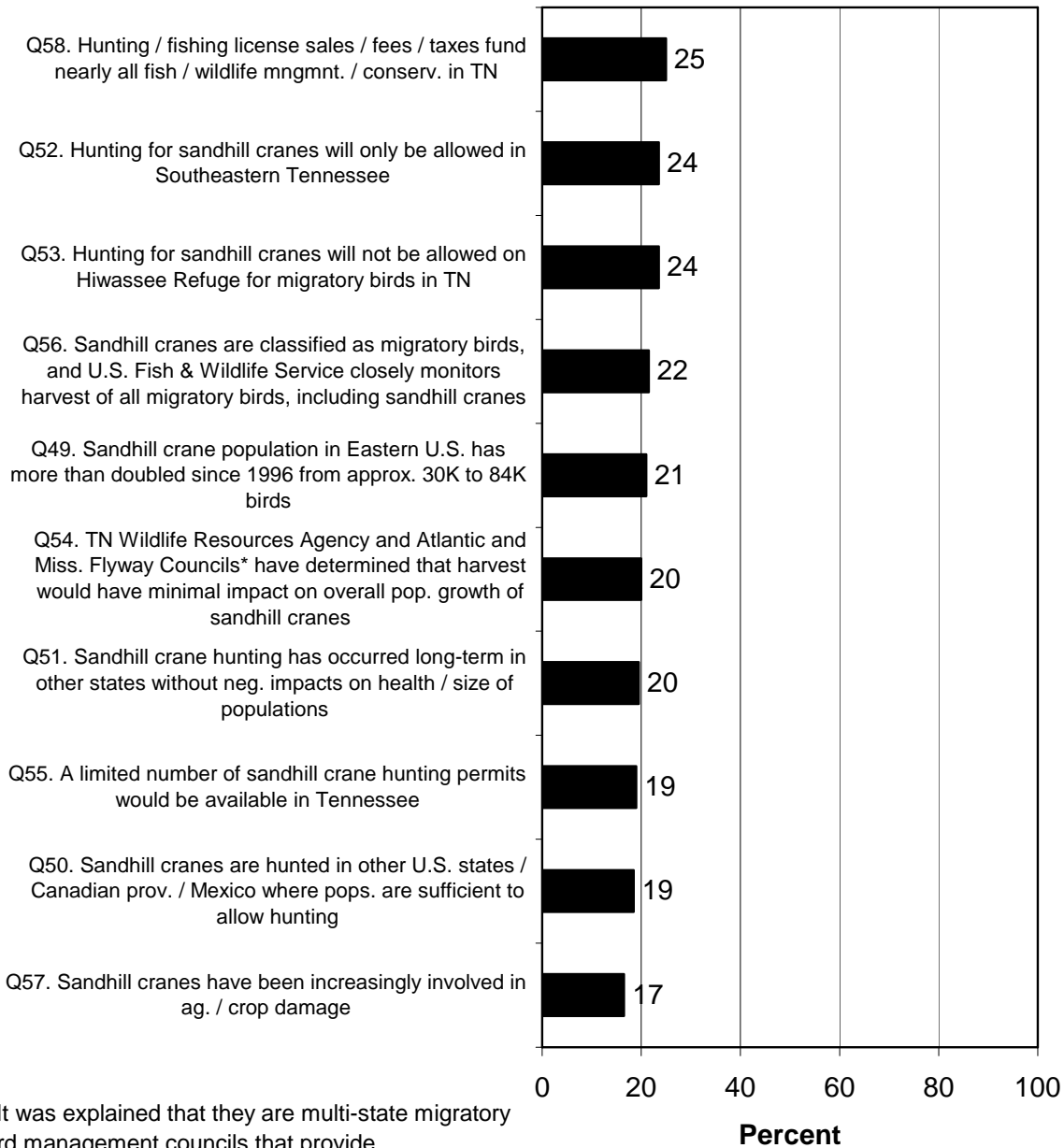


**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (Hunters statewide.)**

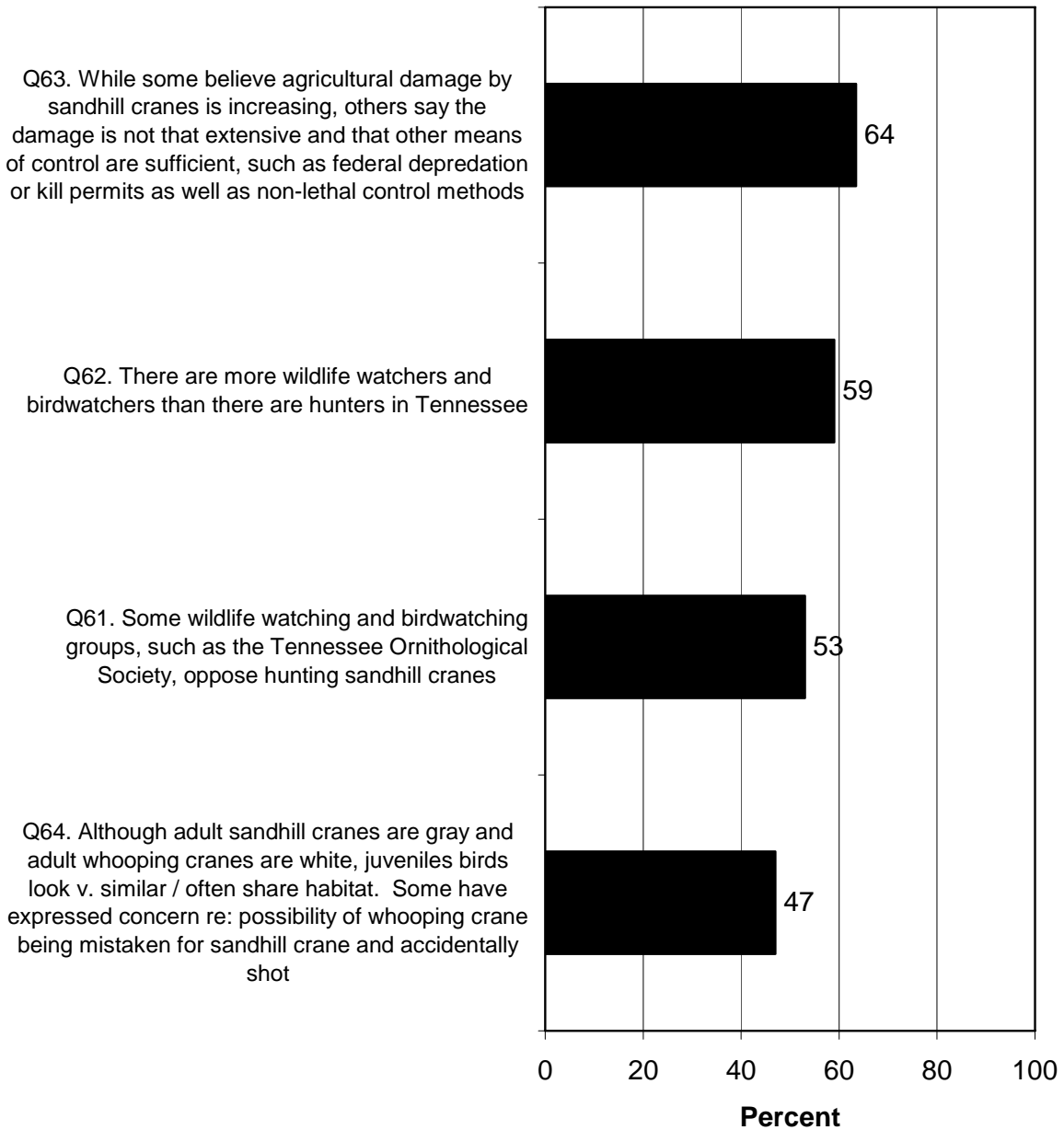


\* It was explained that they are multi-state migratory bird management councils that provide administrative recommendations to the U.S. Fish

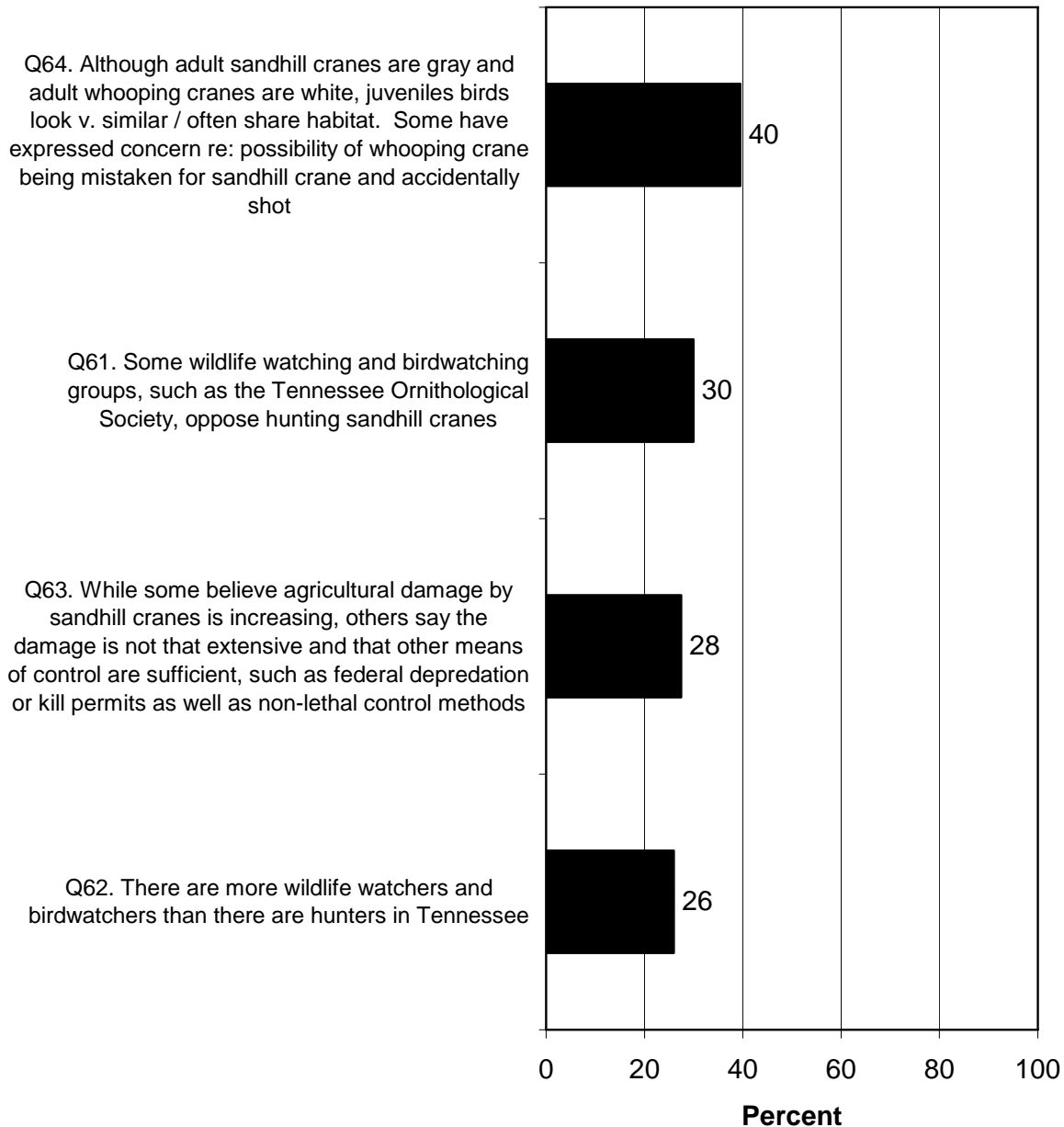
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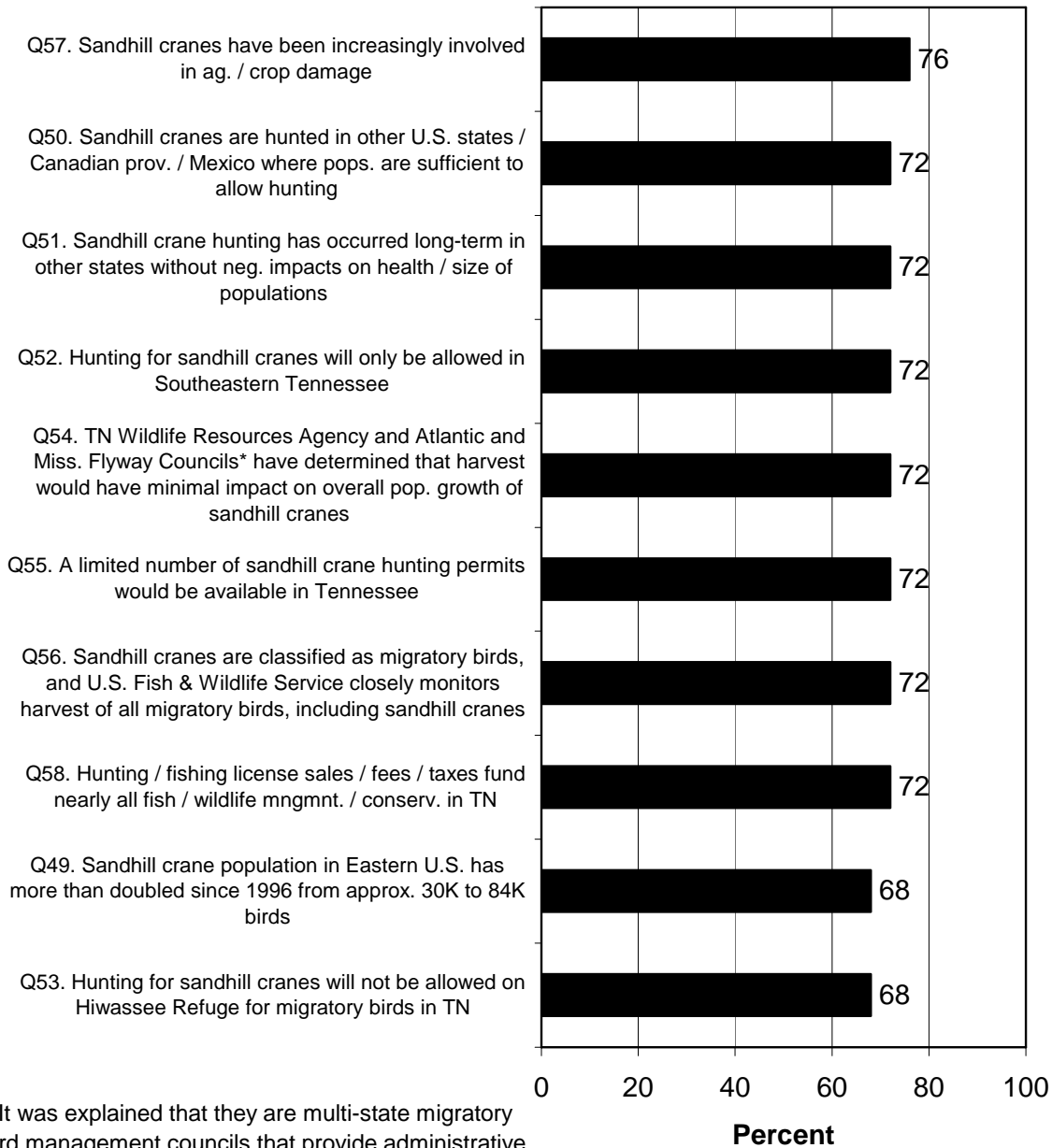


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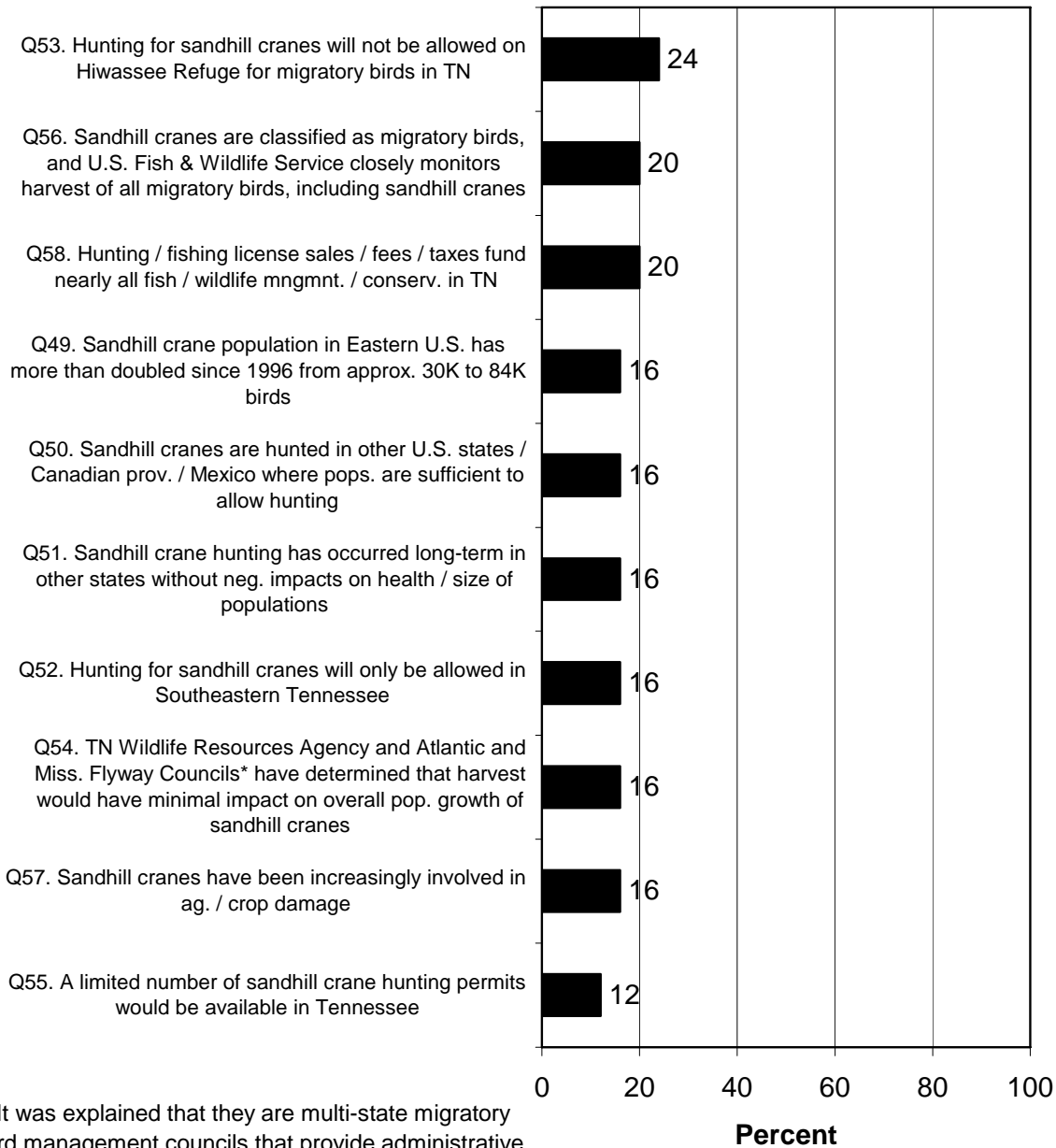




**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of Sandhill Cranes in Tennessee if they knew each of the following reasons for support. (Hunt area hunters.)**

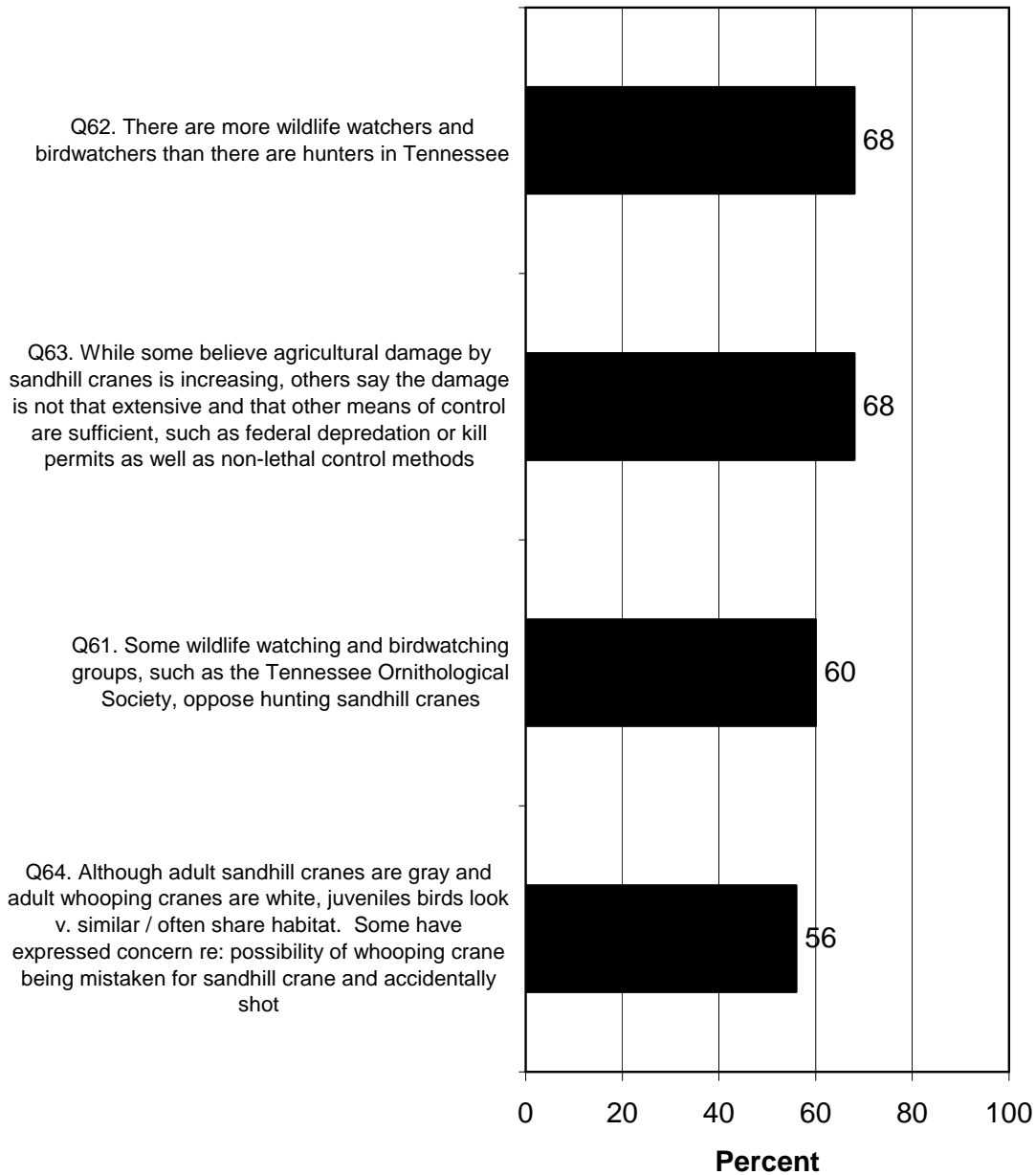


**Q49-58. Percent who indicated that they would strongly or moderately oppose the hunting of Sandhill Cranes in Tennessee if they knew each of the following reasons for support. (Hunt area hunters.)**

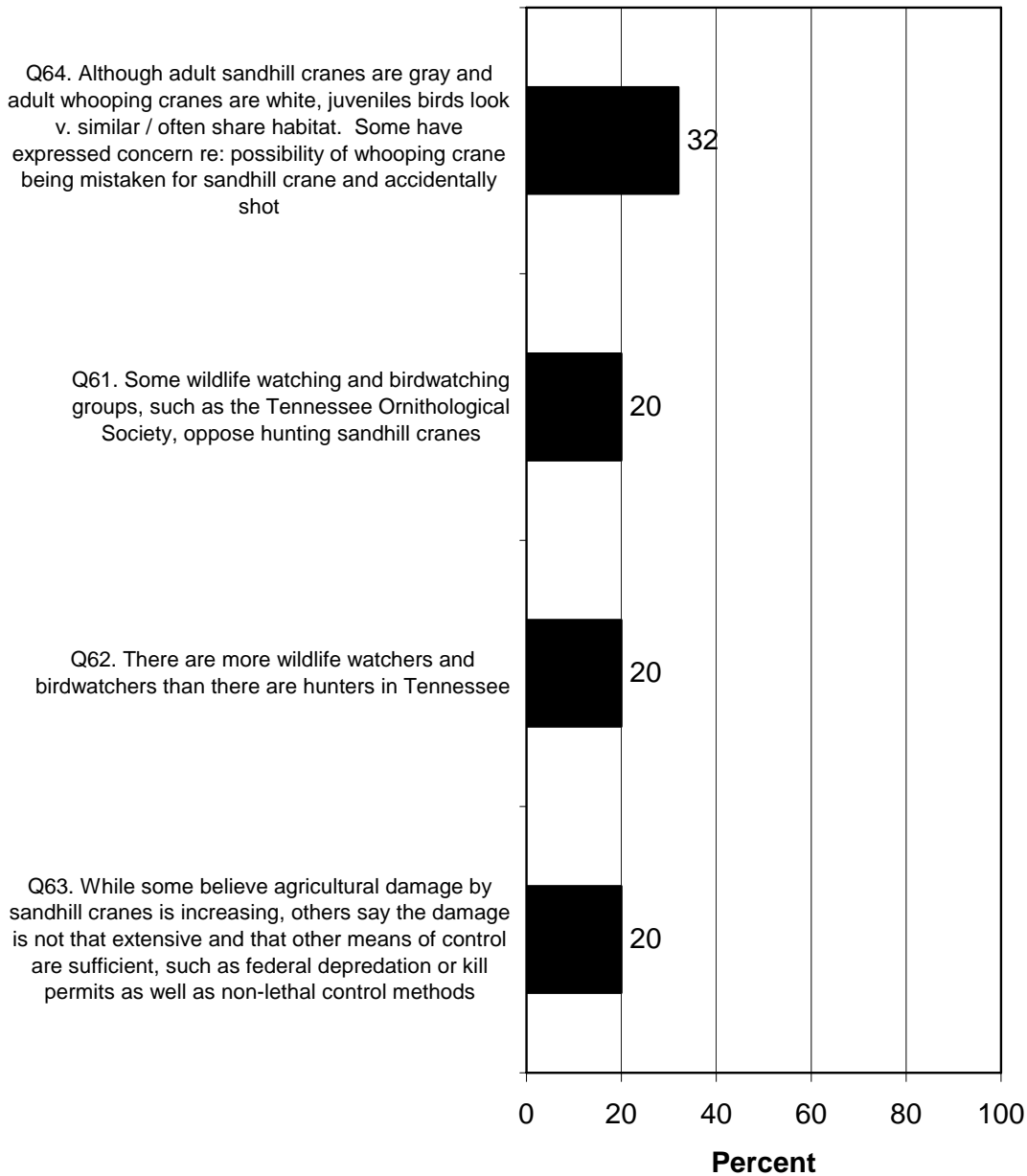


\* It was explained that they are multi-state migratory bird management councils that provide administrative recommendations to the U.S. Fish and Wildlife

