Washington Residents' Attitudes Toward Wolves and Wolf Management

2008-2019

Photo credit: Spokane Tribal Wildlife Program / Savanah Walker

Conducted for the Washington Department of Fish and Wildlife

by Responsive Management

2019

RESPONSIVE MANAGEMENT

WASHINGTON RESIDENTS' ATTITUDES TOWARD WOLVES AND WOLF MANAGEMENT

2008–2019

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EXECUTIVE SUMMARY

INTRODUCTION AND METHODOLOGY

This study was conducted for the Washington Department of Fish and Wildlife (the Department) to determine residents' opinions on and attitudes toward wolf recovery and wolf management in the state. The study entailed a scientific telephone survey of Washington residents age 18 or older.

The telephone survey questionnaire was developed cooperatively by Responsive Management and the Department, based in part on previous surveys. The sample of Washington residents was obtained from Marketing Systems Group. This scientific sample is a probability-based sample using RDD (Random Digit Dialing) to ensure that all residents have an equal chance of being selected for participation. Landlines and wireless phones are included in their proper proportions so that the sample as a whole is representative of all residents across the state.

This scientific survey was conducted in June 2019. Responsive Management obtained a total of 819 completed interviews (400 east of the Cascade crest, 212 west of the Cascade crest except Seattle, and 207 in the Seattle Metropolitan Area). The sample was stratified regionally to ensure that enough respondents would be in each region for statistically valid results.

The analysis of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. The results are weighted by age, gender, race or ethnicity, and education within each region so that the sample is representative of residents in that region as a whole. Also, the regions are weighted statewide to ensure that each region is properly represented in its proportion of the state's total population of residents 18 and older.

WOLF MANAGEMENT IN WASHINGTON

- Washington residents were asked, in an open-ended question, to describe their feelings about wolves in general. Comments were across the spectrum. Many respondents stated that wolves are beautiful animals, necessary to the ecosystem, and deserve to live in the wild without human interference. At the opposite end, many residents fear wolves, and several comments were made that wolves should not have been reintroduced into Washington. More centrist

comments indicated that wolves belong in the wild but should be controlled, as they do not have natural predators and can be harmful to people, other wildlife populations, and livestock.

- Residents were asked to rate the Department's management of wolves in Washington, and the most common response (44%) is that they do not know what rating to give. Otherwise, there are more rating the management as *excellent* or *good* (35%) (the upper half of the scale) than *fair* or *poor* (20%) (the lower half of the scale).
  - Western residents responded with *don't know* markedly more often than those in the east ($p \leq 0.05$).
    - Reasons for not giving a higher rating (among those who did not give a rating of *excellent*) include the feeling among residents that there are too many wolves, that they disagree with having wolves reintroduced into Washington, that there are not enough wolves, that the Department does not communicate effectively about wolves, that wolves cause problems (particularly for farmers and ranchers), and that the respondent does not know enough about the Department's work to give an excellent rating. (The question was open-ended.)

- About two-thirds of residents (66%) support having the Department provide cost-share funding to landowners to address wolf damage to livestock, compared to 20% who oppose.
  - *Strong* support is higher in the east than in the west ($p \leq 0.05$).
  - A follow-up question asked those who support a cost-share measure whether they would support or oppose it as the *primary* strategy to address wolf damage to livestock. For this question, there is some erosion of support: 57% of them still support, but for the remainder their support either turns to opposition (27%) or a neutral answer.

ATTITUDES AND CONCERNS REGARDING WOLF RECOVERY

Prior to questions about wolf recovery, respondents were read the following statement:

> *Wolves are returning naturally to Washington from populations in nearby states and provinces. They are currently protected by Washington's endangered species laws and regulations.*
>
> *Wolves in the state are managed under the Washington Wolf Conservation and Management Plan. The plan was developed with citizen involvement and adopted by the Fish and Wildlife Commission, which is a citizen board.*
>
> *(IF THE RESPONDENT ASKED FOR MORE INFORMATION: The plan identifies population and recovery objectives for breeding pairs of wolves. The objectives were reviewed by citizens and biologists and were anonymously reviewed by scientists.)*

- A majority of residents (58%) support wolf recovery even if it resulted in localized declines in deer, elk, and moose populations, while 26% oppose.
  - Support is higher in the west than in the east ($p \leq 0.05$).

- Residents were asked if they would support or oppose, once the wolf population in the state is healthy and biologically sustainable, removing wolves from the state endangered species list. Support for this (85%) far exceeds opposition (10%).

- While a strong majority of residents say that they are concerned about the impact a fully recovered wolf population might have on deer, elk, and moose populations (80% are concerned), most of that concern consists of those saying that they are *somewhat* concerned or *a little* concerned. Only 20% are *extremely* or *very* concerned. At the other end, 18% are *not at all* concerned.
  - Eastern residents are much more likely to be *extremely* or *very* concerned than those in the west ($p \leq 0.05$).

- A similar question to the one above asked about concern regarding the impact wolves might have on livestock. Results are similar: 80% are concerned, including 26% who are *extremely* or *very* concerned, whereas 18% are *not at all* concerned.
  - Again, the higher degrees of concern are greater in the east than in the west ($p \leq 0.05$).

SUPPORT FOR AND OPPOSITION TO LETHAL WOLF MANAGEMENT

- There is more support for (54%) than opposition to (33%) some level of lethal wolf control to address declines in deer, elk, and moose populations in Washington.
  - *Strong* support is much higher in the east than in the west, although *moderate* support is higher in the west ($p \leq 0.05$ for both).

- Given the scenario where wolves are fully recovered, have reached population objectives, and have been removed from the state's endangered species list, a majority of residents (58%) would support the establishment of a legal, regulated wolf hunting season; nonetheless, 34% would oppose.
  - *Strong* support is higher in the east than the west ($p \leq 0.05$).
  - In follow-up, those who oppose a hunting season for wolves were asked if they oppose hunting altogether or the hunting of wolves specifically. Results were split: 46% oppose hunting in general and 45% oppose hunting wolves specifically.

- Next, a series of four questions asked about support for or opposition to a wolf hunting season in different scenarios. Each scenario and the percentage in support are shown below, in descending order of *strong* support:
  - To address livestock attacks or depredation (64% support; 38% *strongly* support)
  - To maintain population objectives (69% support; 33% *strongly* support)
  - To address impacts wolves have on other wildlife populations (60% support; 29% *strongly* support)
  - To provide recreational hunting opportunities (40% support; 19% *strongly* support)

DISTRIBUTION OF WOLVES IN WASHINGTON

Prior to the following questions about the distribution of wolves in the state, respondents were read the following statement:

> *Currently, over 80% of the wolves in the state are in eastern Washington and have exceeded recovery objectives.*
>
> *No packs have been documented in southwest Washington or the northwest coast area.*

- Slightly more residents support (49%) than oppose (41%) moving wolves from eastern Washington to western Washington to facilitate statewide distribution of the wolf population. (If asked, respondents were informed that distribution would not include urban or suburban areas where wolves would not be appropriate.)
  - Unsurprisingly, support for this idea is much higher in the east than in the west ($p \leq 0.05$).

- Support drops slightly for moving wolves to public land in western Washington, such as National Forests or National Parks: 44% support and 45% oppose.
  - Support is higher in the east than in the west ($p \leq 0.05$).

- Support is strong for moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas: 72% support, compared to 20% who oppose.

- Finally, residents were asked, as long as the wolf population in Washington is secure and growing, how important it is that the wolf population be distributed across the entire state (not including urban and suburban areas). A majority (63%) indicated some degree of importance, with 49% saying it is *very* or *somewhat* important. Nearly a third (31%) answered *not at all important*.
  - Eastern residents are more likely to say that this is *very* important than those in the west ($p \leq 0.05$).

TABLE OF CONTENTS

INTRODUCTION AND METHODOLOGY

This study was conducted for the Washington Department of Fish and Wildlife (the Department) to determine residents' opinions on and attitudes toward wolf recovery and wolf management in the state. The study entailed a scientific telephone survey of Washington residents age 18 or older. 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 Washington residents (both landlines and wireless phones were called). 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 better representation of the sample than mail surveys because the latter systematically exclude those who are not literate enough to complete the surveys or who would be intimidated by having to complete a written survey—by an estimate of the U.S. Department of Education's National Institute of Literacy (2016), up to 43% of the general population read no higher than a "basic level," suggesting that they would be reticent to complete a written survey. Finally, 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 Department, based in part on previous surveys and also based on the research team's familiarity with wildlife management and natural resources. Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey.

SURVEY SAMPLE

The sample of Washington residents was obtained from Marketing Systems Group, a company that specializes in providing scientifically valid samples for public opinion research. This scientific sample is a probability-based sample using RDD (Random Digit Dialing) to ensure that all residents have an equal chance of being selected for participation. Landlines and wireless phones are included in their proper proportions so that the sample as a whole is representative of all residents across the state.

The sample was stratified regionally to ensure that enough respondents would be in each region for statistically valid results. The regional samples were then compiled for the statewide results, properly weighted so that each region matches the proportion of the state's population contained within that region.

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 10:00 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 June 2019.

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, coded, and substituted phrases in the survey based on previous responses to ensure 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 819 completed interviews. The tabulation below shows the number of completed interviews obtained within each of three geographic regions.

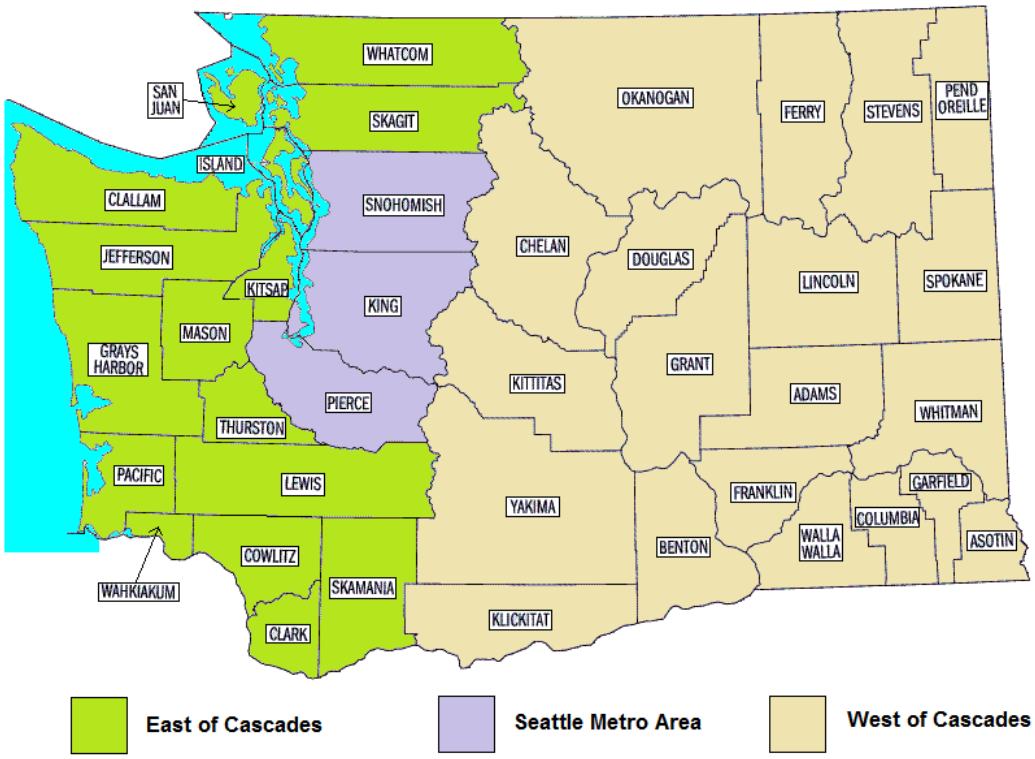
Region	Number of Completed Interviews
East of Cascade crest	400
West of Cascade crest except Seattle	212
Seattle Metropolitan Area	207
Total	**819**

DATA ANALYSIS

The analysis of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. The results are weighted by age, gender, race or ethnicity, and education within each region so that the sample is representative of residents in that region as a whole. Also, the regions are weighted statewide to ensure that each region is properly represented in its proportion of the state's total population of residents 18 and older.

The data analysis included crosstabulations by region. Along with statewide results, the report includes 2-bar graphs showing results within the East and West Regions, with the crest of the Cascade Mountains serving as the boundary between the two areas. In addition, the West Region was subdivided between the Seattle Metropolitan Area and the remaining areas outside Seattle. The report includes 3-bar graphs showing the results within those regions side-by-side for comparison. The map below shows the three regions, and the counties within each region are shown on the following page.

REGIONS FOR 2019 WASHINGTON WOLF STUDY



Counties Within Each Region

East of Cascade Crest		West of Cascade Crest
Adams County		Clallam County
Asotin County		Clark County
Benton County		Cowlitz County
Chelan County		Grays Harbor County
Columbia County		Island County
Douglas County		Jefferson County
Ferry County		Kitsap County
Franklin County		Lewis County
Garfield County		Mason County
Grant County		Pacific County
Kittitas County		San Juan County
Klickitat County		Skagit County
Lincoln County		Skamania County
Okanogan County		Thurston County
Pend Oreille County		Wahkiakum County
Spokane County		Whatcom County
Stevens County		**Seattle Metropolitan Area**
Walla Walla County		King County
Whitman County		Pierce County
Yakima County		Snohomish County

SAMPLING ERROR

Throughout this report, findings of the telephone survey are reported at a 95% confidence interval. For the entire sample of Washington residents 18 years old and older, the sampling error is at most plus or minus 3.42 percentage points. This means that if the survey were conducted 100 times on different samples that were selected in the same way, the findings of 95 out of the 100 surveys would fall within plus or minus 3.42 percentage points of each other. Sampling error was calculated using the formula described on the following page, with a sample size of 819 and a population size of 5,554,591 residents 18 years old or older.

Sampling Error Equation

$$B = \left(\sqrt{\frac{\frac{N_P(.25)}{N_S} - .25}{N_P - 1}} \right) (1.96)$$

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).

The sampling error for the east and west regions are shown below.

Region	Sample	Population	Sampling Error (%)
East of Cascade crest	400	1,172,444	4.90
West of Cascade crest	419	4,382,147	4.79
Total	**819**	**5,554,591**	**3.42**

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:

- Open-ended questions are those in which no answer set is read to the respondents; rather, they can respond with anything that comes to mind from the question.
- Closed-ended questions have an answer set from which to choose.
- 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 excellent-good-fair-poor.
- Series questions: Some 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).

Throughout the report, survey results are presented in the following ways:

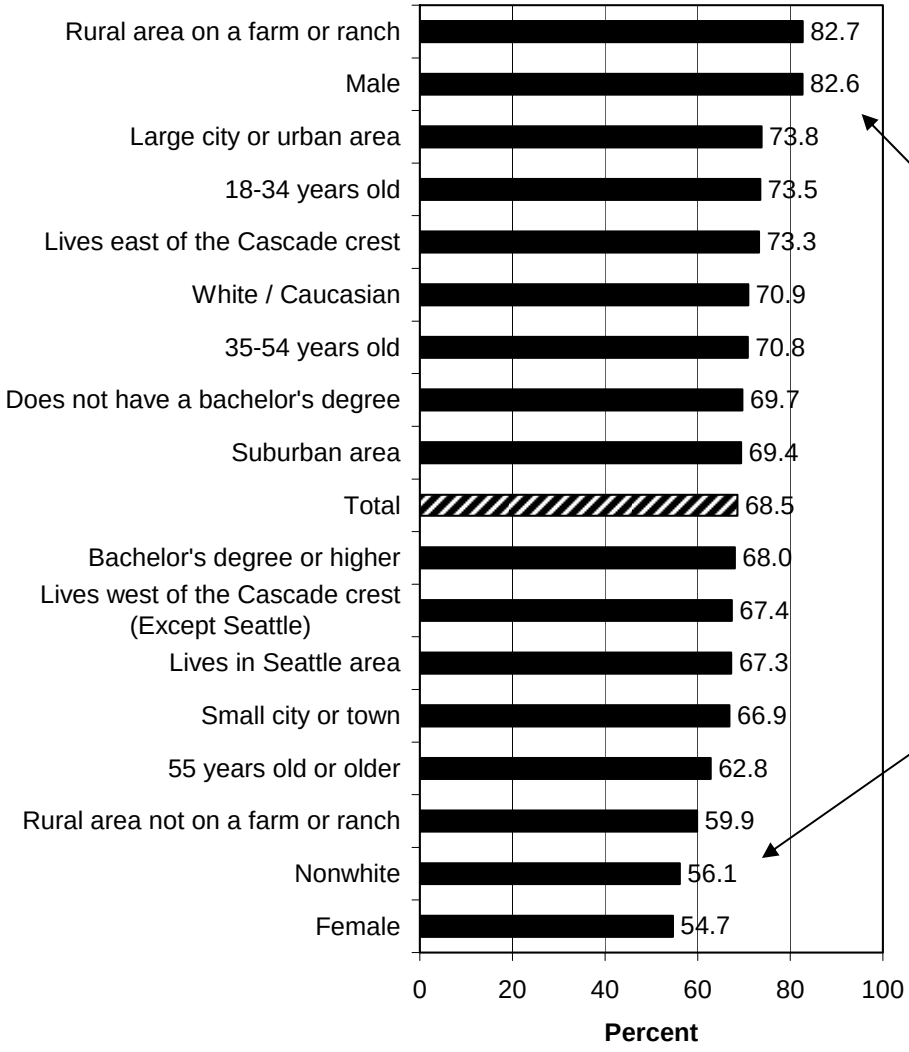
- Statewide: A graph of overall results are presented for each question. As indicated earlier, results are weighted to ensure that they represent adult Washington residents as a whole.
- Demographic correlation graphs: These graphs are presented for most questions to show the results of different demographic or regional populations in comparison to overall results. These are discussed further on the following page.
- Regional crosstabulations (2-bar): Results from the eastern and western regions are shown. (Note that wolves are mostly located in eastern Washington.)
- Regional crosstabulations (3-bar): Like the previous graph, but with the Seattle Metropolitan Area shown separately from the other western areas.
- Deer / elk and moose crosstabulations (2-bar): For four questions, respondents were randomly split, with half getting questions referring to deer populations and the other half getting questions referring to elk and moose populations (otherwise the questions are identical).
- Trends: Statewide results are shown side-by-side with results from Washington surveys in 2008 and 2014 that featured the same questions.

Differences that are noted between the east and west regions in the report are followed by "($p \leq 0.05$)," indicating that the differences are statistically significant at a 95% confidence level.

DEMOGRAPHIC CORRELATION GRAPHS AND HOW TO INTERPRET THEM

Special graphs that show many demographic variables as they relate to a single question are included in this report. As shown in the example below, the graph shows the overall results of the percentage who support a legal, regulated hunting season for wolves to maintain population objectives. All groups above the striped bar have a higher percentage in support of a hunting season for wolves, and all groups below the striped bar have a lower percentage in support.

Percent of each of the following groups who support a legal, regulated hunting season for wolves to maintain population objectives:



This graph looks at support for a wolf hunting season to maintain population objectives. The striped bar shows that 68.5% of residents are in support.

Males are more likely than the general population overall to support a season, with 82.6% who do so.

Conversely, those groups below the striped bar are less likely to support a hunting season for wolves.

For instance, nonwhite residents (56.1%) are less likely to support this than are residents overall.

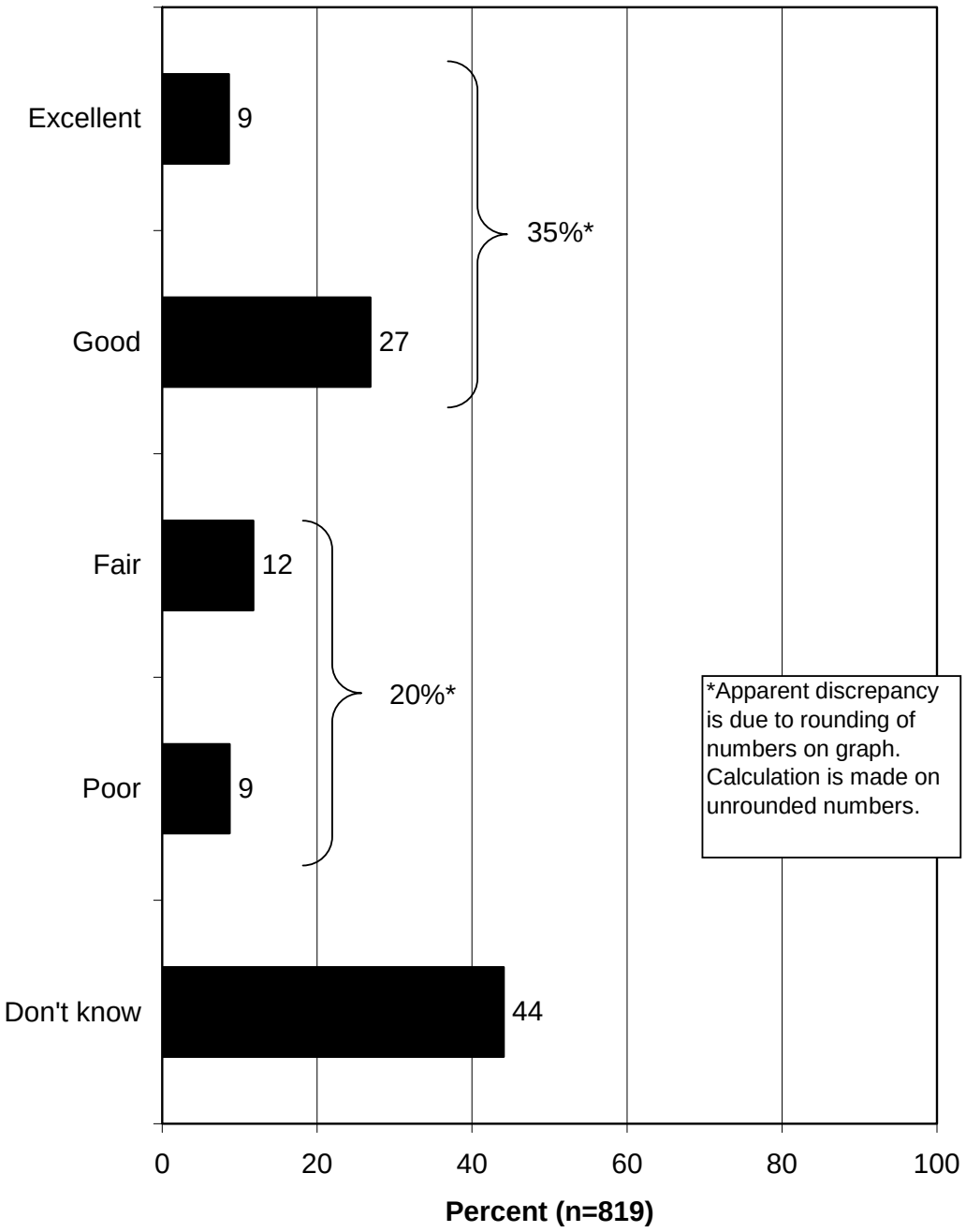
WOLF MANAGEMENT IN WASHINGTON

- Washington residents were asked, in an open-ended question, to describe their feelings about wolves in general. Comments were across the spectrum. Many respondents stated that wolves are beautiful animals, necessary to the ecosystem, and deserve to live in the wild without human interference. At the opposite end, many residents fear wolves, and several comments were made that wolves should not have been reintroduced into Washington. More centrist comments indicated that wolves belong in the wild but should be controlled, as they do not have natural predators and can be harmful to people, other wildlife populations, and livestock. (No graphs are shown for the open-ended comments.)

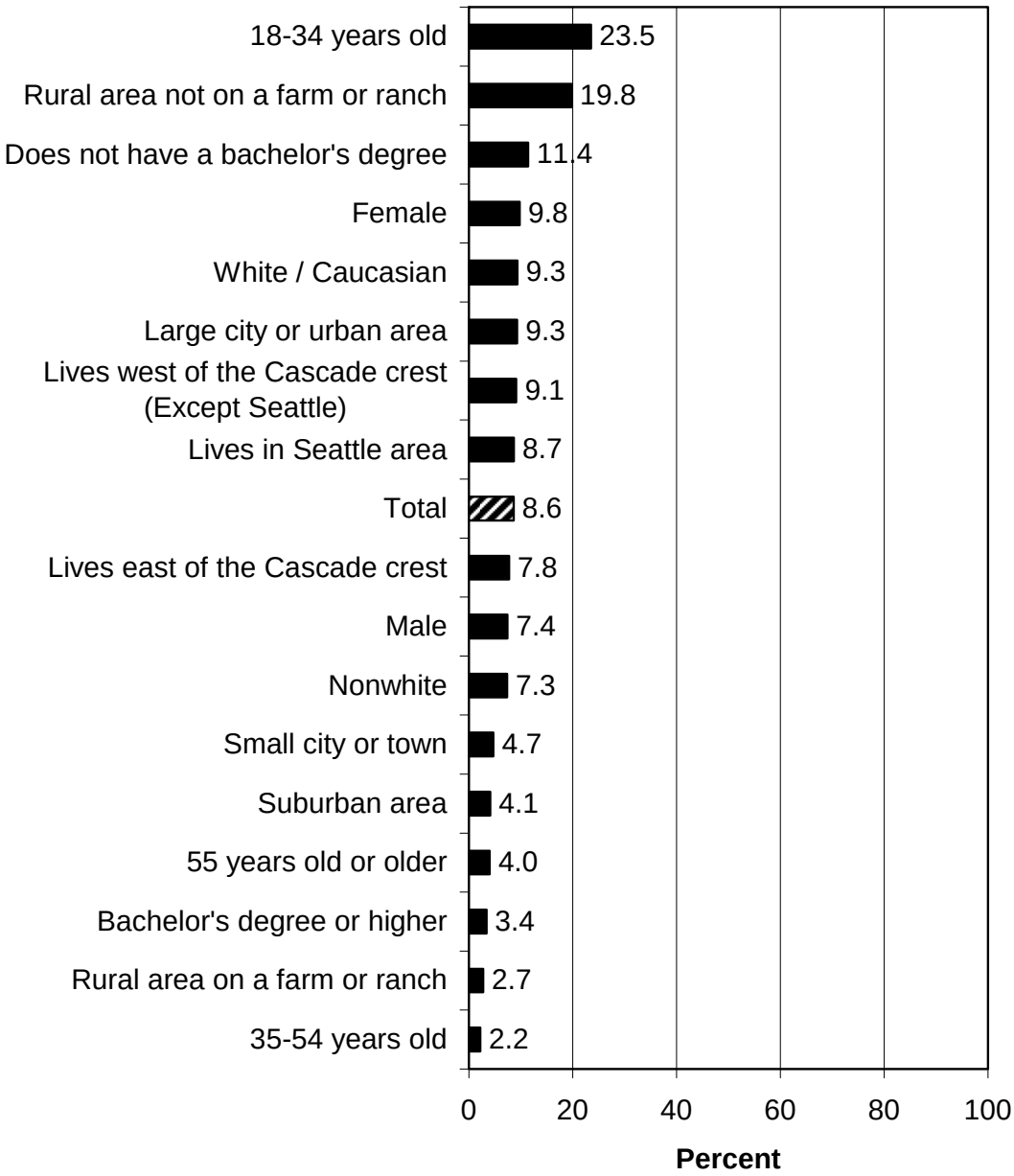
- Residents were asked to rate the Department's management of wolves in Washington, and the most common response (44%) is that they do not know what rating to give. Otherwise, there are more rating the management as *excellent* or *good* (35%) (the upper half of the scale) than *fair* or *poor* (20%) (the lower half of the scale).
  - Western residents responded with *don't know* markedly more often than those in the east ($p \leq 0.05$).
    - Reasons for not giving a higher rating (among those who did not give a rating of *excellent*) include the feeling among residents that there are too many wolves, that they disagree with having wolves reintroduced into Washington, that there are not enough wolves, that the Department does not communicate effectively about wolves, that wolves cause problems (particularly for farmers and ranchers), and that the respondent does not know enough about the Department's work to give an excellent rating. (The question was open-ended; no graphs are shown.)

- About two-thirds of residents (66%) support having the Department provide cost-share funding to landowners to address wolf damage to livestock, compared to 20% who oppose.
  - *Strong* support is higher in the east than in the west ($p \leq 0.05$).
  - A follow-up question asked those who support a cost-share measure whether they would support or oppose it as the *primary* strategy to address wolf damage to livestock. For this question, there is some erosion of support: 57% of them still support, but for the remainder their support either turns to opposition (27%) or a neutral answer.

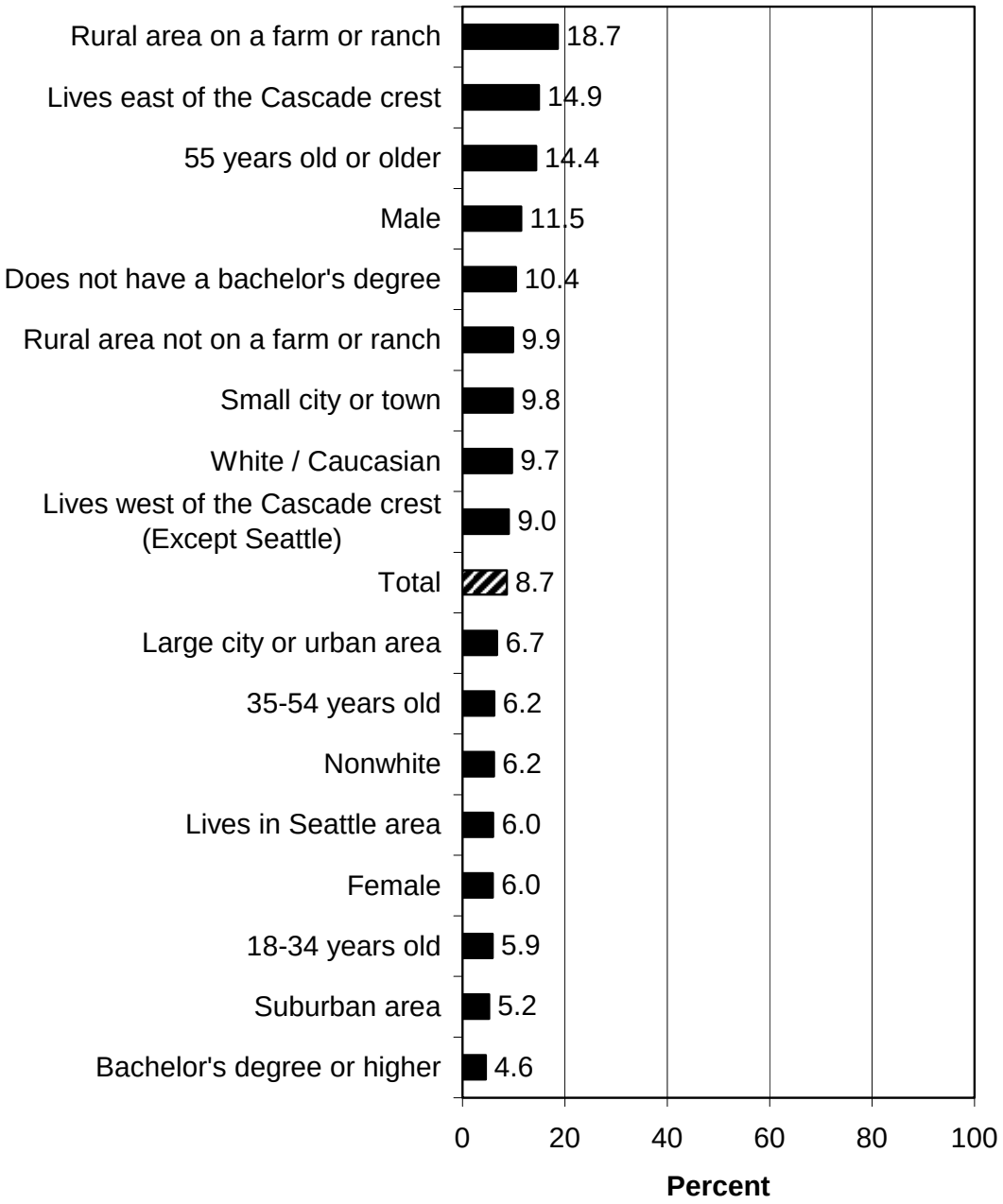
Q12. Overall, how would you rate the Washington Department of Fish and Wildlife's management of wolves?



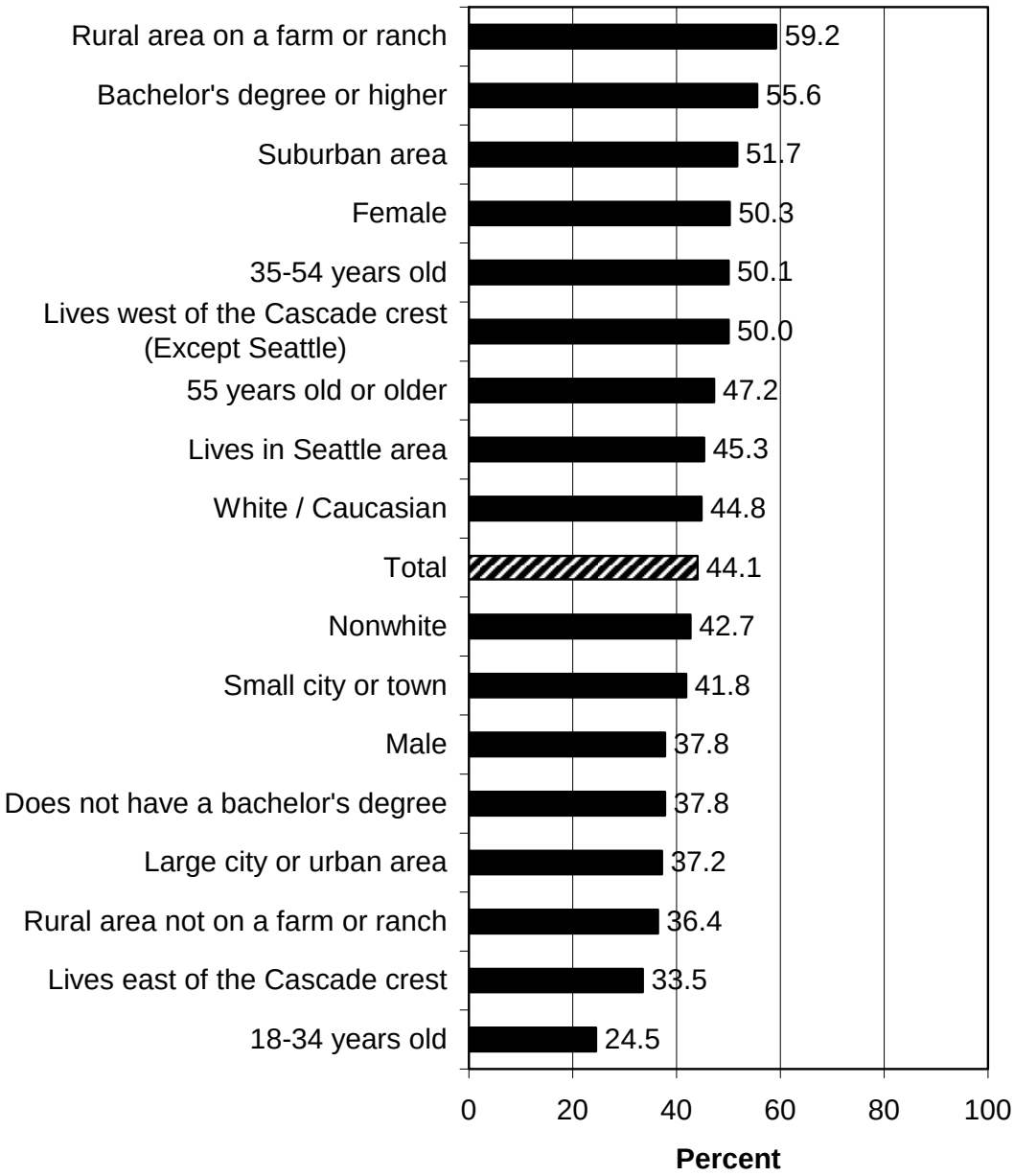
Percent of each of the following groups who rated the Department's management of wolves as excellent:



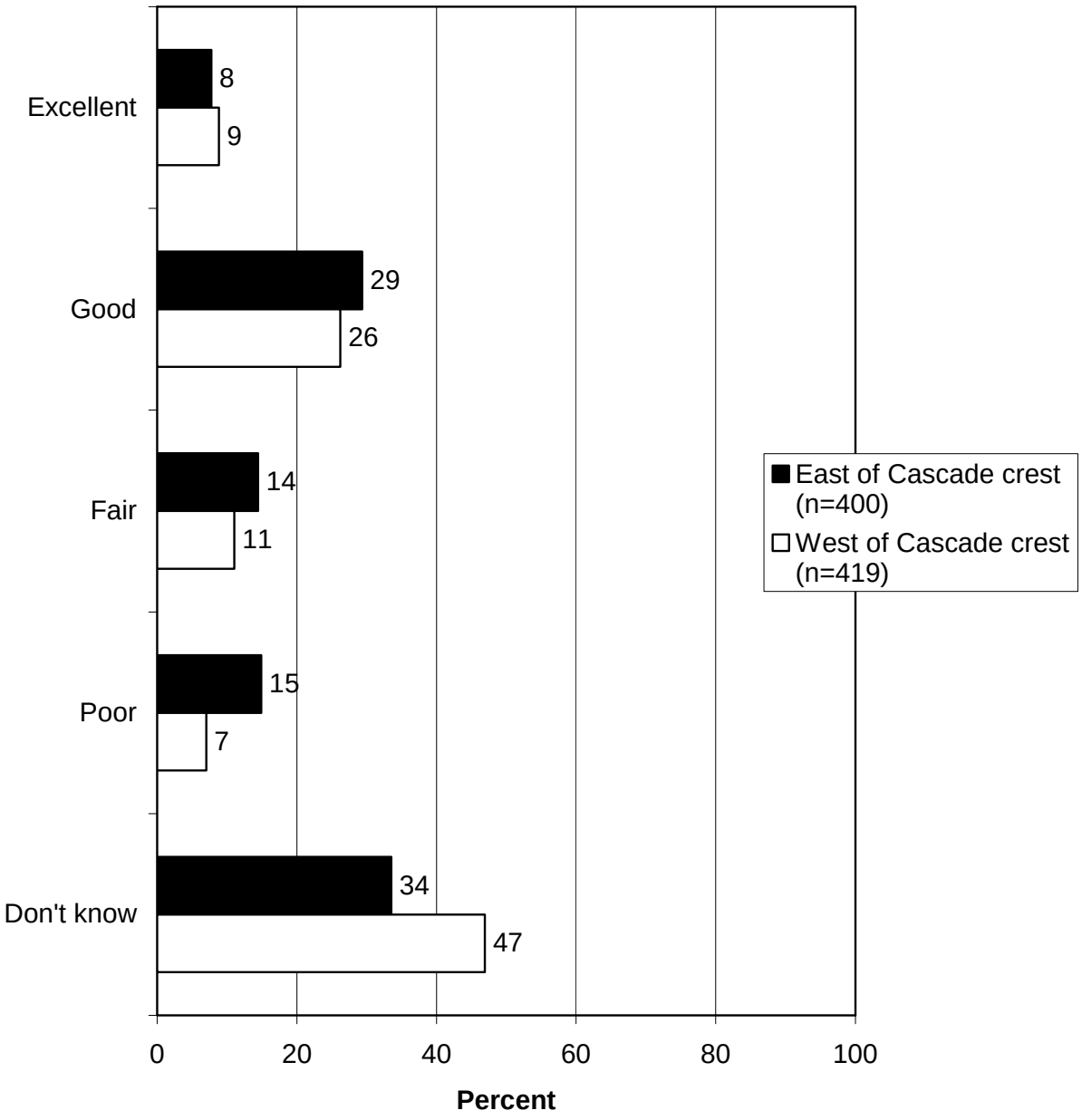
Percent of each of the following groups who rated the Department's management of wolves as poor:



Percent of each of the following groups who did not know enough to rate the Department's management of wolves:



Q12. Overall, how would you rate the Washington Department of Fish and Wildlife's management of wolves?



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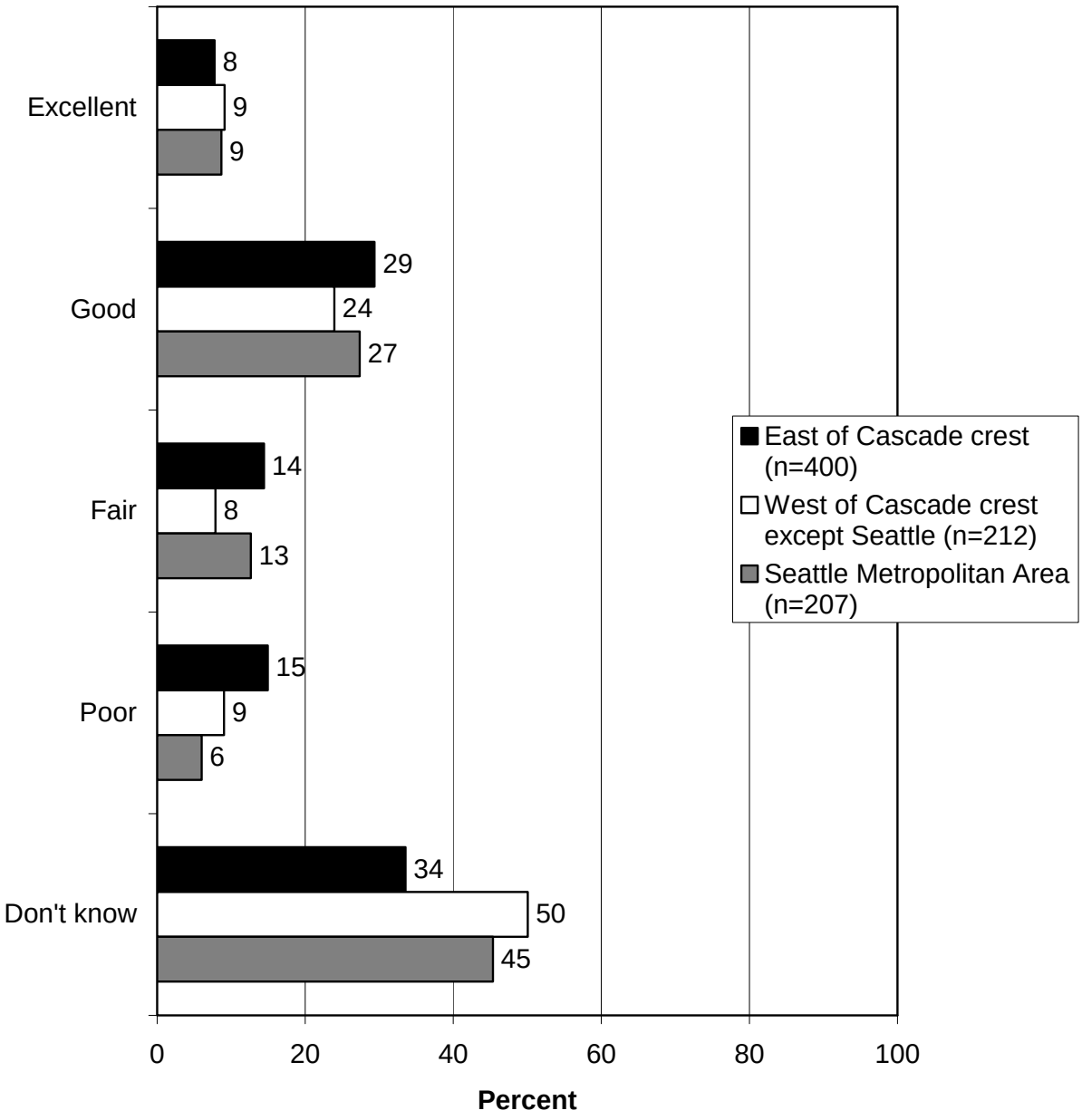

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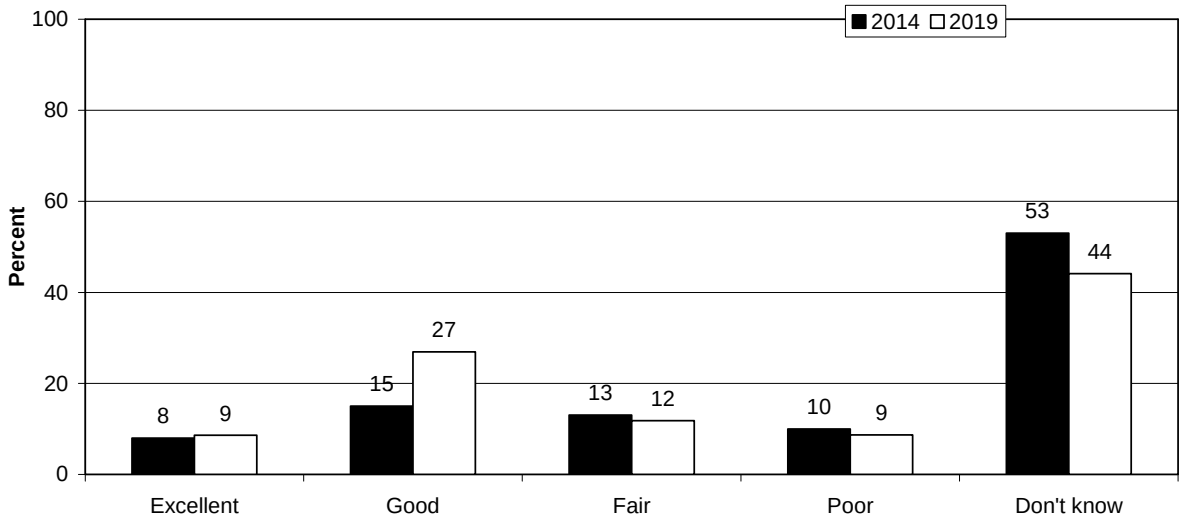
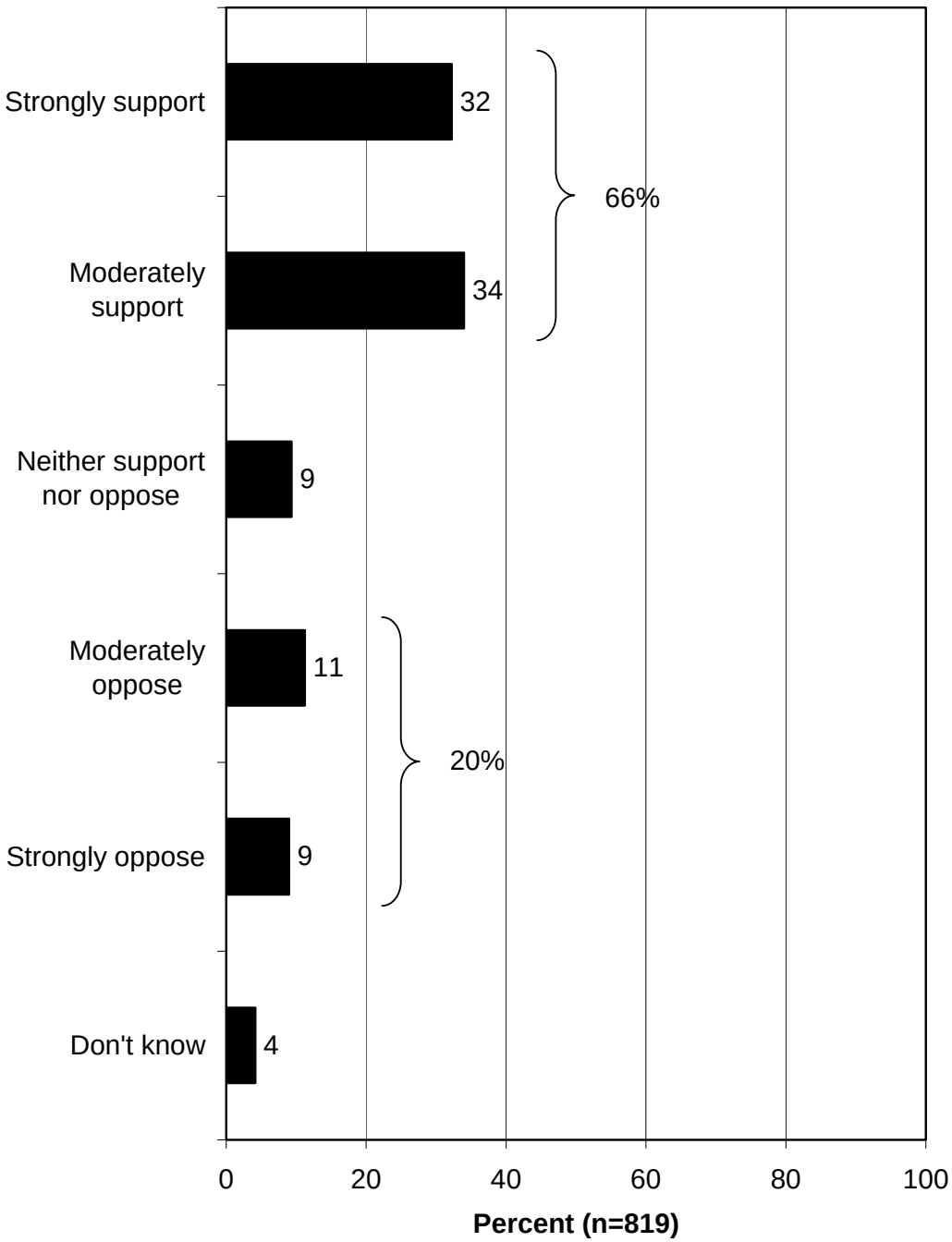
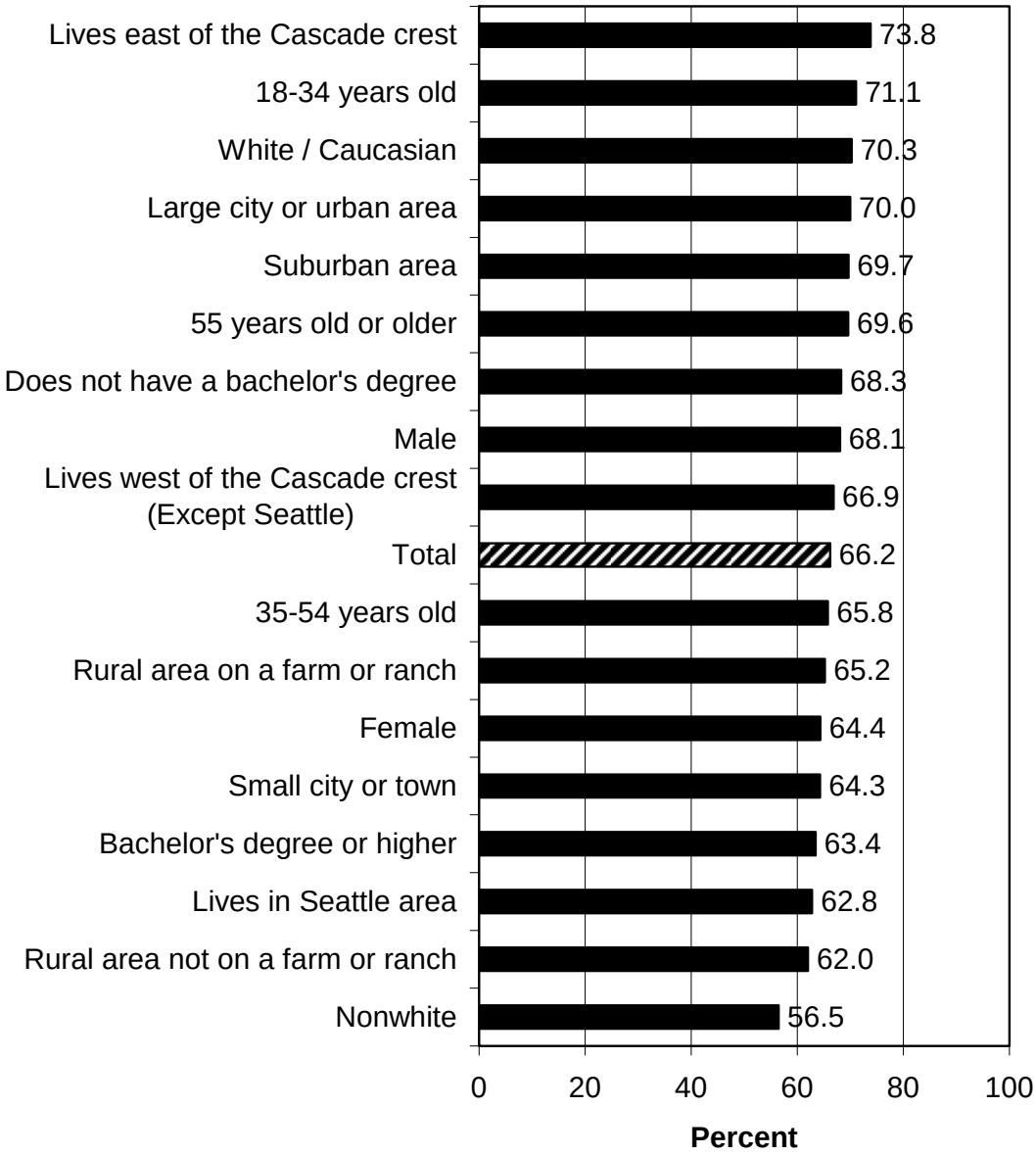


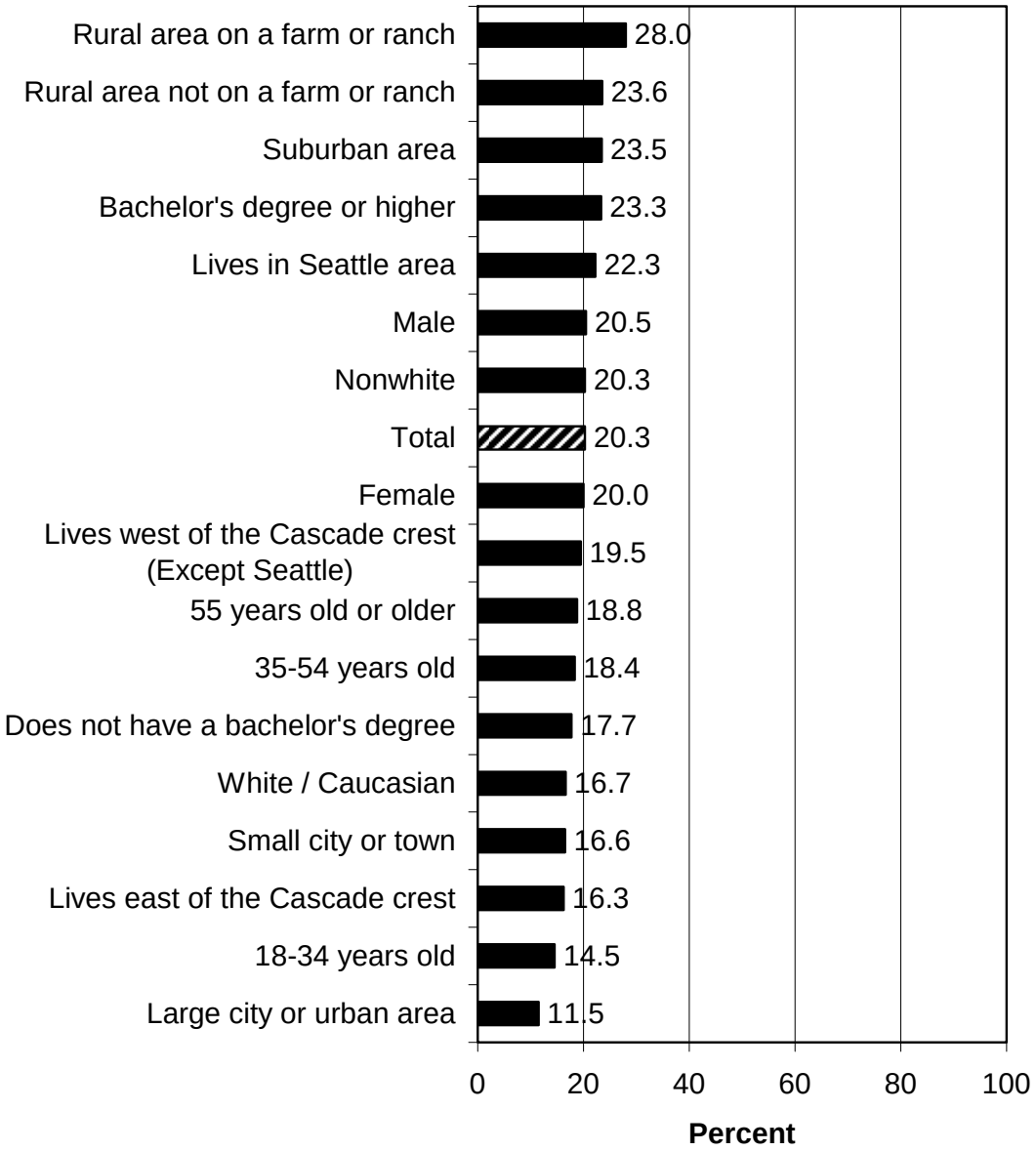
Q16. Would you support or oppose the Department providing cost-share funding to landowners to address wolf damage to livestock?



