

Maryland Hunters' Attitudes Toward Hunting and Hunting-Related Issues



Study conducted for the
Maryland Department of Natural Resources

2020

MARYLAND HUNTERS' ATTITUDES TOWARD HUNTING AND HUNTING-RELATED ISSUES

2020

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Acknowledgments

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EXECUTIVE SUMMARY

This study was conducted for the Maryland Department of Natural Resources (hereinafter referred to as the Department) to determine Maryland hunters' participation in hunting, their hunting of various species, their hunting on Wildlife Management Areas (WMAs), and their opinions on and attitudes toward various hunting-related issues such as Sunday hunting and quality of hunting versus quantity. The study entailed a scientific, probability-based multi-modal survey of holders of a Maryland hunting license or a Maryland Migratory Bird Hunting and Conservation Stamp (also known as a duck stamp or migratory bird stamp). Specific aspects of the research methodology are discussed below.

METHODOLOGY

The survey questionnaire was developed cooperatively by Responsive Management and the Department.

For the sampling, the Department provided two databases, one of license holders and the second of migratory bird stamp holders. To develop the probability-based sample, these two databases were first combined. Most of the stamp holders also had a hunting license, but some did not. In the final combined database used for sampling, the hunters were "de-duplicated," meaning that hunters in both databases were put in the combined database only once to ensure that all hunters had the same chance of being contacted for the survey.

From this combined database, the final sample was pulled randomly. Only after a hunter was pulled for the sample was the contact procedure for that hunter determined. There were three modes of contact: by telephone, by email, and by postal mail. Having three modes of contact ensured that hunters had the maximum opportunity to participate in the survey. It also ensured that hunters who could not be reached in one mode of contact could be contacted using another mode.

Hunters contacted by telephone were interviewed at that time, or a callback time was scheduled. Those contacted by email were provided a link to the survey to take it online. Finally, those contacted by postcard were given the survey URL and an access code to take the survey online; they were also provided a toll-free telephone number that they could call into if they wanted to take the survey by telephone or for assistance with completing the online survey. Note that the online survey could only be accessed using the email link or by entering the access code on the postcard; the online survey could not be accessed through a general online search. The full details of the timing of the contacts is included in the body of the report.

After the telephone and online surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness. Using both survey modes, Responsive Management obtained 5,709 completed surveys of Maryland hunting license or migratory bird stamp holders.

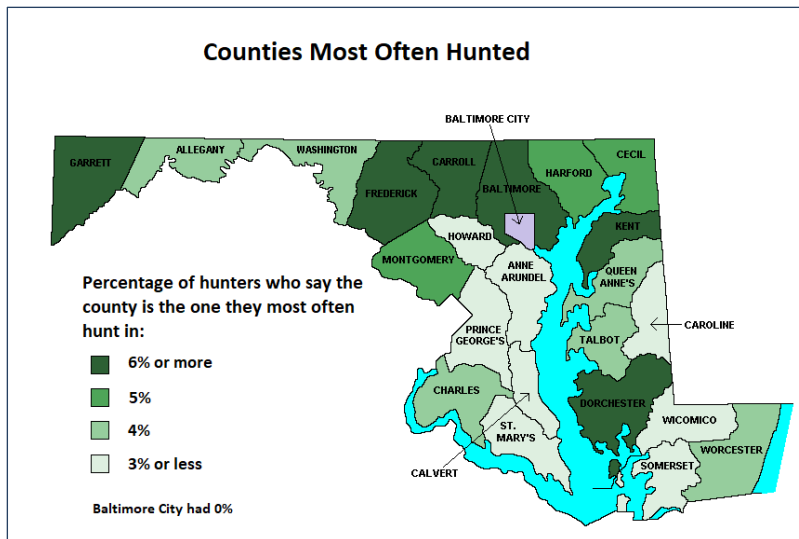
The analysis of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. The results were weighted by license type so that the sample was representative of Maryland licensed/stamp holders as a whole. For the entire sample of Maryland license/stamp holders, the sampling error is at most plus or minus 1.26 percentage points at the 95% confidence level.

PARTICIPATION IN HUNTING

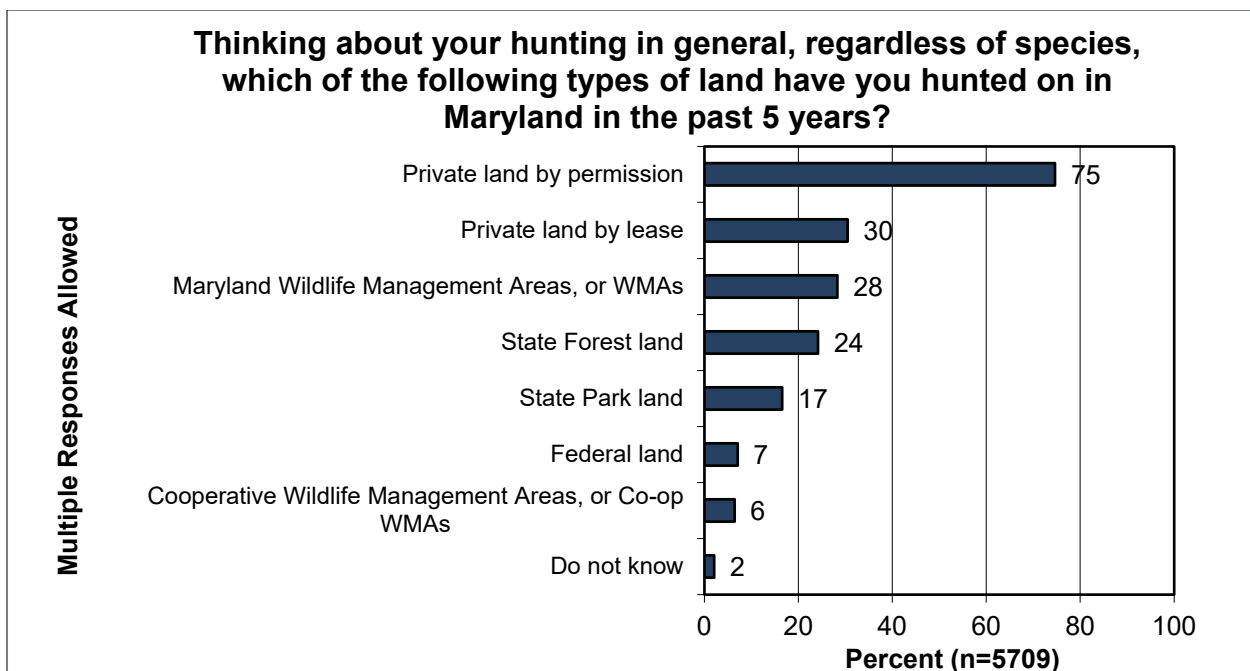
Nearly all of the license/stamp holders (97%) hunted during the 2019-2020 season. Their mean typical annual days of hunting is 29.48 days, and the median is 20 days. Additionally, a majority of license/stamp holders (68%) were quite avid, having hunted all 5 of the past 5 years.

LOCATION OF HUNTING

Hunters' most-often hunted county is Frederick County (7% of hunters say this is their most-hunted county). Five additional counties are at 6%: Baltimore, Carroll, Dorchester, Garrett, and Kent Counties, as shown in the map below.

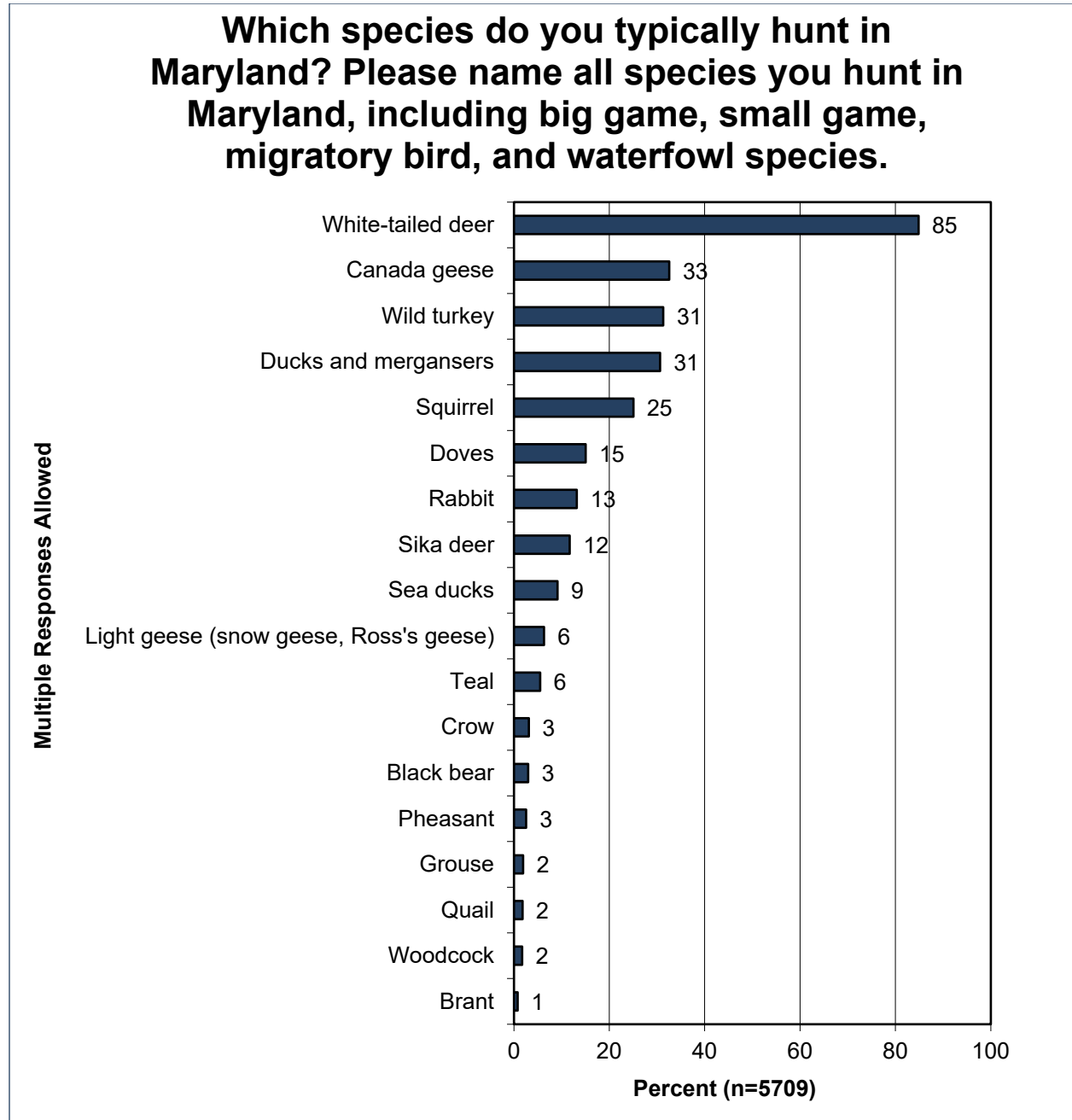


Most hunters in Maryland use private land by permission for hunting (75% do so). This is distantly followed by private land by lease, WMAs, and State Forest land (each with about a quarter of hunters using it). The graph shows the full list.



SPECIES HUNTED

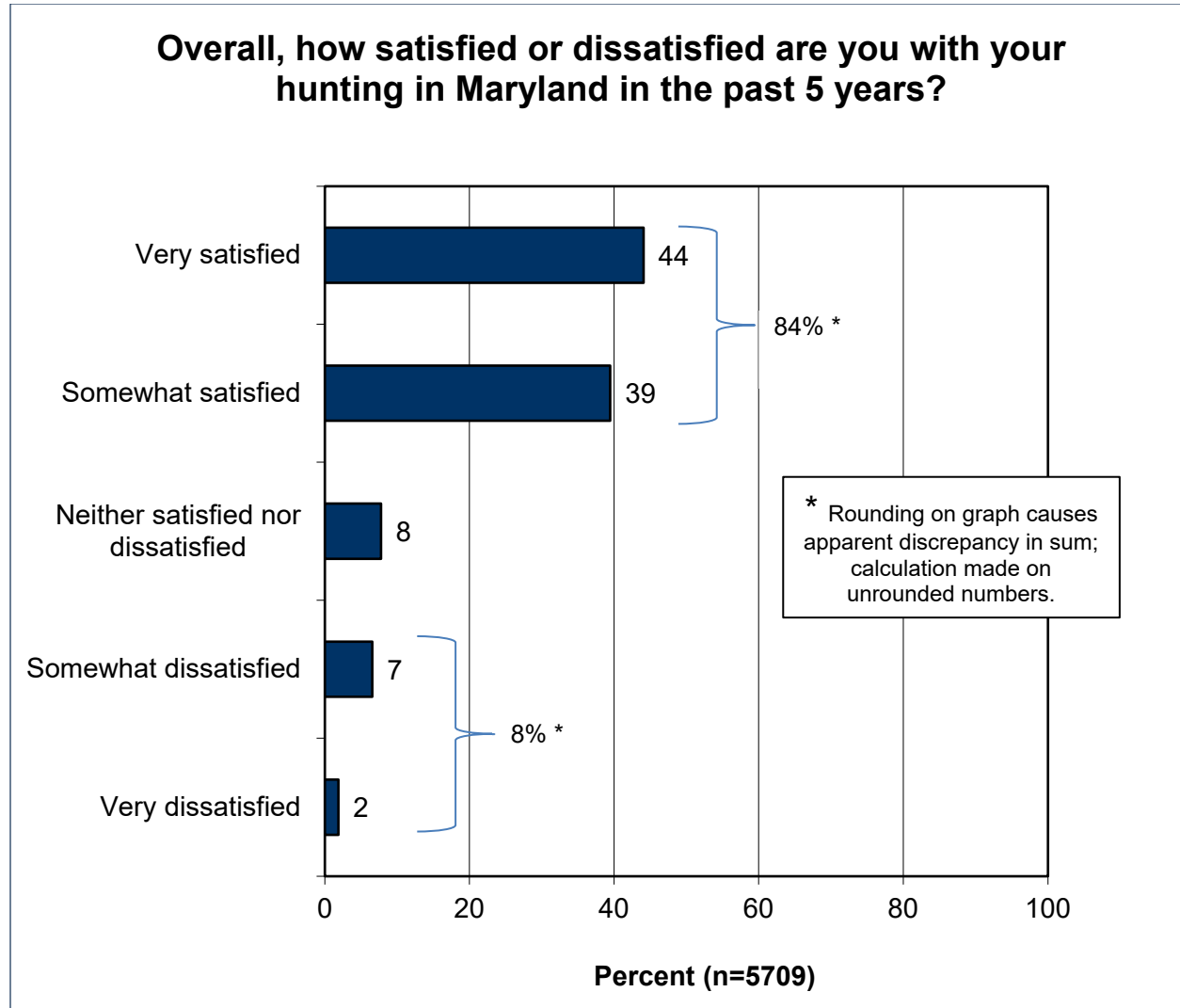
White-tailed deer is the most popular game: 85% of hunters typically seek this species. Three more species have about a third of hunters seeking them: Canada geese, wild turkey, and ducks and mergansers. The graph shows the full listing.



Hunters indicated the number of days that they typically hunt each species. White-tailed deer has the highest mean number of days that hunters hunt for it (19.53 days); black bear has the lowest (3.16 days) (the mean was calculated only among those who hunted each species).

SATISFACTION WITH HUNTING

The overwhelming majority of Maryland hunters (84%) are satisfied with their hunting in Maryland in the past 5 years, about equally divided between being *very* satisfied and *somewhat* satisfied, as shown in the graph below. Dissatisfaction is at 8%.

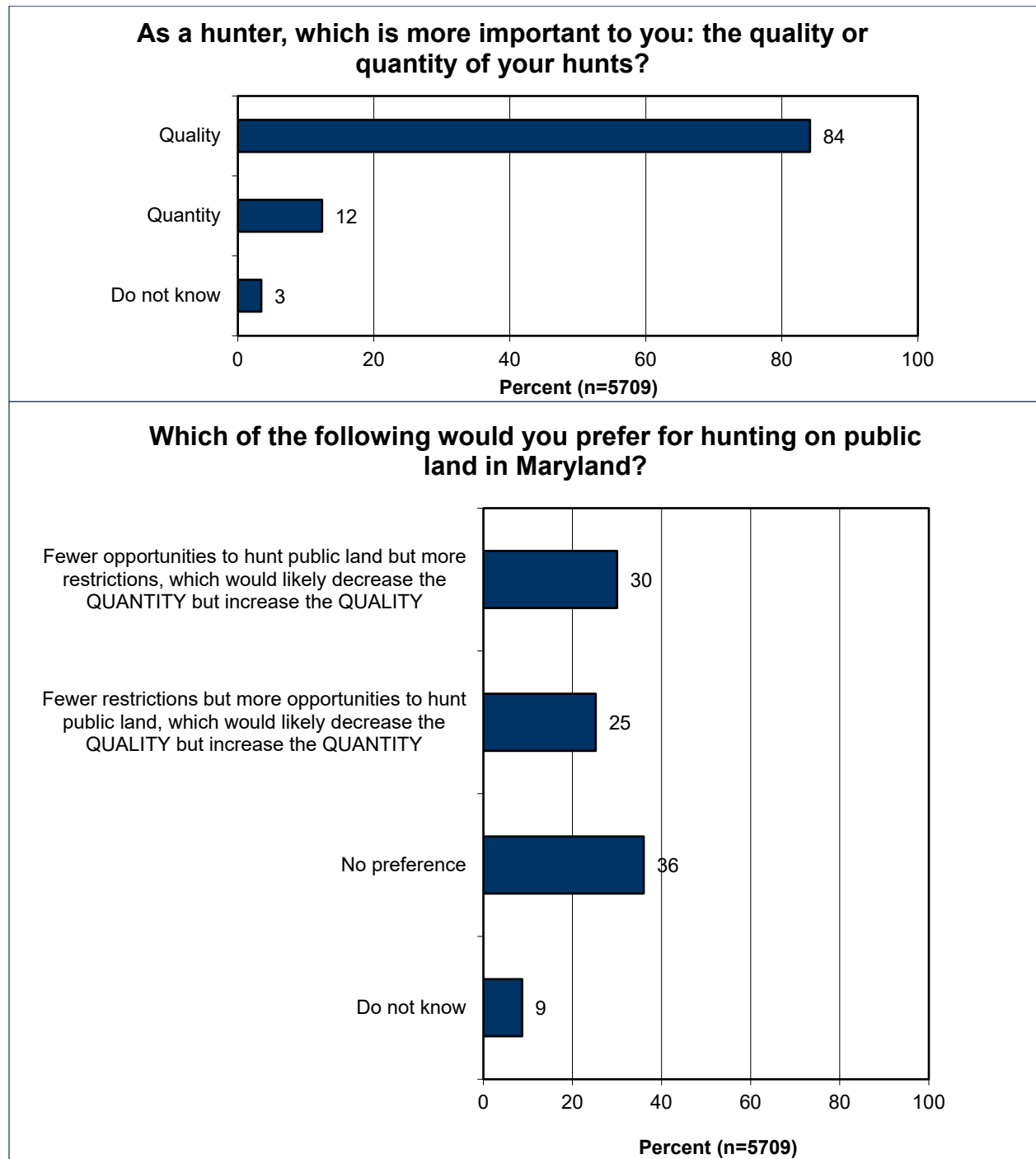


OPINIONS ON THE QUALITY OF HUNTING

When asked in an open-ended question what *quality* means as it pertains to hunting, hunters are much more likely to want to see more animals rather than bigger animals. Also, most answers regarding what makes something a quality hunt pertain to aspects of hunting other than the size of animals, such as access, the health of the animals, lack of crowding, spending time with family, and being in nature.

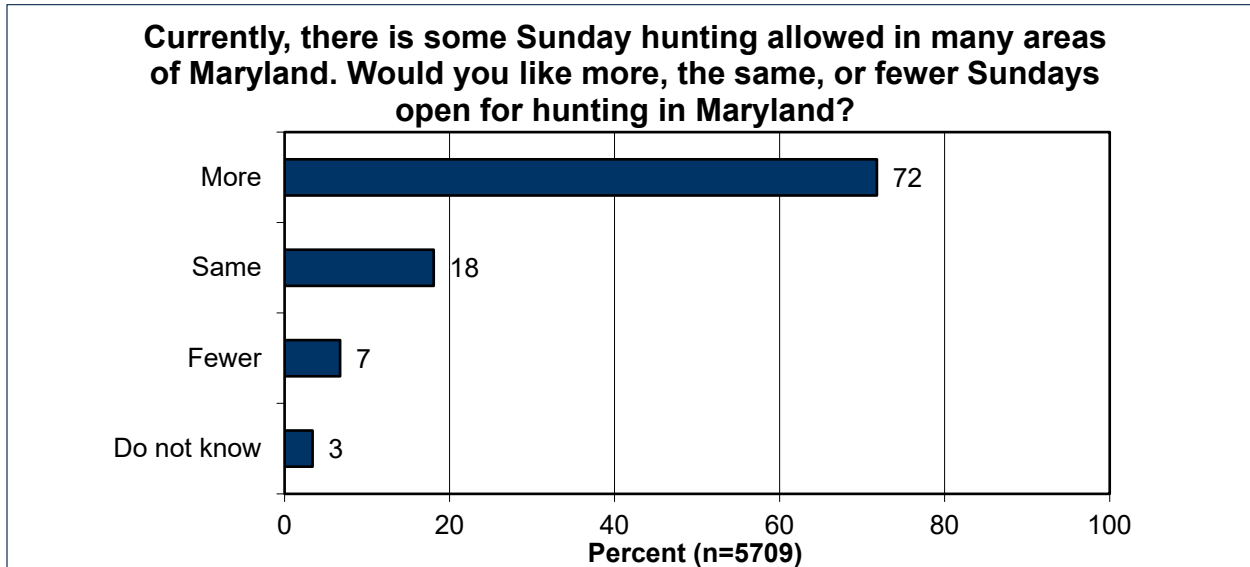
The most common responses regarding things that took away from the quality of hunting in Maryland are lack of access, bag limits (often the goose bag limit), crowding, lack of game, and the poor behavior of other hunters. On this question, 79% of all license/stamp holders responded that nothing took away from the quality.

Two questions examined the quality of hunting versus the quantity of hunting, as shown in the graphs below. In the direct question about hunting in general, the *quality* of hunting (84%) won out over the *quantity* of hunting (12%). However, when asked about wanting fewer opportunities to hunt but better quality hunting on public land versus having more opportunities but lesser quality on public land, hunters are more divided, with the most common response being *no preference* at 36%. Otherwise, fewer opportunities/better quality (30%) was slightly ahead of more opportunities/lesser quality (25%) on public land. (Note that the first question asked about hunting in general, while the second question was specific to public land.)

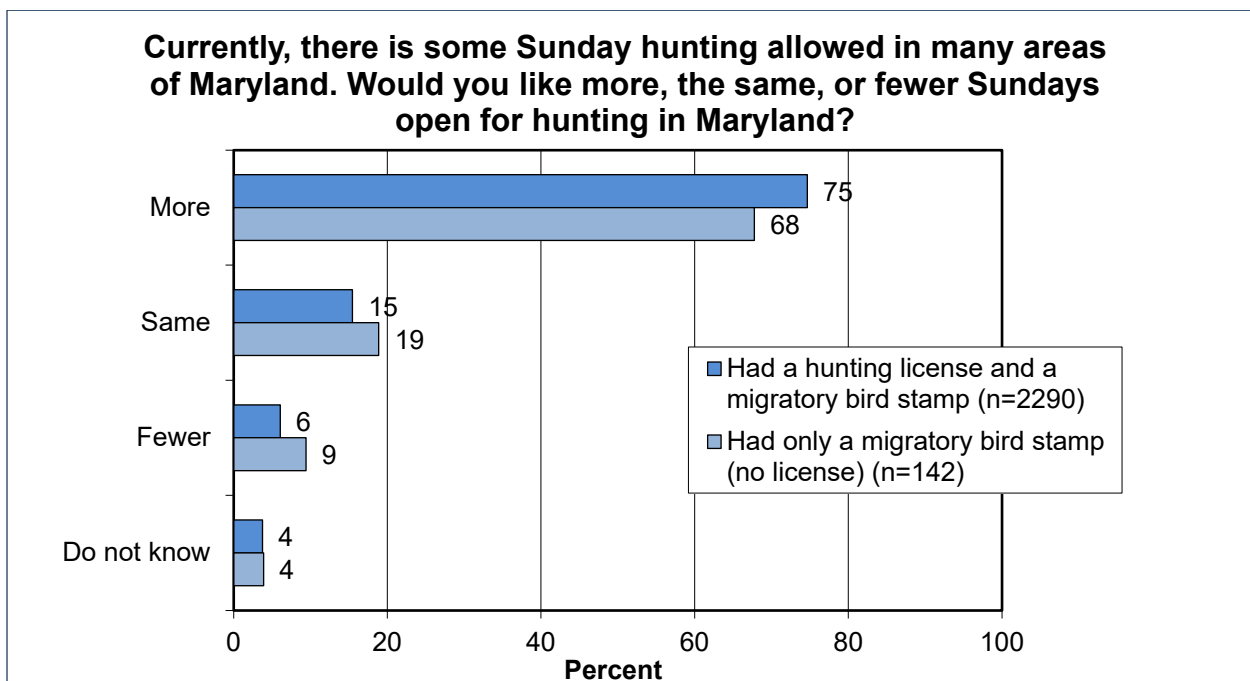


OPINIONS ON SUNDAY HUNTING

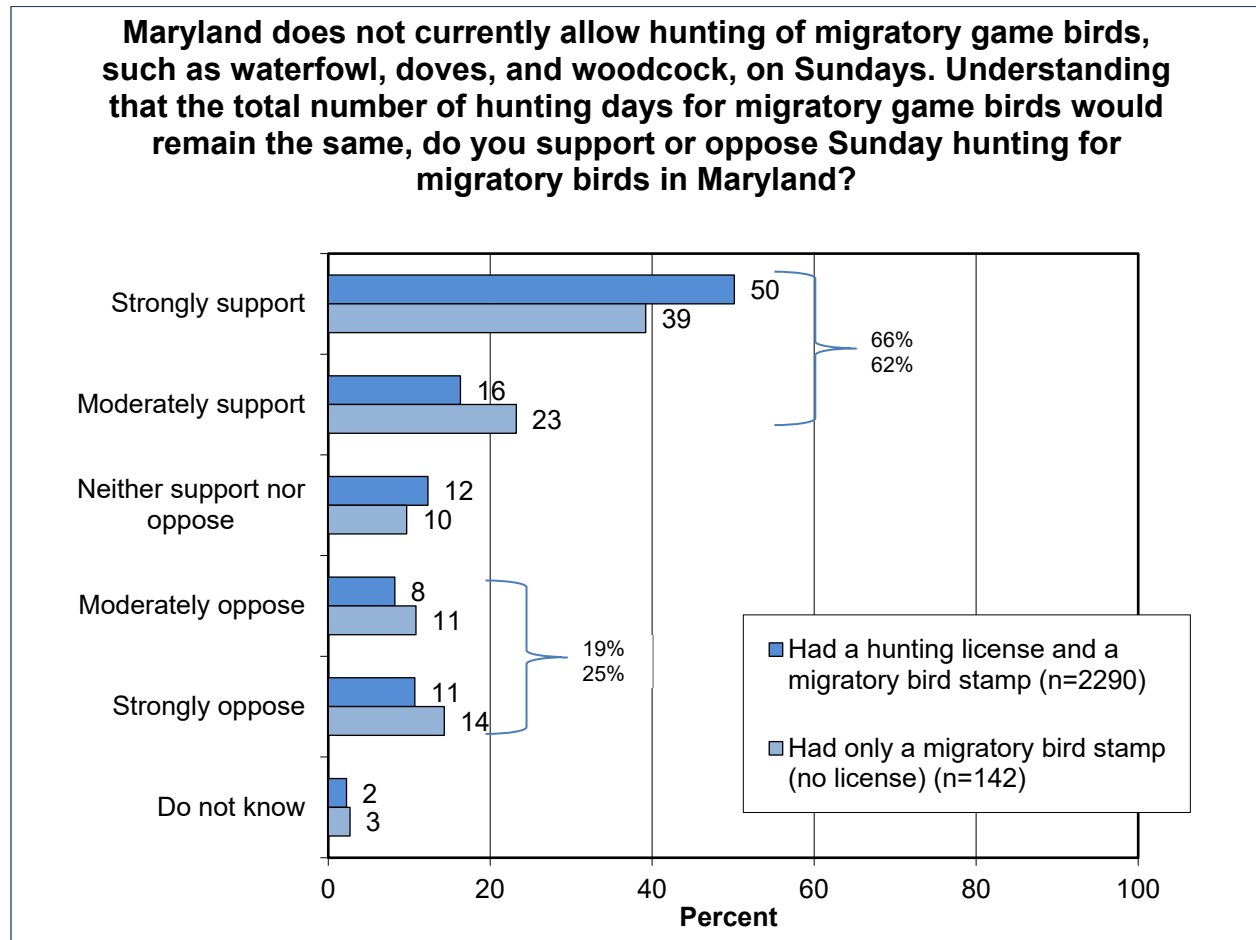
The large majority of hunters want more days of Sunday hunting (72% want more), far exceeding either those who want the same level of Sunday hunting (18%) and those who want fewer days (7%), as shown in the graph below. Additionally, the large majority say that their hunting participation in Maryland would increase (69%) if there were more Sunday hunting days.



A slightly greater percentage of those with a hunting license and a stamp, compared to those with only a stamp, want more Sunday hunting, as shown below. (In the two databases provided by the Department for the sampling, some hunters were in both databases, having a hunting license and a migratory bird stamp, while some were in the database with only the migratory bird stamp. Some crosstabulations, as shown below, were run of these groups.)