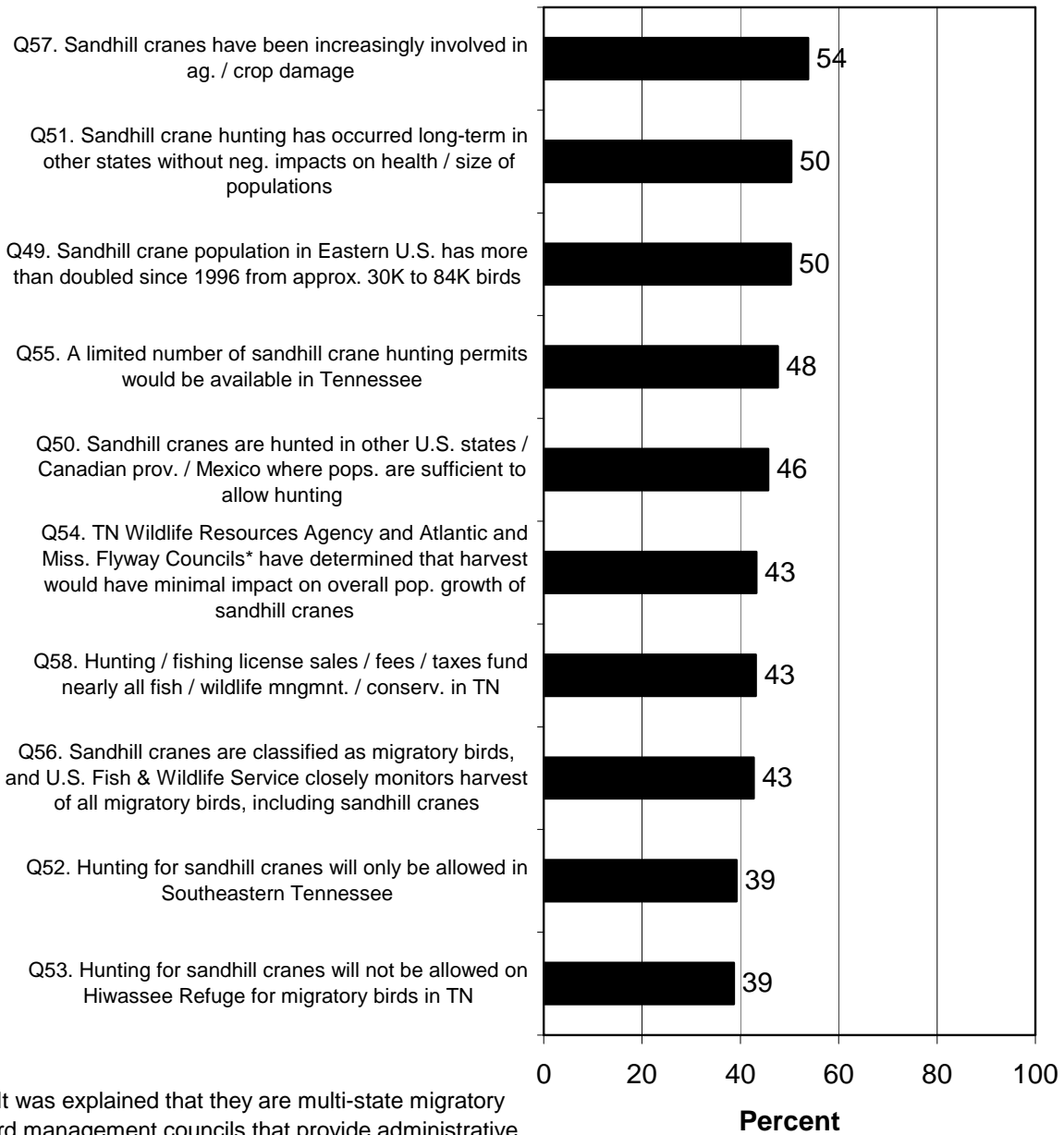
**Q61-64. Percent who indicated that they would strongly or moderately support the hunting of Sandhill Cranes in Tennessee if they knew each of the following reasons to oppose. (Hunt area hunters.)**



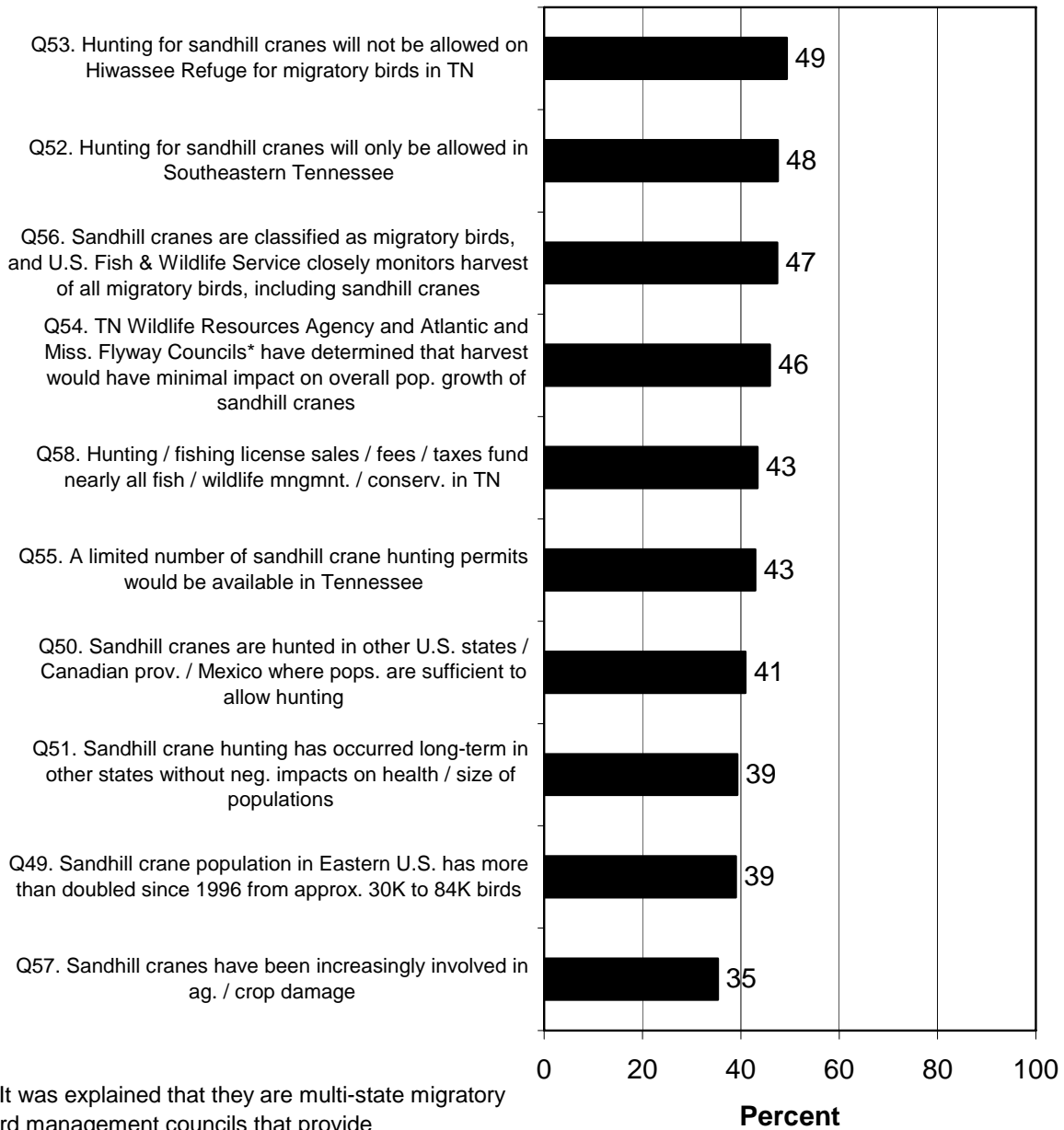
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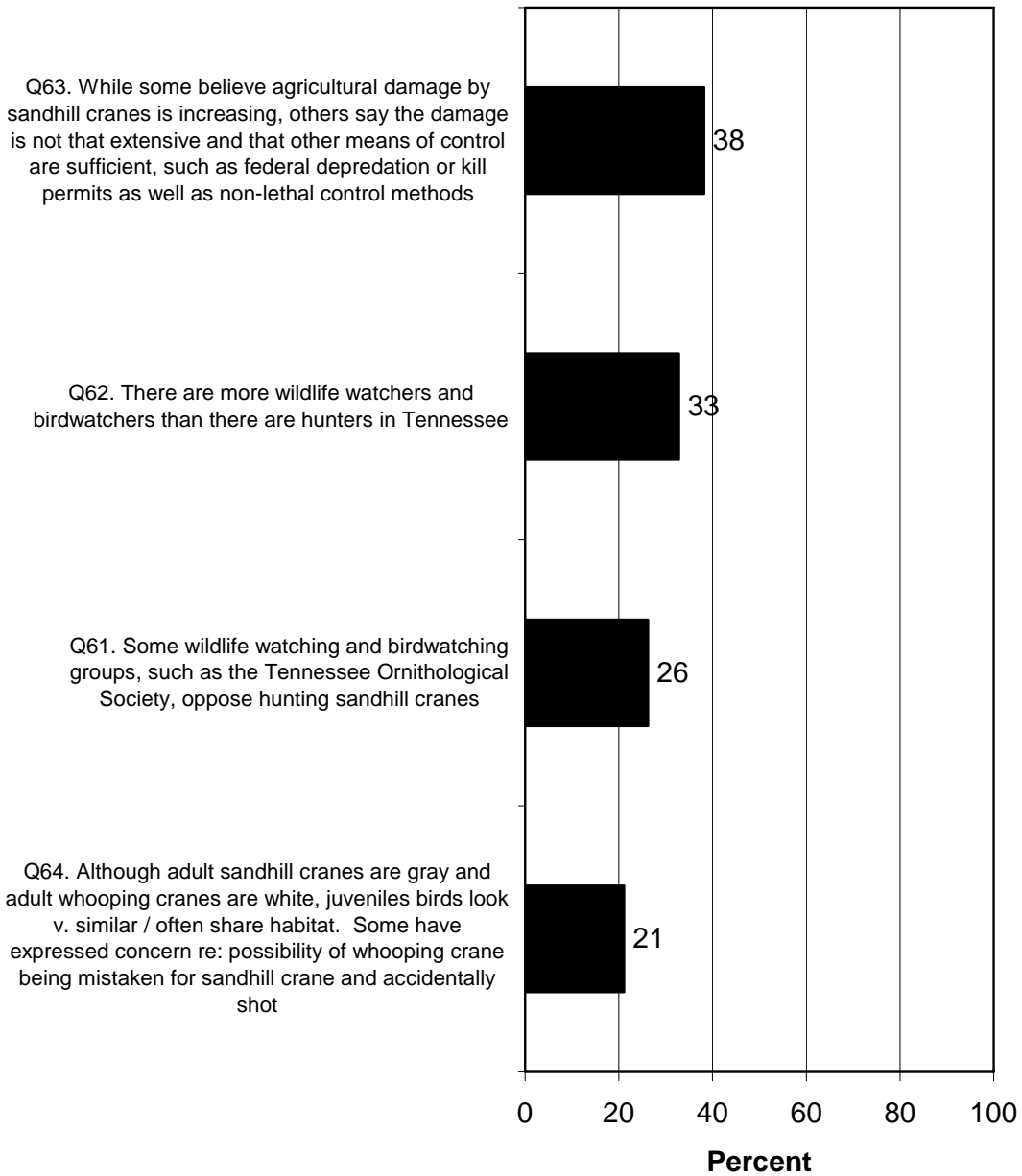
**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (Wildlife watchers statewide.)**



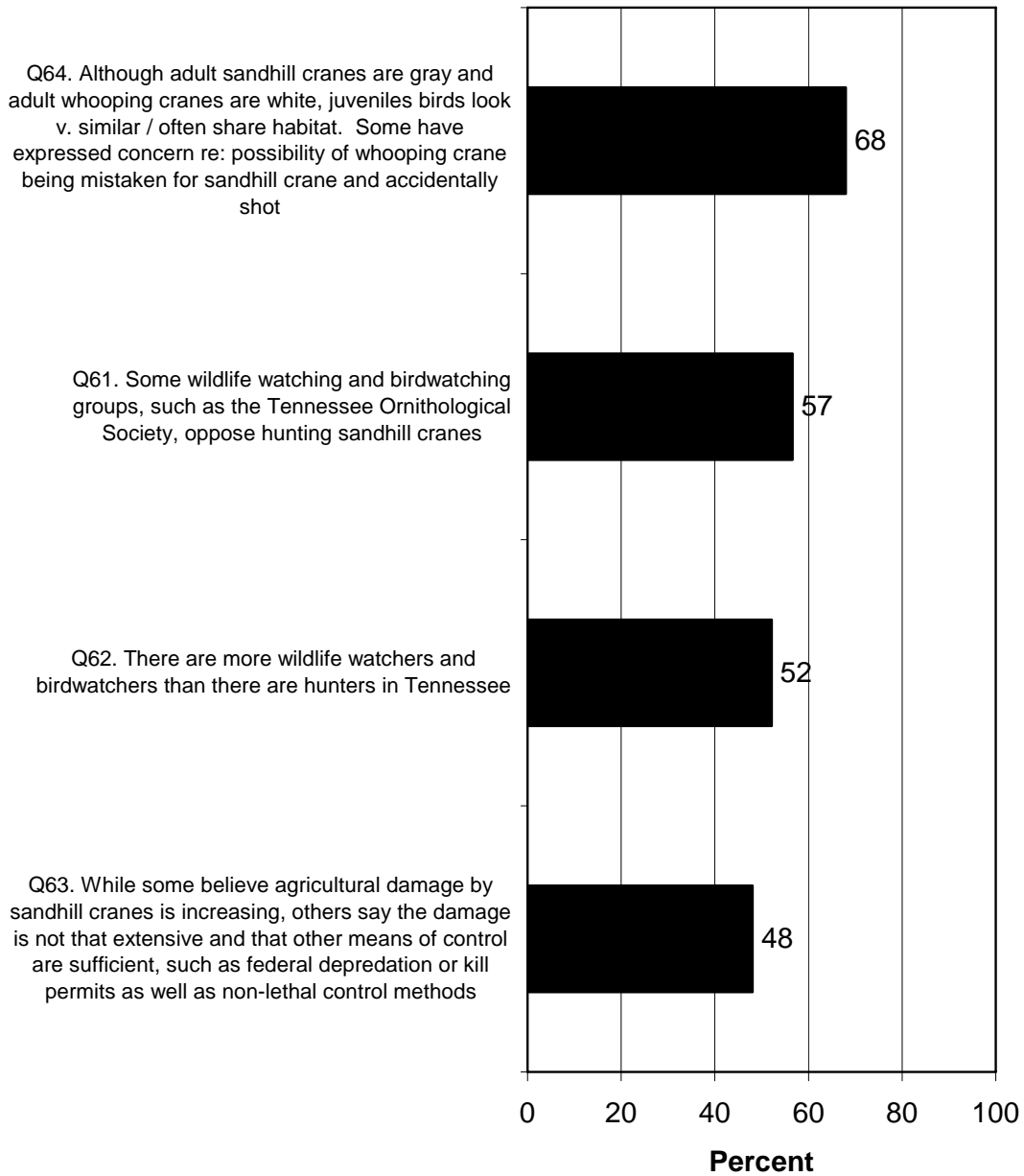
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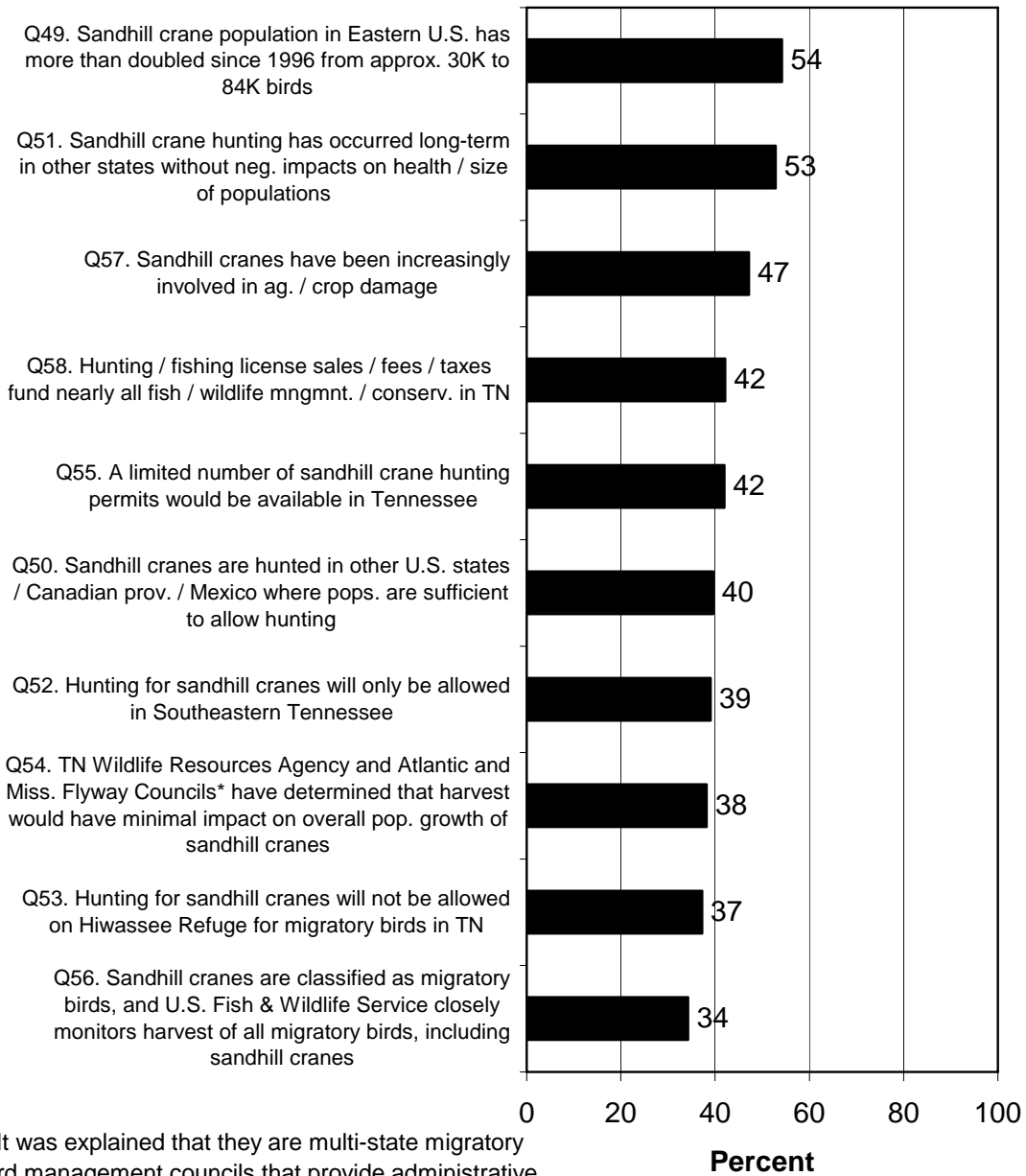


**Q61-64. Percent who indicated that they would strongly or moderately oppose the hunting of sandhill cranes in Tennessee if they knew each of the following reasons to oppose. (Wildlife watchers statewide.)**

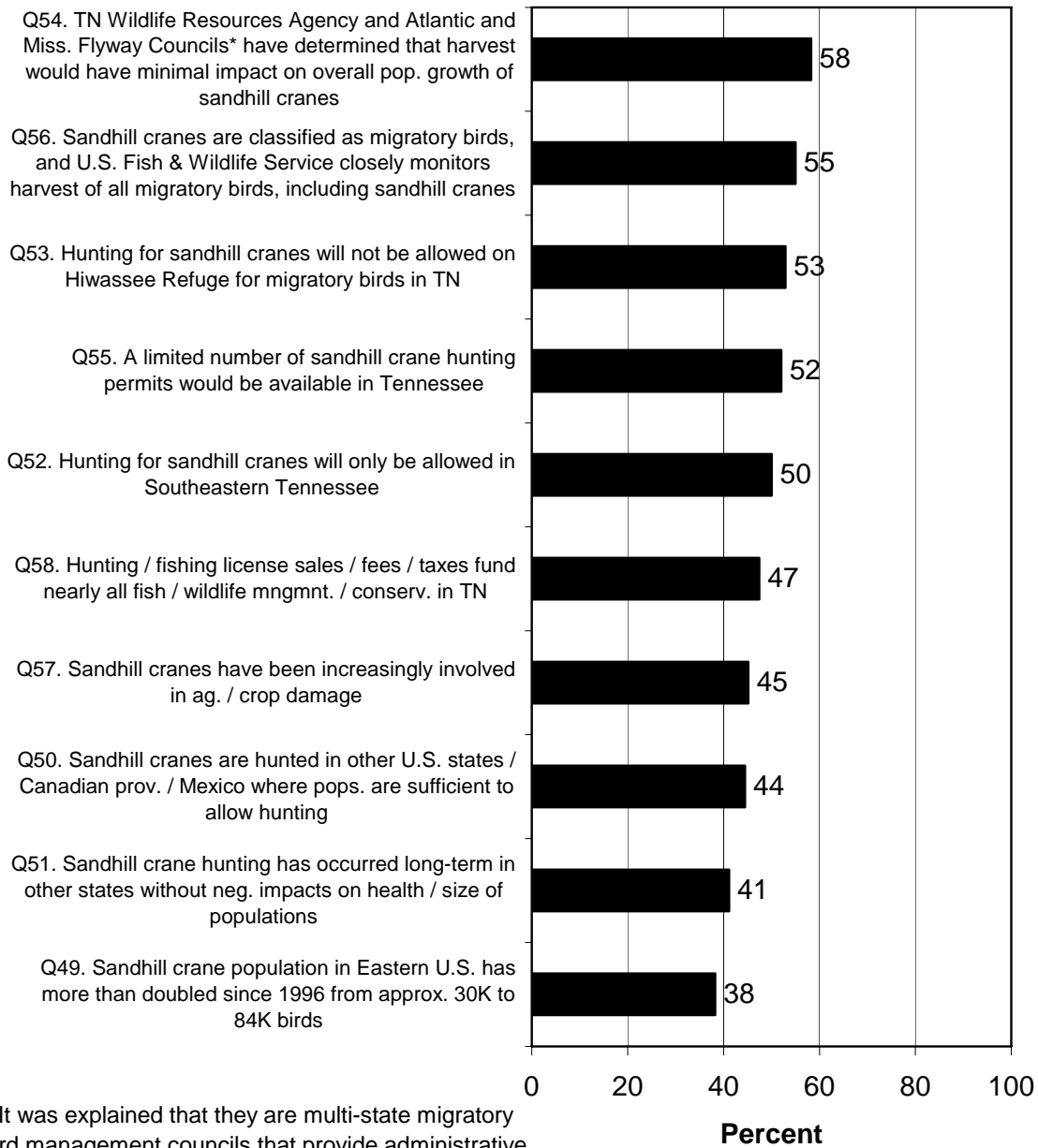




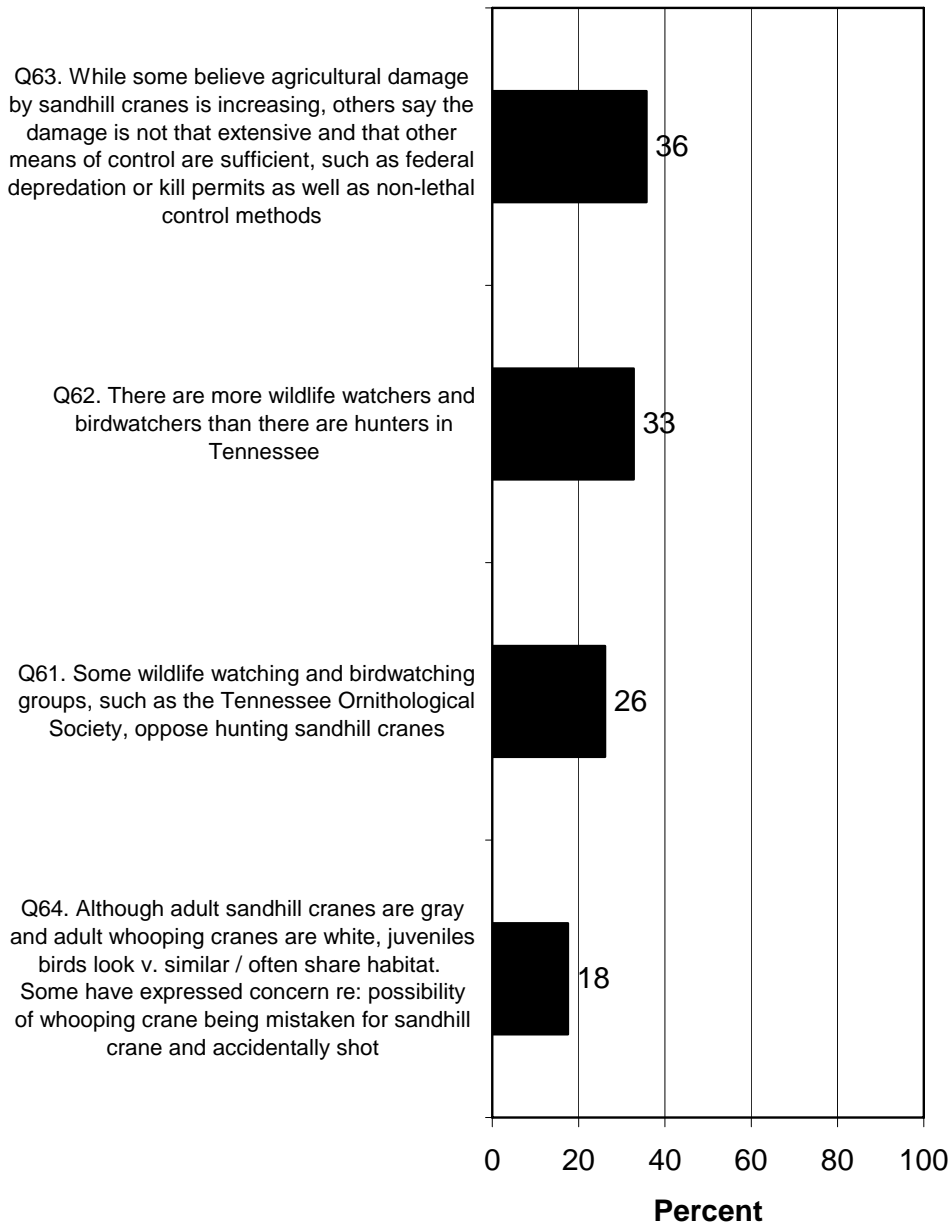
**Q49-58. Percent who indicated that they would strongly or moderately support the hunting of sandhill cranes in Tennessee if they knew each of the following reasons for support. (Hunt area wildlife watchers.)**