Percent of each of the following groups who support the Department providing cost-share funding to landowners to address wolf damage to livestock:



Percent of each of the following groups who oppose the Department providing cost-share funding to landowners to address wolf damage to livestock:



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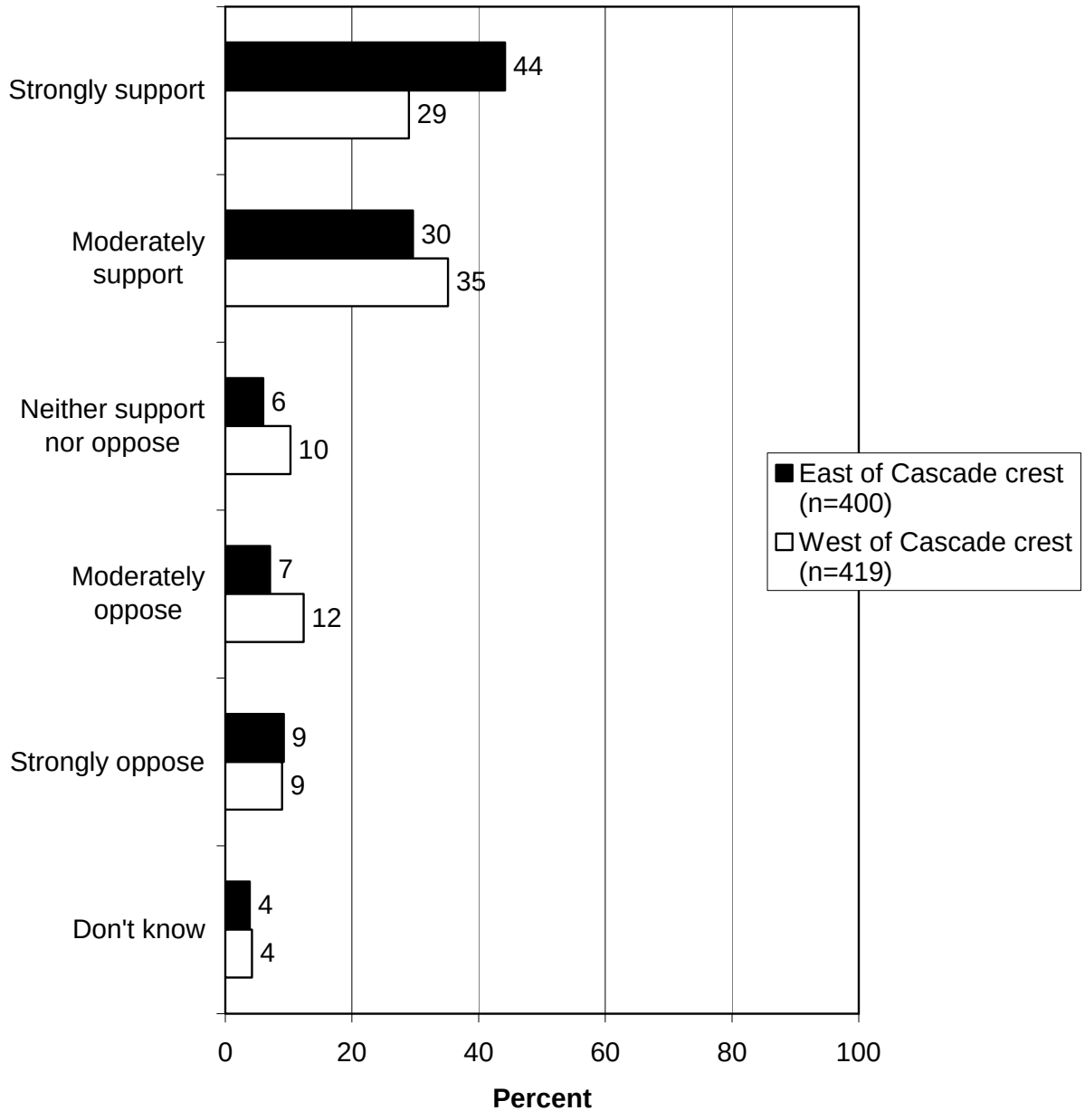

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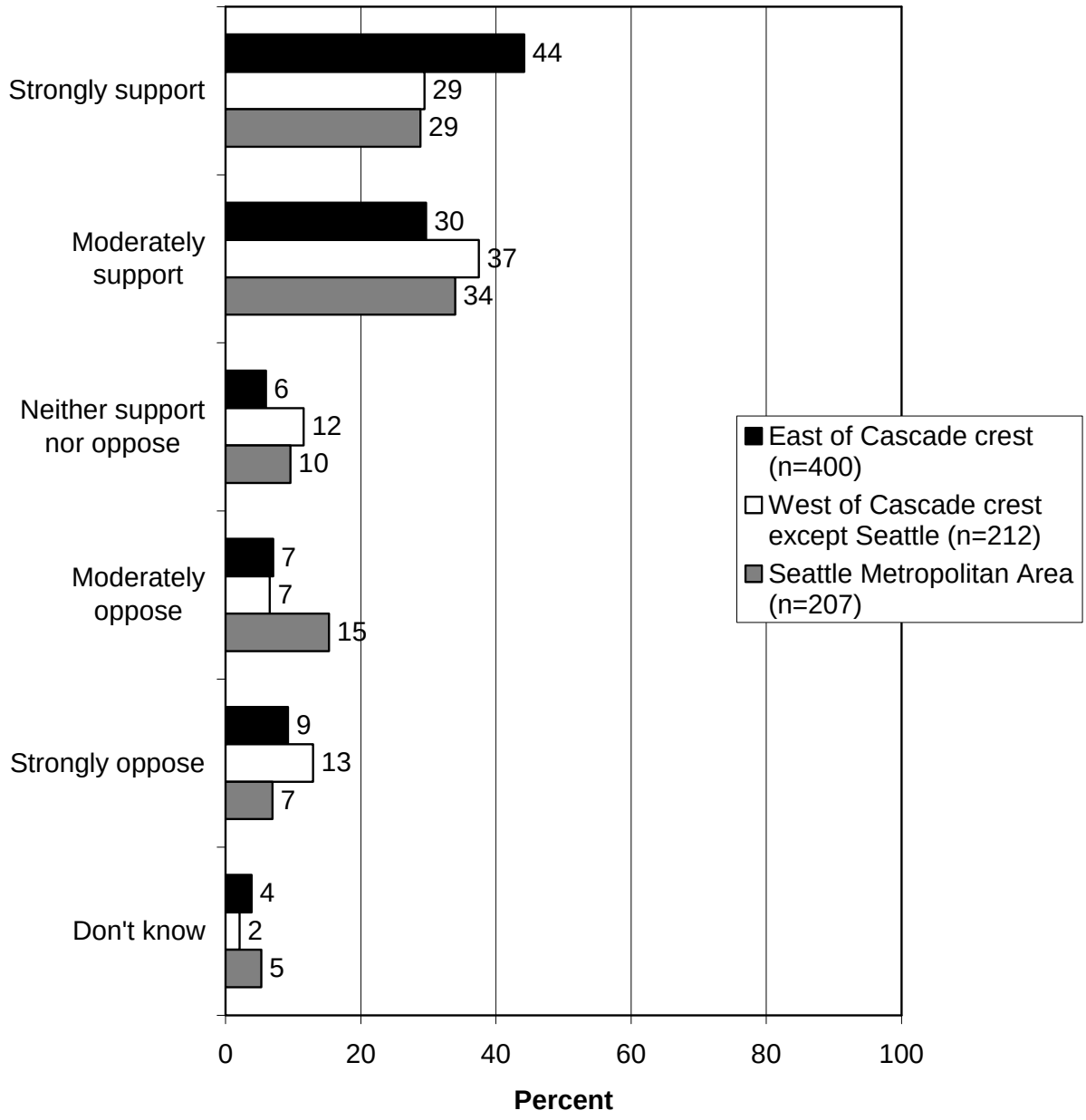

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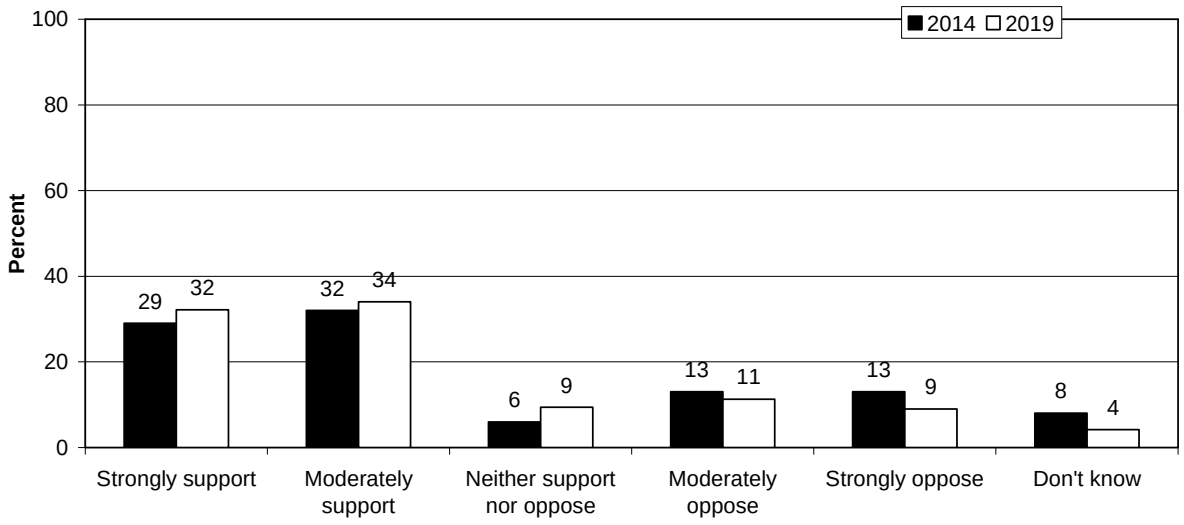
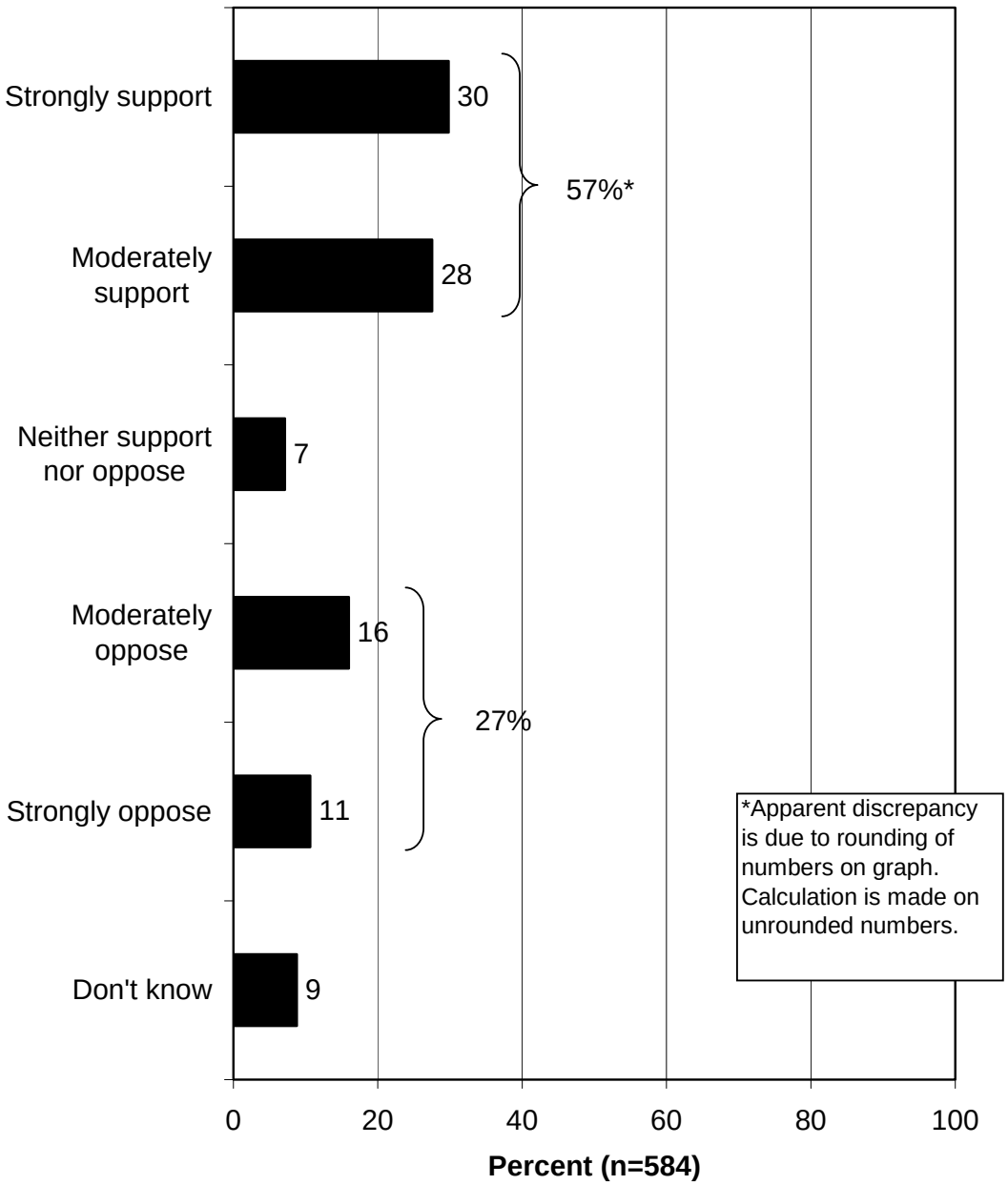


Q17. Would you support or oppose the Department providing cost share funding to landowners as the primary strategy used to address wolf damage to livestock? (Asked of those who support the Department providing cost-share funding to landowners to address wolf damage to livestock.)



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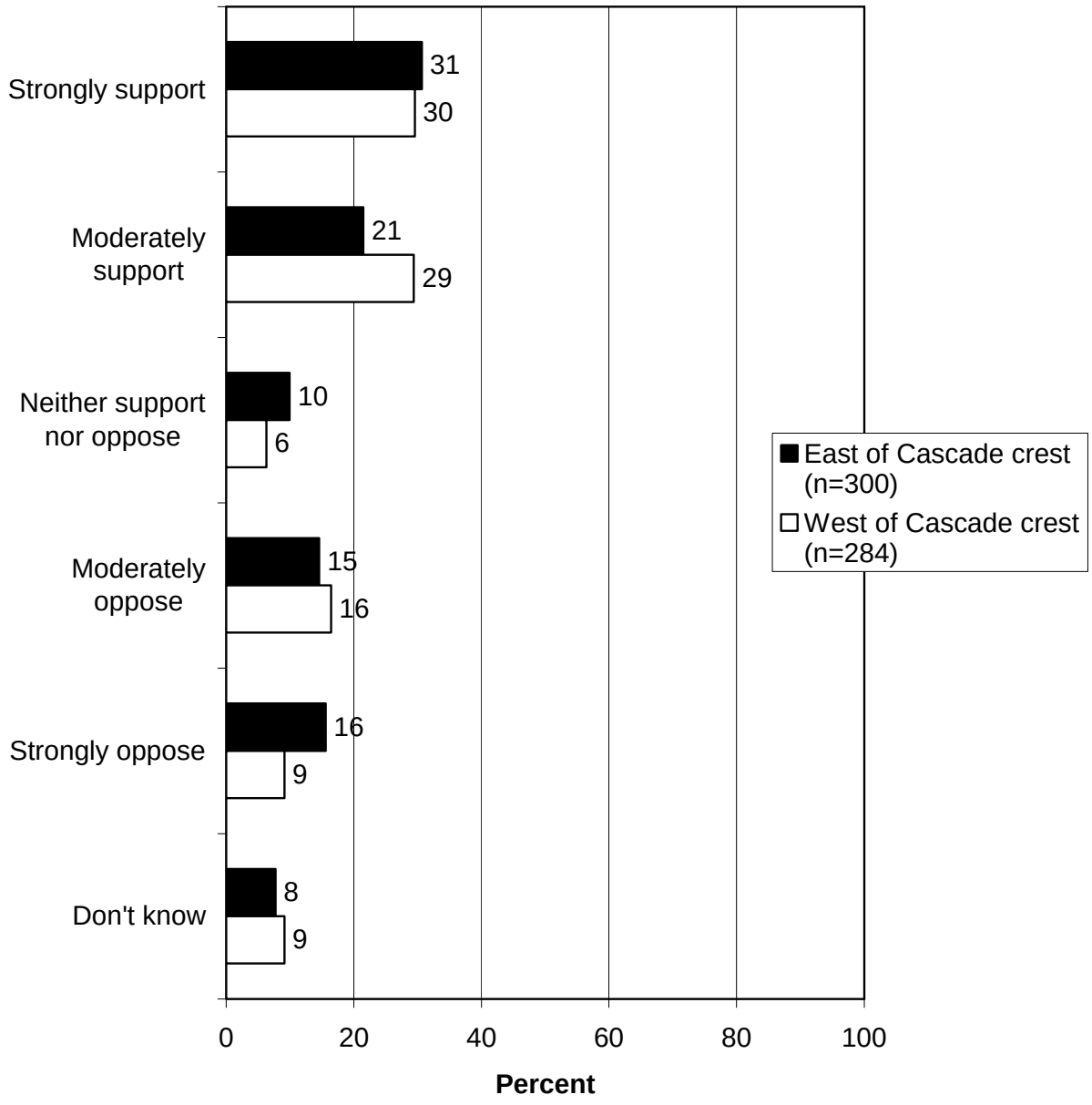

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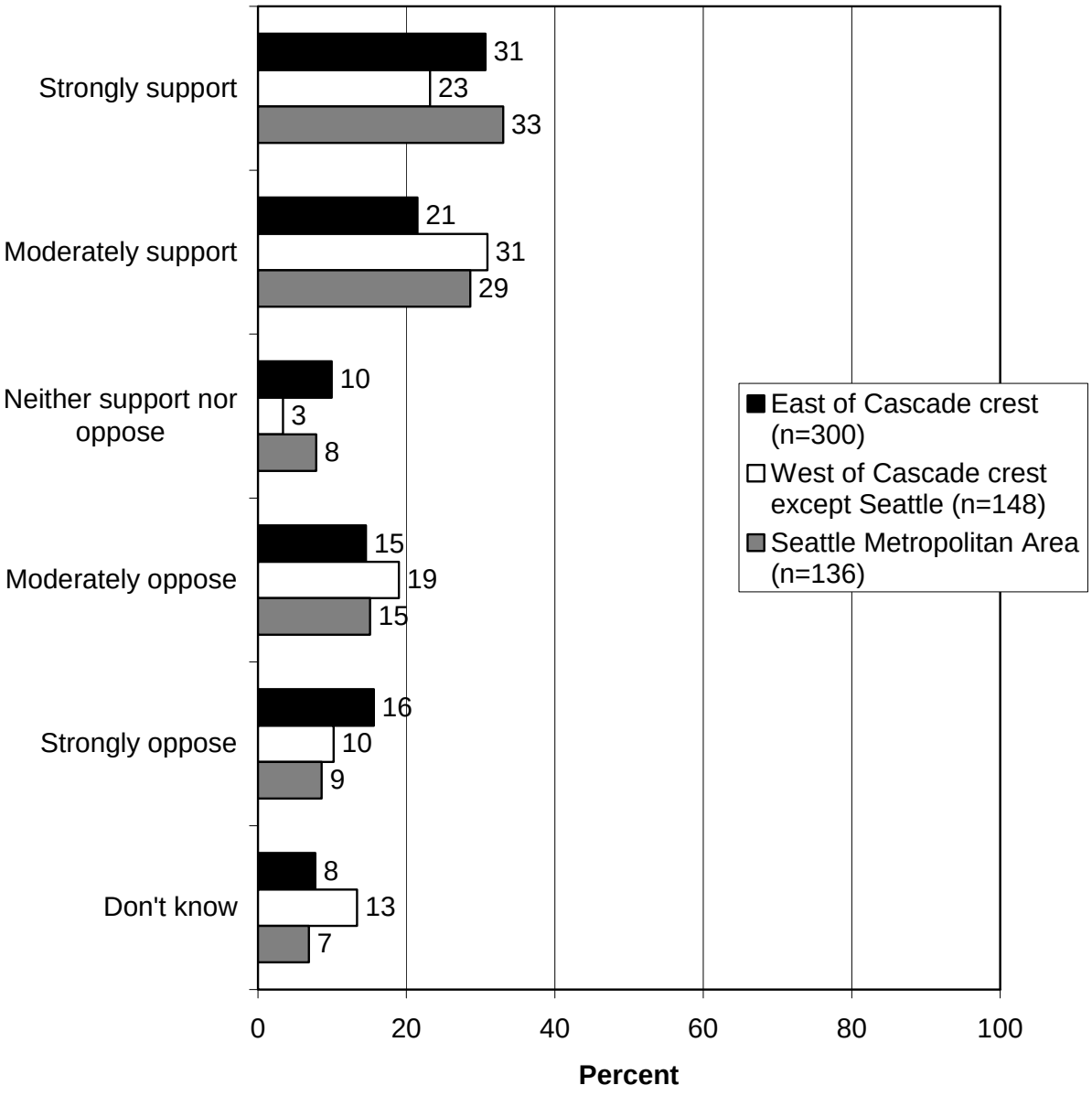

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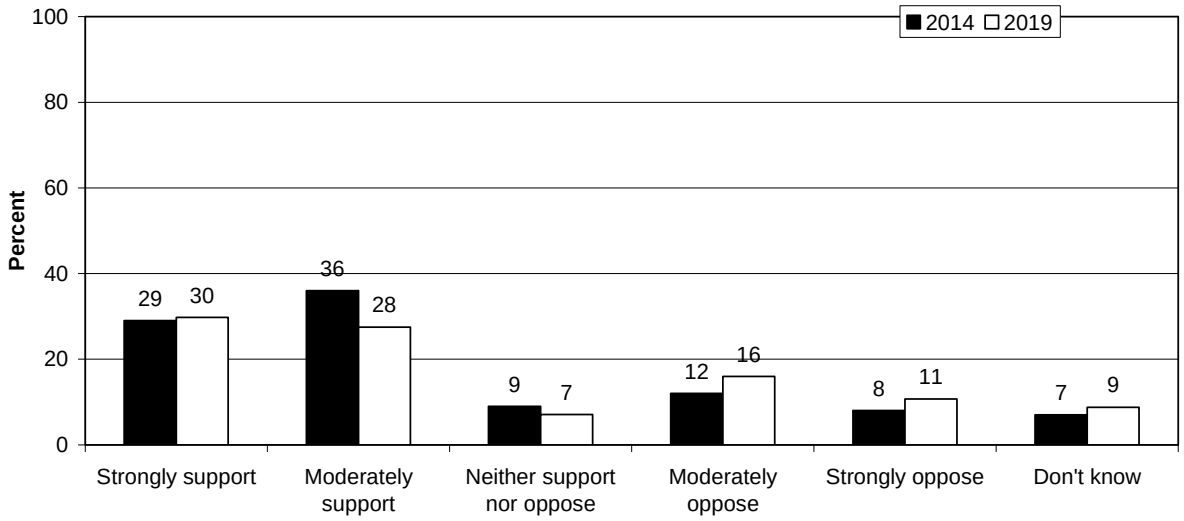


ATTITUDES AND CONCERNS REGARDING WOLF RECOVERY

Prior to questions about wolf recovery, respondents were read the following statement:

> *Wolves are returning naturally to Washington from populations in nearby states and provinces. They are currently protected by Washington's endangered species laws and regulations.*
>
> *Wolves in the state are managed under the Washington Wolf Conservation and Management Plan. The plan was developed with citizen involvement and adopted by the Fish and Wildlife Commission, which is a citizen board.*
>
> *(IF THE RESPONDENT ASKED FOR MORE INFORMATION: The plan identifies population and recovery objectives for breeding pairs of wolves. The objectives were reviewed by citizens and biologists and were anonymously reviewed by scientists.)*

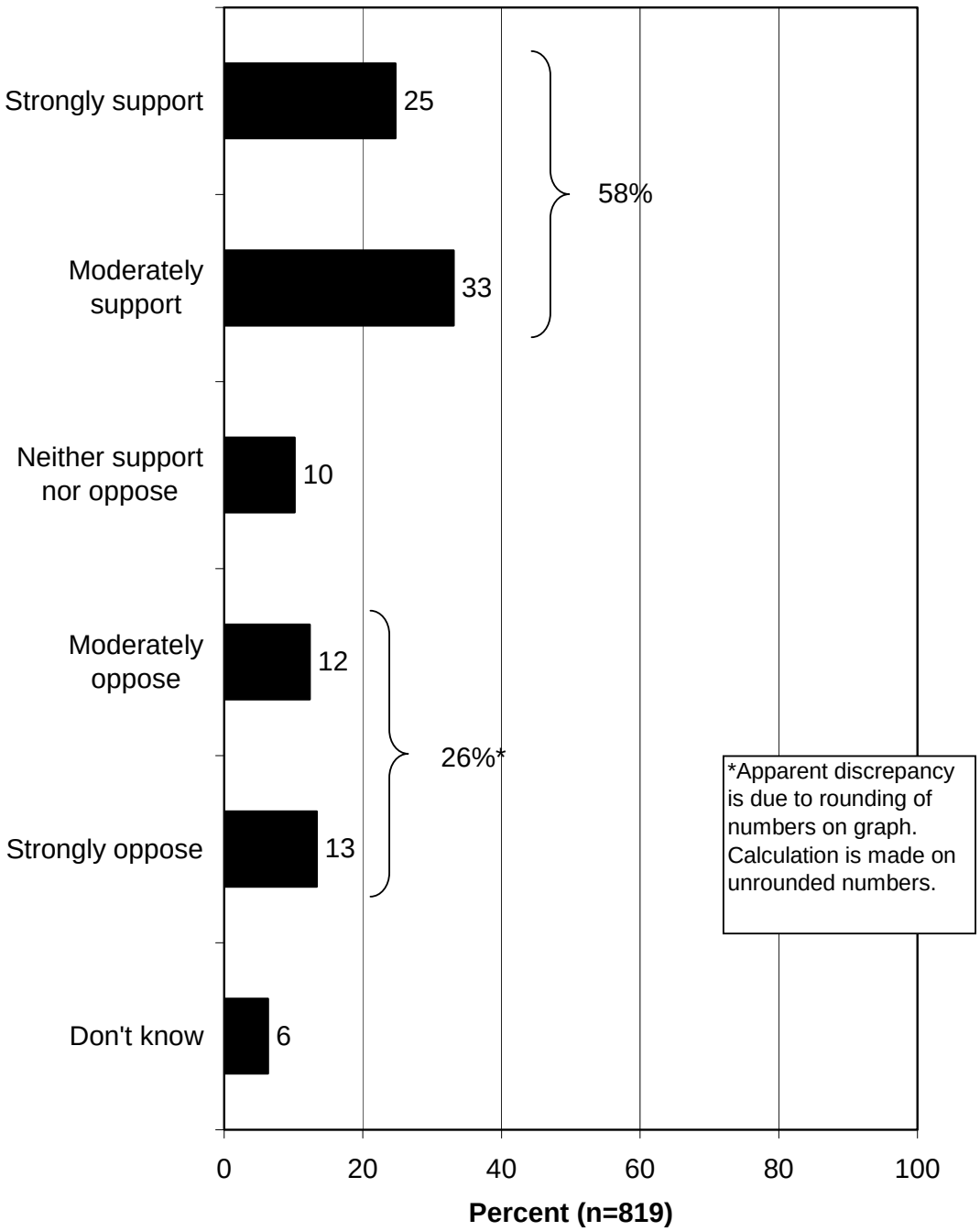
- A majority of residents (58%) support wolf recovery even if it resulted in localized declines in deer, elk, and moose populations, while 26% oppose.
  - Support is higher in the west than in the east ($p \leq 0.05$).

- Residents were asked if they would support or oppose, once the wolf population in the state is healthy and biologically sustainable, removing wolves from the state endangered species list. Support for this (85%) far exceeds opposition (10%).

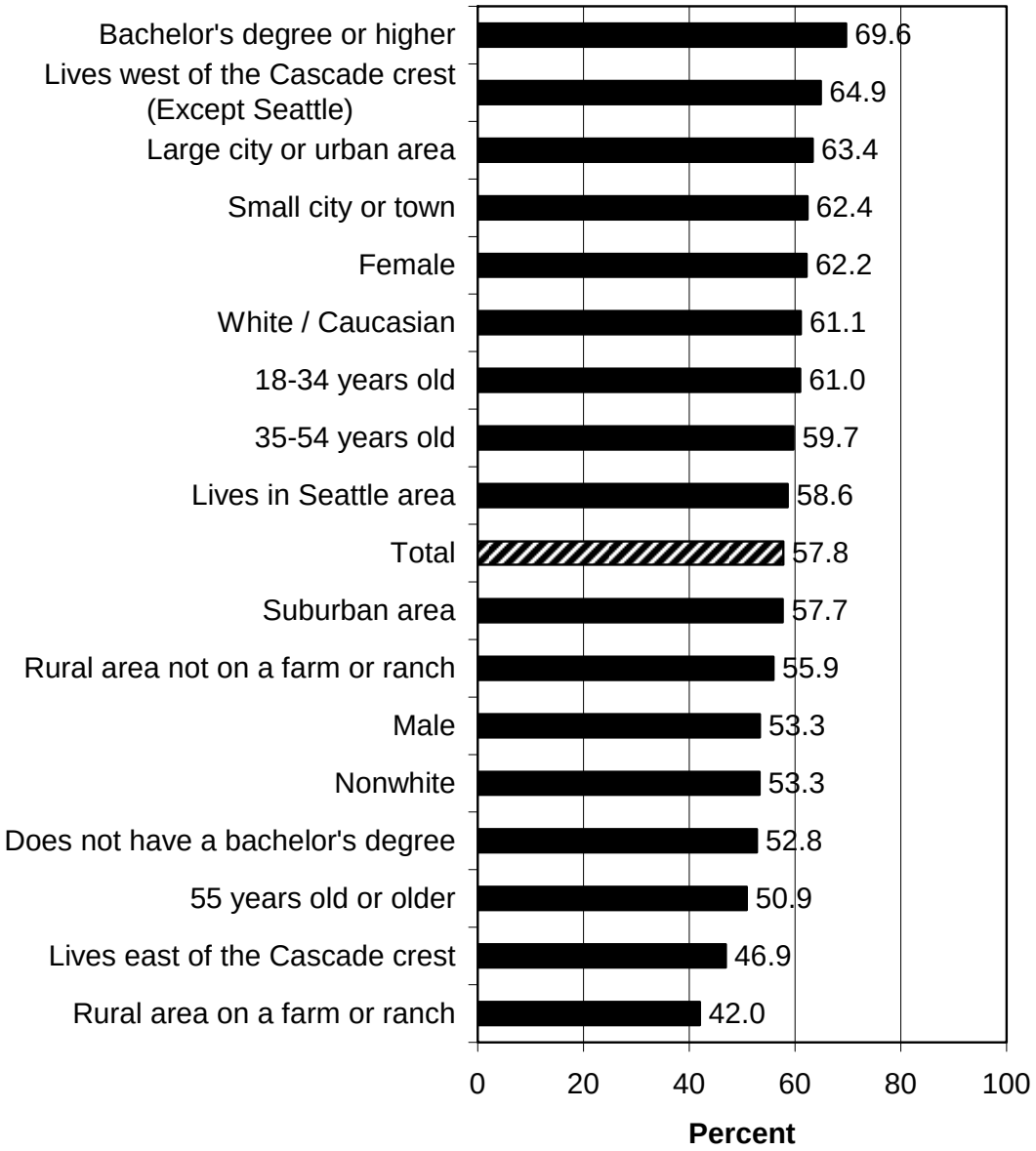
- While a strong majority of residents say that they are concerned about the impact a fully recovered wolf population might have on deer, elk, and moose populations (80% are concerned), most of that concern consists of those saying that they are *somewhat* concerned or *a little* concerned. Only 20% are *extremely* or *very* concerned. At the other end, 18% are *not at all* concerned.
  - Eastern residents are much more likely to be *extremely* or *very* concerned than those in the west ($p \leq 0.05$).

- A similar question to the one above asked about concern regarding the impact wolves might have on livestock. Results are similar: 80% are concerned, including 26% who are *extremely* or *very* concerned, whereas 18% are *not at all* concerned.
  - Again, the higher degrees of concern are greater in the east than in the west ($p \leq 0.05$).

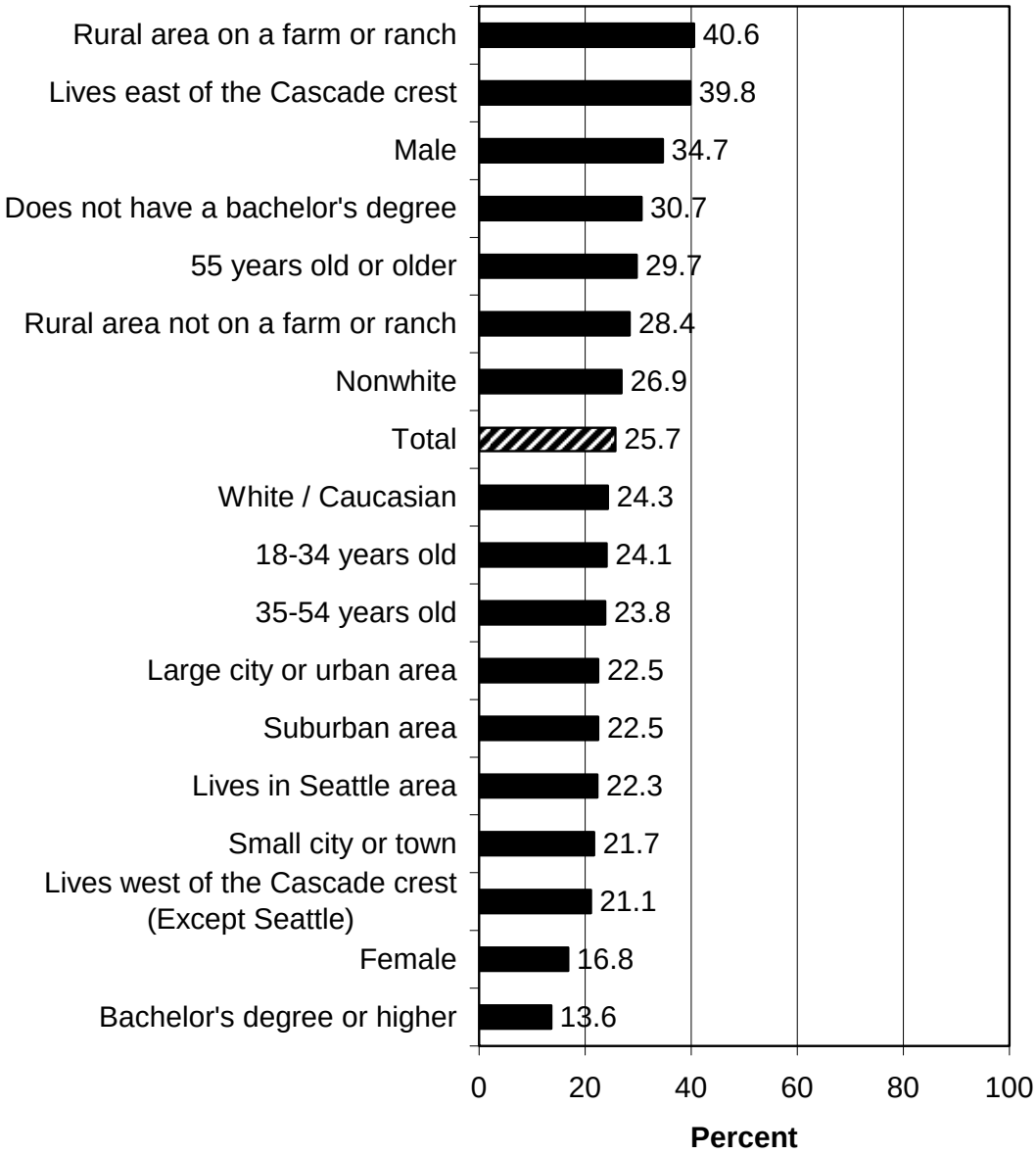
Q20. Would you support or oppose wolf recovery in Washington if it resulted in some localized declines in [deer / elk and moose] populations?



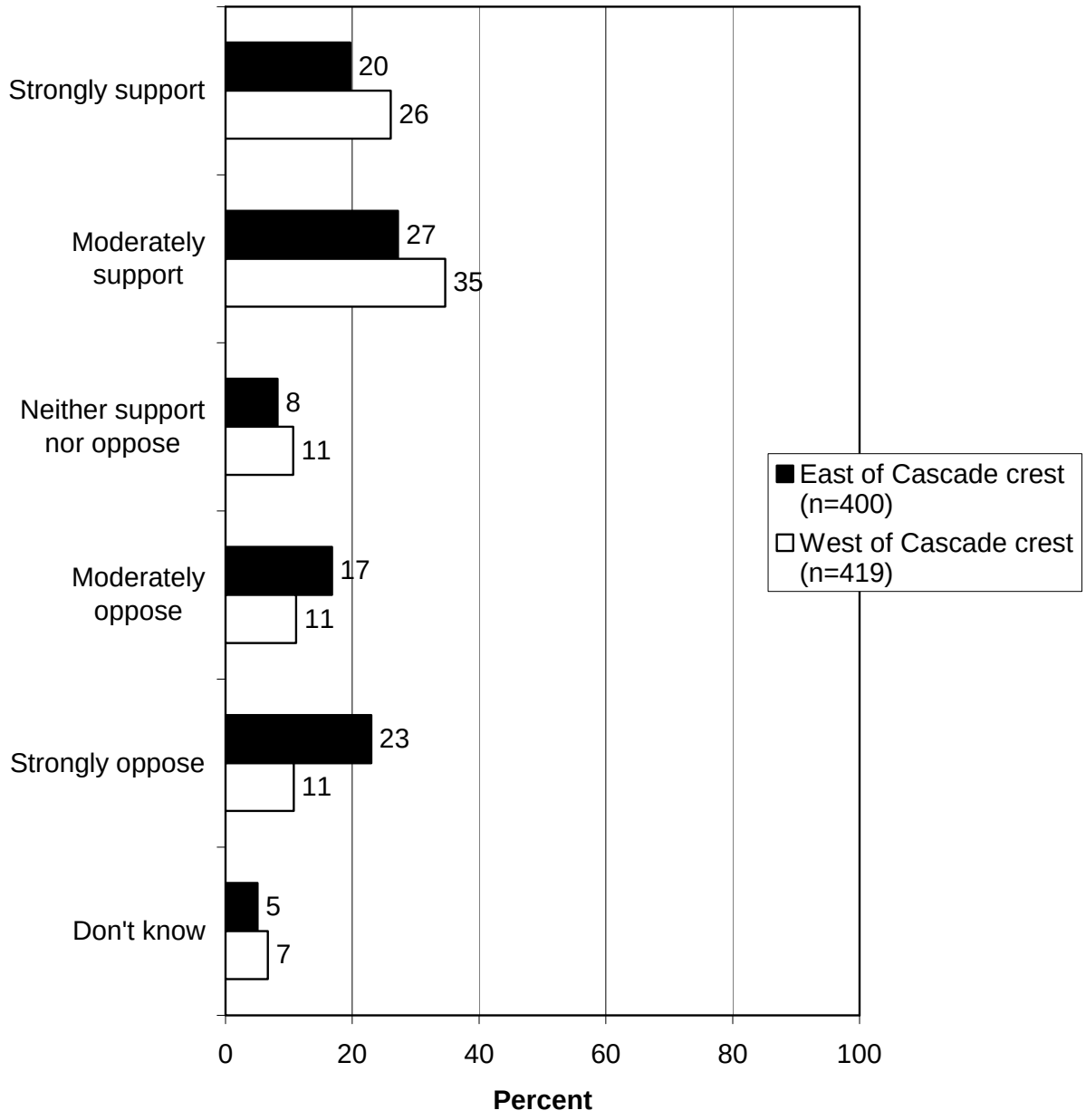
Percent of each of the following groups who support wolf recovery in Washington if it resulted in some localized declines in [deer / elk and moose] populations:



Percent of each of the following groups who oppose wolf recovery in Washington if it resulted in some localized declines in [deer / elk and moose] populations:



Q20. Would you support or oppose wolf recovery in Washington if it resulted in some localized declines in [deer / elk and moose] populations?