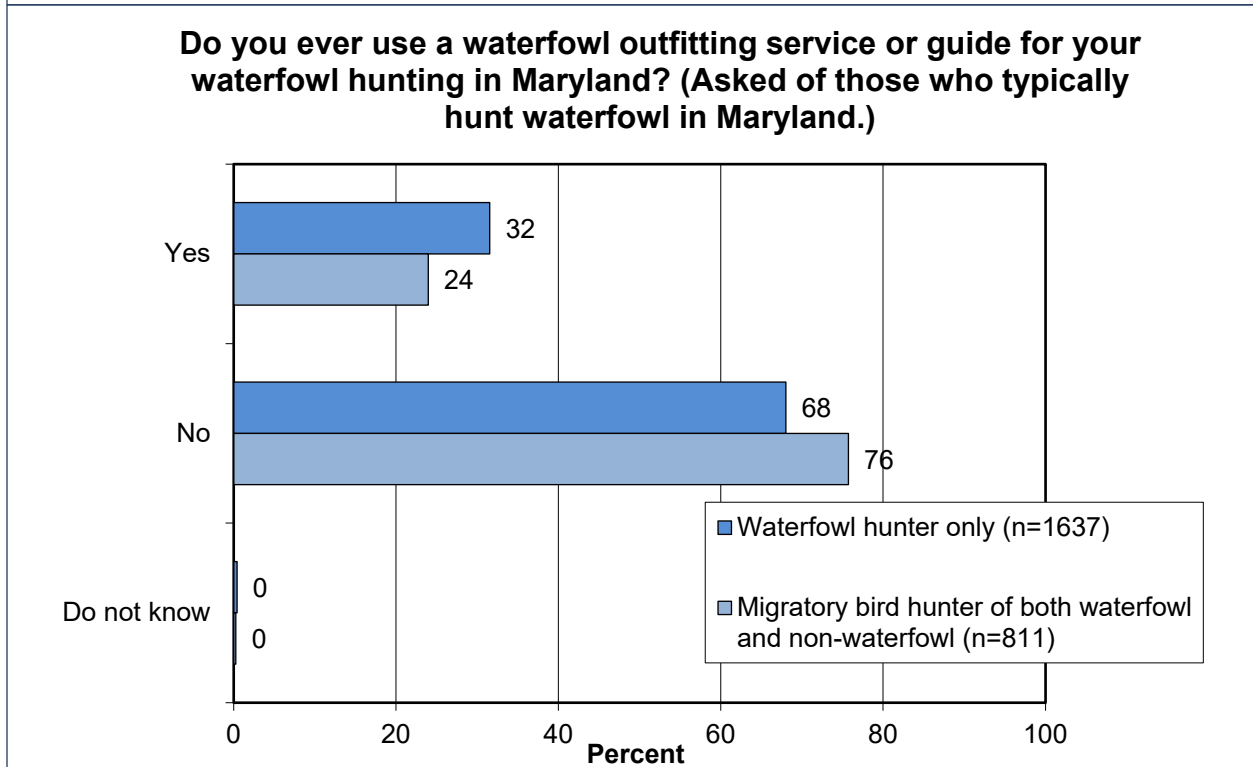
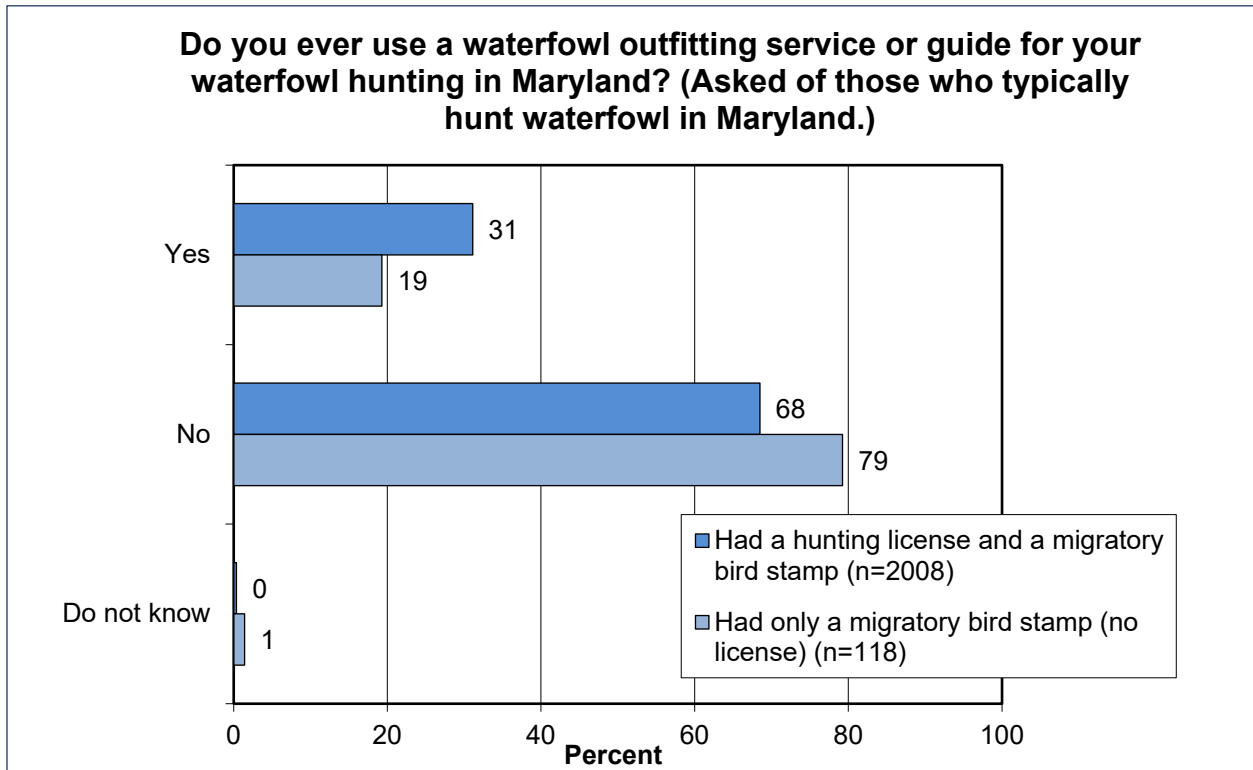
Support for Sunday hunting of migratory birds (53%) far exceeds opposition (16%) overall, with the remaining hunters having no opinion—this is among all hunters, including those without a migratory bird stamp. When considering those with a migratory bird stamp, a look at a breakdown by those who had a hunting license *and* a migratory bird stamp versus those with *only* a migratory bird stamp (in the graph below) shows a high level of support among the two groups (66% among those with a license and a stamp; 62% among those with just a stamp). In short, the level among those with a migratory bird stamp is higher than among all hunters.



USE OF GUIDES FOR HUNTING

Just under a third of Maryland waterfowl hunters use an outfitter or guide for waterfowl hunting (29% do so). These users were then asked to indicate the amount of their hunting for which they use a guide. About a third of them always use a guide for waterfowl hunting in Maryland.

Those with a hunting license and a stamp and waterfowl hunters are more likely than their counterparts to use an outfitting service or guide; these graphs are shown on the following page.



HUNTING ON WMAs

A previous question about the location of hunting had found that 28% of license/stamp holders had hunted on a WMA in Maryland within the past 5 years. WMA hunters were asked to indicate the percentage of their time spent hunting on WMAs. The mean percentage of time is 37.73; the median is 25. Another question looked at the typical days of hunting in WMAs. The majority of WMA hunters (54%) hunt for no more than 5 days on WMAs. The mean is 10.12 days, and the median is 5 days.

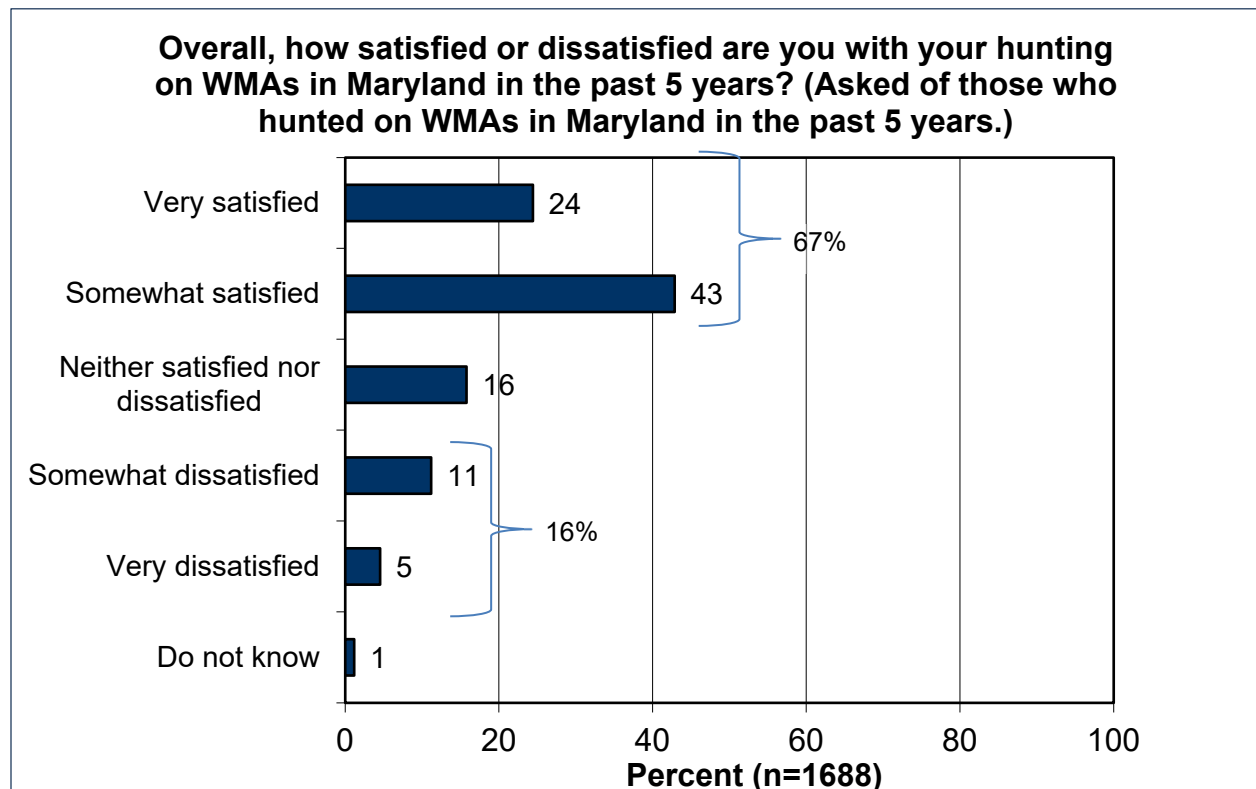
Dorchester, Allegany, and Montgomery County have the highest percentage of WMA hunters hunting there (when hunting on a WMA).

White-tailed deer is the most popular species hunted on WMAs (67% of WMA hunters). This is followed by wild turkey (26%) and ducks and mergansers (24%).

About half of WMA hunters use electronic maps or apps to help them navigate, most commonly using onX, Google Maps, or Google Earth.

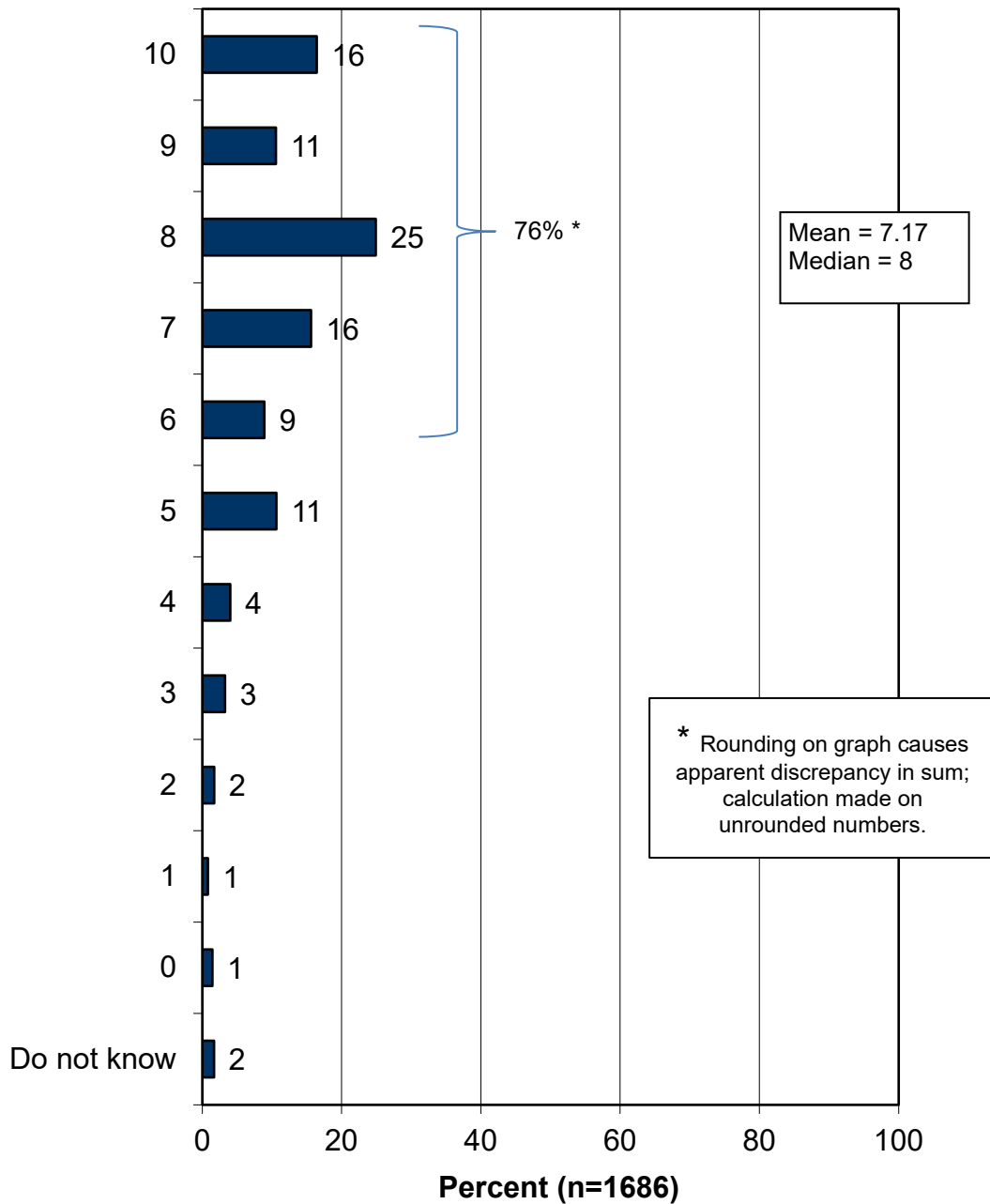
Of those who hunted on a WMA in Maryland in the past 5 years, 14% of them had used dogs on a WMA at some time. Most commonly they used dogs to hunt ducks and mergansers or Canada geese.

Satisfaction (67%) with hunting on WMAs far exceeds dissatisfaction (16%) among WMA hunters, as shown in the graph below. Crowding, lack of access, and the poor behavior of other hunters are the primary things that WMA hunters say take away from their enjoyment or satisfaction with hunting on WMAs.

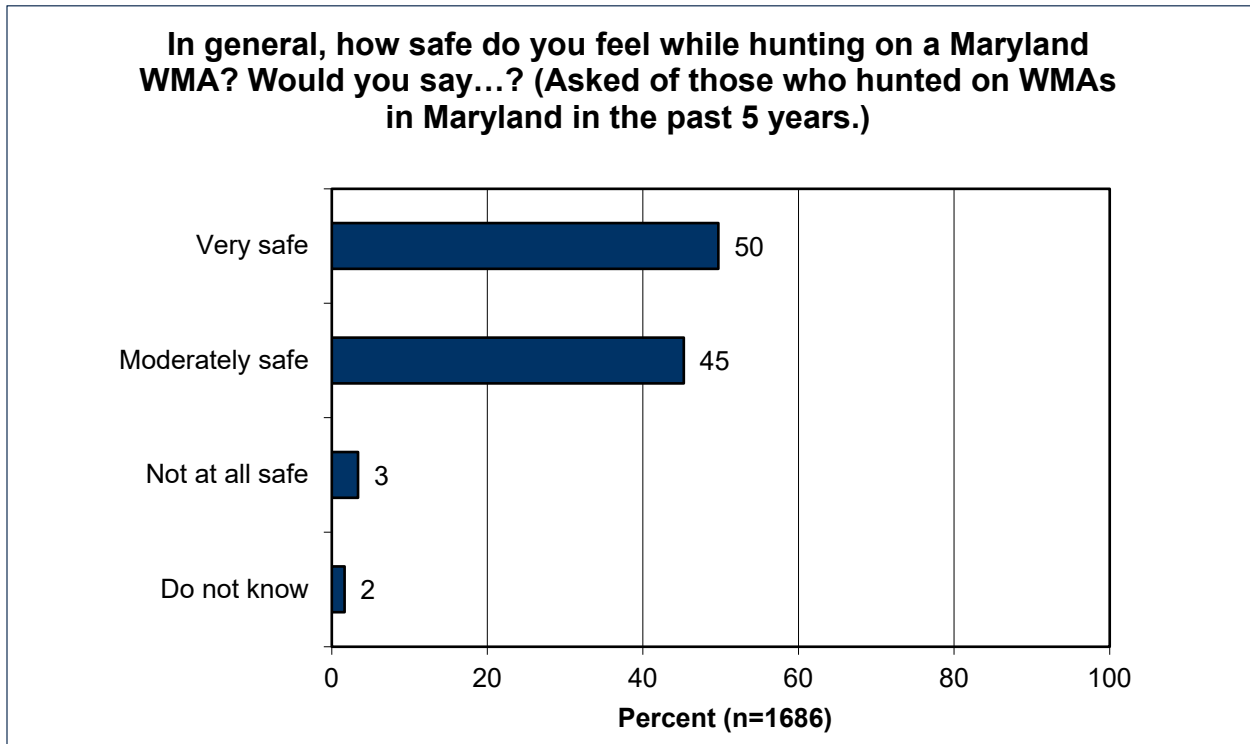


Ratings of access to Maryland WMAs are fairly positive, with 76% of WMA hunters giving a rating above the midpoint. The mean rating is 7.17.

How would you rate access to the Maryland WMAs that you hunt, including the roads, trails, and parking availability for the WMAs, on a scale of 0 to 10, where 0 is poor and 10 is excellent? (Asked of those who hunted on WMAs in Maryland in the past 5 years.)



Half of WMA hunters (50%) indicate feeling *very* safe while hunting on WMAs in Maryland, as shown below. However, this leaves half who feel less than *very* safe, although fortunately most of those remaining feel *moderately* safe (45%). Only 3% do not feel *at all* safe. Issues with other hunters' lack of safety and too many hunters in general are the primary reasons that WMA hunters do not feel *very* safe.



Food plots and crop fields are the types of management on WMAs which WMA hunters as a whole wish to have more of.

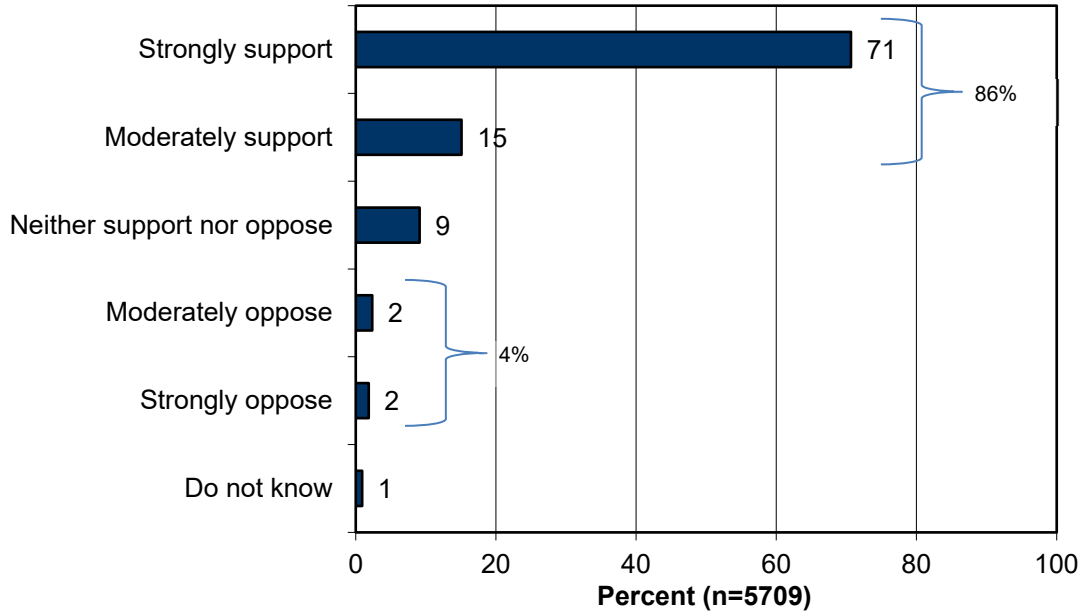
INITIATION INTO HUNTING AND MENTORING

Male family members remain the top way that hunters were introduced to hunting, most commonly their father.

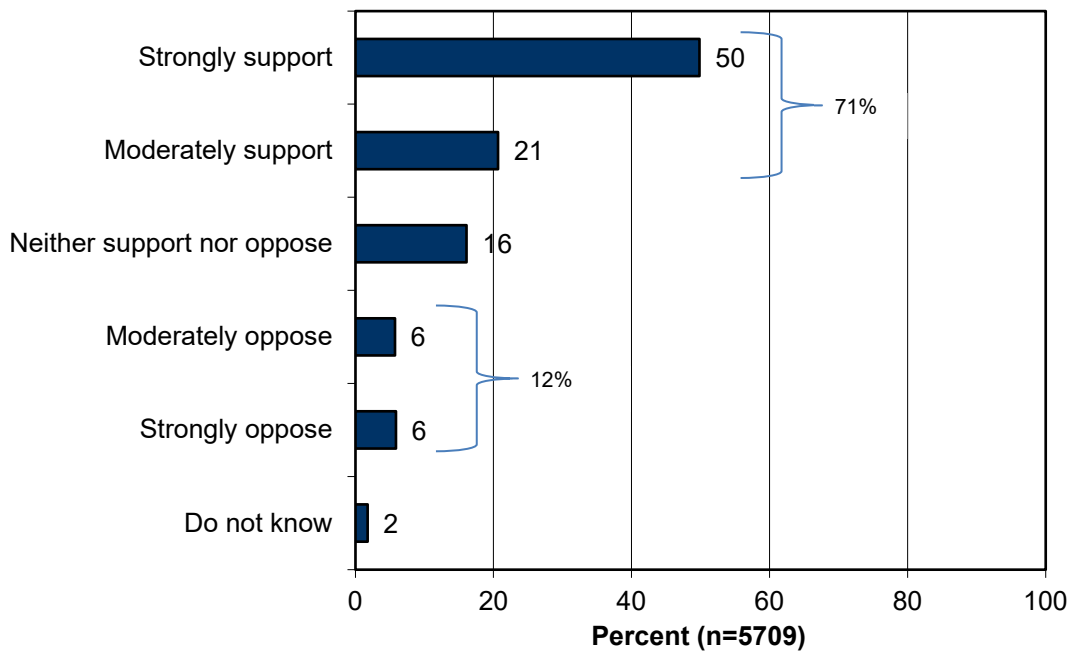
More than half of license/stamp holders (59%) have taken, within the past 5 years, another person hunting who was, prior to that, new to hunting. Without the timeframe, 79% have *ever* taken someone hunting who is new to the sport.

The overwhelming majority of license/stamp holders (86%) support additional special hunting opportunities for youth in Maryland, and a large majority (71%) support additional special hunting opportunities for adults new to the sport. These graphs are shown on the following page.

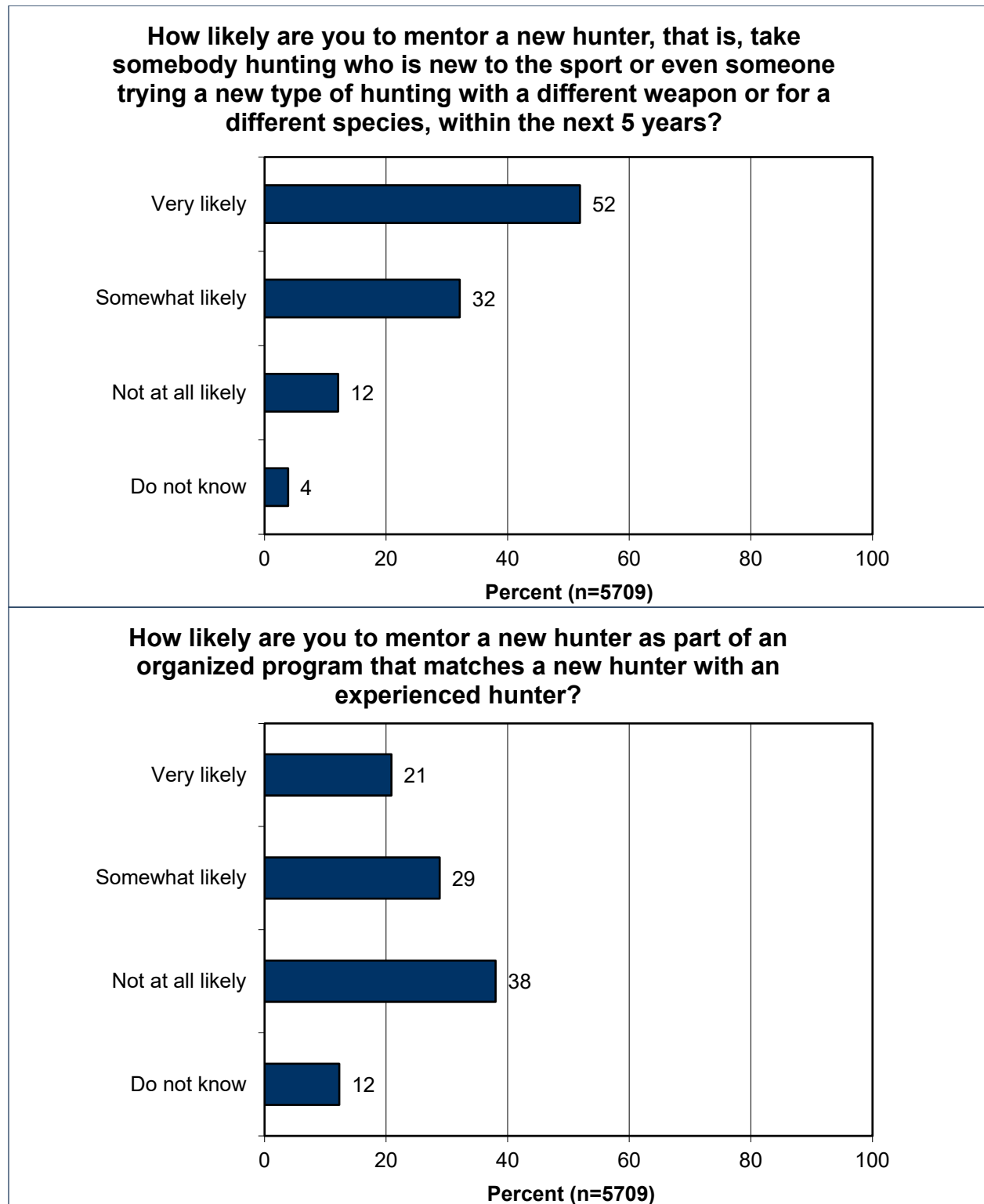
Do you support or oppose additional special hunting opportunities for youth in Maryland, such as Youth Hunt Weekends and other similar events?



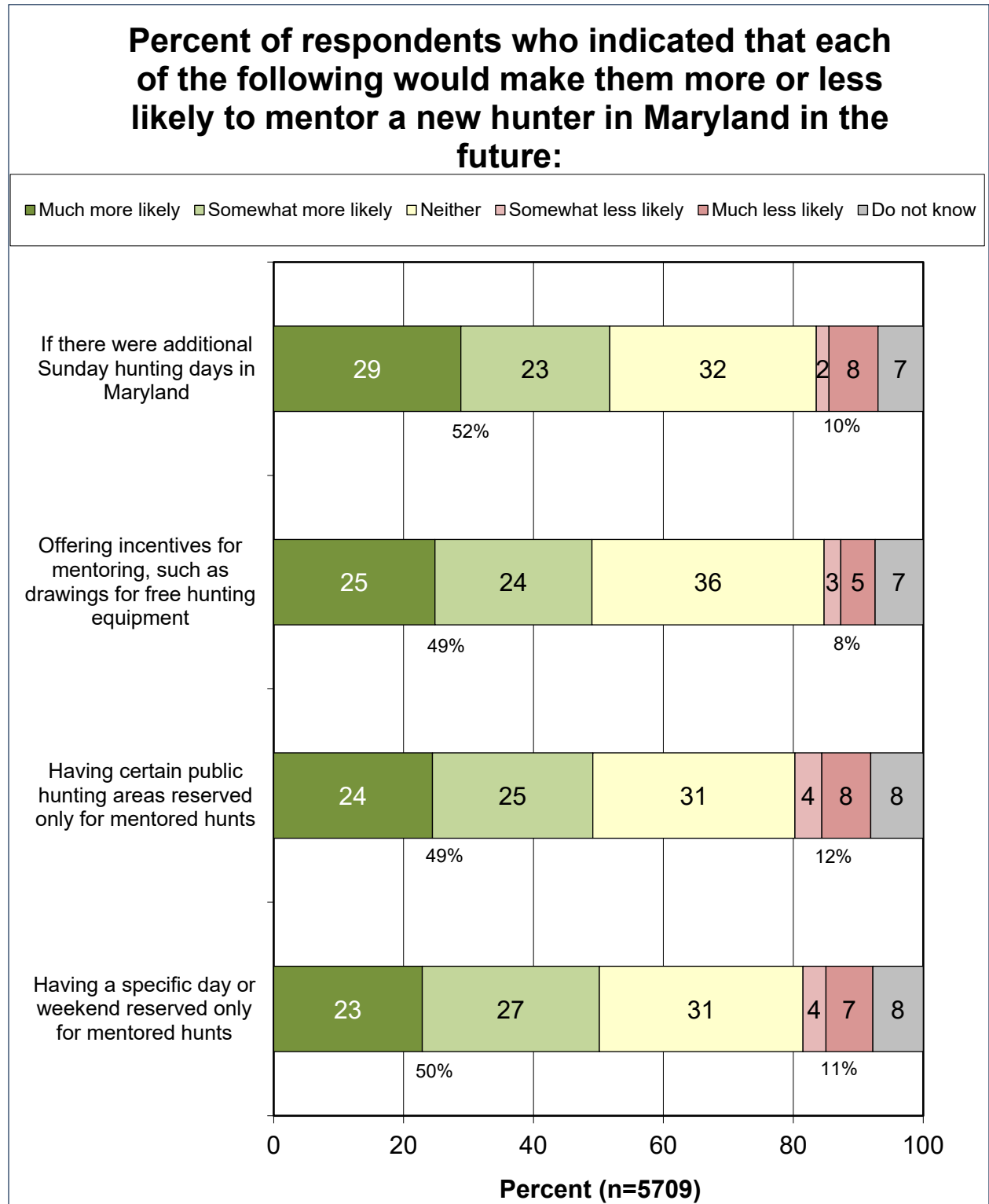
Do you support or oppose additional special hunting opportunities for first-time or new adult hunters in Maryland?