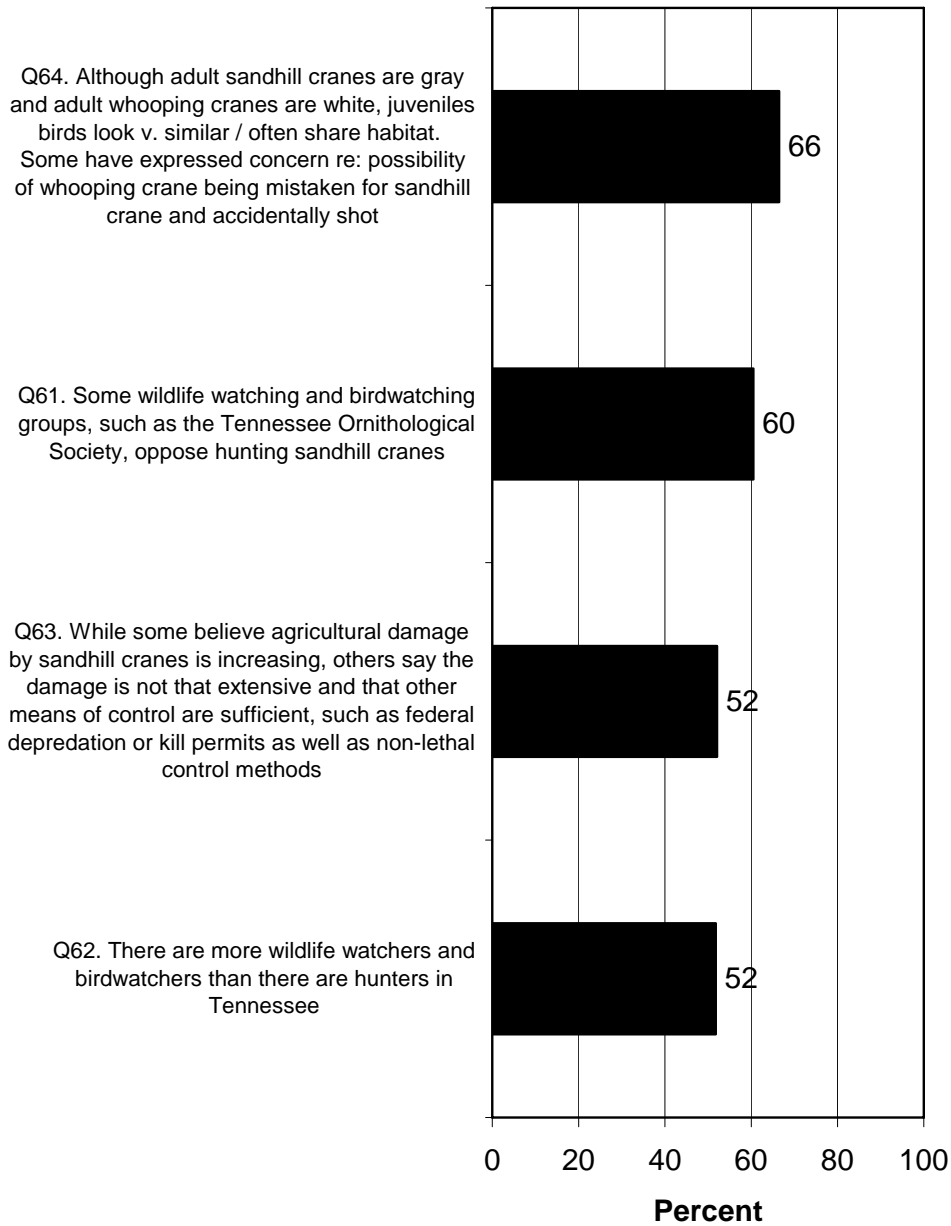
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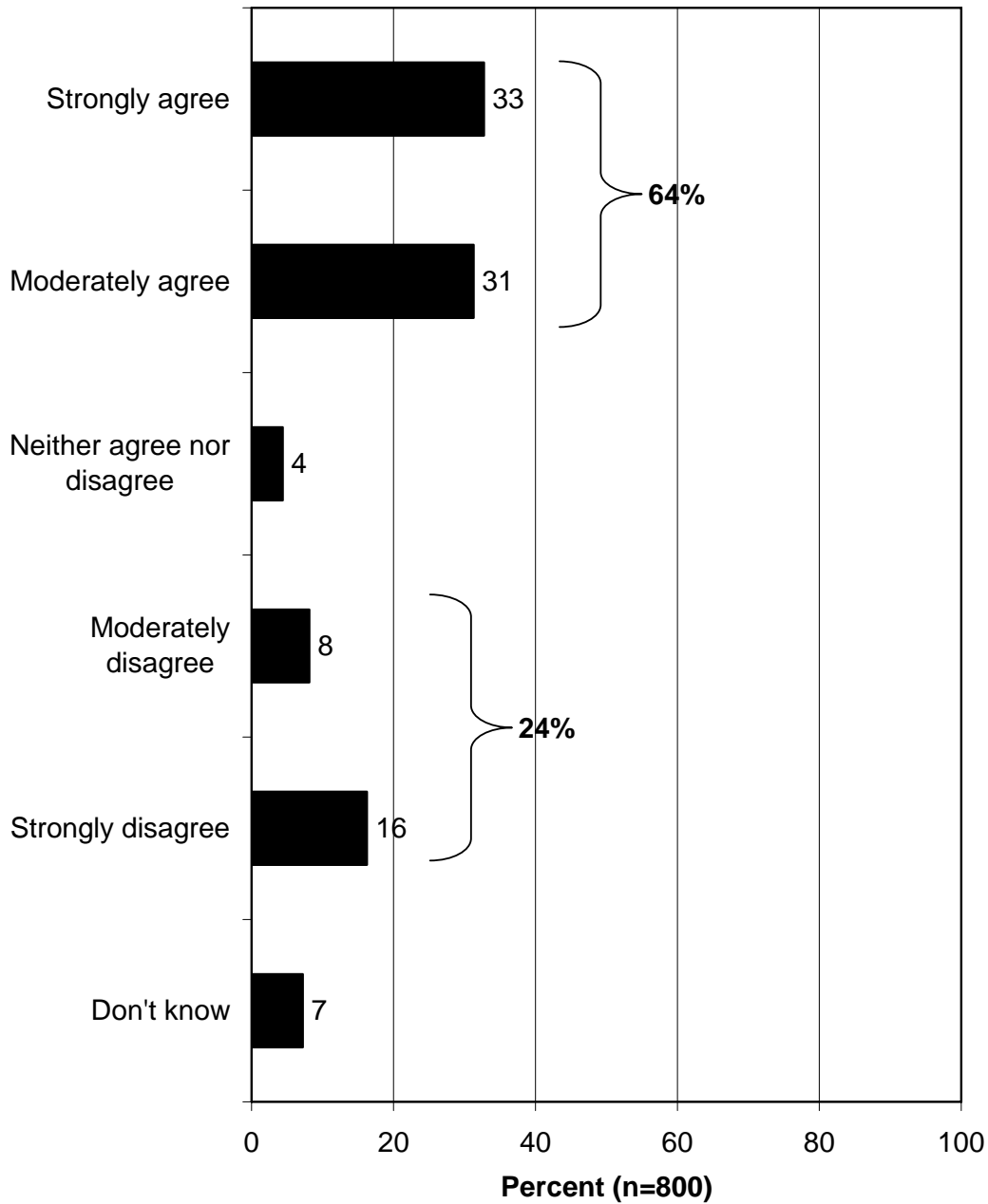
**POSSIBLE RECREATION CONFLICTS WITH HUNTING**

- Despite relatively low support for the hunting of sandhill cranes, the majority of every group agrees that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers.
  - Among residents statewide, 64% agree and 24% disagree; among hunt area residents, 53% agree and 32% disagree.
  - Among hunters statewide, 85% agree and only 9% disagree; among hunt area hunters, 88% agree and 12% disagree (no hunt area hunters are neutral).
  - Among wildlife watchers statewide, 66% agree and 23% disagree, while among hunt area wildlife watchers, 58% agree and 32% disagree.
  
- A follow-up question asked respondents if they thought that the Hiwassee community would benefit more from only holding the Tennessee Sandhill Crane Festival, only allowing hunting, or doing both (although the question wording did not include “only,” the way the answer set was presented, giving the respondent a choice of both, implies that the other answers are “only”). There is almost no support for only hunting—even among hunters. Otherwise, doing both is the preferred option for five of the six groups.
  - Among Tennessee residents overall, 53% say both, and 25% want the festival only. Among hunt area residents, 40% say both, while 42% say the festival only.
  - Interestingly, hunters are the most likely to say “both,” obviously feeling that hunting does not impinge on otherwise enjoying wildlife. Statewide, 72% of hunters say both, and 14% say the festival only (only 4% said hunting only); among hunt area hunters, 76% say both and 20% say the festival only (none said hunting only).
  - Wildlife watchers are quite similar to the general population. Statewide, 53% say both and 27% say the festival only. Hunt area wildlife watchers are at 42% for both and 41% for the festival only.
  
- Tabulations of all the data in this section are included, followed by the graphs.

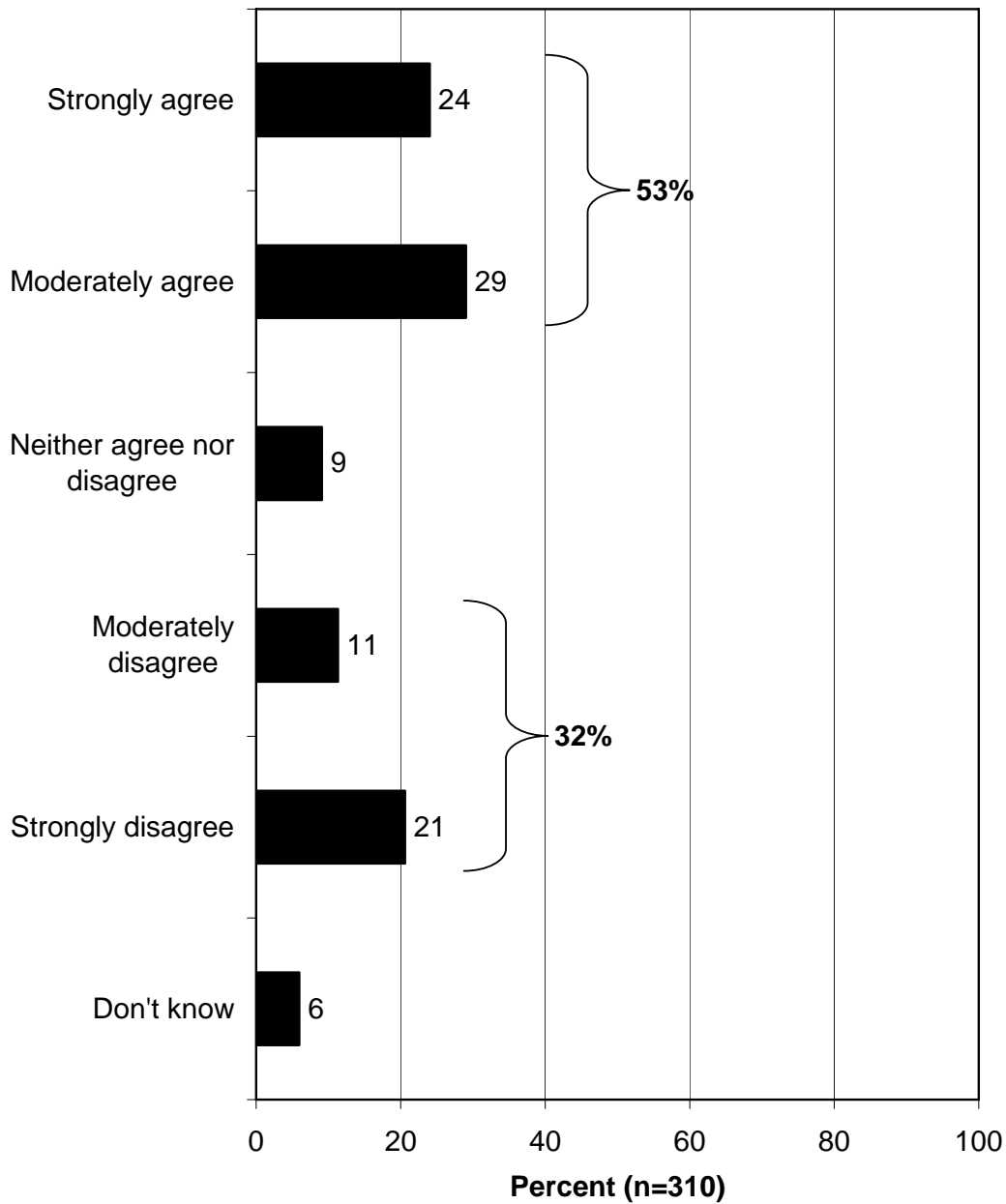
	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>DO YOU AGREE OR DISAGREE THAT IT IS POSSIBLE TO SUCCESSFULLY ALLOW SANDHILL CRANE HUNTING AND MAINTAIN SANDHILL CRANE VIEWING OPPORTUNITIES FOR WILDLIFE WATCHERS IN TENNESSEE?</b>						
<b>Strongly agree</b>	33	24	58	68	34	27
<b>Moderately agree</b>	31	29	27	20	32	31
<b>Total agree</b>	64	53	85	88	66	58
<b>Neither agree nor disagree / don't know</b>	12	15	7	0	10	10
<b>Moderately disagree</b>	8	11	4	4	9	13
<b>Strongly disagree</b>	16	21	5	8	15	19
<b>Total disagree</b>	24	32	9	12	23	32
<b>DO YOU THINK IT IS MORE BENEFICIAL OVERALL TO THE HIWASSEE AREA COMMUNITY TO HOLD THE TENNESSEE SANDHILL CRANE FESTIVAL, TO ALLOW SANDHILL CRANE HUNTING, OR TO HAVE BOTH?</b>						
<b>Festival (only)</b>	25	42	14	20	27	41
<b>Hunting (only)</b>	1	2	4	0	1	0
<b>Both</b>	53	40	72	76	53	42
<b>Don't know</b>	22	16	11	4	19	17

Column for each question may not sum to 100% because of rounding.

**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (General population.)**

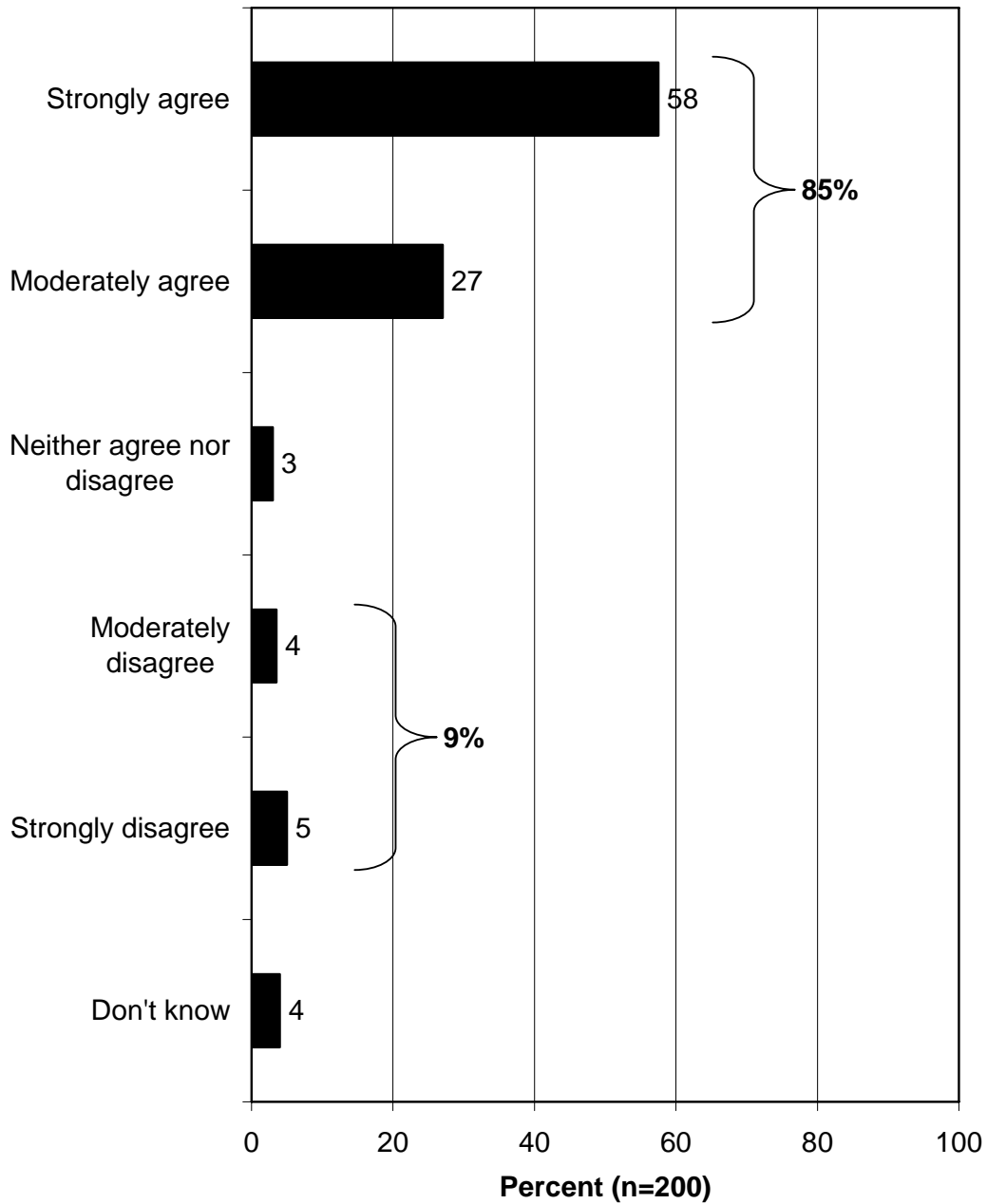


**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (Hunt area residents.)**

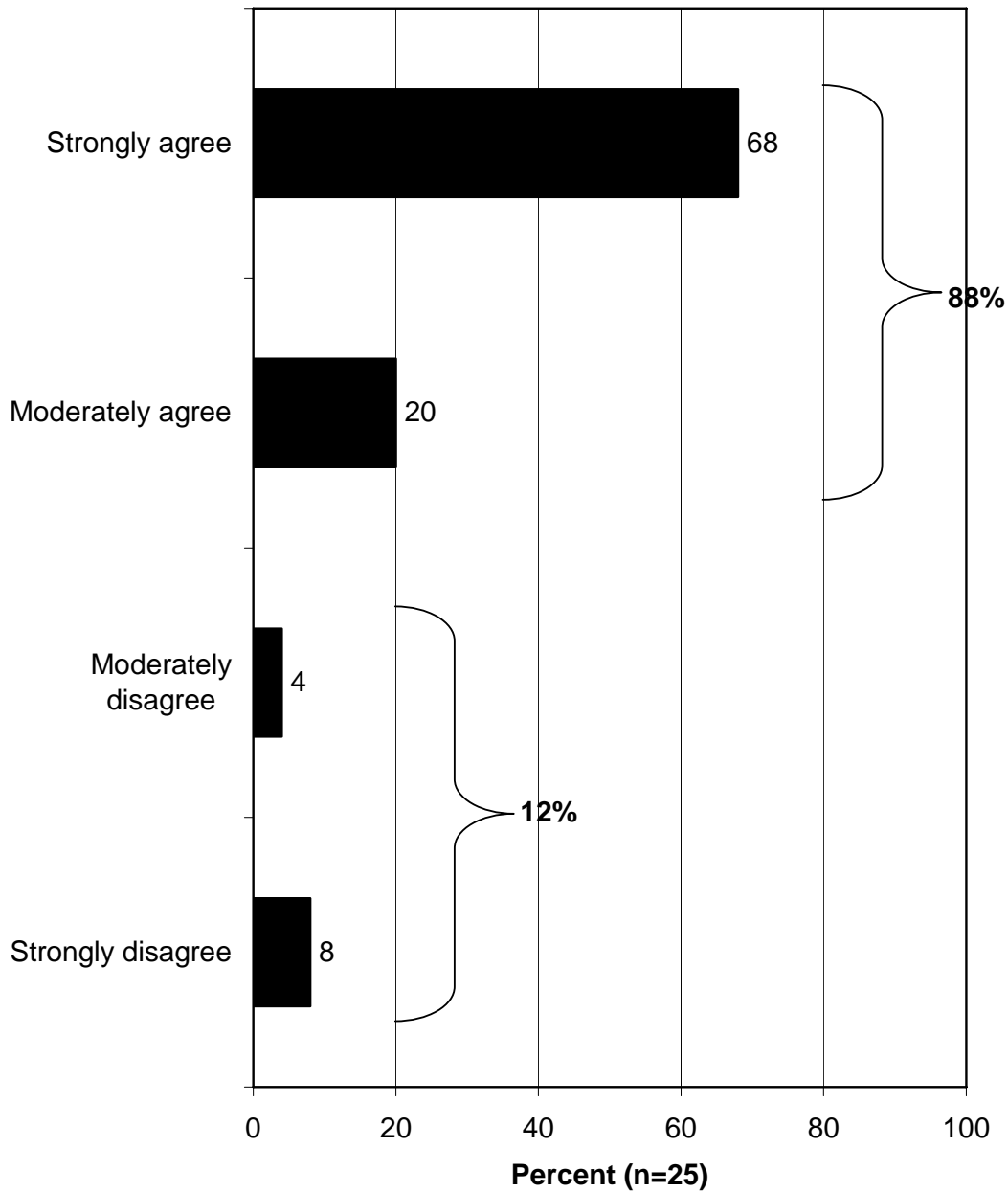




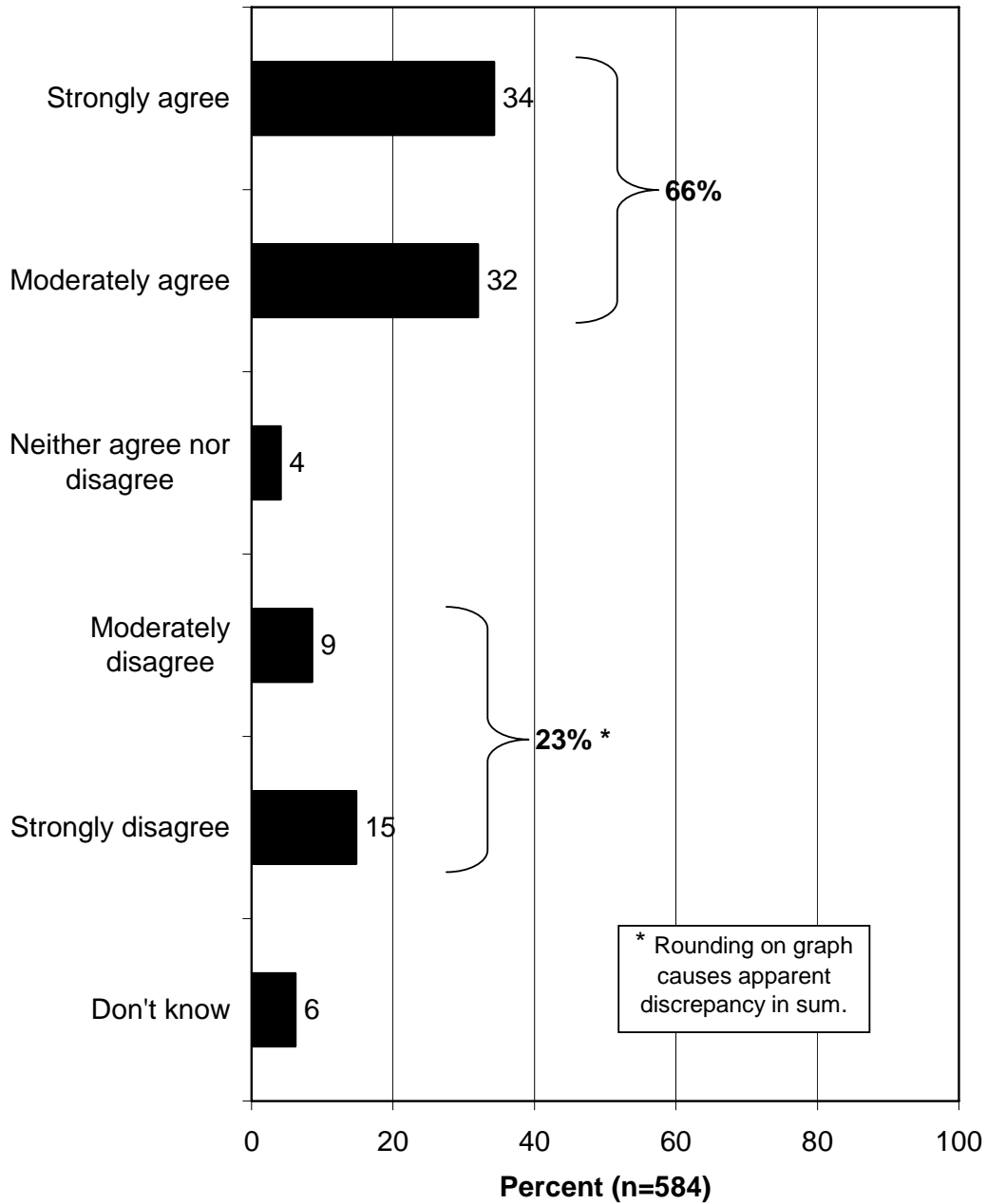
**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (Hunters statewide.)**