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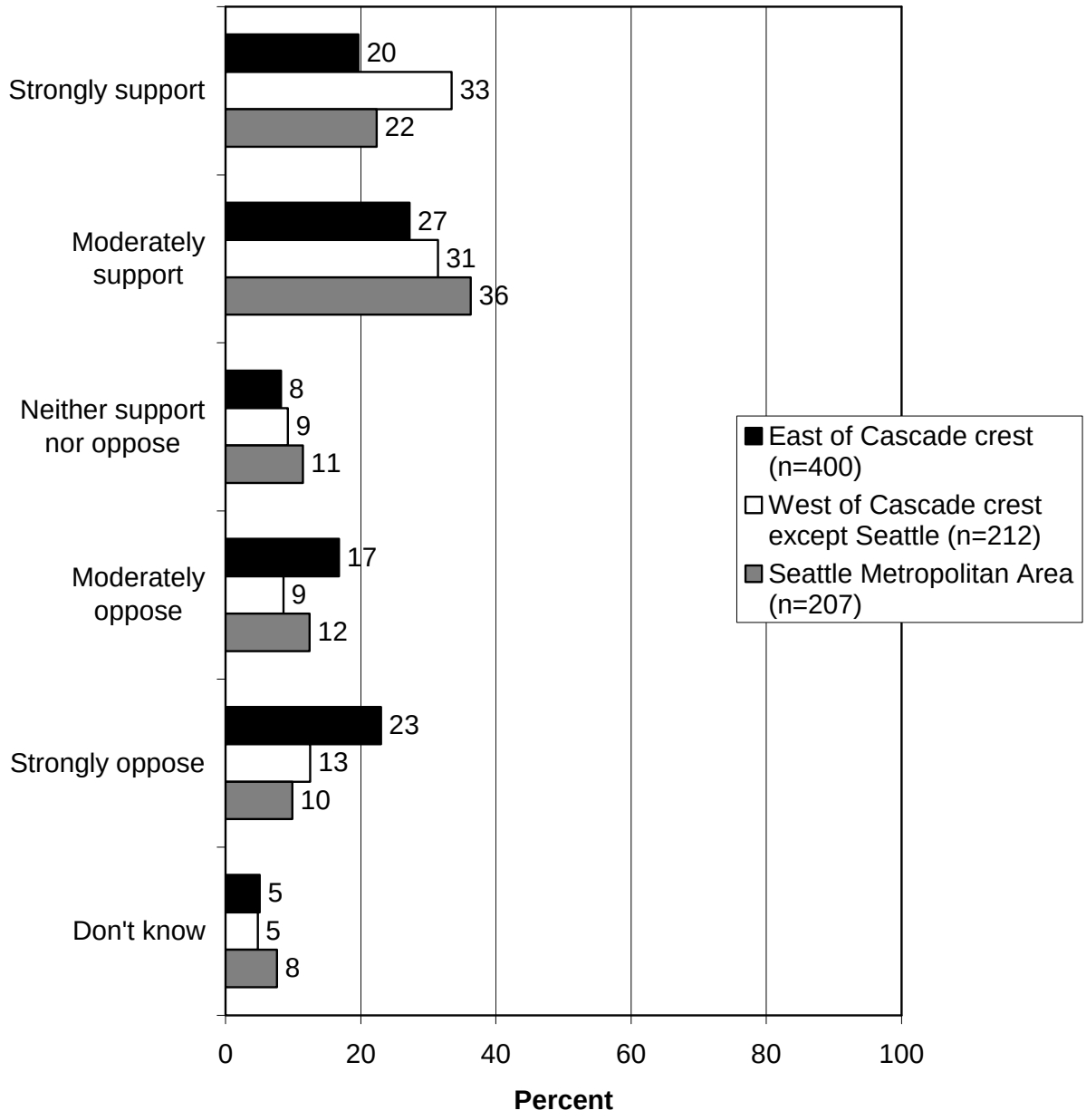

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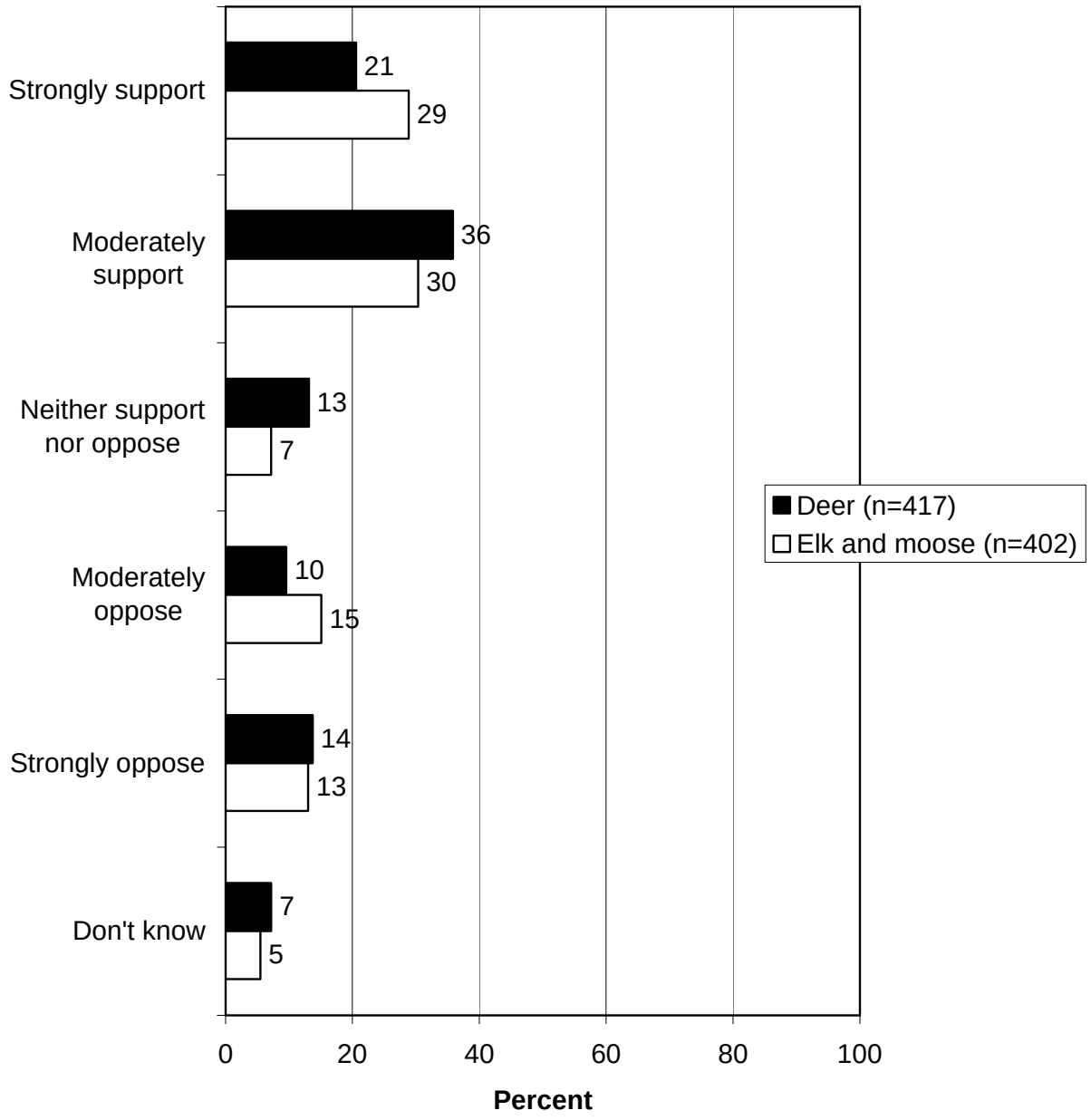

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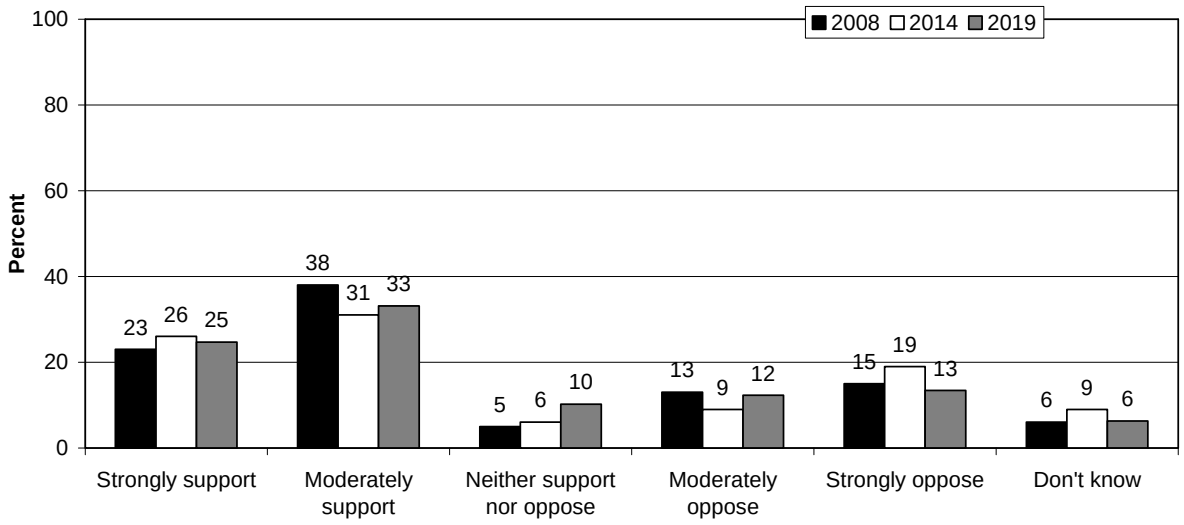
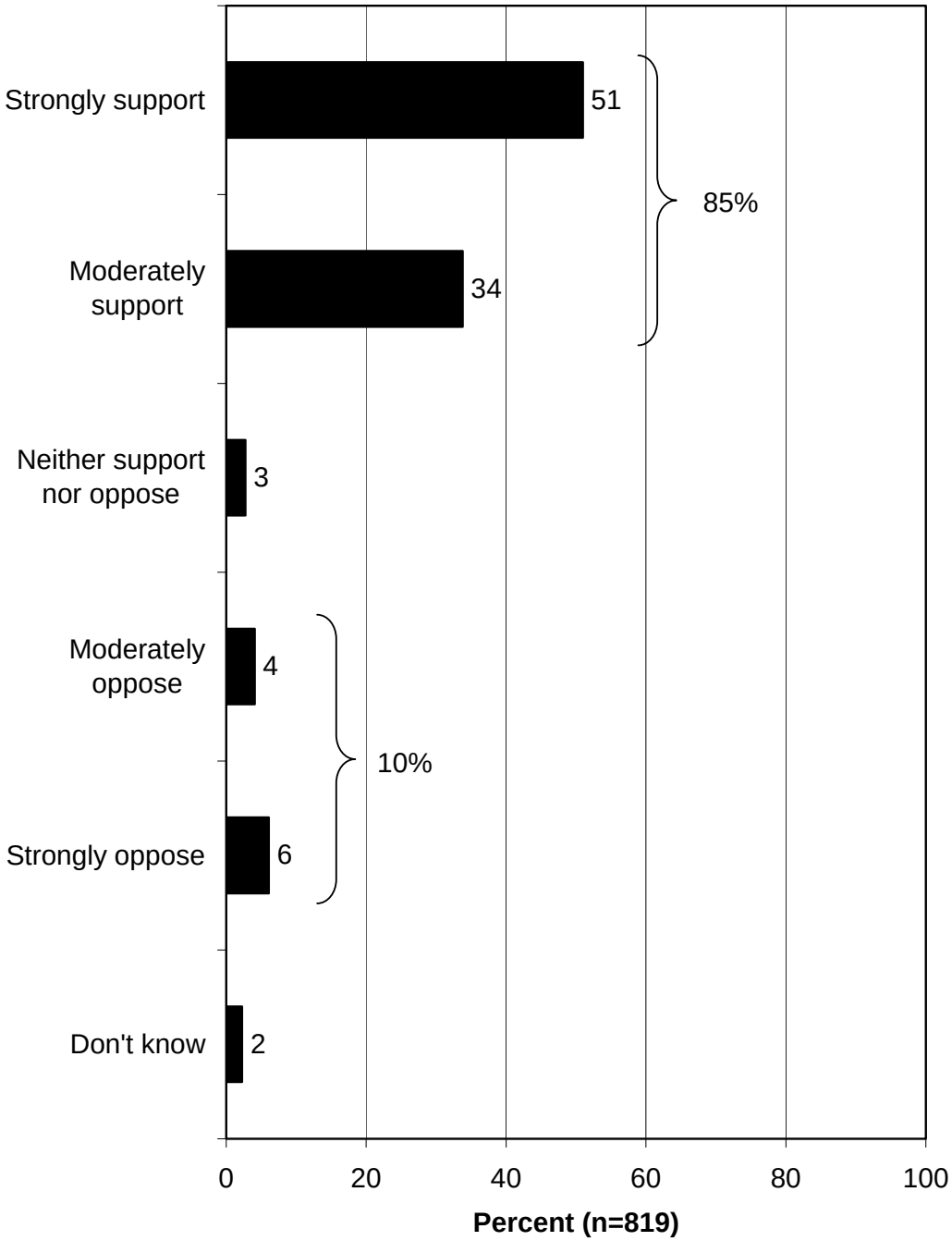
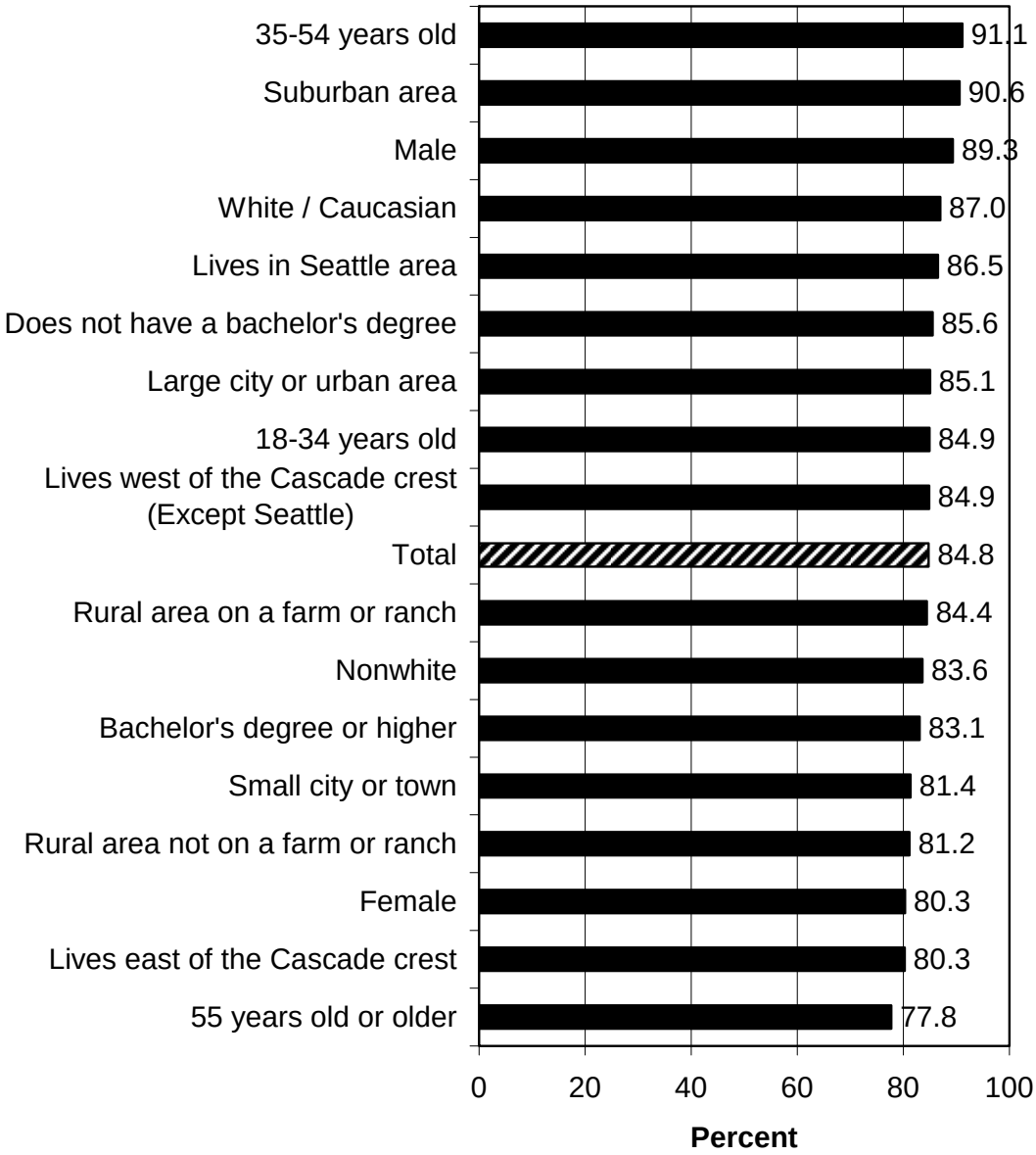


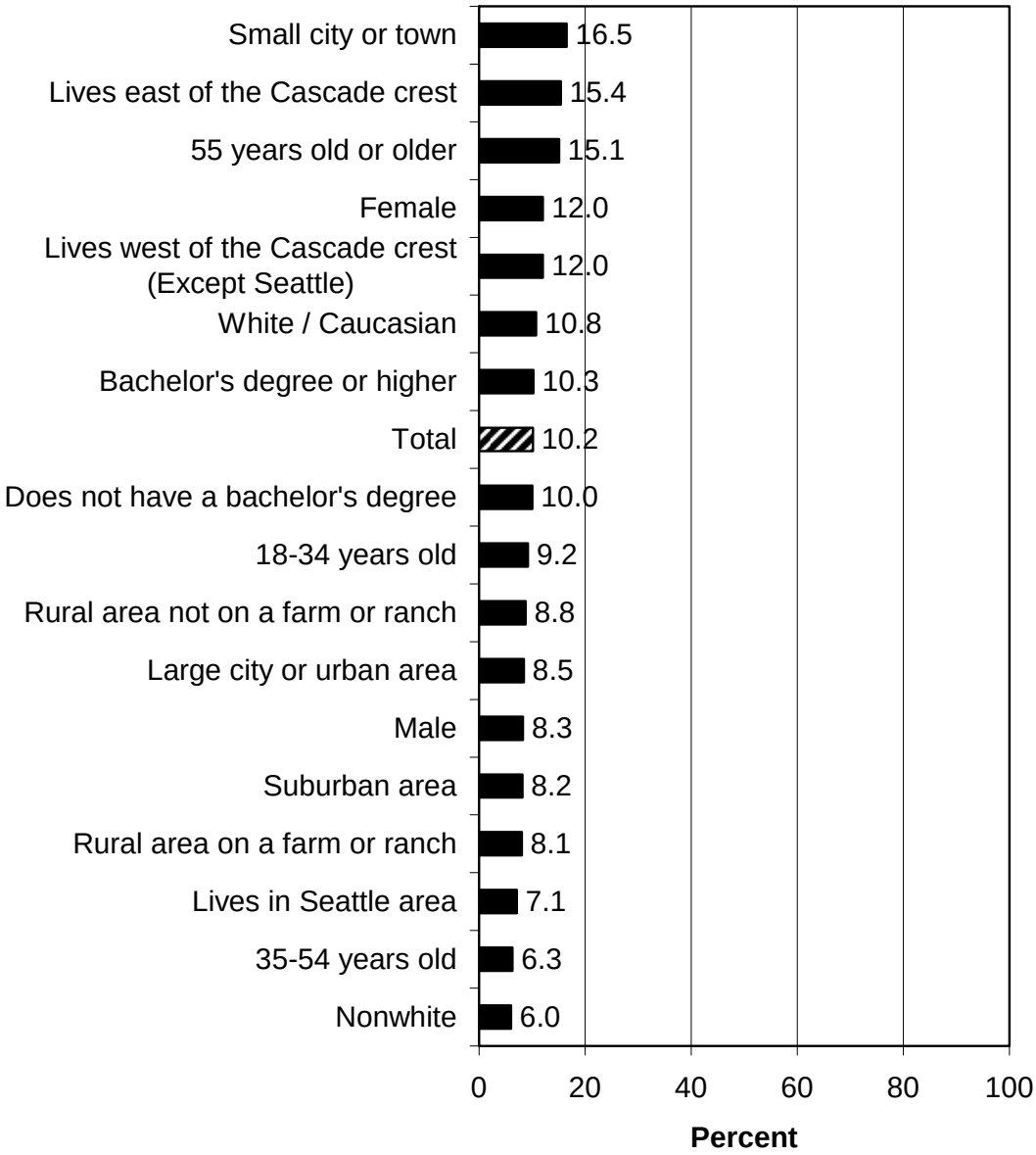
Q21. Do you support or oppose removing wolves from the state's endangered species list when the population is healthy and biologically sustainable?



Percent of each of the following groups who support removing wolves from the state's endangered species list when the population is healthy and biologically sustainable:



Percent of each of the following groups who oppose removing wolves from the state's endangered species list when the population is healthy and biologically sustainable:



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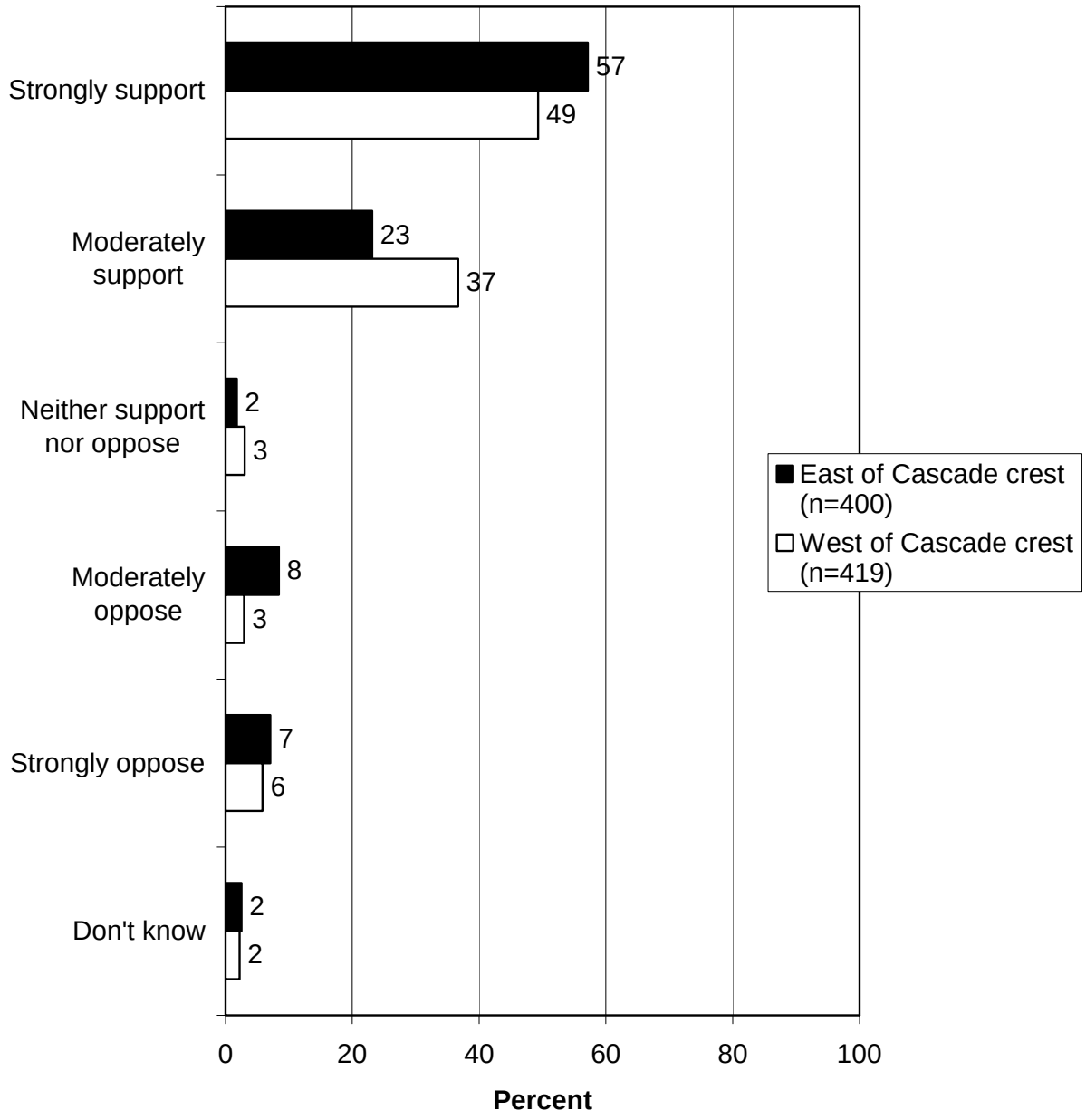

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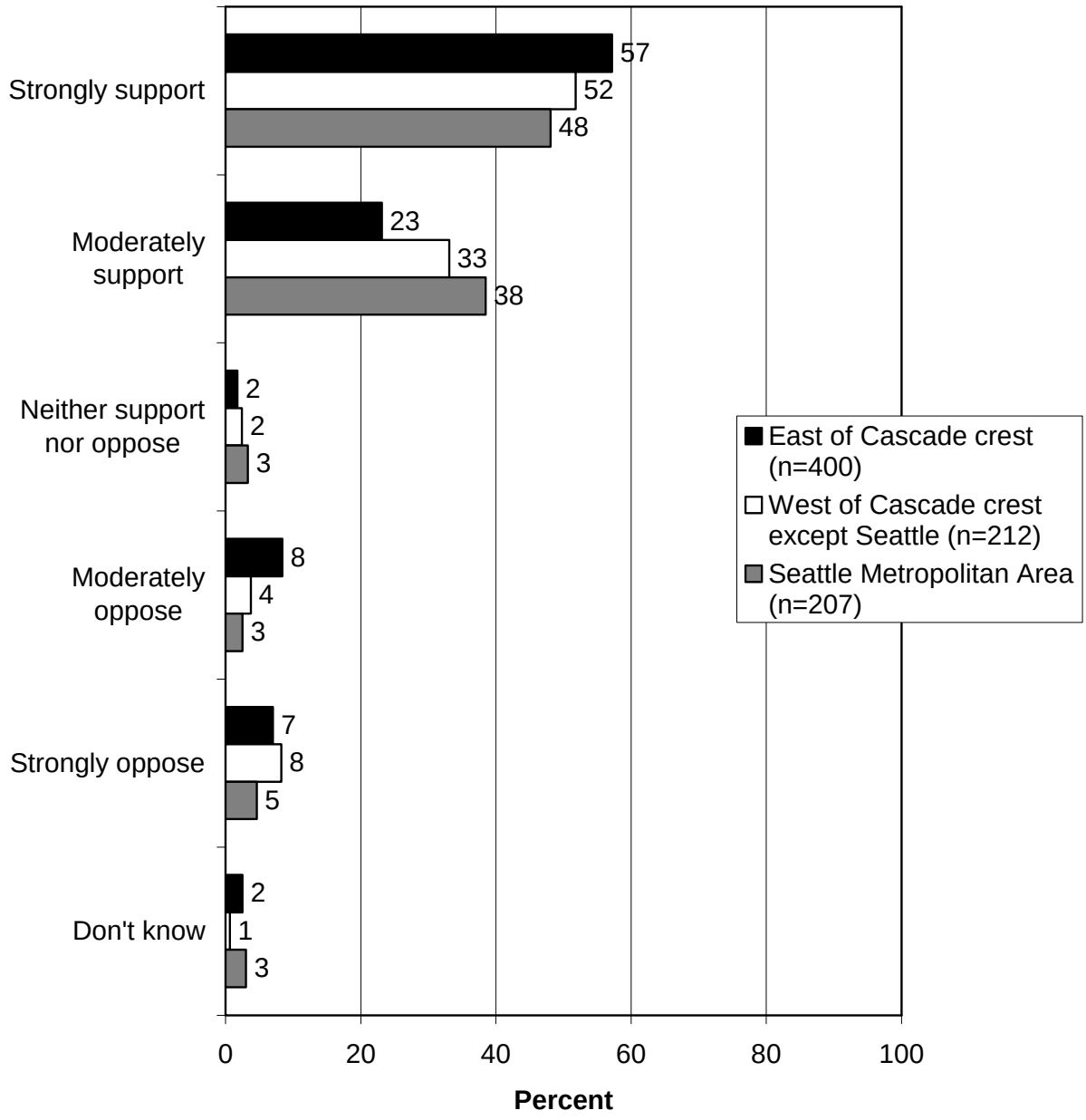
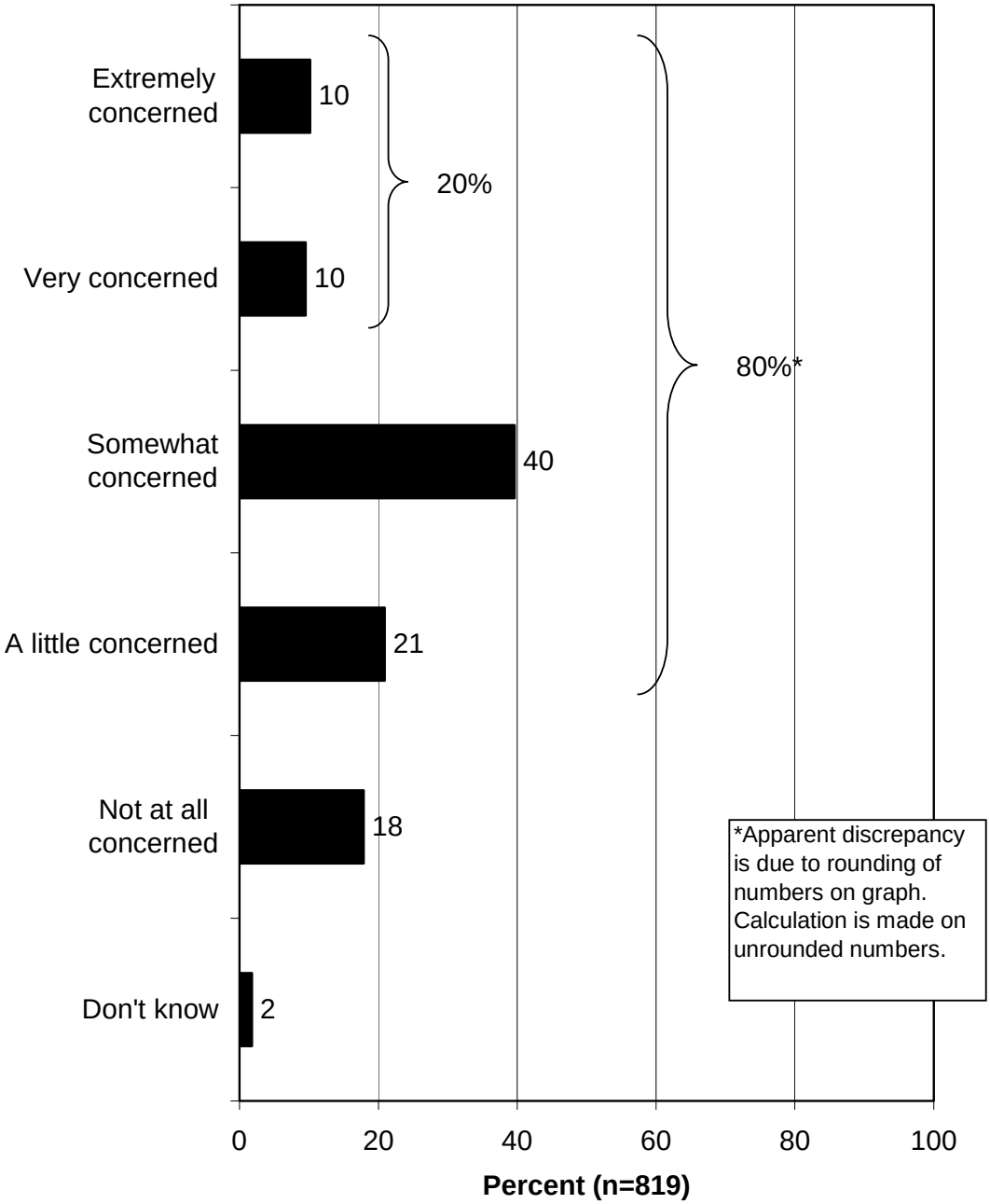
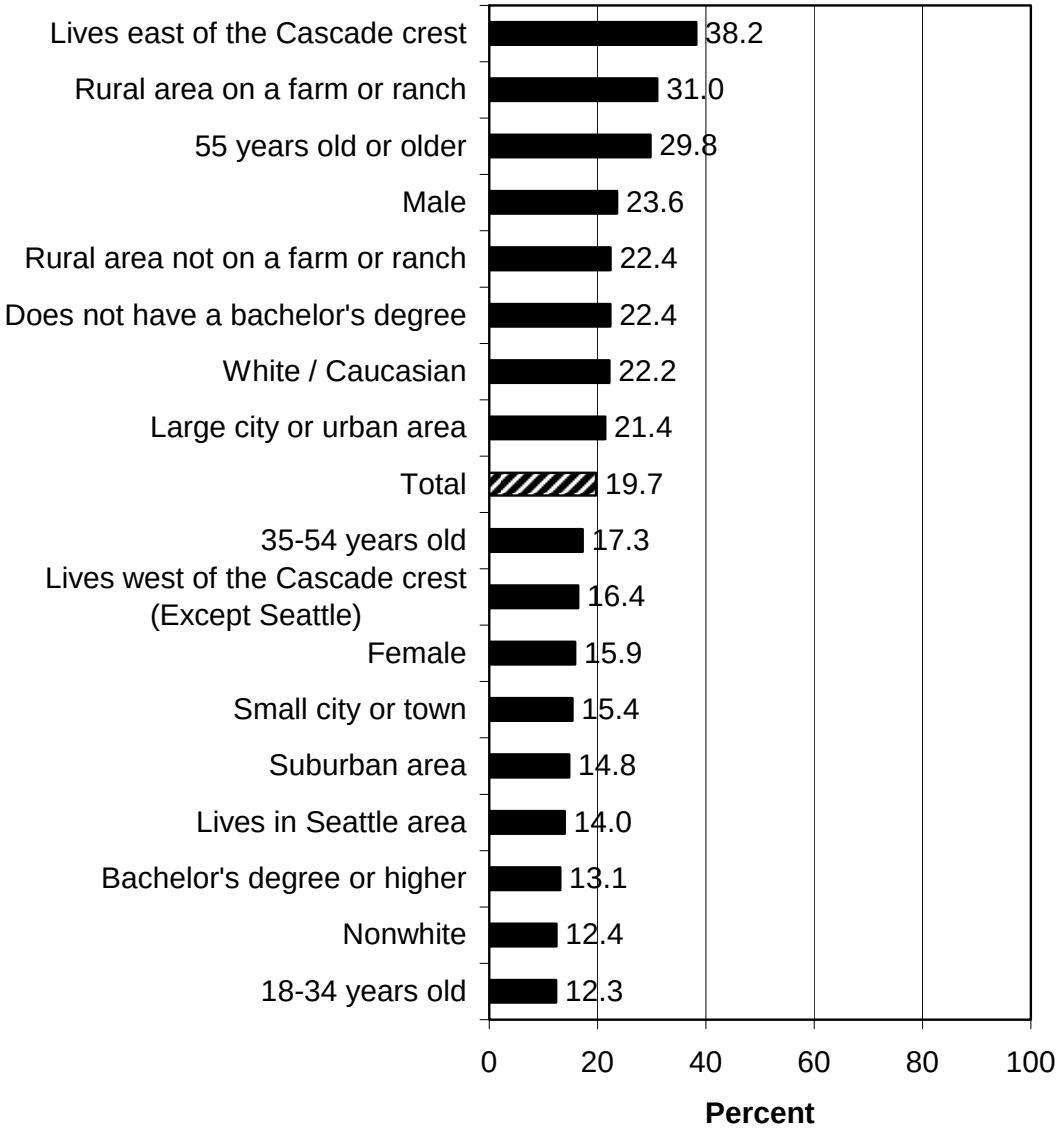


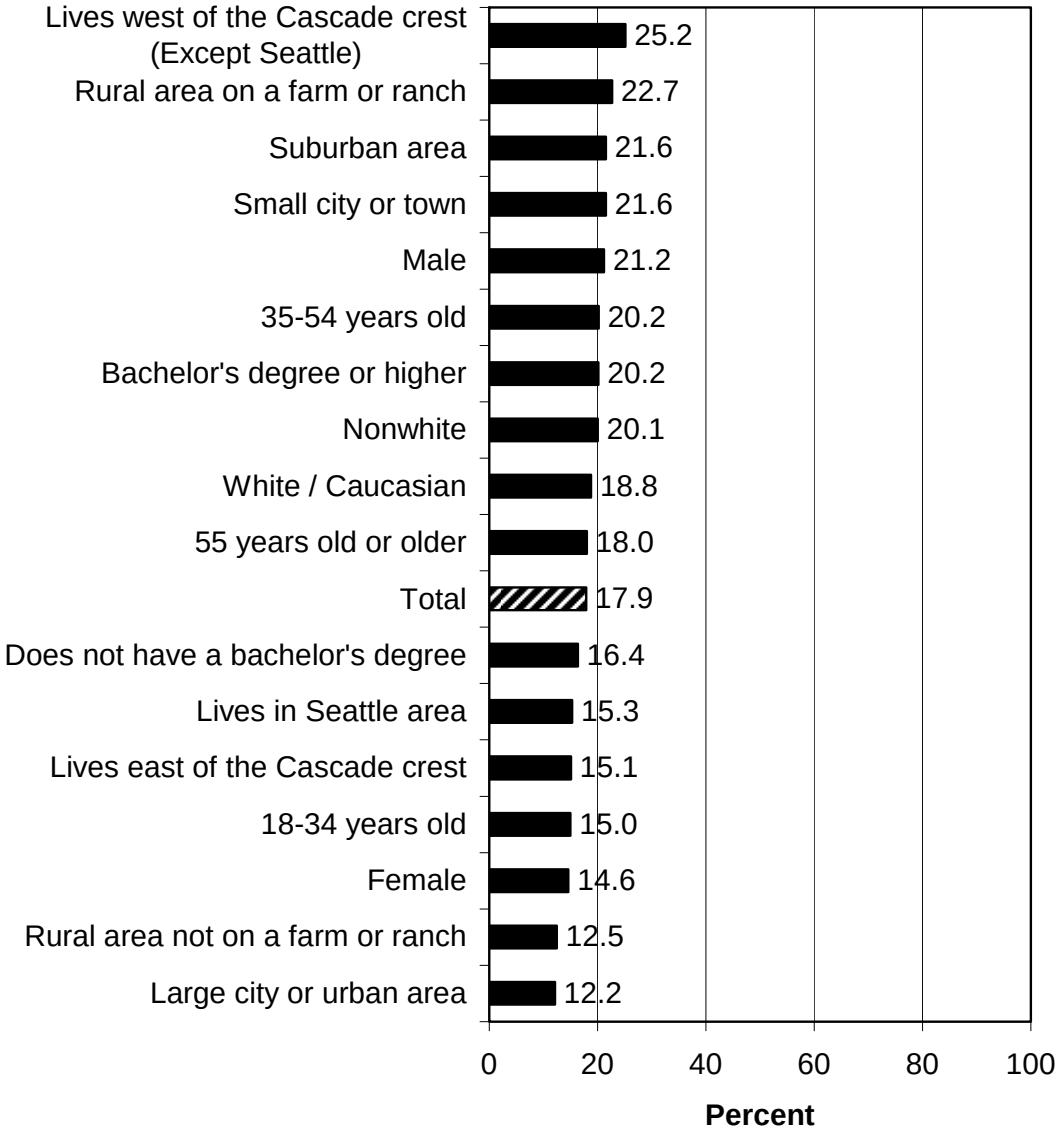
Q24. How concerned are you about the impact wolves may have on [deer / elk and moose] populations when wolves are fully recovered and have reached sustainable population levels?



Percent of each of the following groups who are extremely or very concerned about the impact wolves may have on [deer / elk and moose] populations when wolves are fully recovered and have reached sustainable population levels:



Percent of each of the following groups who are not at all concerned about the impact wolves may have on [deer / elk and moose] populations when wolves are fully recovered and have reached sustainable population levels:



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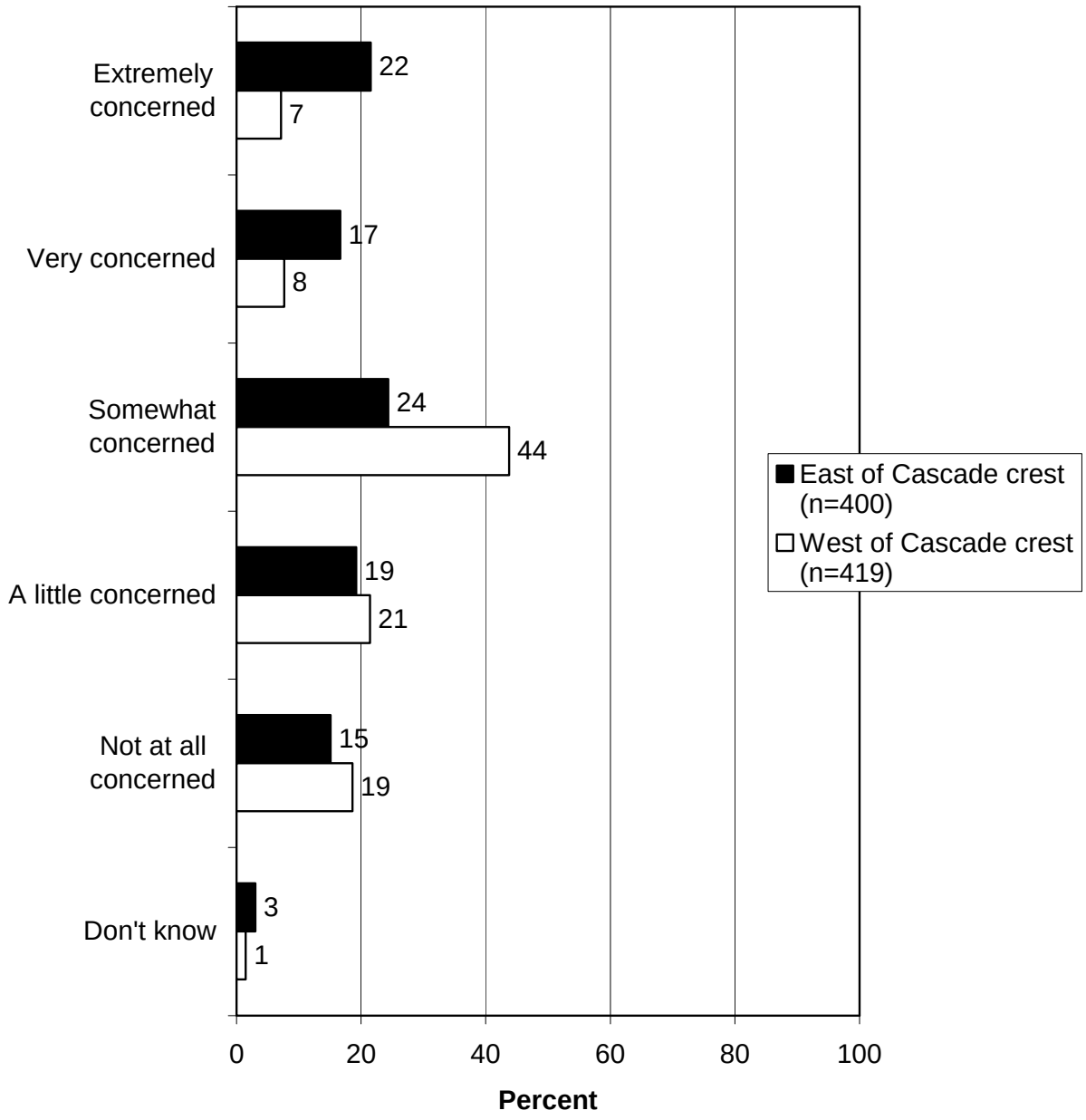

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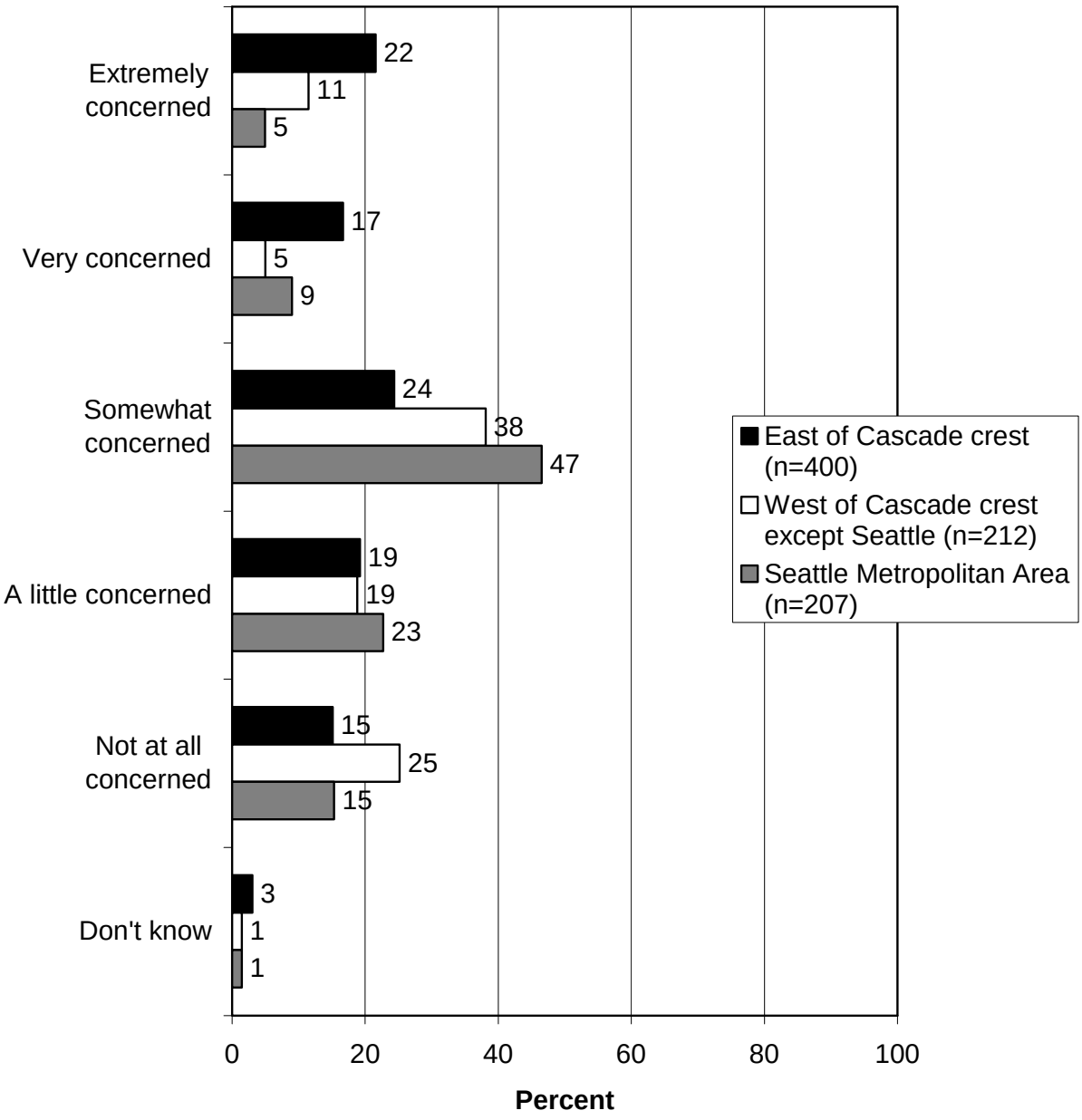

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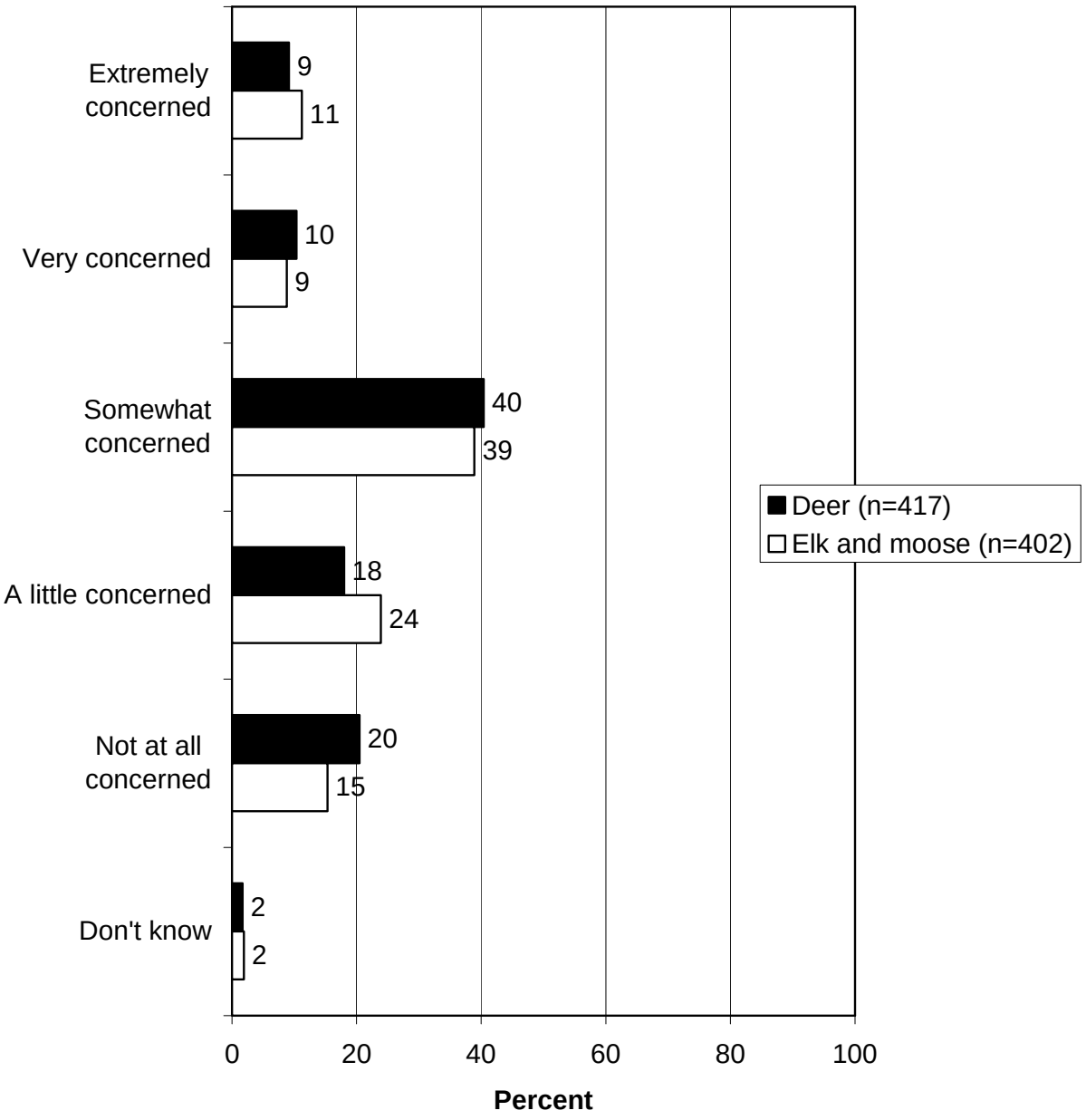
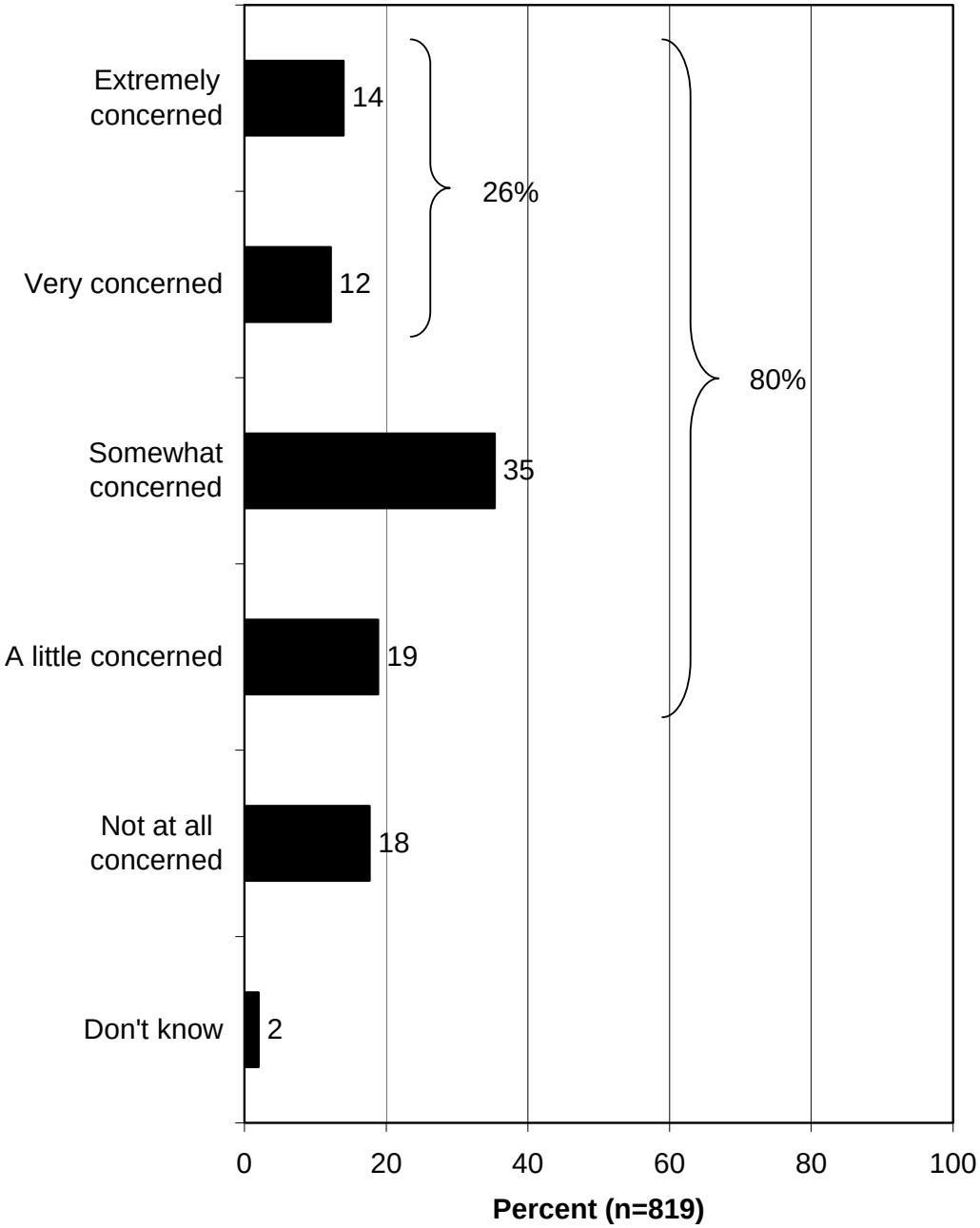
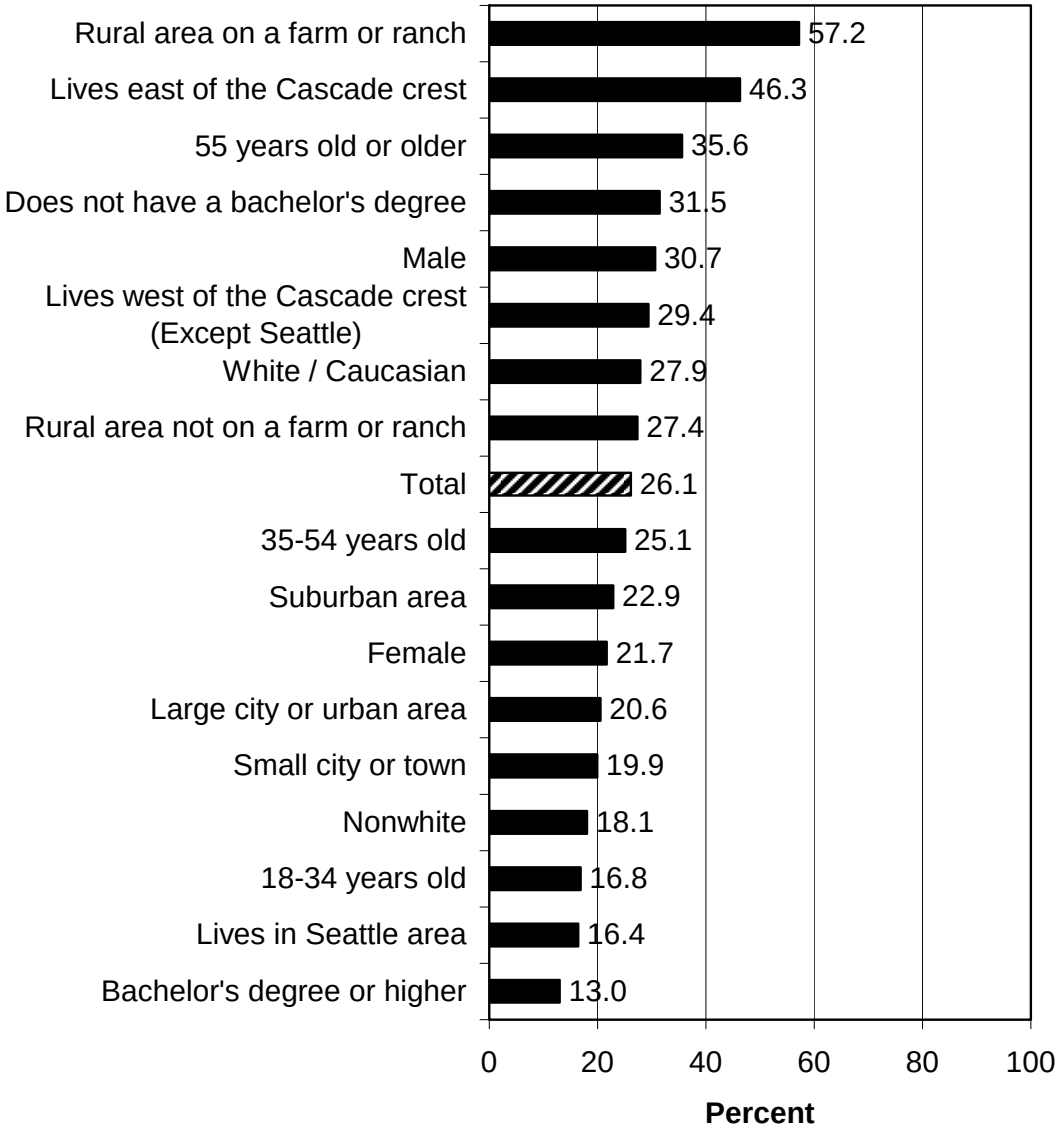


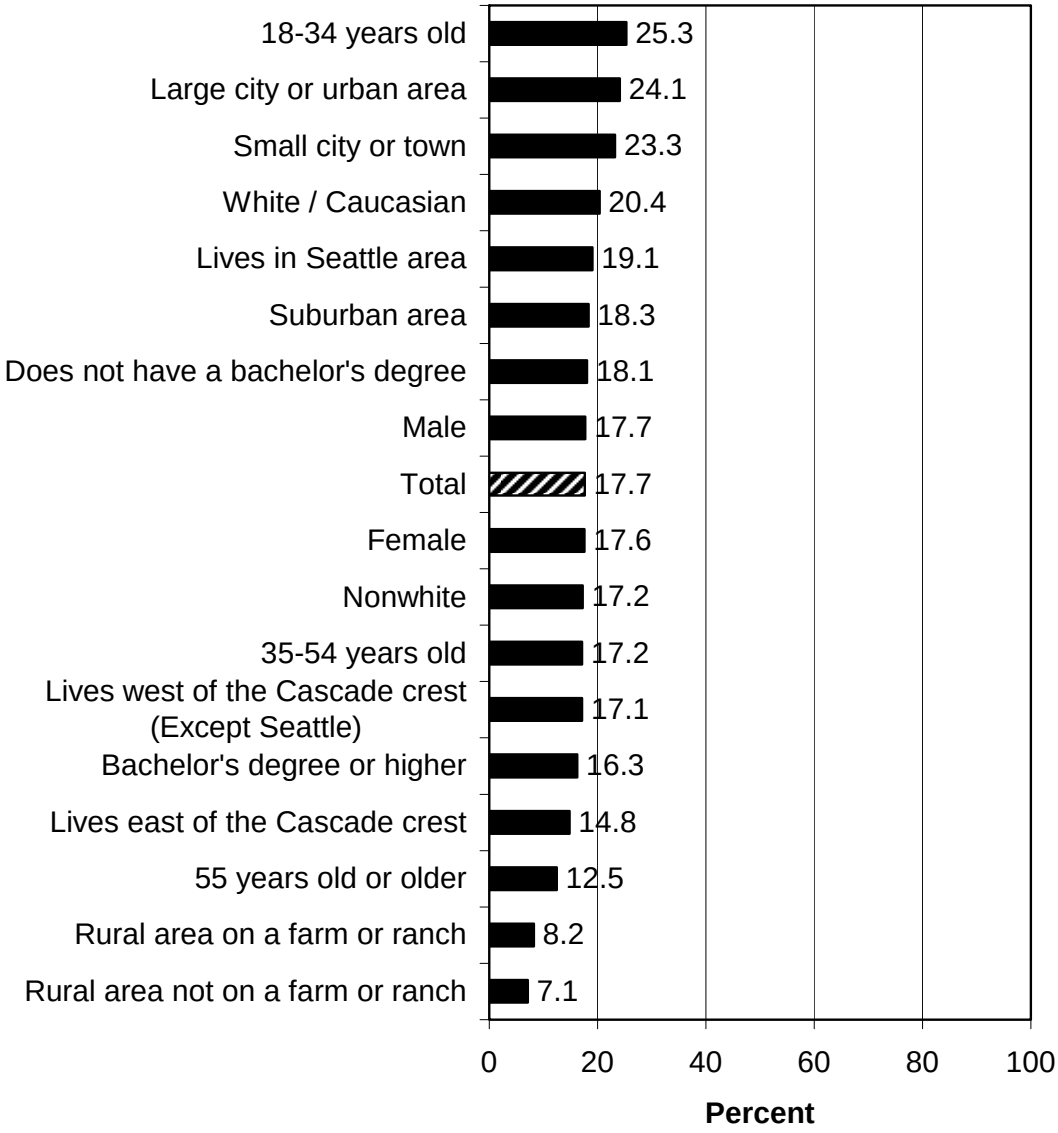
Q25. How concerned are you about the impact wolves may have on livestock, such as cattle, when wolves are fully recovered and have reached sustainable population levels?