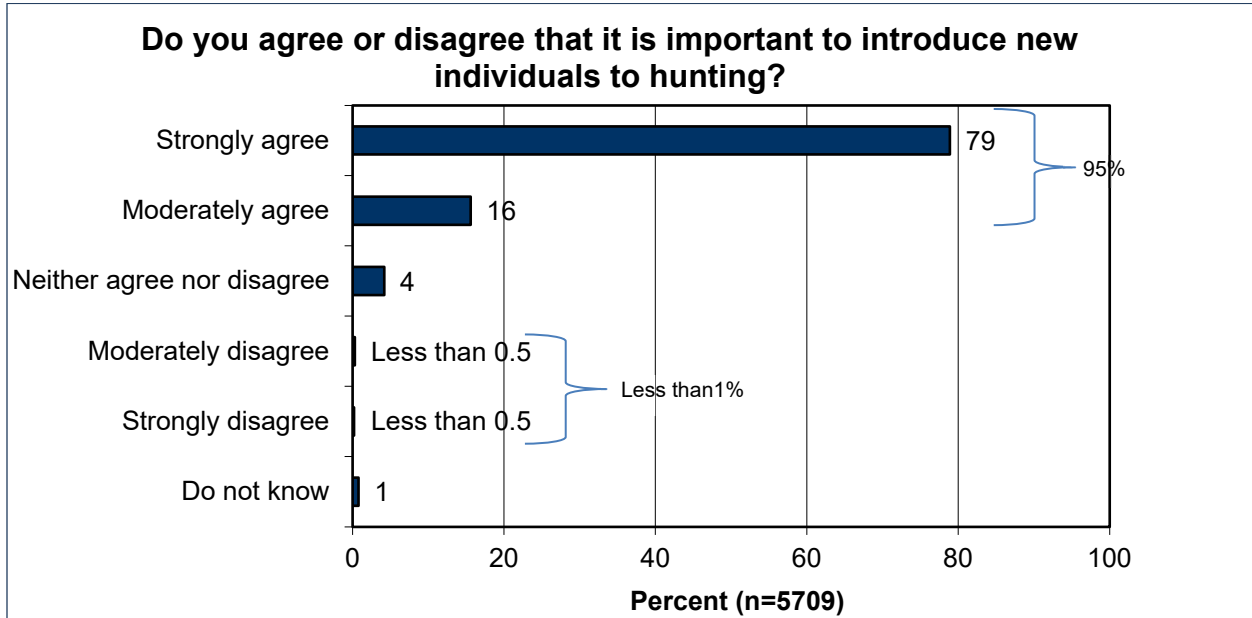
As shown below, 52% of license/stamp holders say that they are *very likely* to mentor a new hunter within the next 5 years, and 21% say that they would be *very likely* to do so as part of an organized program.



The survey asked about four possible ways to encourage people to mentor a new hunter. For each of the ways, approximately half of the license/stamp holders would be more likely to mentor, but no way was markedly more effective than the other ways, based on responses to the question. The sum of much more likely and somewhat more likely is shown beneath each bar, as is the sum on the less likely side.

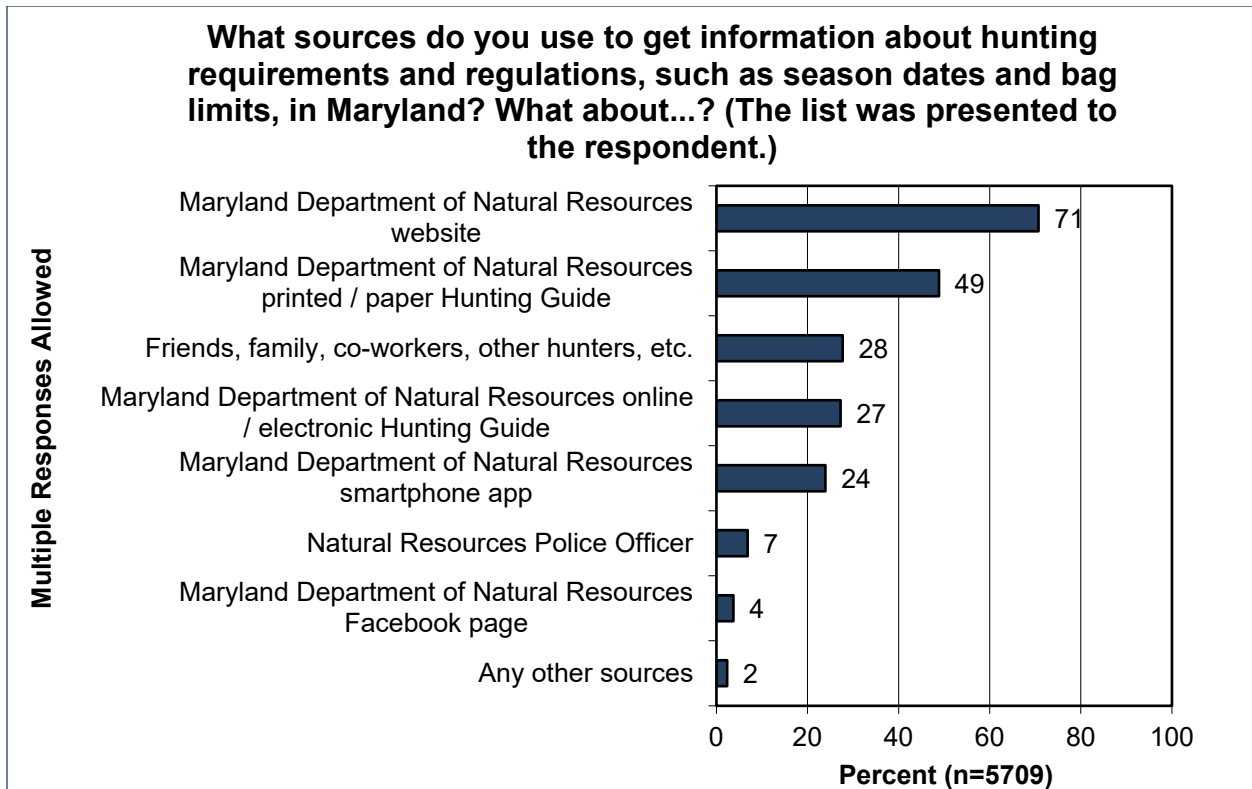


The overwhelming majority of license/stamp holders agree that it is important to introduce new people to hunting (95% do so), as shown in the graph below.



SOURCES OF INFORMATION ABOUT HUNTING IN MARYLAND

License/stamp holders were presented with seven possible sources of information about hunting requirements and regulations, and they were asked which they use. The Department’s website is the most popular by far, and its paper hunting regulations guide is next.



OTHER ACTIVITIES

Among license/stamp holders, fishing is the most popular other outdoor activity (other than hunting). Also popular are visiting state/national parks and hiking. The full list is shown on the graph. A follow-up question then asked about any other activities not asked about on the list, and crabbing and sport shooting were most commonly mentioned other outdoor activities.

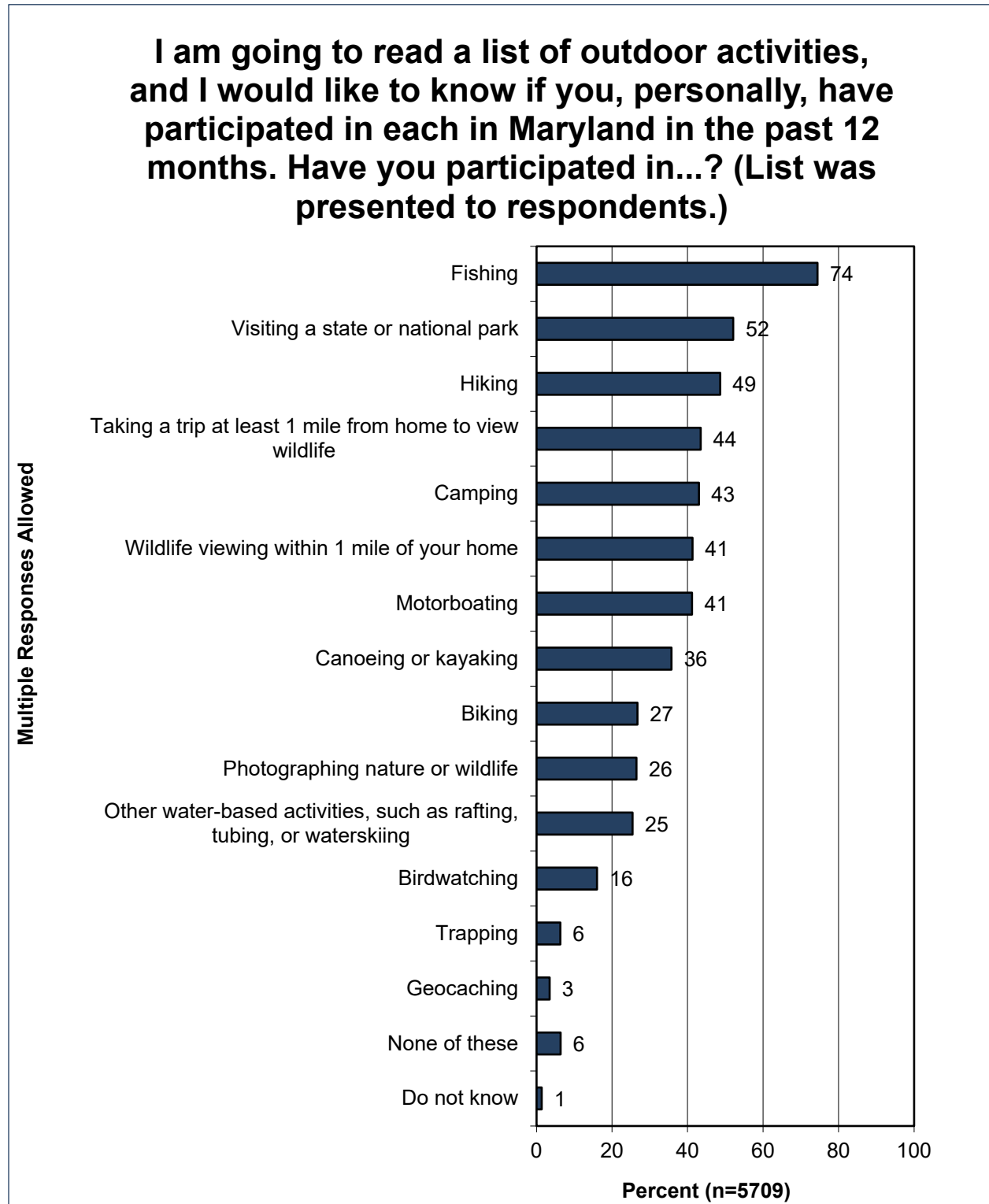


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INTRODUCTION AND METHODOLOGY

This study was conducted for the Maryland Department of Natural Resources (hereinafter referred to as the Department) to determine Maryland hunters' participation in hunting, their hunting of various species, their hunting on Wildlife Management Areas (WMAs), and their opinions on and attitudes toward various hunting-related issues such as Sunday hunting and quality of hunting versus quantity. The study entailed a scientific, probability-based multi-modal survey of holders of a Maryland hunting license or a Maryland Migratory Bird Hunting and Conservation Stamp (also known as a duck stamp or migratory bird stamp). Specific aspects of the research methodology are discussed below.

SURVEY SAMPLE

The Department provided two databases to Responsive Management to use in the sample. One database was of those who had a Maryland hunting license (residents and nonresidents) for the 2019-2020 season. Specifically, full season licenses, apprentice licenses, 3-day licenses, and DAV/POW licenses (the latter for veterans who are disabled or who were prisoners of war) were included. The second database consisted of those with a migratory bird stamp for the same season as well. Note that upon completion of the survey, the databases were deleted from Responsive Management's system. The license/stamp information was used only for this survey. To ensure that hunters' privacy is maintained, Responsive Management does not retain hunter license holder databases.

To develop the probability-based sample, these two databases were first combined. Most of the stamp holders also had a hunting license, but some did not. In the final combined database used for sampling, the hunters were "de-duplicated," meaning that hunters in both databases were put in the combined database only once. Therefore, those in both databases would not have double the chance of being selected. Once the combined database was created, each hunter had approximately the same chance of being selected for the survey, with one exception: all of those who had a migratory bird stamp but did not have a license were included in the final sample to ensure that enough of these people would be included in the survey for analyses.

Only license/stamp holders 16 years old or older were surveyed. In addition, screener questions in the survey ensured that the hunter held either a hunting license or a migratory bird stamp for the 2019-2020 season *and* had hunted in Maryland in at least 1 of the past 5 years.

From this combined database, the final sample was pulled randomly (with the exception discussed above). Only after a hunter was pulled for the sample was the contact procedure for that hunter determined. The methodology was designed to ensure that every license/stamp holder in the database had an opportunity to be selected for the survey, regardless of contact information available for that person—whether that contact information was a telephone number, email address, or postal address.

QUESTIONNAIRE DESIGN

The survey questionnaire was developed cooperatively by Responsive Management and the Department. The telephone version of the survey was computer coded for Responsive Management's computer-assisted telephone interviewing (CATI) process. An important aspect of this process is that the computer controls which questions are asked and allows for immediate data entry. Each telephone survey, however, is administered by a live interviewer. The online version of the survey was coded in the online platform. Responsive Management conducted

pre-tests of both versions of the questionnaire to ensure proper wording, flow, and logic in the surveys.

CONTACT PROCEDURES AND SURVEYING DATES AND TIMES

As indicated above, a random sample was first pulled for the survey regardless of contact information available for that person, and hunters were then contacted based on the contact information available. There were three modes of contact: by telephone, by email, and by postal mail. Having three modes of contact ensured that hunters had the maximum opportunity to participate in the survey. Furthermore, if one mode of contact failed, another mode could be attempted.

Hunters contacted by telephone were interviewed at that time, or a callback time was scheduled. Note that for telephone contacts, landline and cell phones were called depending on the number that was included in the database; for this reason, landline versus cell phone was not an issue in this sampling plan. Those contacted by email were provided a link to the survey to take it online. Finally, those contacted by postcard were given the survey URL and an access code to take the survey online; they were also provided a toll-free telephone number that they could call into if they wanted to take the survey by telephone or for assistance with completing the online survey. Note that the online survey could only be accessed using the email link or by entering the access code on the postcard; the online survey could not be accessed through a general online search.

The initial procedure for contacting potential respondents was to first check the validity of email addresses (for those in the database with an email contact) using online software designed to screen email addresses. Those hunters whose email addresses were flagged as invalid were moved into the telephone sample (if a telephone number was available for that hunter) or the mail sample (all hunters had postal mail addresses). This ensured that these hunters without valid email addresses would still be represented in the final data.



An initial email was sent on Friday, September 18, 2020, to hunters in the sample with an email address. After that initial emailing, any hunter in the sample whose email messages were undeliverable were moved into the telephone sample or the mail sample. Two reminder emails were then sent, the first on Wednesday, September 23, and the second on Monday, September 28, 2020. Reminder emails were sent only to those who had not responded to previous emails or who had started but not finished the online survey. The timing of the emails ensured that potential respondents were kept aware of the survey and were contacted on different days of the week. Note that the online survey could be taken at any time, at the convenience of the hunter.

Hunters in the sample without an email address but with a telephone number (as well as those whose email address proved to be invalid but who had a telephone number) were initially contacted by telephone. The calling effort started on September 18 and extended to September 25, 2020.

Telephone surveying times were Monday through Friday from 11:00 a.m. to 9:00 p.m., Saturday from noon to 8:00 p.m., and Sunday from 2:00 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 hunter 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.

After the calling started, potential respondents whose telephone numbers were invalid or who had declined to do the survey when contacted by telephone were moved to the mail sample. Those in the sample without an email address or telephone number as well as the potential respondents mentioned above were sent a postcard on September 25, 2020. This ensured that those without valid telephone numbers would still be represented in the final data.

Copies of the email and the postcard are shown below and on the following pages. The first set of emails is for residents, and the second set is for nonresidents; in each set, the email on the left is the initial email, and the one on the right is the reminder. These are followed by a copy of the front and back of the postcard.

 <p>Dear John Smith,</p> <p>The Maryland Department of Natural Resources is conducting a study of hunters to learn more about hunting participation, preferences, and opinions in Maryland. As someone who has purchased a Maryland hunting license and/or Migratory Game Bird stamp, your answers are very important to this study.</p> <p>Click Here to Start the Survey or copy and paste the following into your browser's URL address bar: https://s-aecc23-i.sqizmo.com/s3/i-0000000-4008215/</p> <p>You are one of only a small number of hunters randomly chosen to participate in this study. To ensure that results truly represent hunters in Maryland, it is important that we hear from you, including both resident and nonresident hunters, as well as license and stamp holders. Your answers will be kept completely confidential and will not be associated with your name, license, or stamp in any way.</p> <p>The Department has contracted Responsive Management, an independent research firm that specializes in natural resource and fish and wildlife issues, to conduct this study. If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com.</p> <p>Thank you for your time and willingness to participate.</p> <p>Sincerely, Bill Harvey Wildlife and Heritage Service Maryland Department of Natural Resources bill.harvey@maryland.gov</p>	 <p>Dear John Smith,</p> <p>Just a reminder that the Maryland Department of Natural Resources is conducting a study of hunters to learn more about hunting participation, preferences, and opinions in Maryland, and we would really like your feedback!</p> <p>Click Here to Start the Survey or copy and paste the following into your browser's URL address bar: https://s-aecc23-i.sqizmo.com/s3/i-0000000-4008246/</p> <p>As someone who has purchased a Maryland hunting license and/or Migratory Game Bird stamp, your answers are very important to this study. If you would prefer to have a professional interviewer ask you the survey questions over the phone, please contact us at research@responsivemanagement.com to set up an interview time.</p> <p>You are one of only a small number of hunters randomly chosen to participate in this study. To ensure that results truly represent hunters in Maryland, it is important that we hear from you, including both resident and nonresident hunters, as well as license and stamp holders. Your answers will be kept completely confidential and will not be associated with your name, license, or stamp in any way.</p> <p>The Department has contracted Responsive Management, an independent research firm that specializes in natural resource and fish and wildlife issues, to conduct this study. If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com.</p> <p>Thank you for your time and willingness to participate.</p> <p>Sincerely, Bill Harvey Wildlife and Heritage Service Maryland Department of Natural Resources bill.harvey@maryland.gov</p>
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Dear John Smith,

The [Maryland Department of Natural Resources](#) is conducting a study of both resident and nonresident hunters to learn more about hunting participation, preferences, and opinions in Maryland. As someone who has purchased a Maryland hunting license and/or Migratory Game Bird stamp, your answers are very important to this study.

[Click Here to Start the Survey](#)

or copy and paste the following into your browser's URL address bar:

<https://s-e7d54a-i.sqizmo.com/s3/i-0000000-4008242/>

You are one of only a small number of hunters randomly chosen to participate in this study. To ensure that results truly represent hunters in Maryland, it is important that we hear from you, including both resident and nonresident hunters, as well as license and stamp holders. Your answers will be kept completely confidential and will not be associated with your name, license, or stamp in any way.

The Department has contracted Responsive Management, an independent research firm that specializes in natural resource and fish and wildlife issues, to conduct this study. If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com.

Thank you for your time and willingness to participate.

Sincerely,
Bill Harvey
Wildlife and Heritage Service
Maryland Department of Natural Resources
bill.harvey@maryland.gov



Dear John Smith,

Just a reminder that the [Maryland Department of Natural Resources](#) is conducting a study of both resident and nonresident hunters to learn more about hunting participation, preferences, and opinions in Maryland, and we would really like your feedback!

[Click Here to Start the Survey](#)

or copy and paste the following into your browser's URL address bar:

<https://s-e7d54a-i.sqizmo.com/s3/i-0000000-4008242/>

If you would prefer to have a professional interviewer ask you the survey questions over the phone, please contact us at research@responsivemanagement.com to set up an interview time.

As someone who has purchased a Maryland hunting license and/or Migratory Game Bird stamp, your answers are very important to this study. You are one of only a small number of hunters randomly chosen to participate in this study. To ensure that results truly represent hunters in Maryland, it is important that we hear from you, including both resident and nonresident hunters, as well as license and stamp holders. Your answers will be kept completely confidential and will not be associated with your name, license, or stamp in any way.

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Thank you for your time and willingness to participate.

Sincerely,
Bill Harvey
Wildlife and Heritage Service
Maryland Department of Natural Resources
bill.harvey@maryland.gov

Maryland Department of Natural Resources

Tell us about your Maryland hunting participation, preferences, and opinions. Your input is vital and will help the Department better manage hunting opportunities.



The easiest way to take the survey now is online at:

www.wildlifestudy.org

You may also call toll free

844-836-9364

to complete the survey.

Please have your access code ready.

Dear Maryland Hunter,

Public input is very important, and we want your feedback on hunting in Maryland. You are one of a small number of Maryland hunting license and migratory game bird stamp holders to be randomly chosen to participate in this study. You can take the survey online at www.wildlifestudy.org or call toll free 844-836-9364 to have a professional interviewer ask you the survey questions. You will be asked for your access number, which can be found above your name on this postcard.

Responsive Management, a research firm specializing in natural resource and outdoor recreation issues, is conducting this study for the Department. For more information about this study, please contact Responsive Management at: research@responsivemanagement.com.

Maryland Department of Natural Resources
c/o Responsive Management
130 Franklin Street
Harrisonburg, VA 22801

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SURVEY DATA COLLECTION AND QUALITY CONTROL

As previously mentioned, CATI software was used for the telephone data collection. The telephone 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 CATI branched, coded, and substituted phrases in the survey based on previous responses to ensure the integrity and consistency of the data collection and so that each survey was tailored to the individual respondent. Note that each telephone survey was administered by a live interviewer; the CATI software only directs the interviewer to the proper questions, depending on previous responses given in the survey, but the interviewer reads the questions to the respondent in the telephone survey.

For the telephone portion of this survey, a combination of in-house and home-based calling was conducted. Responsive Management has a central surveying site that allows for rigorous quality control over the interviews and data collection, staffed by interviewers with experience conducting computer-assisted surveys. The Survey Center Managers monitor these in-house calls. Typically, all calling is done from Responsive Management's in-house telephone interviewing facilities. However, due to coronavirus distancing, some interviewers conducted the surveys from their home locations, as well. Nonetheless, Survey Center Managers were able to remotely monitor these home-based interviews as well in real time and provide rigorous quality control over the interviews and data collection.

To further 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 conducted a conference call 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.

The online data were collected as the hunters completed their surveys, and the online survey also was programmed to branch, code, and substitute phrases in the survey based on previous responses so that each survey was tailored to the respondent. Responsive Management monitored the number of completed surveys in the online portion of the survey and downloaded the survey data into its in-house data management facilities. The surveys were checked so that those who took the survey were not sent email reminders.

After the telephone and online surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness. Using both survey modes, Responsive Management obtained 5,709 completed surveys of Maryland hunting license or migratory bird stamp holders.

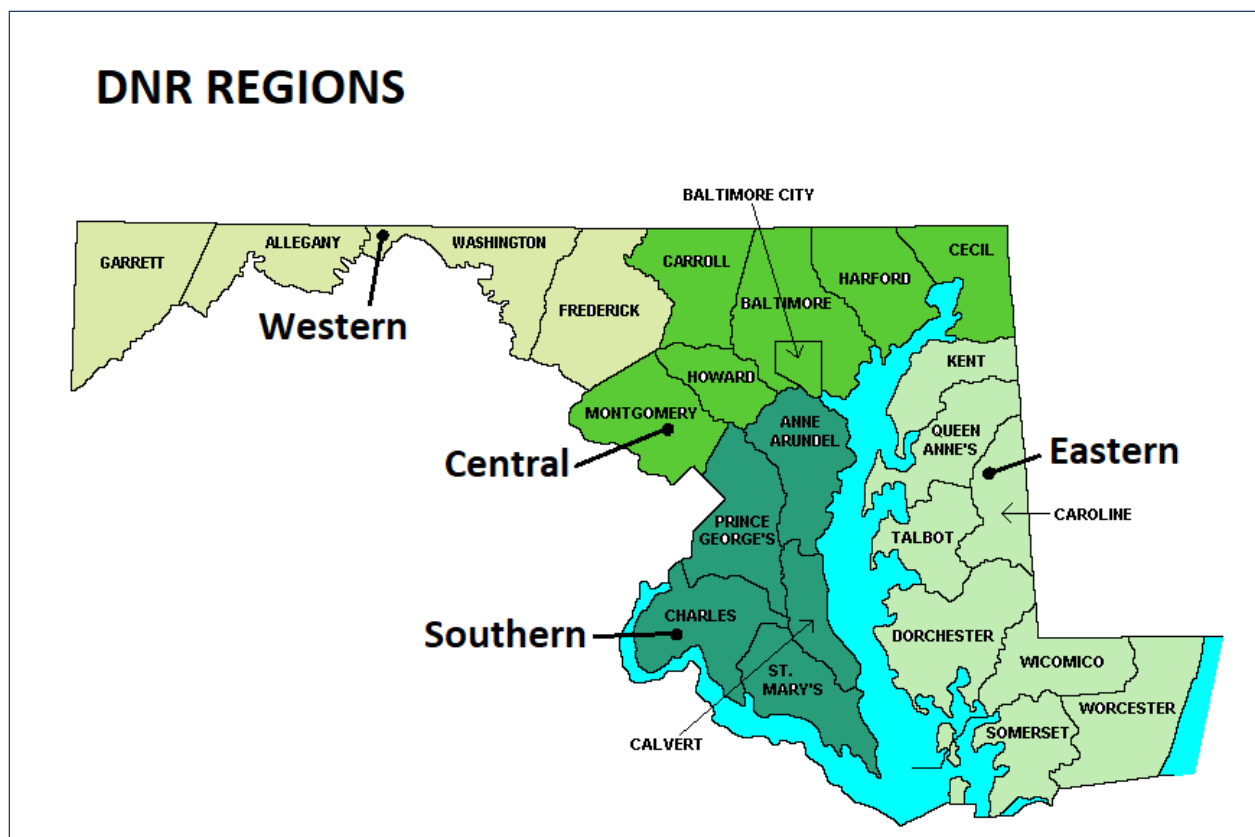
DATA ANALYSIS

The analysis of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. The results were weighted by license type so that the sample was representative of Maryland licensed/stamp holders as a whole.

On questions that asked respondents to provide a number (e.g., days hunting), the graphs and/or tables may show ranges of numbers rather than the precise numbers. Nonetheless, in the survey each respondent provided a precise number, and the dataset includes this precise number, even if the graphs and/or tables only show ranges of numbers. Note that the calculation of means and medians used the precise numbers that the respondents provided.

Some of the questions were open-ended, meaning that no answer set was presented and hunters could respond with anything that came to mind. For the analysis of these questions, each verbatim open-ended response was put into one or more categories. For instance, on the question that asked hunters what the phrase, *quality hunting*, meant to them, the verbatim responses, "being in nature," "being outdoors," and "enjoying nature," were all categorized as "Being out in nature / aesthetic response / scenery." In this way, each verbatim response was examined by an analyst and categorized so that the graph could show logical response sets. In total, the analysts categorized the responses to 9 questions, which totaled more than 5,500 lines of data that were categorized.

Additionally, some analyses were conducted on the region of residence of hunters, as shown below. The regions are those on the Department's website, as found at the following address: <https://dnr.maryland.gov/wildlife/Pages/publiclands/allbyregion.aspx>.



SAMPLING ERROR

Throughout this report, findings of the survey are reported at a 95% confidence interval. For the entire sample of Maryland license/stamp holders, the sampling error is at most plus or minus 1.26 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 1.26 percentage points of each other. Sampling error was calculated using the formula described on below, with a sample size of 5,709 and a population size of 106,095 license/stamp holders in the final database used for sampling.

Sampling Error Equation

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

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).

ROUNDING

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).

DEFINITIONS, TERMINOLOGY, AND PRESENTATION OF RESULTS

Types of Questions in the Survey

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 presented 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 one that ranges from strongly support to strongly oppose.
- 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.

Species Groupings

In this report, results are reported in some instances for individual species and species groups, as follows:

- Big Game: black bear, white-tailed deer, sika deer, and wild turkey. Days of hunting and other questions were asked regarding black bear, turkey, and deer (with white-tailed and sika deer combined).
- Small Game: crow, grouse, pheasant, quail, rabbit, and squirrel. Any references to small game hunters refers to those who hunted any of these species.
- Migratory Game Birds: clapper and king rails, coots, doves, snipe, sora and Virginia rails, and woodcock. All questions about migratory game birds were asked of those who hunted any of these species.
- Waterfowl: brant, Canada geese, ducks and mergansers, snow geese, Ross's geese, sea ducks, and teal. All questions about waterfowl were asked of those who hunted any of these species.

Analysis of Holders of the Maryland Migratory Bird Hunting and Conservation Stamp

Recall, as explained above, that the sample consisted of a database of hunting license holders and a second database of holders of a Maryland Migratory Bird Hunting and Conservation Stamp (referred in this report as a *migratory bird stamp*). While there was a huge overlap in the two databases—hunters being in both of them—there were a few migratory bird stamp holders who did not have a license. This can happen for several reasons, including that people can hunt certain species on their own land without a license, although they need a migratory bird stamp.