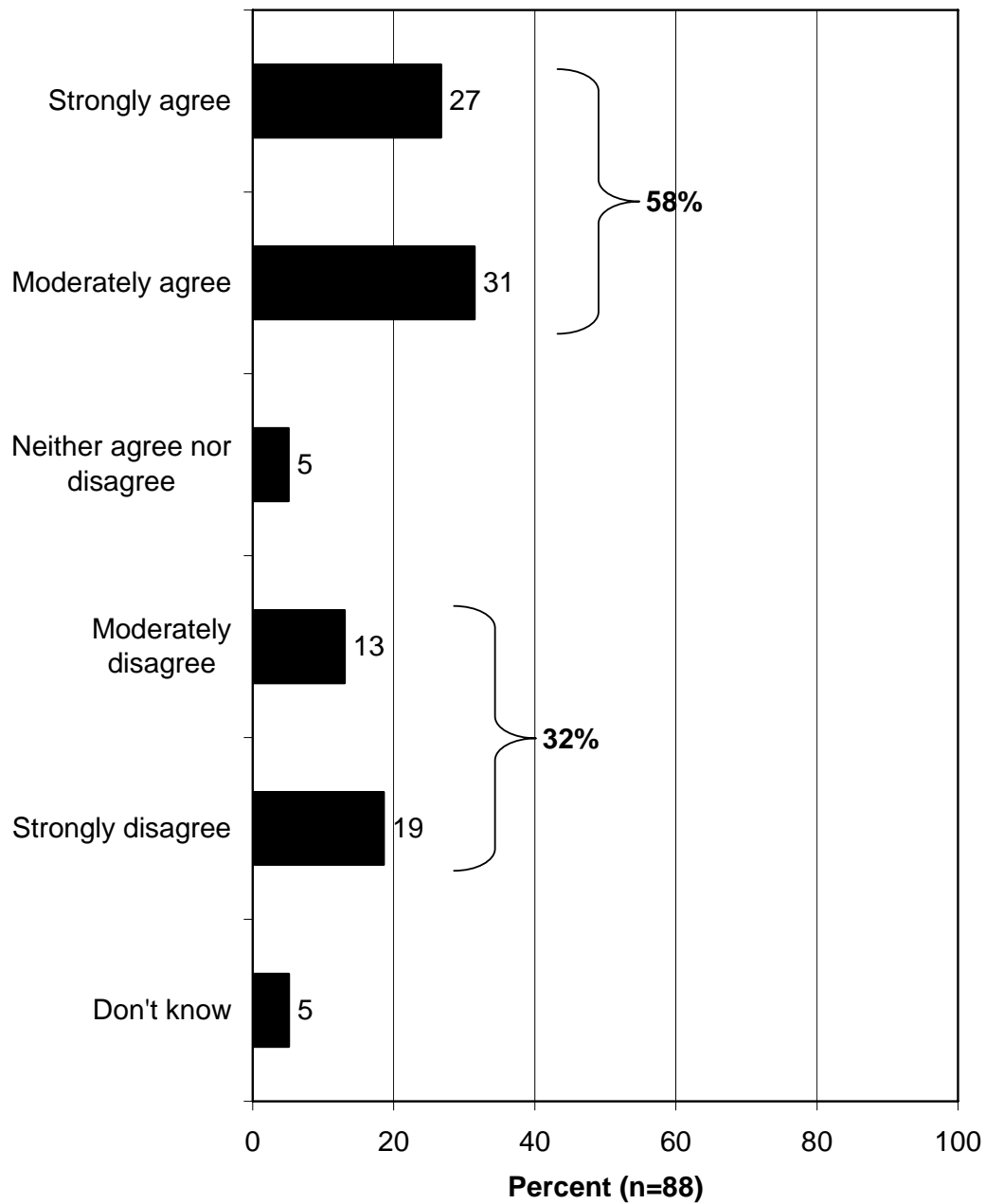
**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (Hunt area hunters.)**



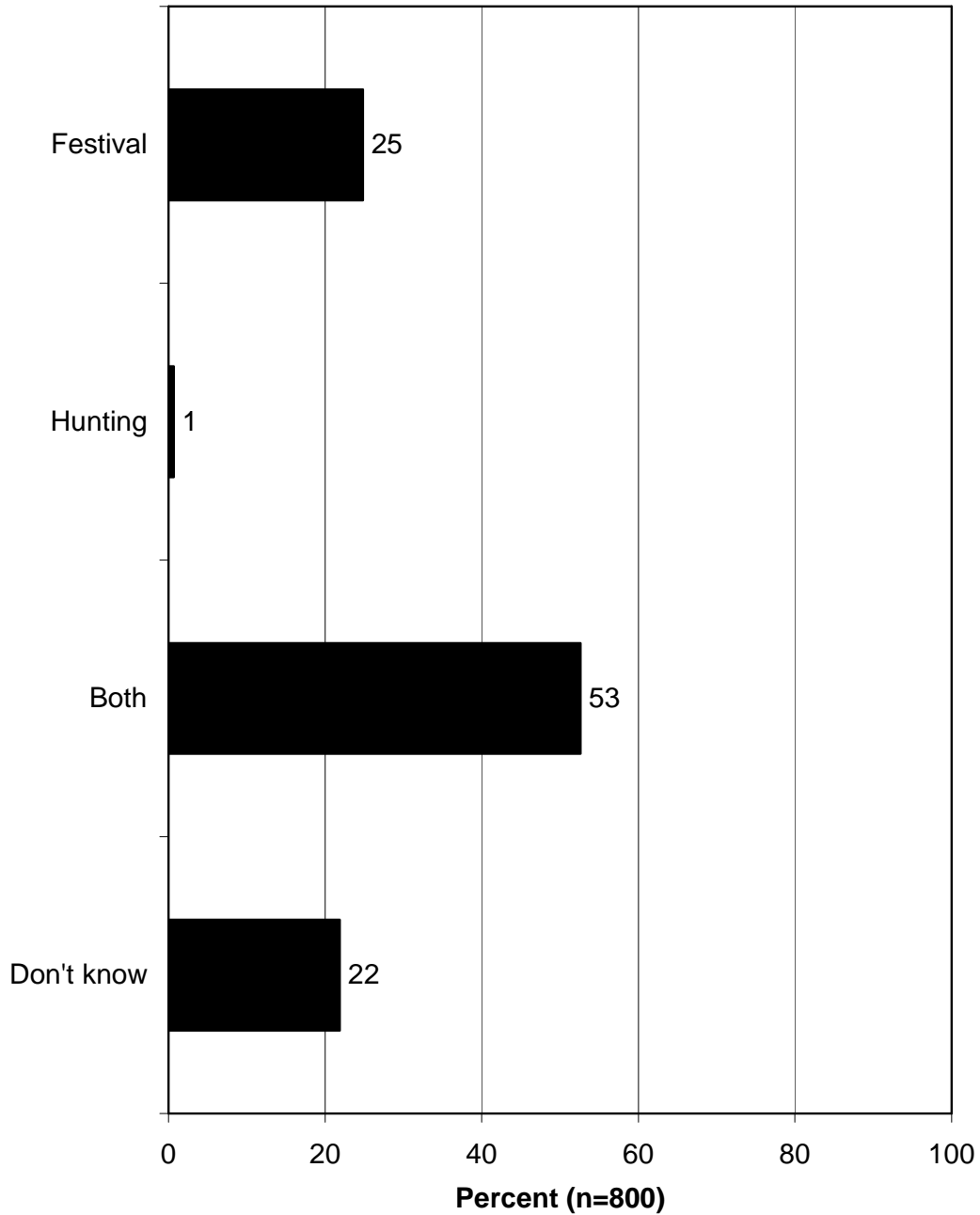
**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (Wildlife watchers statewide.)**



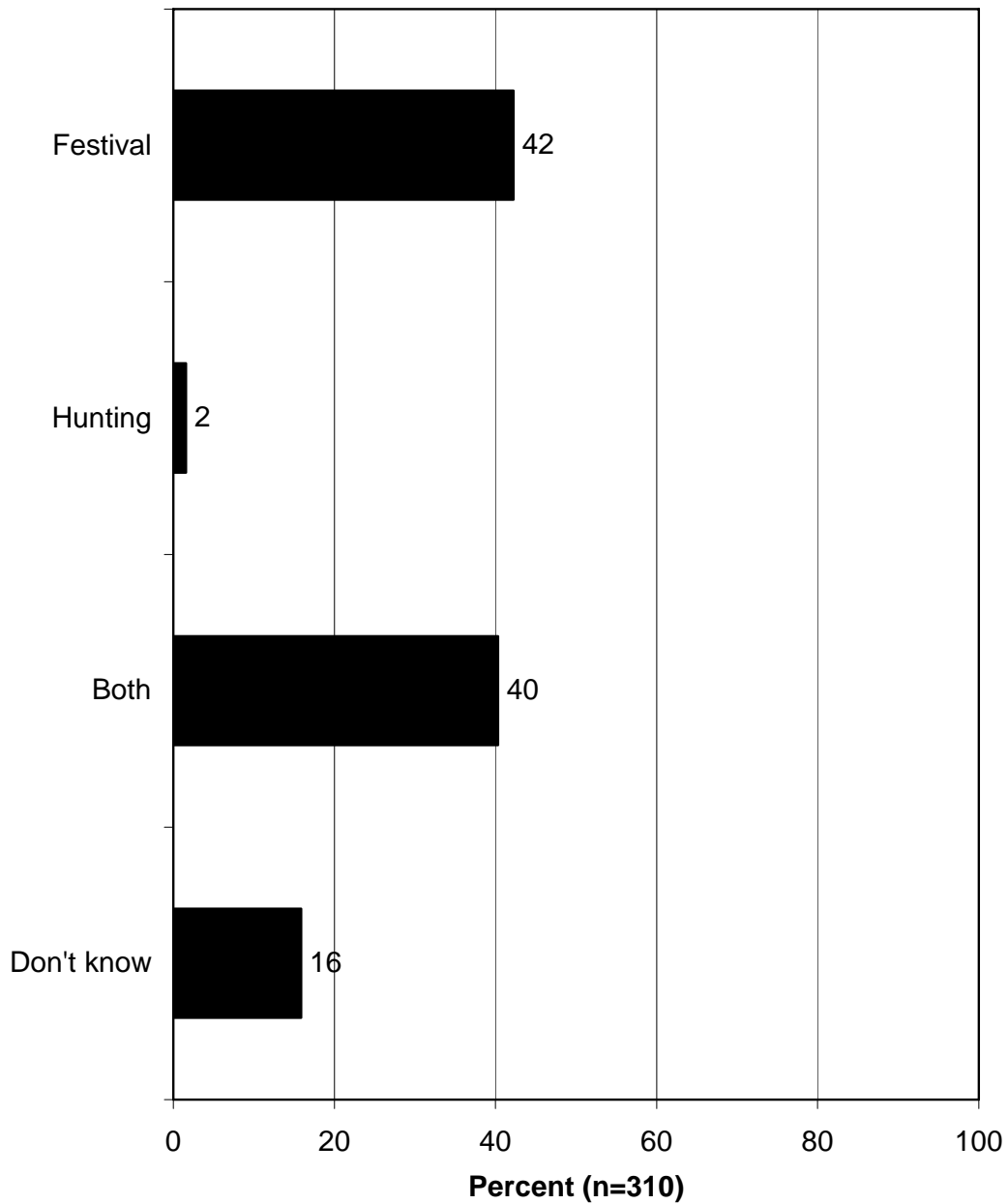
**Q66. Do you agree or disagree that it is possible to successfully allow sandhill crane hunting and maintain sandhill crane viewing opportunities for wildlife watchers in Tennessee? (Hunt area wildlife watchers.)**



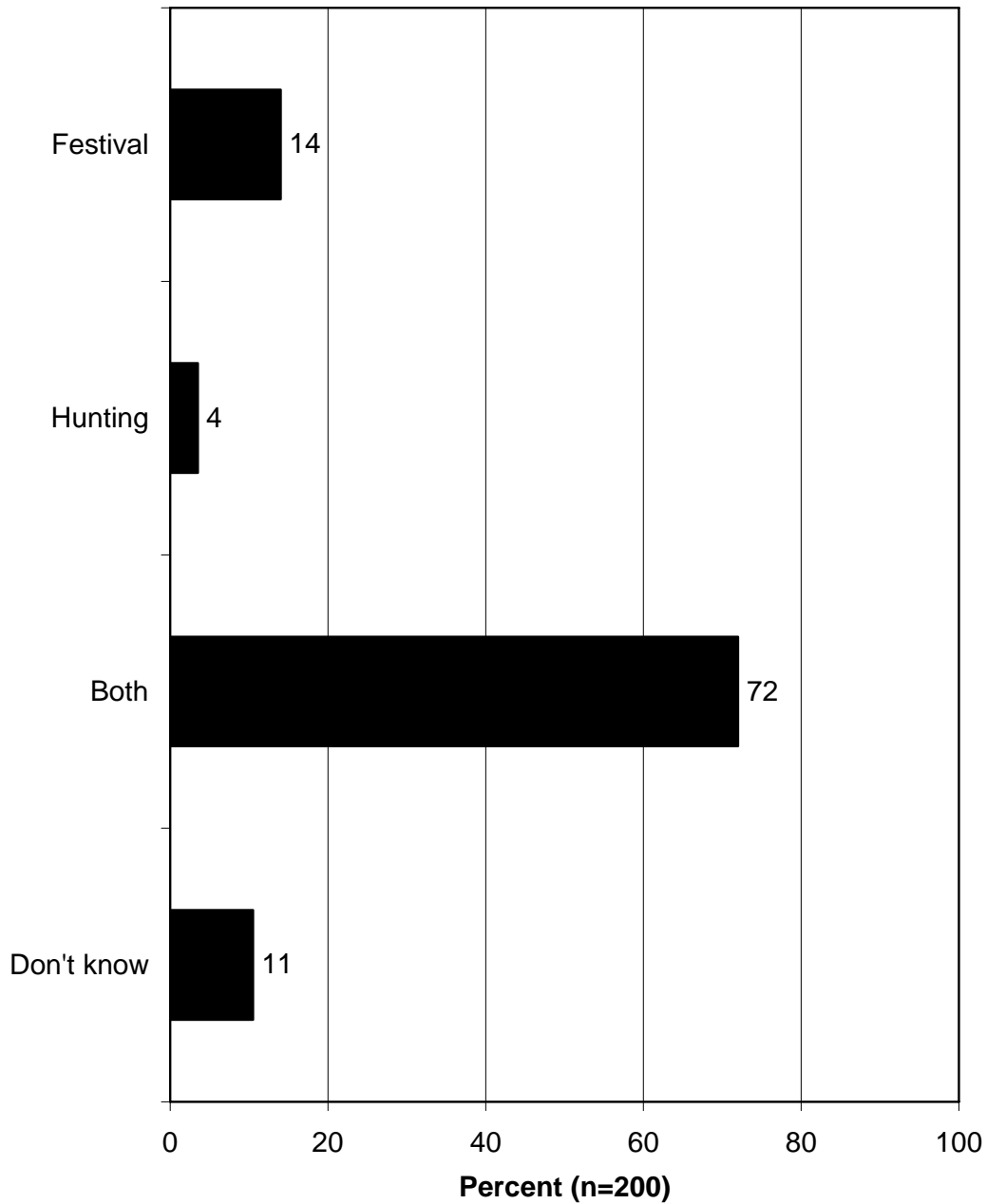
**Q67. Do you think it is more beneficial overall to the Hiwassee area community to hold the Tennessee Sandhill Crane Festival, to allow sandhill crane hunting, or to have both? (General population.)**



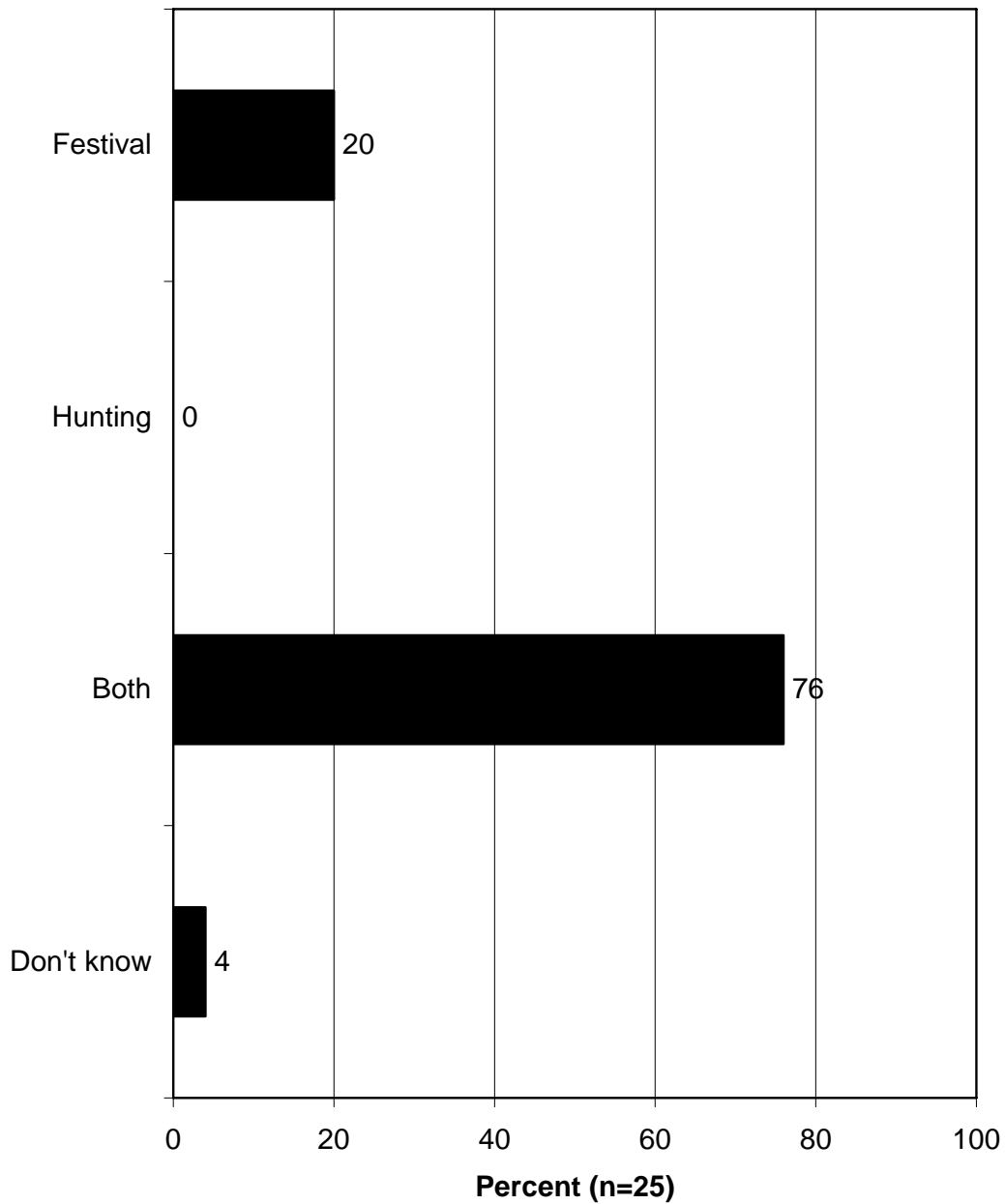
**Q67. Do you think it is more beneficial overall to the Hiwassee area community to hold the Tennessee Sandhill Crane Festival, to allow sandhill crane hunting, or to have both? (Hunt area residents.)**



**Q67. Do you think it is more beneficial overall to the Hiwassee area community to hold the Tennessee Sandhill Crane Festival, to allow sandhill crane hunting, or to have both? (Hunters statewide.)**



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**Q67. Do you think it is more beneficial overall to the Hiwassee area community to hold the Tennessee Sandhill Crane Festival, to allow sandhill crane hunting, or to have both? (Wildlife watchers statewide.)**



**Q67. Do you think it is more beneficial overall to the Hiwassee area community to hold the Tennessee Sandhill Crane Festival, to allow sandhill crane hunting, or to have both? (Hunt area wildlife watchers.)**



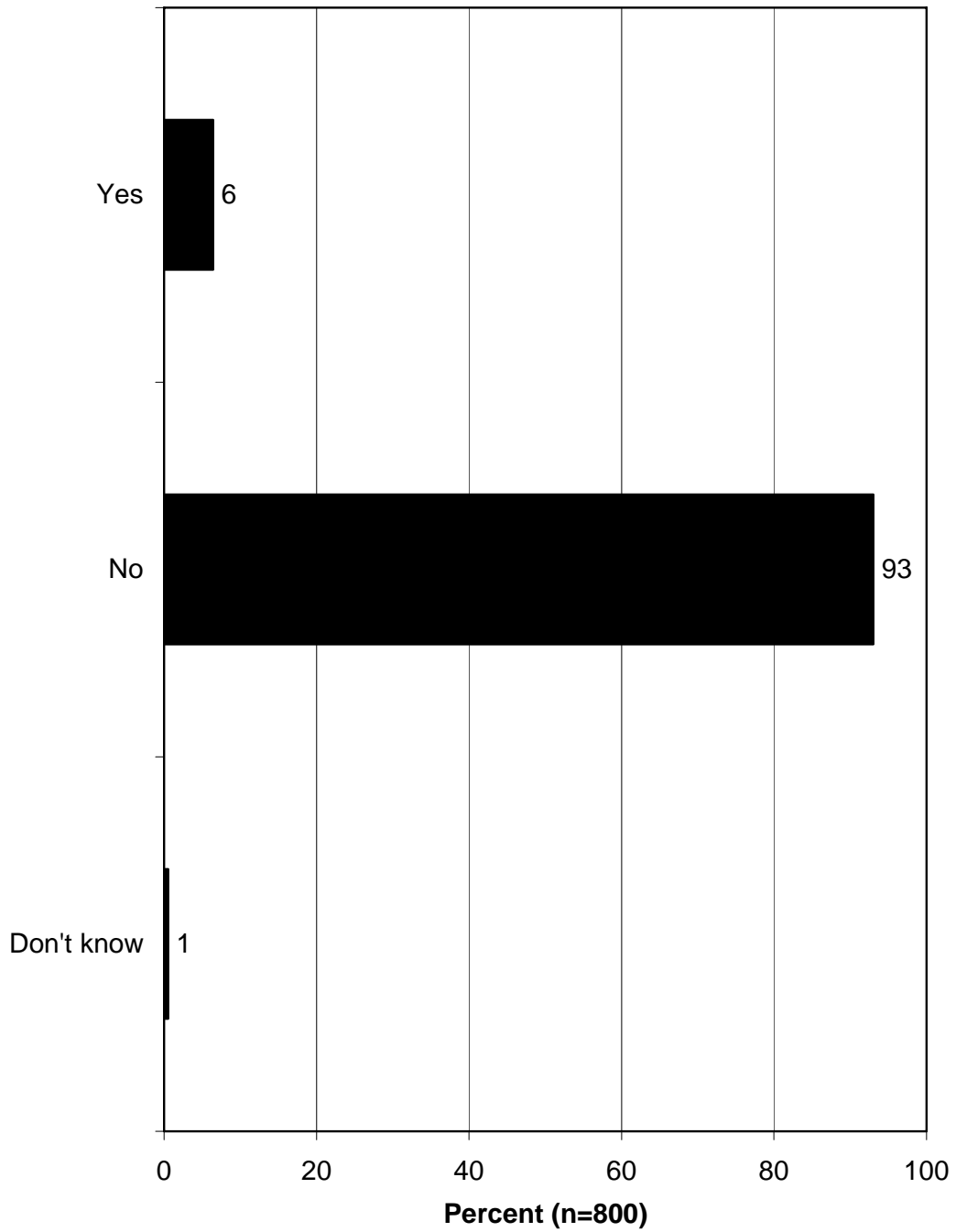
## TENNESSEE SANDHILL CRANE FESTIVAL

- The survey asked about awareness of the Tennessee Sandhill Crane Festival in Birchwood. Awareness, obviously, is higher in the hunt area.
  - Among the general population statewide, 6% had heard of the festival, and 24% of hunt area residents had heard of the festival.
  - Hunters are quite similar to the general population: 7% of hunters statewide and 20% of hunt area hunters had heard of the festival.
  - Wildlife watchers are the most aware, but only slightly more than the general population: 8% of wildlife watchers statewide and 33% of them in the hunt area had heard of the festival.
    - The actual rate of attendance at the festival is no more than 8% of any group, including those in the hunt area.
  