Percent of each of the following groups who are extremely or very concerned about the impact wolves may have on livestock, such as cattle, when wolves are fully recovered and have reached sustainable population levels:



Percent of each of the following groups who are not at all concerned about the impact wolves may have on livestock, such as cattle, when wolves are fully recovered and have reached sustainable population levels:



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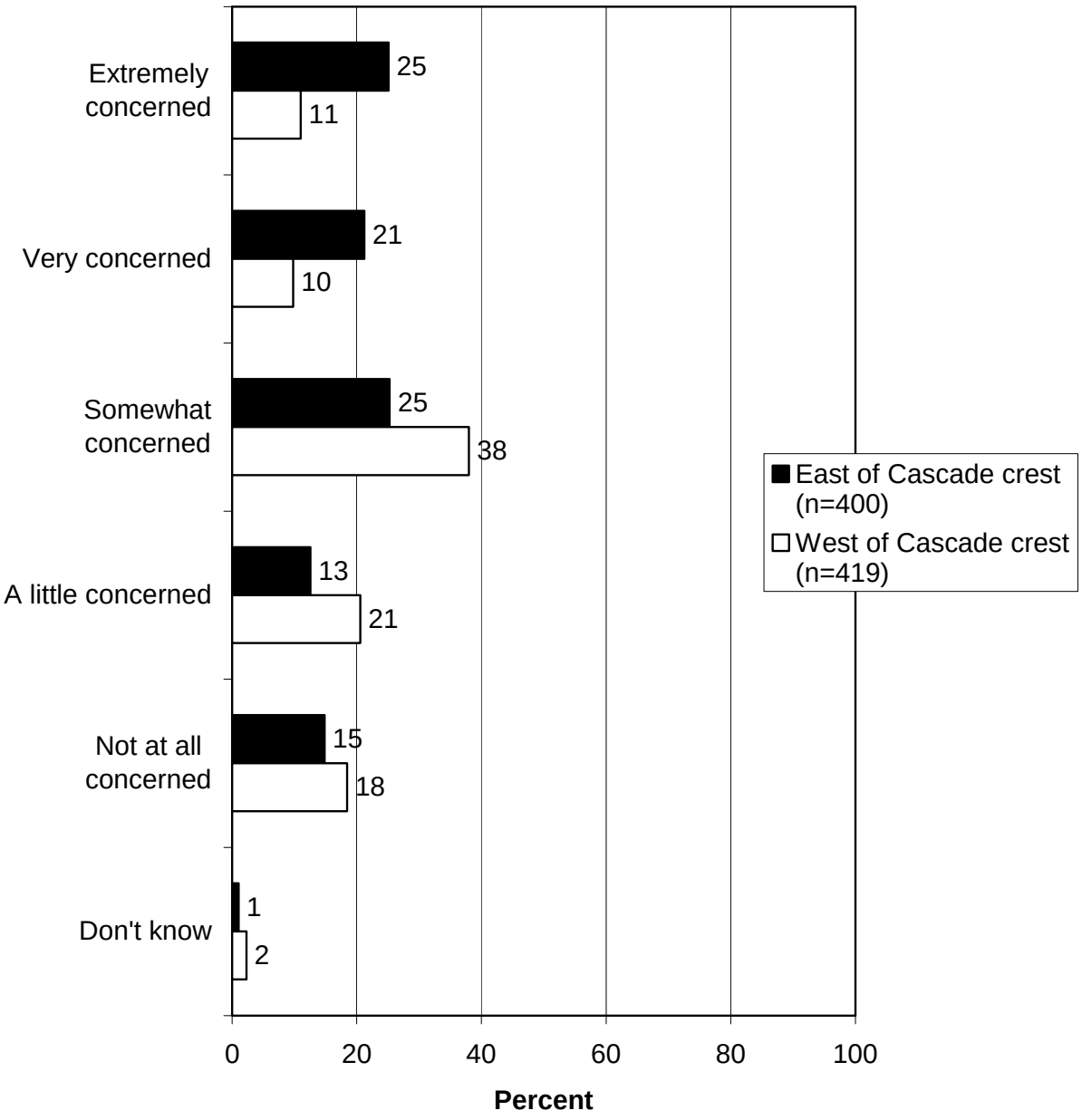

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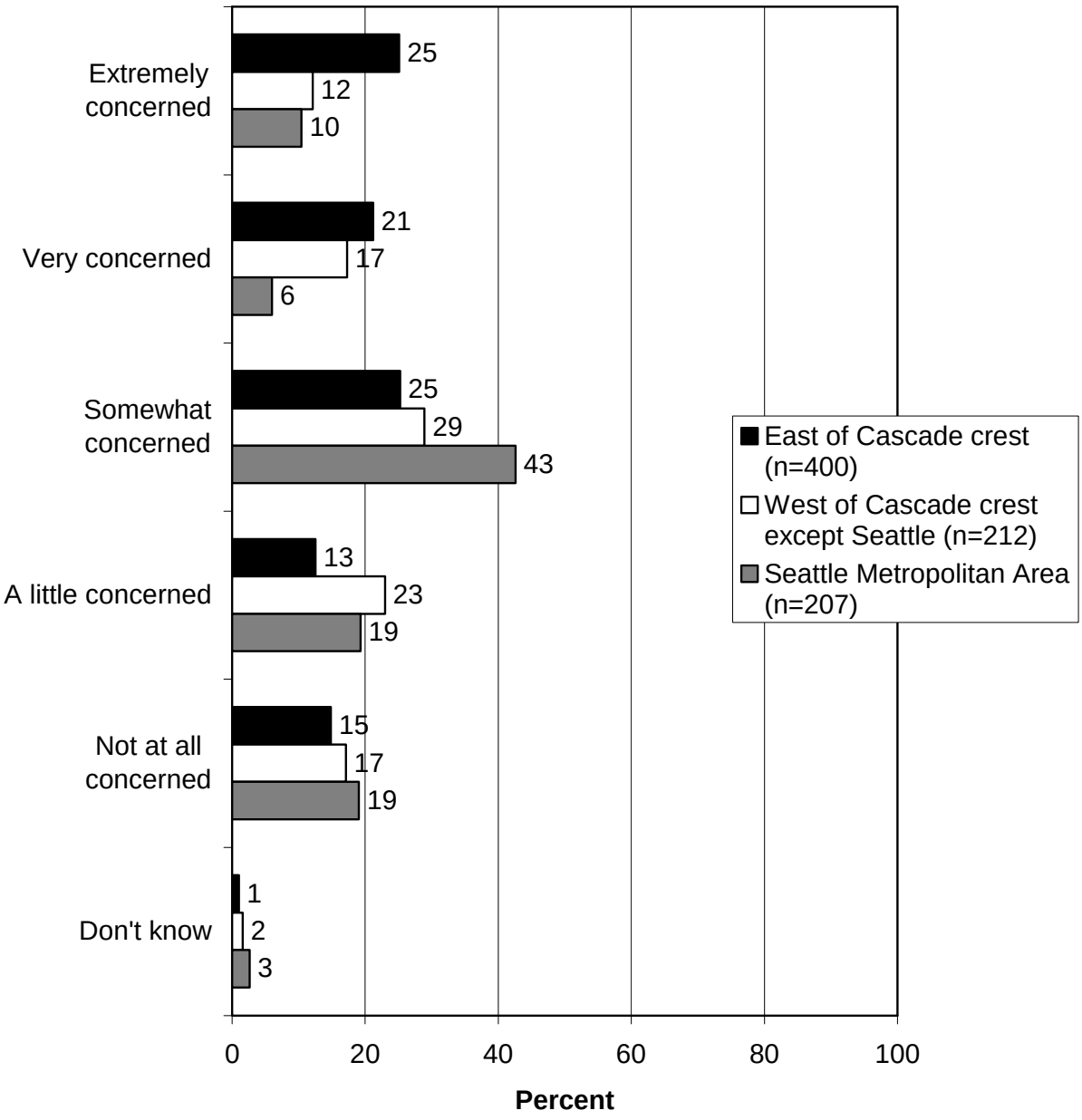

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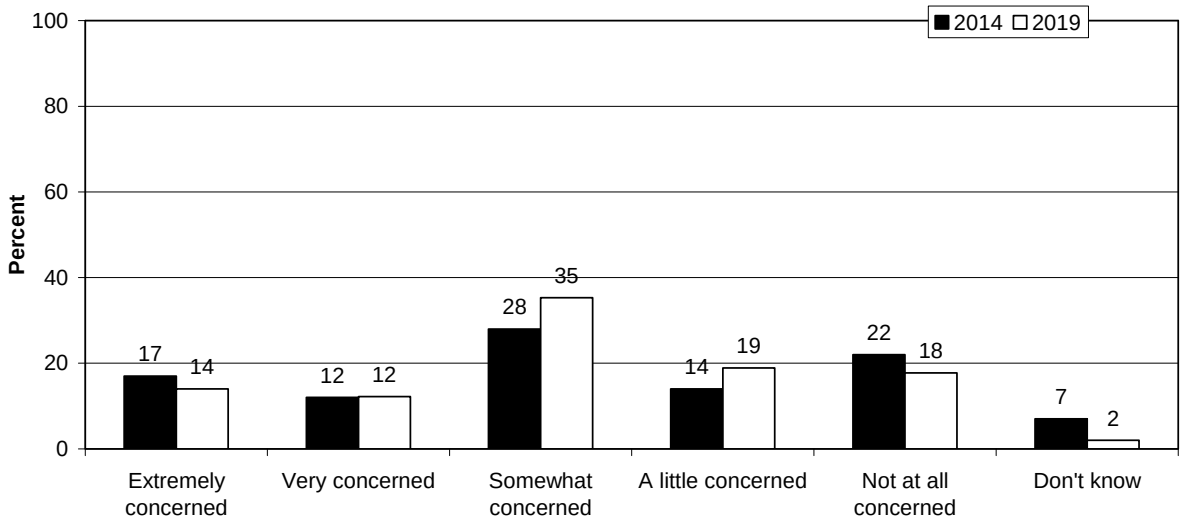


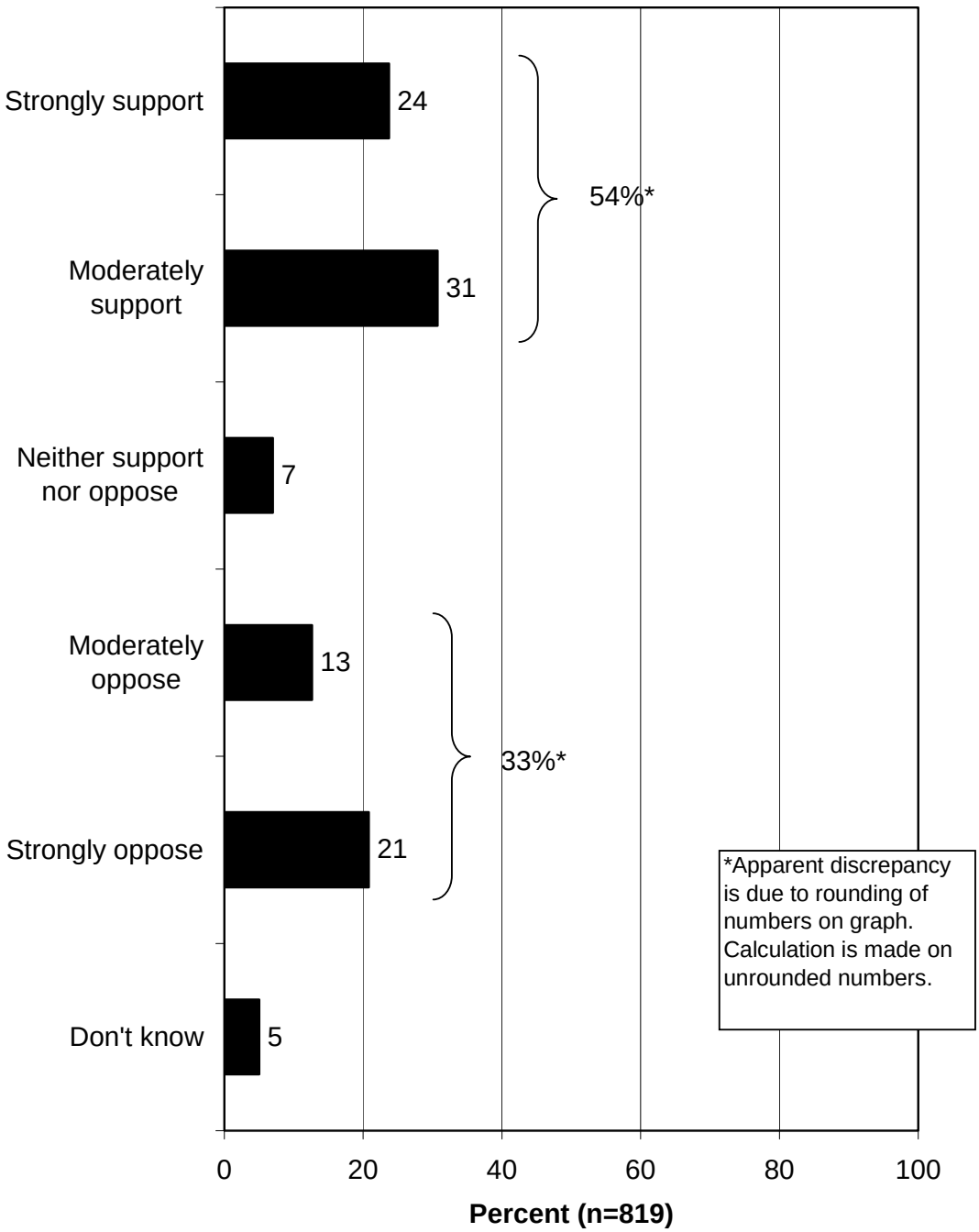
SUPPORT FOR AND OPPOSITION TO LETHAL WOLF MANAGEMENT

- There is more support for (54%) than opposition to (33%) some level of lethal wolf control to address declines in deer, elk, and moose populations in Washington.
  - *Strong* support is much higher in the east than in the west, although *moderate* support is higher in the west ($p \leq 0.05$ for both).

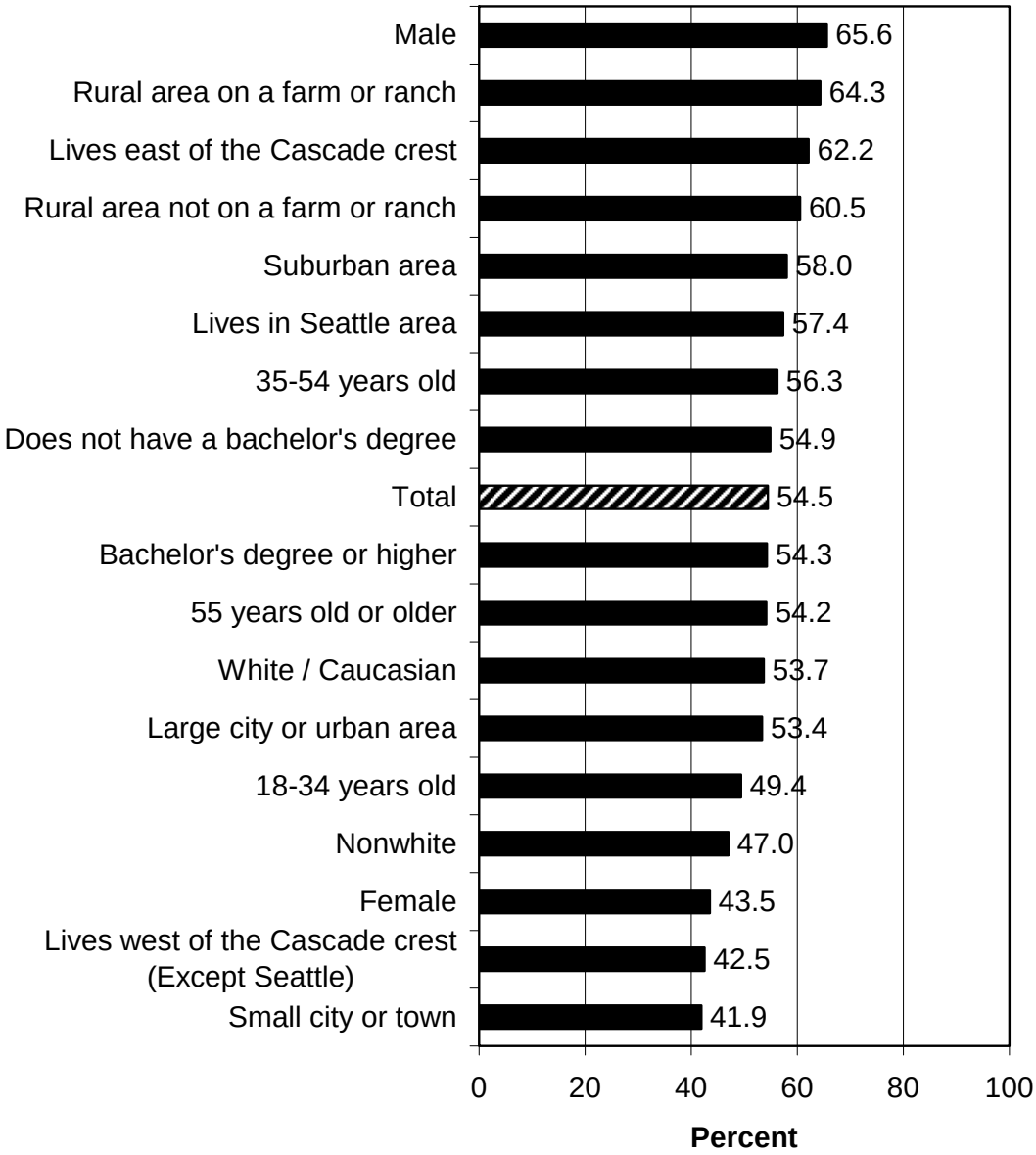
- Given the scenario where wolves are fully recovered, have reached population objectives, and have been removed from the state's endangered species list, a majority of residents (58%) would support the establishment of a legal, regulated wolf hunting season; nonetheless, 34% would oppose.
  - *Strong* support is higher in the east than the west ($p \leq 0.05$).
  - In follow-up, those who oppose a hunting season for wolves were asked if they oppose hunting altogether or the hunting of wolves specifically. Results were split: 46% oppose hunting in general and 45% oppose hunting wolves specifically.

- Next, a series of four questions asked about support for or opposition to a wolf hunting season in different scenarios. Each scenario and the percentage in support are shown below, in descending order of *strong* support:
  - To address livestock attacks or depredation (64% support; 38% *strongly* support)
  - To maintain population objectives (69% support; 33% *strongly* support)
  - To address impacts wolves have on other wildlife populations (60% support; 29% *strongly* support)
  - To provide recreational hunting opportunities (40% support; 19% *strongly* support)
    - Results of this series are shown combined on one graph. This is followed by statewide results, crosstabulations, and trends for each question individually.

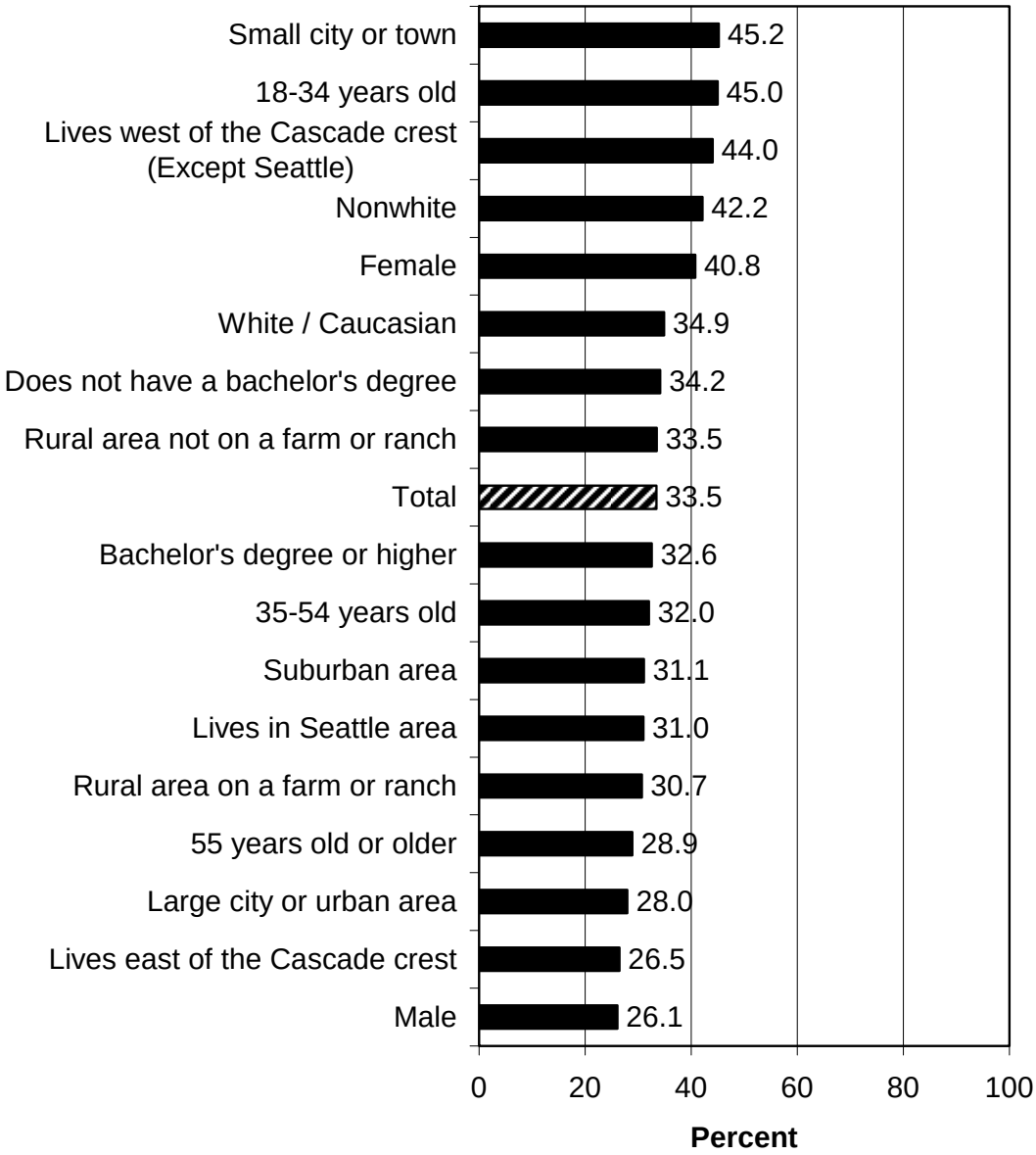
Q18. Would you support or oppose some level of lethal wolf control to address declines in [deer / elk and moose] populations in Washington?



Percent of each of the following groups who support some level of lethal wolf control to address declines in [deer / elk and moose] populations in Washington:



Percent of each of the following groups who oppose some level of lethal wolf control to address declines in [deer / elk and moose] populations in Washington:



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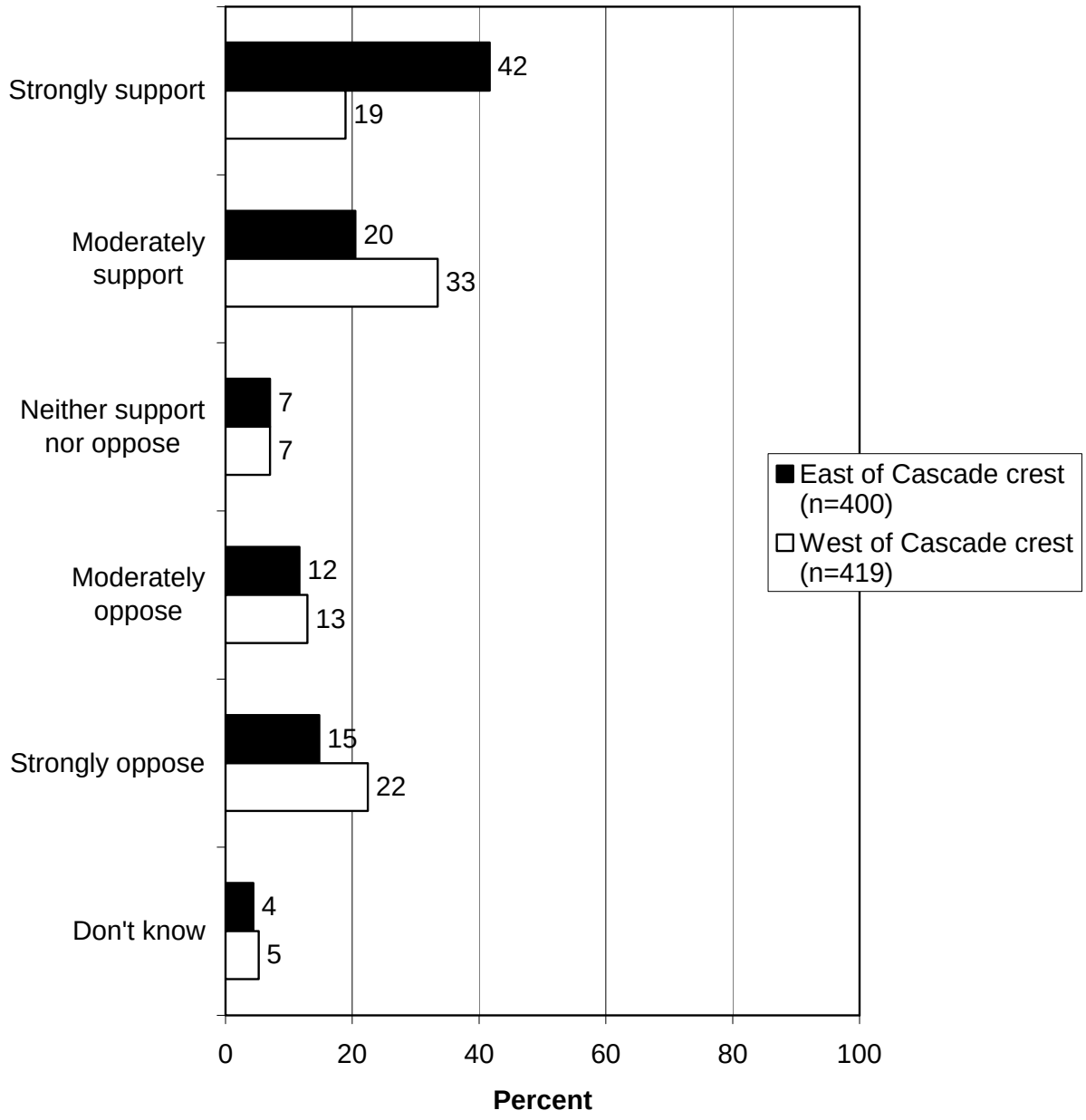

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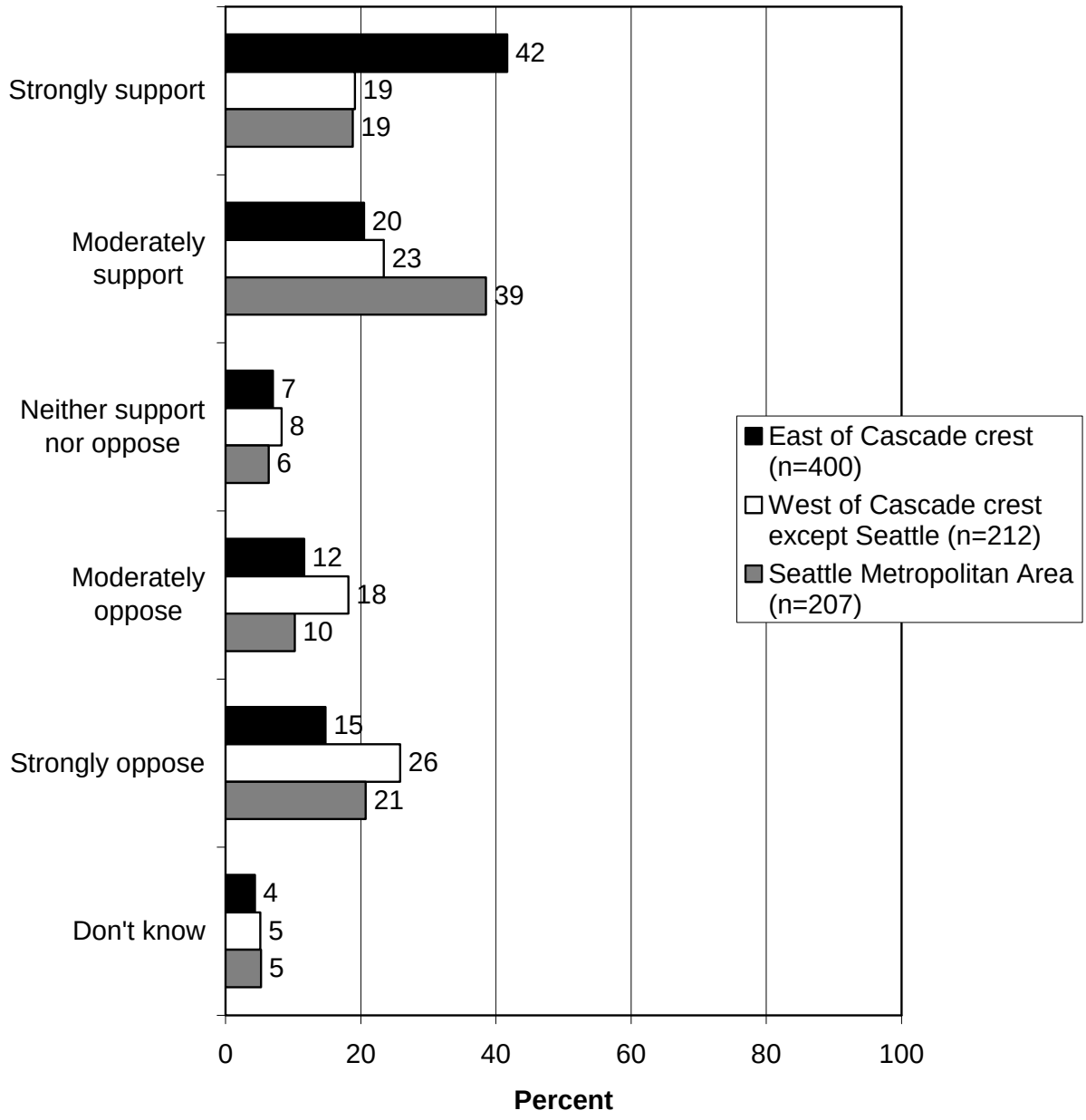

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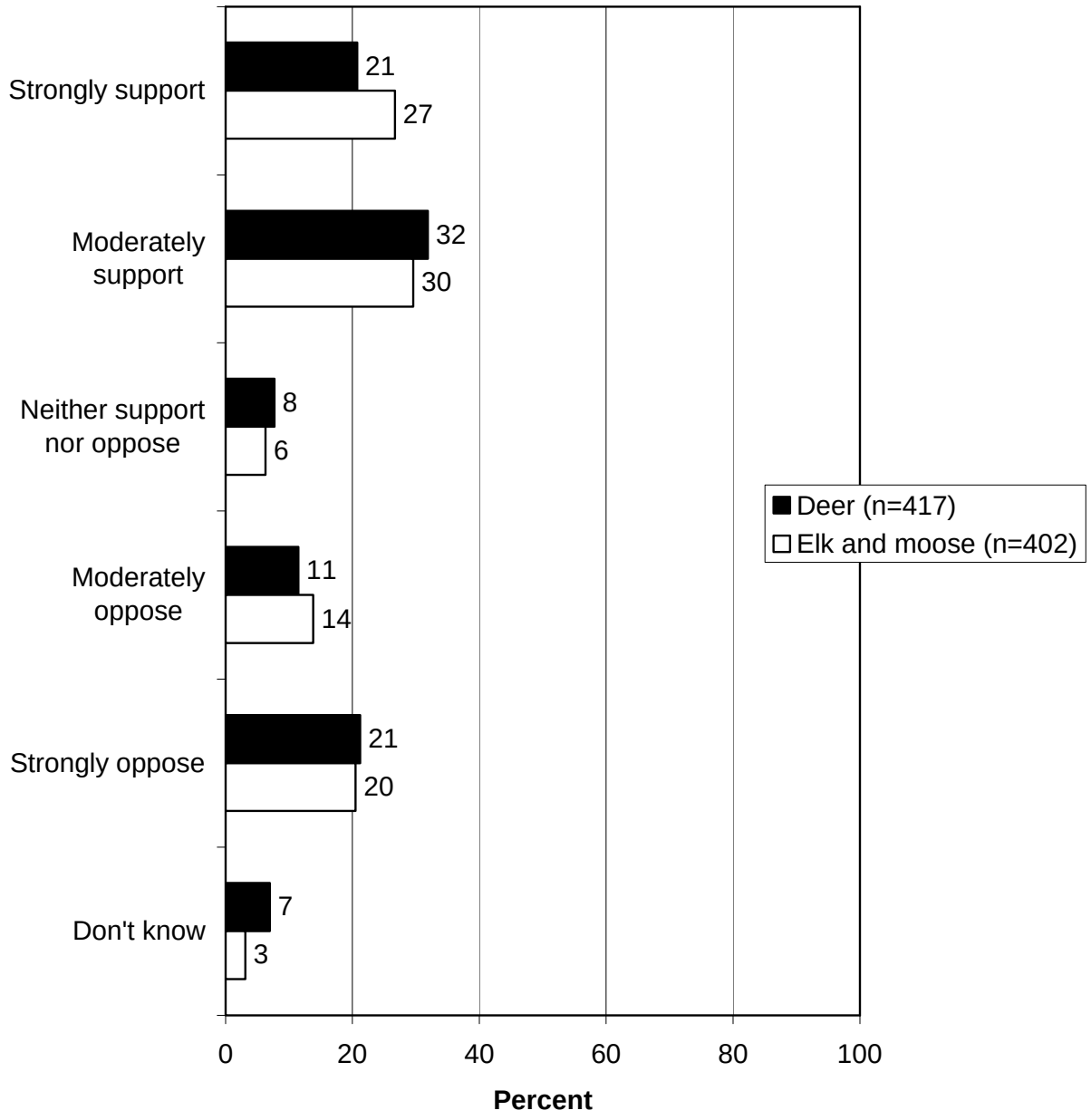

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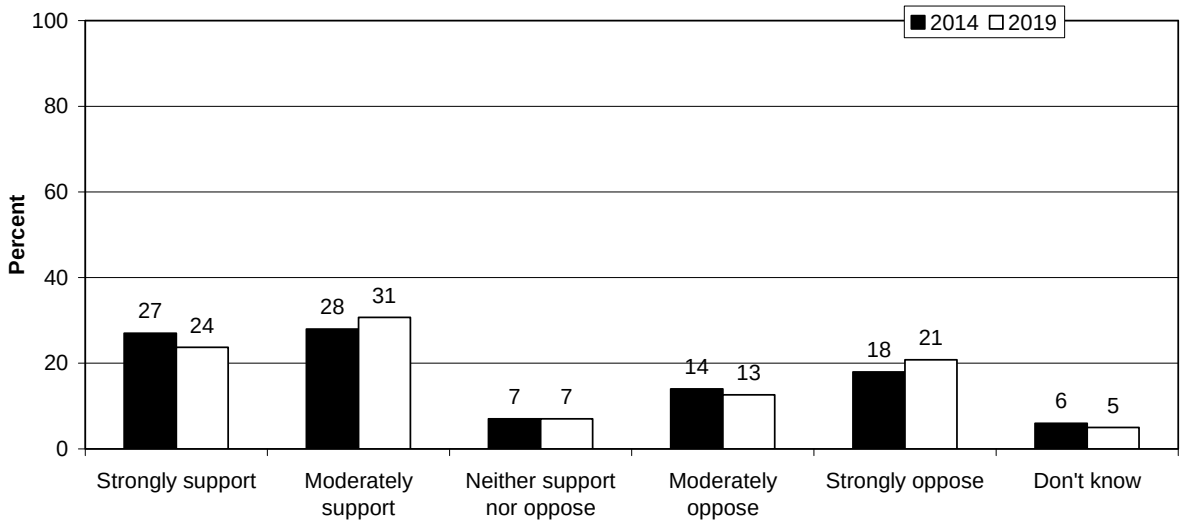
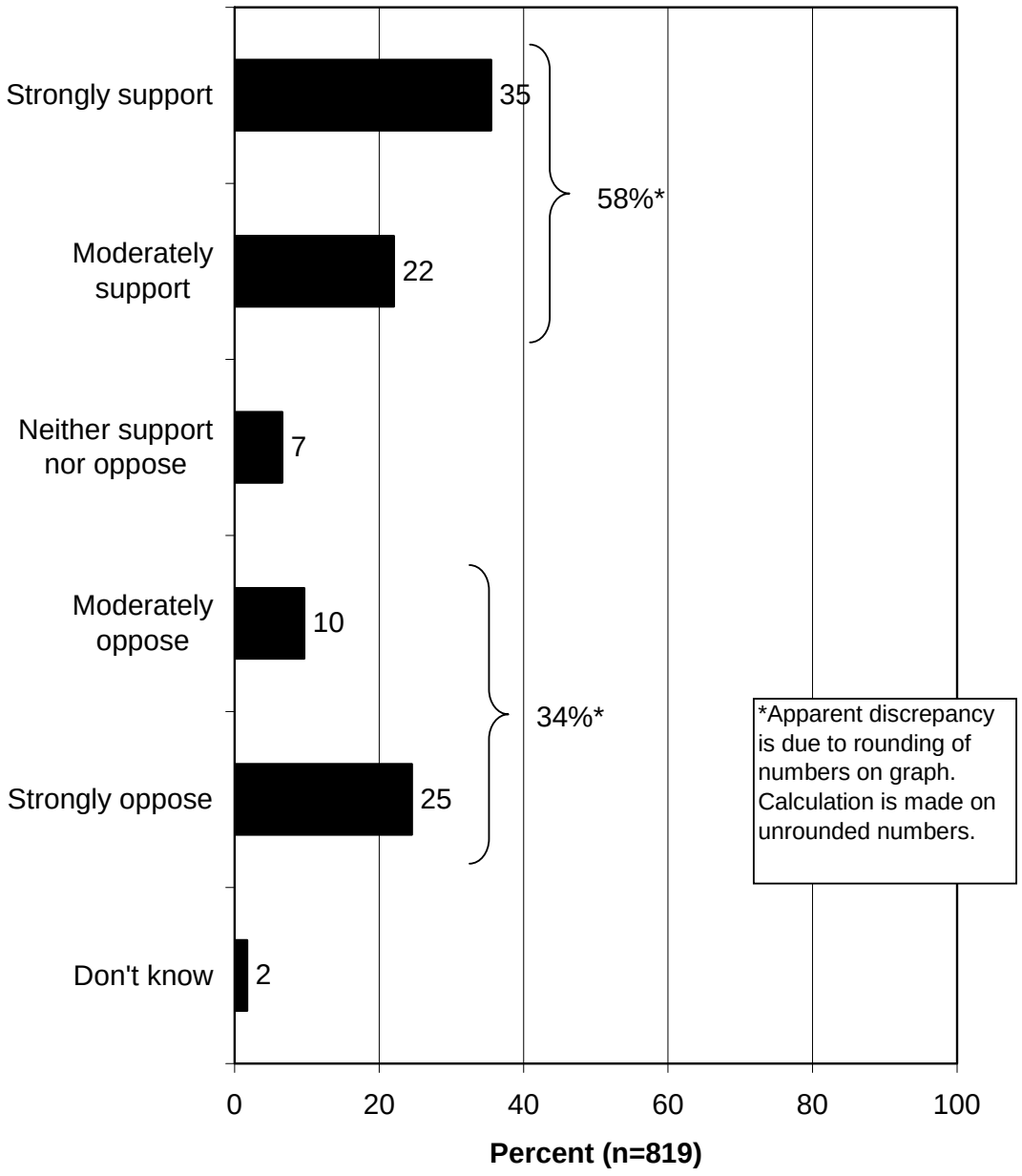
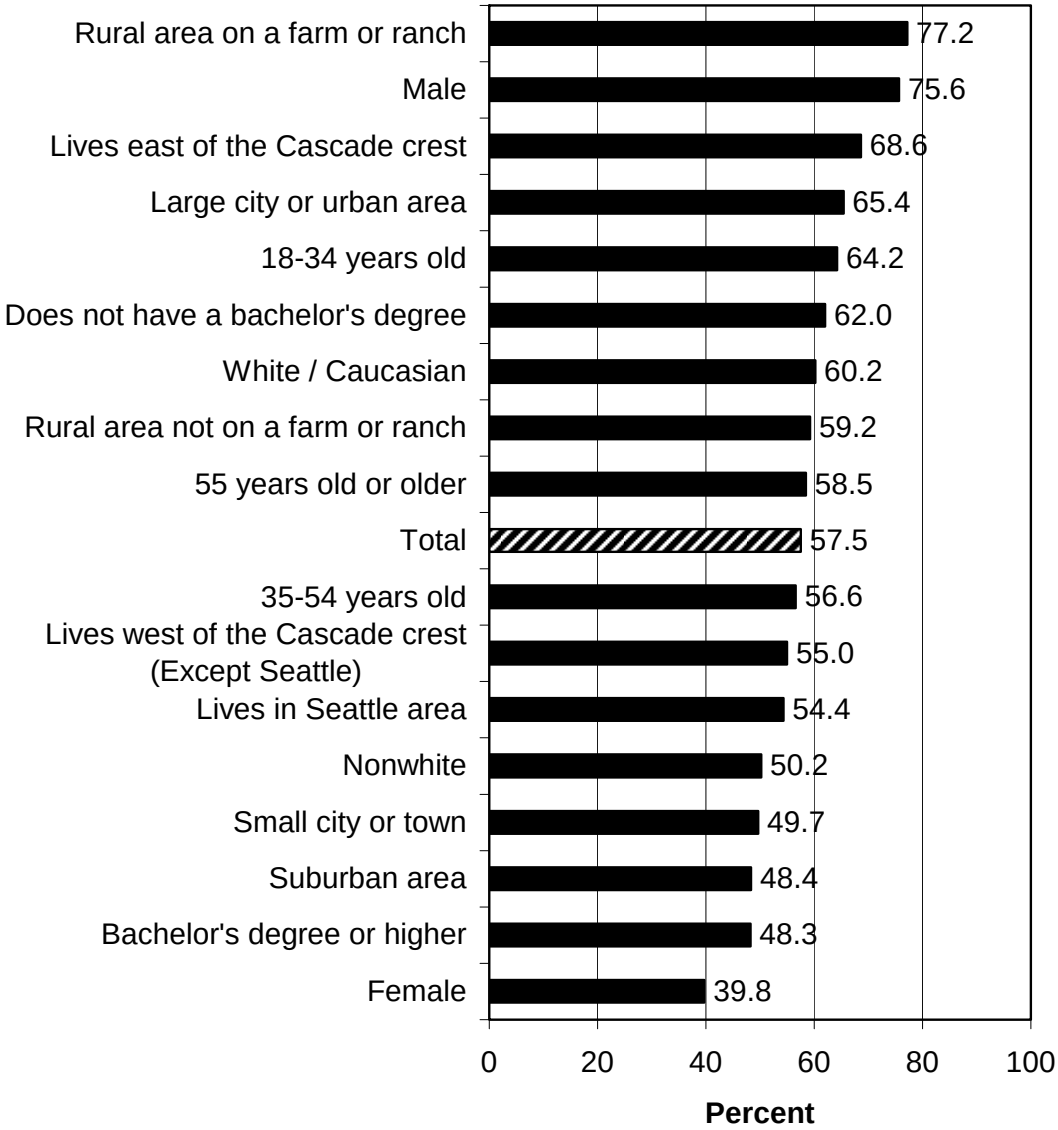


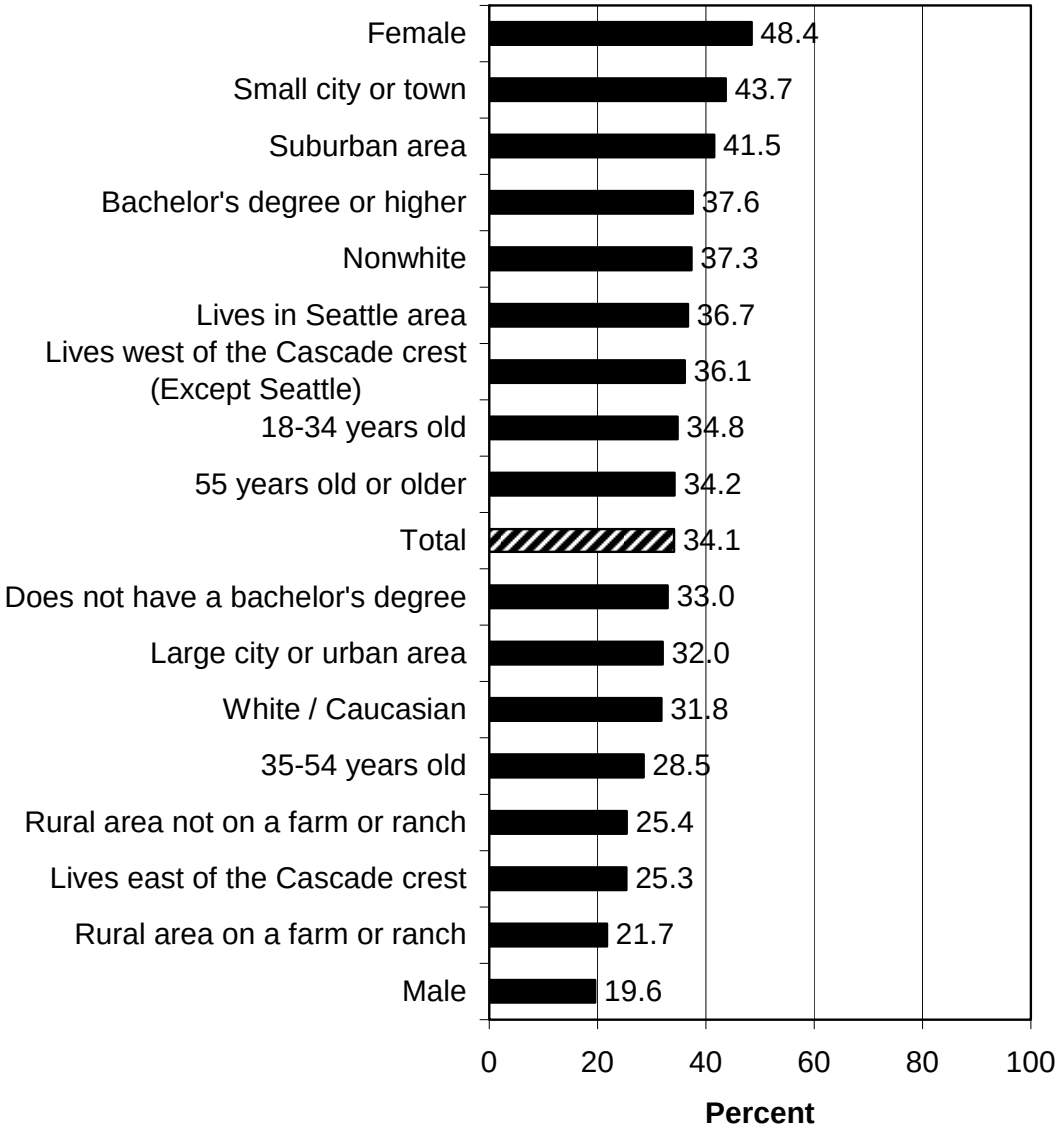
Q26. Would you support or oppose a legal, regulated hunting season for wolves when they are fully recovered, have reached sustainable population levels, and have been removed from the state's endangered species list?