One analysis was run of migratory bird stamp holders (this analysis ignores those who had only a hunting license without a migratory bird stamp), dividing them into two groups:

- Those who had a migratory bird stamp *and* a hunting license.
- Those who had only a migratory bird stamp.

Analysis of Migratory Bird Hunters (Migratory Game Birds or Waterfowl)

A second analysis was run of hunters who typically hunt either any migratory game bird species or any waterfowl species (regardless of any other species they may hunt), because these hunters are required to purchase a *migratory bird stamp*, referred to as migratory bird hunters. Graphs are shown comparing three subgroups of these migratory bird hunters:

- Those who typically hunt waterfowl but do not typically hunt migratory game birds (i.e., waterfowl hunters only).
- Those who typically hunt both waterfowl and migratory game birds.
- Those who typically hunt migratory game birds but do not typically hunt waterfowl (i.e., migratory game bird hunters only).

Note that this analysis is based on species that the respondents selected as ones that they typically hunt. Therefore, some of the hunters in the sample who typically hunt one of the migratory bird species for which the stamp is required may not have had a stamp. This is not nefarious and does not indicate poaching; rather, it is because hunters may not have hunted a migratory bird in the *previous year* although they *typically* hunt those species—the database used for the sample was of only the single previous year of stamp records.

Demographic Analyses Graphs

The report includes analyses, each presented on a single graph, that show many demographic and attitudinal characteristics as they relate to various question results. These are referred to as the demographic analyses graphs, and an example is provided on the following page regarding hunters' use of WMAs.

Among license/stamp holders overall, 28% hunted on a WMA in Maryland within the past 5 years, shown by the patterned bar. Each group above that bar has a greater percentage who hunted on a WMA, compared to license/stamp holders overall. For instance, migratory game bird hunters are the most likely to have hunted on a Maryland WMA in the past 5 years (46% of them have done so). This means that the converse (54%) of migratory game bird hunters did *not* hunt on a Maryland WMA in the past 5 years.

All groups above the patterned bar have a higher rate of WMA use, compared to license/stamp holders overall. On the other hand, all groups below the patterned bar have a lower rate of WMA use. This latter includes females (only 21% of female license/stamp holders hunted on a WMA) and those with a migratory bird stamp but without a license (16% of this group hunted on a WMA in the past 5 years).

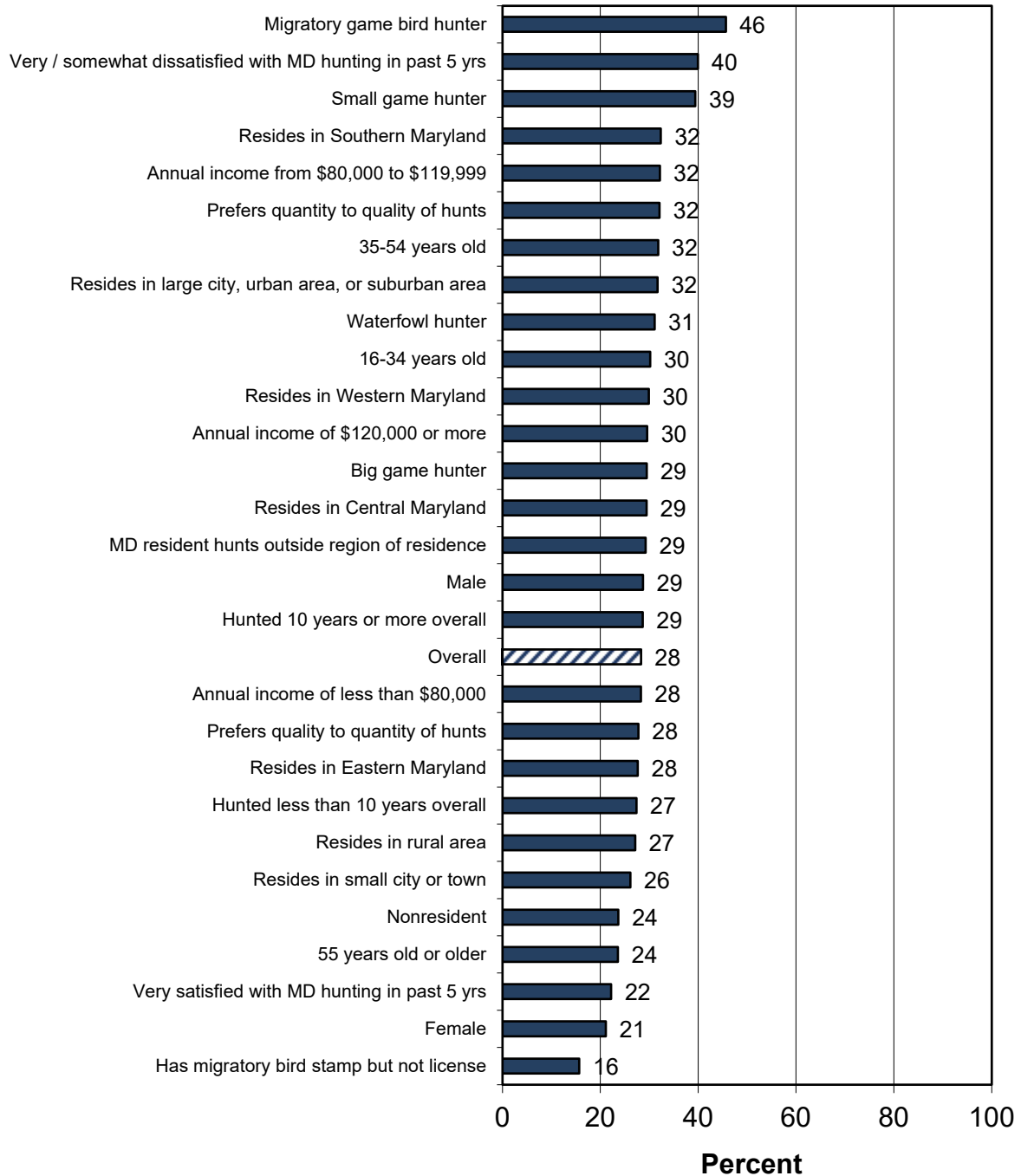
Only those groups at some distance from the patterned bar have a markedly higher or lower rate compared to license/stamp holders overall. A rule of thumb is that only those groups that are at least 5 percentage points higher or lower than the overall rate could be said to have a marked difference. In this example, this includes three groups at the top (migratory game bird hunters, those very/somewhat dissatisfied with Maryland hunting in the past 5 years, and small game hunters) and three groups at the bottom (those very satisfied with Maryland hunting in the past 5 years, females, and those with a migratory bird stamp but not a license). Any group in the range of 23% to 33% should not be considered as having a marked difference.

Each group was run separately, so hunters could be in more than one group on some variables. For instance, for the variables based on species that hunters typically hunt, any hunter who hunted migratory game birds was put into the group, "migratory game bird hunter," and any hunter who hunted waterfowl was put into the group, "waterfowl hunter," and so forth. Hunters could be put into more than one group if they hunted more than one species or species group. In other words, the variables based on species that hunters typically hunt are not mutually exclusive.

In other instances, variables are mutually exclusive. This includes variables based on residence, gender, income, and so forth.

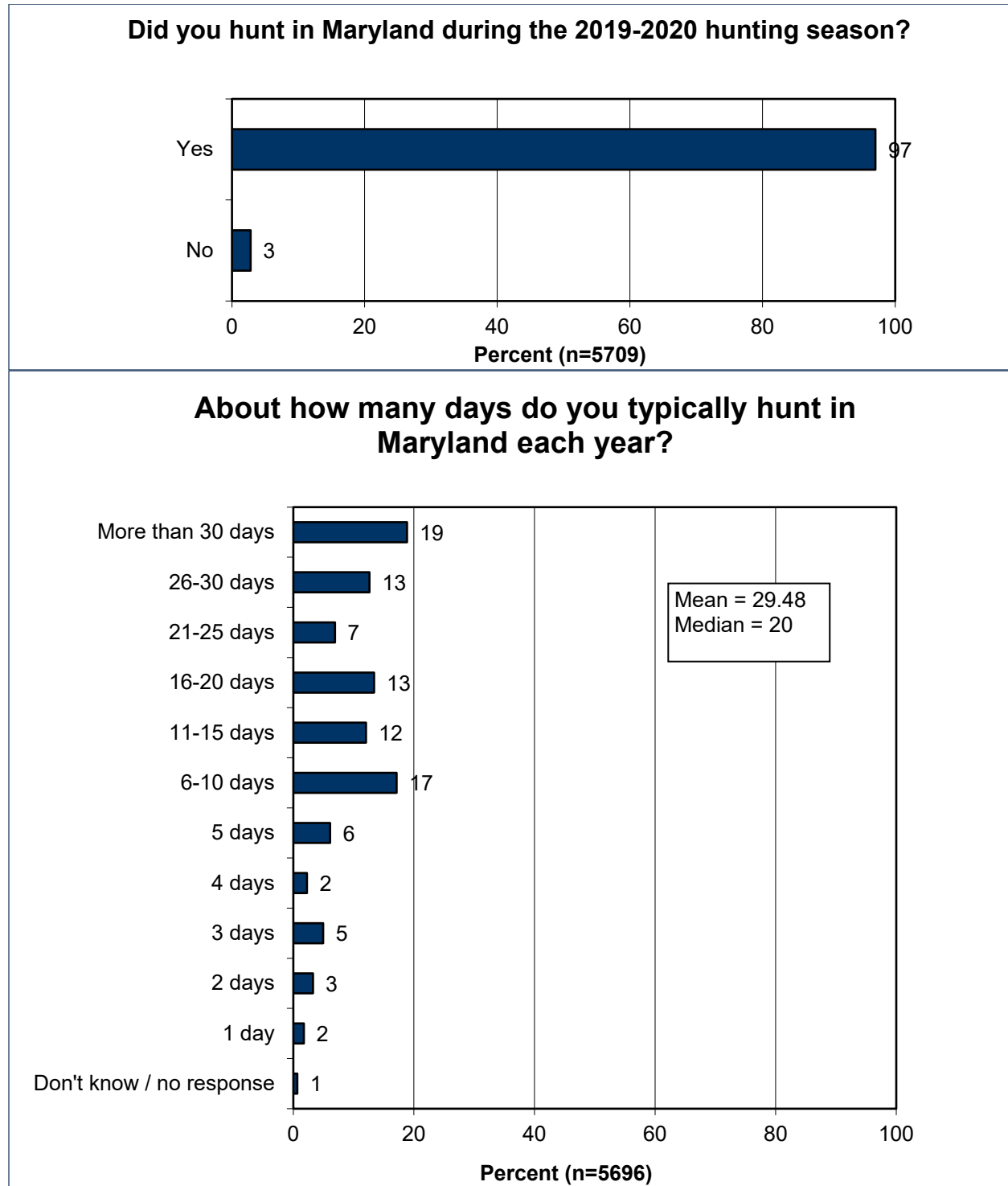
In the reporting of the results of these graphs, note that the characteristics are not meant to describe a single person or a person that has all the traits. Rather, the analysis looks at groups defined by the individual characteristics, which sometimes are mutually exclusive.

Percent of each of the following groups who hunted on a Maryland WMA in the past 5 years:

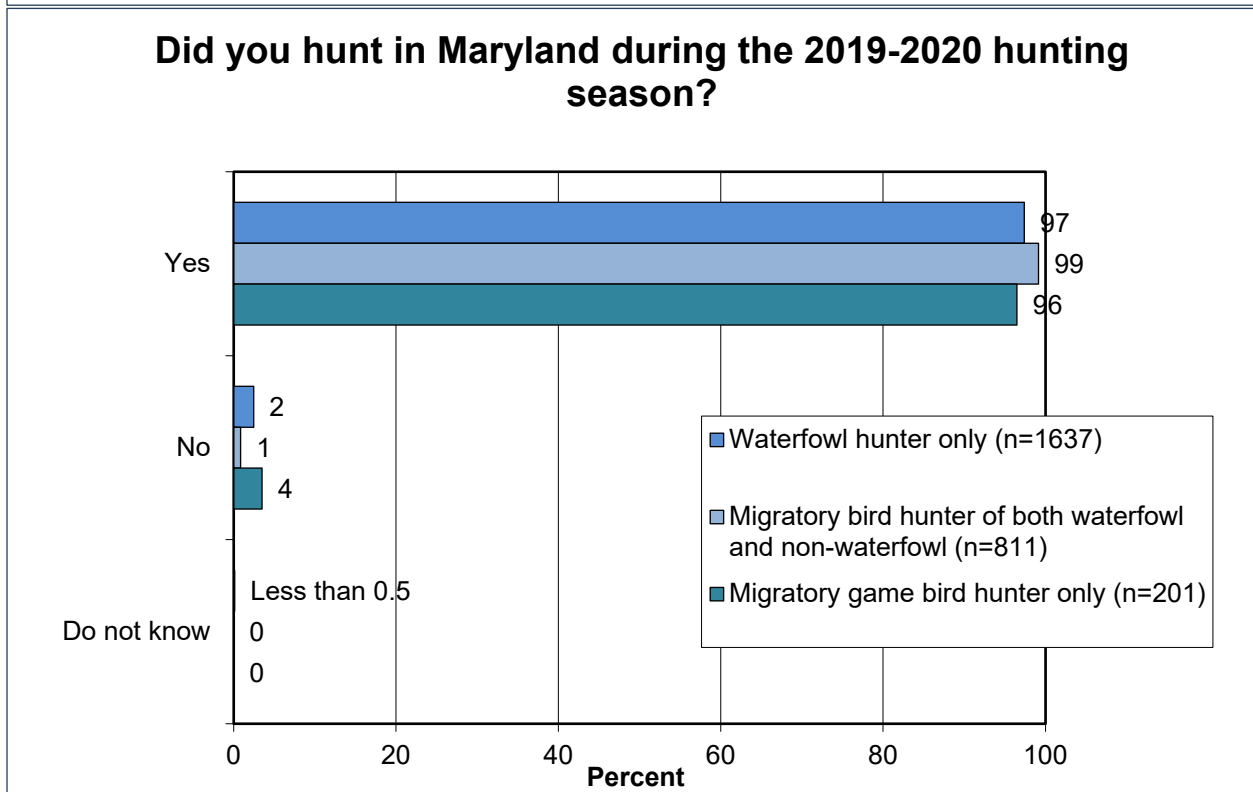
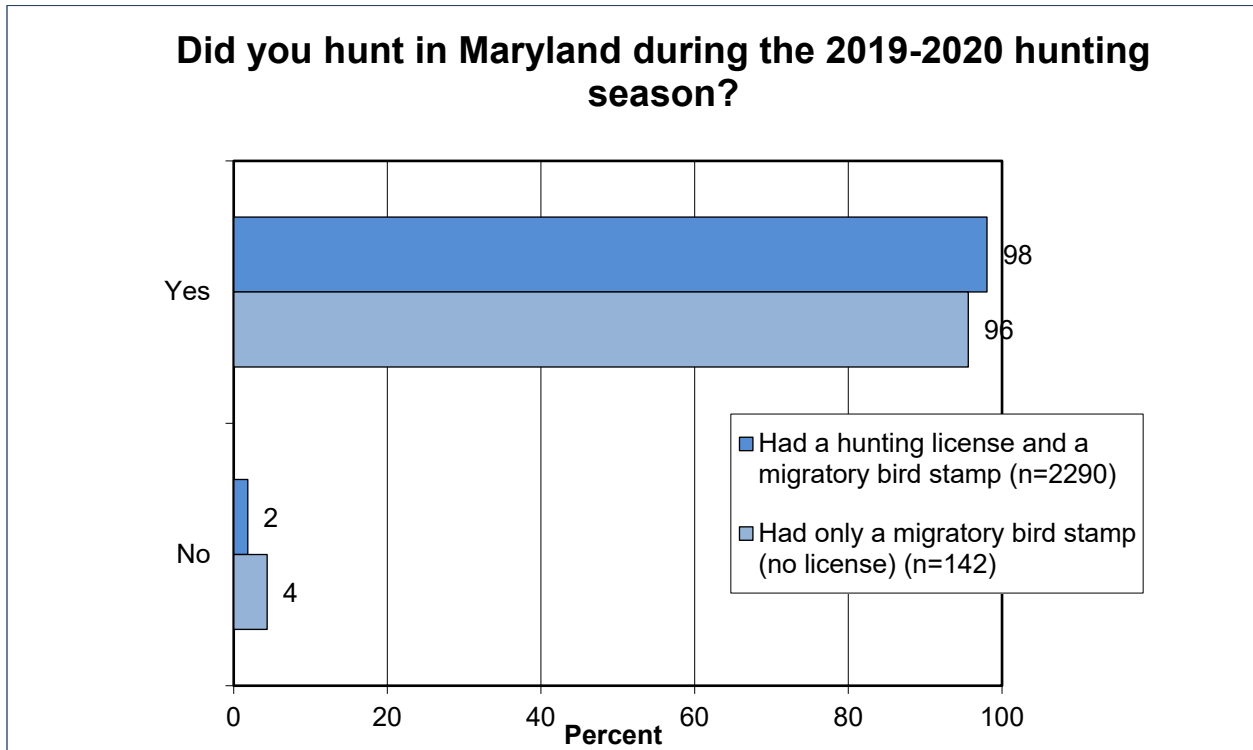


HUNTING PARTICIPATION

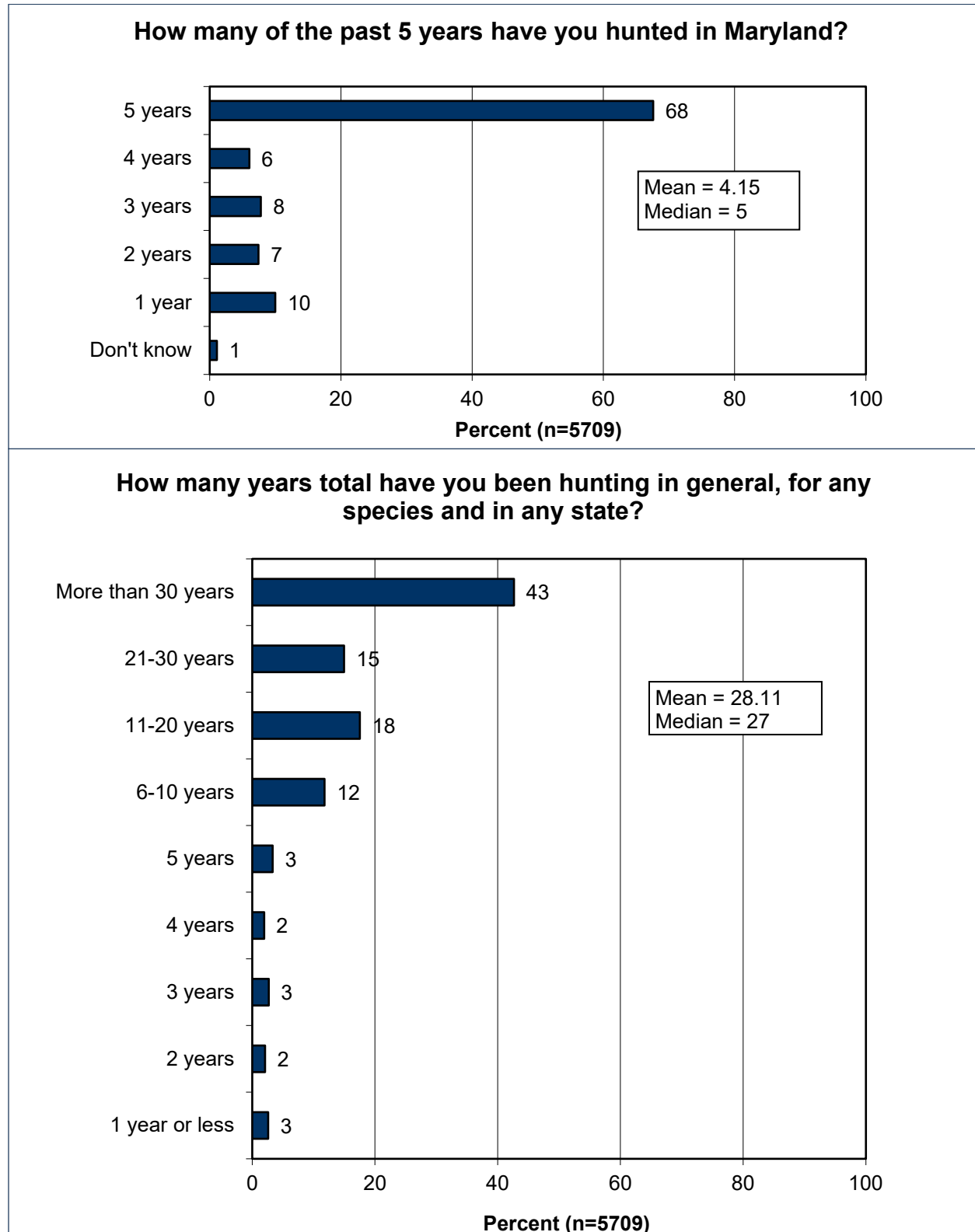
Nearly all of the license/stamp holders in the survey hunted during the 2019-2020 season. Their typical annual days of hunting is shown; the mean is 29.48 days, and the median is 20 days. (Note that the section of the report, “Species Hunted,” includes information on typical days of hunting for each species or species group.)



The crosstabulation graphs show little difference in the various groups on this question, among those with a migratory bird stamp.

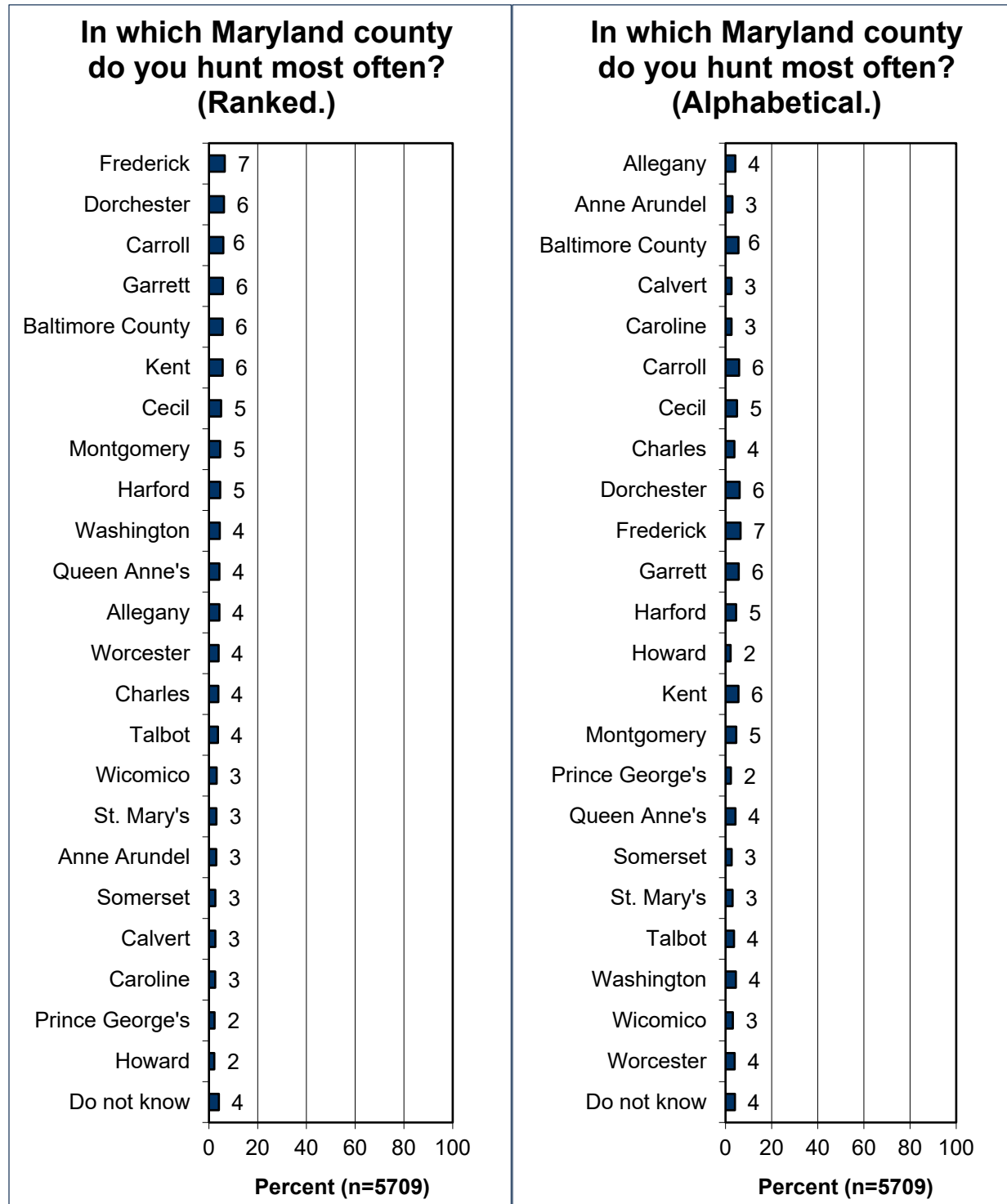


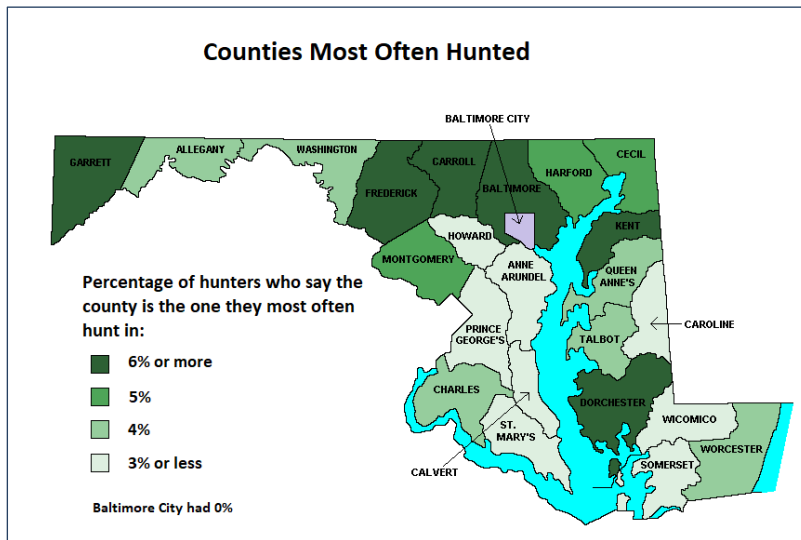
A majority of license/stamp holders (68%) were quite avid, having hunted all 5 of the past 5 years. Another graph shows the total years of hunting; the mean is 28.11 years.



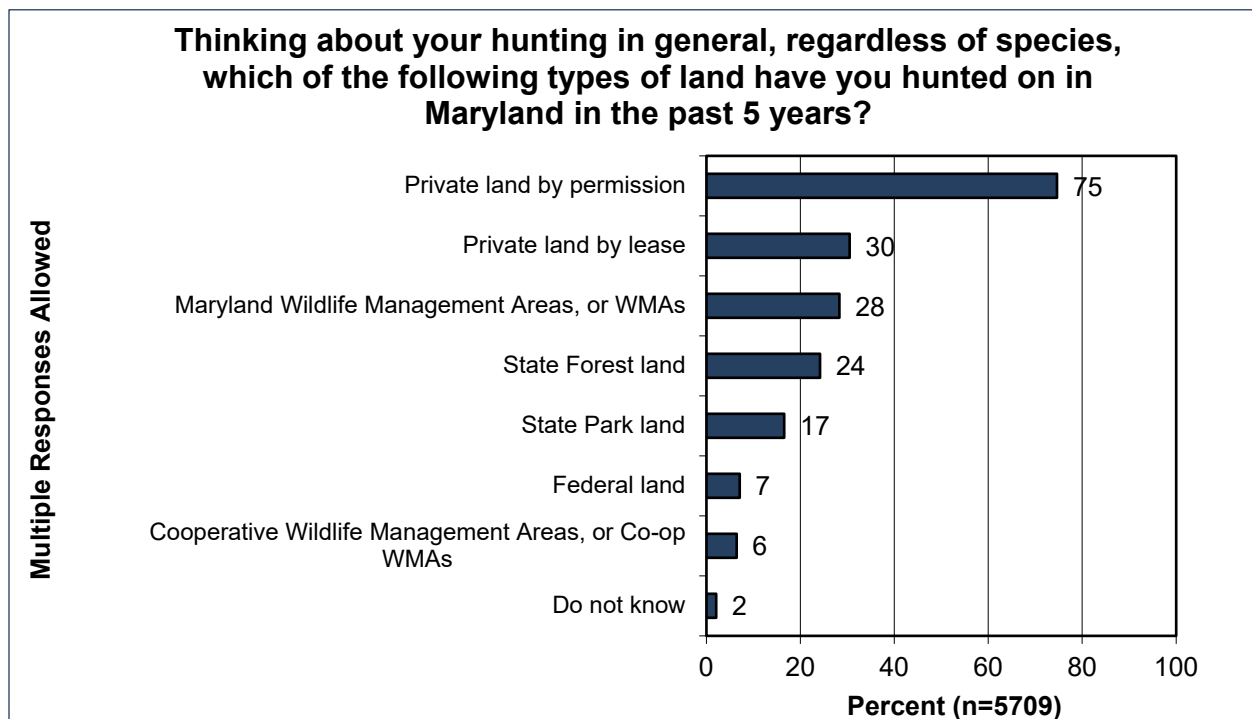
LOCATION OF HUNTING

Hunters' most-often hunted counties are shown. Frederick County leads the list (7%), with five additional counties at 6%. (Also note that the section of this report, "Hunting on WMAs," has information on counties.) The graph on the left shows the counties ranked; the one on the right is alphabetical. Baltimore City is not shown because it was at 0%. The data are also shown on the map on the next page.