- As we learned in the previous section, most respondents would want to have either both hunting of sandhill cranes and the festival or just the festival by itself, rather than doing away with the festival and just having hunting. (The question asked if they thought that the Hiwassee community would benefit more from only holding the Tennessee Sandhill Crane Festival, only allowing hunting, or doing both.)
  
- Tabulations of all the data in this section are included, followed by the graphs.

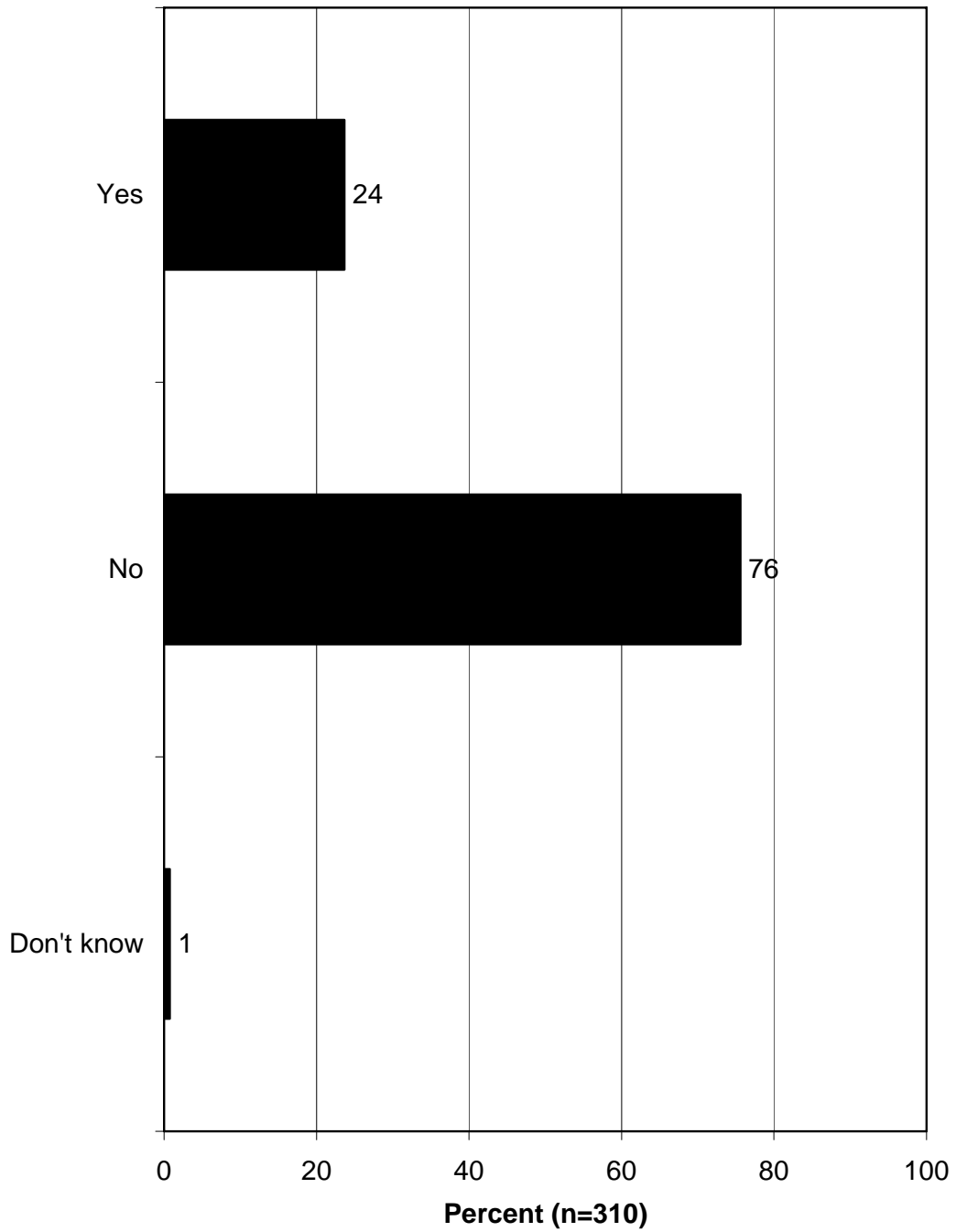
	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
<b>Had heard of the Tennessee Sandhill Crane Festival in Birchwood prior to survey</b>	6	24	7	20	8	33
<b>Attended in past 2 years</b>	0.4	2.7	0.5	8.0	0.5	3.4
<b>Attended, but not in past 2 years</b>	0.4	2.9	1.5	8.0	0.4	2.5
<b>Total attended</b>	0.8	5.6	2.0	8.0	0.9	5.9
<b>Have never attended</b>	98.7	93.7	98.0	92.0	98.5	92.1
<b>Don't know</b>	0.5	0.7	0.0	0.0	0.6	2.1

Column for each question may not sum to 100.0% because of rounding.

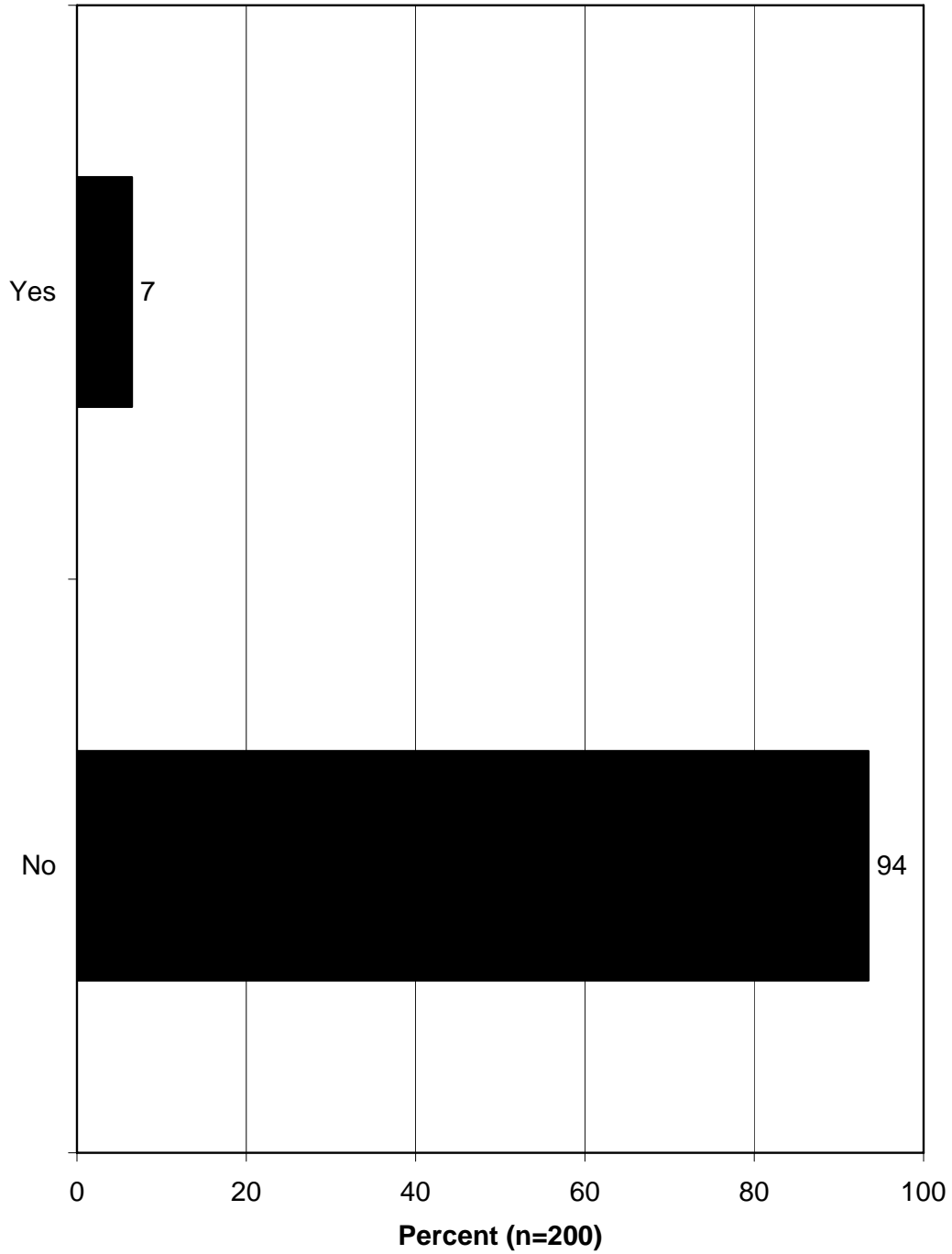
**Q40. Prior to this survey, had you heard of the Tennessee Sandhill Crane Festival in Birchwood?  
(General population.)**



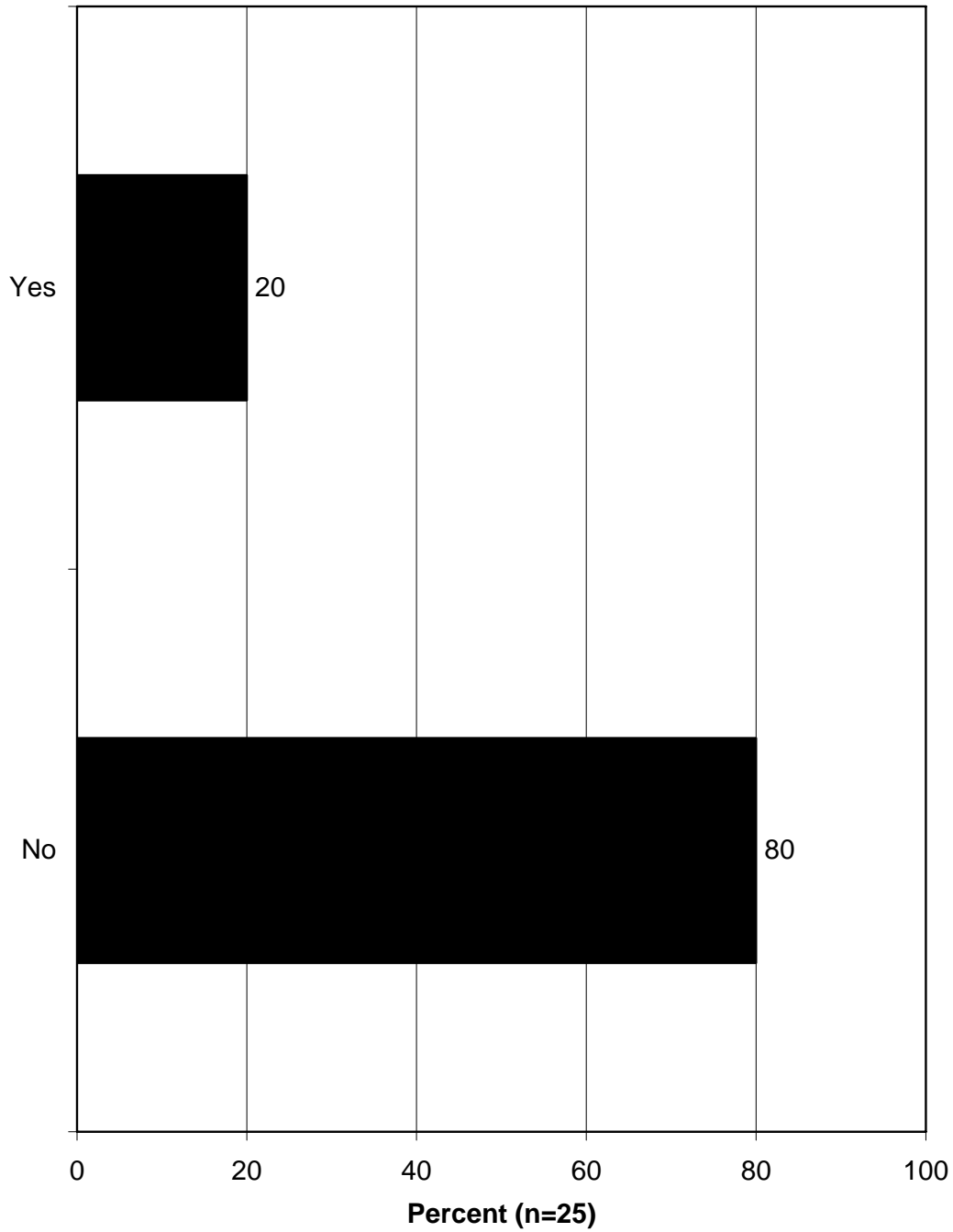
**Q40. Prior to this survey, had you heard of the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area residents.)**



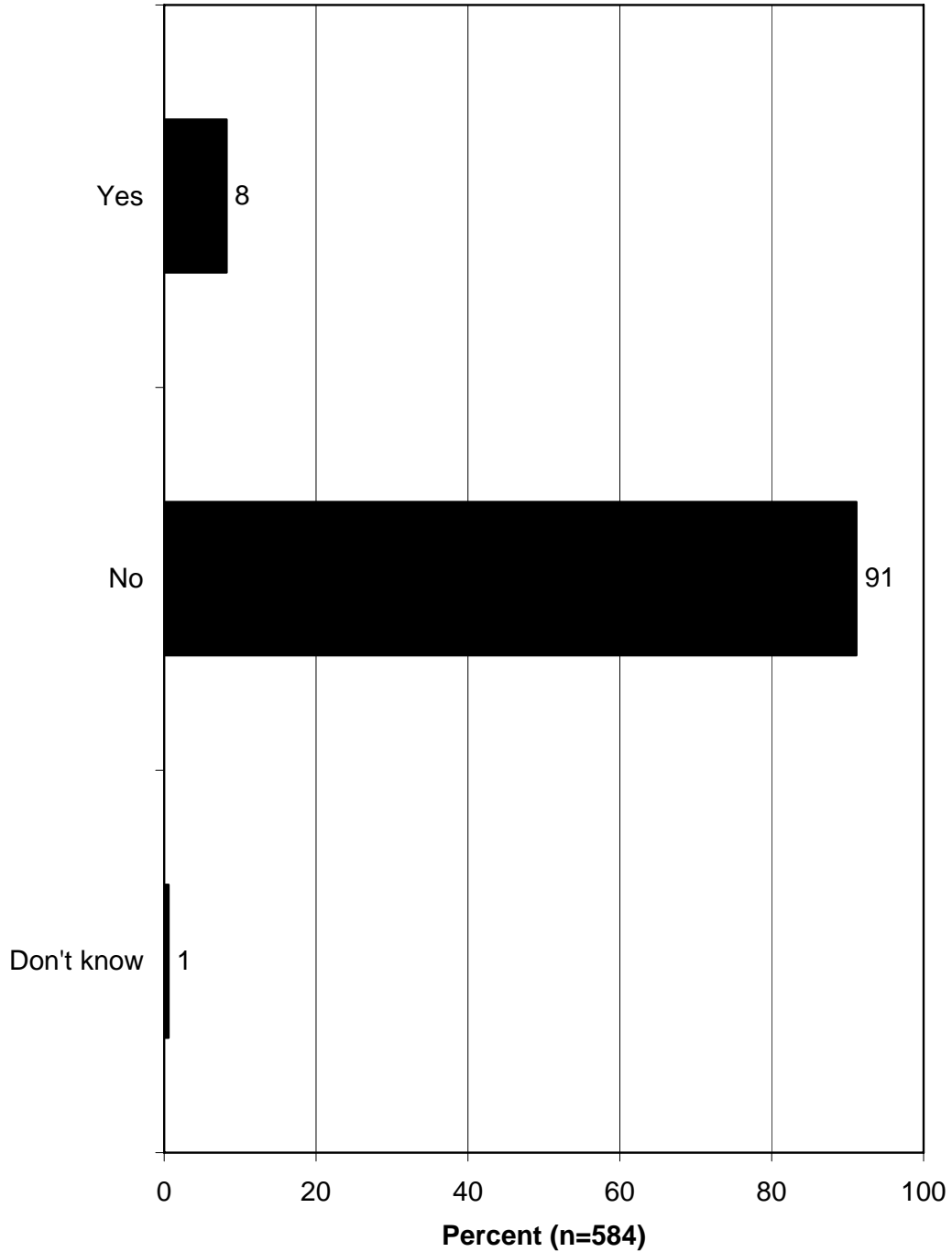
**Q40. Prior to this survey, had you heard of the Tennessee Sandhill Crane Festival in Birchwood?  
(Hunters statewide.)**



**Q40. Prior to this survey, had you heard of the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area hunters.)**

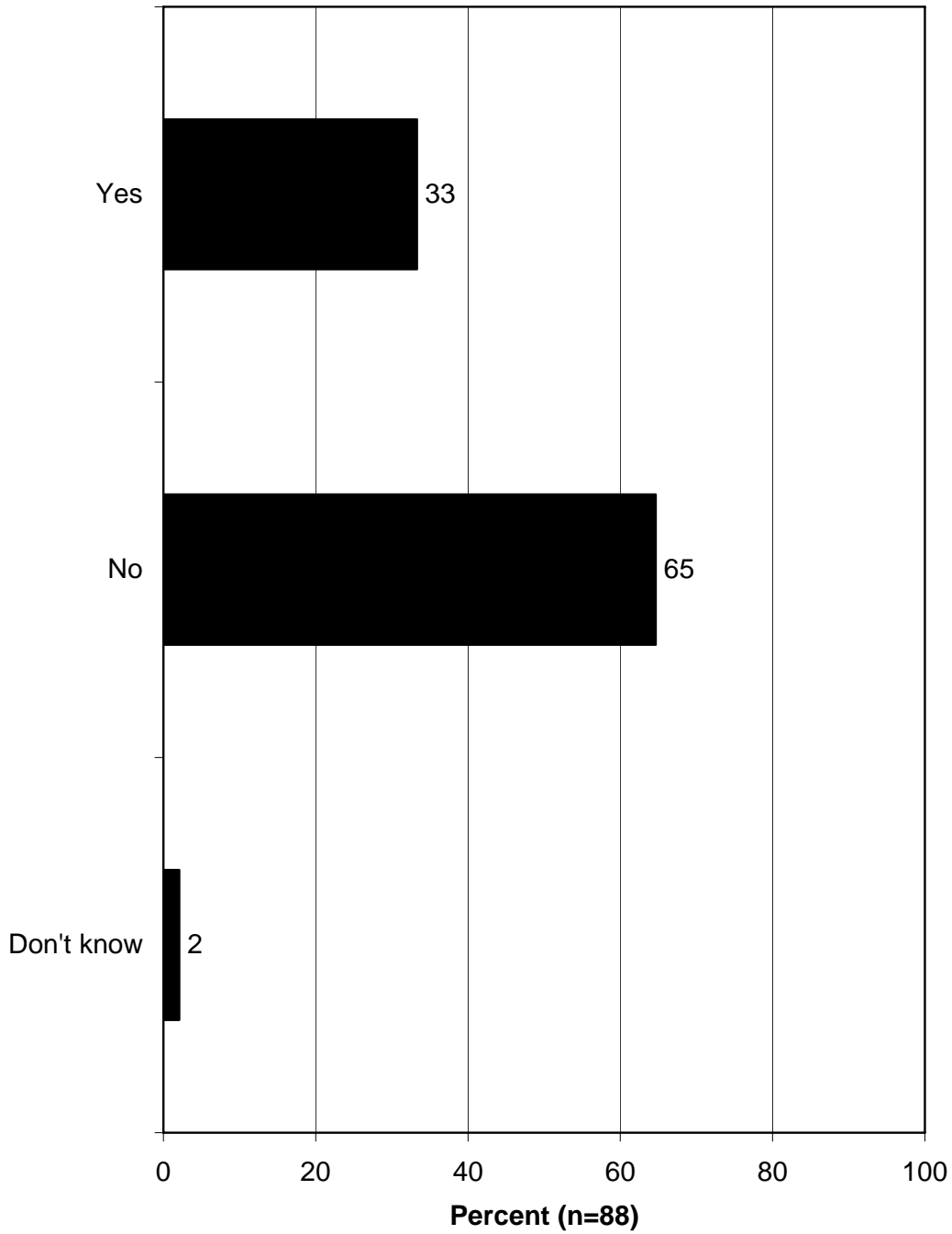


**Q40. Prior to this survey, had you heard of the  
Tennessee Sandhill Crane Festival in Birchwood?  
(Wildlife watchers statewide.)**

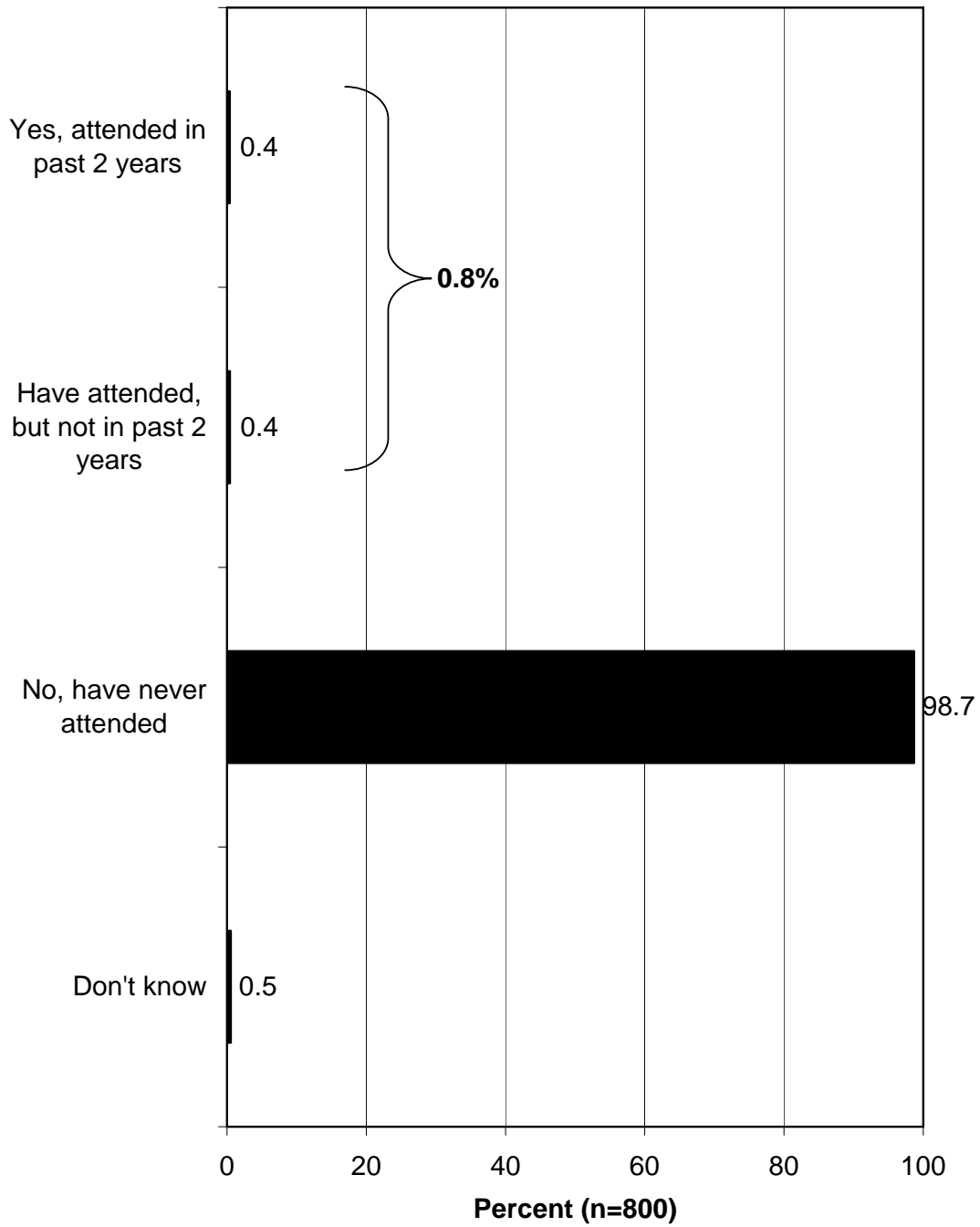




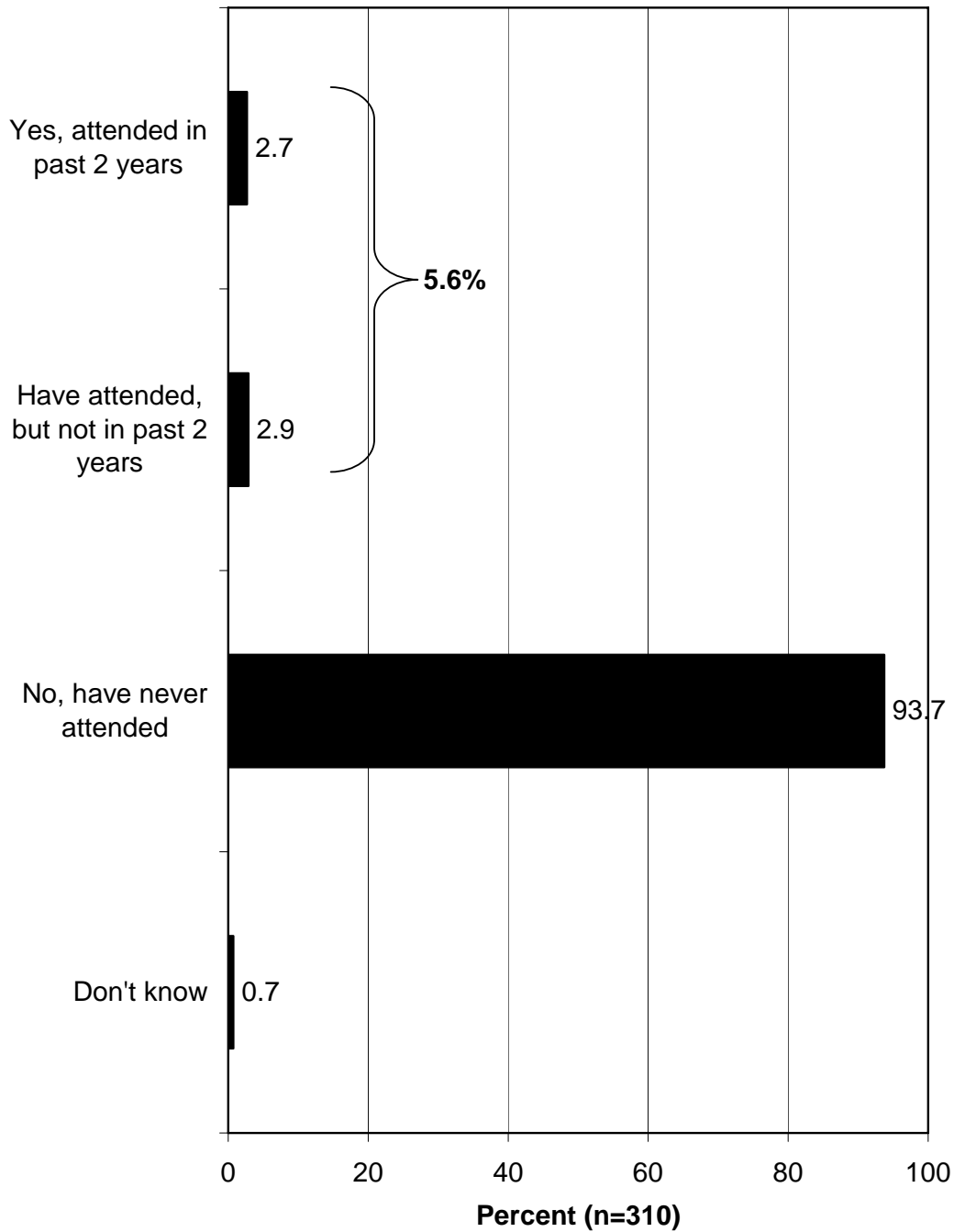
**Q40. Prior to this survey, had you heard of the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area wildlife watchers.)**