Percent of each of the following groups who support a legal, regulated hunting season for wolves when they are fully recovered, have reached sustainable population levels, and have been removed from the state's endangered species list:



Percent of each of the following groups who oppose a legal, regulated hunting season for wolves when they are fully recovered, have reached sustainable population levels, and have been removed from the state's endangered species list:



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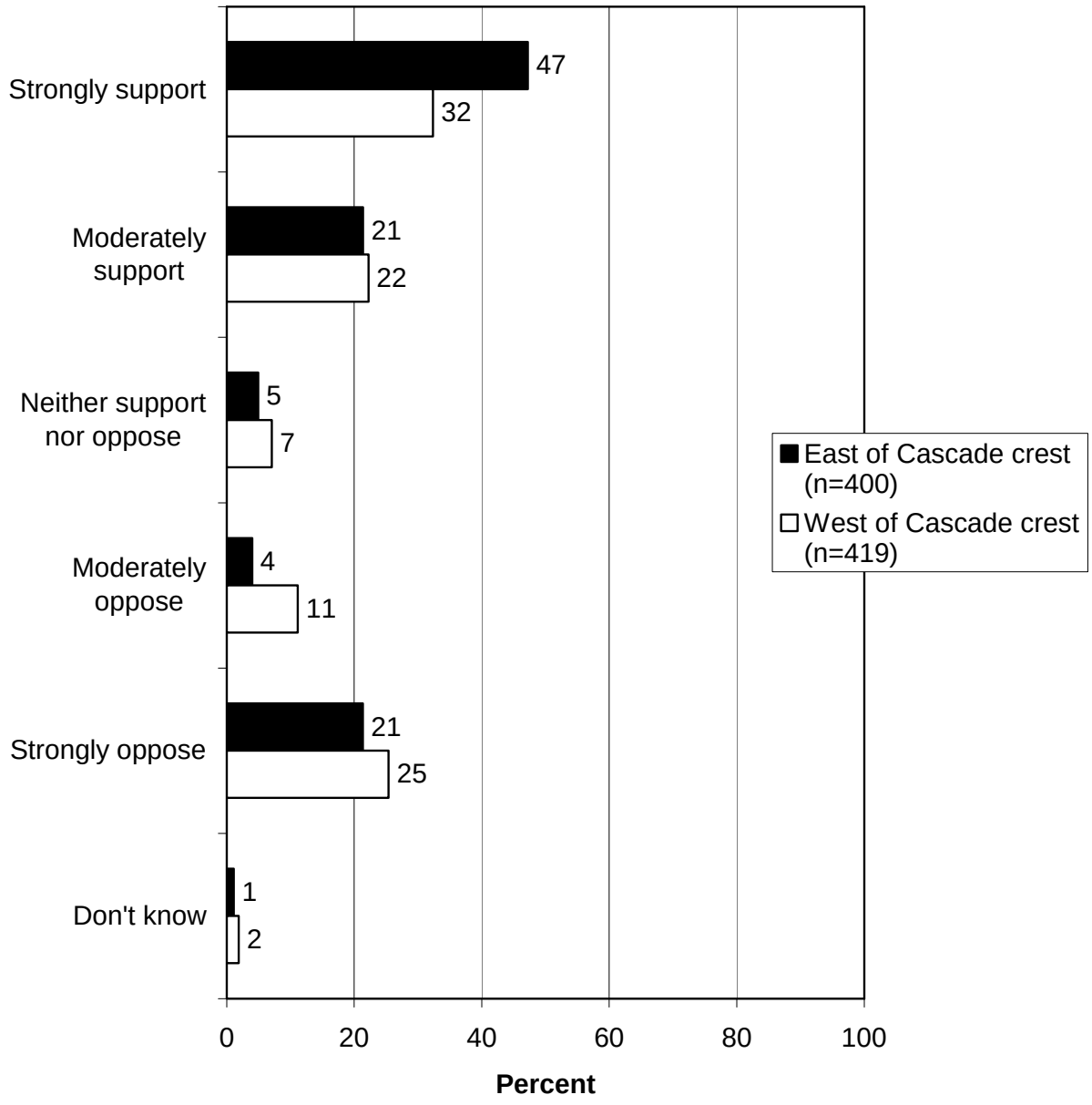

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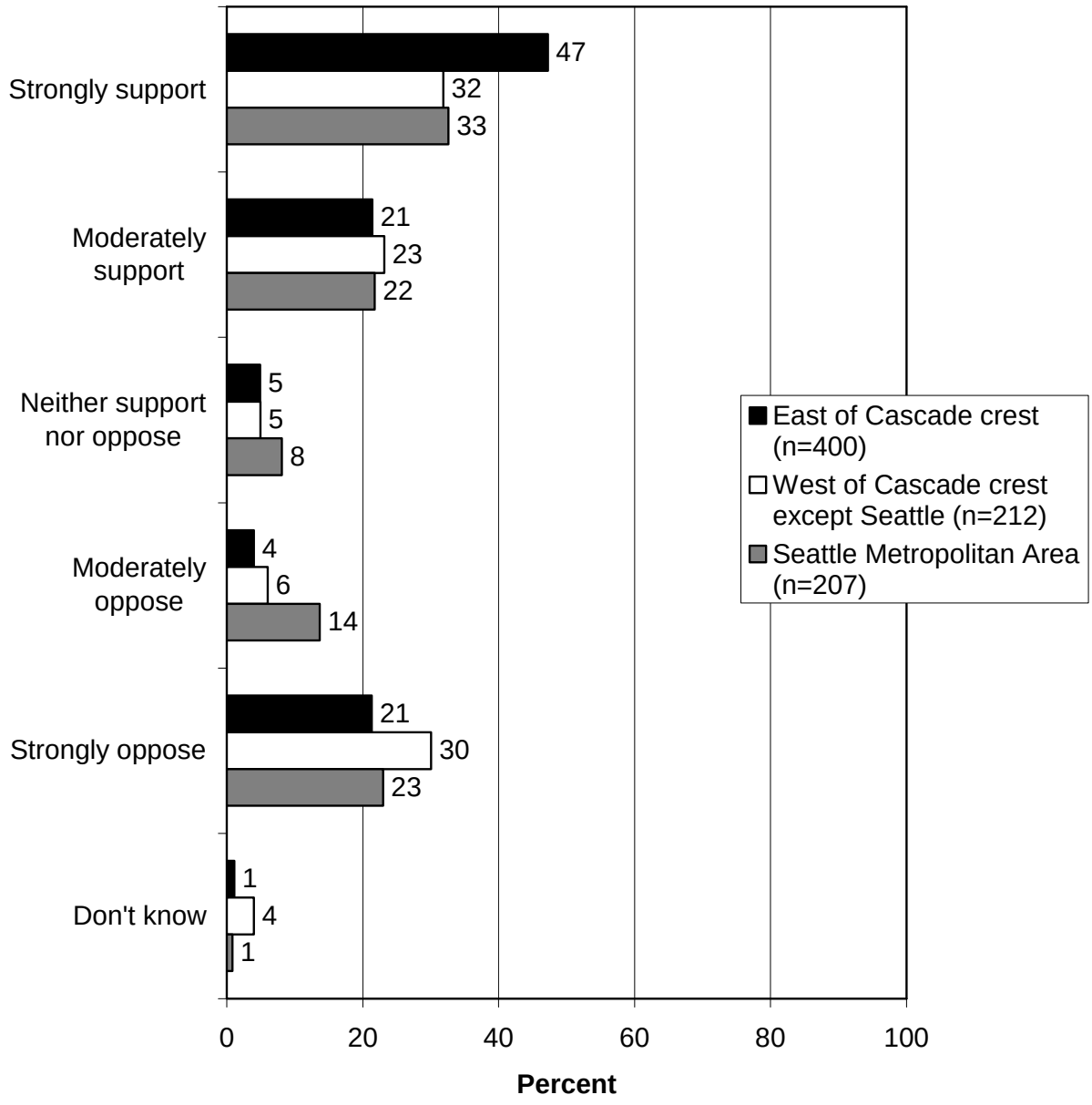
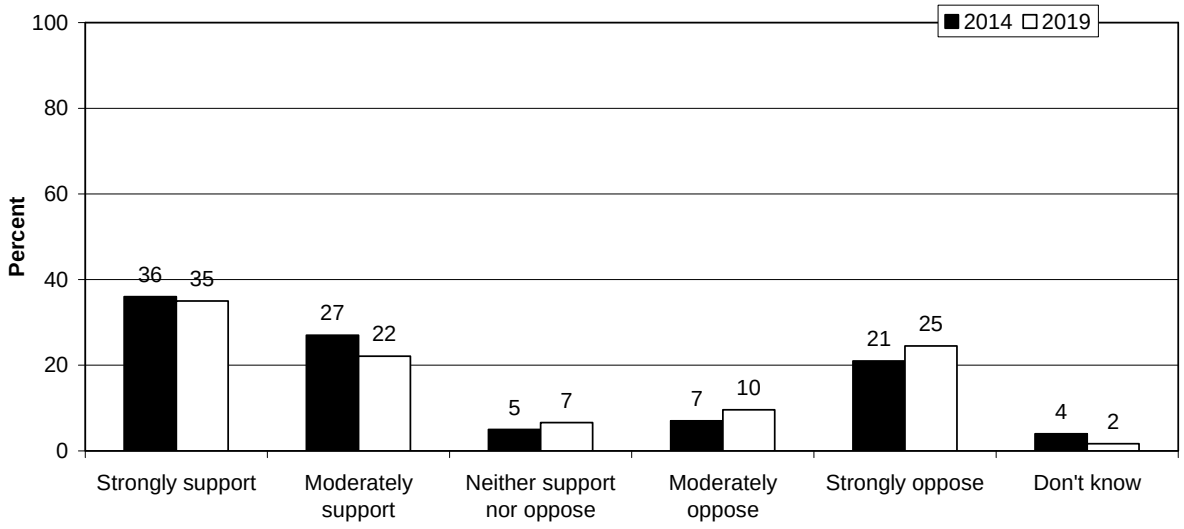
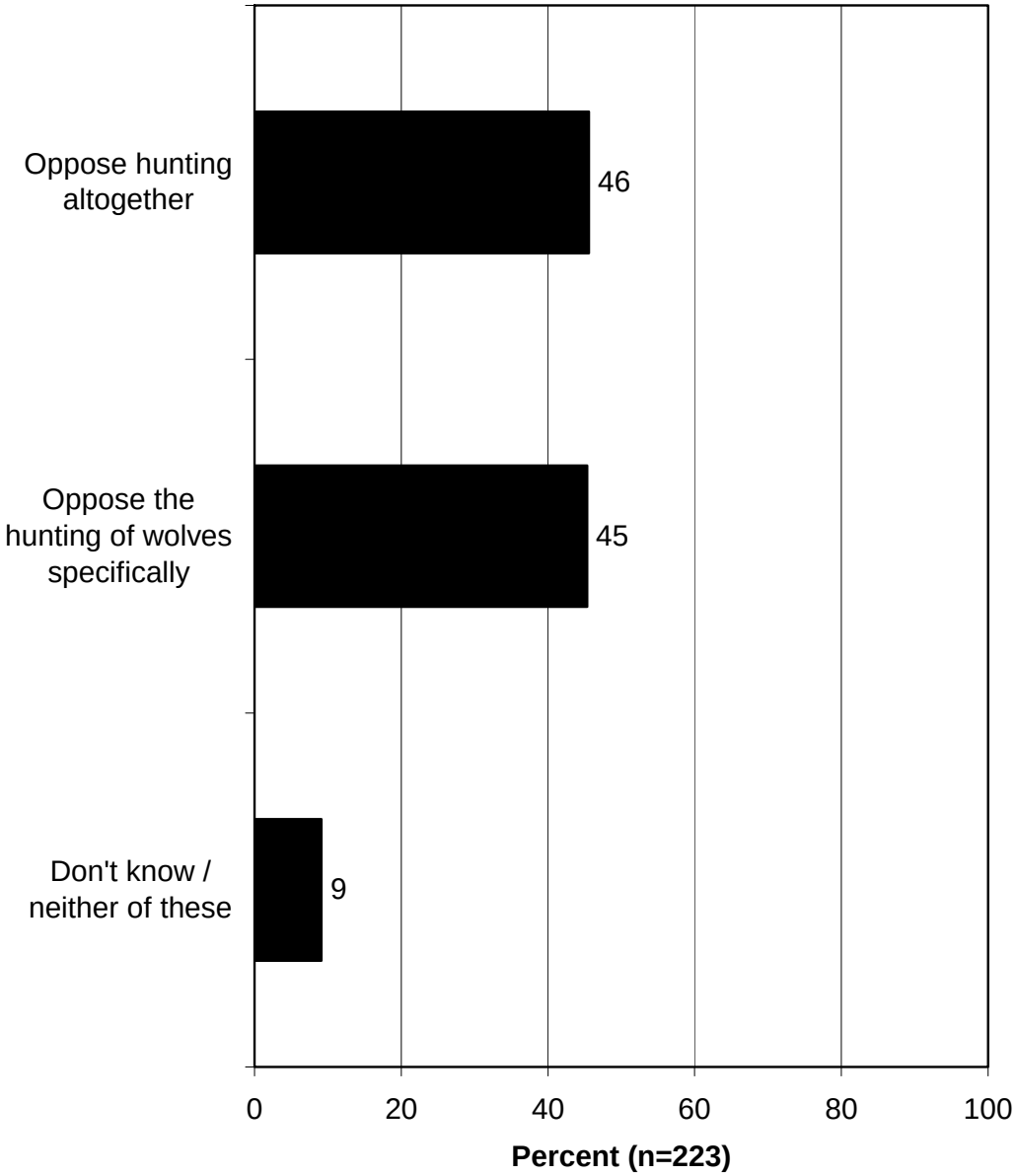


Q26. Would you support or oppose a legal, regulated hunting season for wolves when they are fully recovered, have reached sustainable population levels, and have been removed from the state's endangered species list?



Q36. Do you oppose a regulated hunting season for wolves because you oppose hunting altogether or because you just oppose the hunting of wolves specifically? (Asked of those who oppose a regulated hunting season for wolves.)



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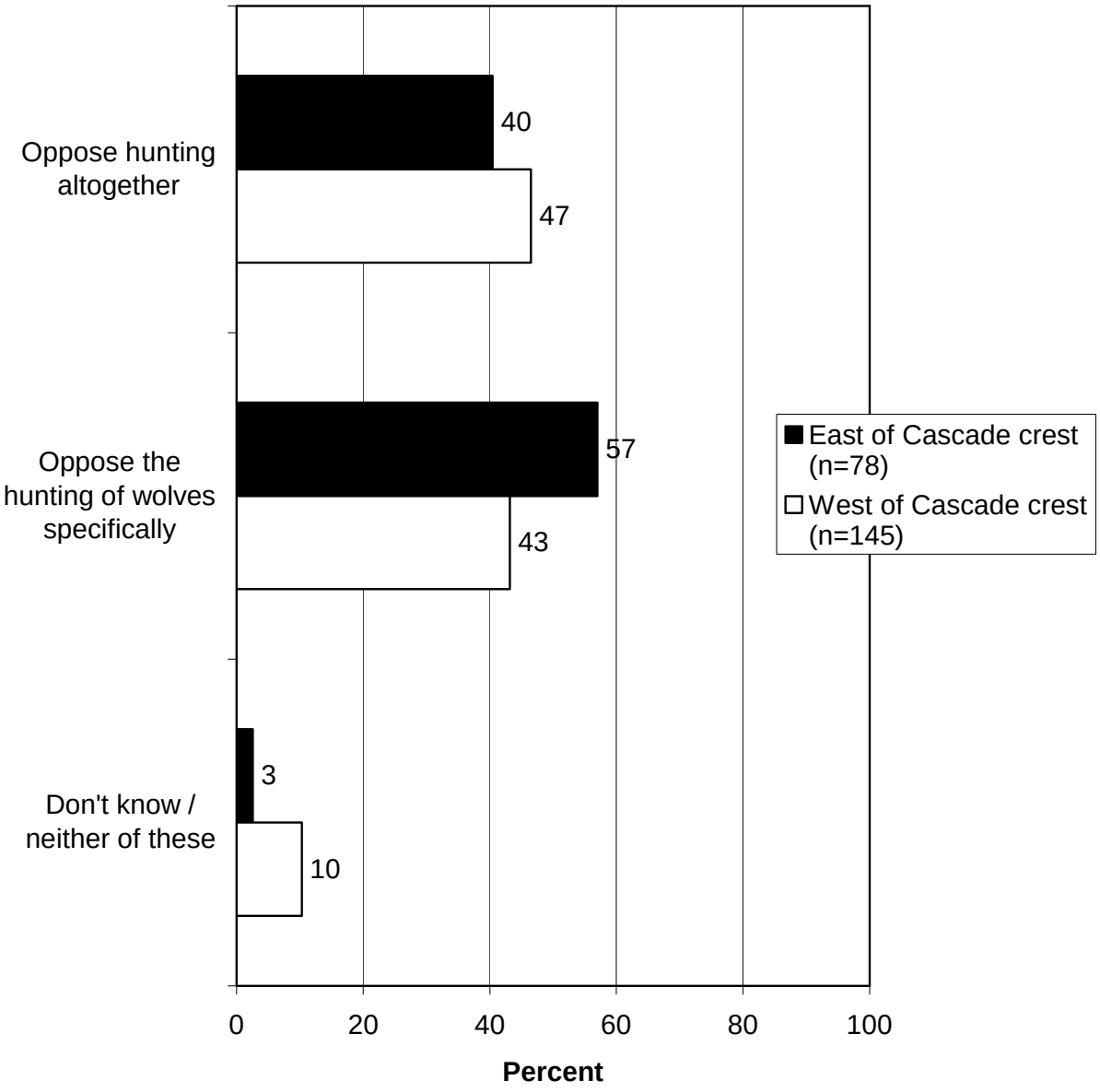
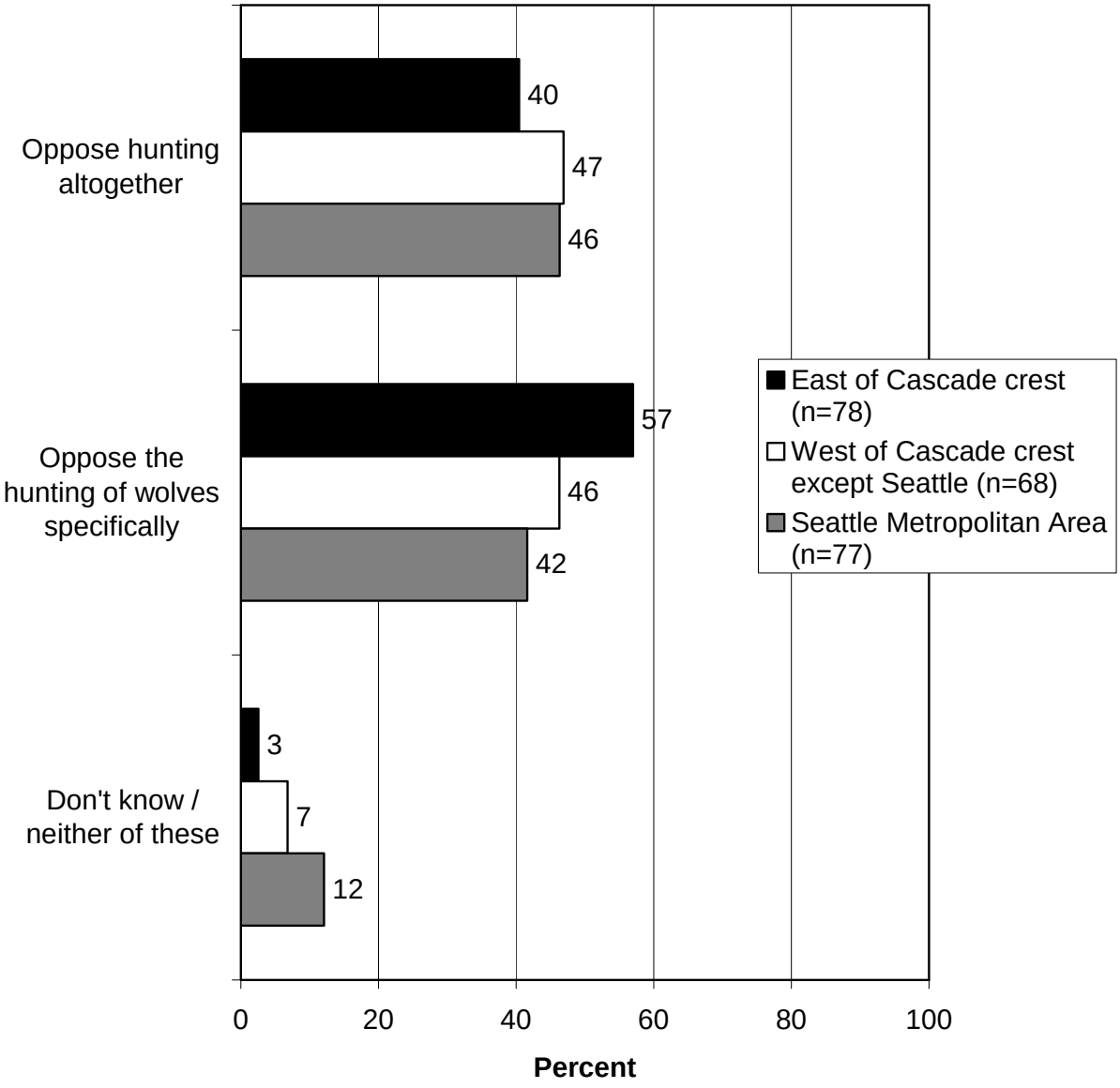
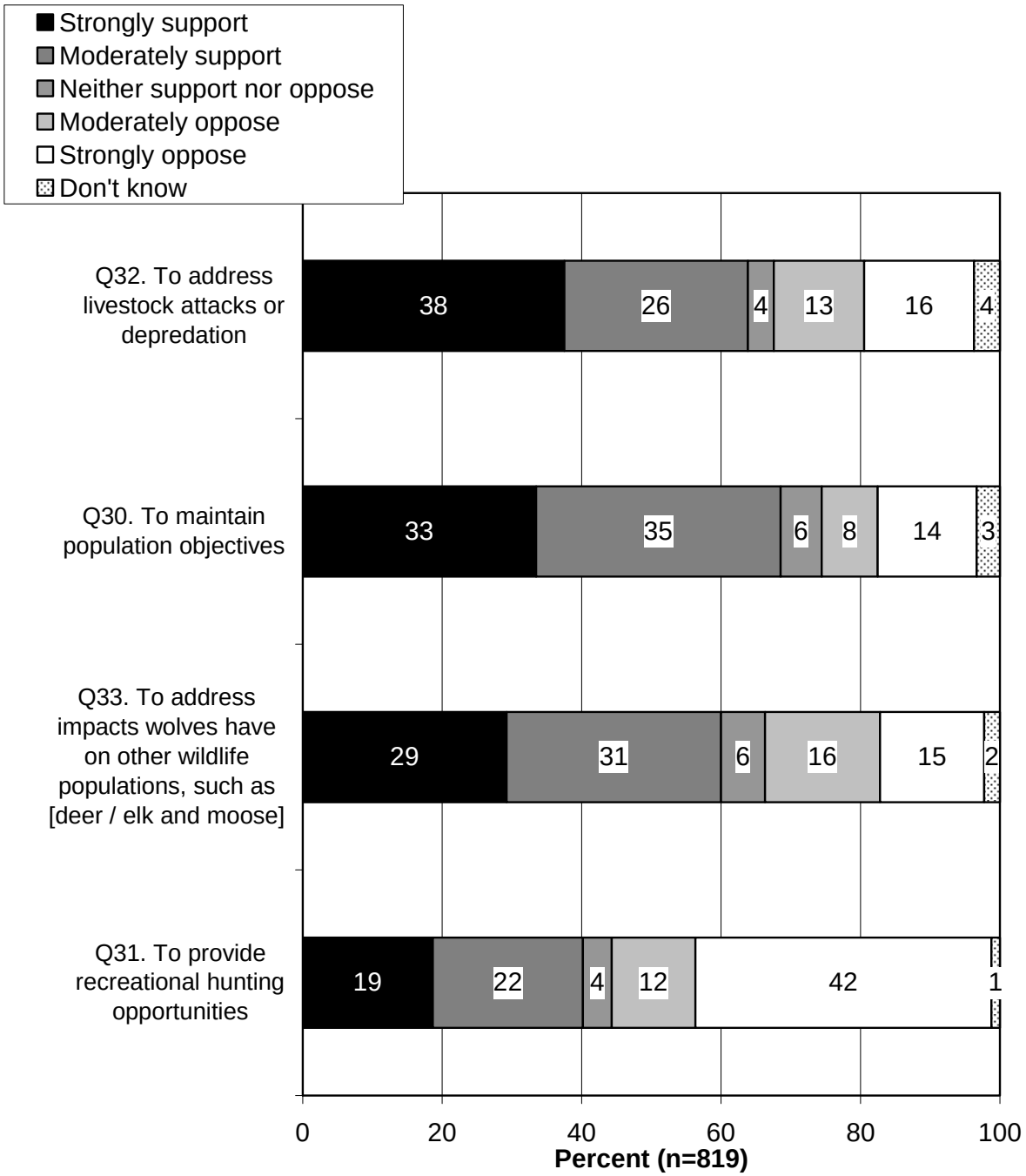


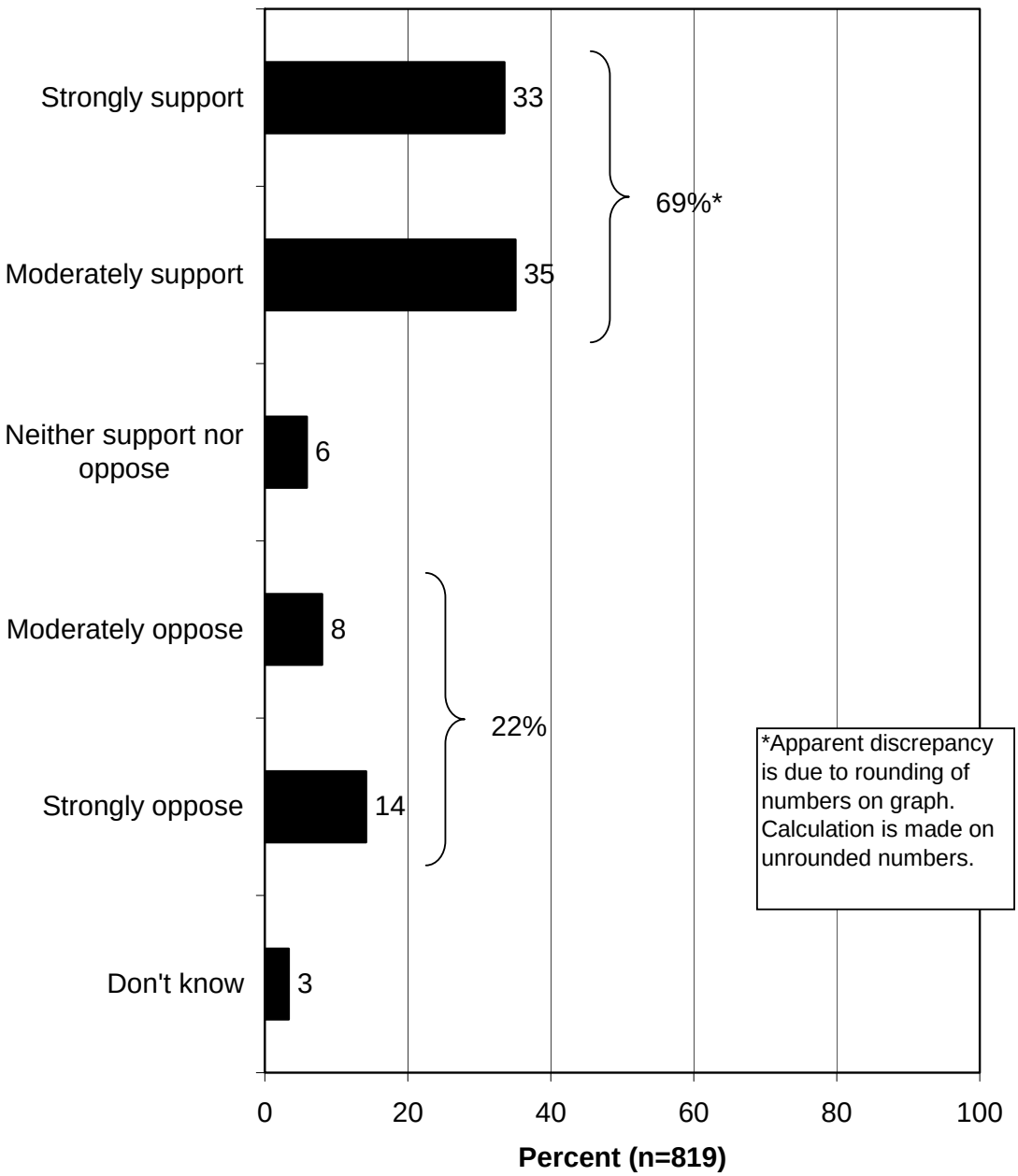
Q36. Do you oppose a regulated hunting season for wolves because you oppose hunting altogether or because you just oppose the hunting of wolves specifically? (Asked of those who oppose a regulated hunting season for wolves.)



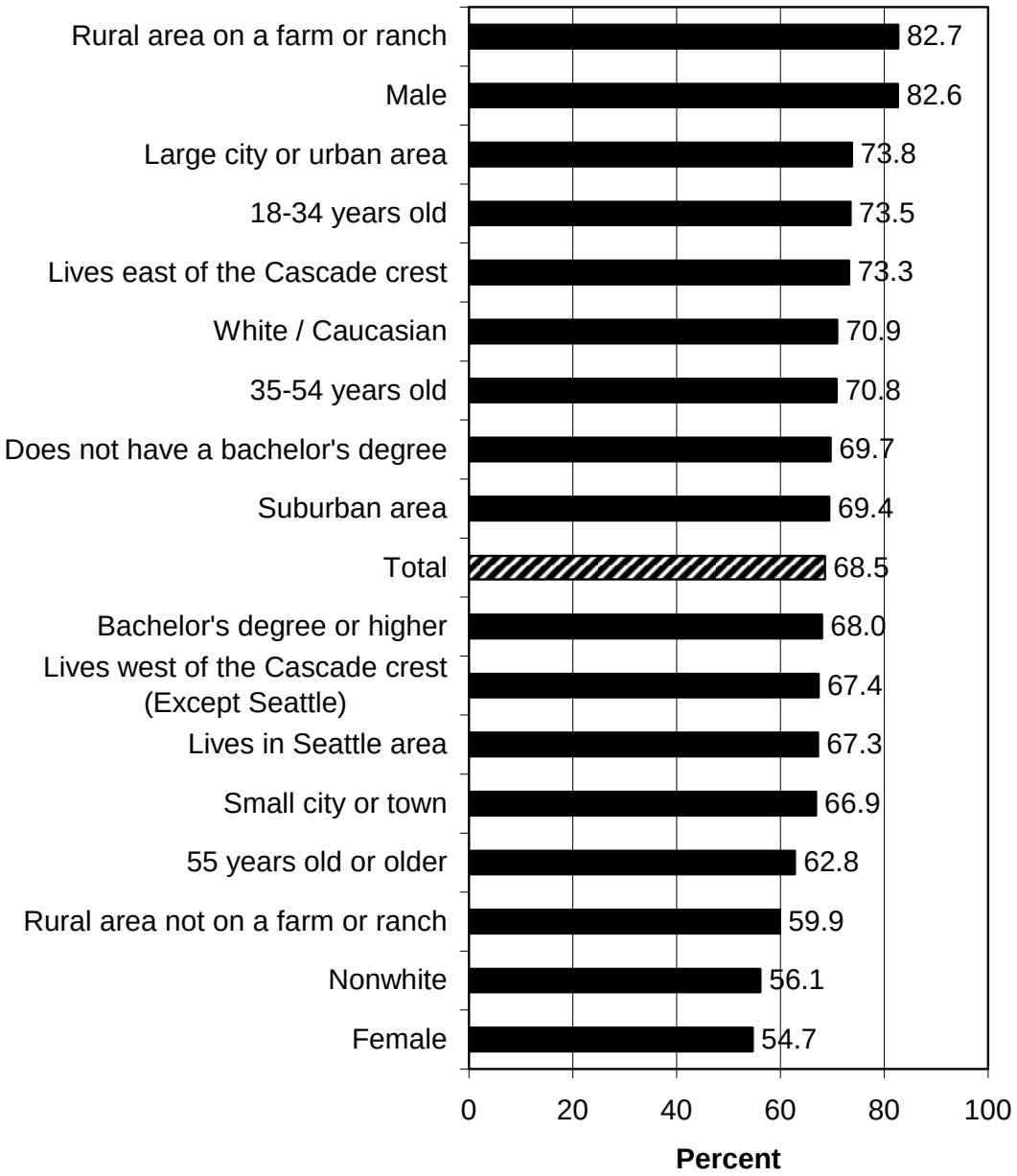
Q30-Q33. Percent of respondents who indicated that they would [support / oppose] a regulated hunting season for wolves for each of the following reasons:



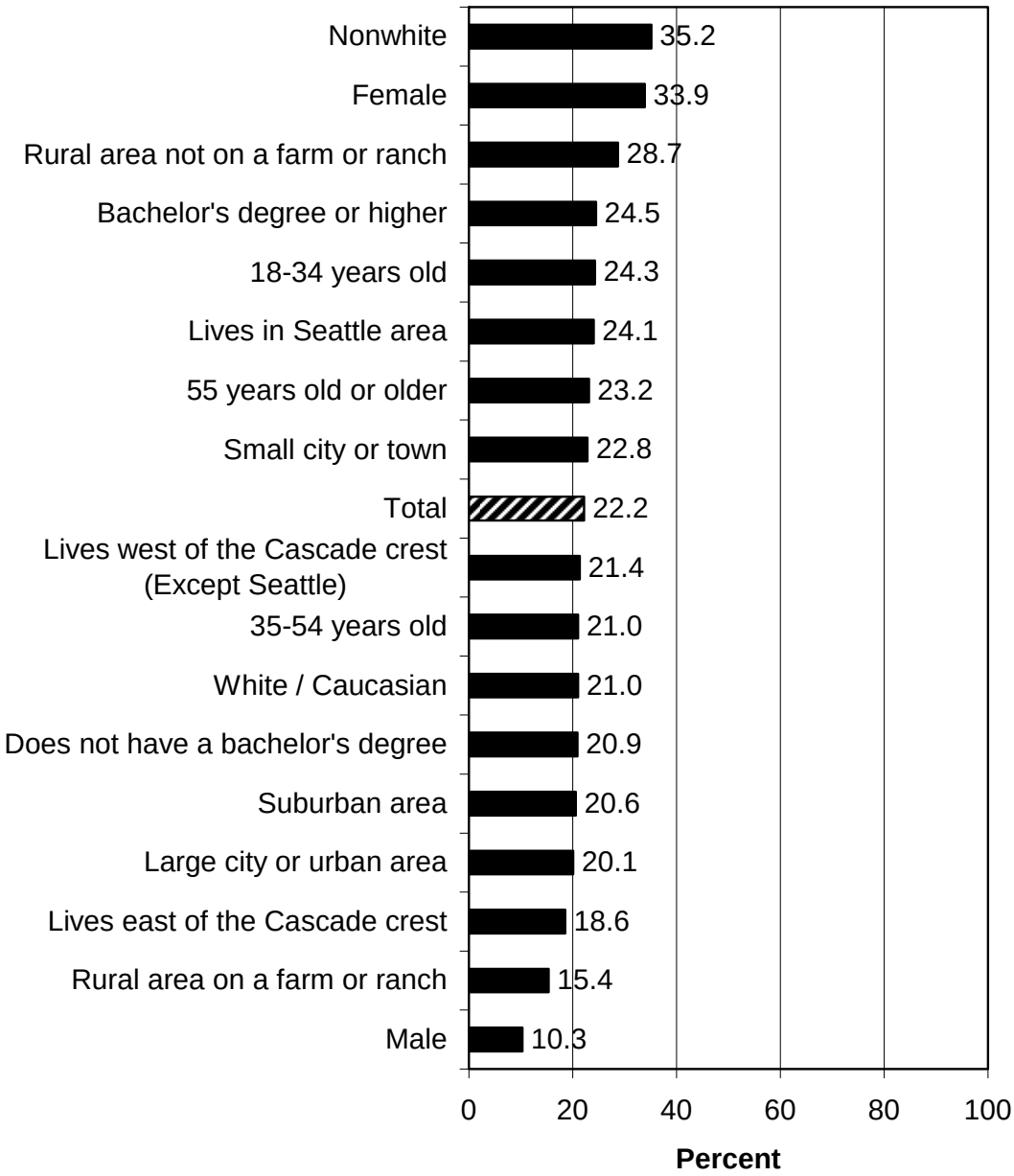
Q30. How about to maintain population objectives? (Would you support or oppose a regulated hunting season for wolves for this reason?)



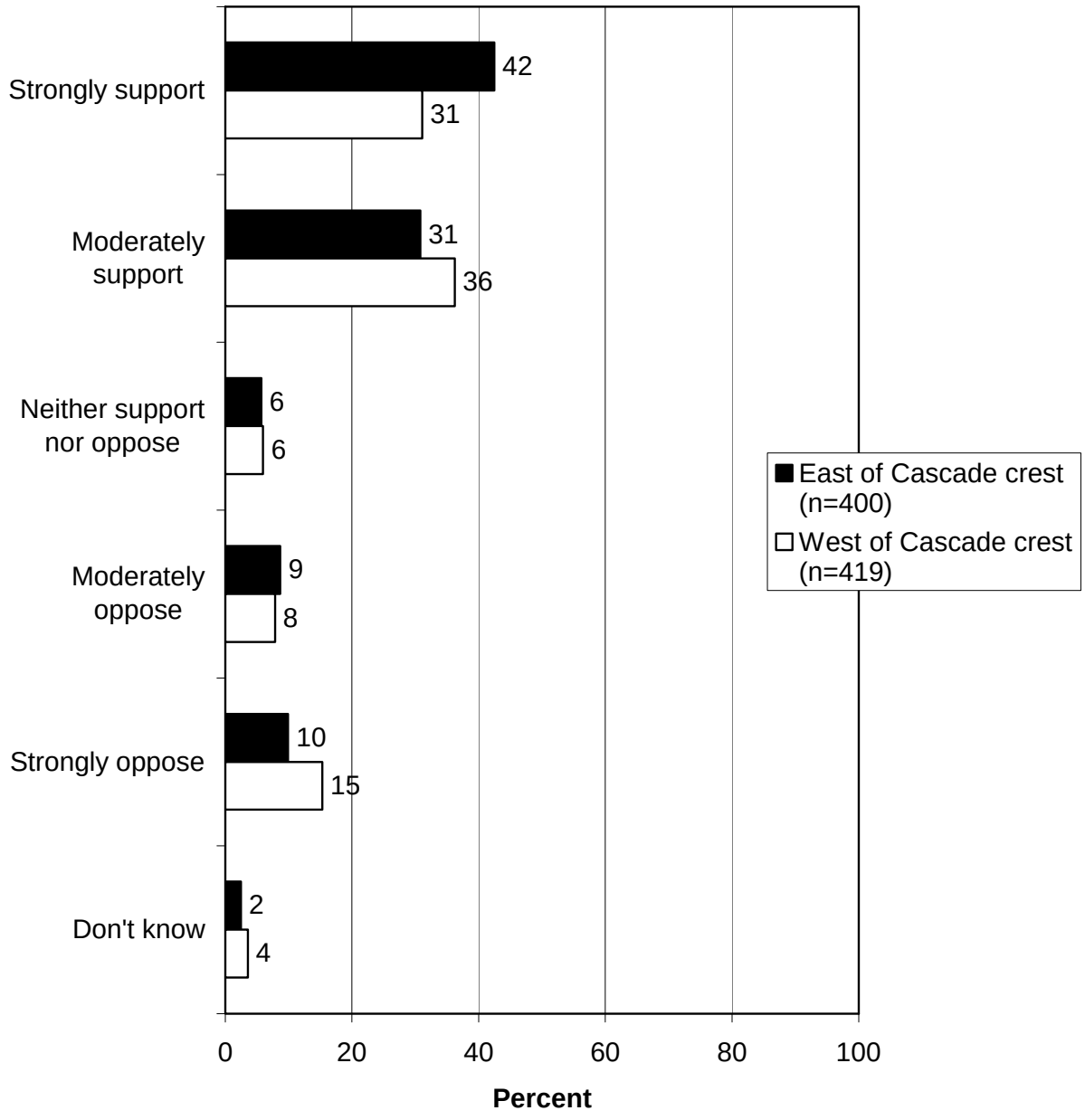
Percent of each of the following groups who support a legal, regulated hunting season for wolves to maintain population objectives:



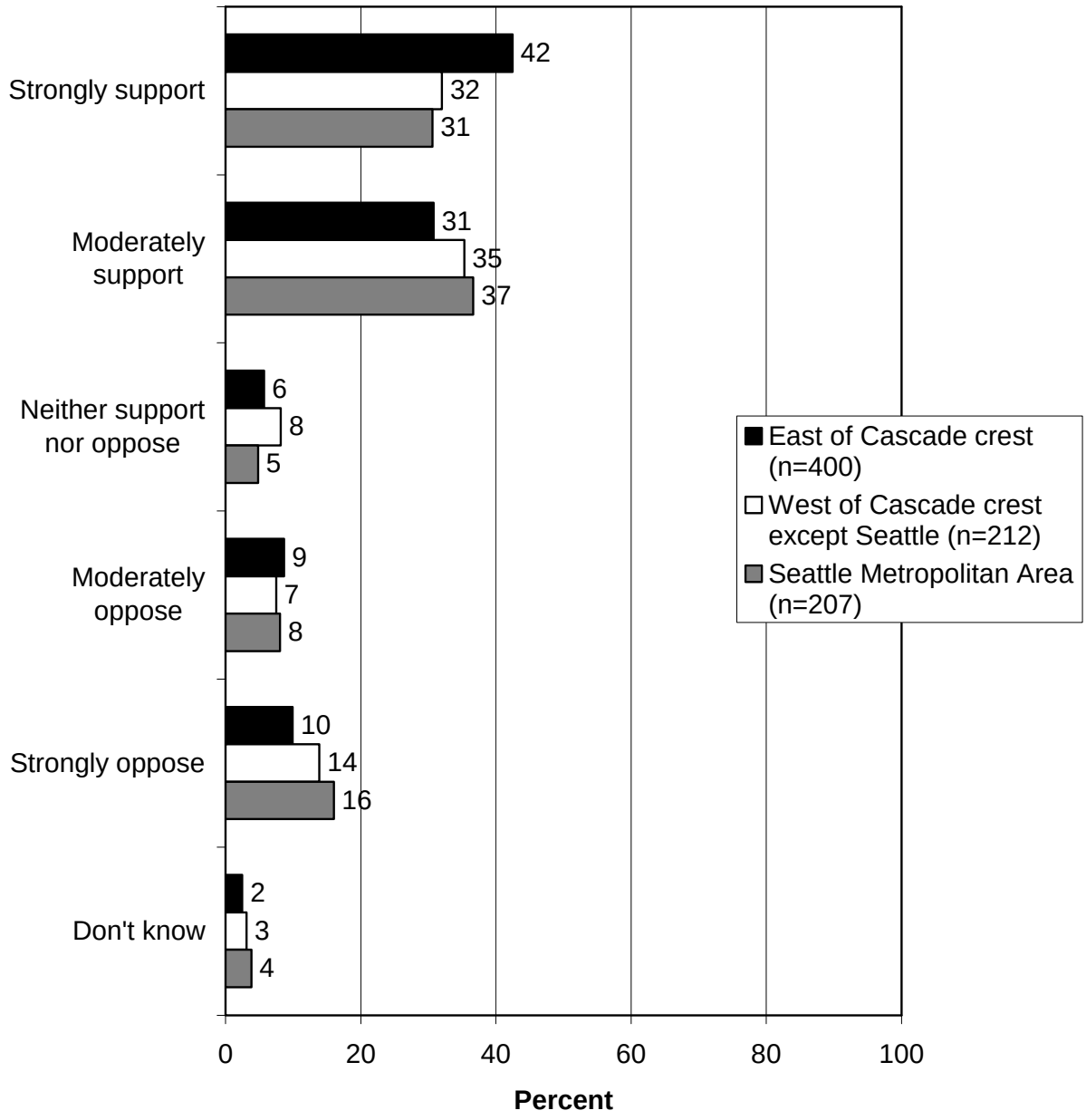
Percent of each of the following groups who oppose a legal, regulated hunting season for wolves to maintain population objectives:



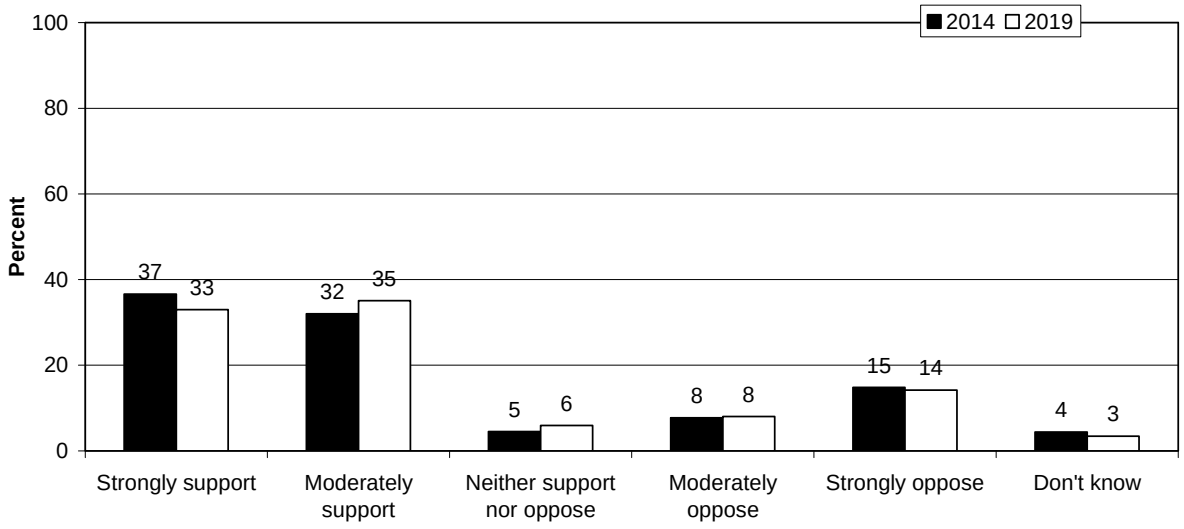
Q30. How about to maintain population objectives? (Would you support or oppose a regulated hunting season for wolves for this reason?)



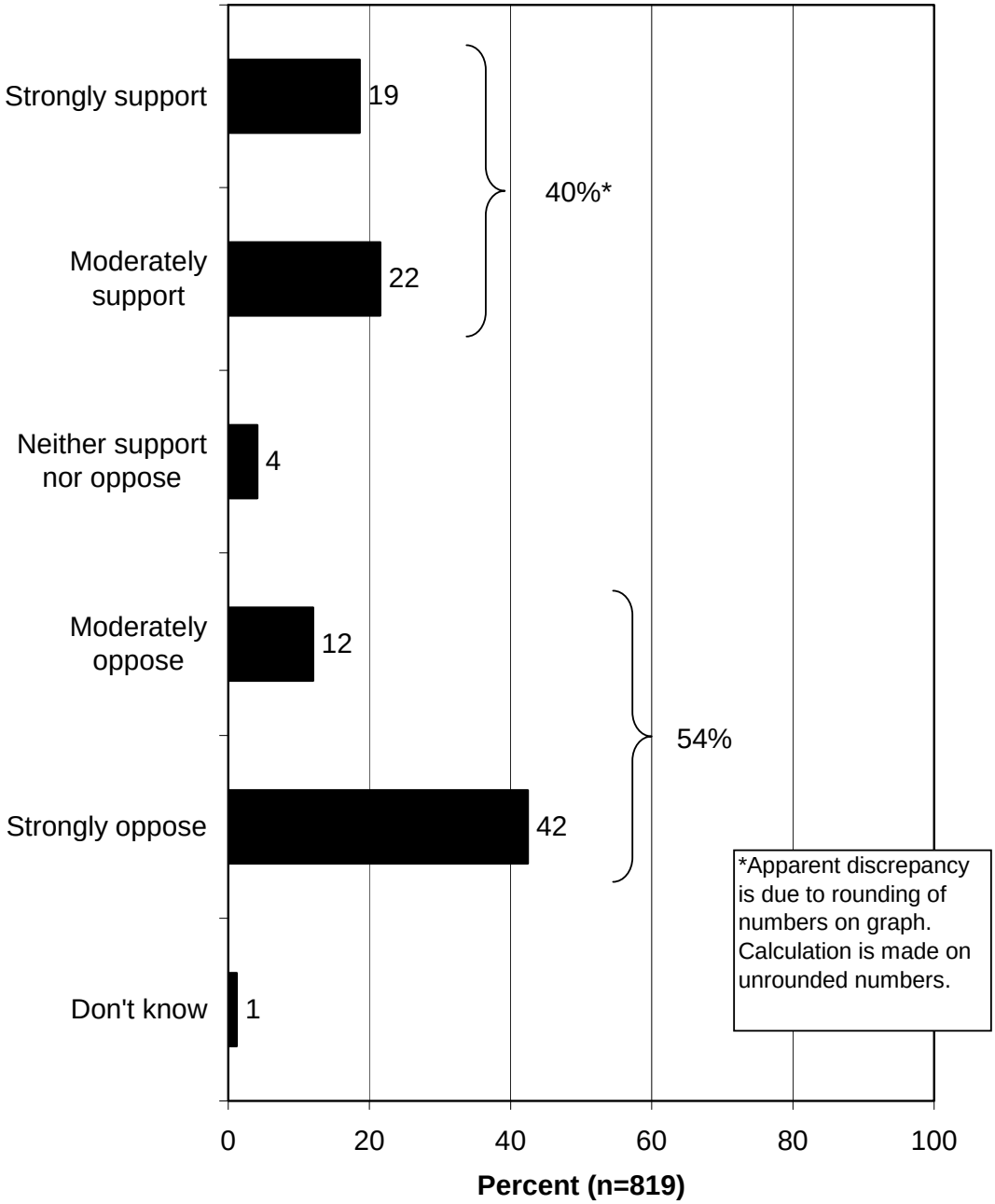
Q30. How about to maintain population objectives? (Would you support or oppose a regulated hunting season for wolves for this reason?)



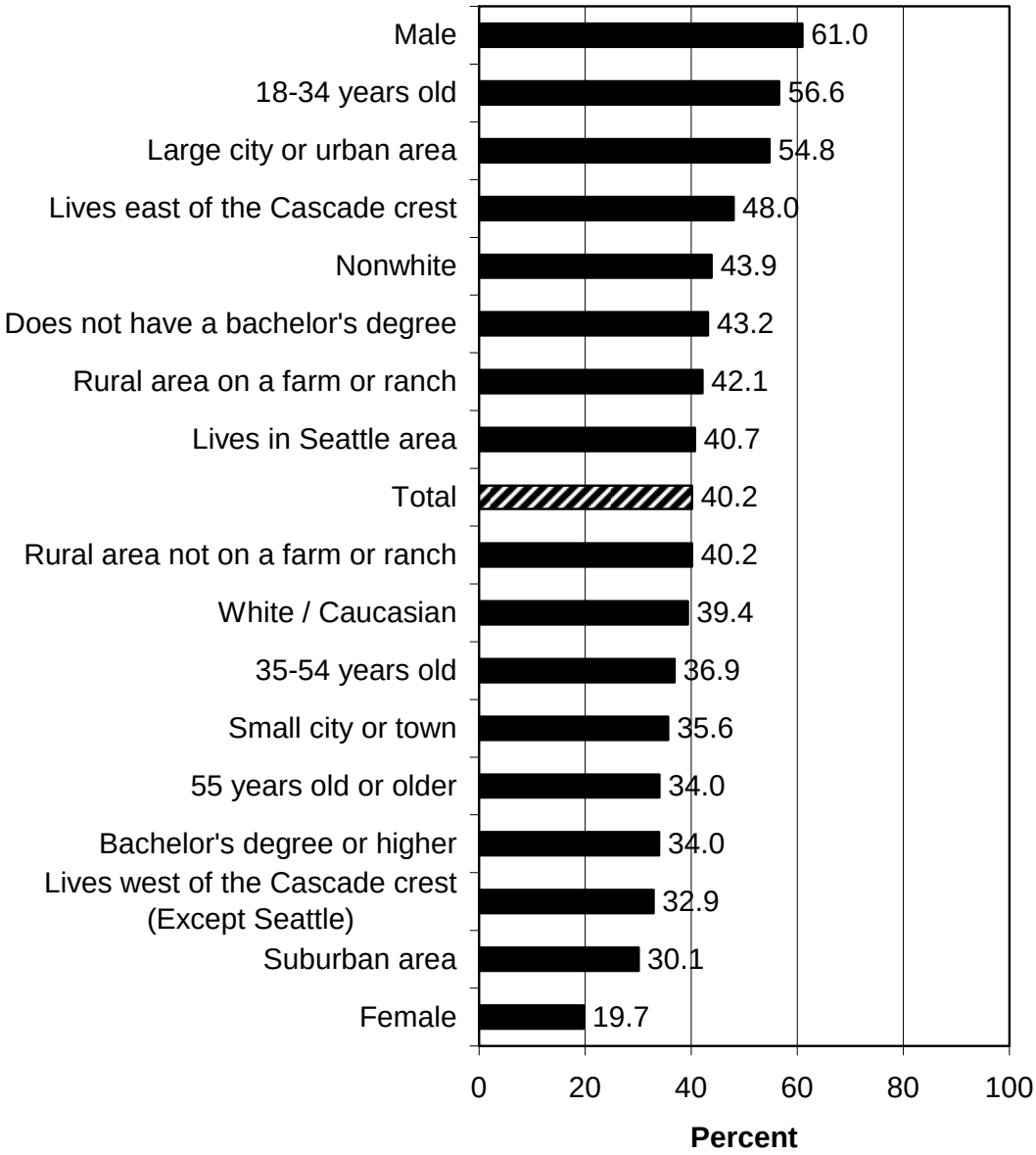
Q30. How about to maintain population objectives? (Would you support or oppose a regulated hunting season for wolves for this reason?)