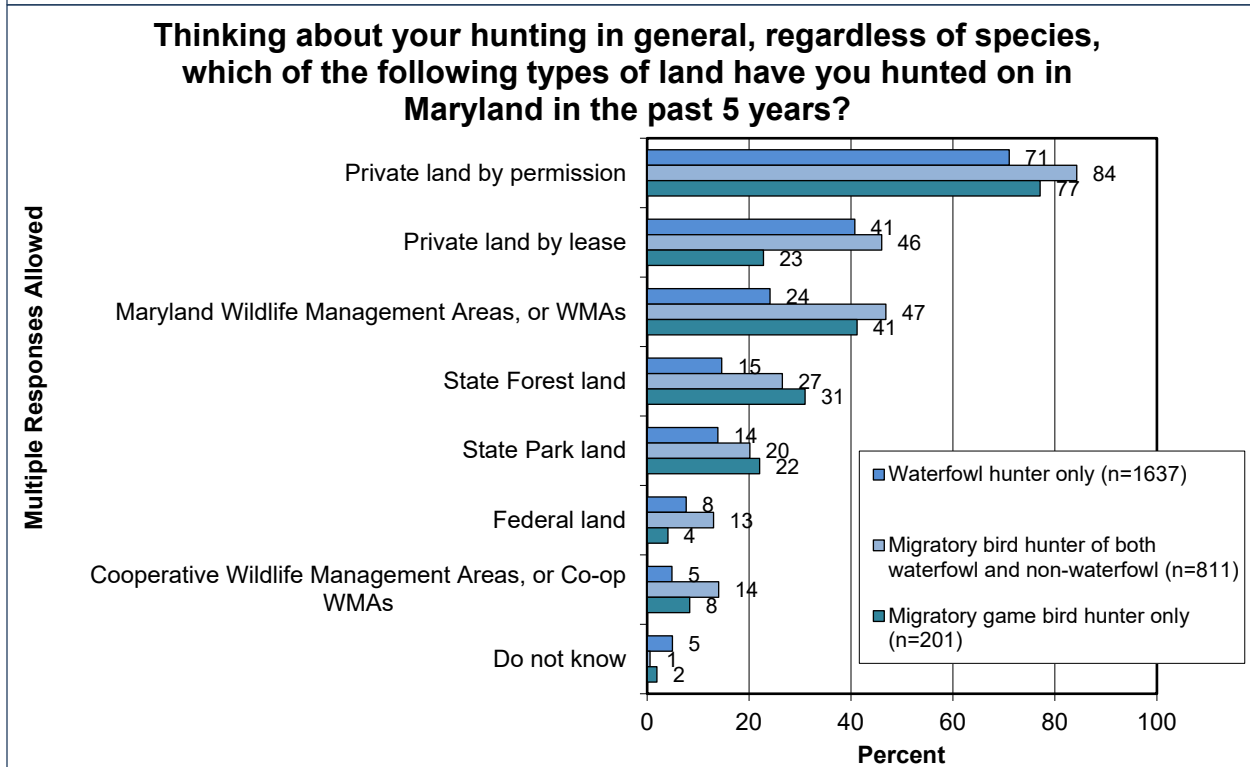
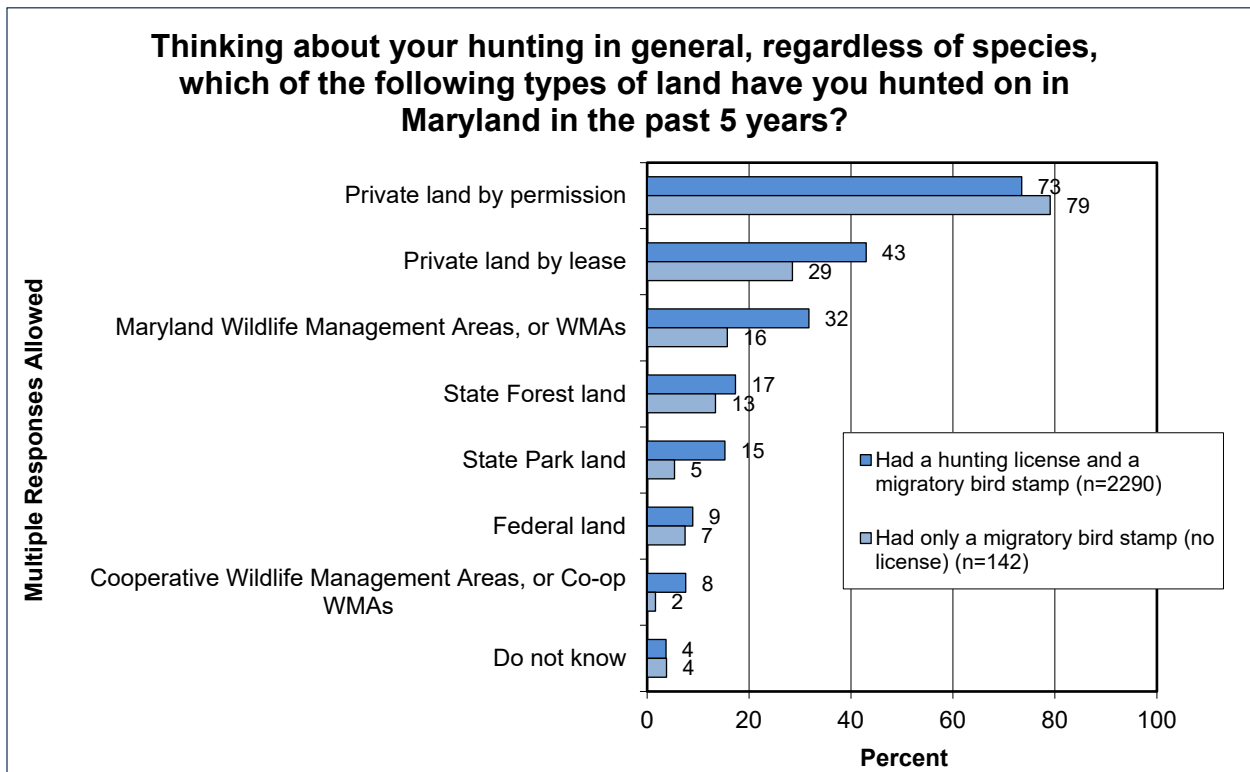




Most hunters in Maryland use private land by permission for hunting (75% do so). This is distantly followed by private land by lease, WMAs, and State Forest land (each with about a quarter of hunters using it). The graph shows the full list.

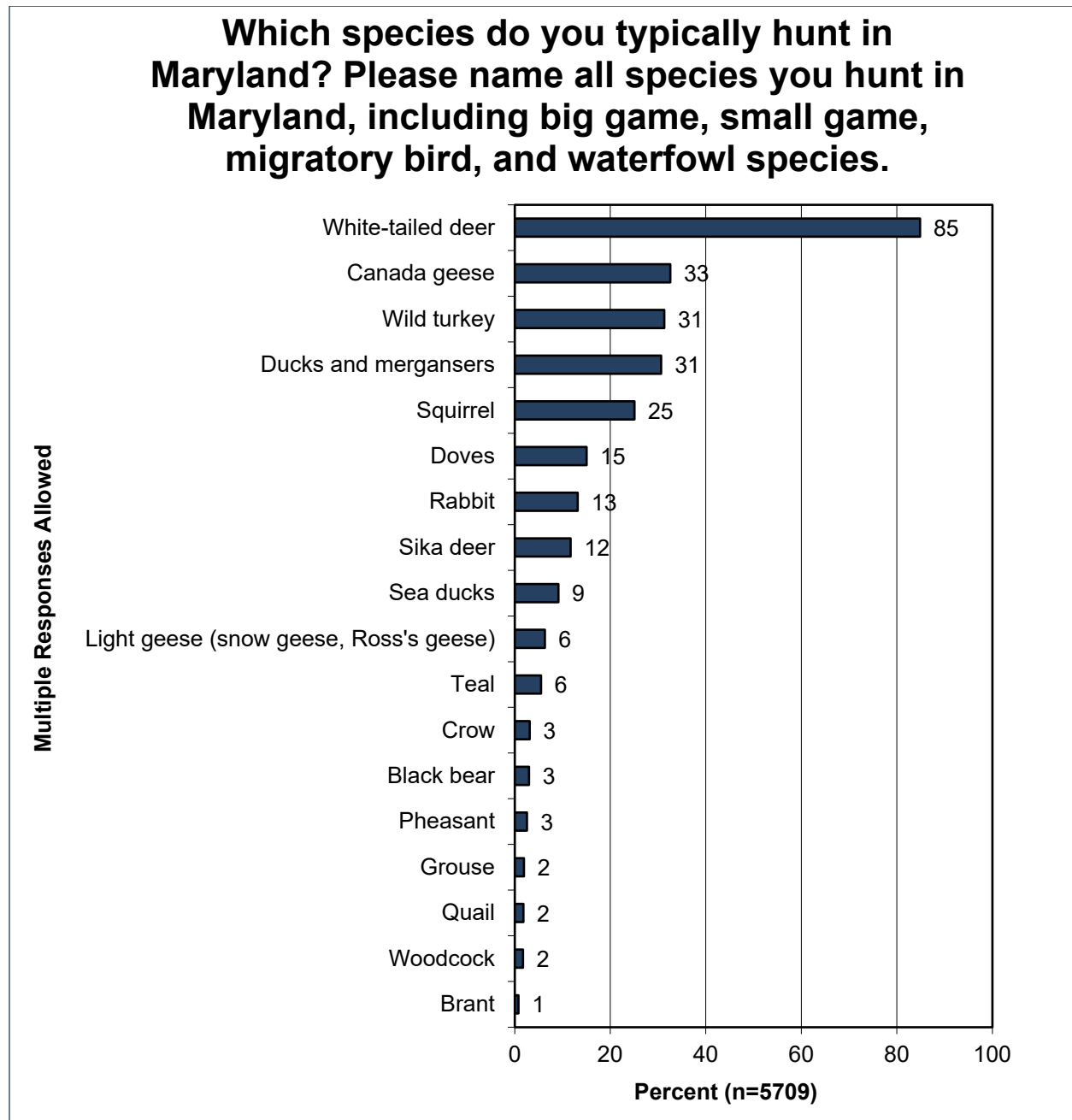


A crosstabulation is shown of those who had a hunting license *and* a migratory bird stamp versus those who had only the stamp. Another crosstabulation of migratory bird hunters shows a comparison of three groups: waterfowl hunters only, those who hunted migratory game birds *and* waterfowl, and those who hunted migratory game birds only. Among the notable results, WMAs are more often used by those with a license *and* a migratory bird stamp, and they are used more often by non-waterfowl migratory bird hunters. These graphs are presented on the following page.

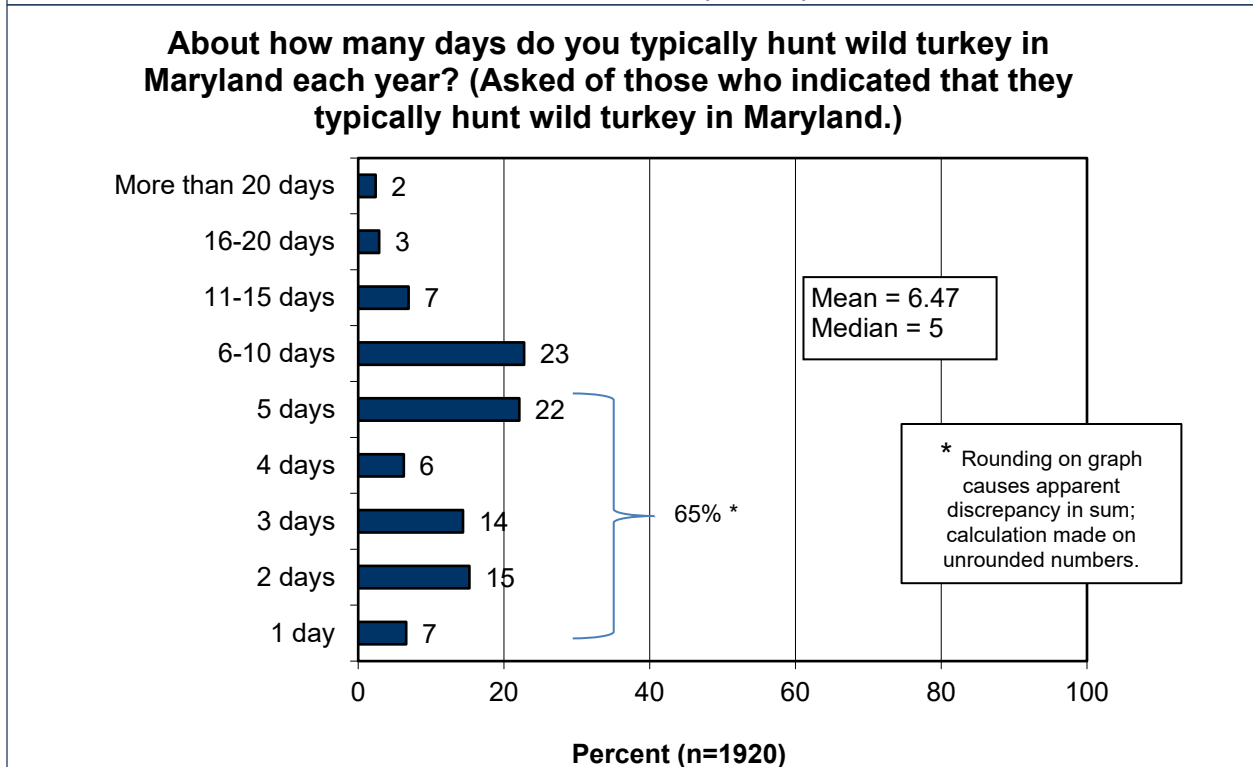
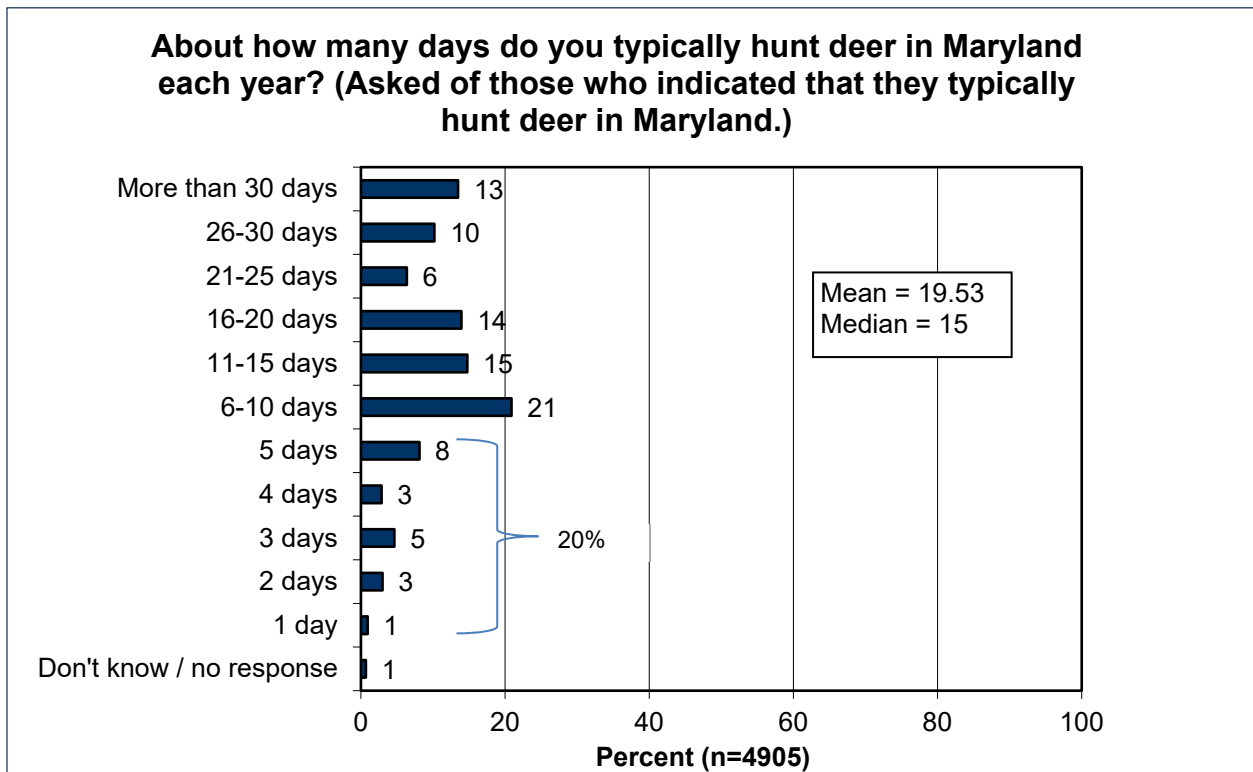


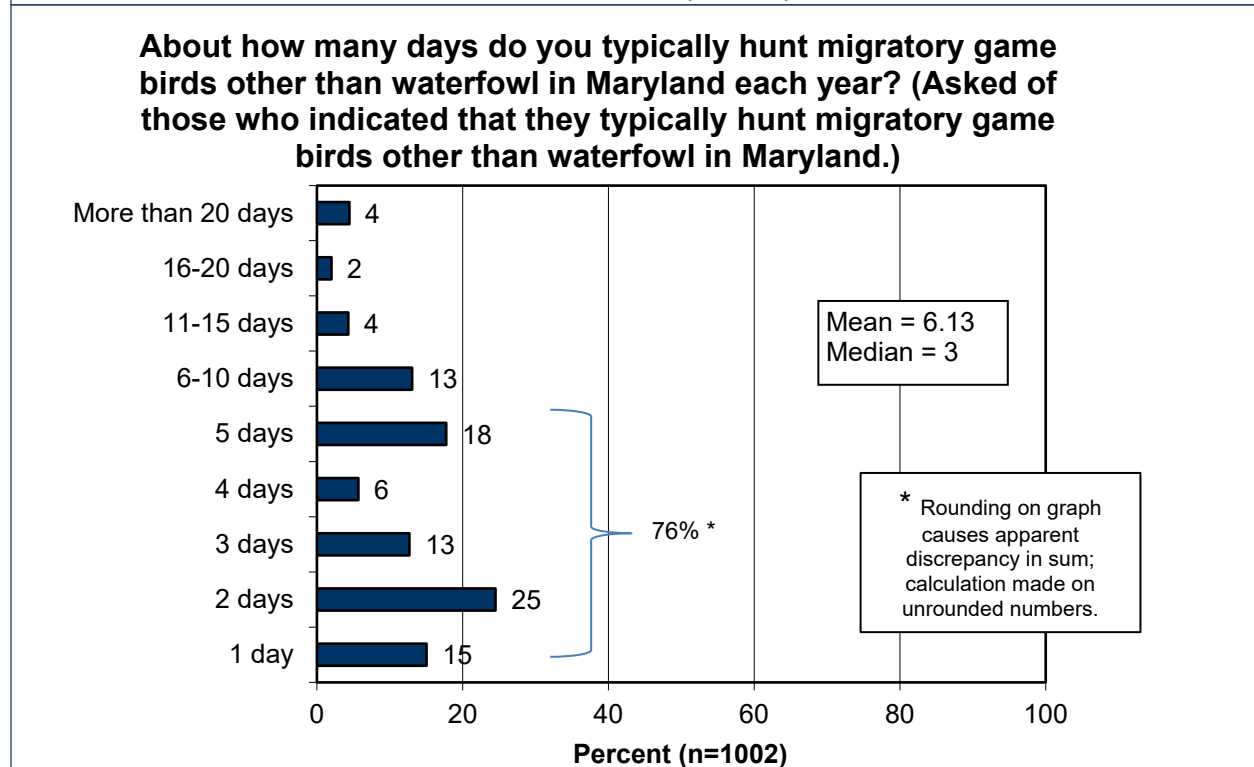
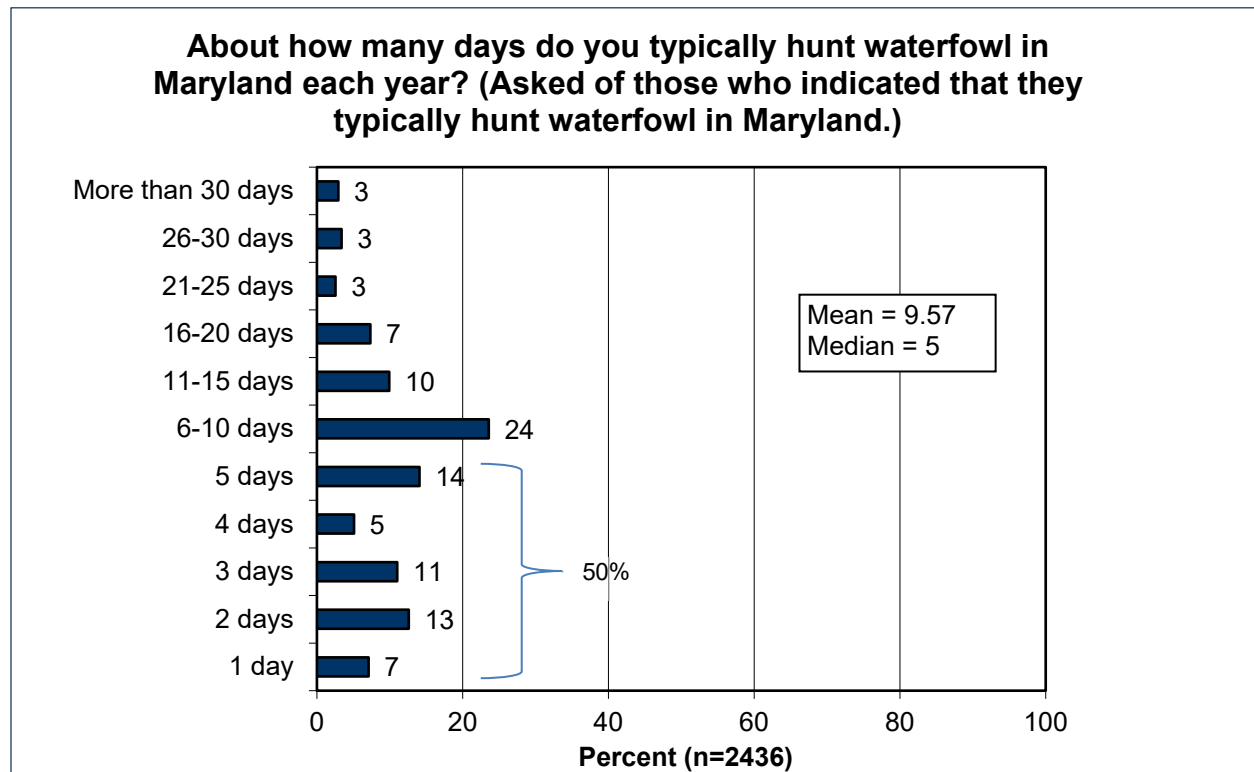
SPECIES HUNTED

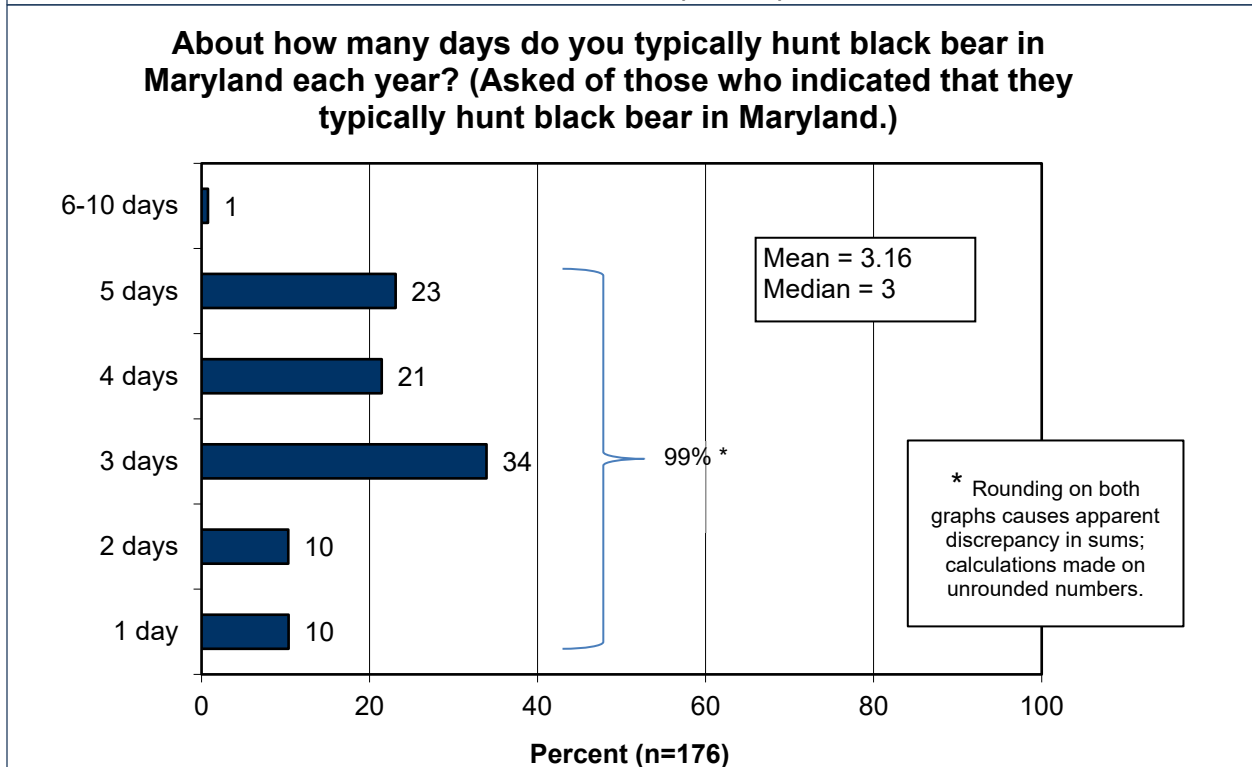
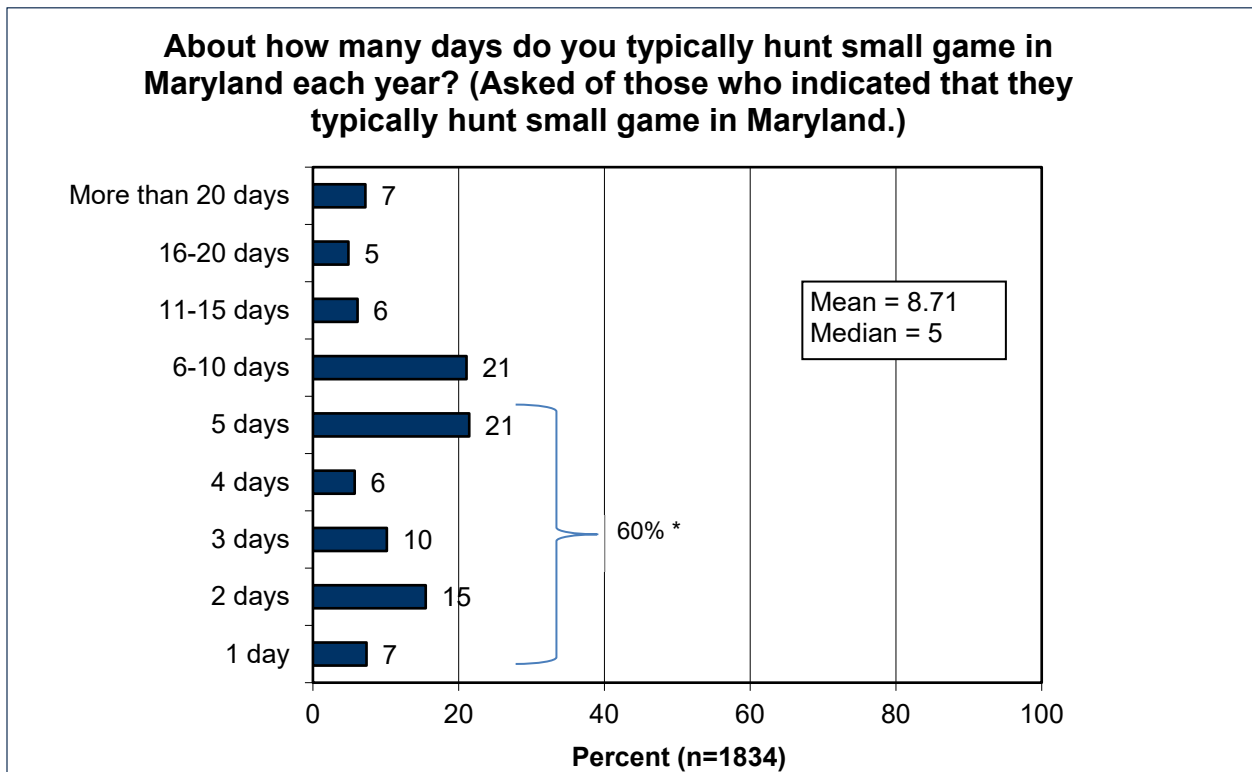
White-tailed deer is the most popular game: 85% of hunters typically seek this species. Three more species have about a third of hunters seeking them: Canada geese, wild turkey, and ducks and mergansers. The graph shows the full listing. (Also note that the section of the report, “Hunting on WMAs,” has information on species hunted in WMAs.)