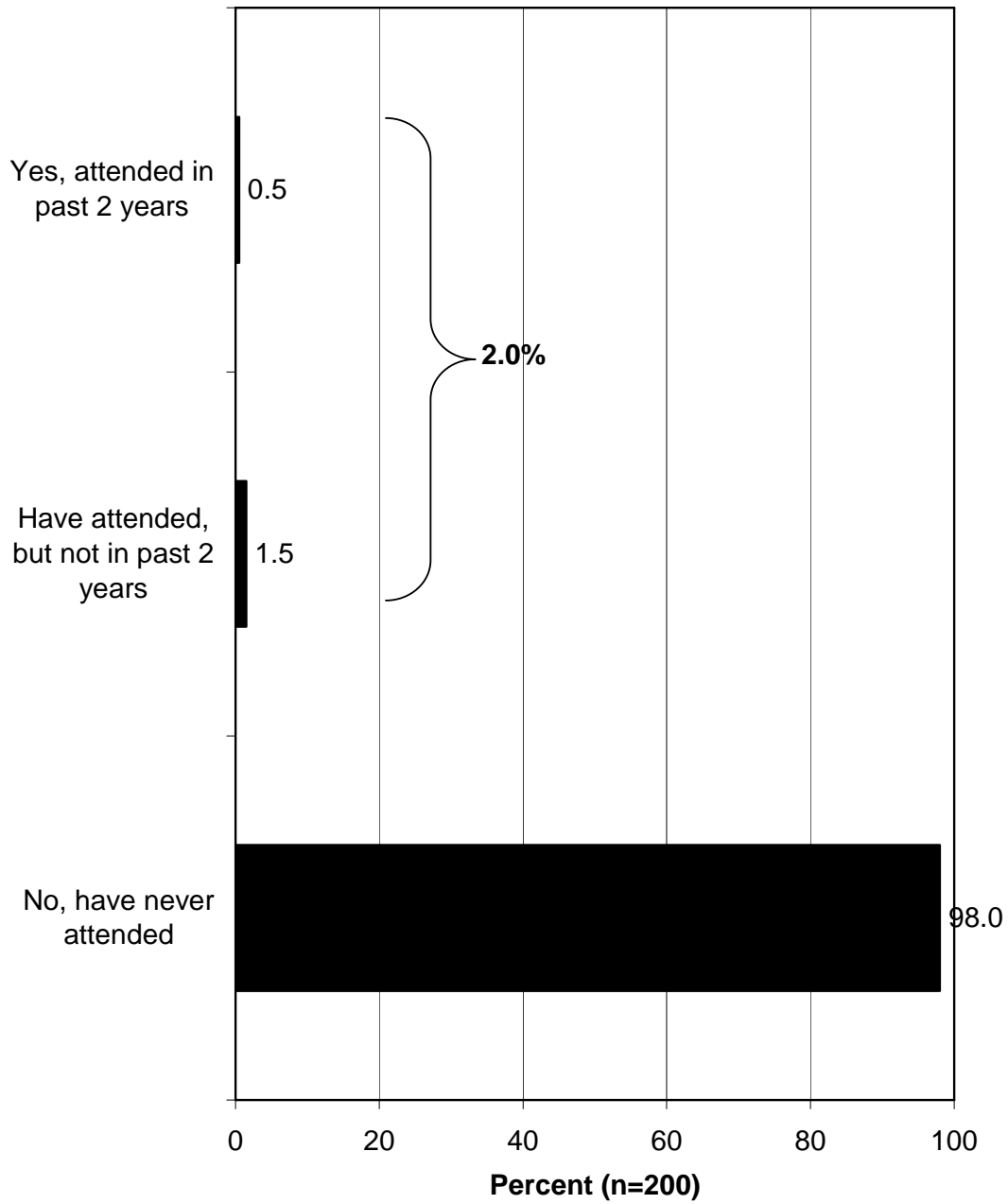
**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (General population.)**



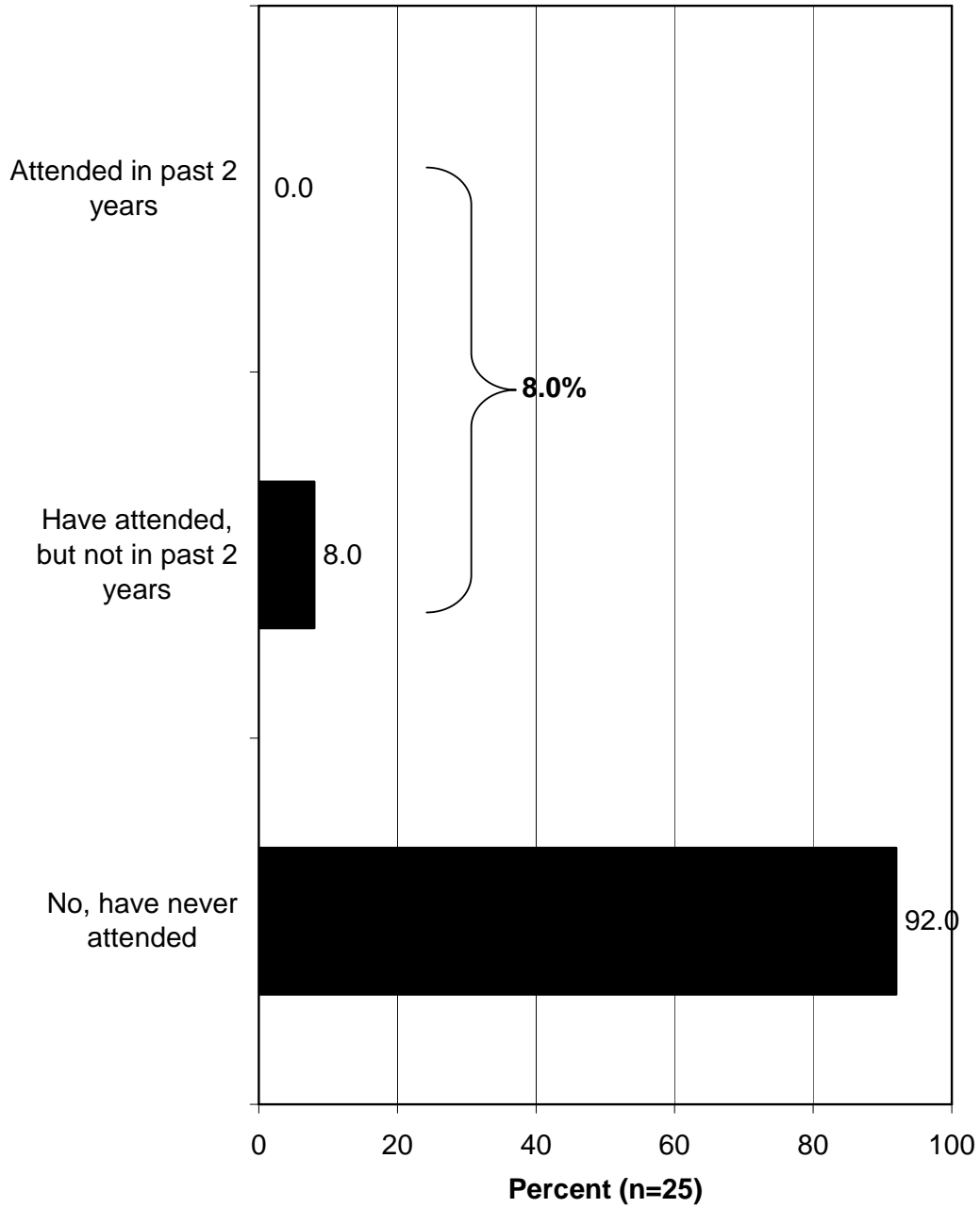
**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area residents.)**



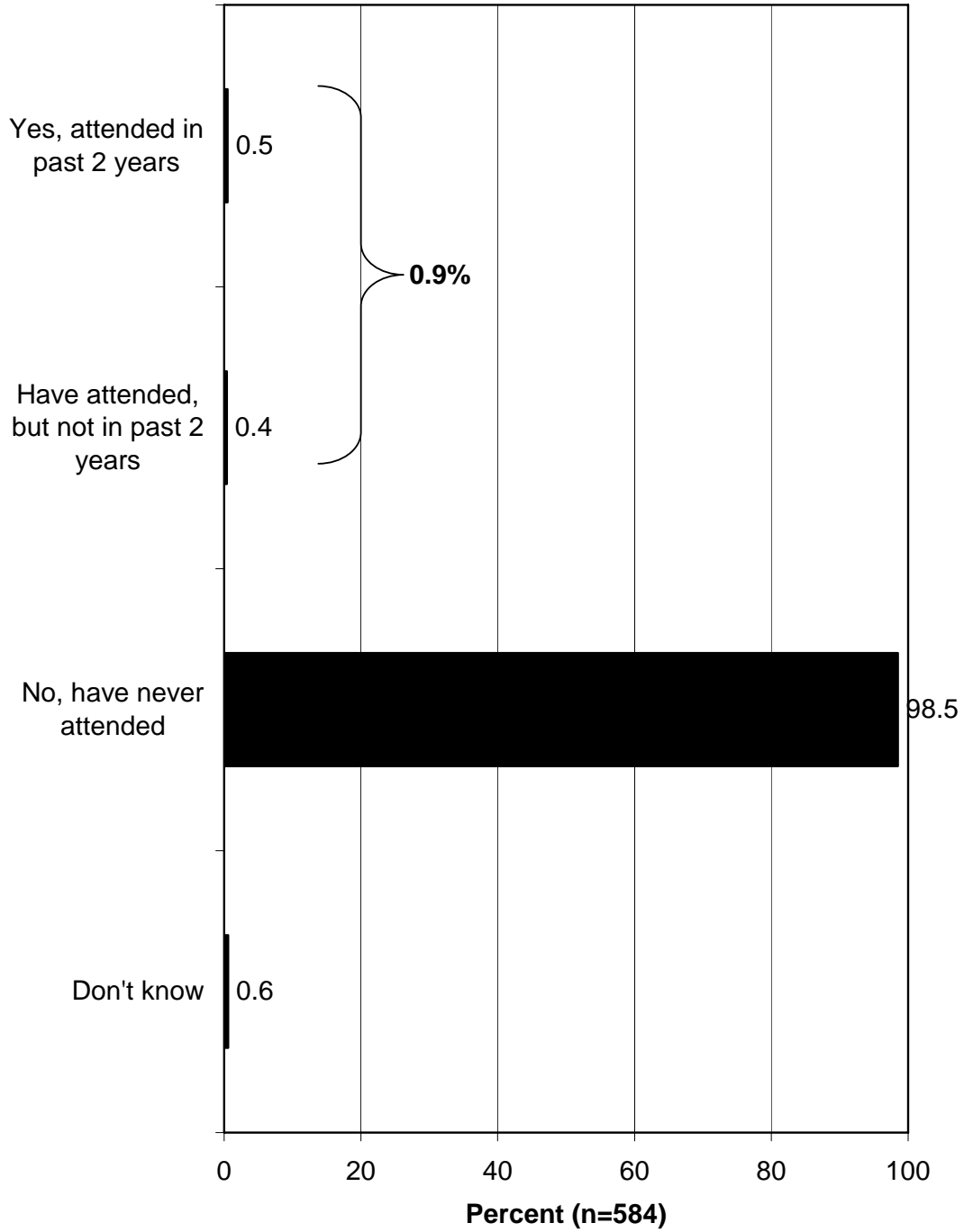
**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (Hunters statewide.)**



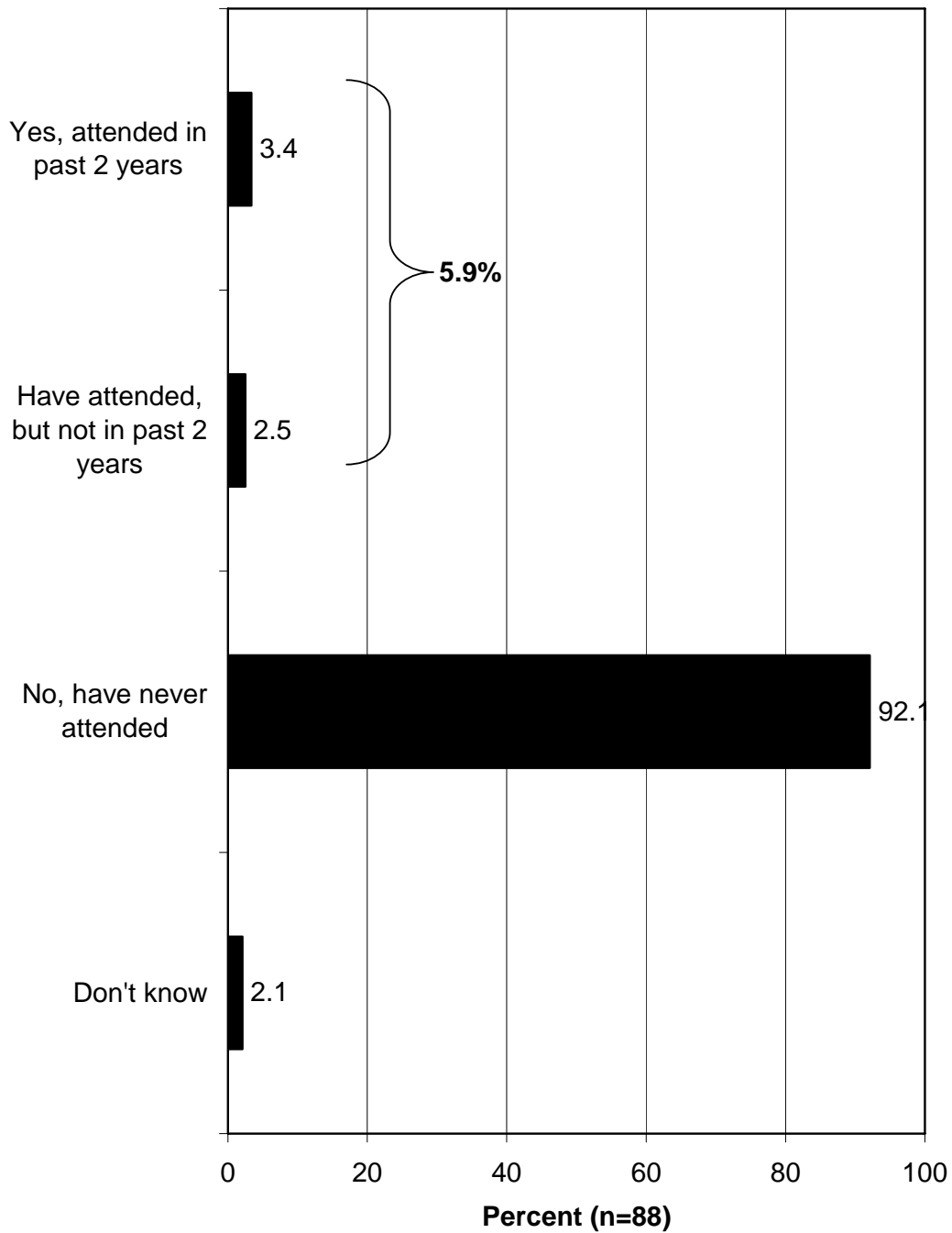
**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area hunters.)**



**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (Wildlife watchers statewide.)**



**Q41/42. Have you ever attended the Tennessee Sandhill Crane Festival in Birchwood? (Hunt area wildlife watchers.)**



## DEMOGRAPHIC DATA

- Demographic data is gathered primarily for crosstabulations and for ensuring that the samples are representative of their constituent populations; nonetheless, they are presented in this section. Note that the resident samples were weighted by age and gender to exactly match U.S. Census Bureau data.
  - Tabulations of all the data in this section are included, followed by the graphs.

	Tennessee residents	Hunt area residents	Hunters statewide	Hunt area hunters	Wildlife watchers statewide	Hunt area wildlife watchers
Male	48	48	91	88	50	49
Female	52	52	10	12	50	51
Mean age	46.04	47.19	43.55	44.88	46.22	48.65
<b>DO YOU CONSIDER YOUR PLACE OF RESIDENCE TO BE A LARGE CITY OR URBAN AREA, A SUBURBAN AREA, A SMALL CITY OR TOWN, A RURAL AREA ON A FARM OR RANCH, OR A RURAL AREA NOT ON A FARM OR RANCH?</b>						
Large city or urban area	14	19	15	12	12	9
Suburban area	13	10	11	16	11	7
Small city or town	33	36	30	20	33	37
Rural area on a farm or ranch	15	12	17	16	17	14
Rural area not on a farm or ranch	23	20	27	36	25	27
Total rural	37*	32	44	52	42	42*
Don't know / refused	3	2	1	0	2	3

Column for each question may not sum to 100% because of rounding.

\*Rounding causes apparent discrepancy in sum.



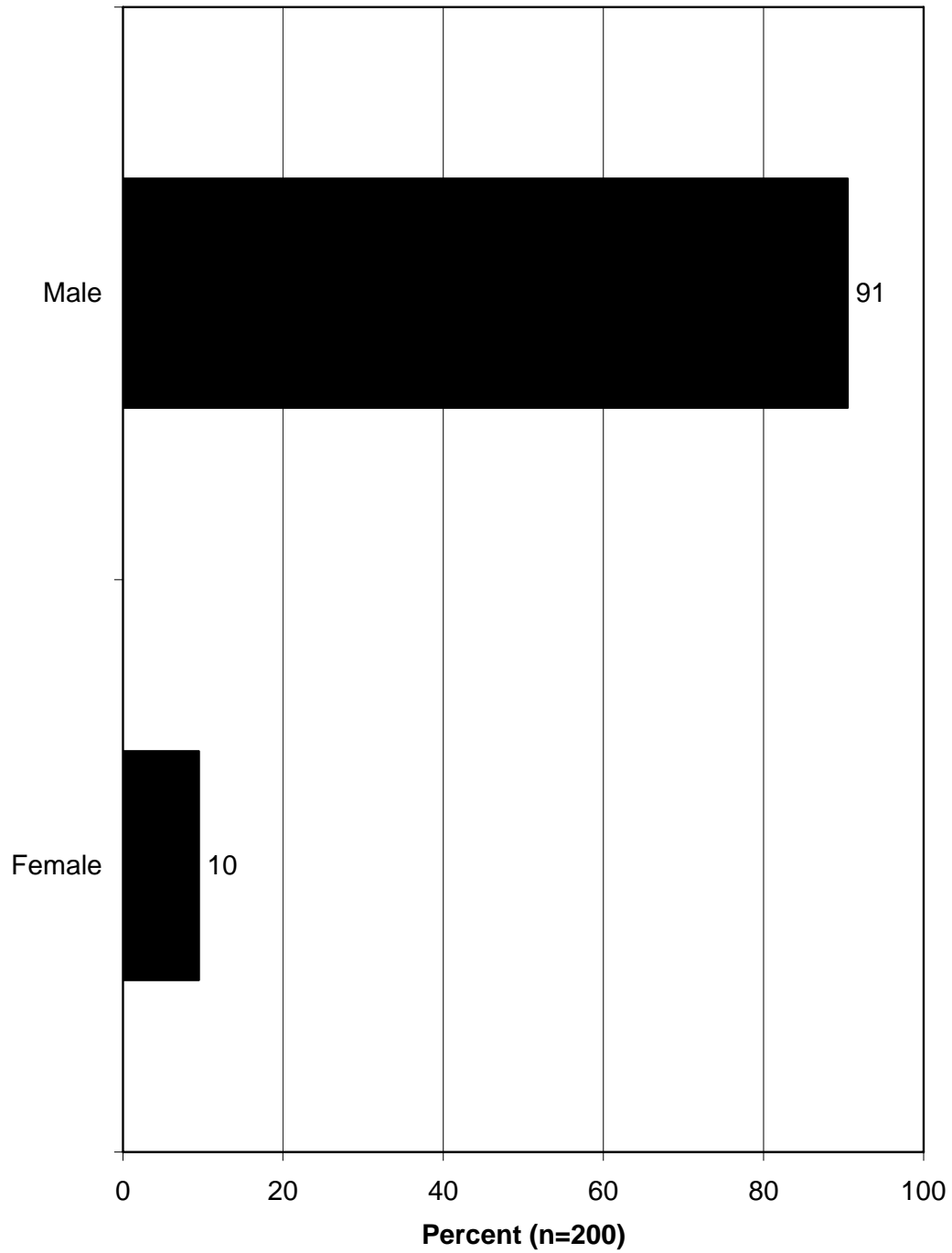
**Q78. Respondent's gender (not asked; observed by interviewer). (General population.)**



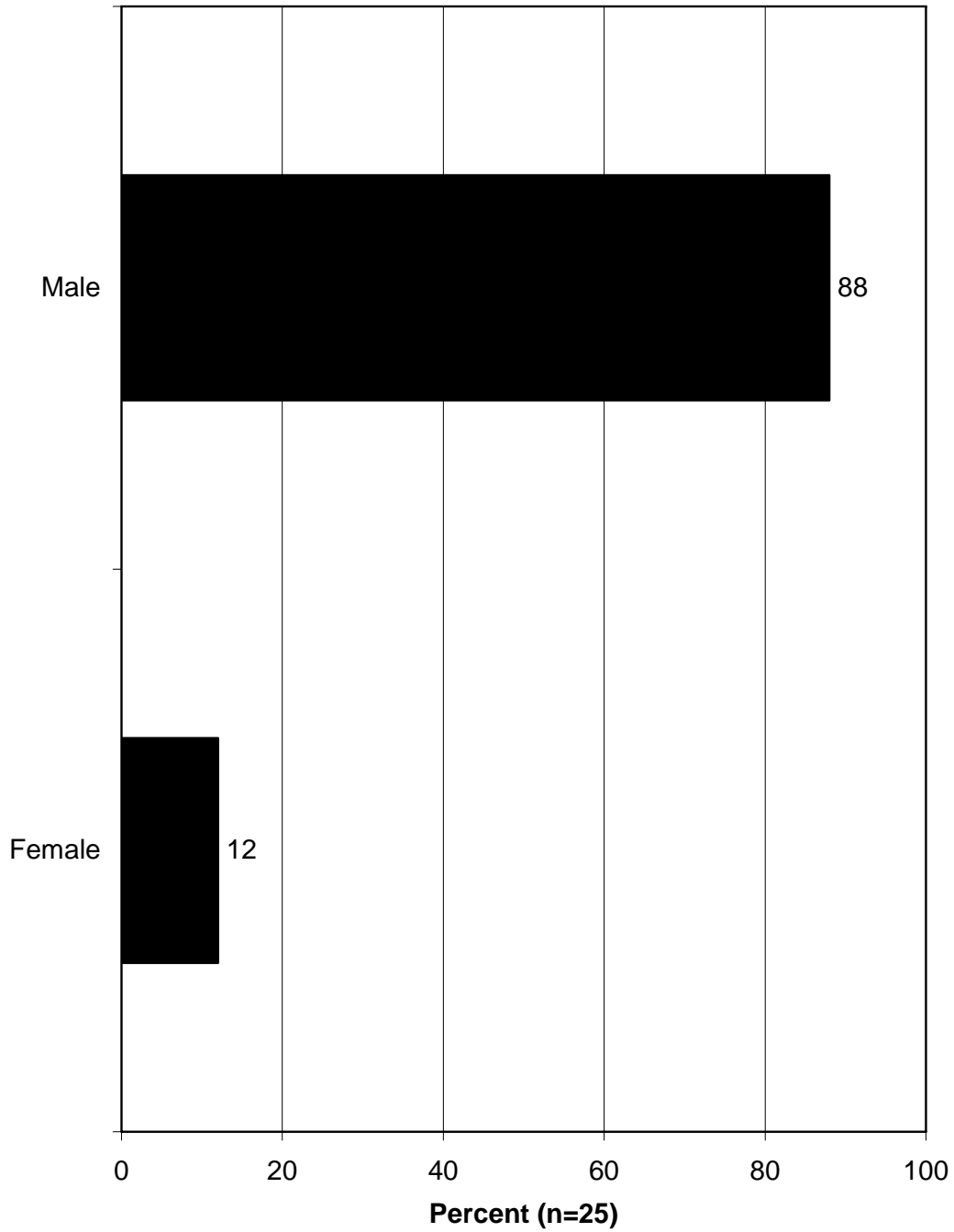
**Q78. Respondent's gender (not asked; observed by interviewer). (Hunt area residents.)**