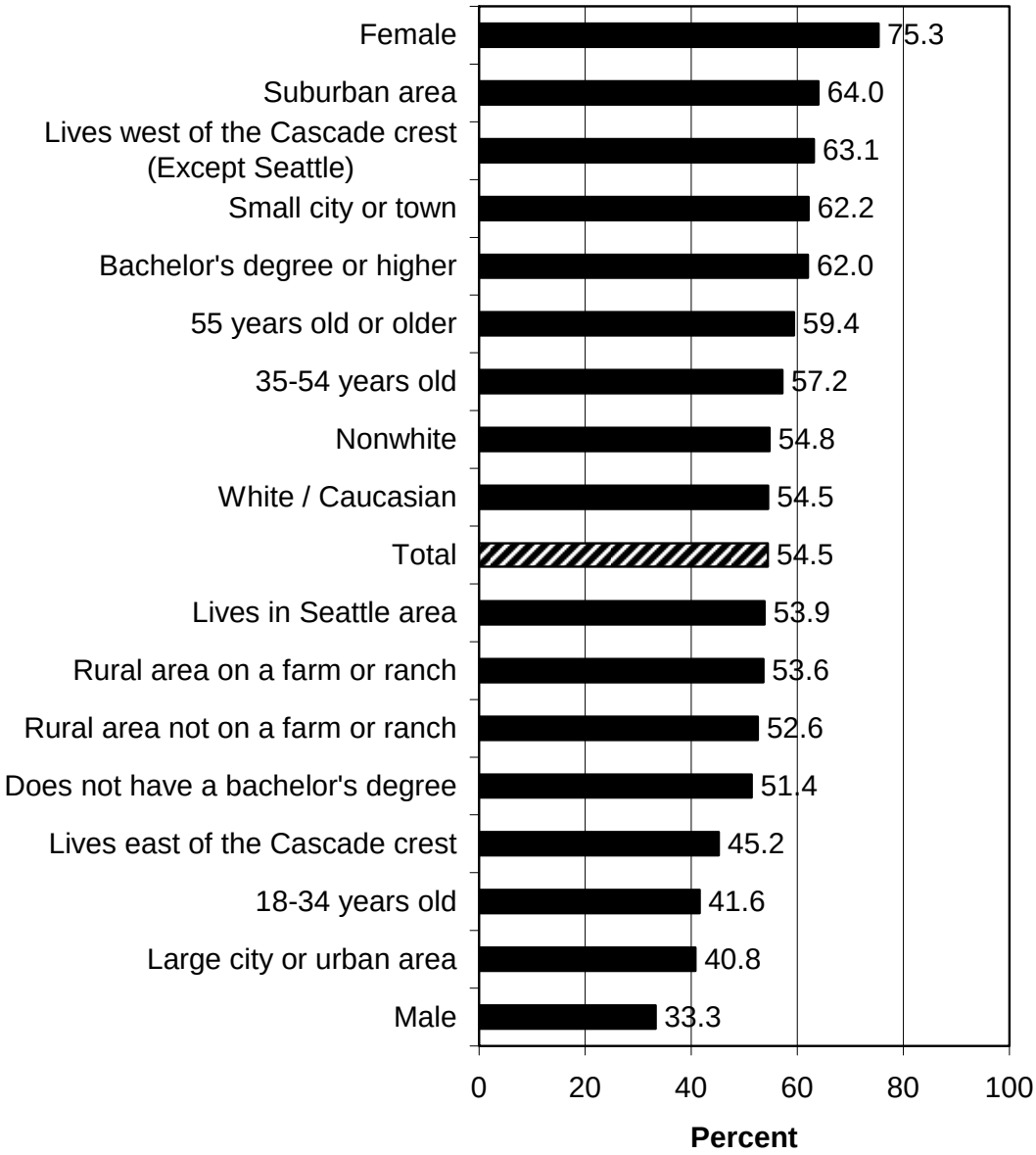
Q31. How about to provide recreational hunting opportunities? (Would you support or oppose a regulated hunting season for wolves for this reason?)



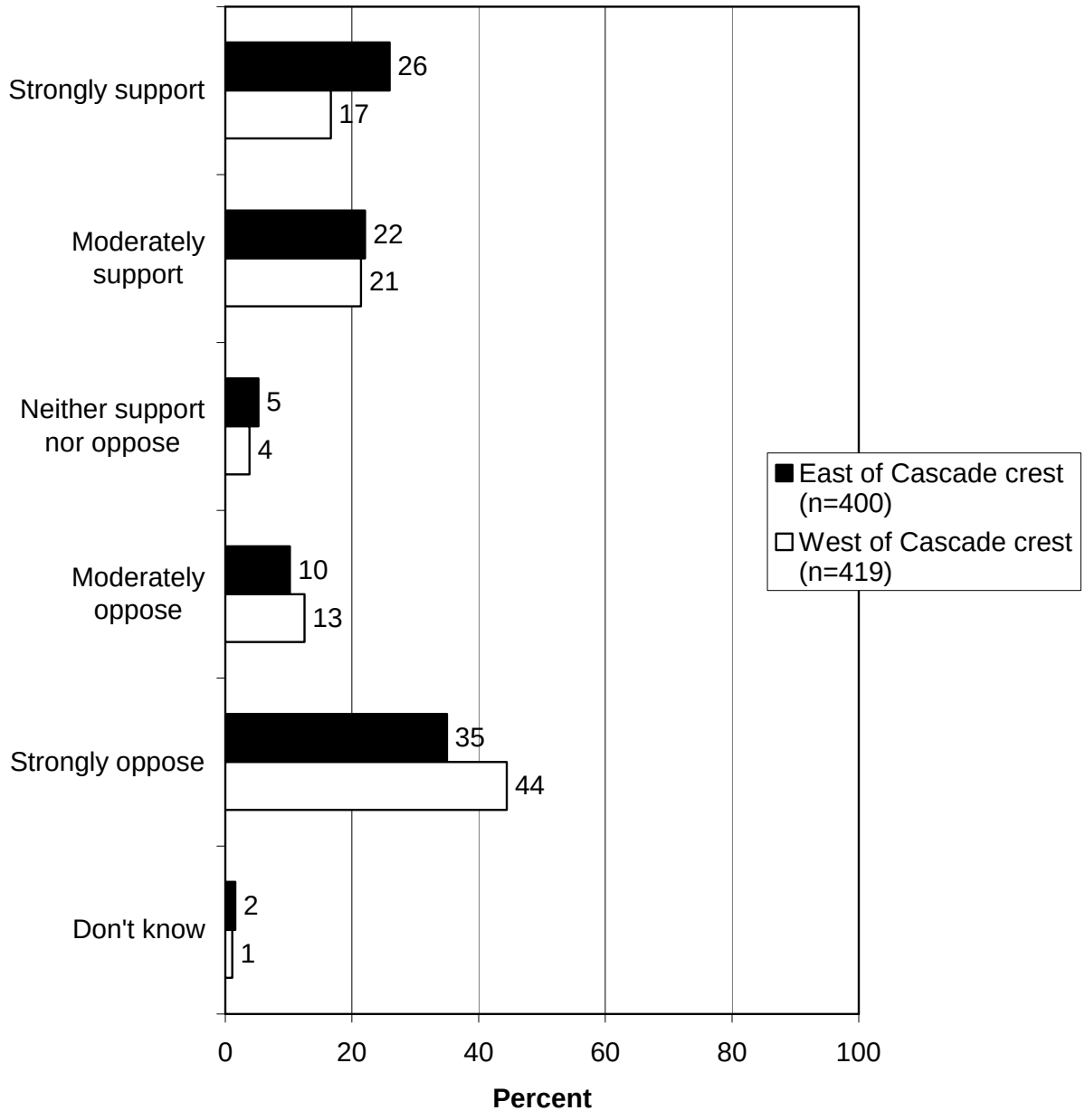
Percent of each of the following groups who support a legal, regulated hunting season for wolves to provide recreational hunting opportunities:



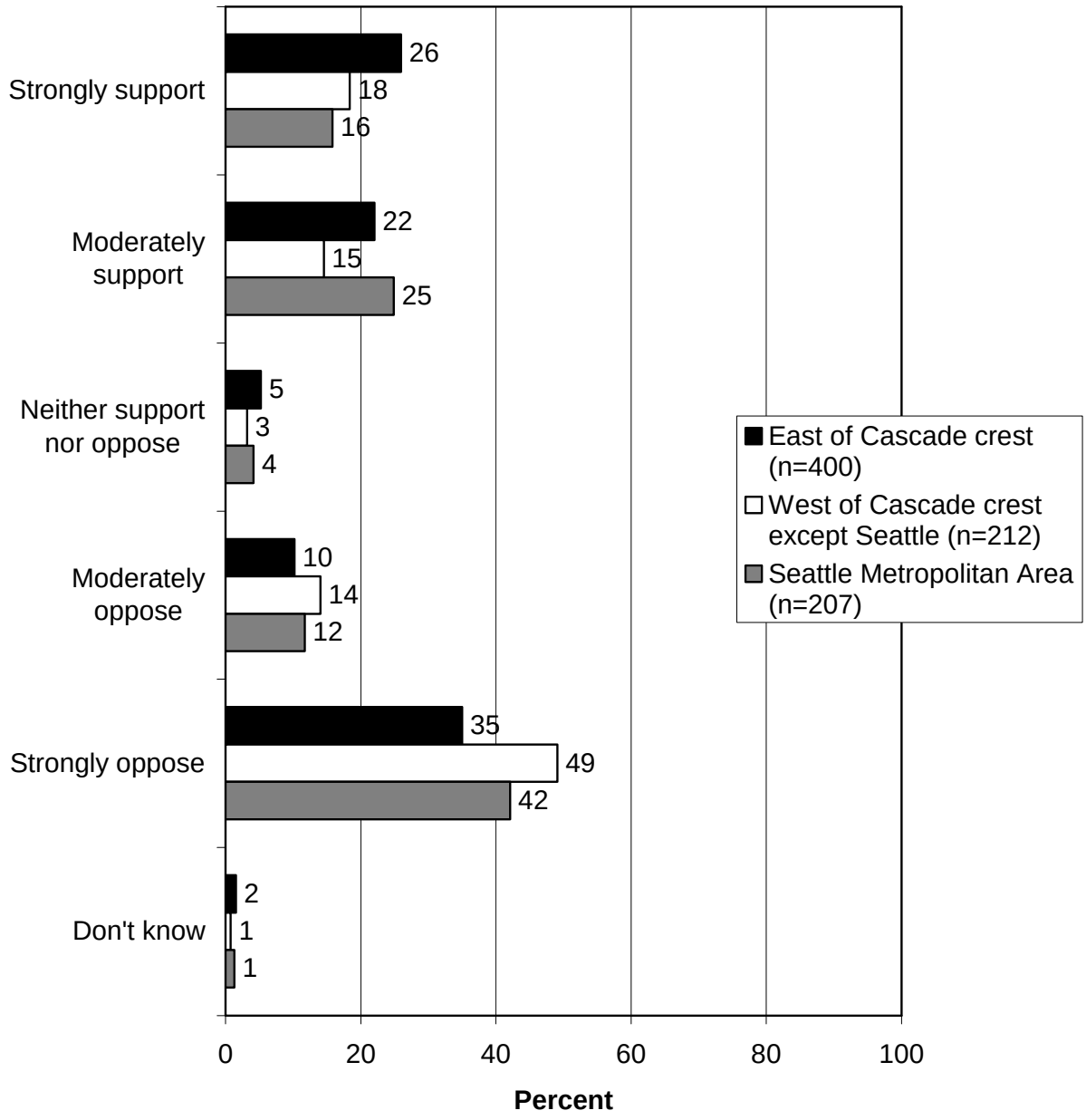
Percent of each of the following groups who oppose a legal, regulated hunting season for wolves to provide recreational hunting opportunities:



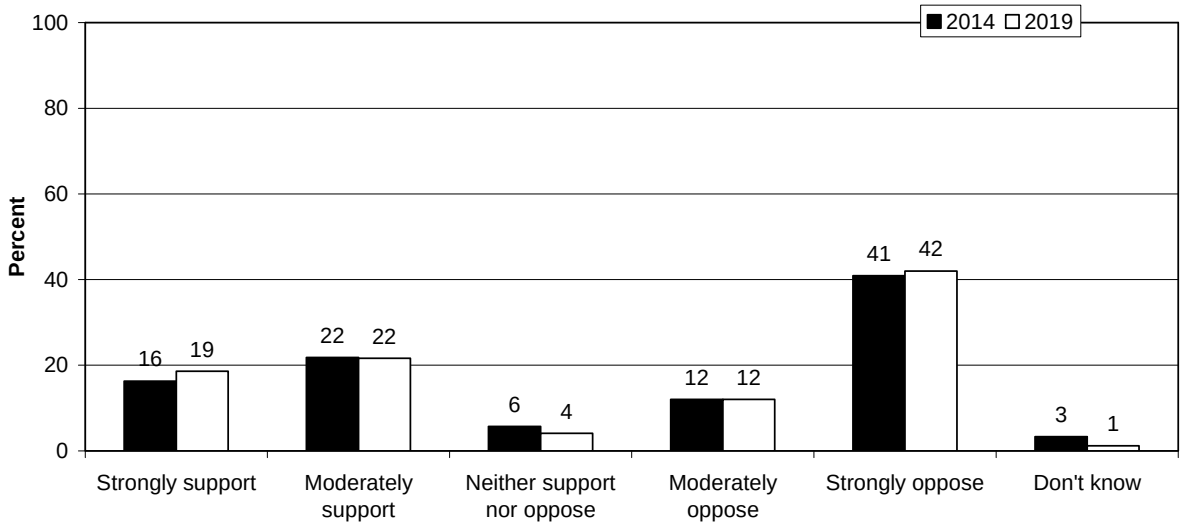
Q31. How about to provide recreational hunting opportunities? (Would you support or oppose a regulated hunting season for wolves for this reason?)



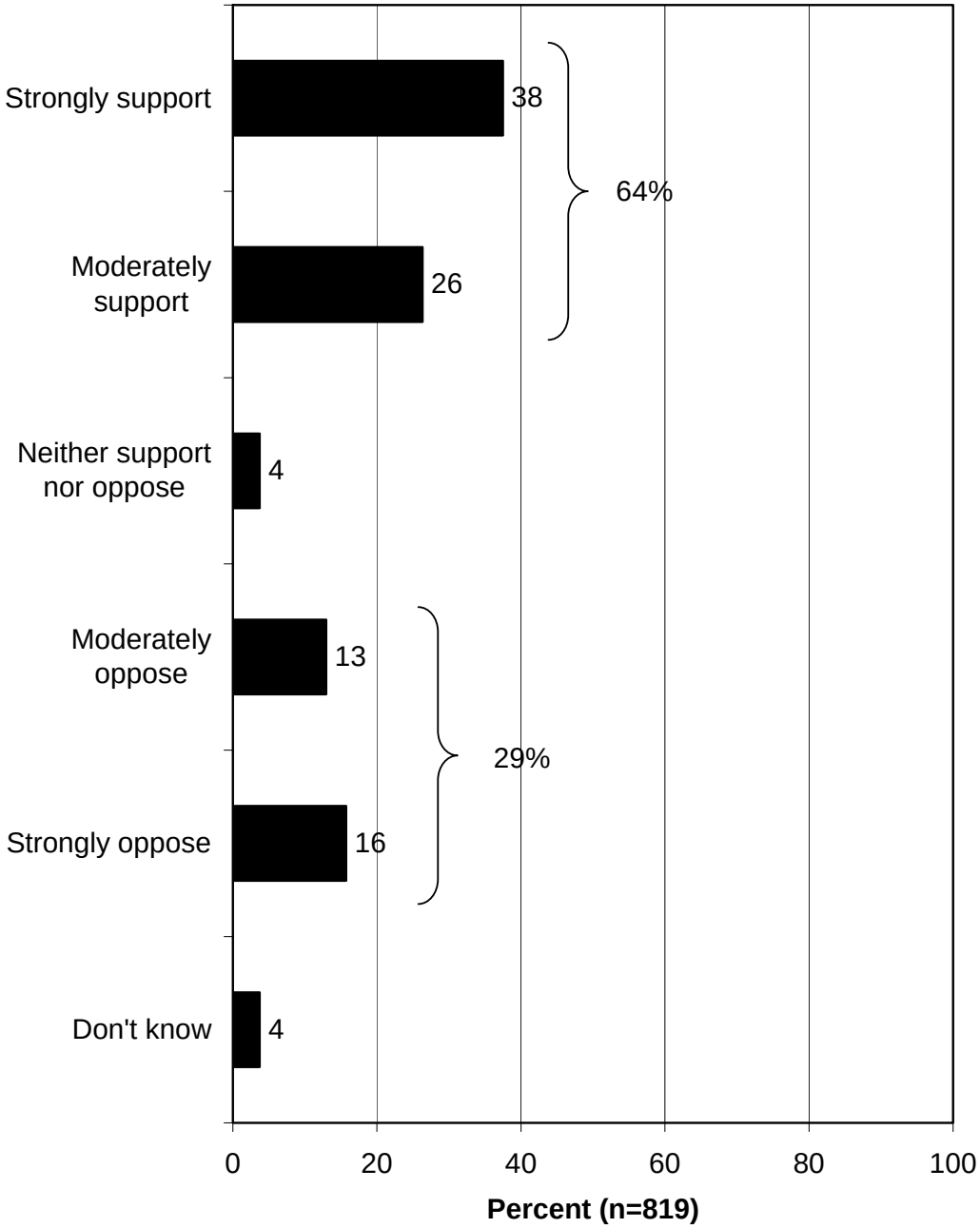
Q31. How about to provide recreational hunting opportunities? (Would you support or oppose a regulated hunting season for wolves for this reason?)



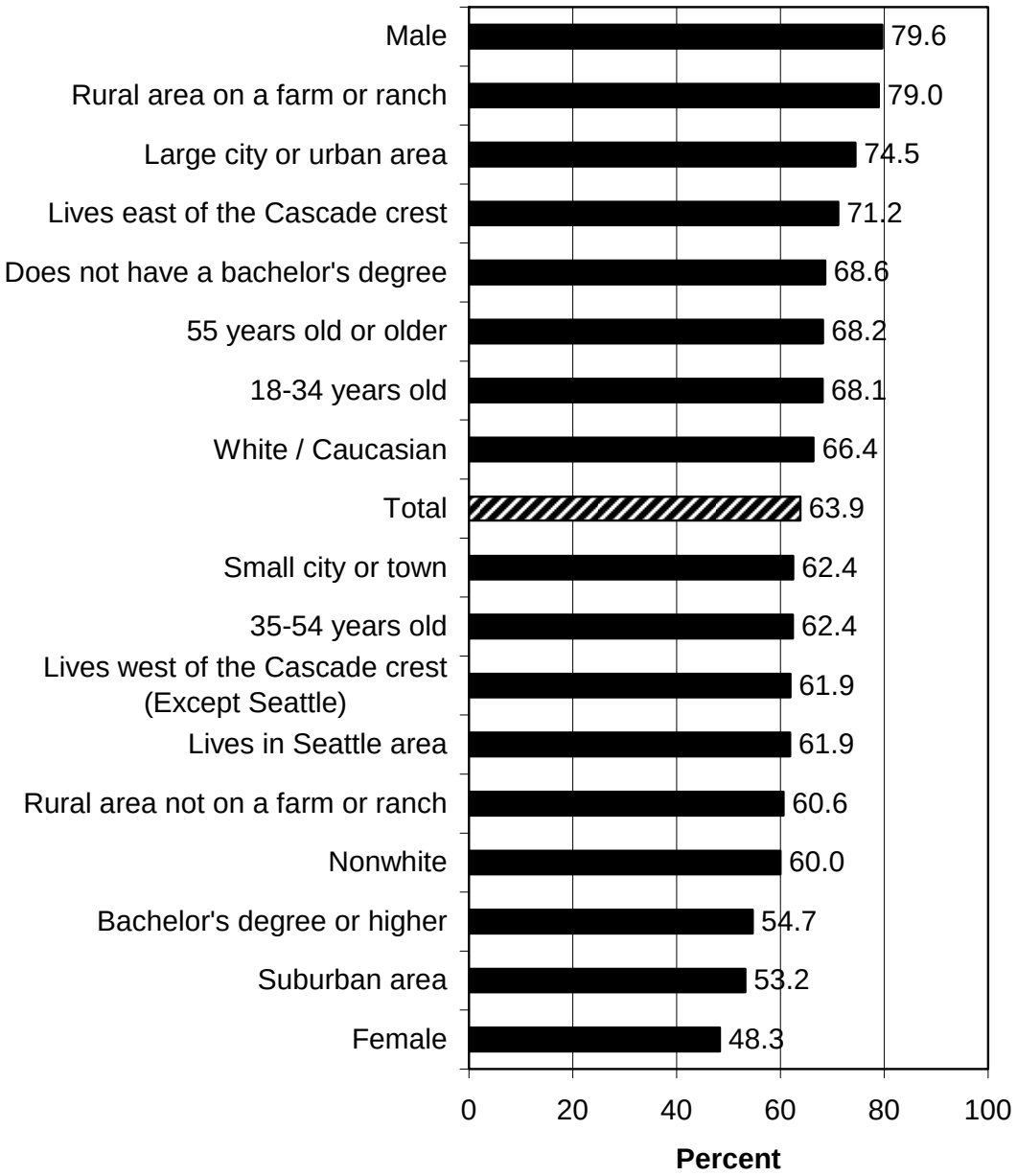
Q31. How about to provide recreational hunting opportunities? (Would you support or oppose a regulated hunting season for wolves for this reason?)



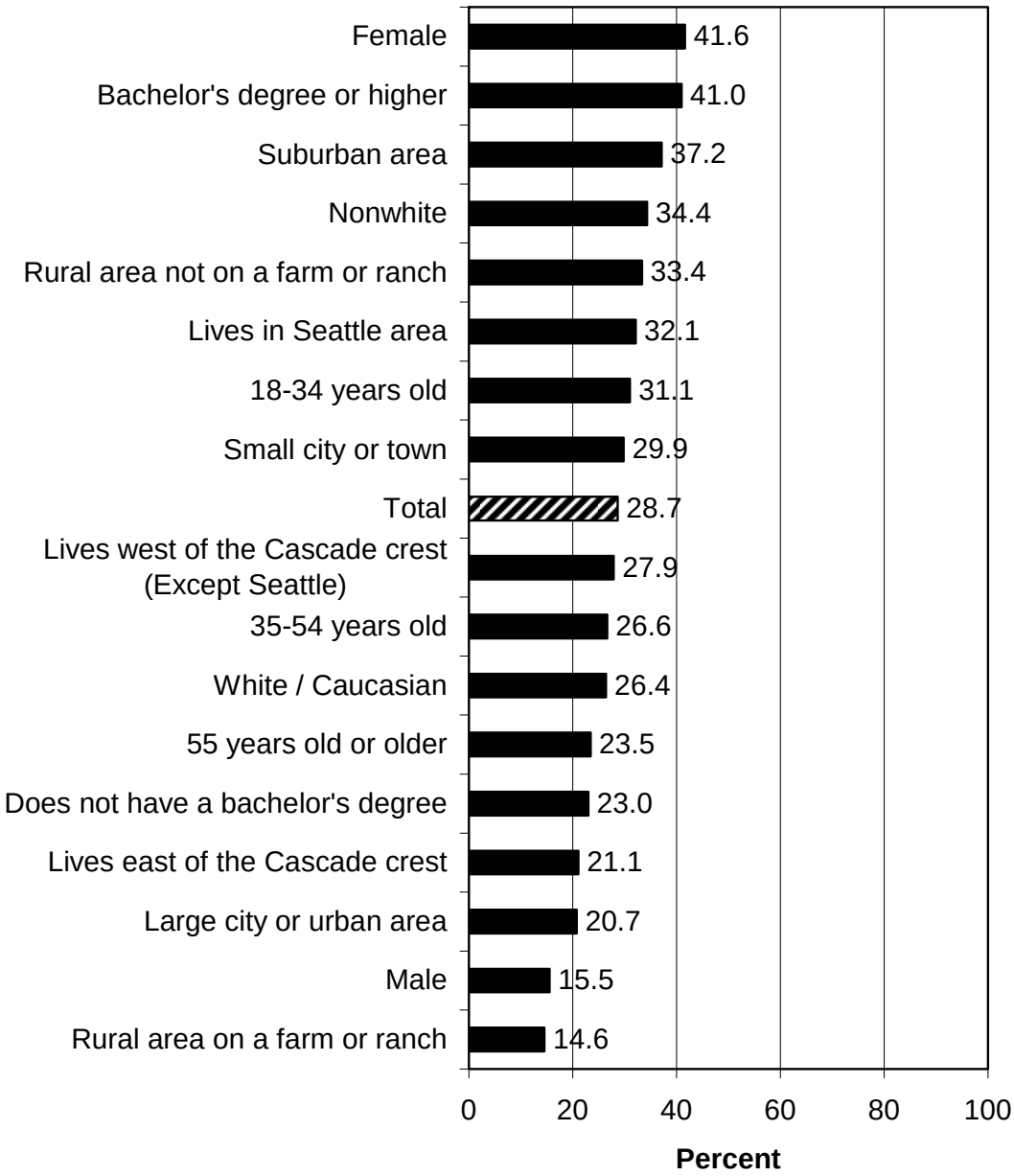
Q32. How about to address livestock attacks or depredation? (Would you support or oppose a regulated hunting season for wolves for this reason?)



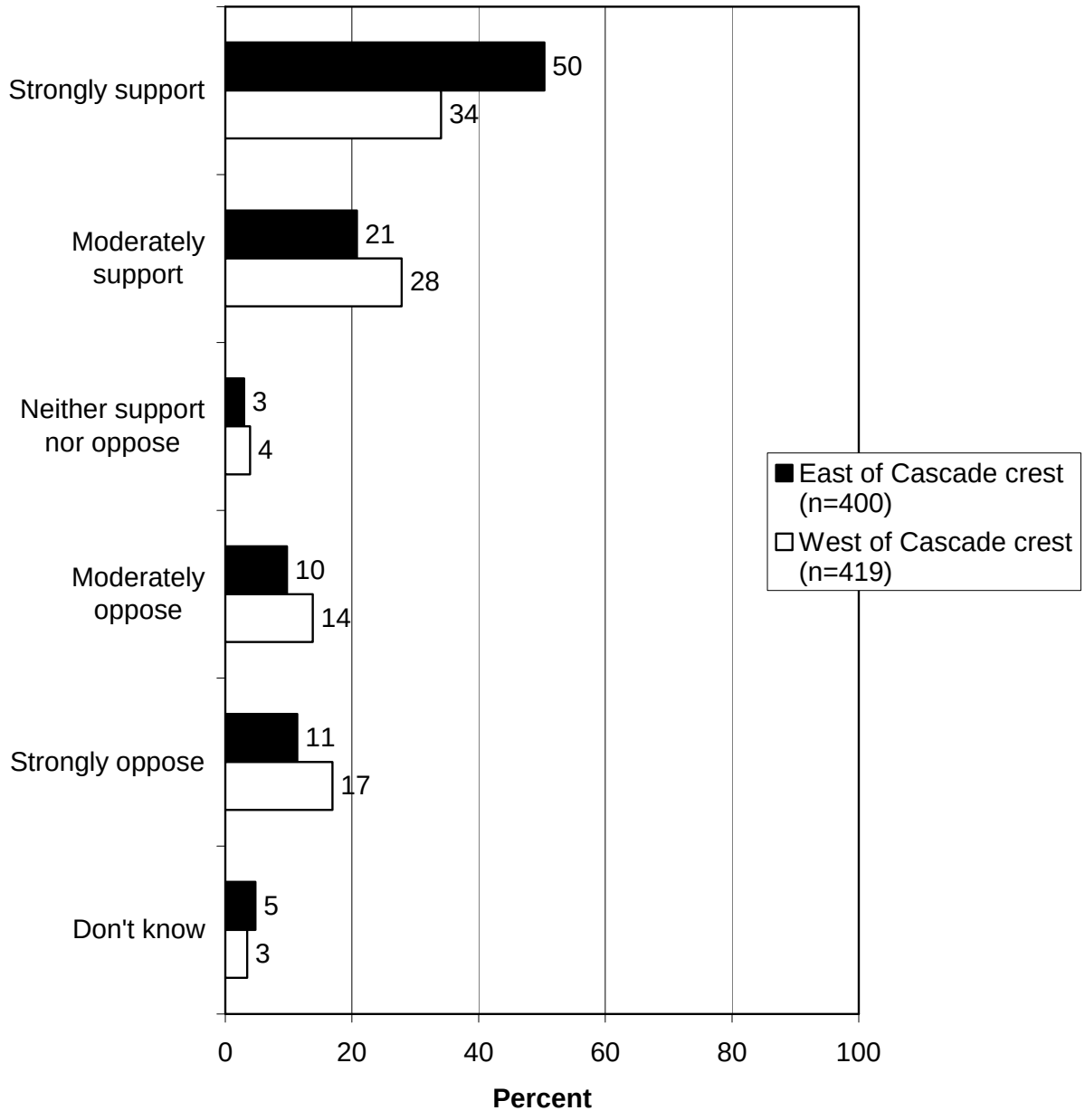
Percent of each of the following groups who support a legal, regulated hunting season for wolves to address livestock attacks or depredation:



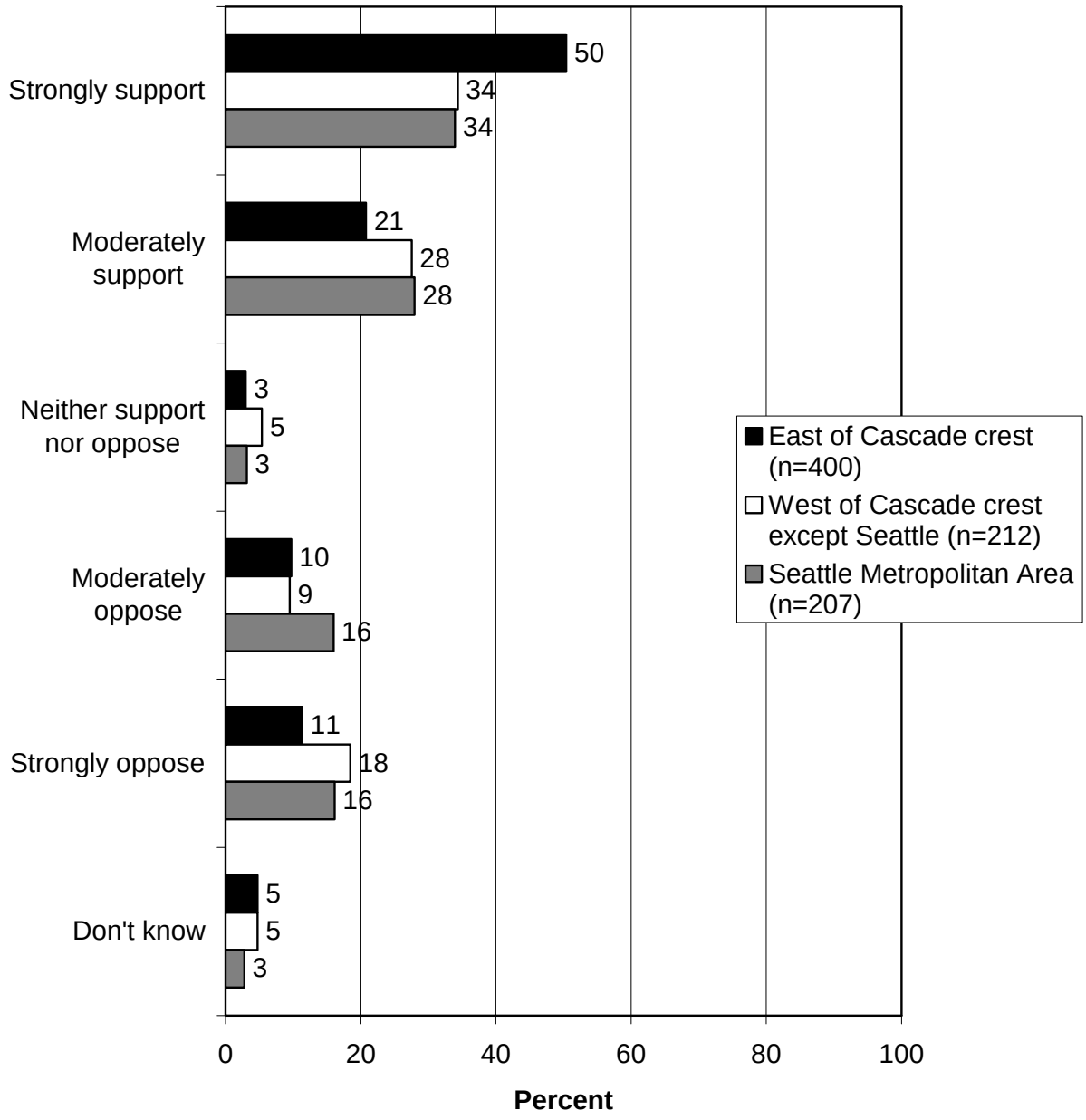
Percent of each of the following groups who oppose a legal, regulated hunting season for wolves to address livestock attacks or depredation:



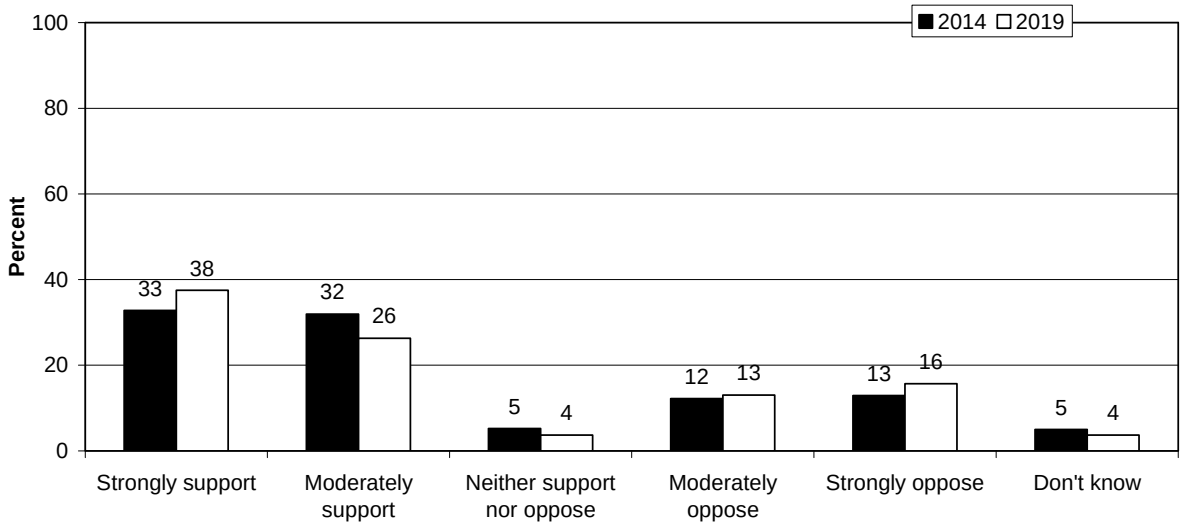
Q32. How about to address livestock attacks or depredation? (Would you support or oppose a regulated hunting season for wolves for this reason?)



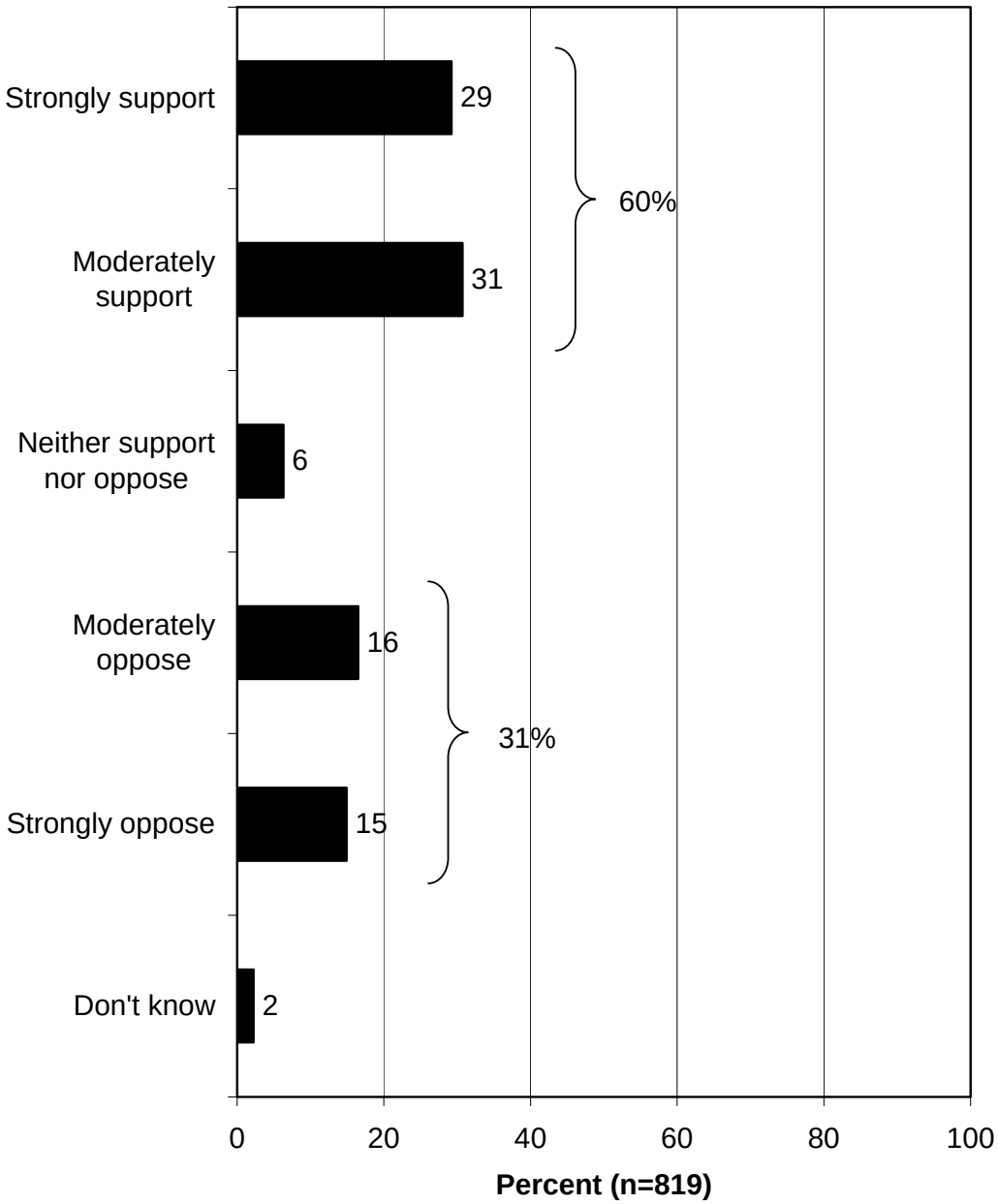
Q32. How about to address livestock attacks or depredation? (Would you support or oppose a regulated hunting season for wolves for this reason?)



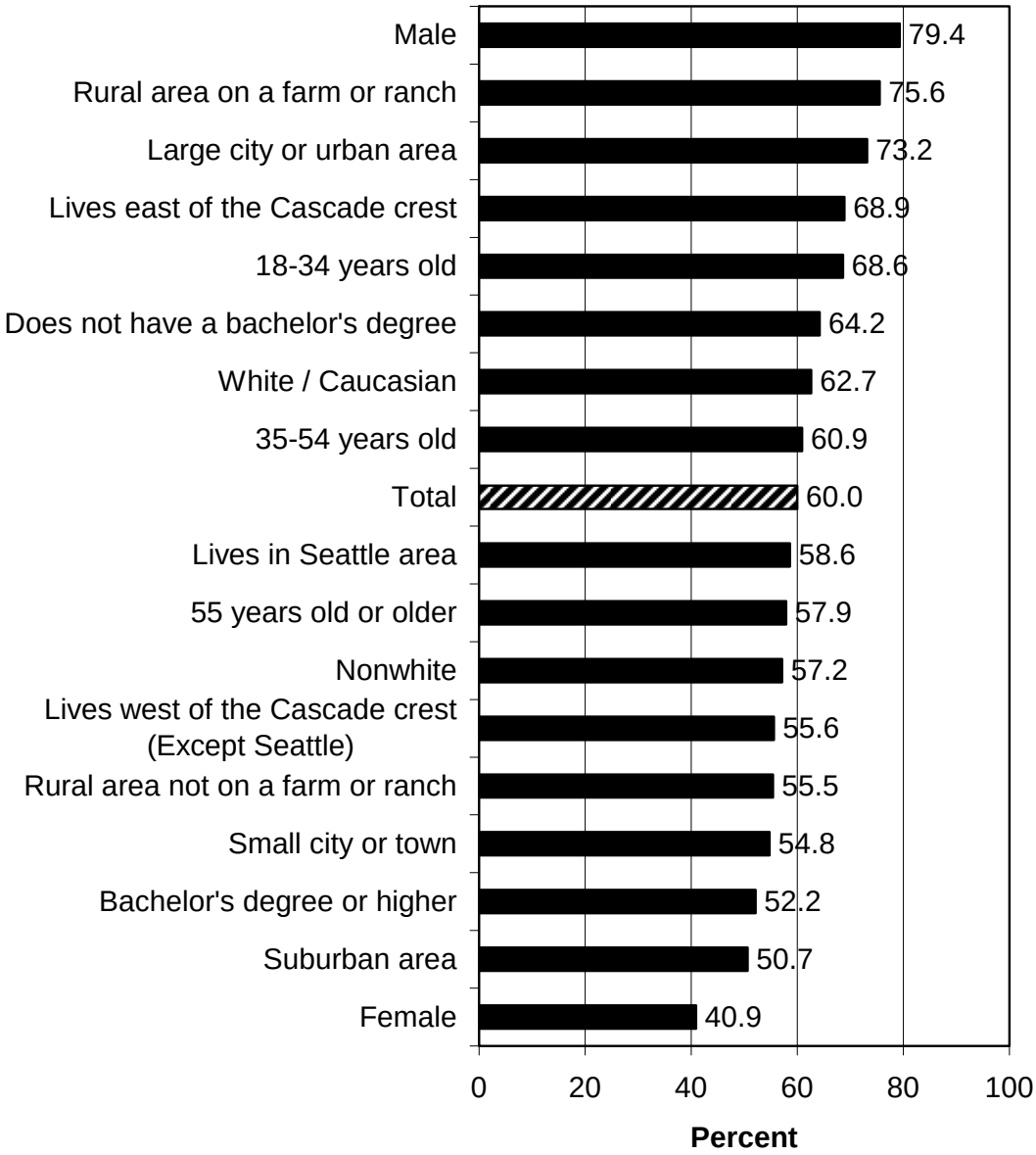
Q32. How about to address livestock attacks or depredation? (Would you support or oppose a regulated hunting season for wolves for this reason?)



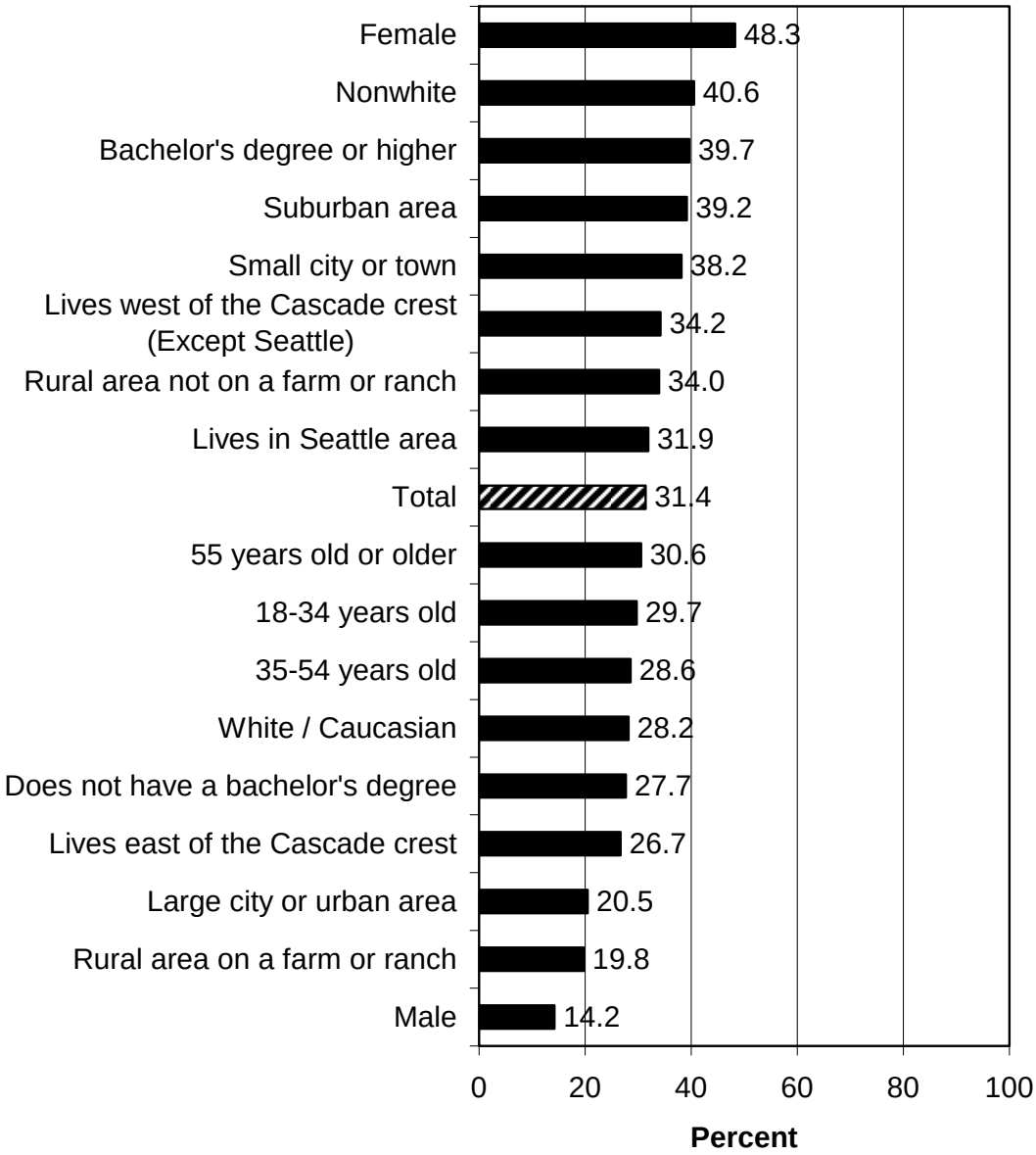
Q33. How about to address impacts wolves have on other wildlife populations, such as [deer / elk and moose]? (Would you support or oppose a regulated hunting season for wolves for this reason?)