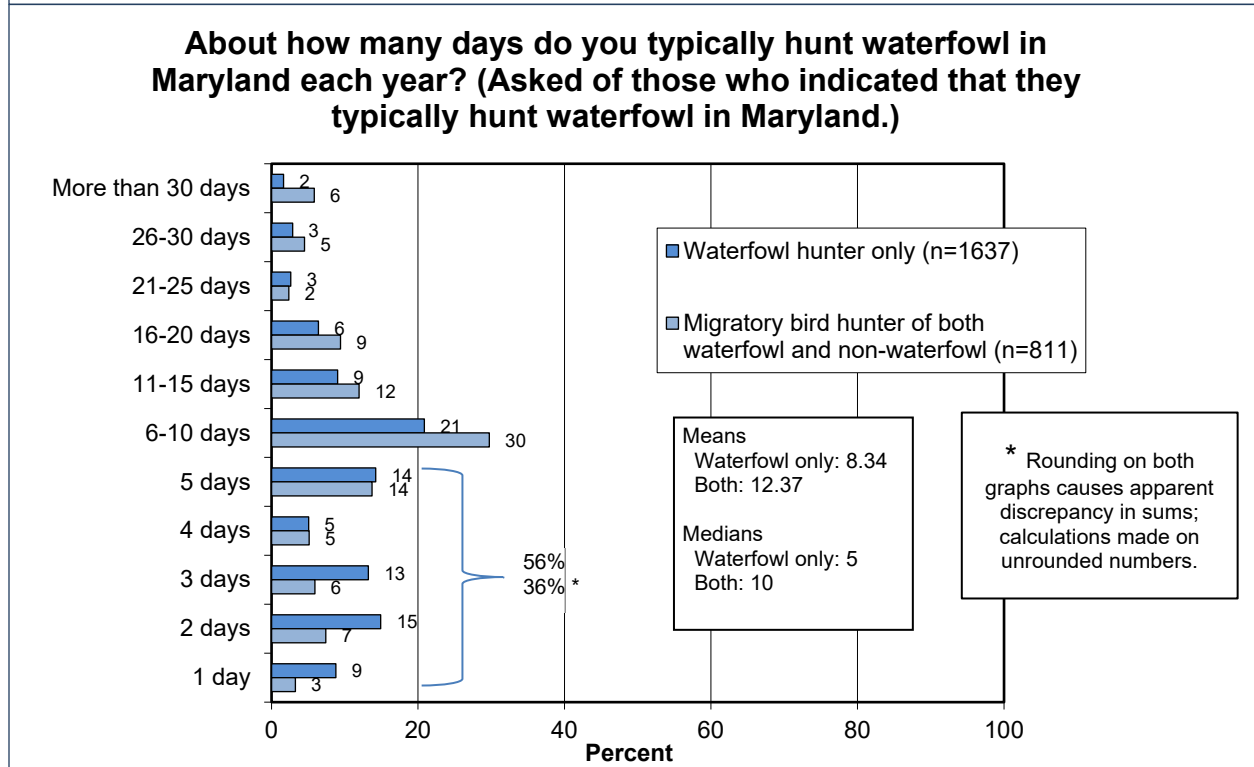
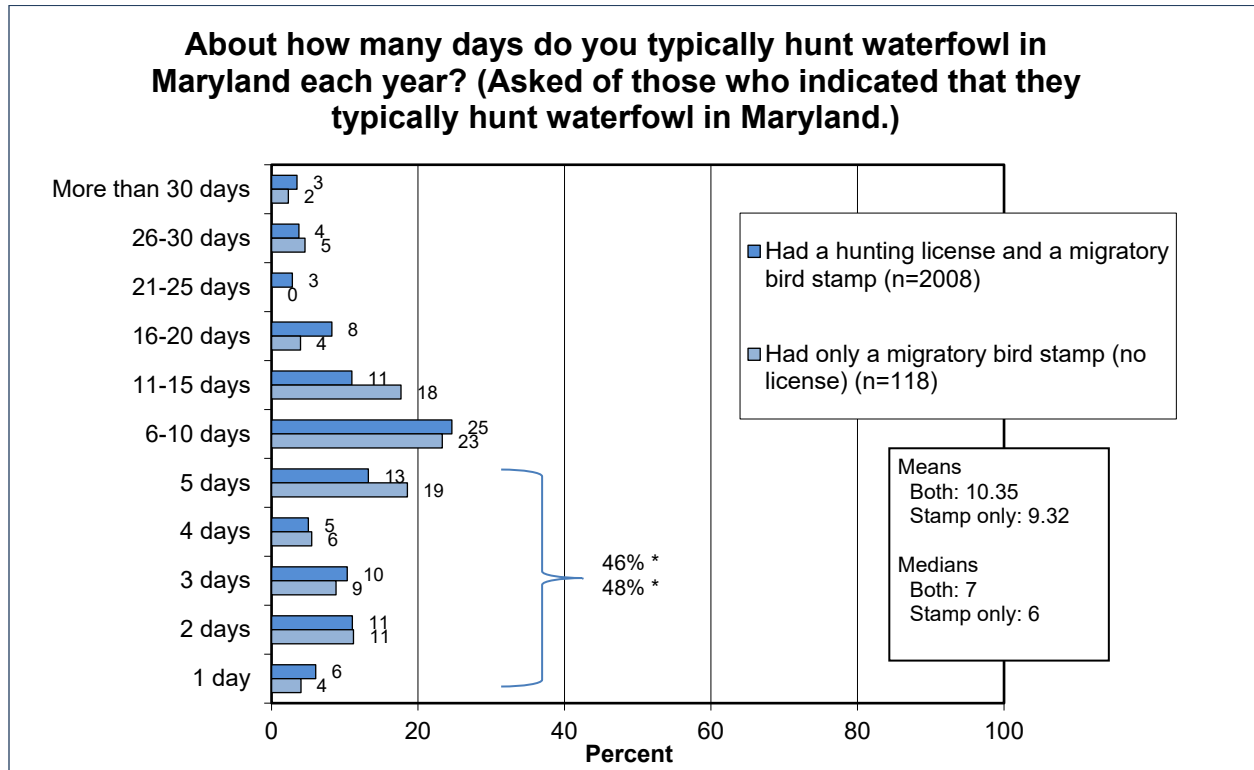
Hunters indicated the number of days that they typically hunt each species that they named in the above question. They are shown on the graphs that start on the following page. White-tailed deer has the highest mean number of days that hunters hunt for it (19.53 days); black bear has the lowest (3.16 days) (the mean was calculated only among those who hunted each species).



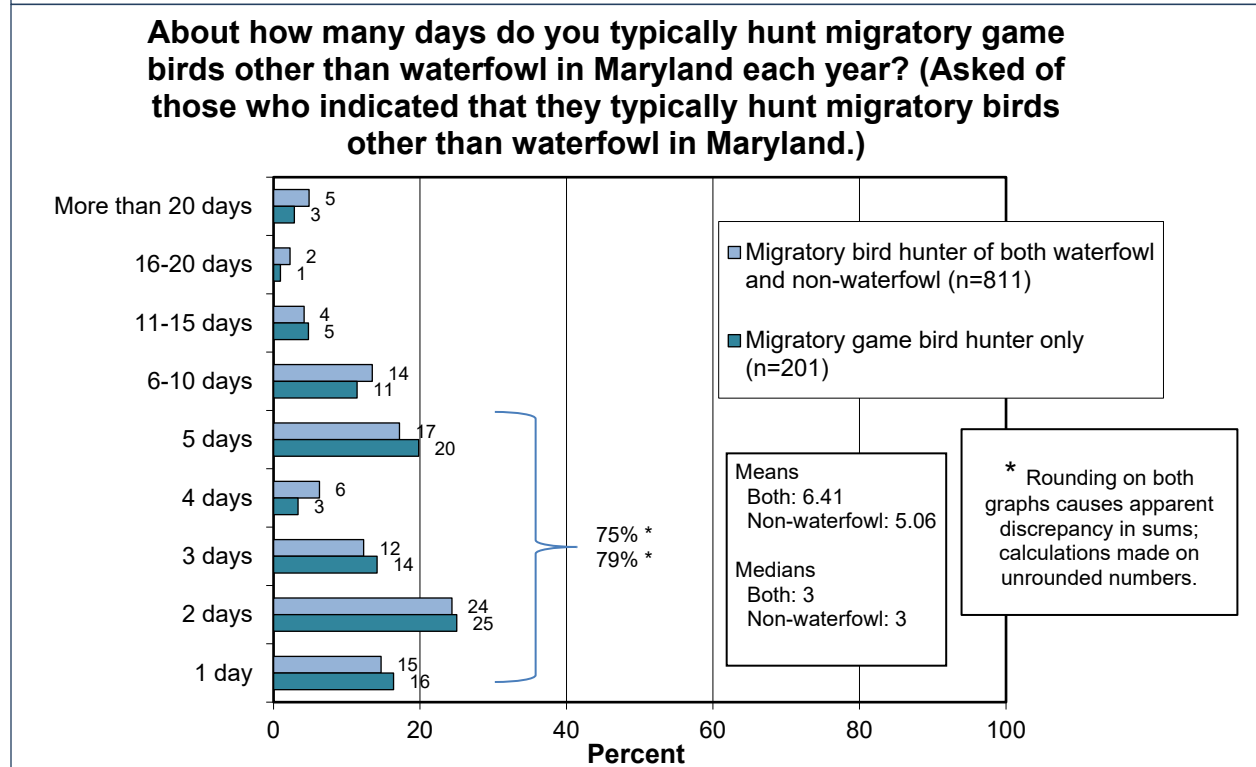
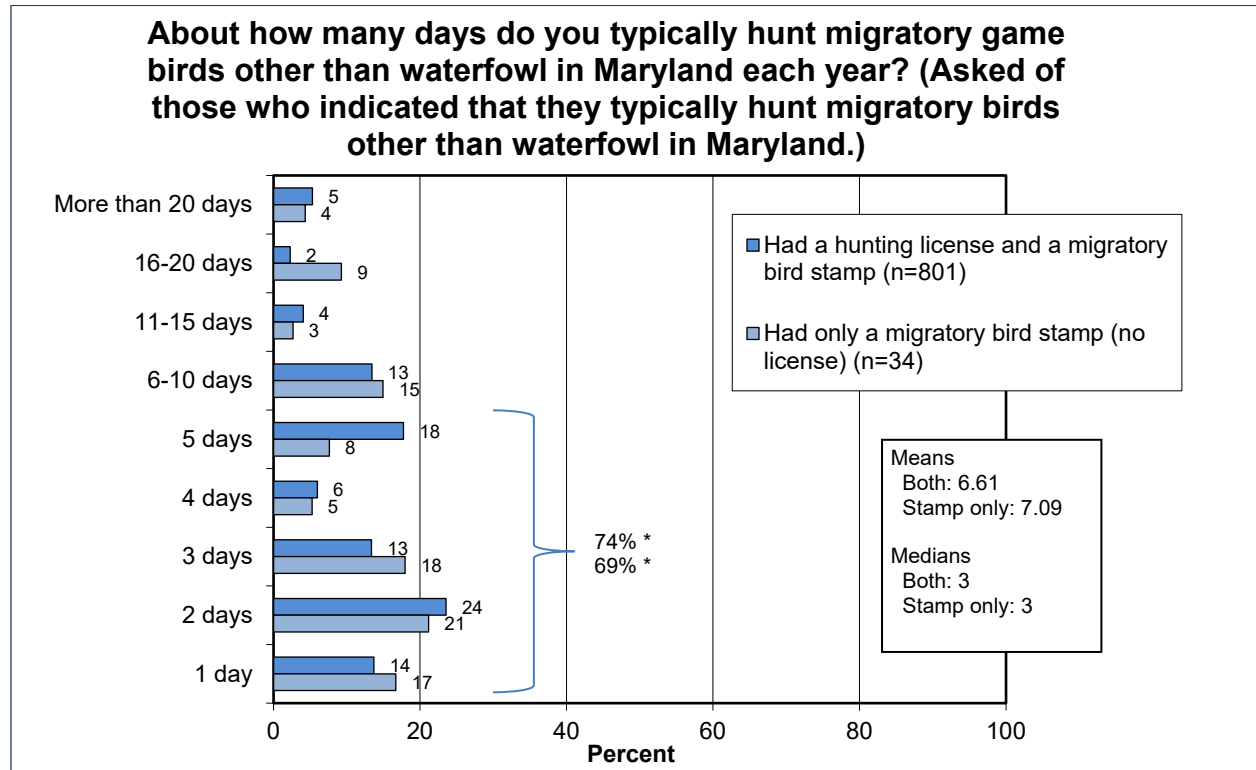




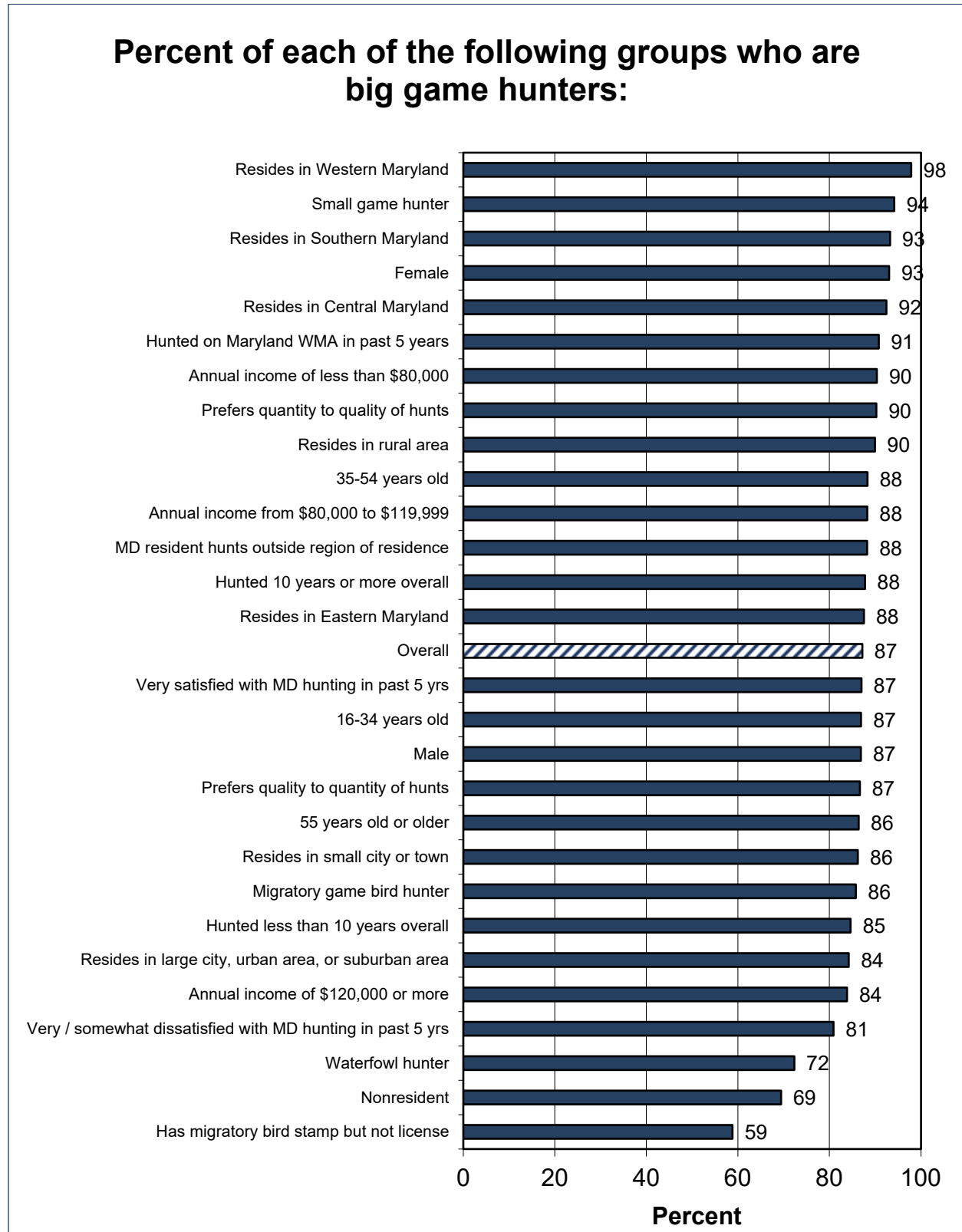
Those who hunt both waterfowl and migratory game birds, compared to those who hunt waterfowl only, hunt for waterfowl more days. (This is among migratory bird hunters.)



There are no marked differences in days hunting for migratory birds other than waterfowl among the various groups that were crosstabulated.

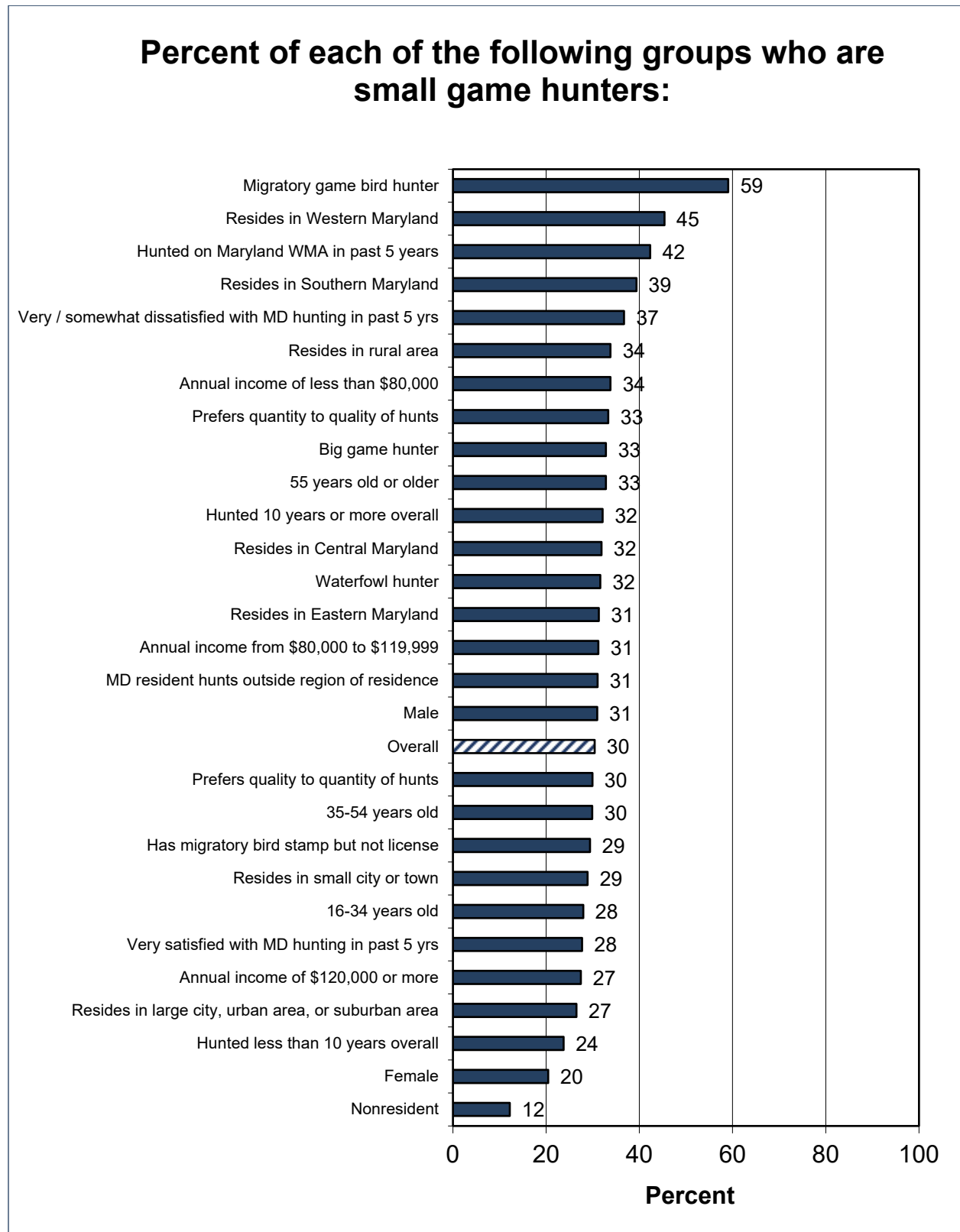


The hunter groups most likely to typically hunt big game include residents of Western or Southern Maryland, those who also hunt small game, and females.



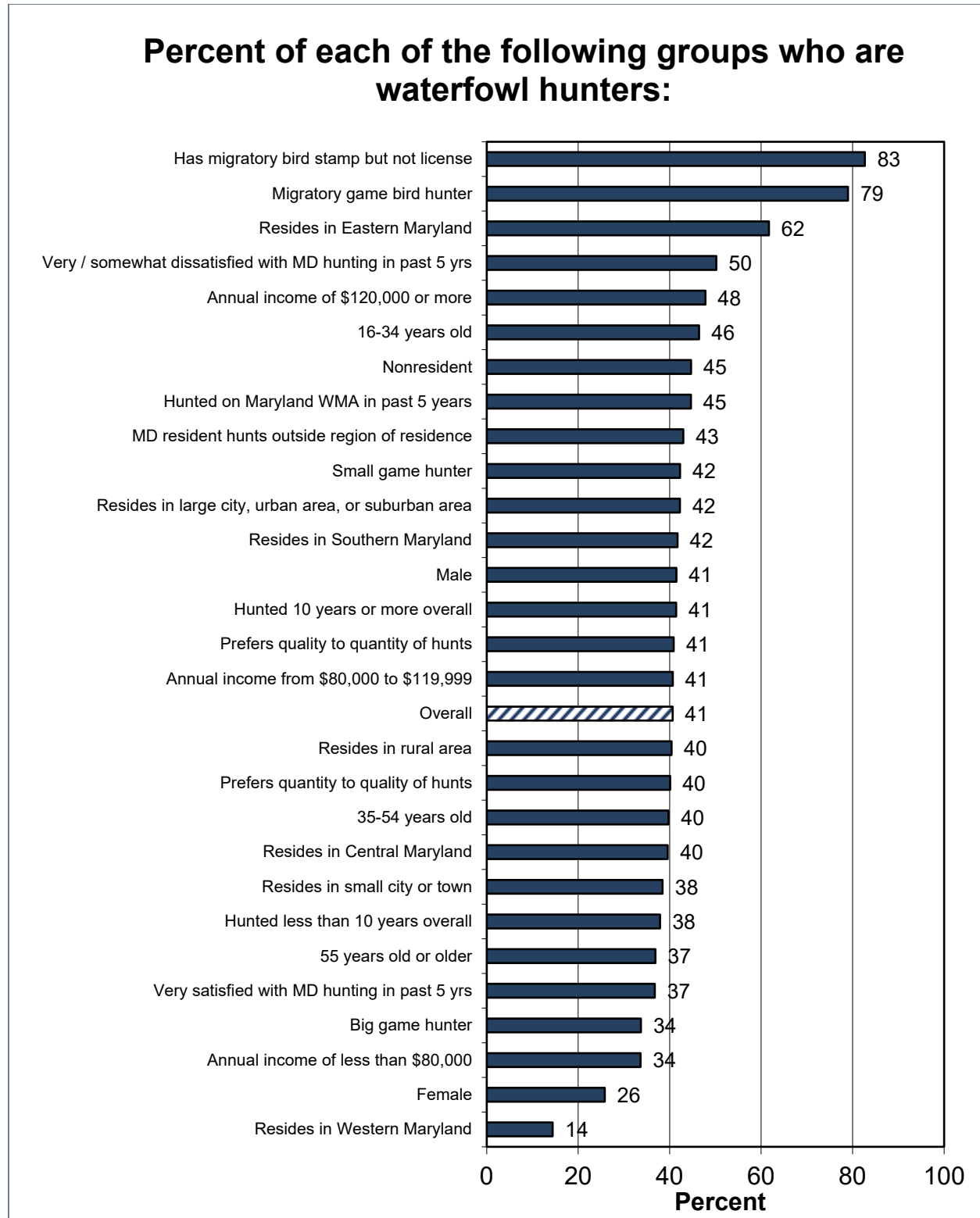
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

The demographic analyses graph shows that the hunter groups most likely to typically hunt small game include those who also hunt migratory game birds, hunters residing in Western or Southern Maryland, WMA hunters, and those dissatisfied with their hunting in Maryland.



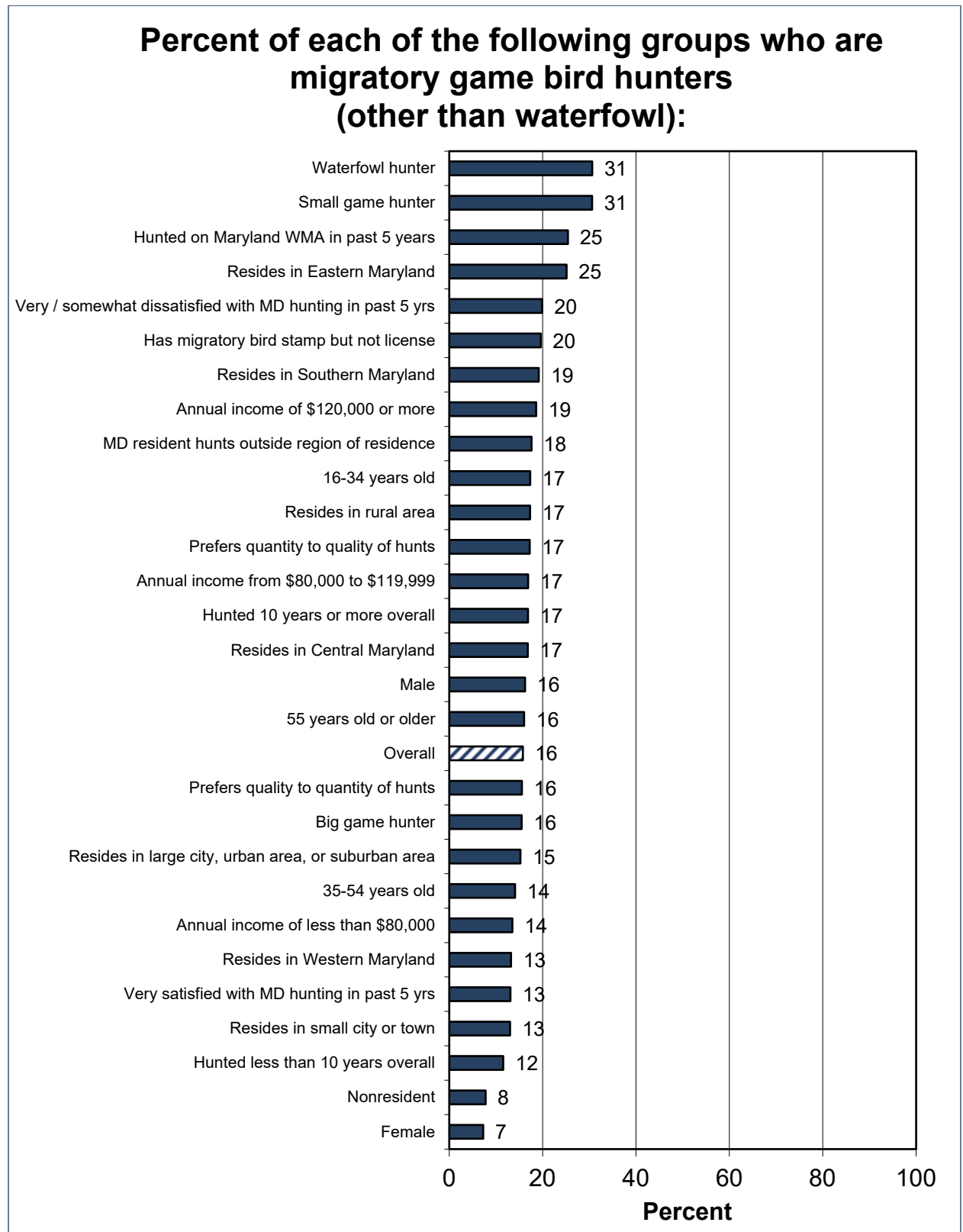
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

The hunter groups most likely to typically hunt waterfowl include hunters with a migratory bird stamp without a hunting license, those who also hunt migratory game birds, hunters residing in Eastern Maryland, those dissatisfied with their hunting in Maryland, and hunters in the upper income bracket.



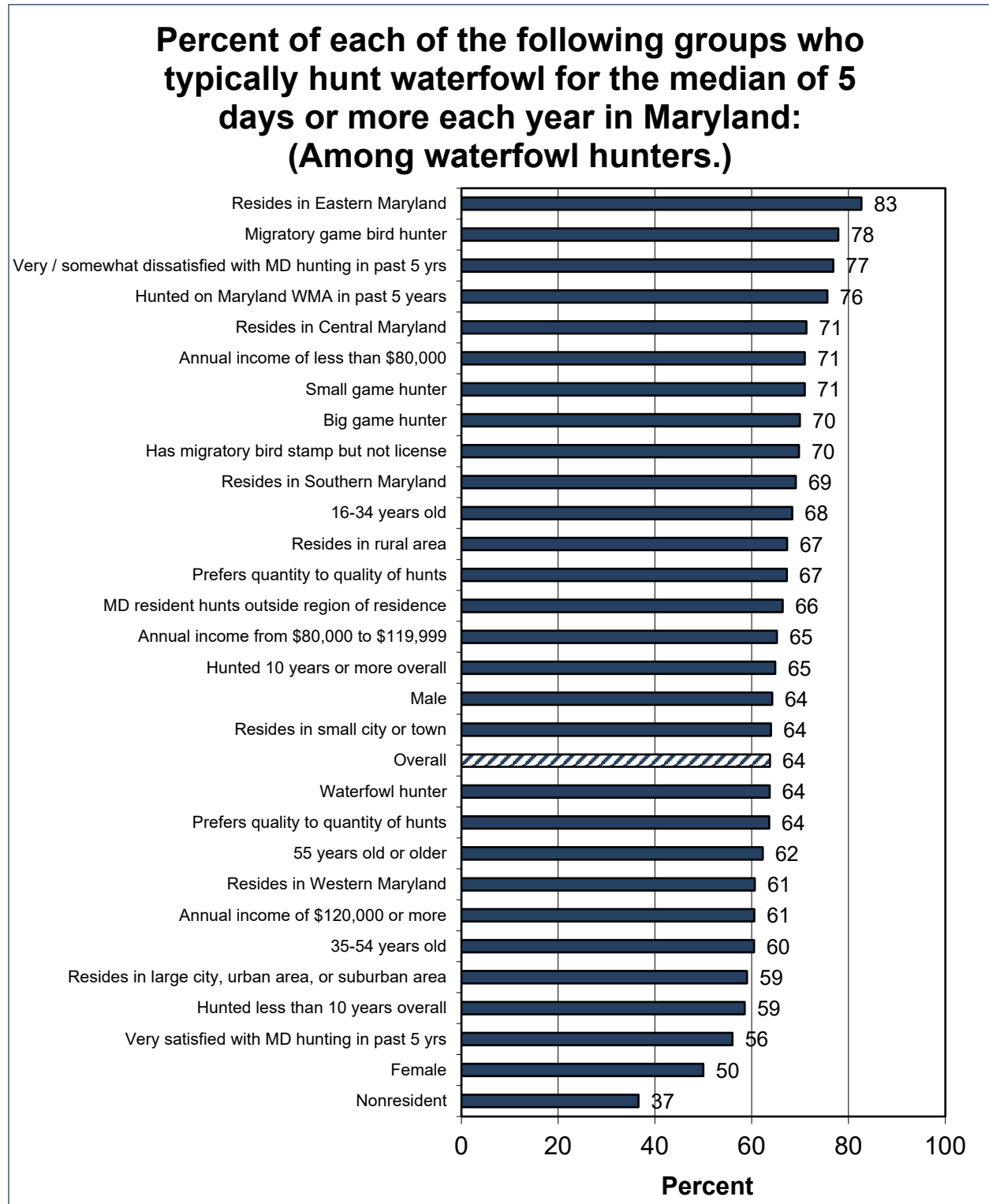
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Finally in the demographic analyses regarding species, the hunter groups most likely to typically hunt migratory game birds include those who also hunt waterfowl or small game, WMA hunters, and hunters residing in Eastern Maryland.