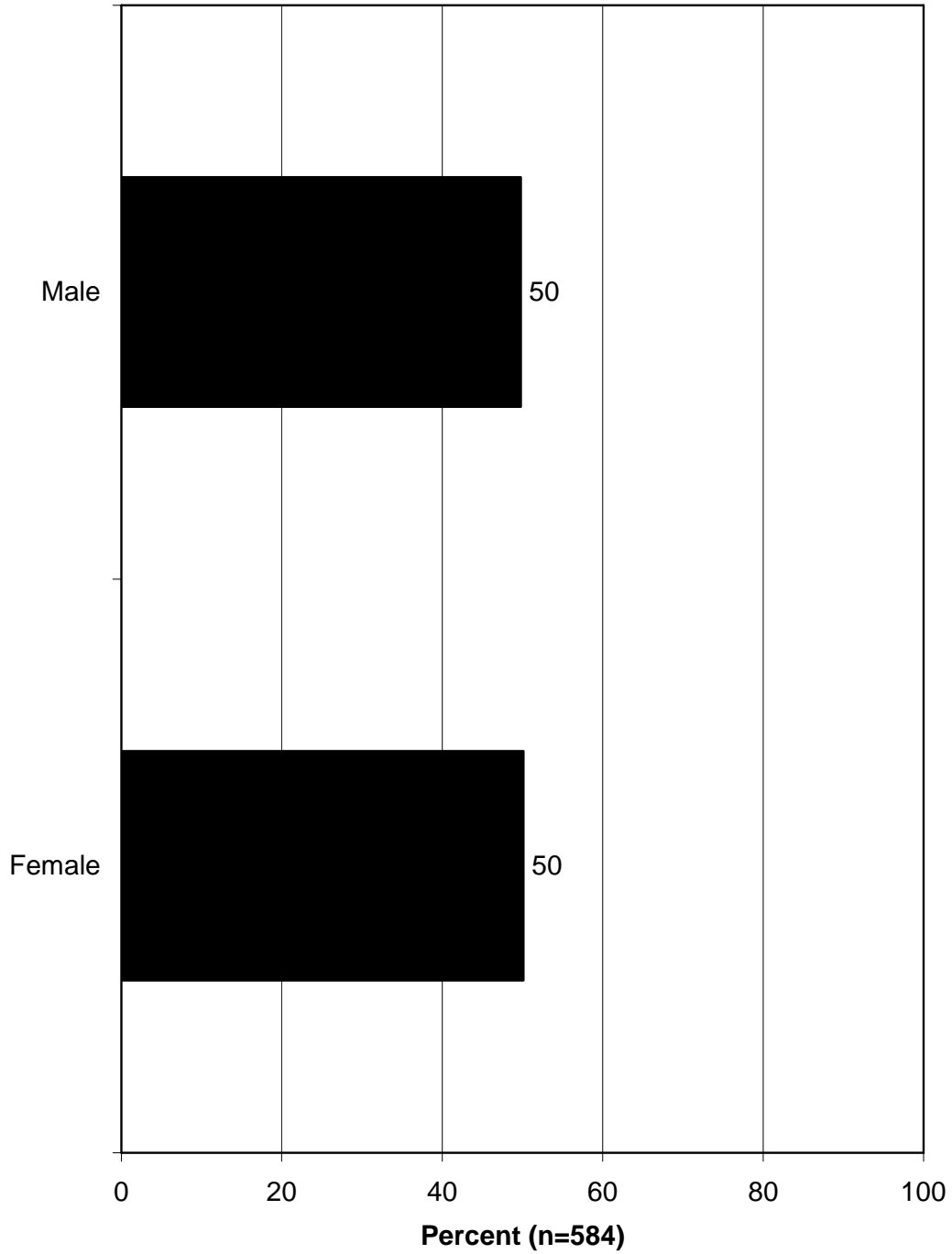
**Q78. Respondent's gender (not asked; observed by interviewer). (Hunters statewide.)**



**Q78. Respondent's gender (not asked; observed by interviewer). (Hunt area hunters.)**



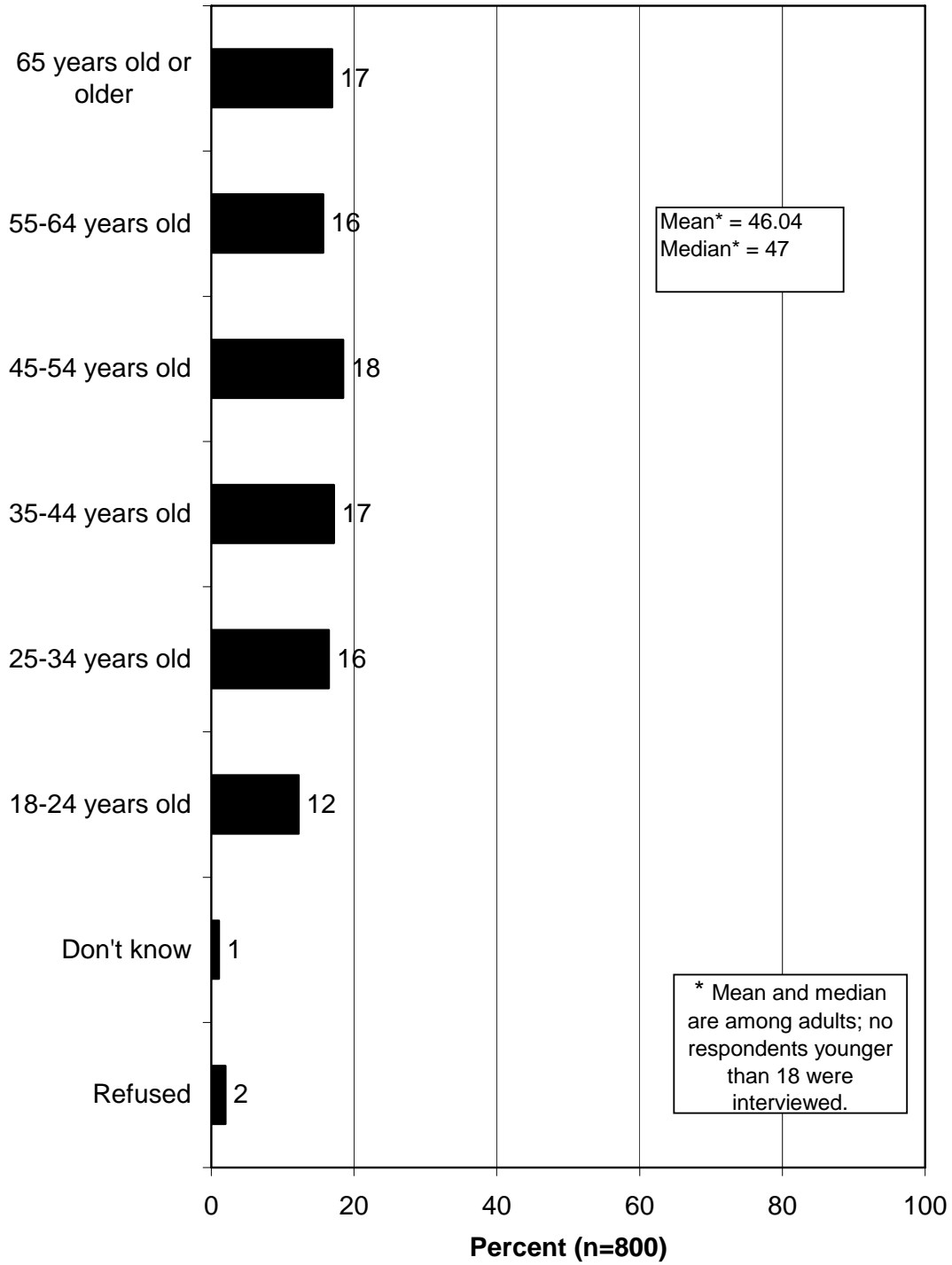
**Q78. Respondent's gender (not asked; observed by interviewer). (Wildlife watchers statewide.)**



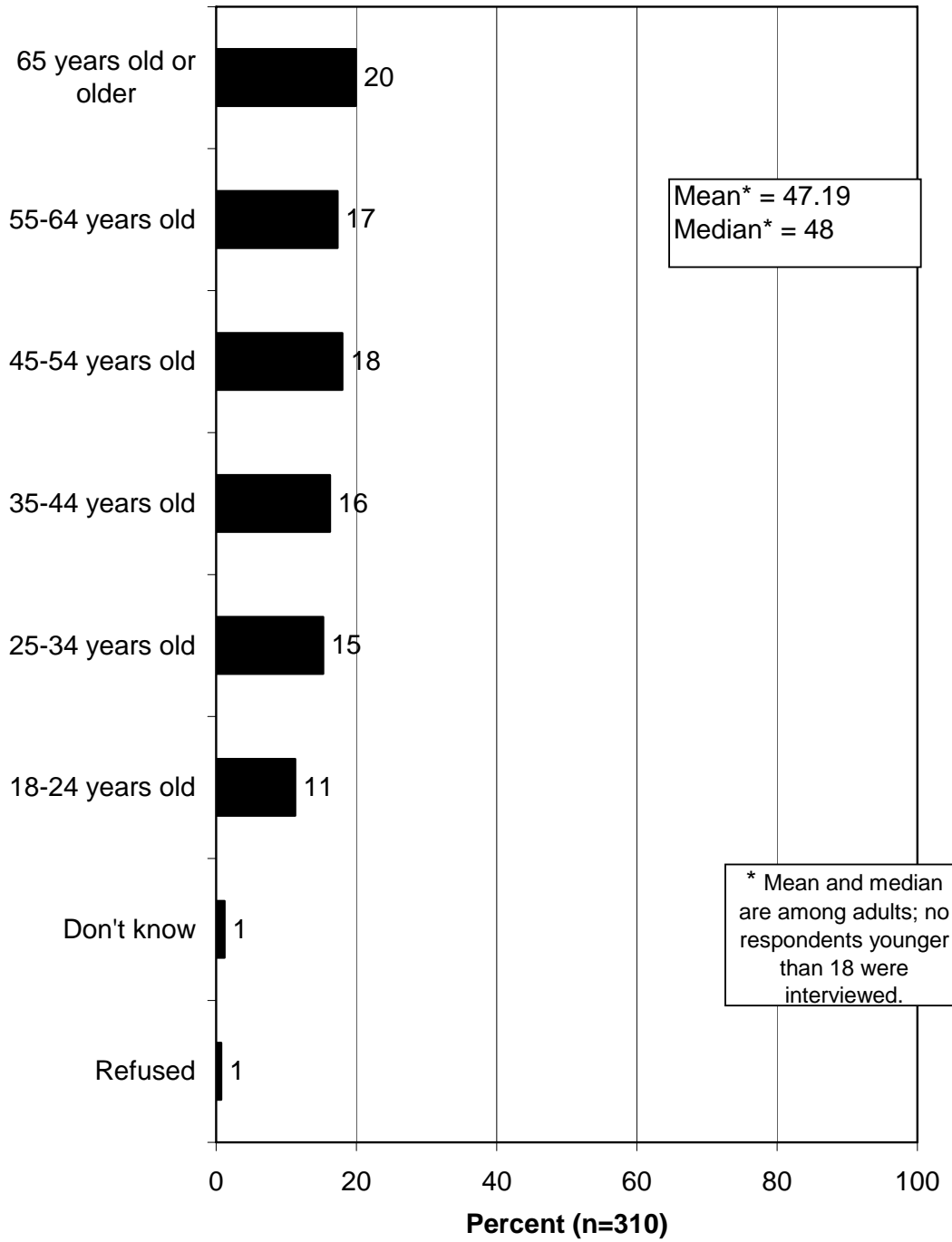
**Q78. Respondent's gender (not asked; observed by interviewer). (Hunt area wildlife watchers.)**



**Q72. May I ask your age? (General population.)**

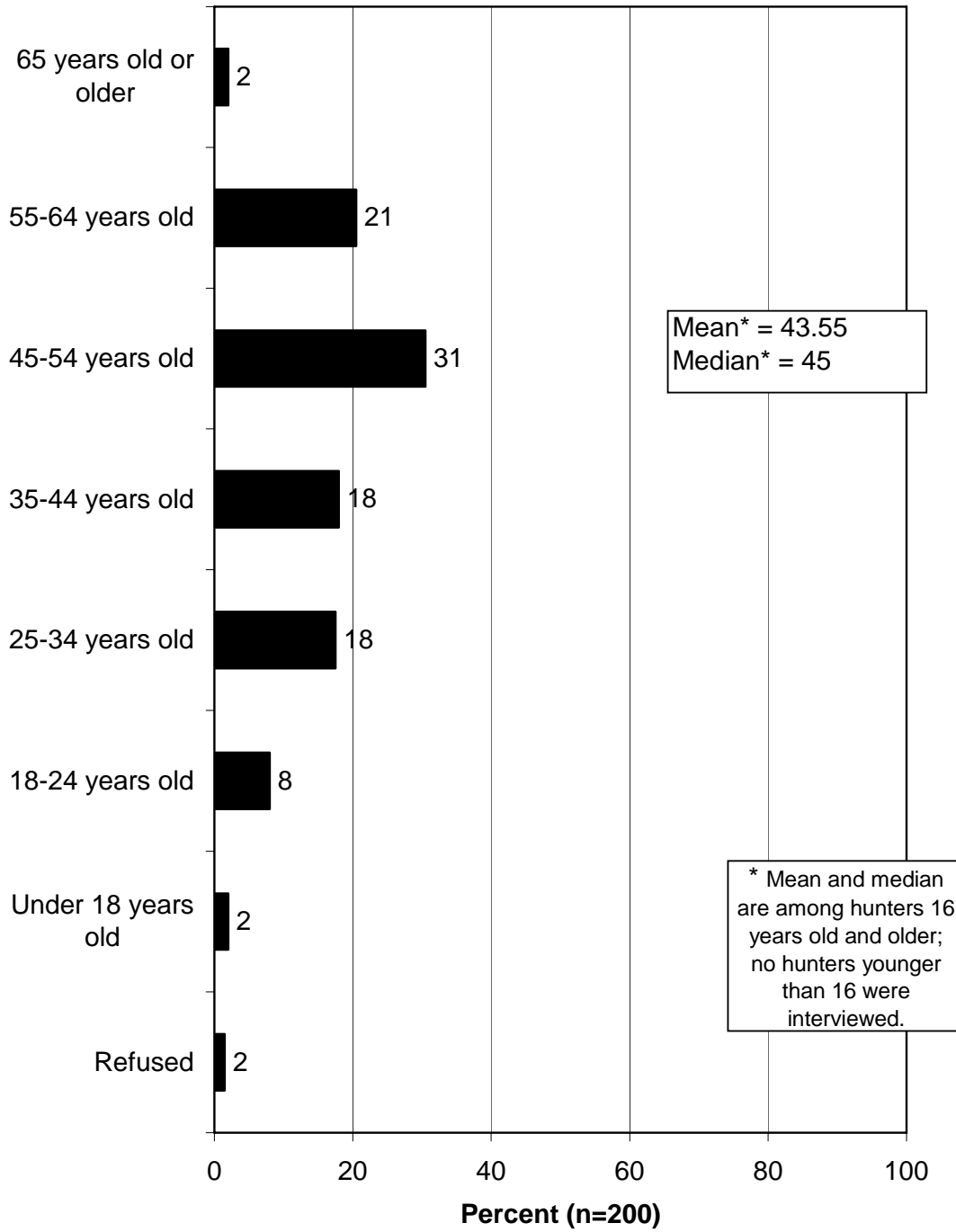


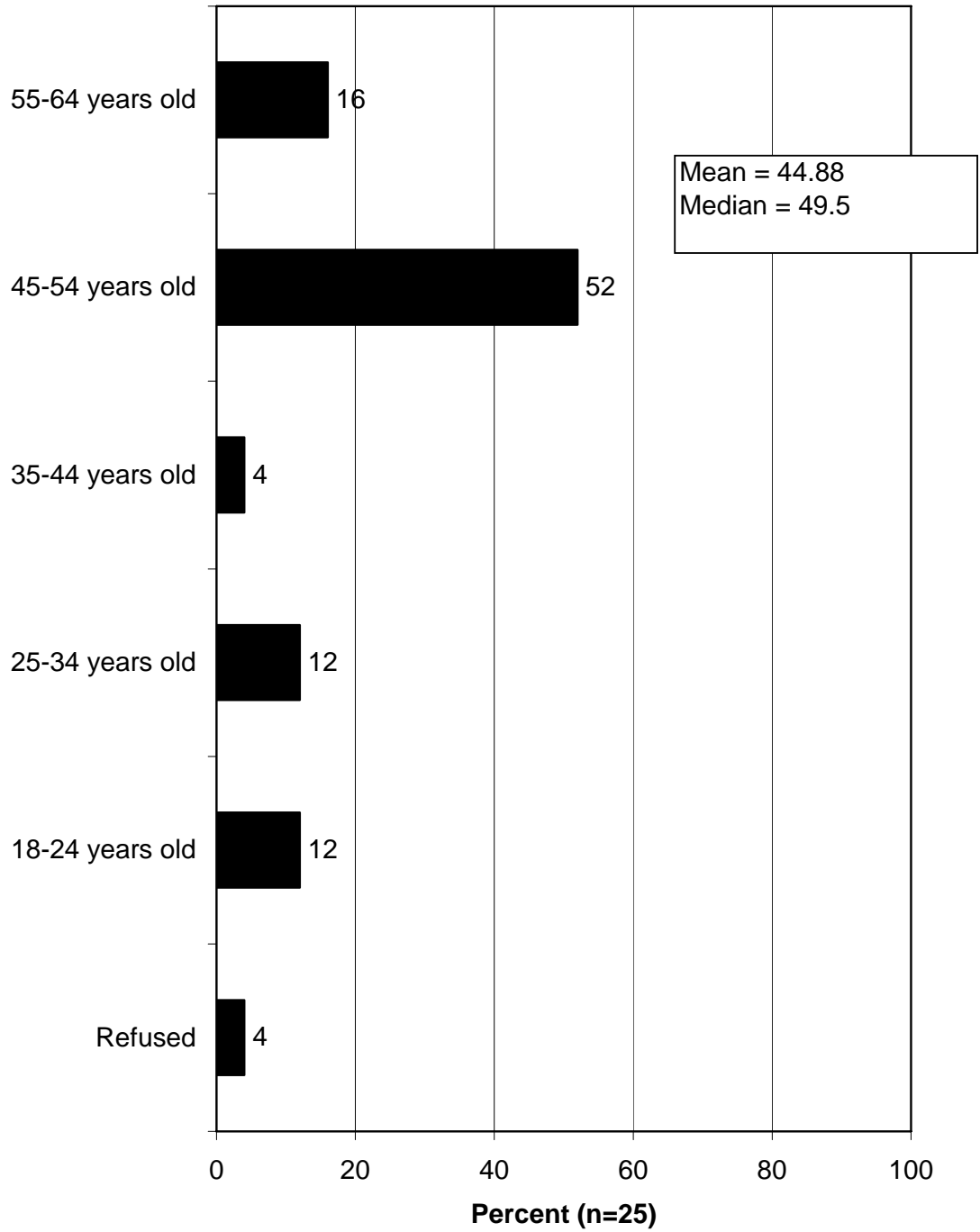
**Q72. May I ask your age? (Hunt area residents.)**