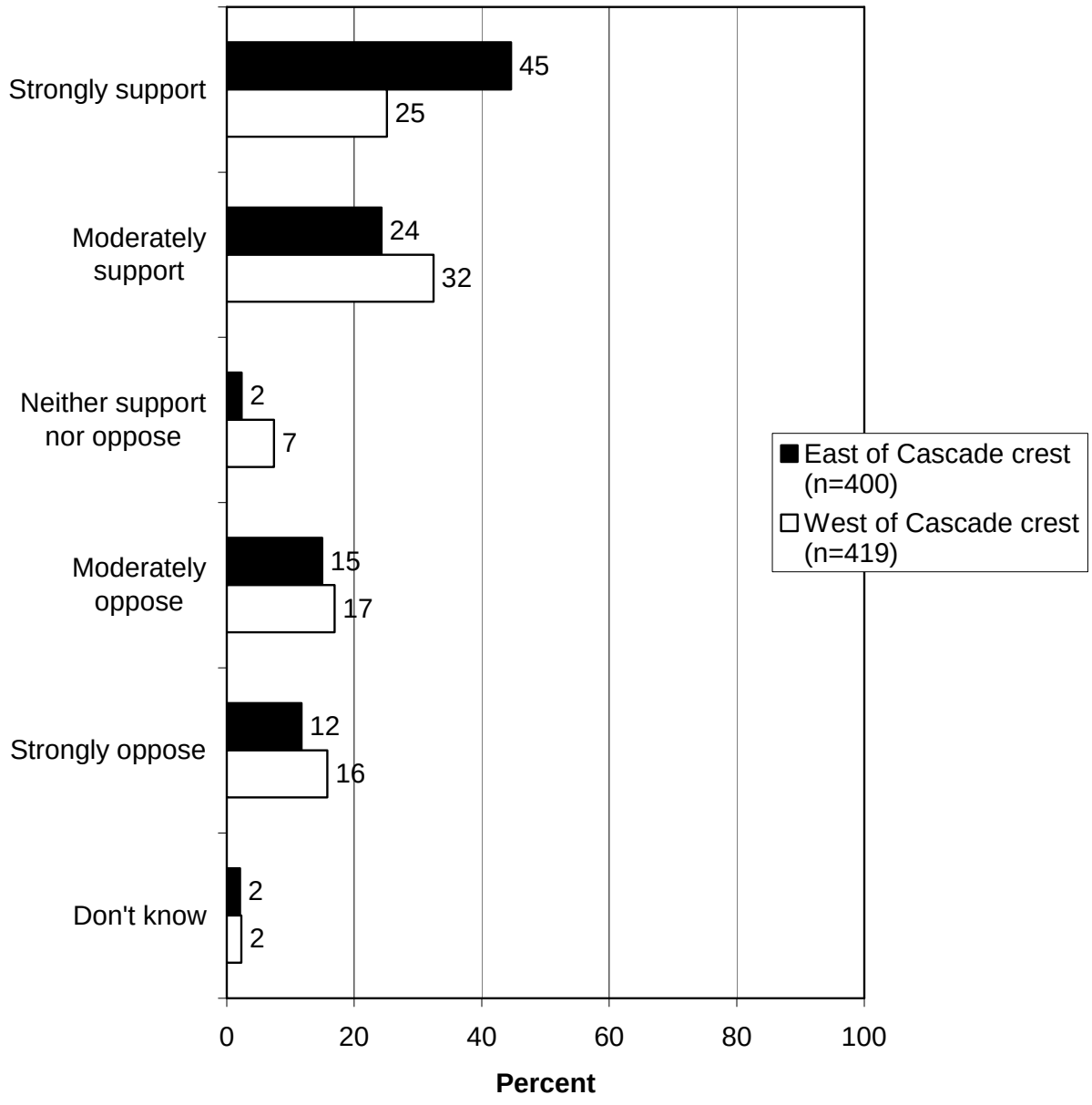
Percent of each of the following groups who support a legal, regulated hunting season for wolves to address impacts wolves have on other wildlife populations:



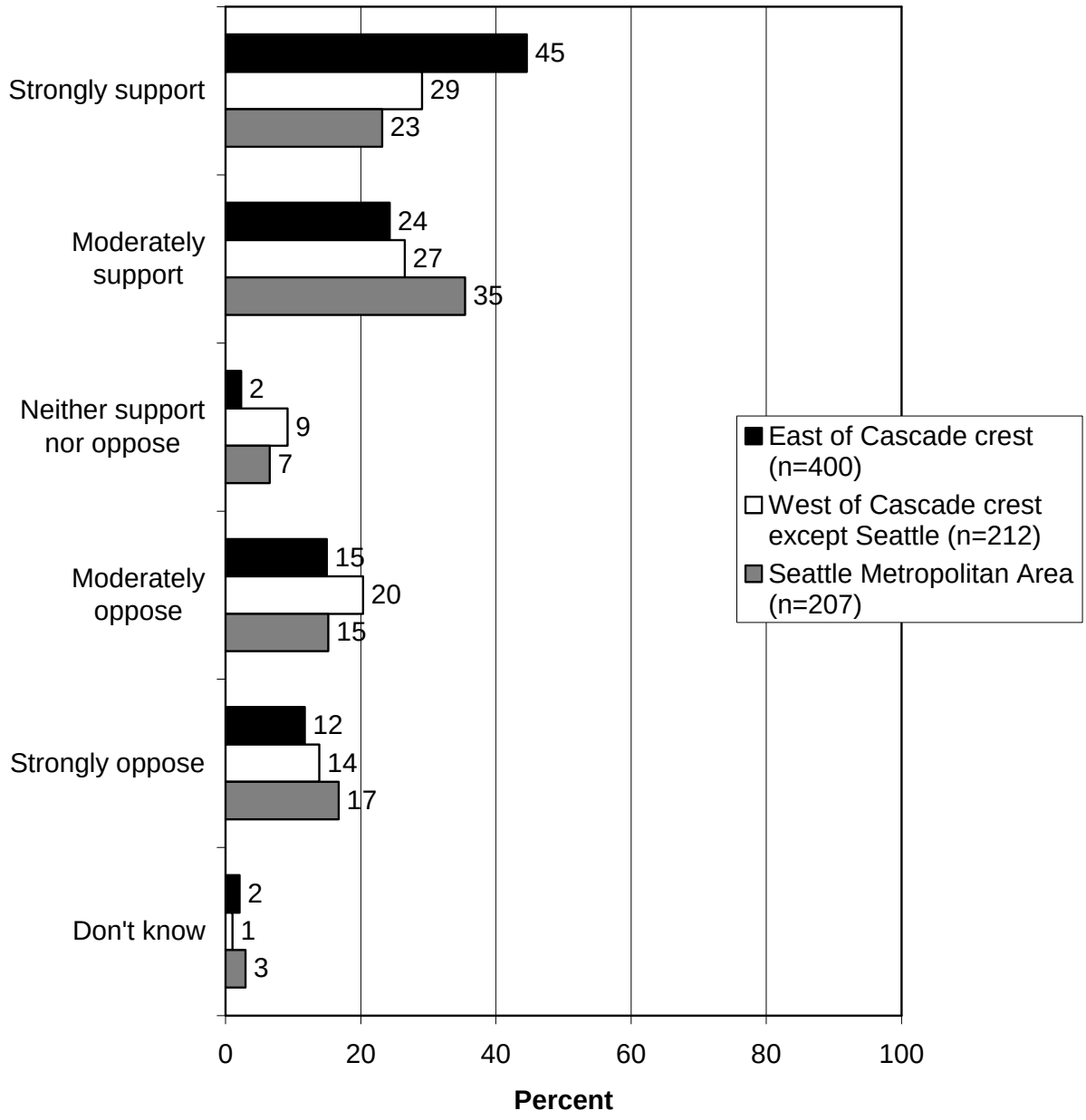
Percent of each of the following groups who oppose a legal, regulated hunting season for wolves to address impacts wolves have on other wildlife populations:



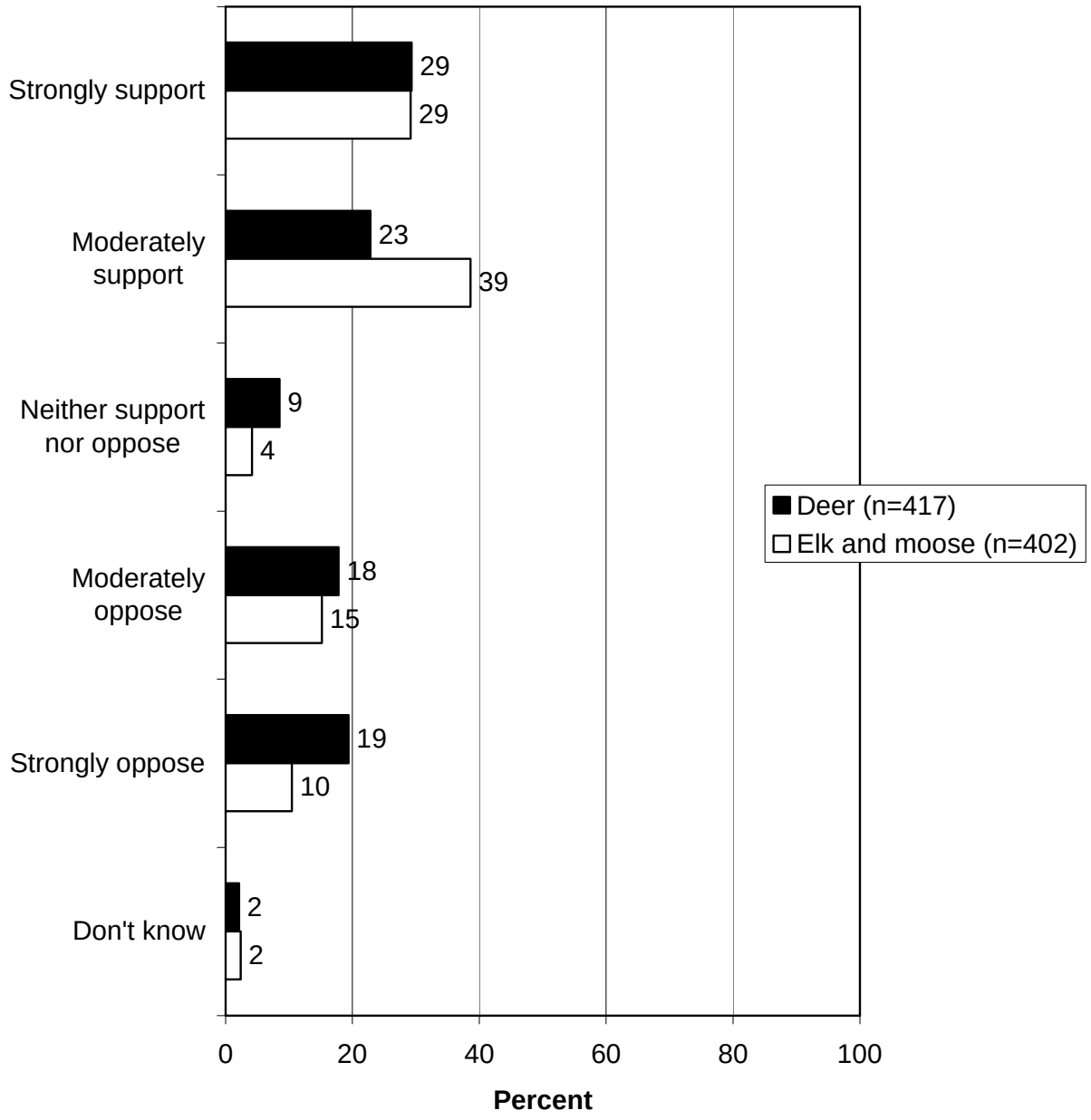
Q33. How about to address impacts wolves have on other wildlife populations, such as [deer / elk and moose]? (Would you support or oppose a regulated hunting season for wolves for this reason?)



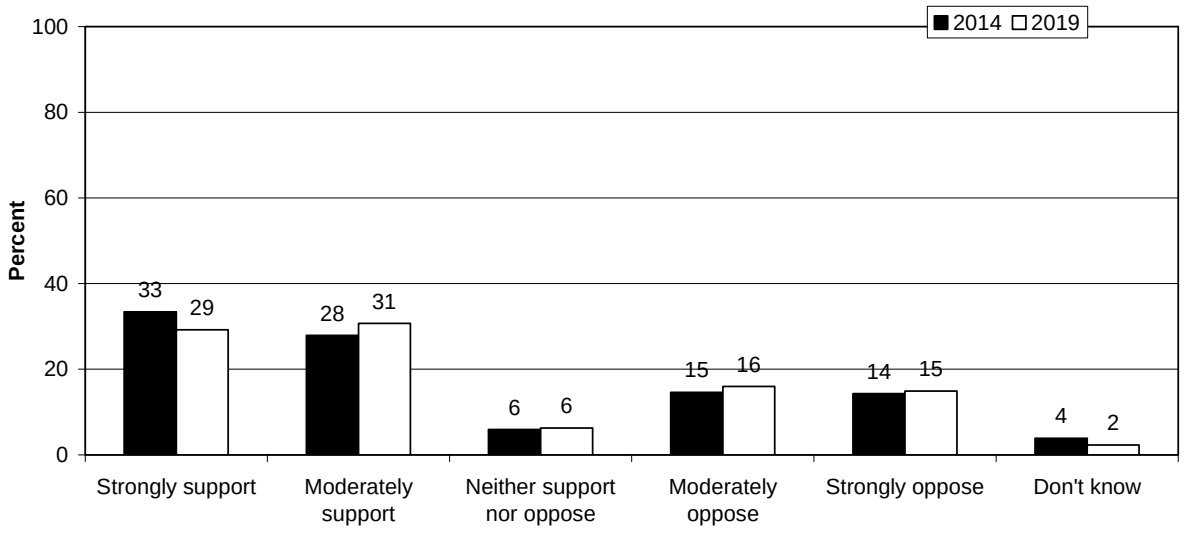
Q33. How about to address impacts wolves have on other wildlife populations, such as [deer / elk and moose]? (Would you support or oppose a regulated hunting season for wolves for this reason?)



Q33. How about to address impacts wolves have on other wildlife populations, such as [deer / elk and moose]? (Would you support or oppose a regulated hunting season for wolves for this reason?)



Q33. How about to address impacts wolves have on other wildlife populations, such as [deer / elk and moose]? (Would you support or oppose a regulated hunting season for wolves for this reason?)



DISTRIBUTION OF WOLVES IN WASHINGTON

Prior to the following questions about the distribution of wolves in the state, respondents were read the following statement:

> *Currently, over 80% of the wolves in the state are in eastern Washington and have exceeded recovery objectives.*
>
> *No packs have been documented in southwest Washington or the northwest coast area.*

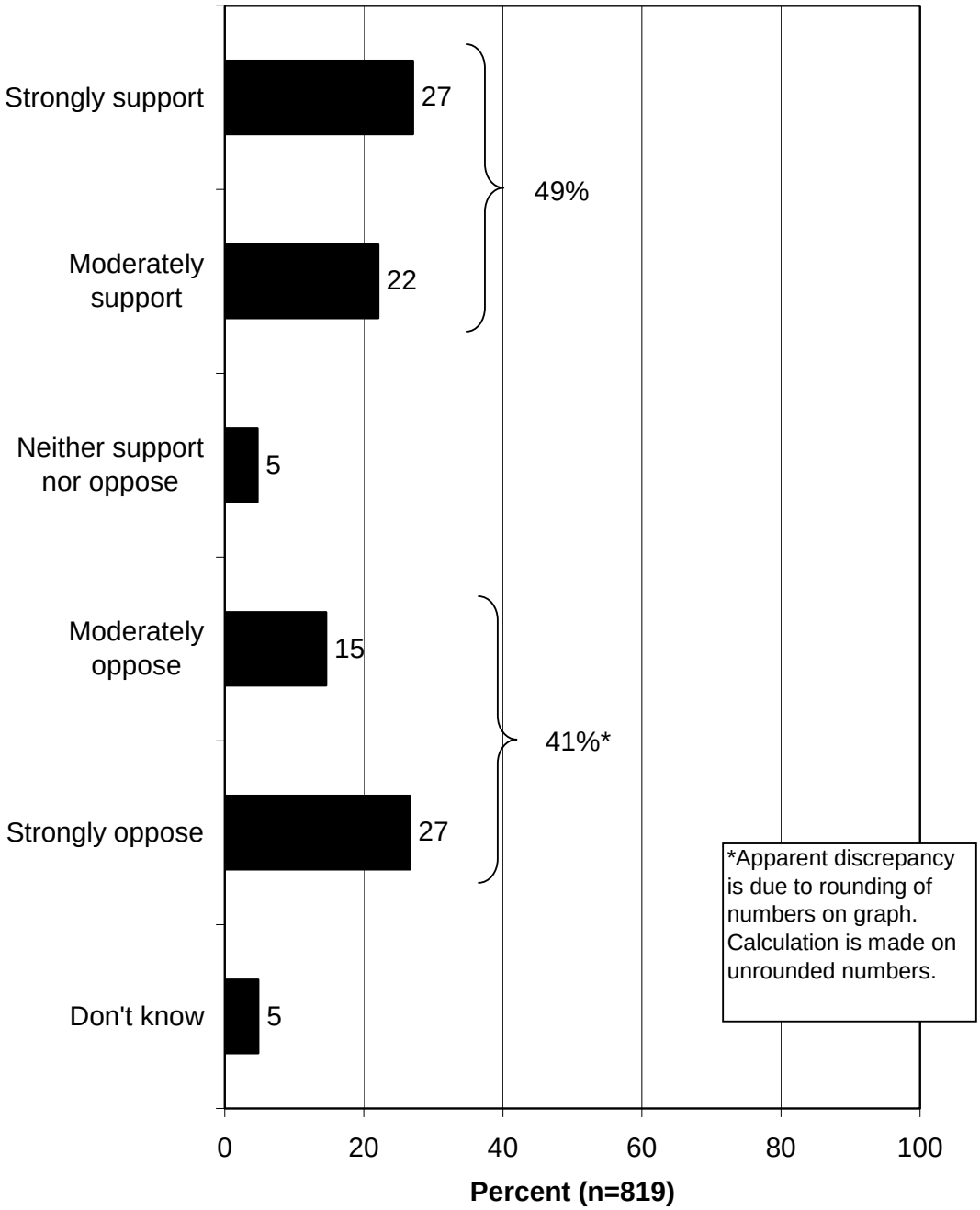
- Slightly more residents support (49%) than oppose (41%) moving wolves from eastern Washington to western Washington to facilitate statewide distribution of the wolf population. (If asked, respondents were informed that distribution would not include urban or suburban areas where wolves would not be appropriate.)
  - Unsurprisingly, support for this idea is much higher in the east than in the west ($p \leq 0.05$).

- Support drops slightly for moving wolves to public land in western Washington, such as National Forests or National Parks: 44% support and 45% oppose.
  - Support is higher in the east than in the west ($p \leq 0.05$).

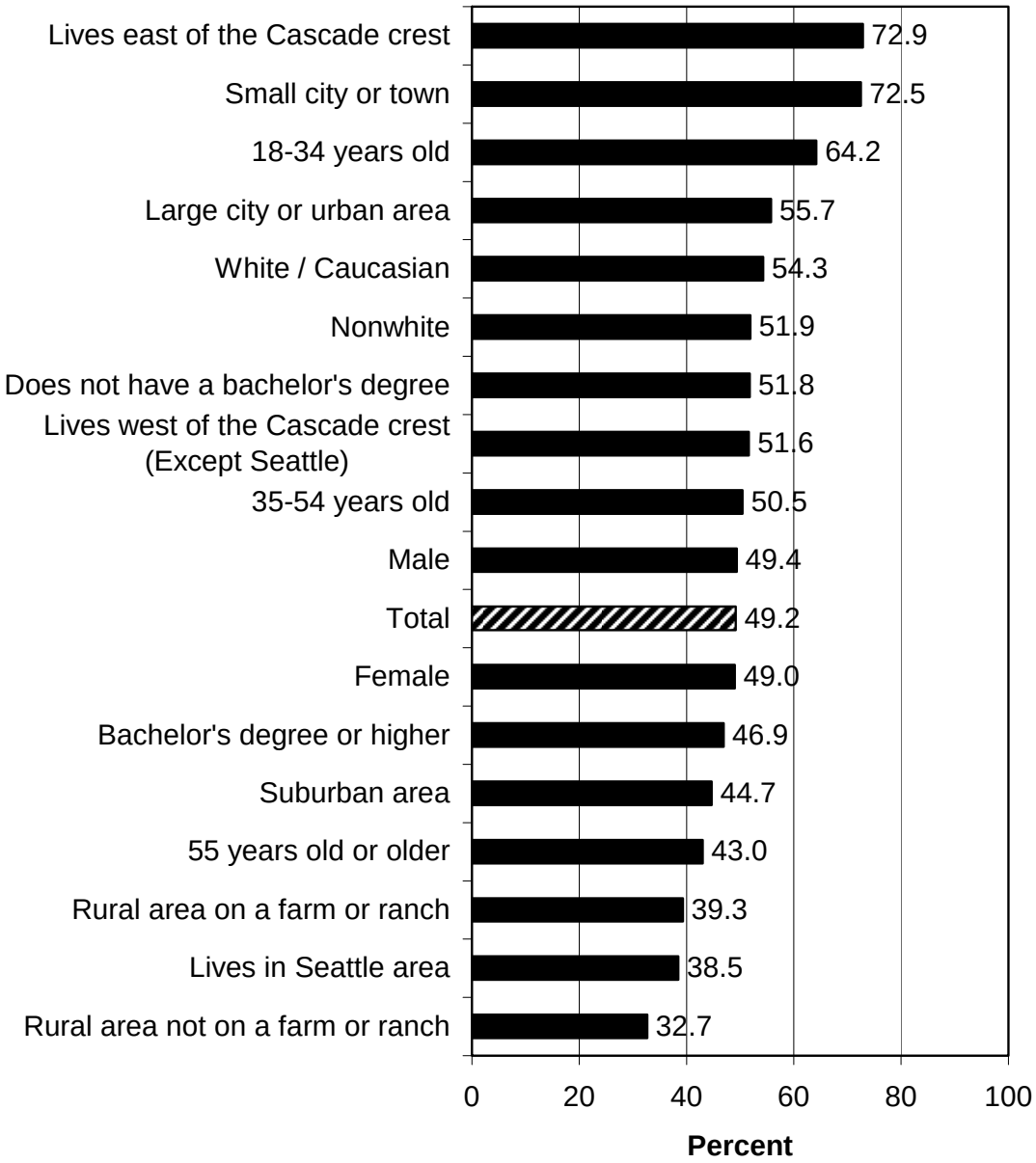
- Support is strong for moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas: 72% support, compared to 20% who oppose.

- Finally, residents were asked, as long as the wolf population in Washington is secure and growing, how important it is that the wolf population be distributed across the entire state (not including urban and suburban areas). A majority (63%) indicated some degree of importance, with 49% saying it is *very* or *somewhat* important. Nearly a third (31%) answered *not at all important*.
  - Eastern residents are more likely to say this is *very* important than those in the west ($p \leq 0.05$).

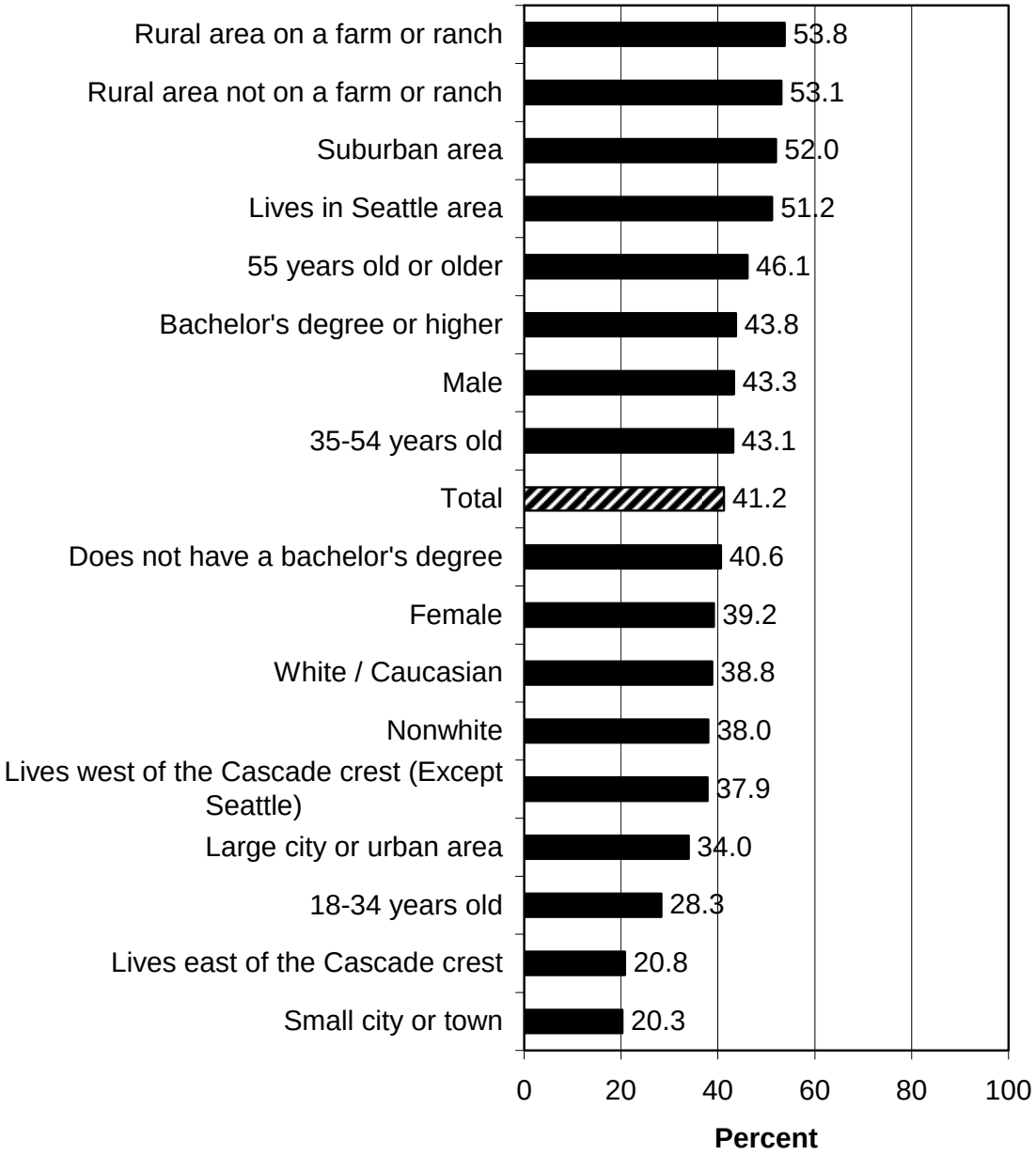
Q37. Do you support or oppose moving some wolves from eastern Washington to western Washington to facilitate statewide distribution of wolves?



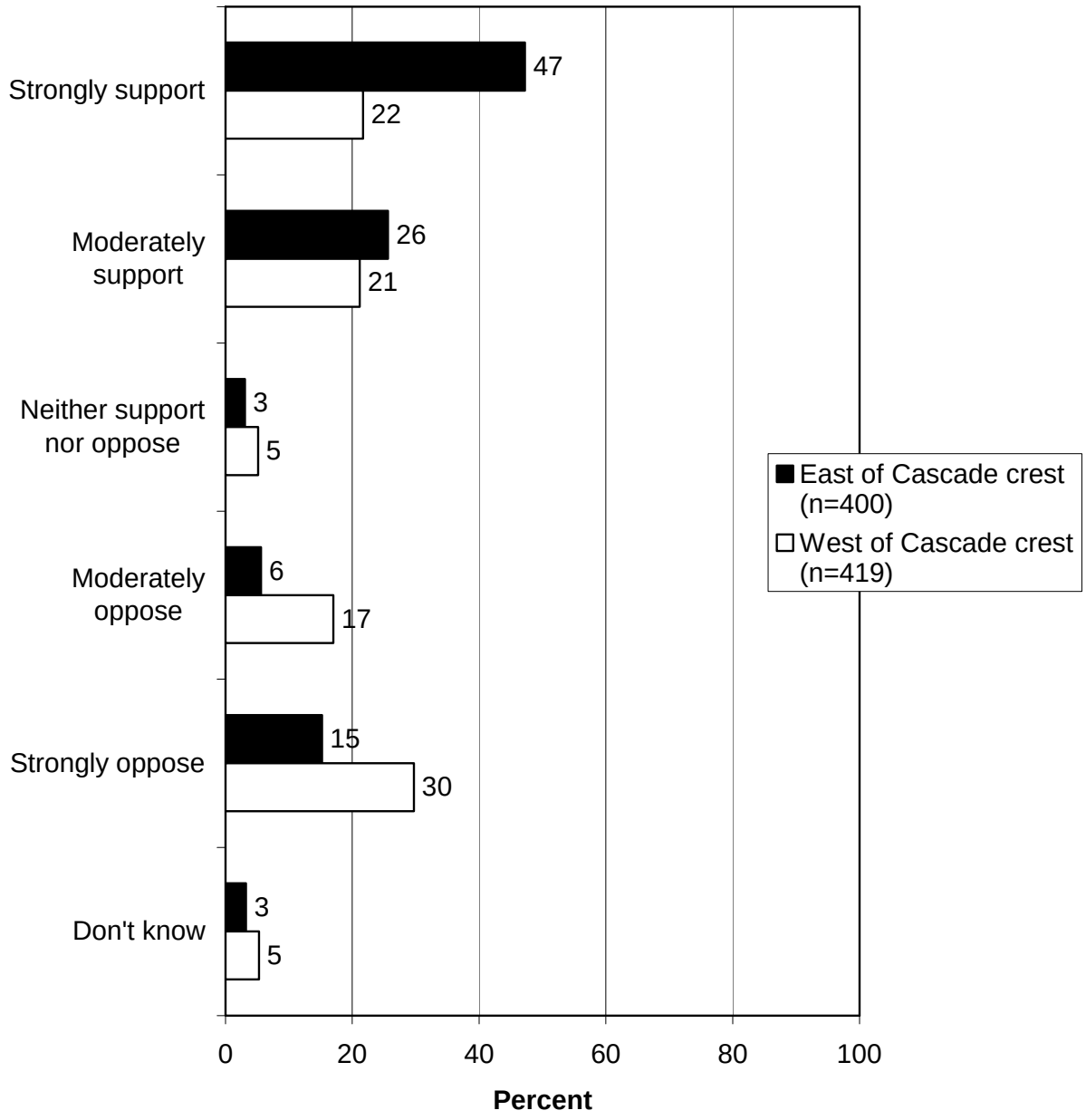
Percent of each of the following groups who support moving some wolves from eastern Washington to western Washington to facilitate statewide distribution of wolves:



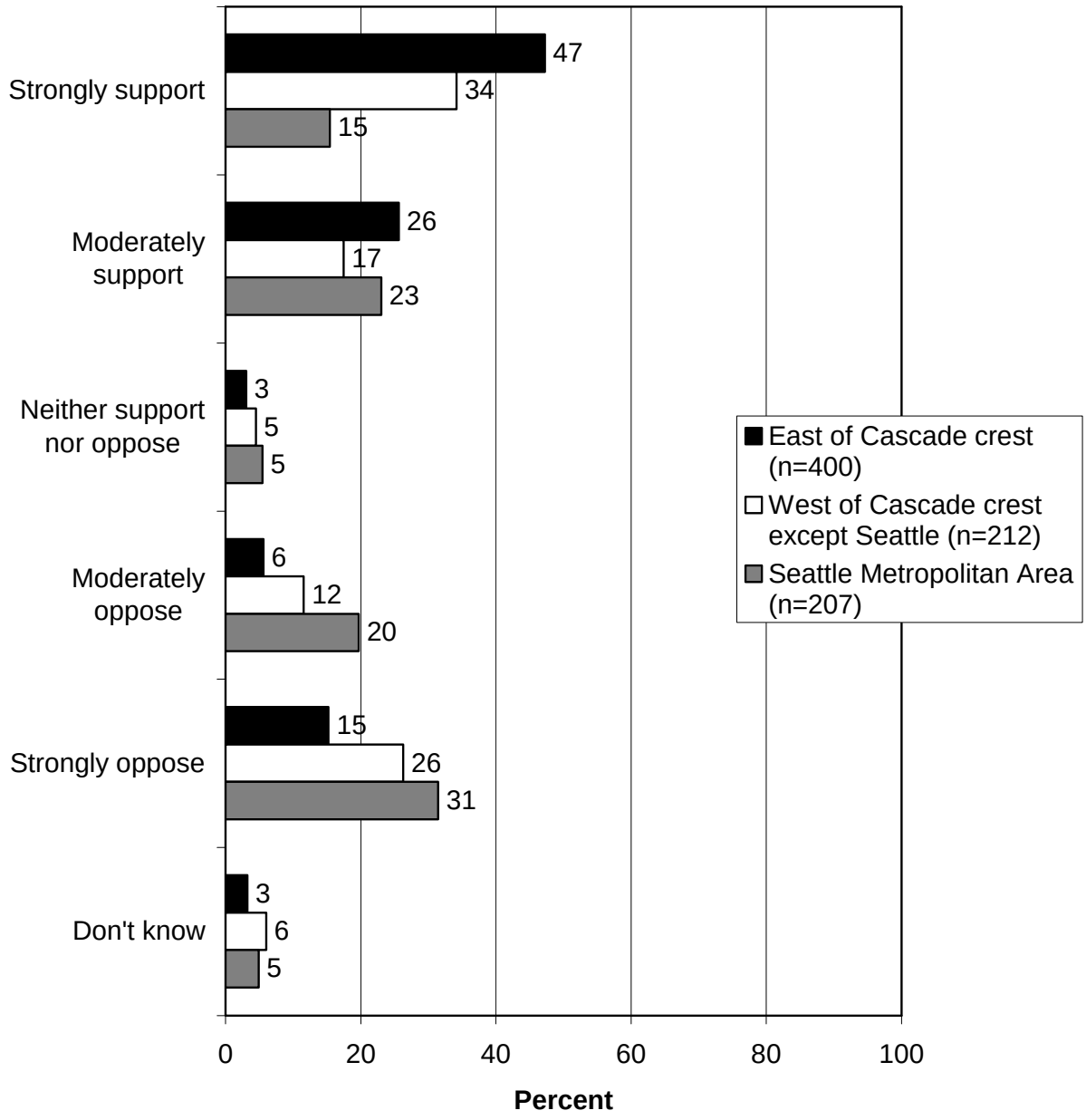
Percent of each of the following groups who oppose moving some wolves from eastern Washington to western Washington to facilitate statewide distribution of wolves:



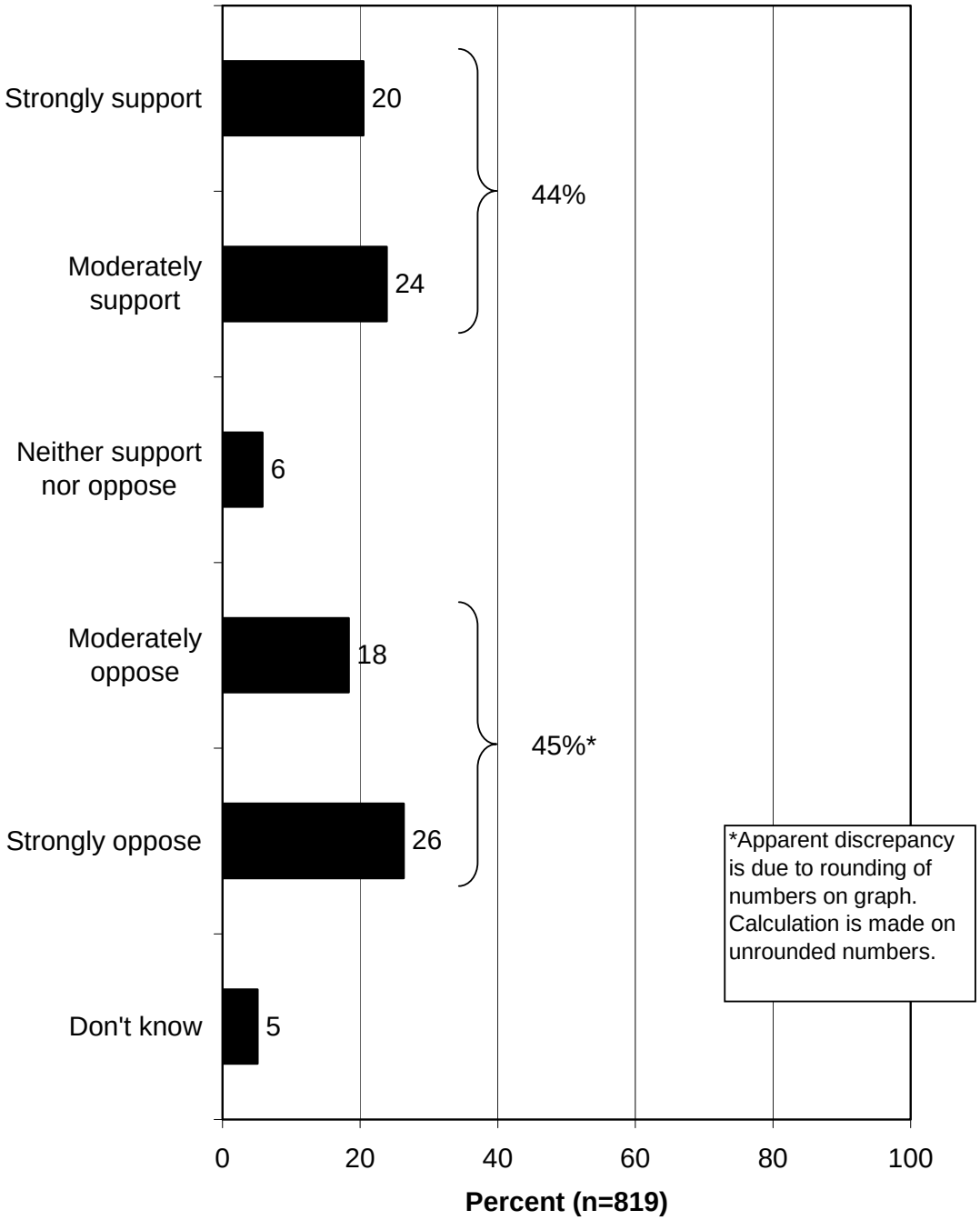
Q37. Do you support or oppose moving some wolves from eastern Washington to western Washington to facilitate statewide distribution of wolves?



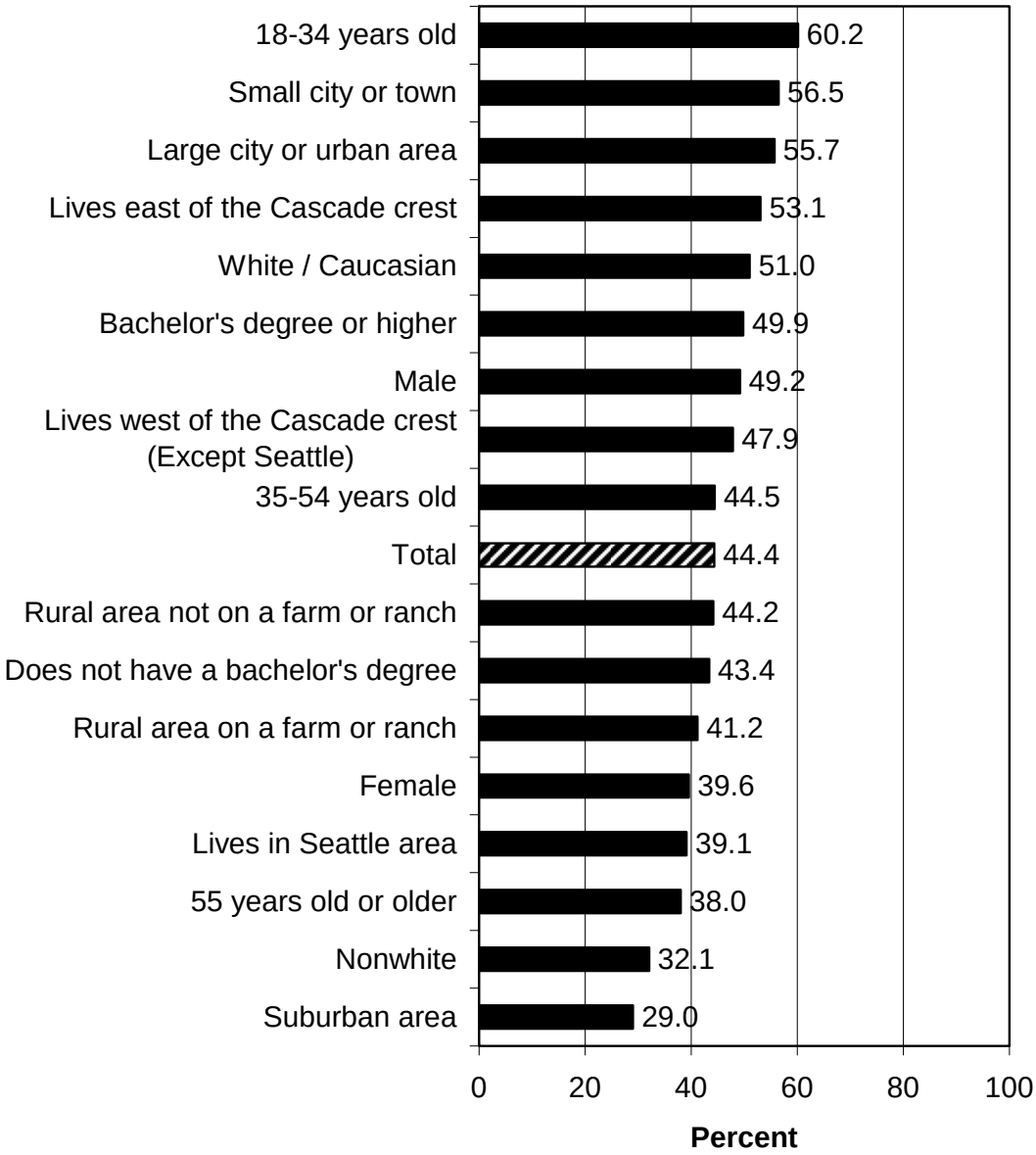
Q37. Do you support or oppose moving some wolves from eastern Washington to western Washington to facilitate statewide distribution of wolves?



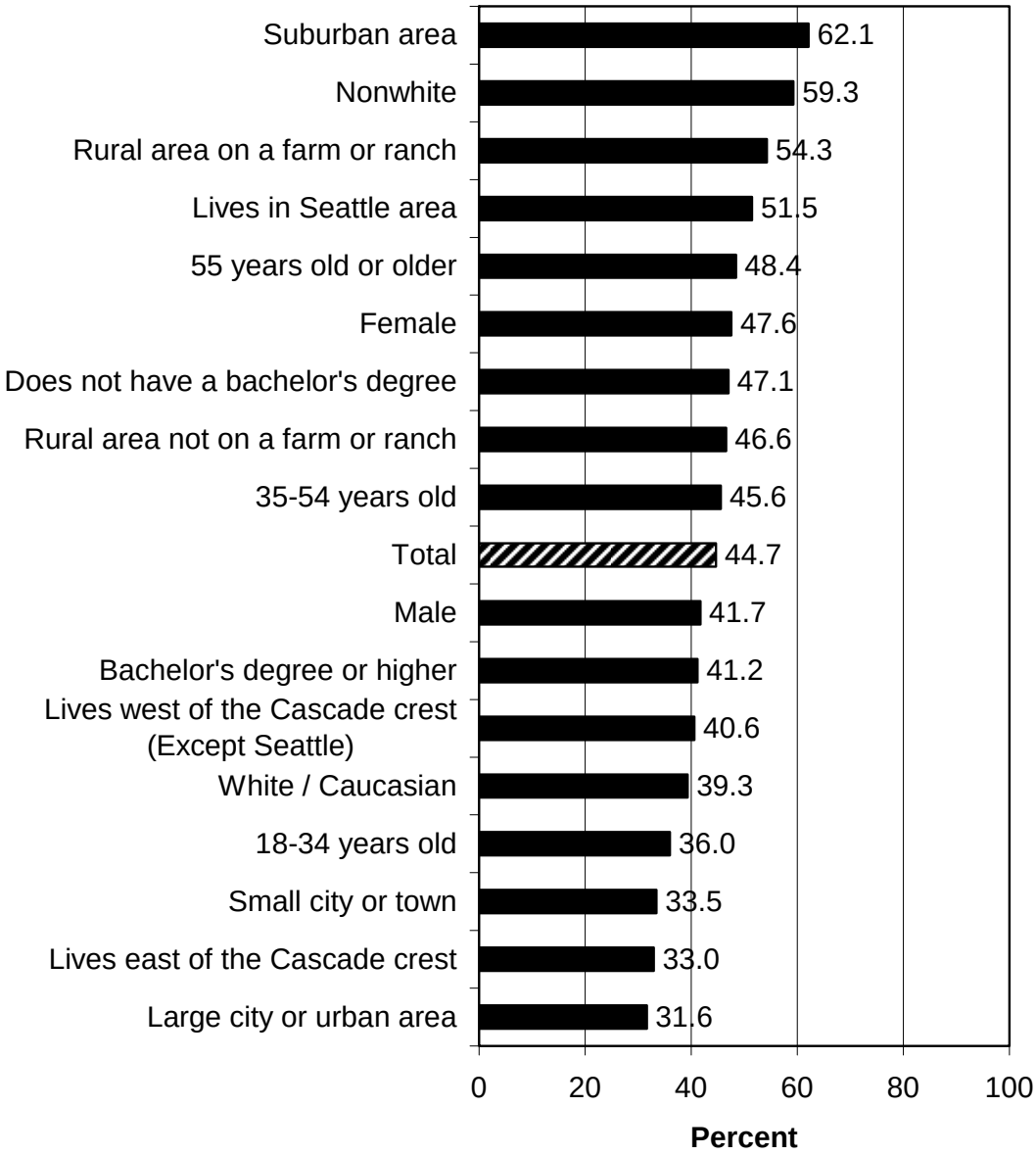
Q38. Do you support or oppose moving wolves to public land in western Washington, such as National Forests or National Parks?



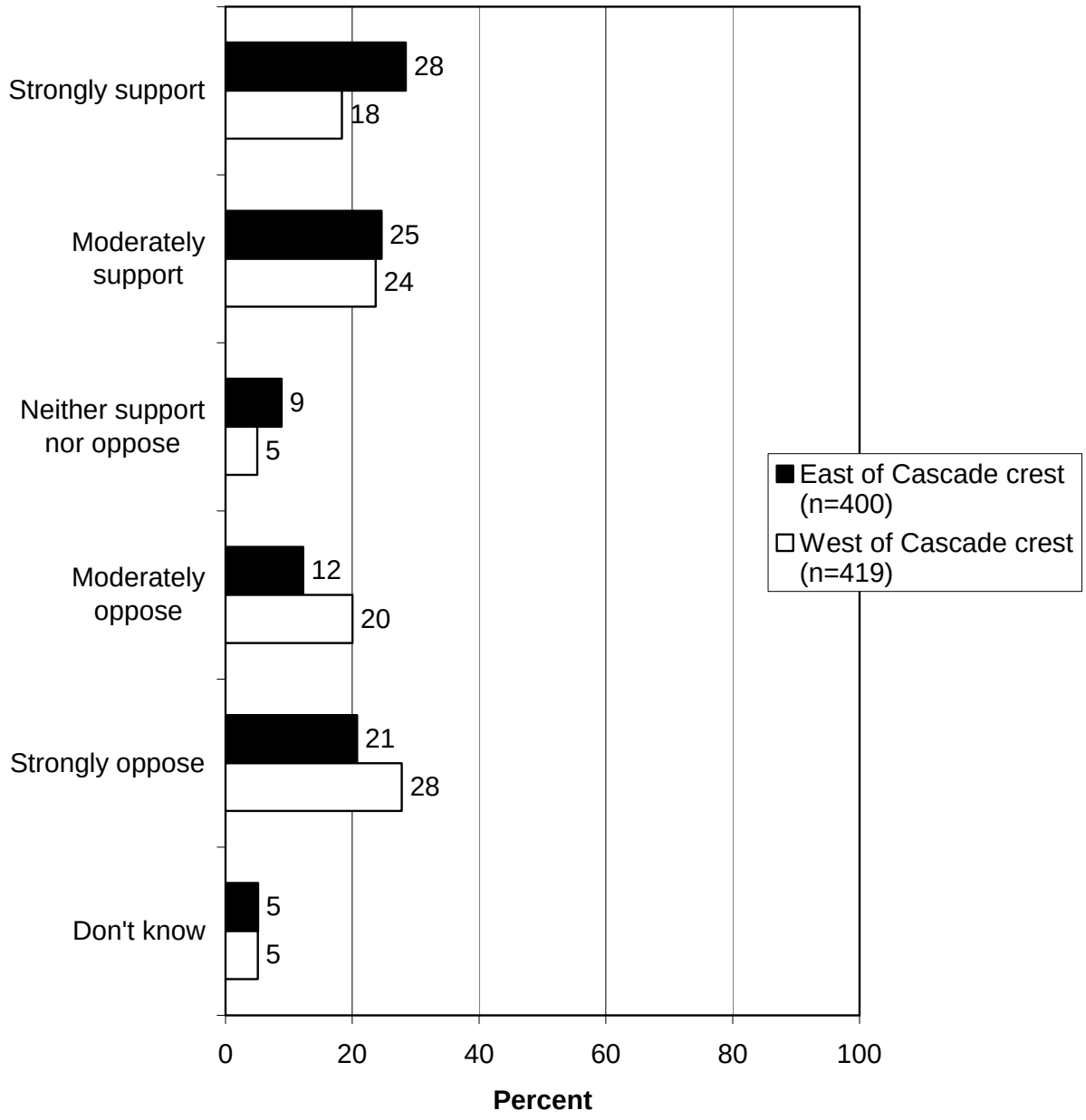
Percent of each of the following groups who support moving wolves to public land in western Washington, such as National Forests or National Parks:



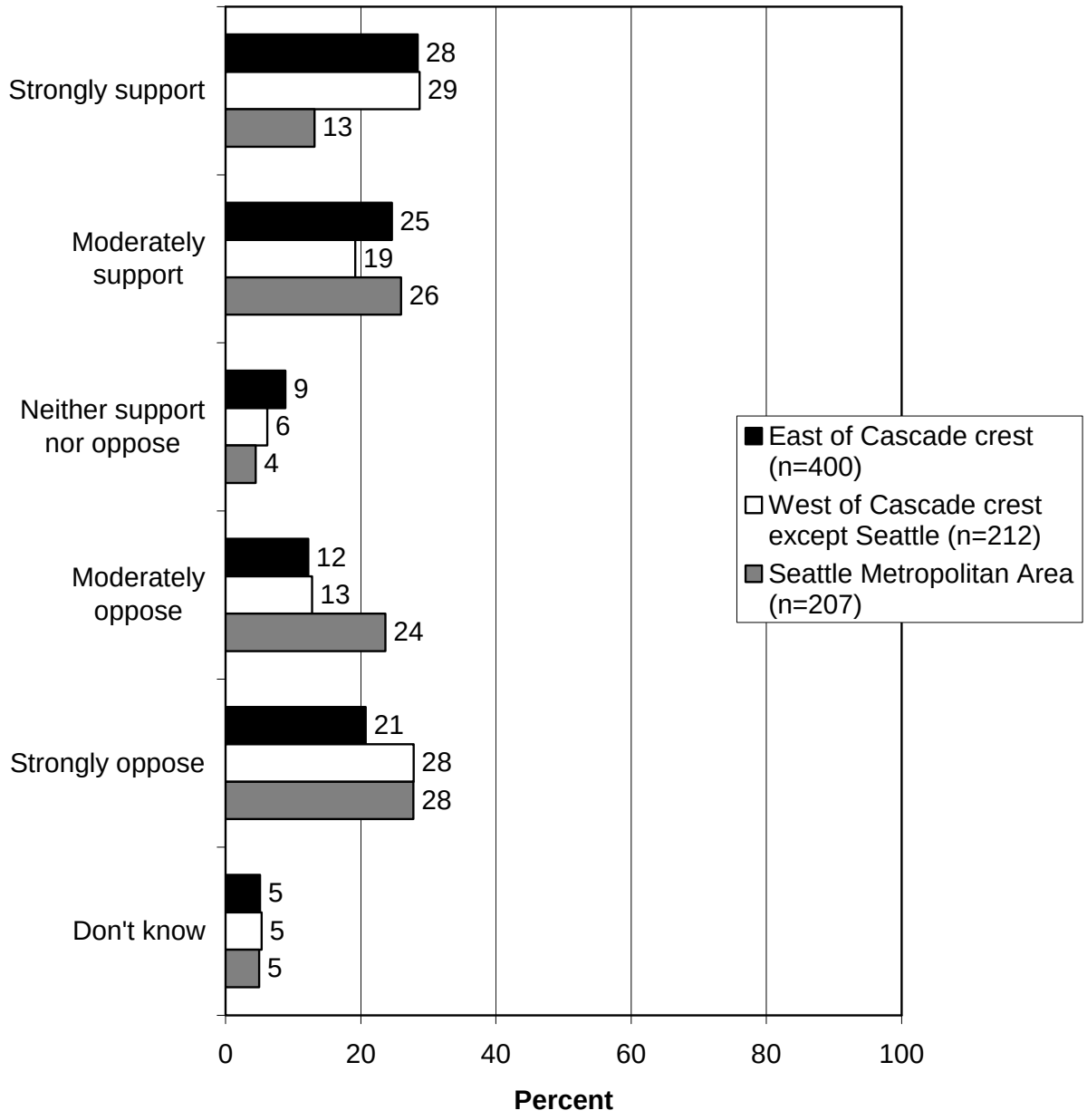
Percent of each of the following groups who oppose moving wolves to public land in western Washington, such as National Forests or National Parks:



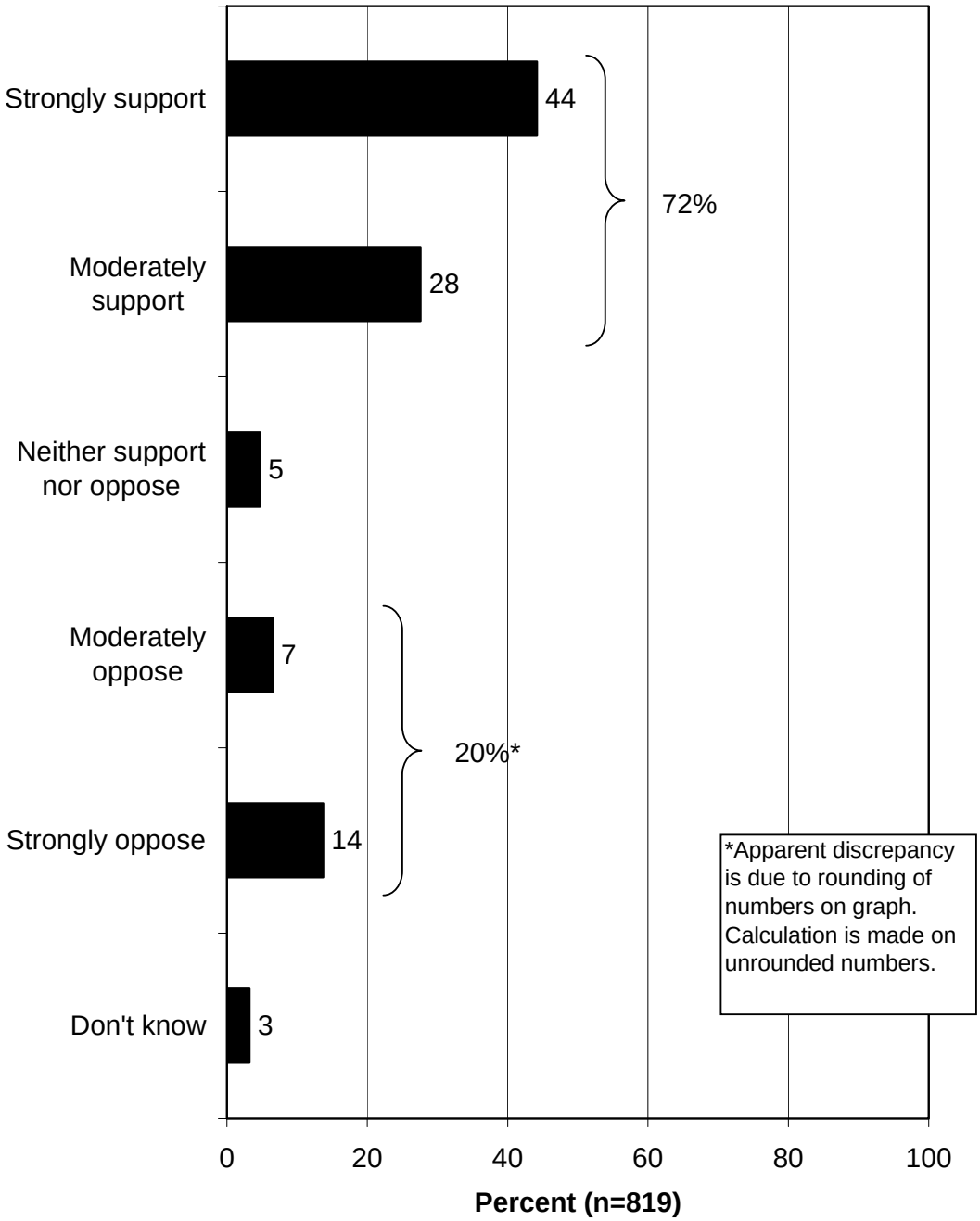
Q38. Do you support or oppose moving wolves to public land in western Washington, such as National Forests or National Parks?