A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

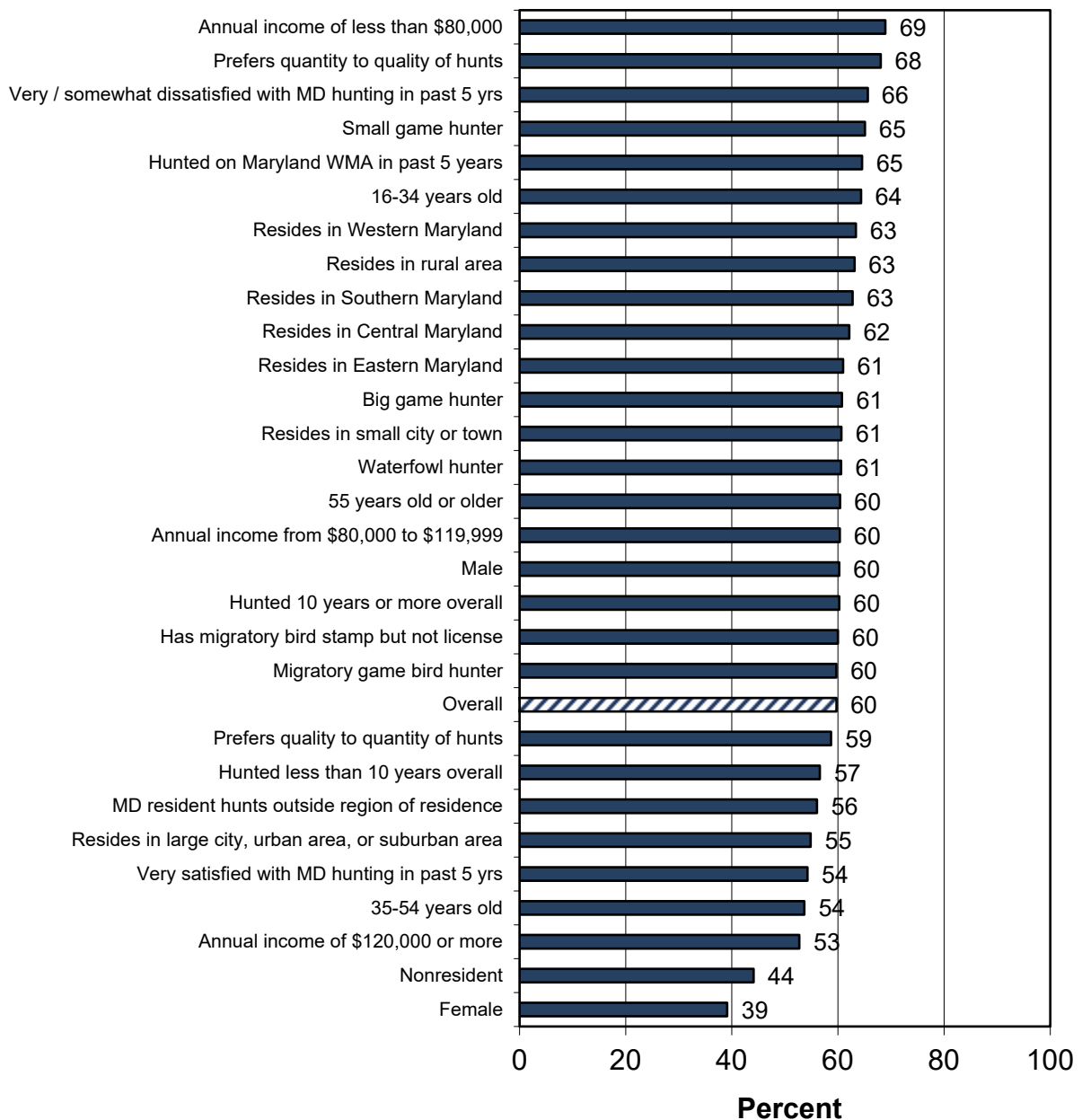
Demographic analyses graphs are included of those who hunt waterfowl the median number of days or more and those who hunt migratory game birds the median number of days or more. In each case, the analysis is only among those who hunt the species. Waterfowl hunters living in Eastern Maryland are the most likely to hunt waterfowl for the median or more days; nonresident waterfowl hunters are the least likely to do so.



A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

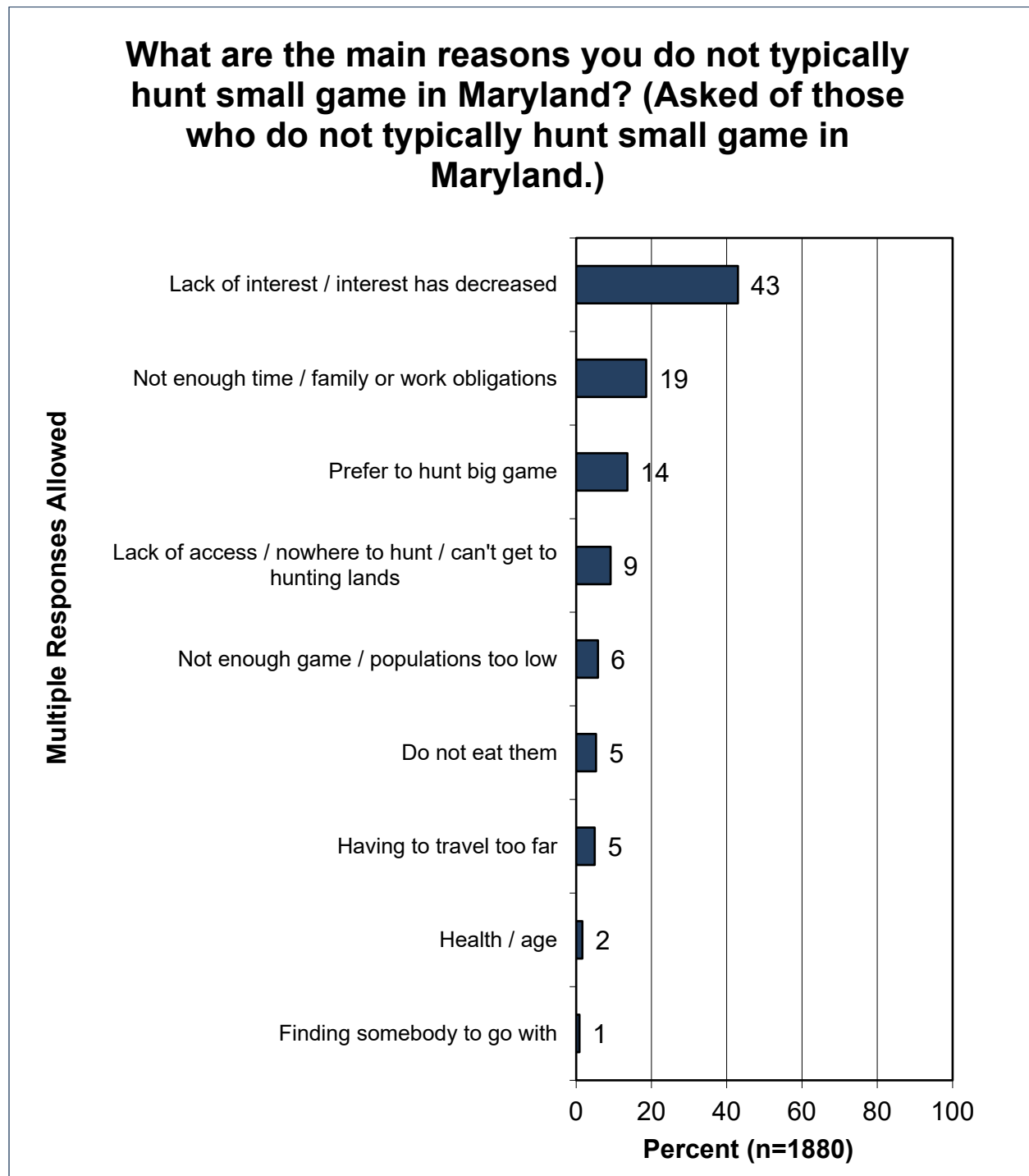
Migratory game bird hunters at the lower income level are the most likely to hunt them the median or more days. Nonresident and female migratory bird hunters are the least likely to hunt them the median or more days.

**Percent of each of the following groups who typically hunt migratory game birds other than waterfowl for the median of 3 days or more each year in Maryland:
(Among migratory game bird hunters.)**



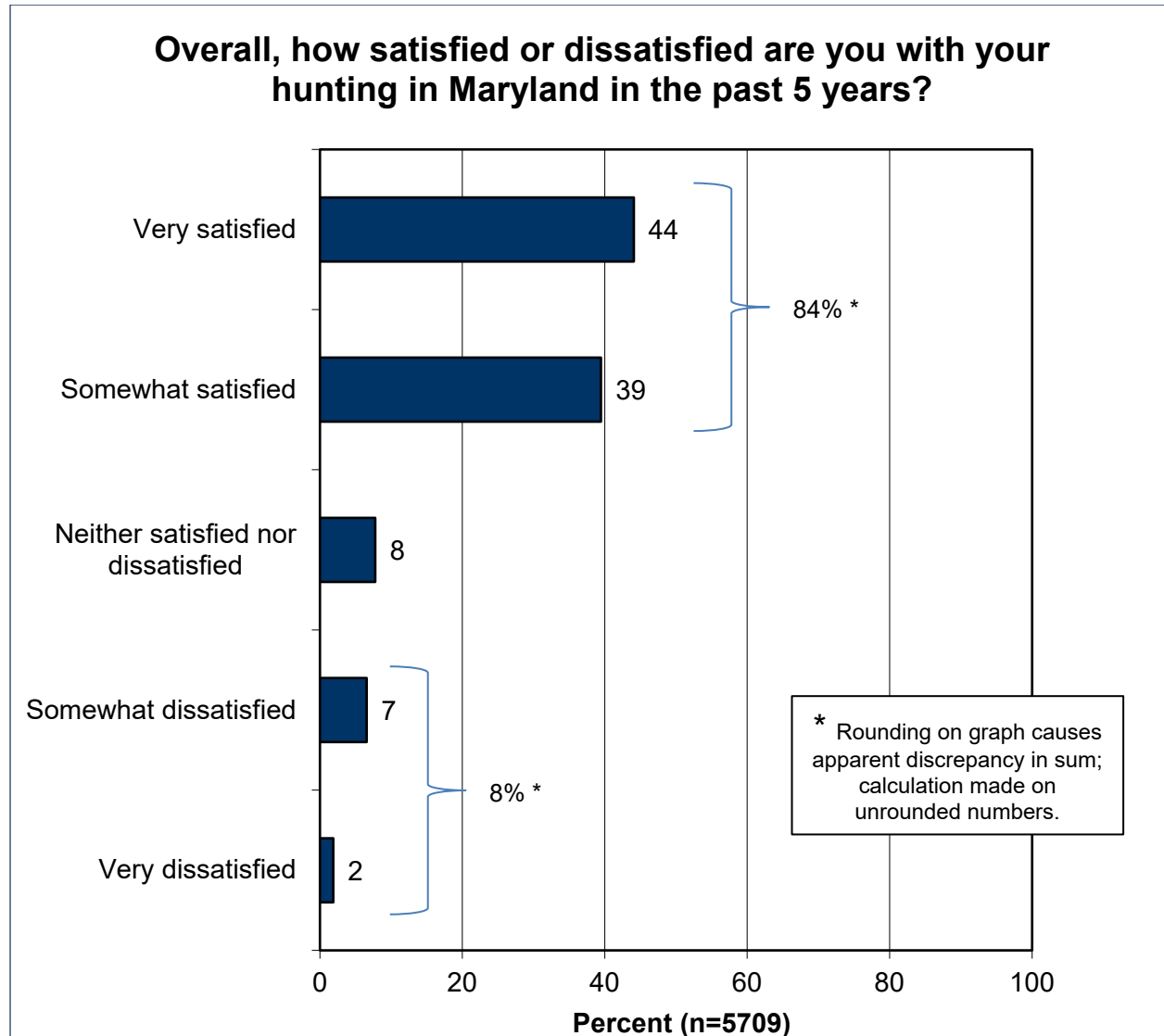
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Previously, the report showed the percentage who typically hunt small game. A follow-up question of those who do not asked them for their reasons for *not* hunting small game. Most often, reasons for not hunting small game, among those who do not hunt small game, are social: lack of interest (the leading reason at 43%) and/or not enough time/family and work obligations (19%). Nonetheless, 14% of non-small game hunters prefer to hunt big game (particularly given time constraints), and 9% do not have access to good land for hunting small game. The graph shows all the reasons given in this open-ended question.



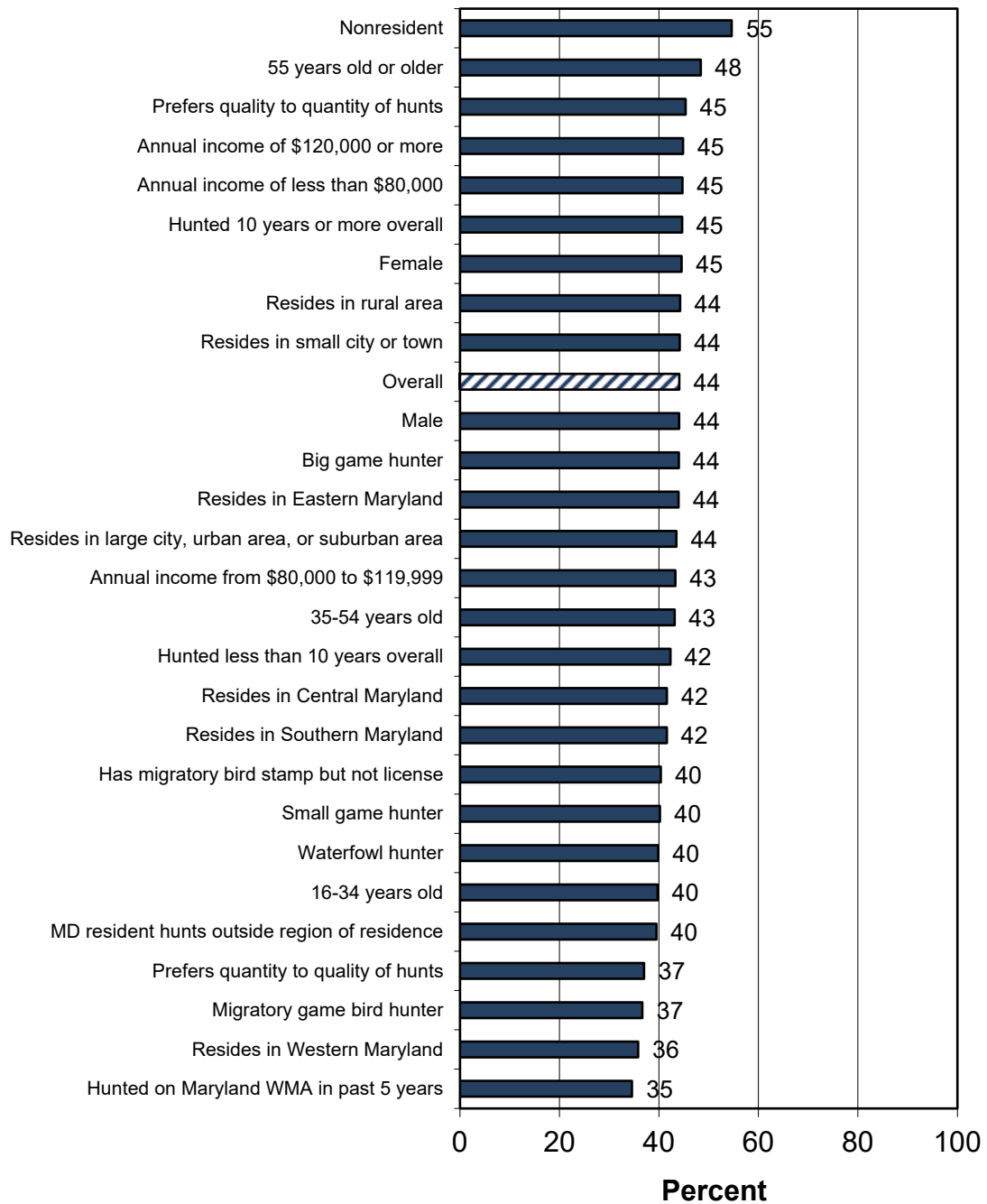
SATISFACTION WITH HUNTING

The overwhelming majority of Maryland hunters (84%) are satisfied with their hunting in Maryland in the past 5 years, about equally divided between being *very* satisfied and *somewhat* satisfied. Dissatisfaction is at 8%. (Also note that the section of this report, “Hunting on WMAs,” has information on satisfaction with hunting on WMAs.)



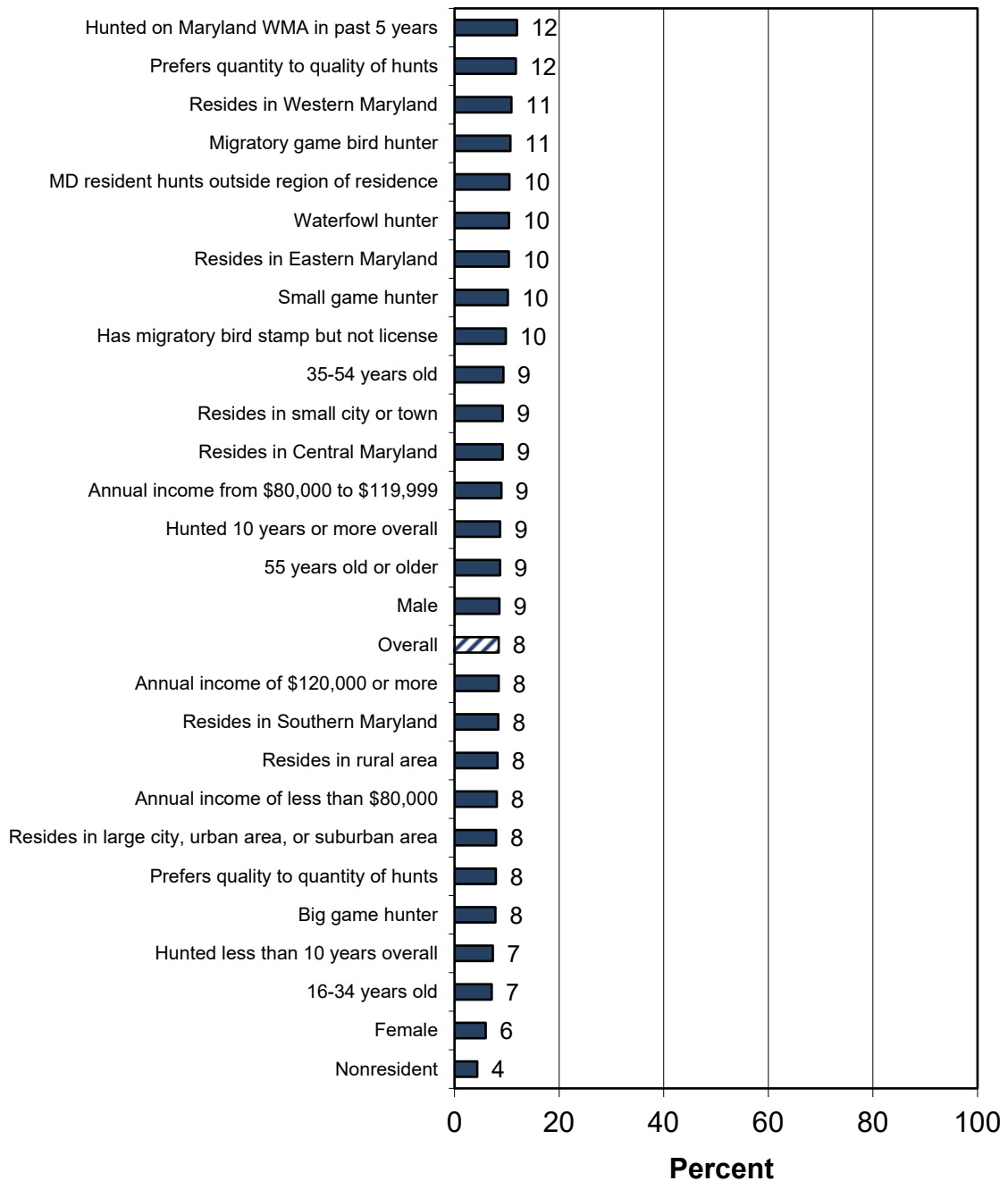
The demographic analyses graph on the following page shows that nonresidents had the greatest percentage who were *very* satisfied. On the other hand, the graph shows that those with the lowest percentage being *very* satisfied include those who hunted on a WMA in the previous 5 years, hunters who reside in Western Maryland, migratory game bird hunters, and those who prefer the quantity to the quality of hunting. A second demographic analyses graph shows dissatisfaction, but not group is markedly higher in dissatisfaction, as the range is only from 4% to 12%, with the overall percentage being 8%.

Percent of each of the following groups who were very satisfied with their hunting in Maryland in the past 5 years:



A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

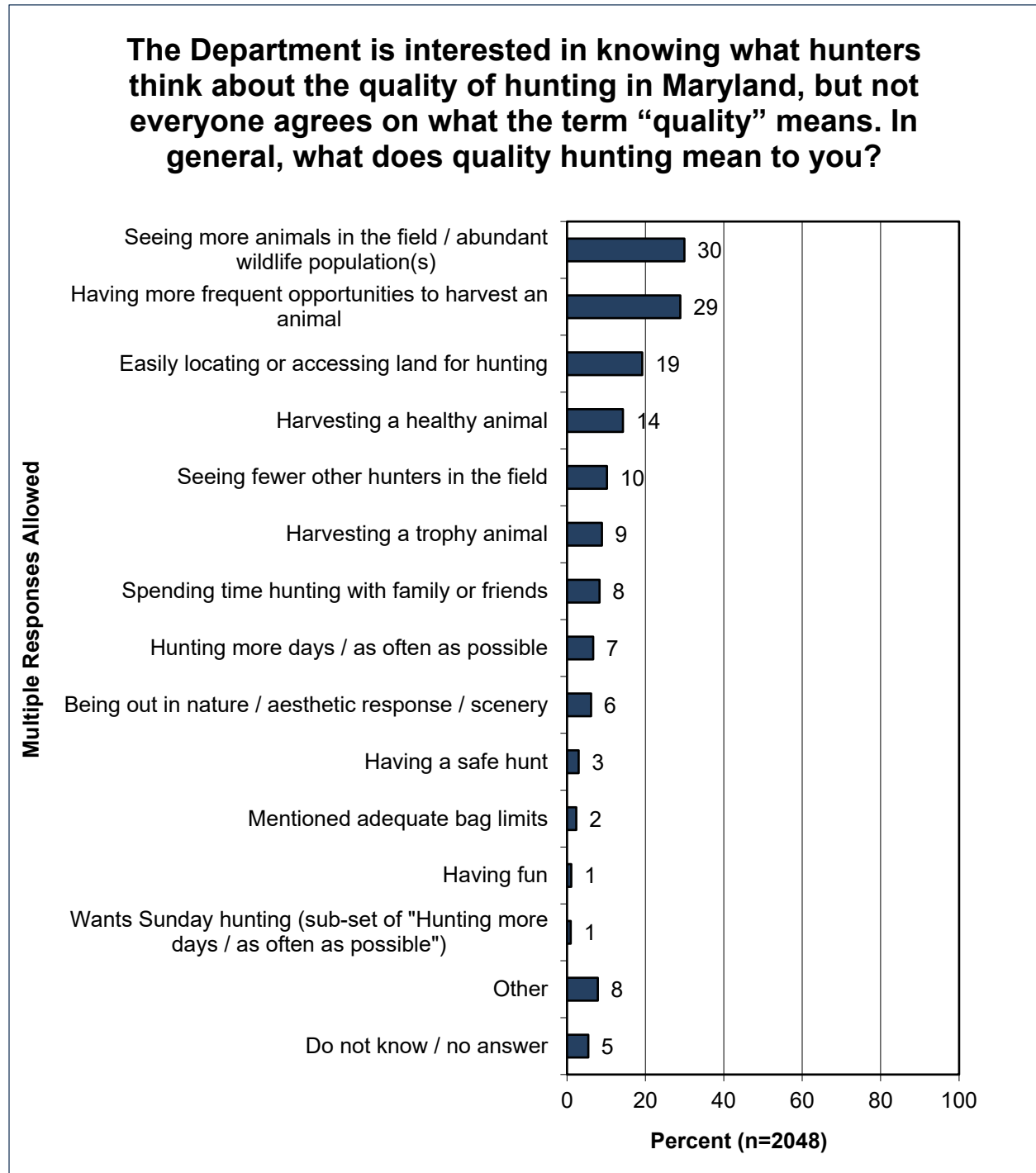
Percent of each of the following groups who were very or somewhat dissatisfied with their hunting in Maryland in the past 5 years:



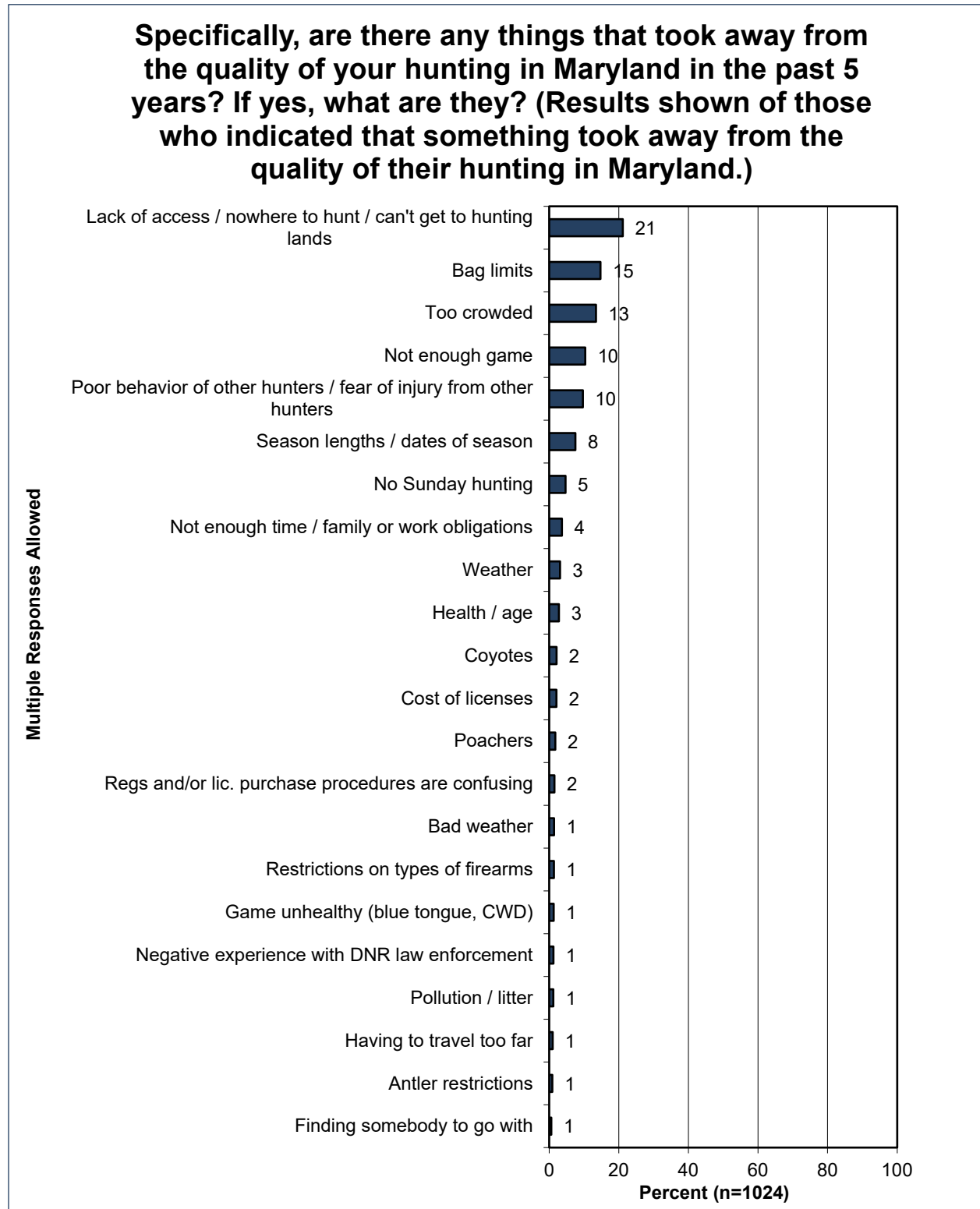
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

OPINIONS ON THE QUALITY OF HUNTING

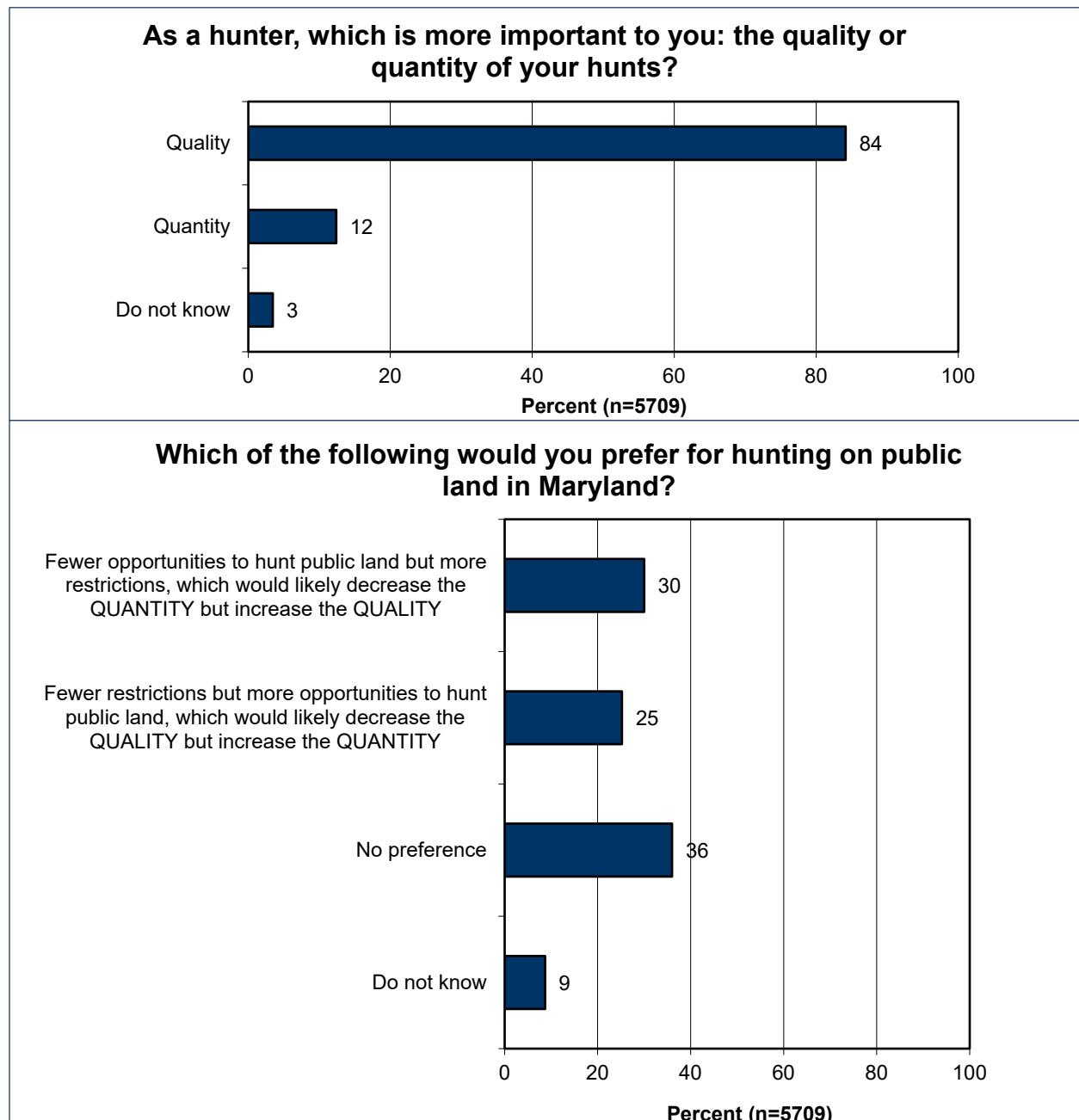
When asked in an open-ended question what *quality* means as it pertains to hunting, hunters are much more likely to want to see more animals rather than bigger animals. Also, most answers regarding what makes something a quality hunt pertain to aspects of hunting other than the size of animals, such as access, the health of the animals, lack of crowding, spending time with family, and being in nature.