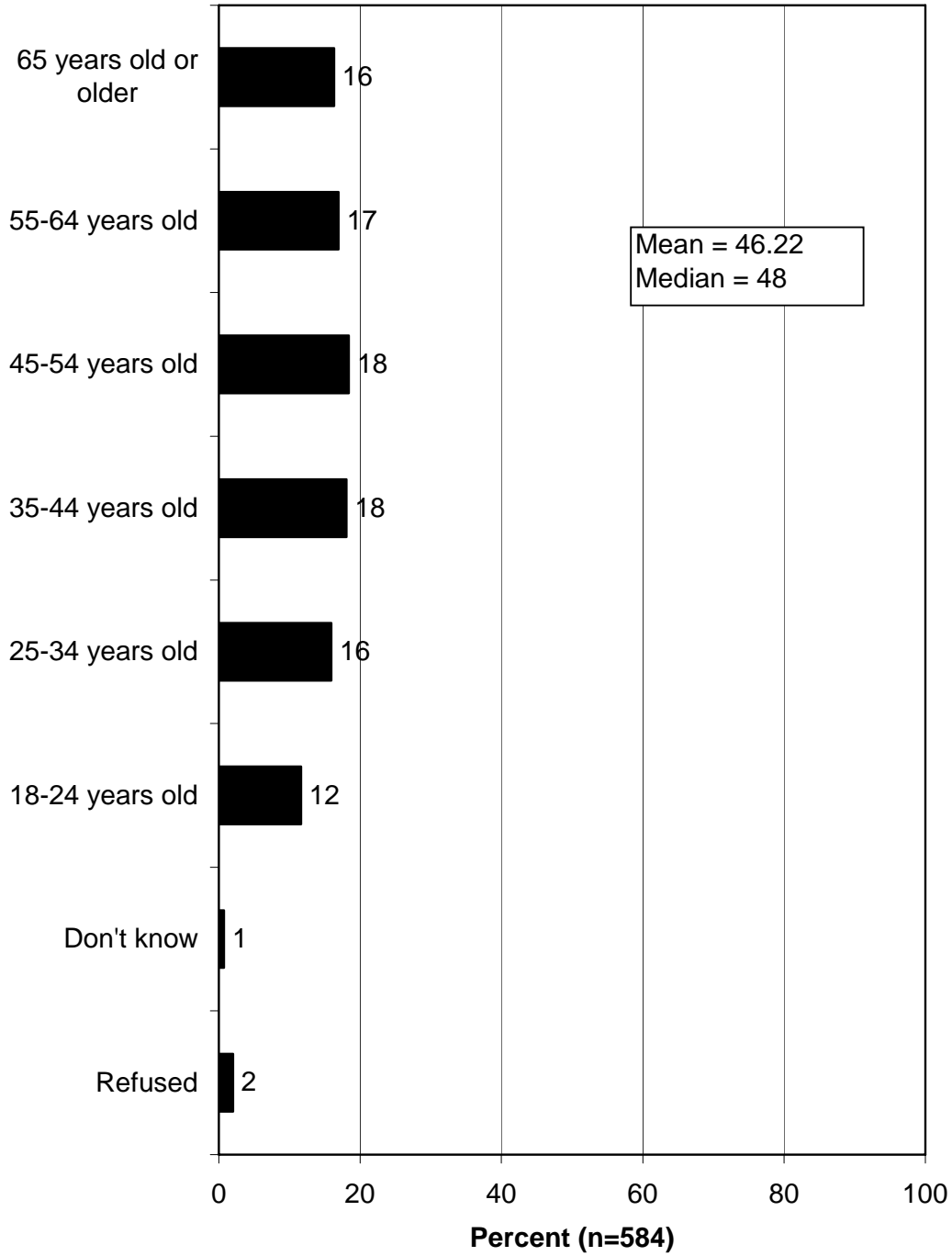


**Q72. May I ask your age? (Hunters statewide.)**

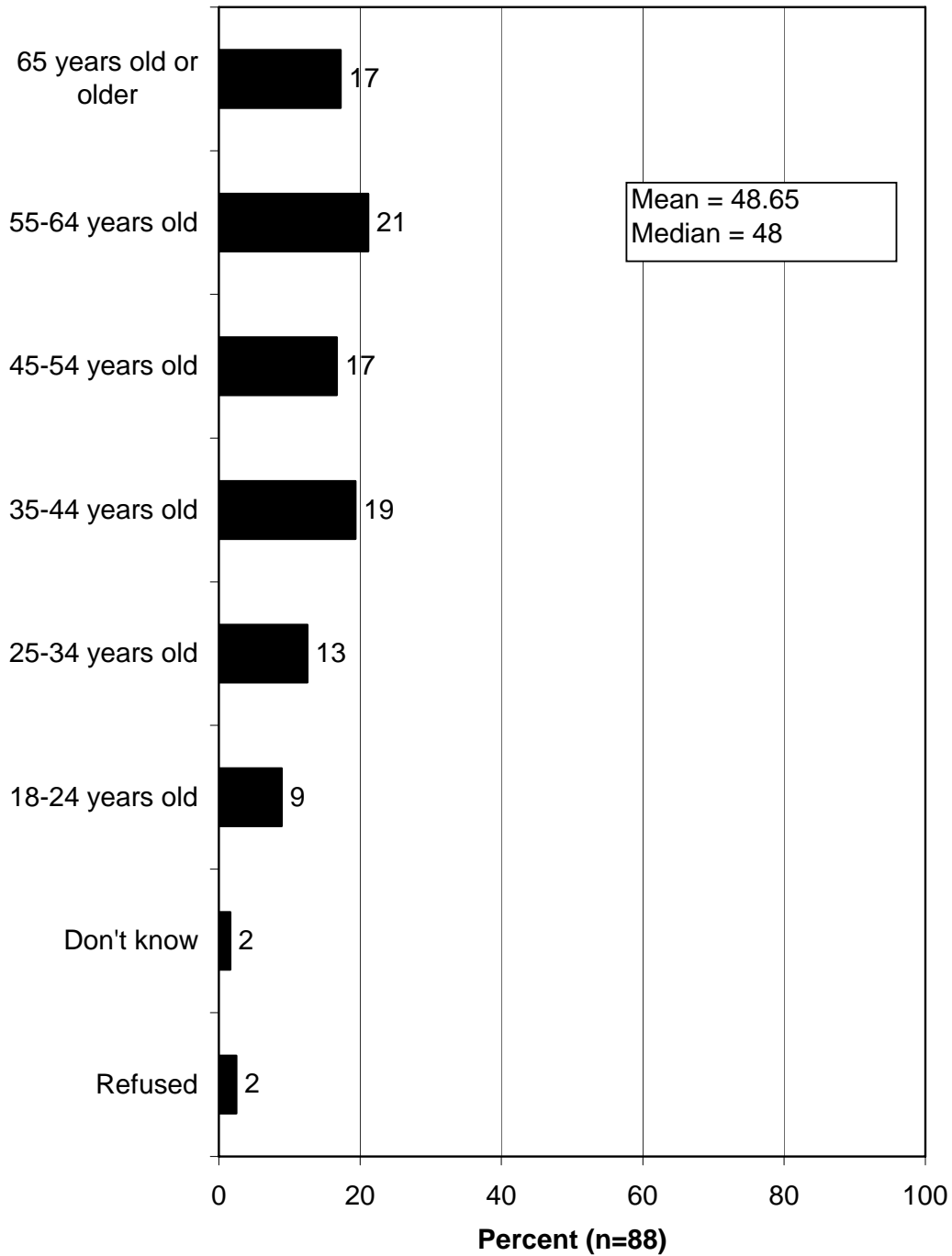


**Q72. May I ask your age? (Hunt area hunters.)**

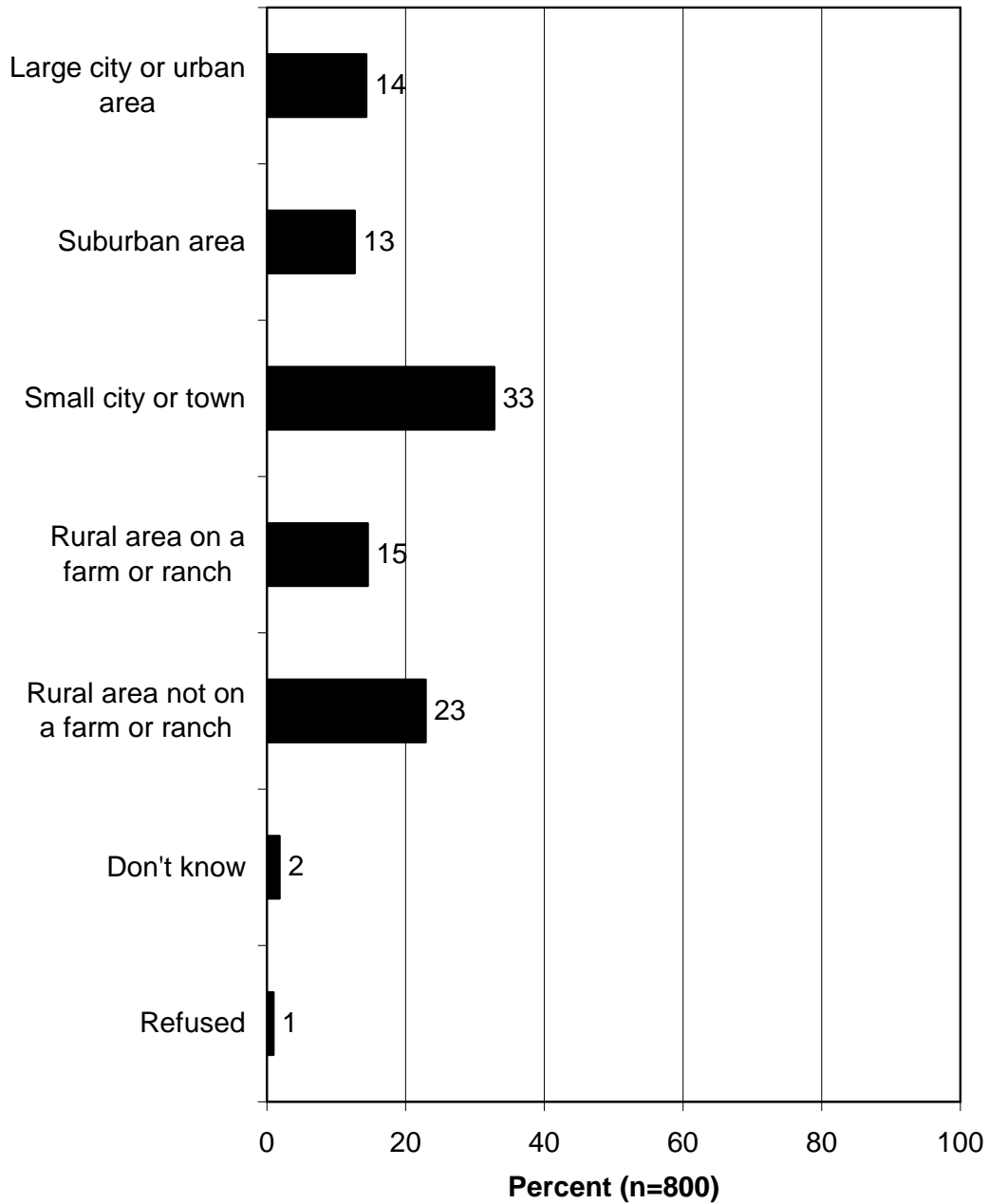
**Q72. May I ask your age? (Wildlife watchers statewide.)**



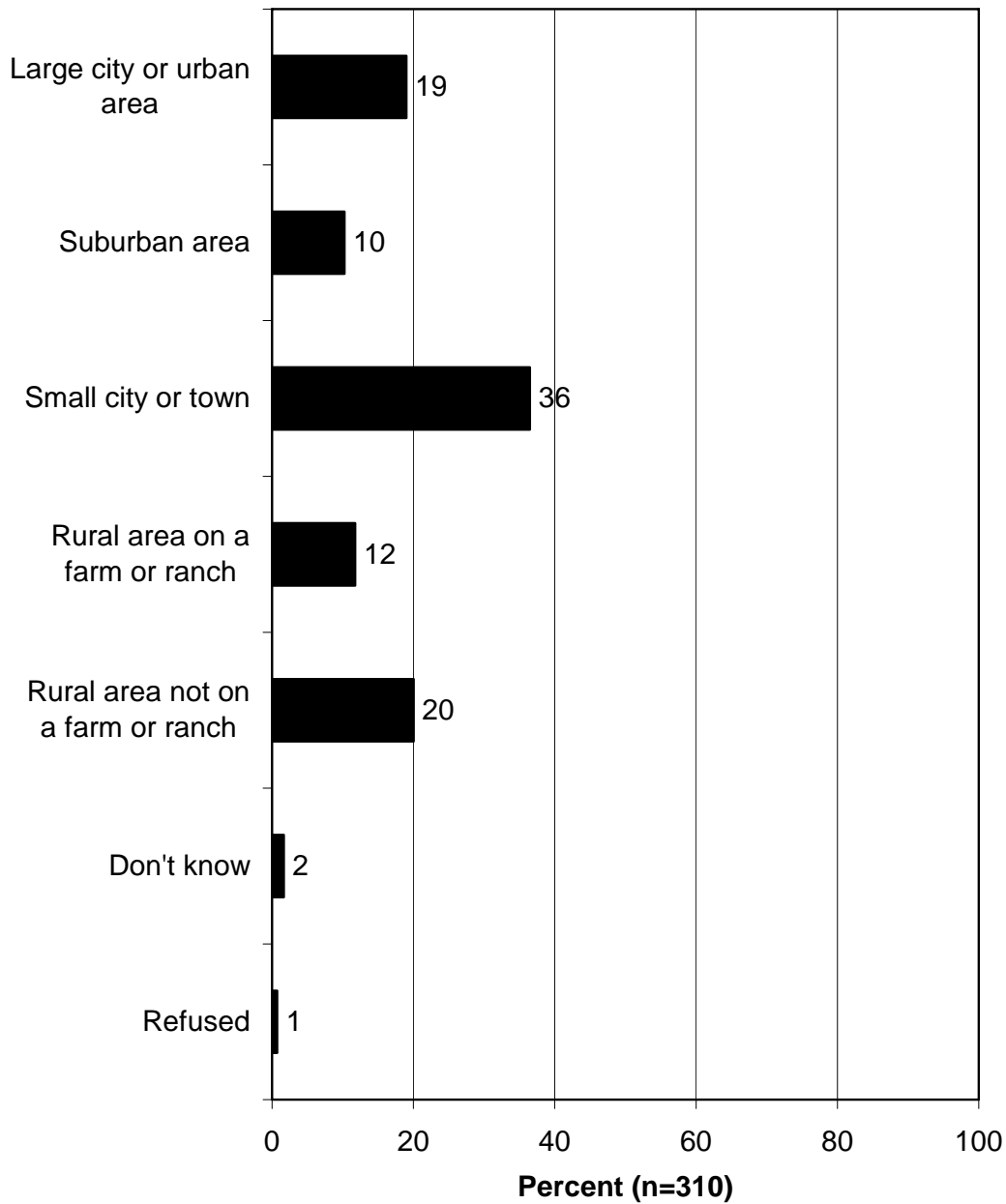
**Q72. May I ask your age? (Hunt area wildlife watchers.)**



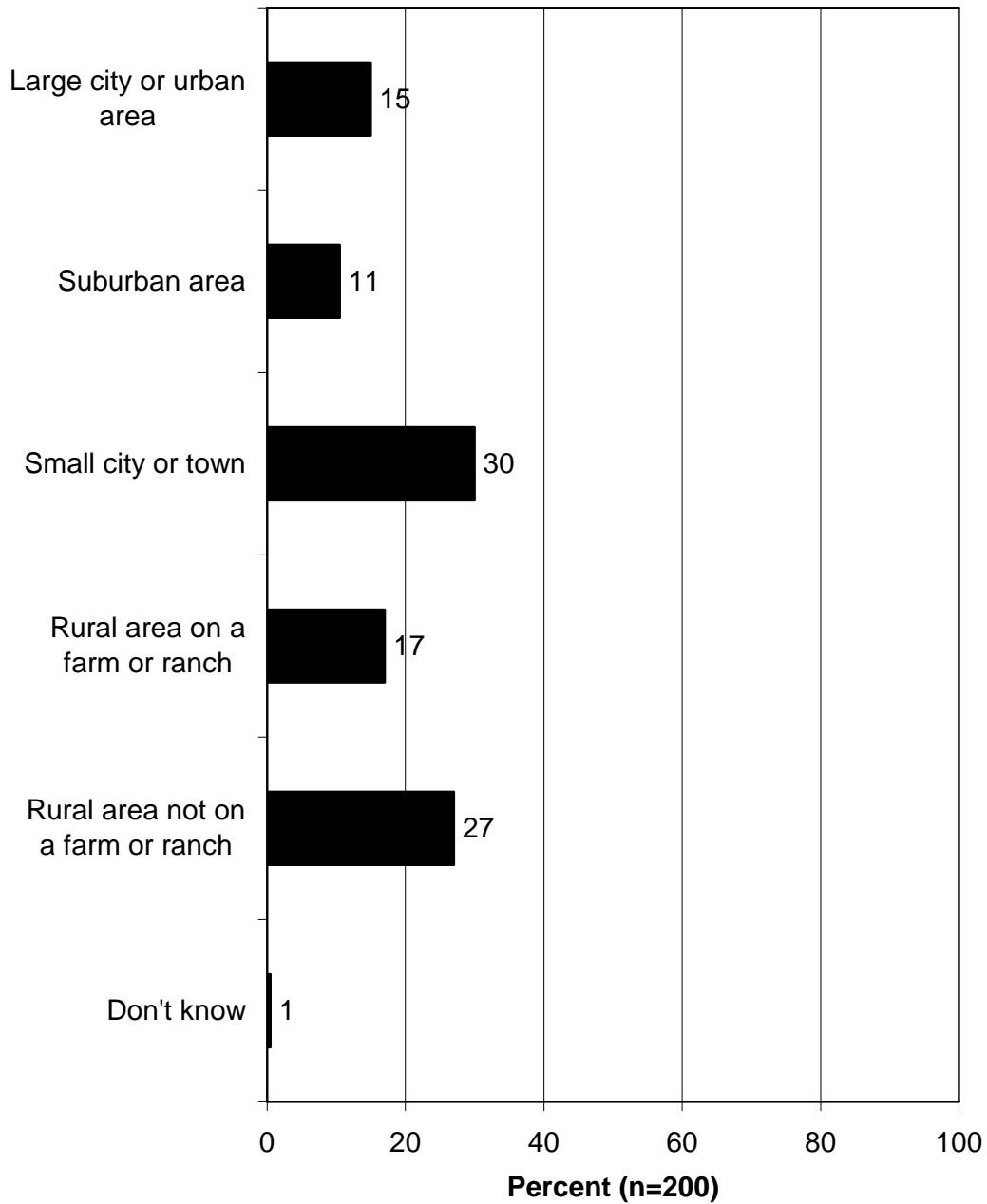
**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (General population.)**



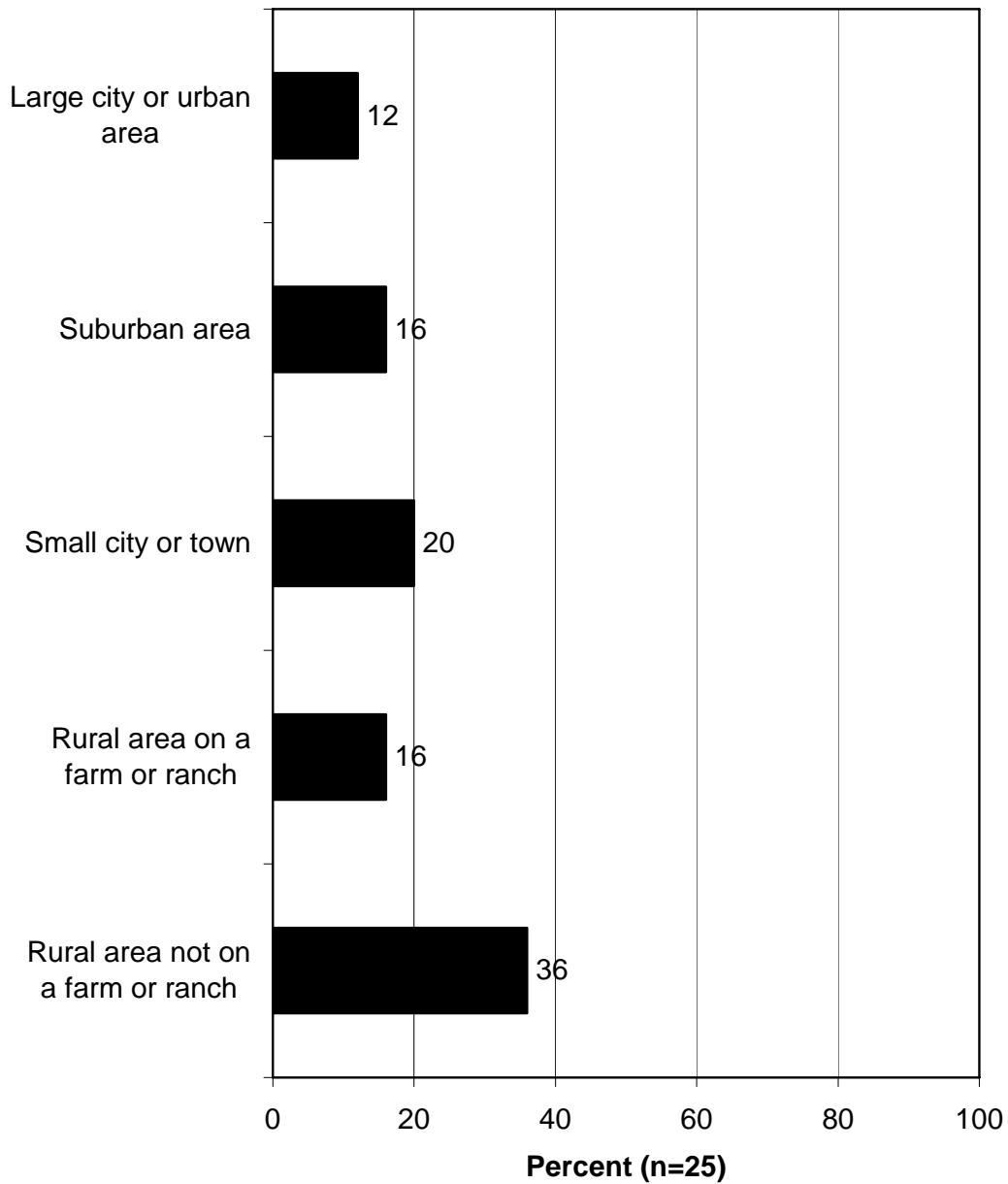
**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (Hunt area residents.)**



**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (Hunters statewide.)**

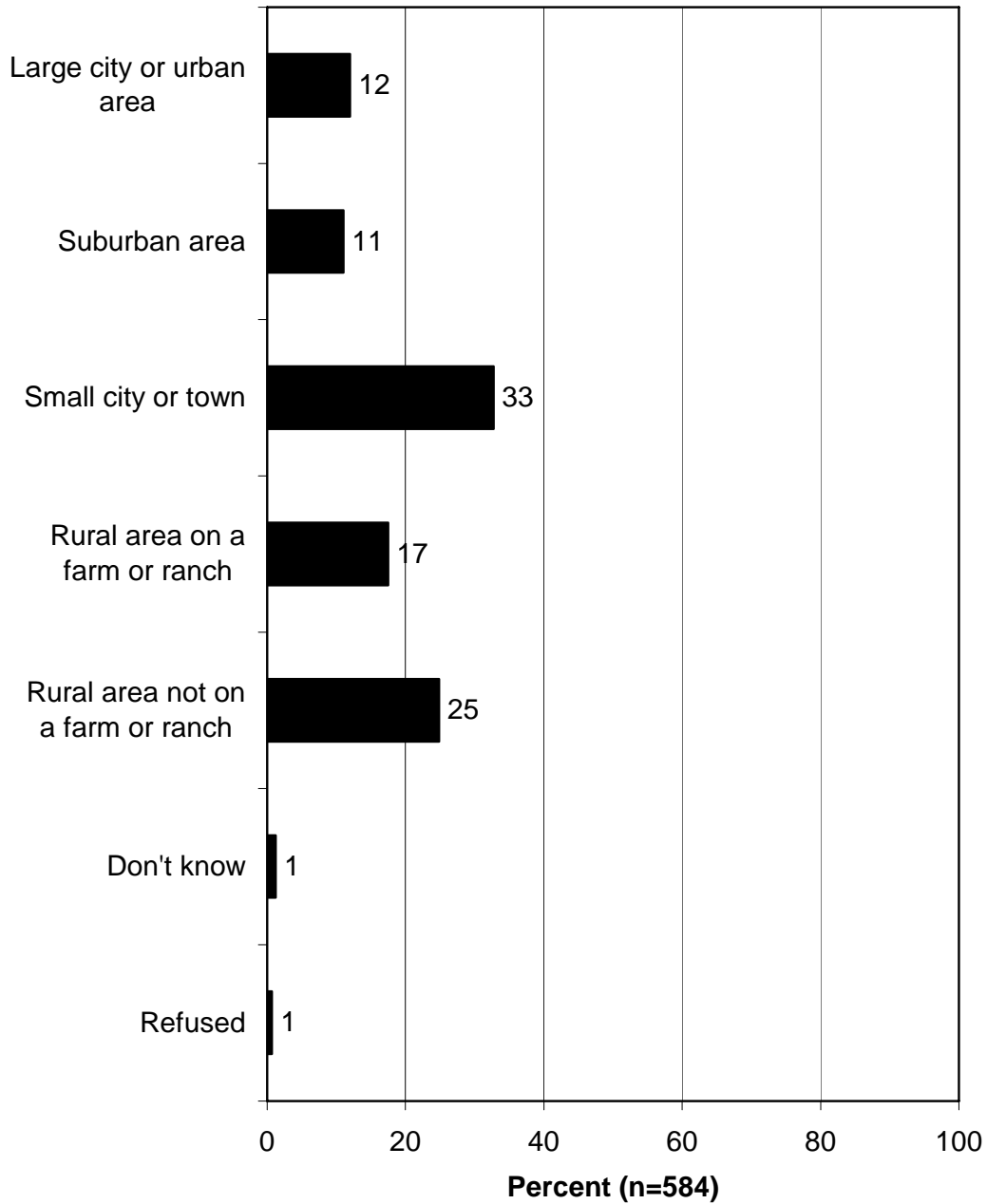


**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (Hunt area hunters.)**

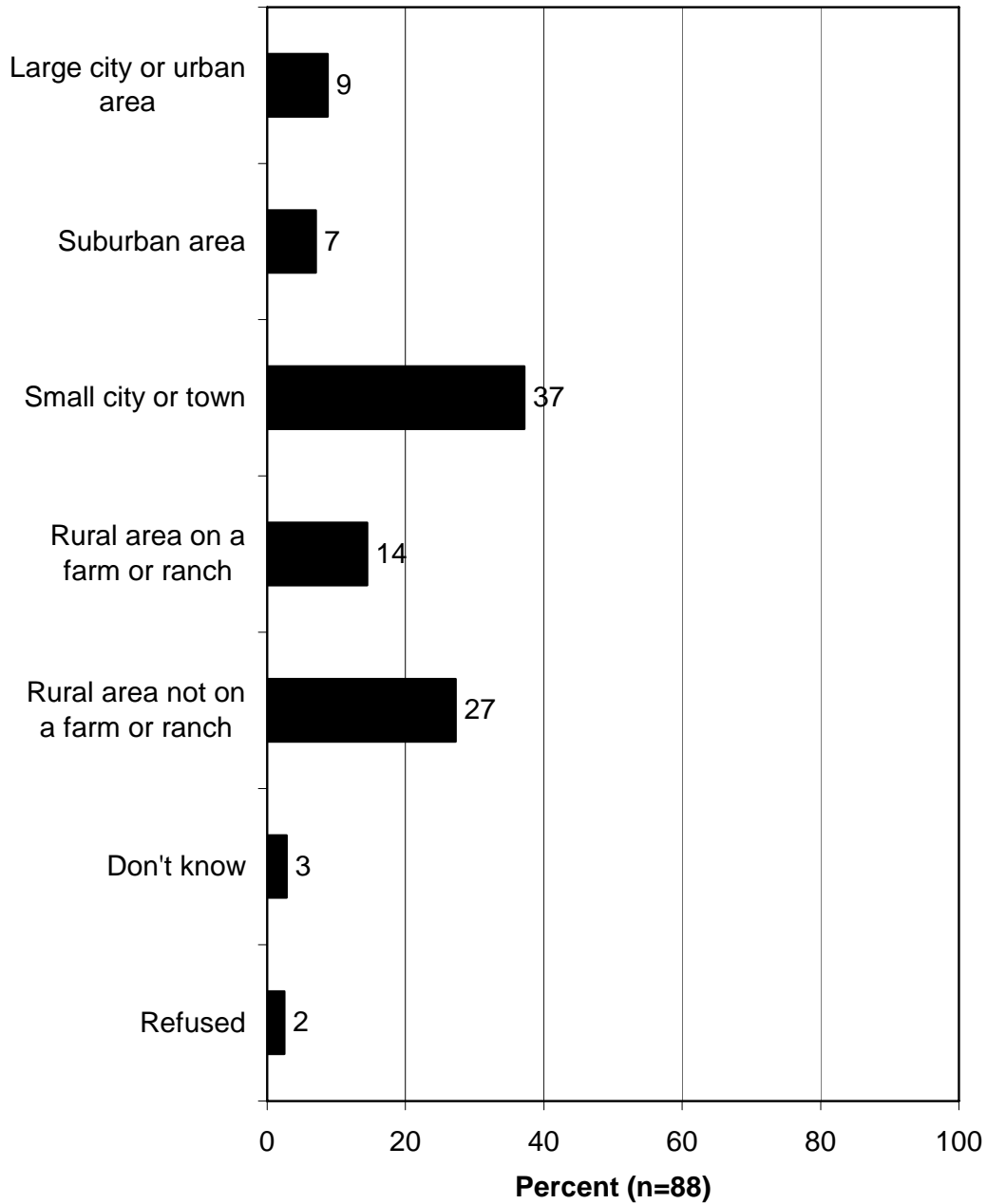




**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (Wildlife watchers statewide.)**



**Q71. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch? (Hunt area wildlife watchers.)**



## **ABOUT RESPONSIVE MANAGEMENT**

Responsive Management is an internationally recognized public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies and organizations better understand and work with their constituents, customers, and the public.

Utilizing our in-house, full-service telephone, mail, and web-based survey center with 50 professional interviewers, we have conducted more than 1,000 telephone surveys, mail surveys, personal interviews, and focus groups, as well as numerous marketing and communication plans, needs assessments, and program evaluations.

Clients include the federal natural resource and land management agencies, most state fish and wildlife agencies, state departments of natural resources, environmental protection agencies, state park agencies, tourism boards, most of the major conservation and sportsmen's organizations, and numerous private businesses. Responsive Management also collects attitude and opinion data for many of the nation's top universities.

Specializing in research on public attitudes toward natural resource and outdoor recreation issues, Responsive Management has completed a wide range of projects during the past 22 years, including dozens of studies of hunters, anglers, wildlife viewers, boaters, park visitors, historic site visitors, hikers, birdwatchers, campers, and rock climbers. Responsive Management has conducted studies on endangered species; waterfowl and wetlands; and the reintroduction of large predators such as wolves, grizzly bears, and the Florida panther.

Responsive Management has assisted with research on numerous natural resource ballot initiatives and referenda and has helped agencies and organizations find alternative funding and increase their membership and donations. Additionally, Responsive Management has conducted major organizational and programmatic needs assessments to assist natural resource agencies and organizations in developing more effective programs based on a solid foundation of fact.

Responsive Management has conducted research on public attitudes toward natural resources and outdoor recreation in almost every state in the United States, as well as in Canada, Australia, the United Kingdom, France, Germany, and Japan. Responsive Management has also conducted focus groups and personal interviews with residents of the African countries of Algeria, Cameroon, Mauritius, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe.

Responsive Management routinely conducts surveys in Spanish and has conducted surveys in Chinese, Korean, Japanese and Vietnamese and has completed numerous studies with specific target audiences, including Hispanics, African-Americans, Asians, women, children, senior citizens, urban, suburban and rural residents, large landowners, and farmers.

Responsive Management's research has been upheld in U.S. District Courts; used in peer-reviewed journals; and presented at major natural resource, fish and wildlife, and outdoor recreation conferences across the world. Company research has been featured in most of the nation's major media, including CNN, *The New York Times*, *The Wall Street Journal*, and on the front pages of *USA Today* and *The Washington Post*. Responsive Management's research has also been highlighted in *Newsweek* magazine.

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