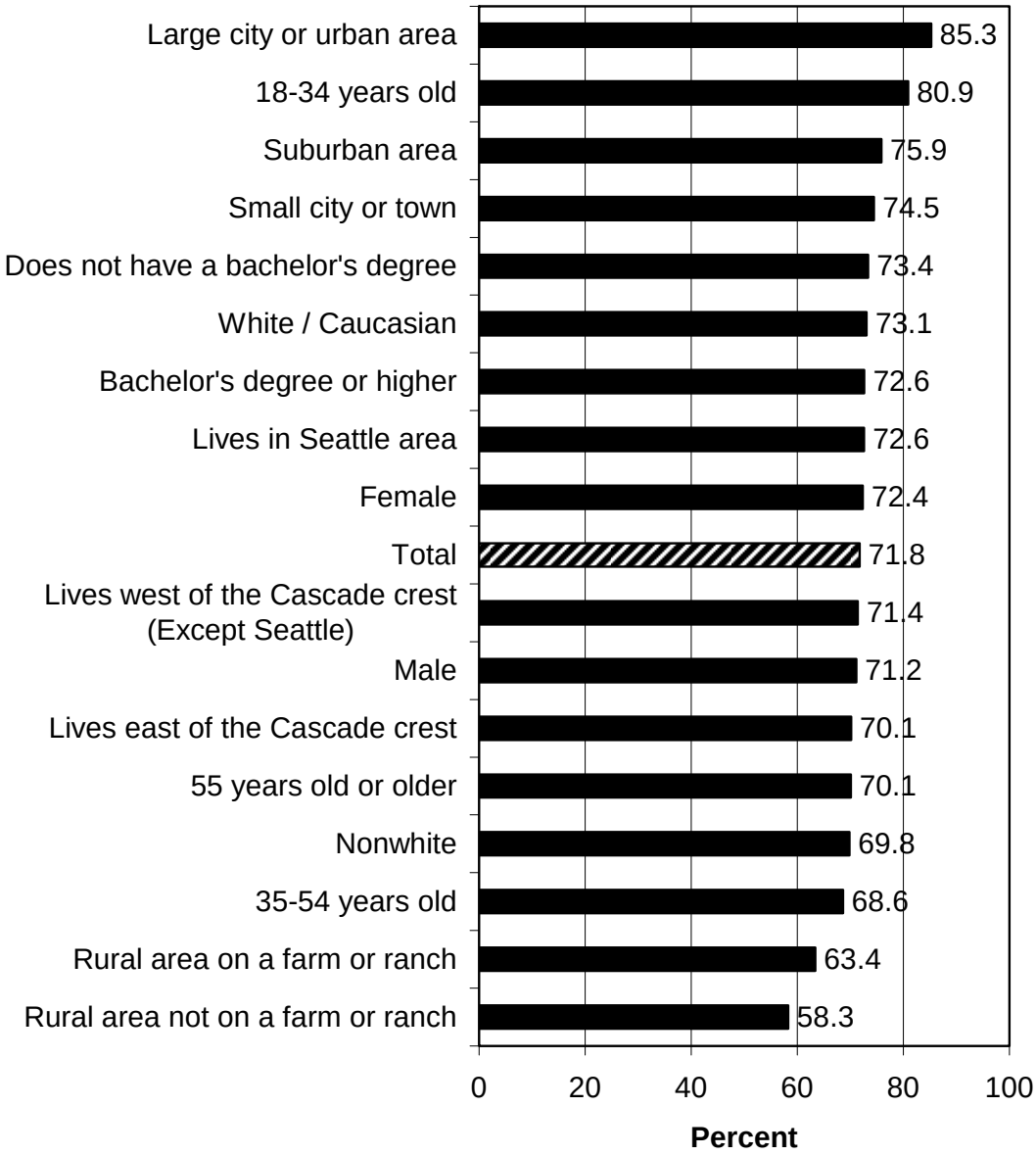
Q38. Do you support or oppose moving wolves to public land in western Washington, such as National Forests or National Parks?



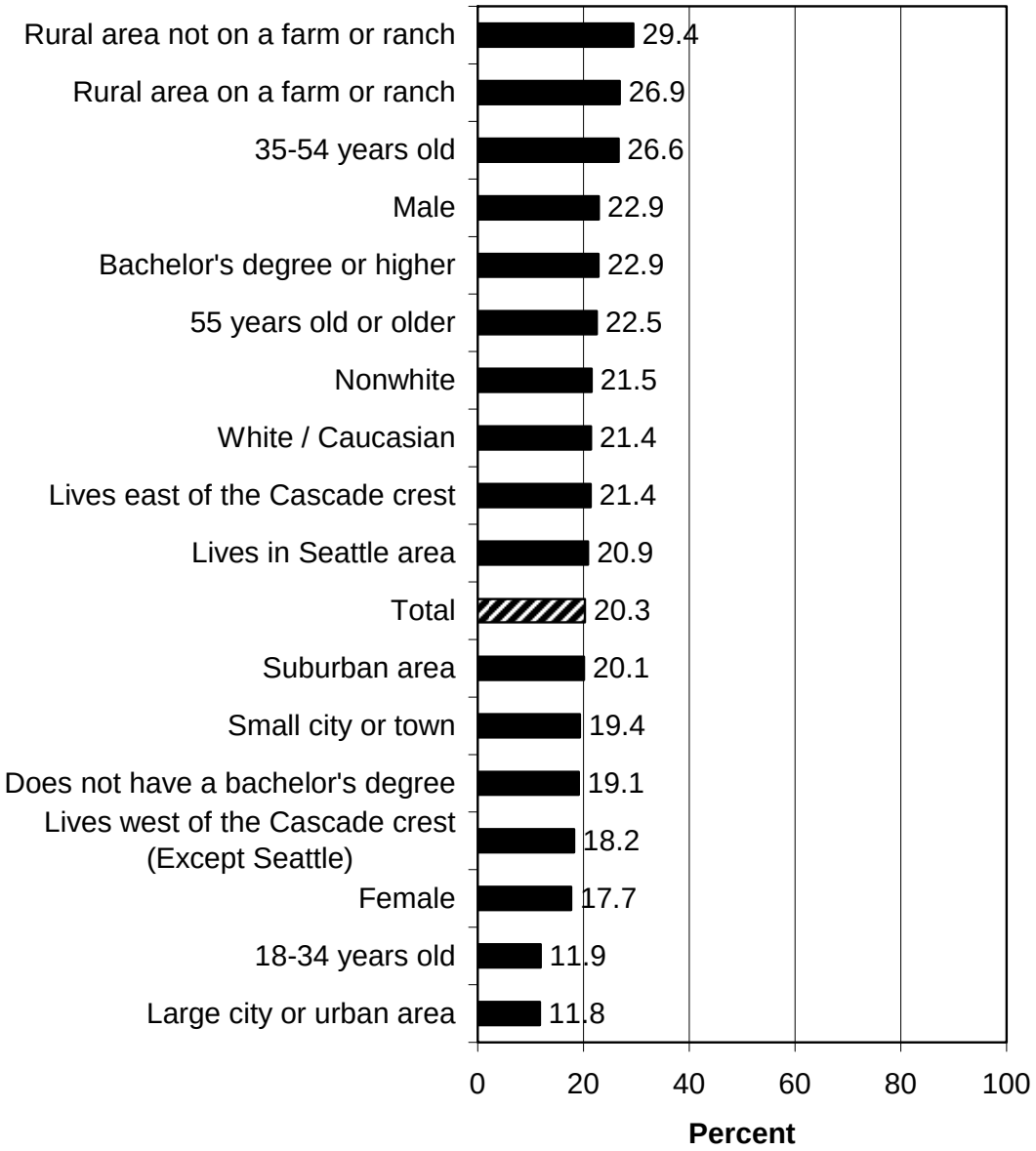
Q39. Do you support or oppose moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas?



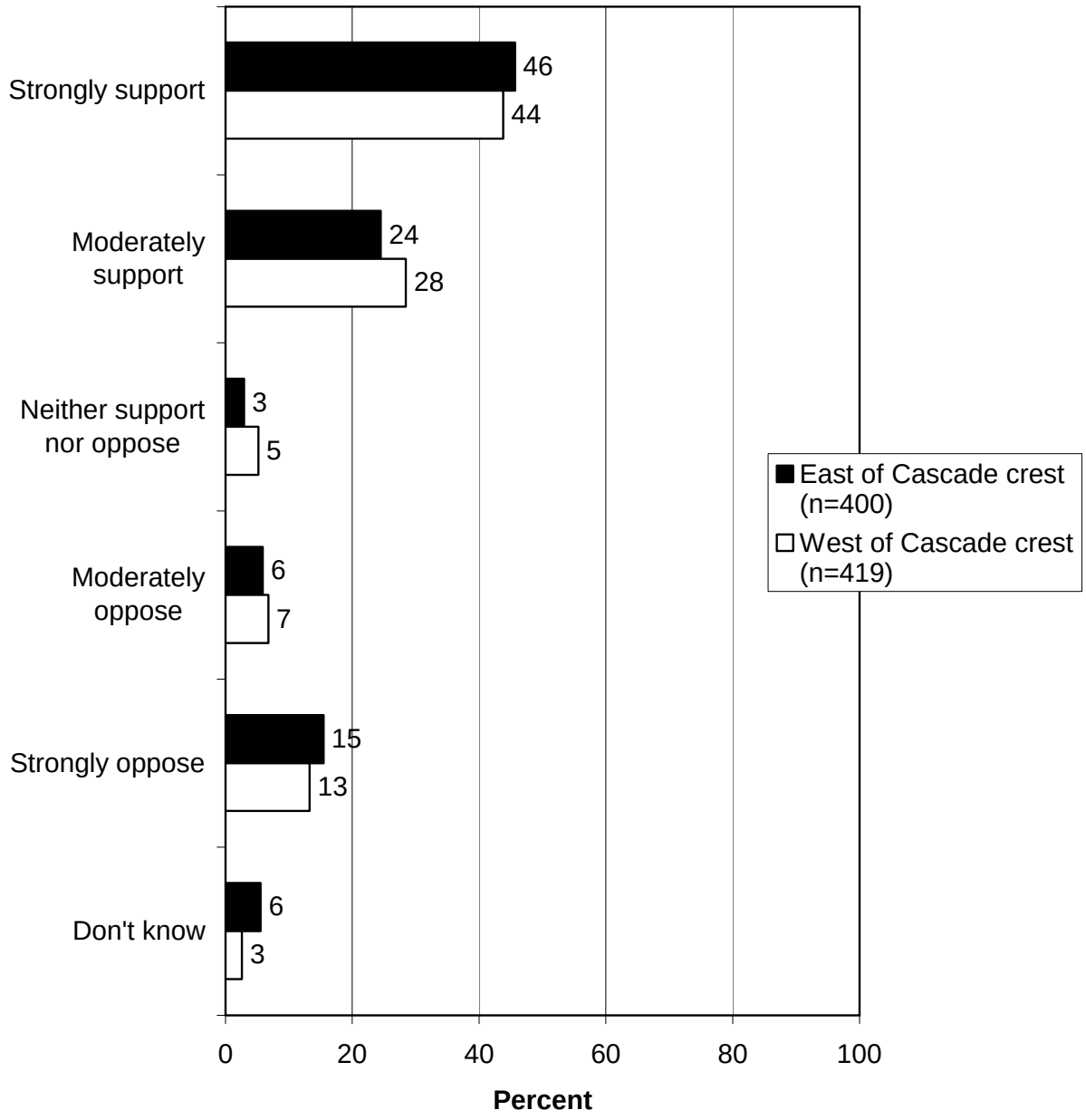
Percent of each of the following groups who support moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas:



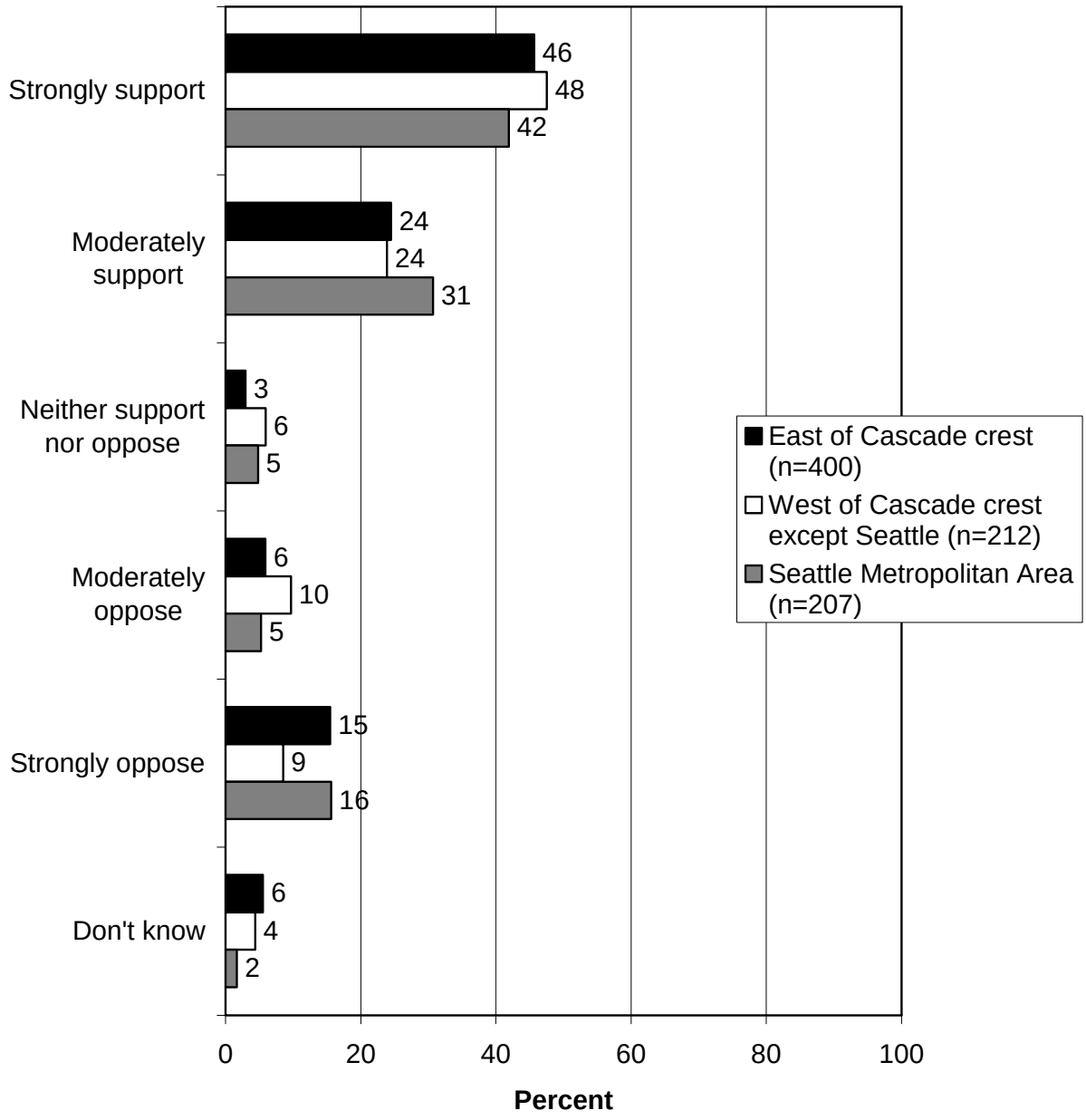
Percent of each of the following groups who oppose moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas:



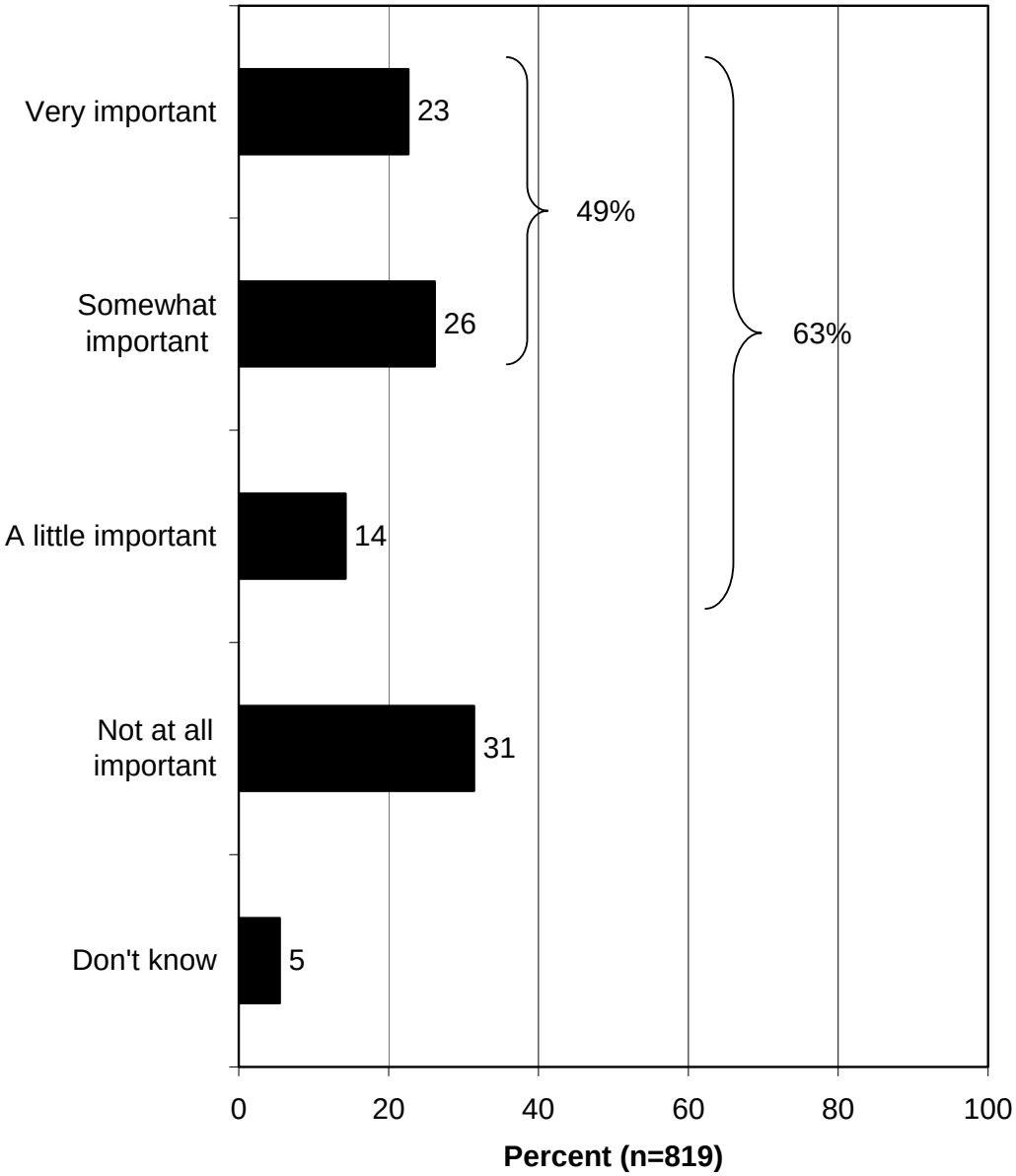
Q39. Do you support or oppose moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas?



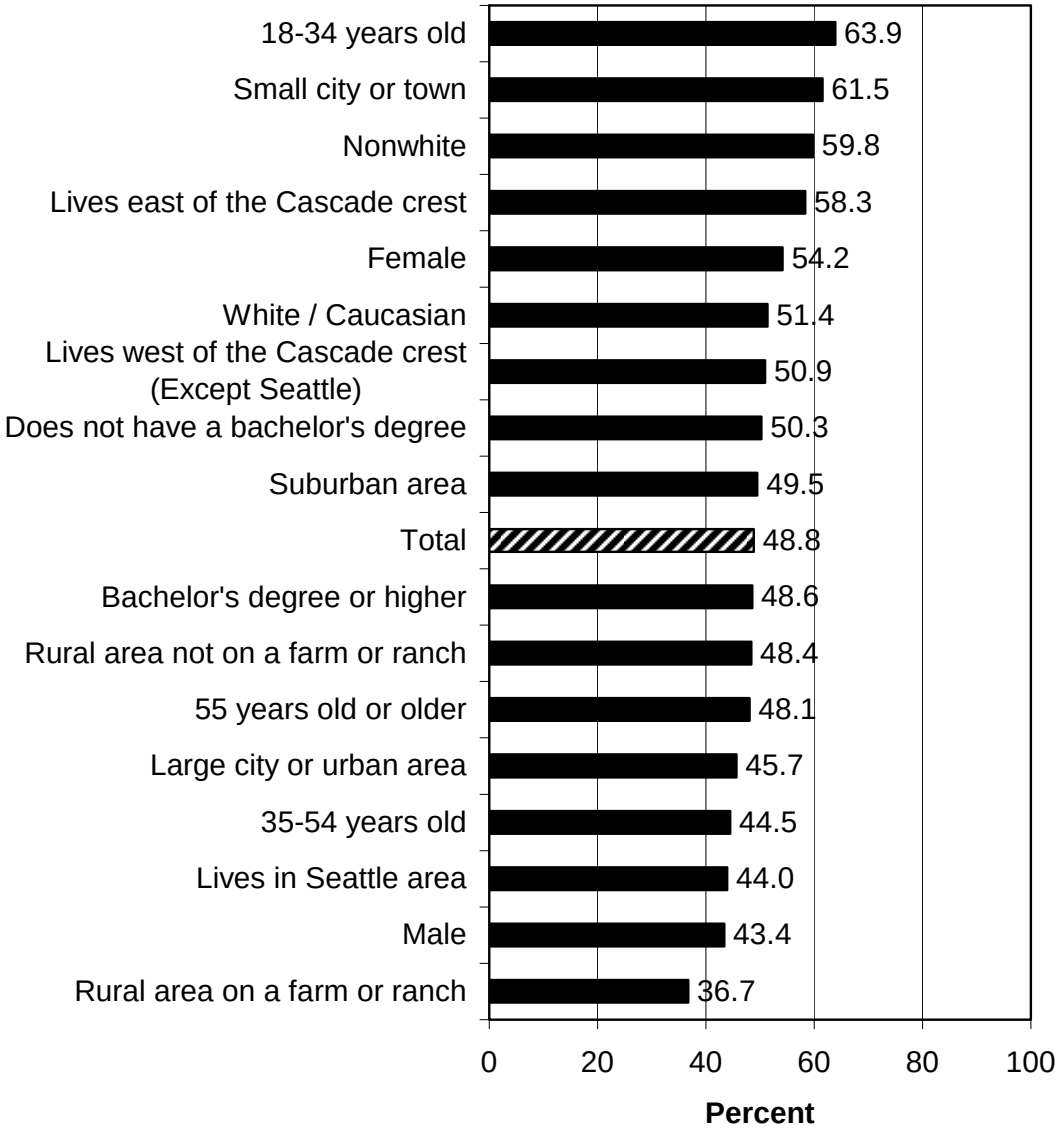
Q39. Do you support or oppose moving wolves that have been involved in livestock depredation to wolf habitat that is away from livestock grazing areas?



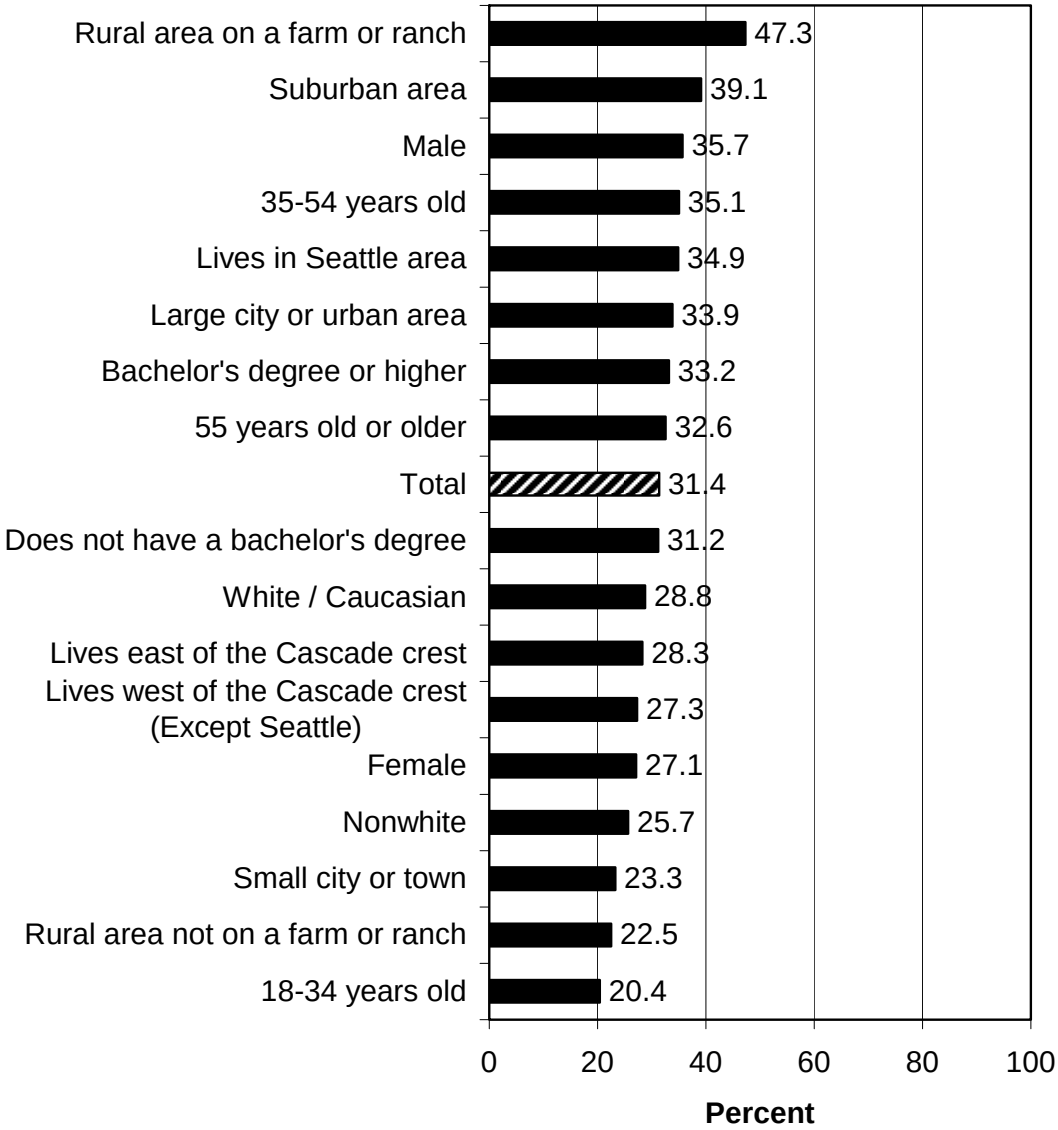
Q40. As long as the wolf population in Washington is secure and growing, how important or unimportant is it to you that the wolf population be distributed across the entire state, not including urban and suburban areas where they would not be appropriate?



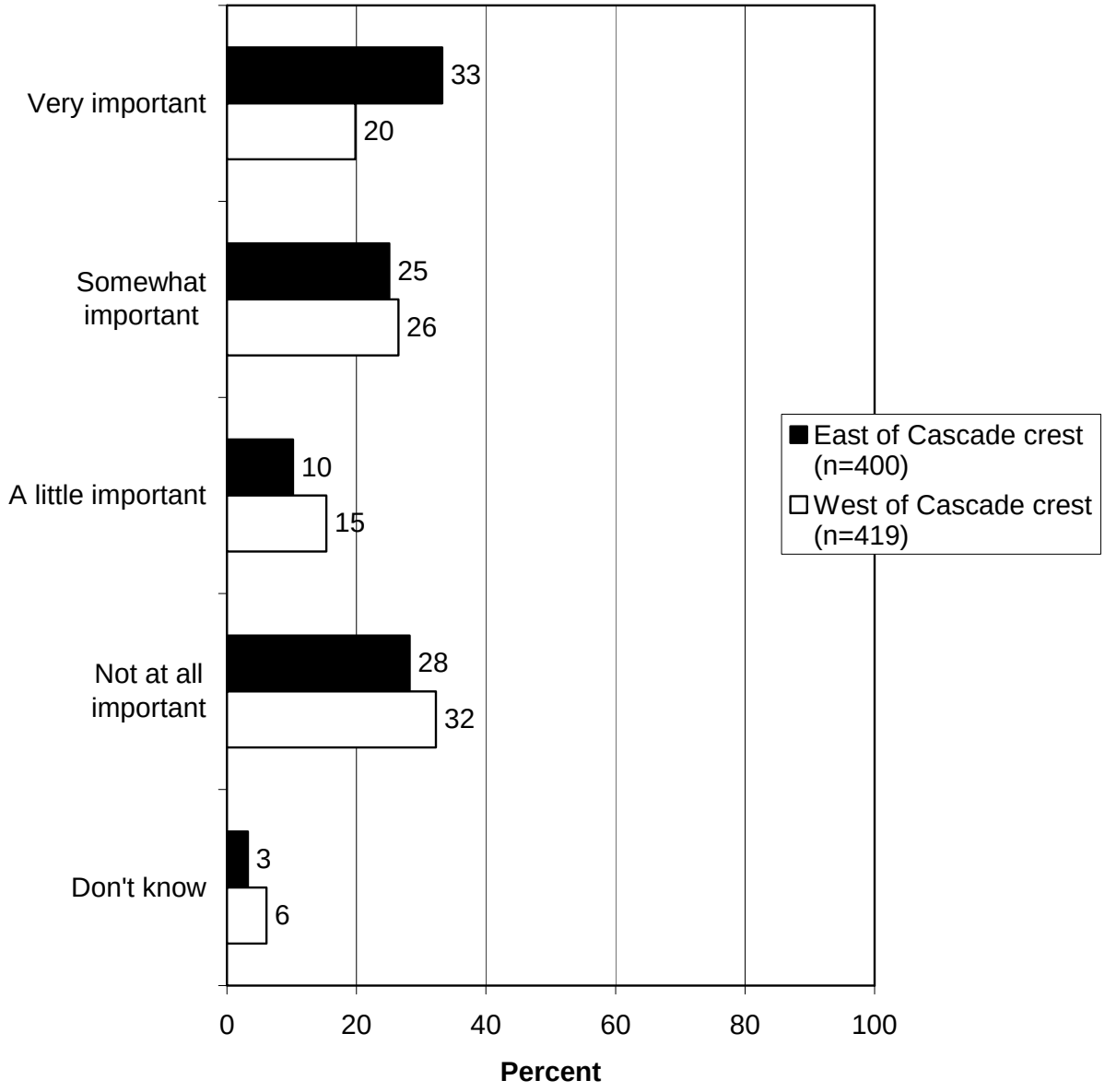
Percent of each of the following groups who consider it very or somewhat important that the wolf population in Washington be distributed across the entire state, not including urban and suburban areas where they would not be appropriate:



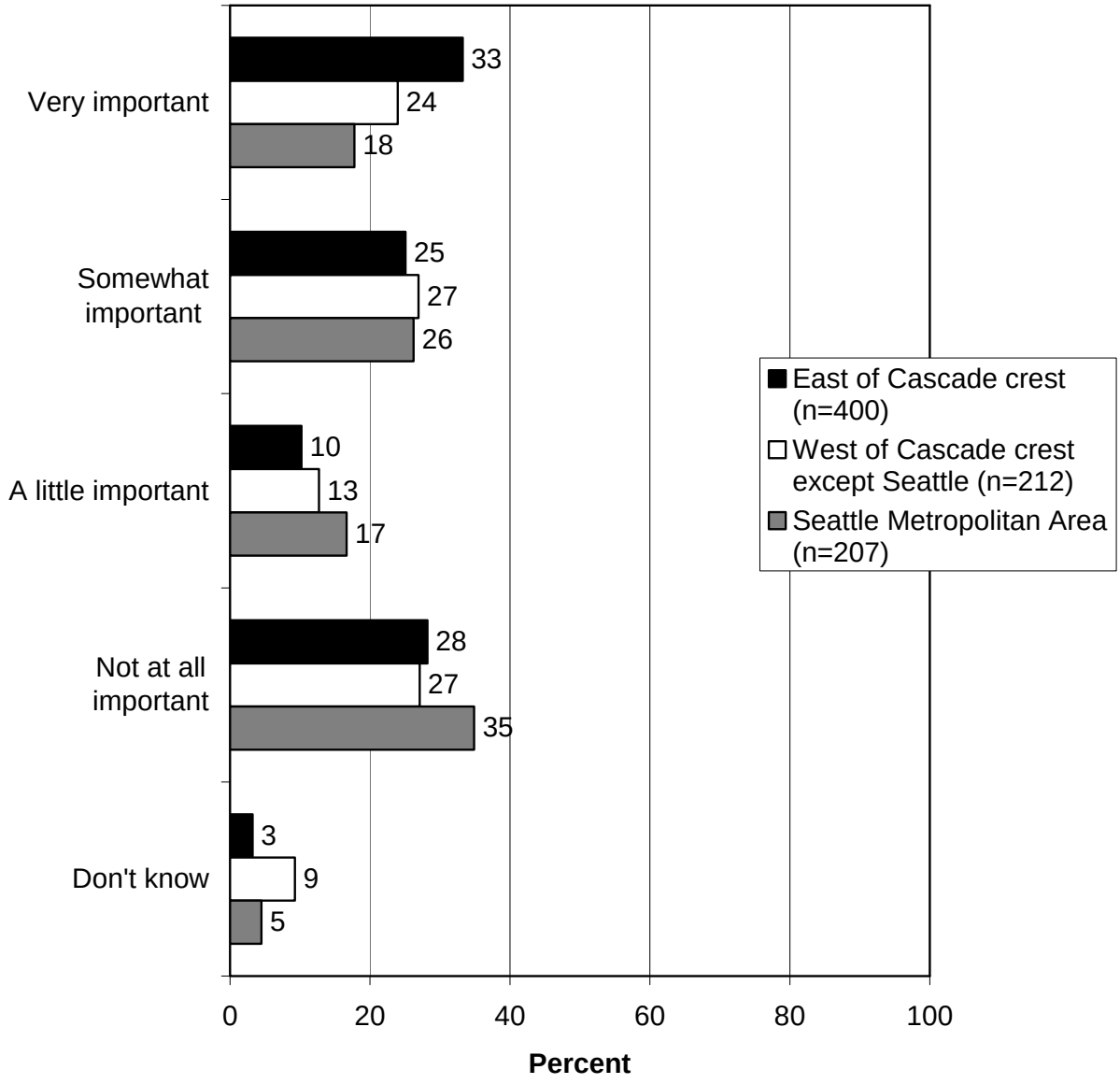
Percent of each of the following groups who consider it not at all important that the wolf population in Washington be distributed across the entire state, not including urban and suburban areas where they would not be appropriate:



Q40. As long as the wolf population in Washington is secure and growing, how important or unimportant is it to you that the wolf population be distributed across the entire state, not including urban and suburban areas where they would not be appropriate?



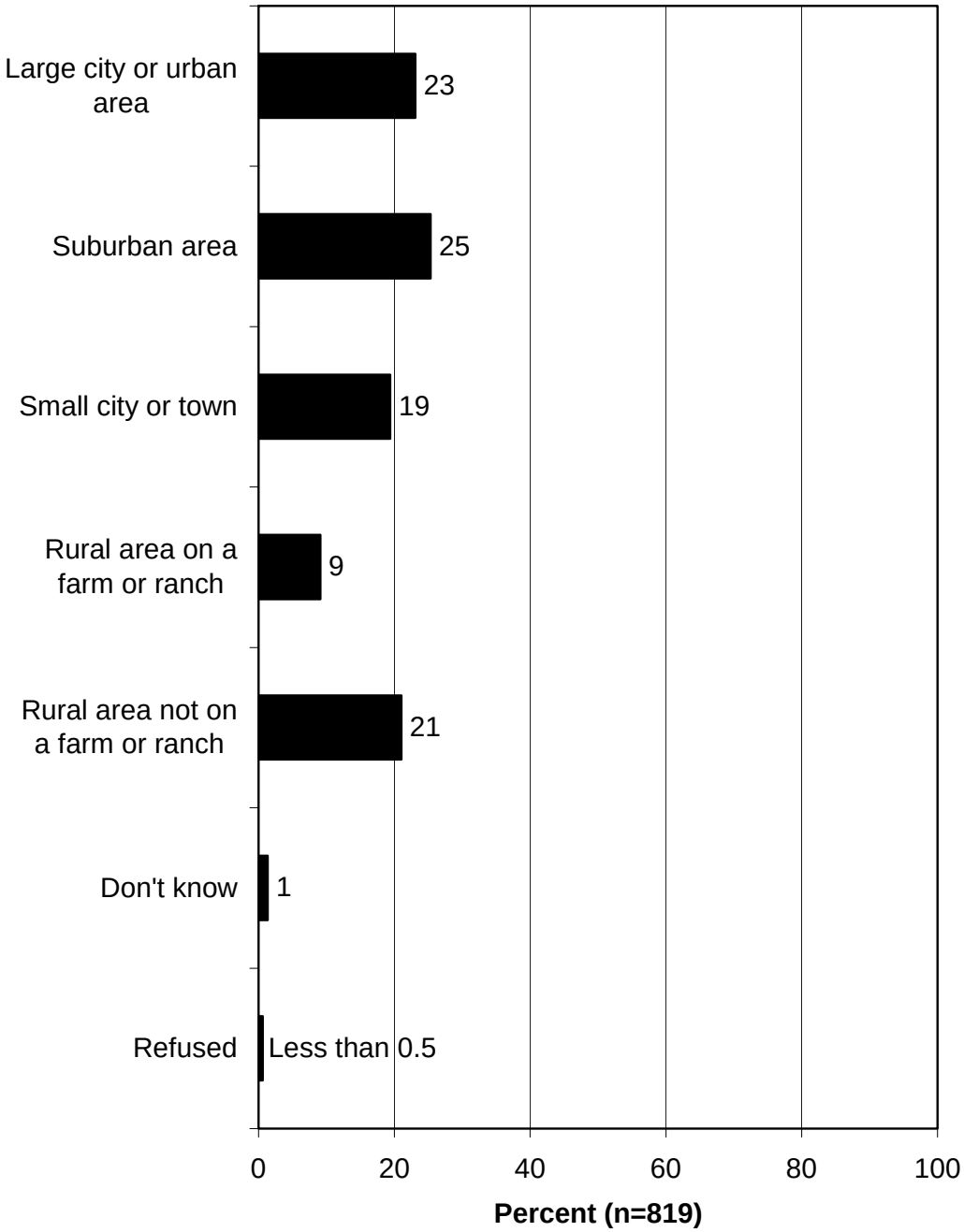
Q40. As long as the wolf population in Washington is secure and growing, how important or unimportant is it to you that the wolf population be distributed across the entire state, not including urban and suburban areas where they would not be appropriate?



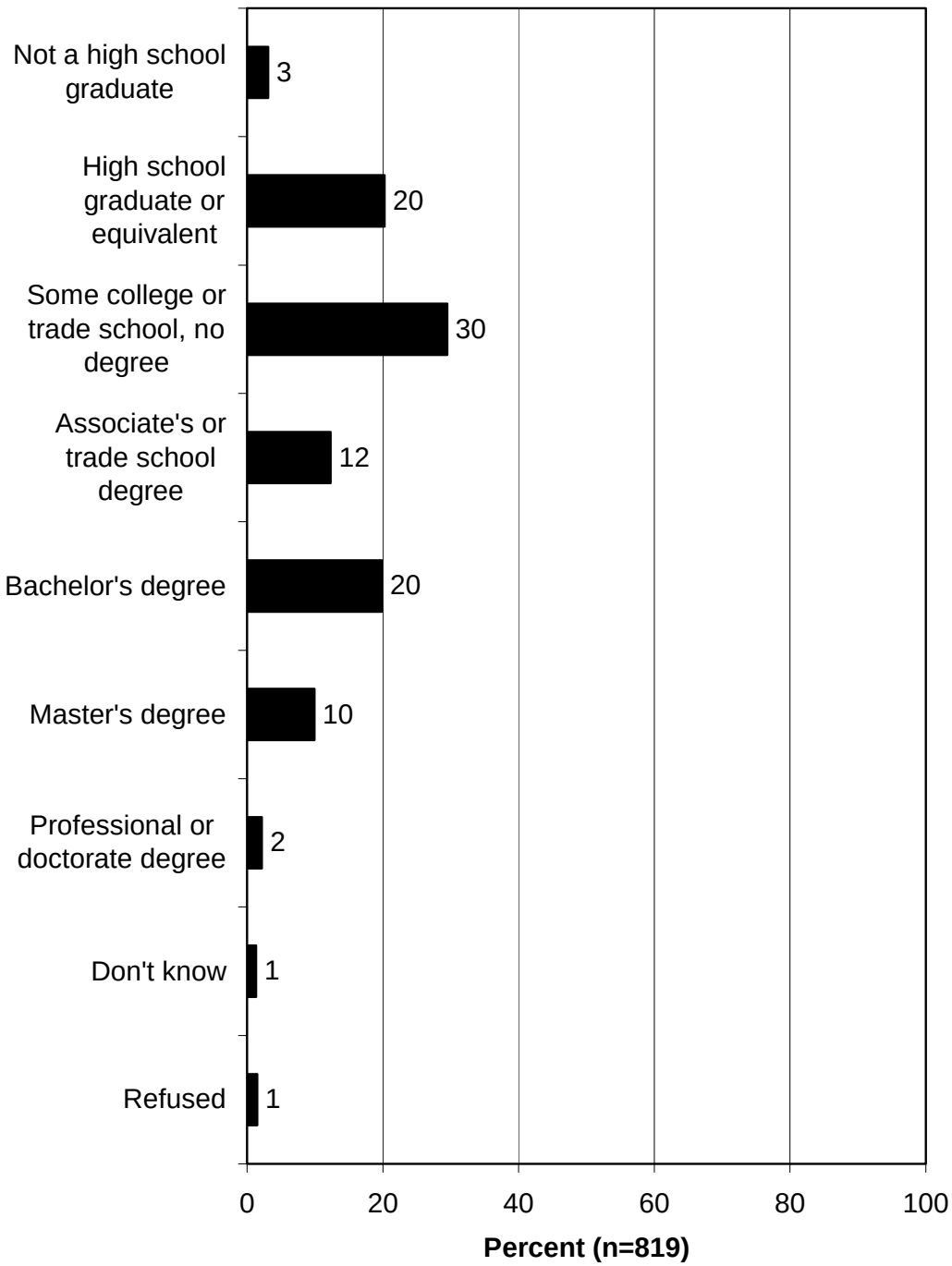
DEMOGRAPHIC DATA

- The following demographic data were collected for crosstabulations:
  - Type of residential area
  - Education level
  - Race or ethnicity
  - Age
  - Gender

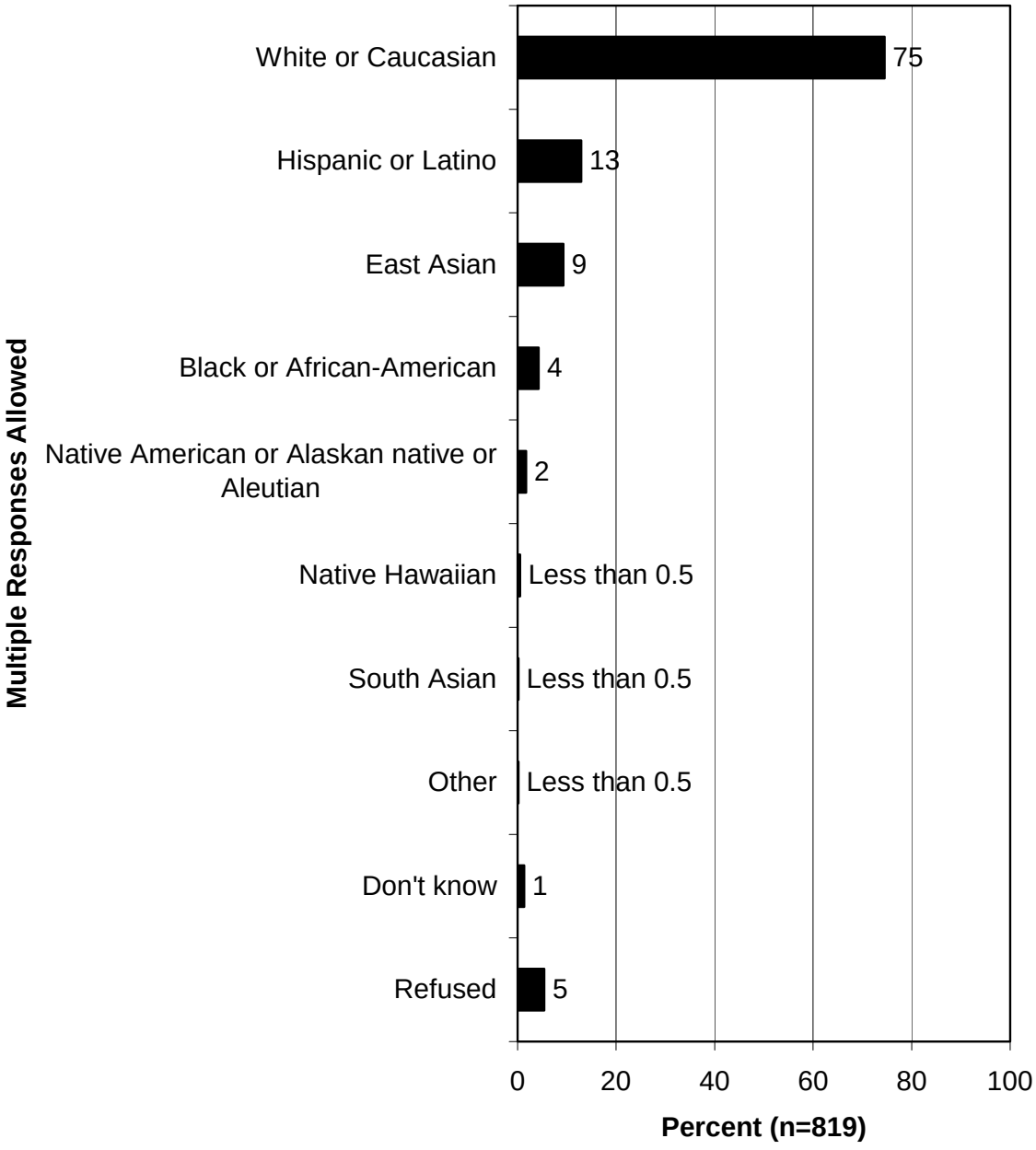
Q43. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch?



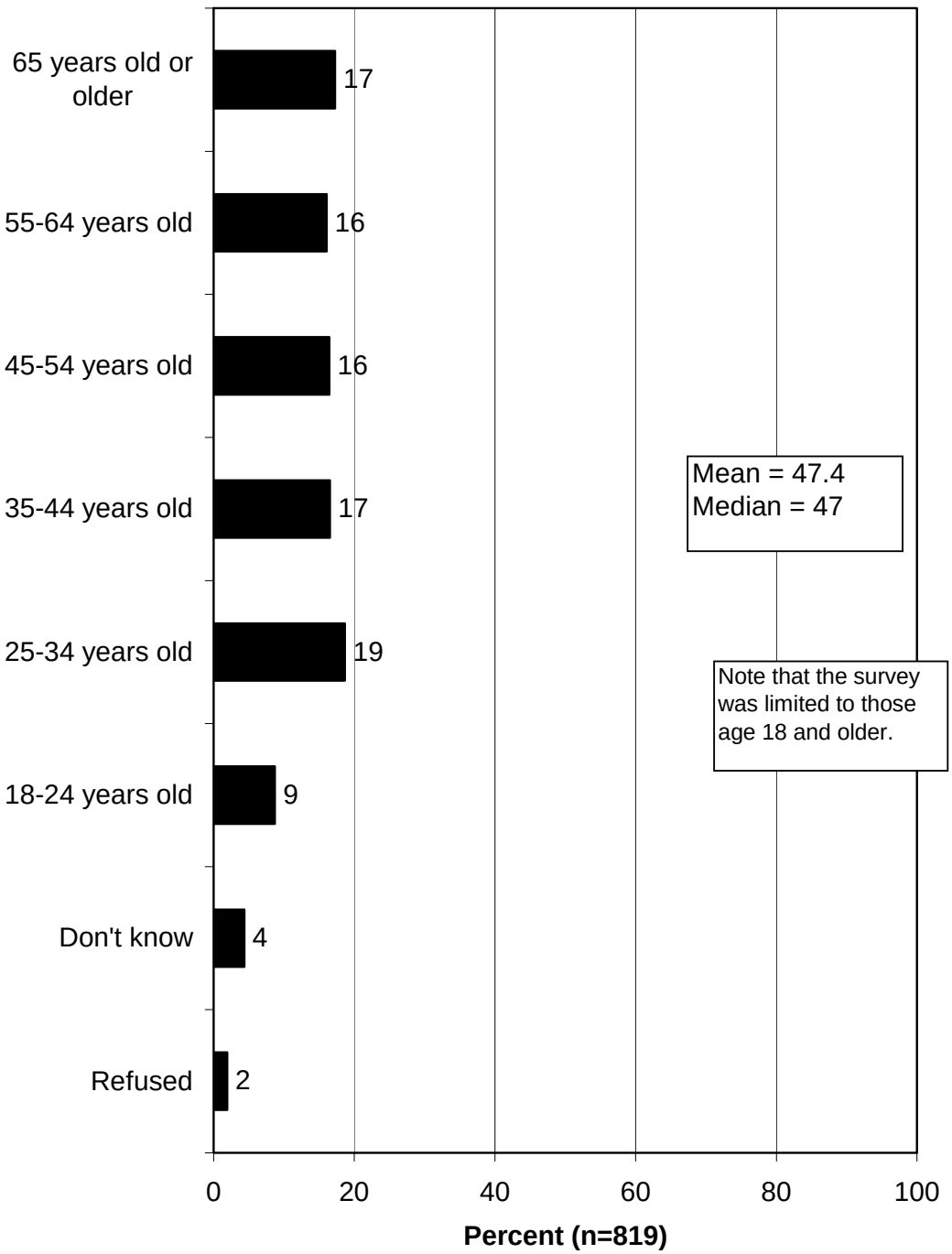
Q44. What is the highest level of education you have completed?



Q47. What races or ethnic backgrounds do you consider yourself? Please mention all that apply.



Q49. May I ask your age?



Q55. Respondent's gender (observed by interviewer; not asked).

ABOUT RESPONSIVE MANAGEMENT

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

Since 1985, Responsive Management has conducted telephone, mail, and online surveys, as well as multi-modal surveys, on-site intercepts, focus groups, public meetings, personal interviews, needs assessments, program evaluations, marketing and communication plans, and other forms of research measuring public opinions and attitudes. Utilizing our in-house, full-service survey facilities with 75 professional interviewers, we have conducted studies in all 50 states and 15 countries worldwide totaling more than 1,000 projects.

Responsive Management has conducted research for every state fish and wildlife agency and most of the federal resource agencies, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, the Bureau of Land Management, the U.S. Coast Guard, and the National Marine Fisheries Service.

We have also provided research for many nonprofit and nongovernmental organizations, including the National Wildlife Federation, the National Shooting Sports Foundation, the Archery Trade Association, the Izaak Walton League, the Rocky Mountain Elk Foundation, and Ducks Unlimited. Other nonprofit and NGO clients include Trout Unlimited, the Sierra Club, the American Museum of Natural History, the Ocean Conservancy, the National Association of State Boating Law Administrators, and the BoatUS Foundation.

Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Trijicon, Yamaha, and others.

Responsive Management also provides data collection for the nation's top universities, including Auburn University, Clemson University, Colorado State University, Duke University, George Mason University, Michigan State University, Mississippi State University, North Carolina State University, Oregon State University, Penn State University, Rutgers University, Stanford University, Texas Tech, University of California-Davis, University of Florida, University of Montana, University of New Hampshire, University of Southern California, Virginia Tech, West Virginia University, and many more.

Our research has been upheld in U.S. Courts, used in peer-reviewed journals, and presented at major wildlife and natural resource conferences around the world. Responsive Management's research has also been featured in many of the nation's top media, including *Newsweek*, *The Wall Street Journal*, *The New York Times*, CNN, and on the front pages of *The Washington Post* and *USA Today*.

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