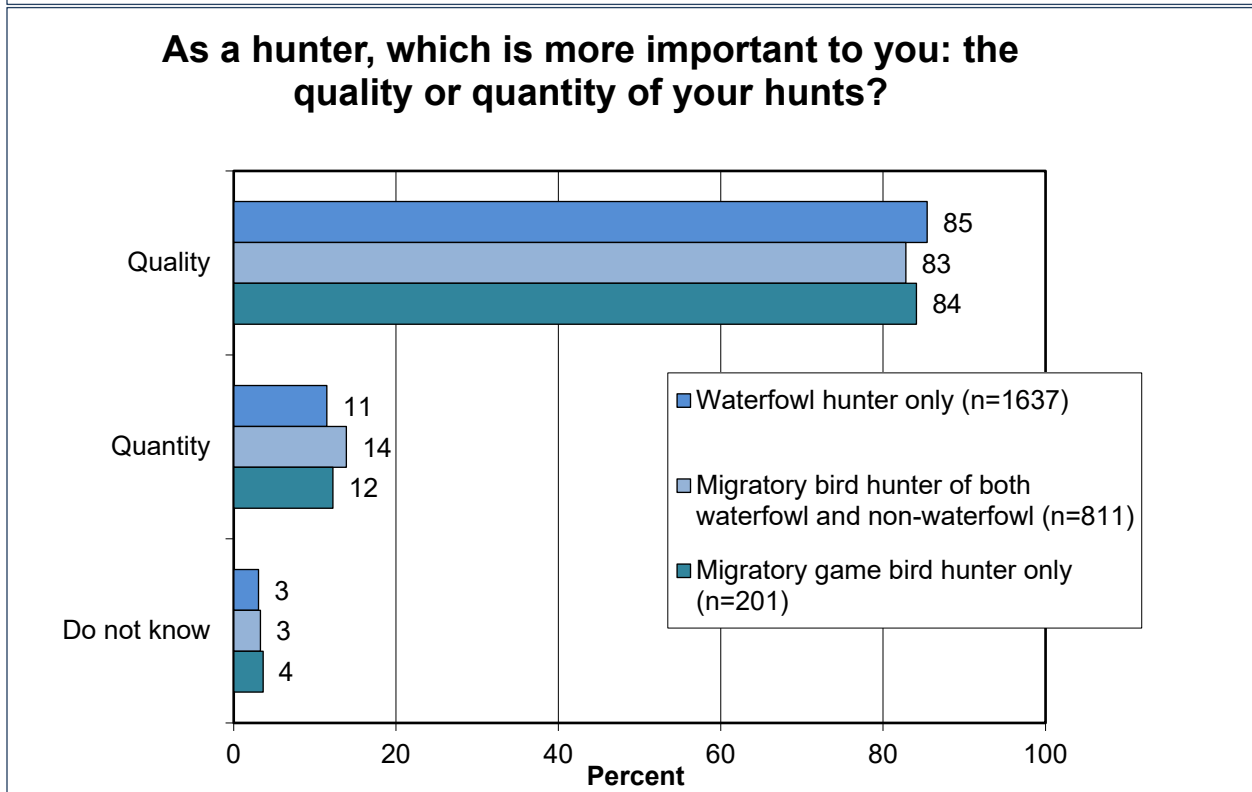
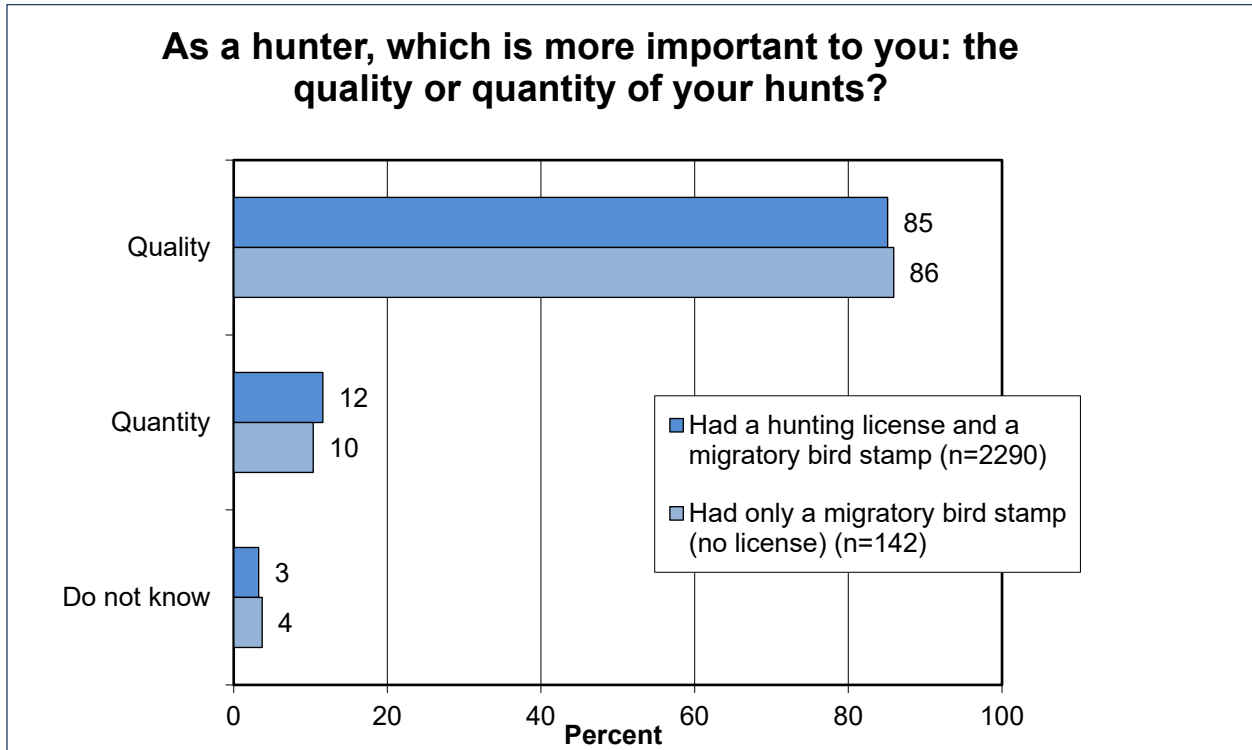
The most common responses regarding things that took away from the quality of hunting in Maryland are lack of access, bag limits (often the goose bag limit), crowding, lack of game, and the poor behavior of other hunters. On this question, 79% of all license/stamp holders responded that nothing took away from the quality; the results are shown only among those who named something as having taken away from the quality.



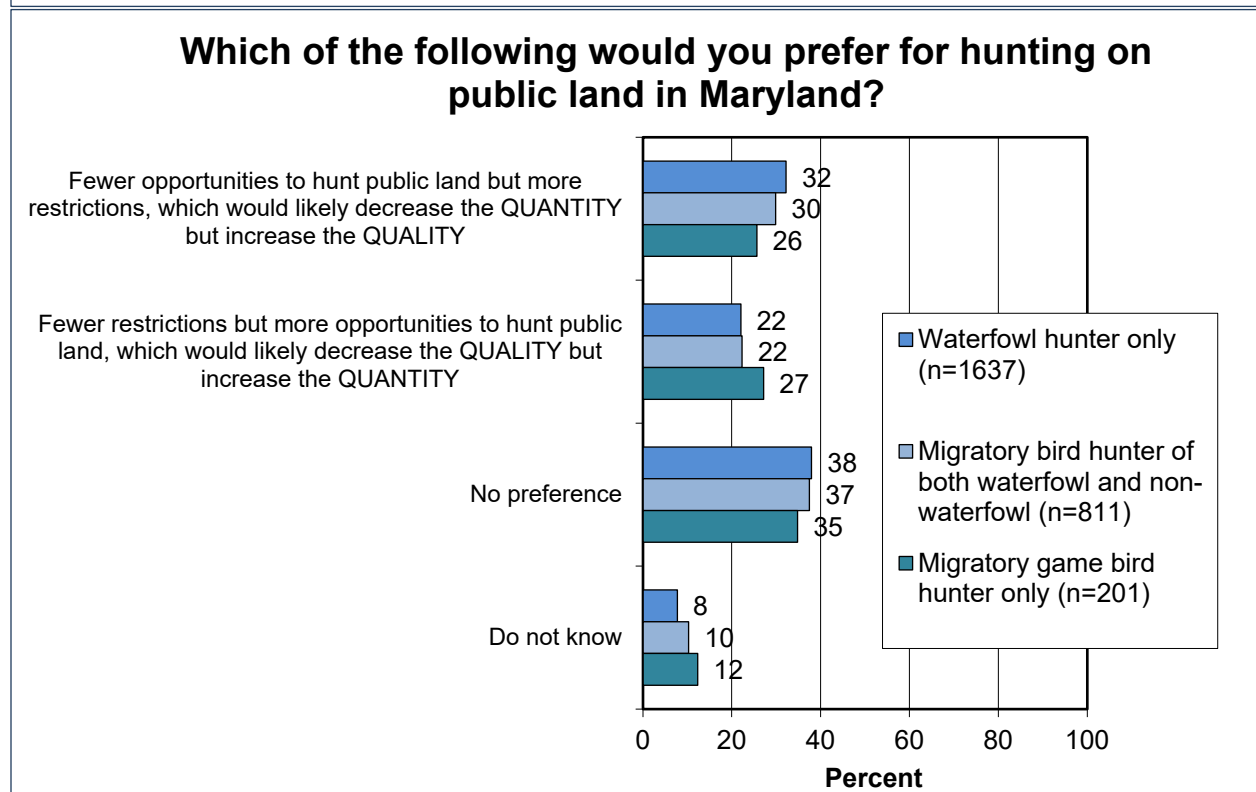
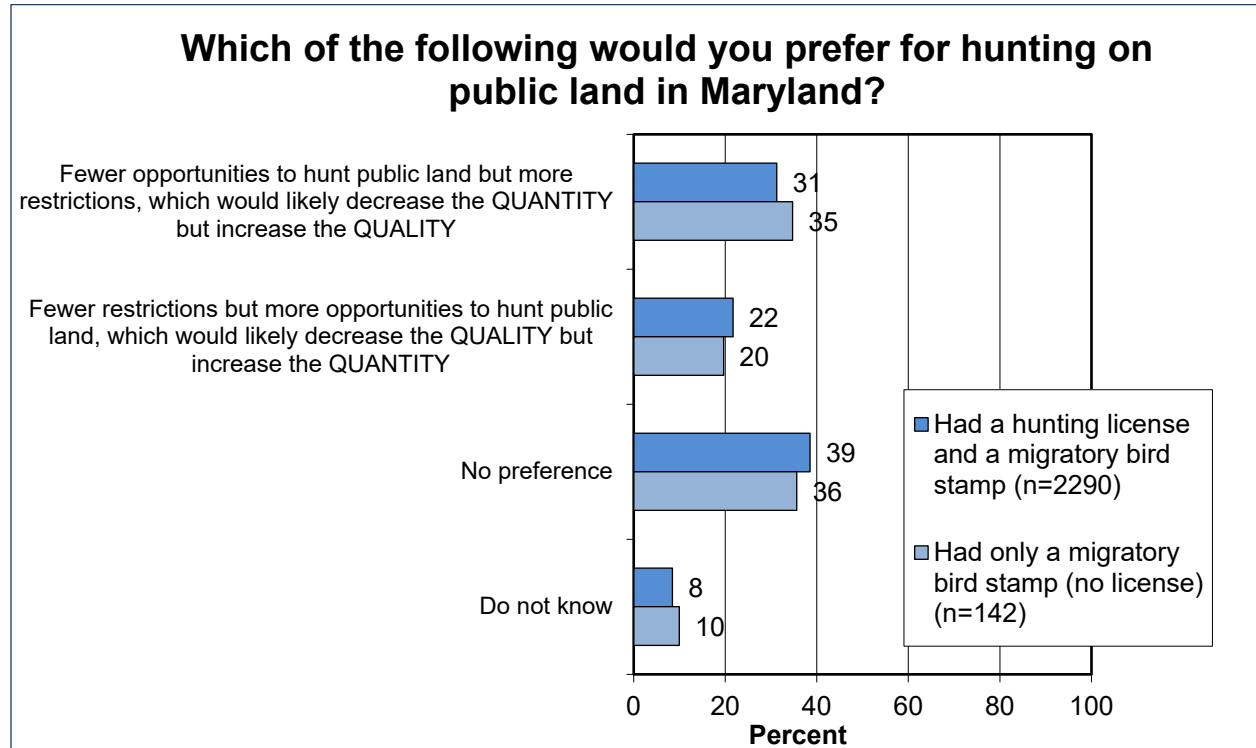
Two questions examined the quality of hunting versus the quantity of hunting. In the direct question about hunting in general, the *quality* of hunting (84%) won out over the *quantity* of hunting (12%). However, when asked about wanting fewer opportunities to hunt but better quality hunting on public land versus having more opportunities but lesser quality on public land, hunters are more divided, with the most common response being *no preference* at 36%. Otherwise, fewer opportunities/better quality (30%) was slightly ahead of more opportunities/lesser quality (25%) on public land. (Each question was asked of hunters using two differently worded versions: one version asking about quality first, the other version asking about quantity first; this was done to avoid order bias. Also note that the first question below asked about hunting in general, while the second question was specific to public land.)



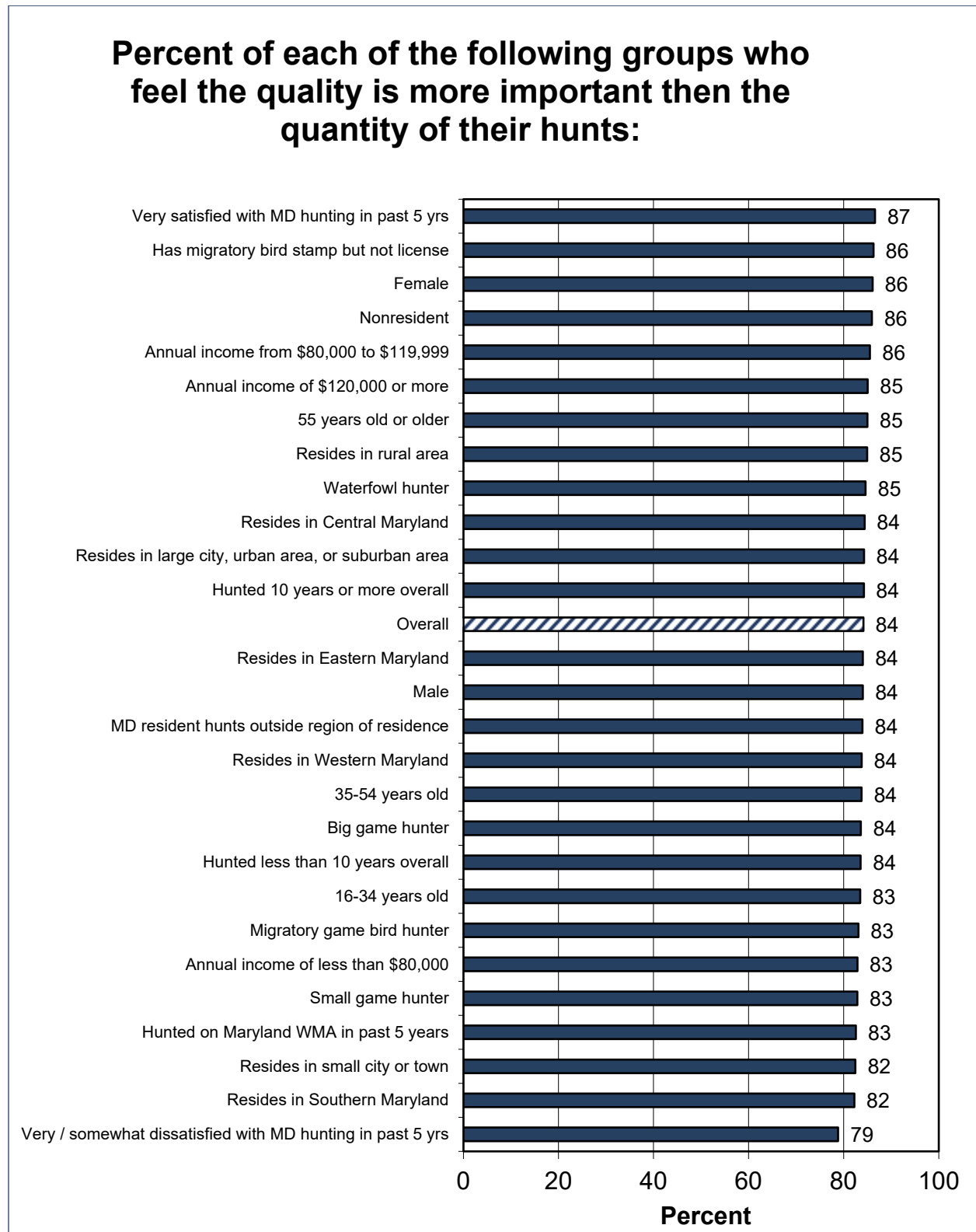
In the crosstabulations, the groups are not much different on this question.



In the crosstabulations, again the groups are not markedly different on this question.



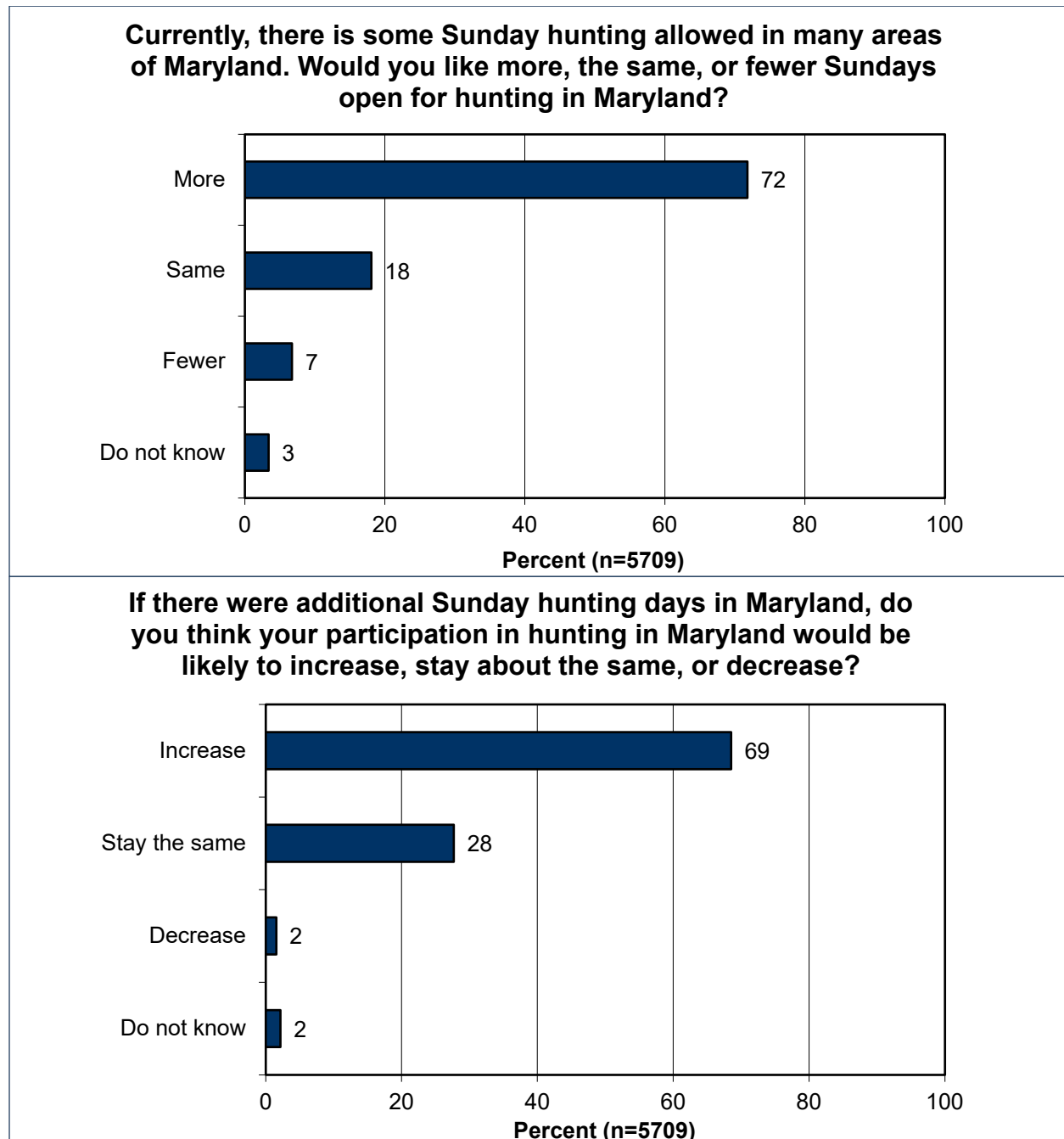
The demographic analyses found that wanting quality over quantity is nearly universal among groups, as no group was markedly more or less likely to want quality over quantity, when compared to hunters overall.



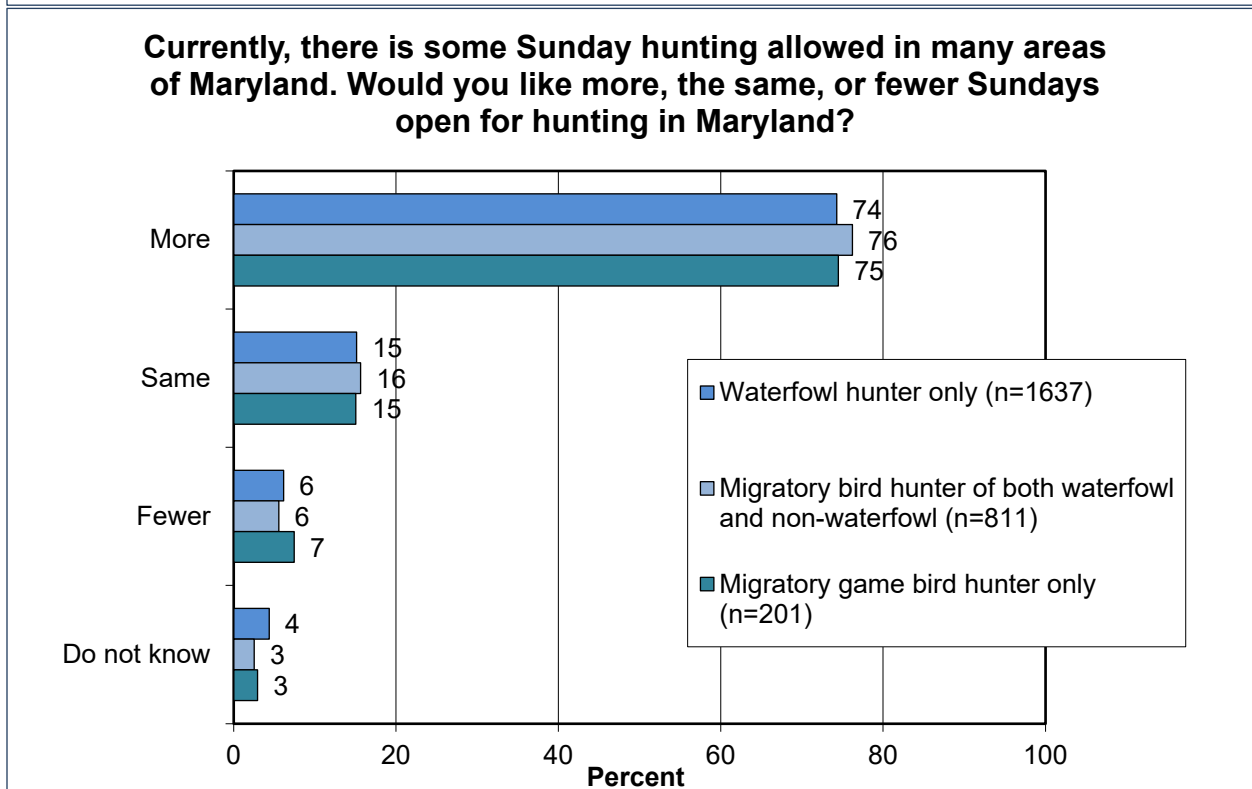
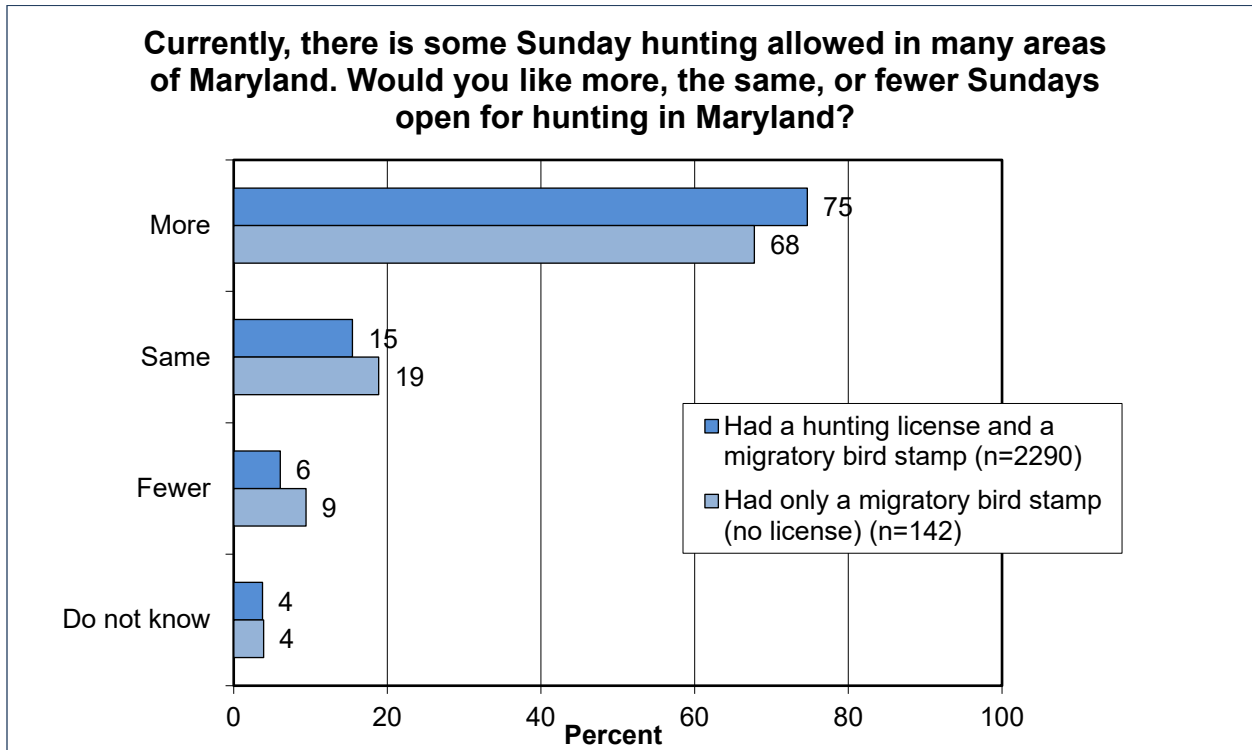
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

OPINIONS ON SUNDAY HUNTING

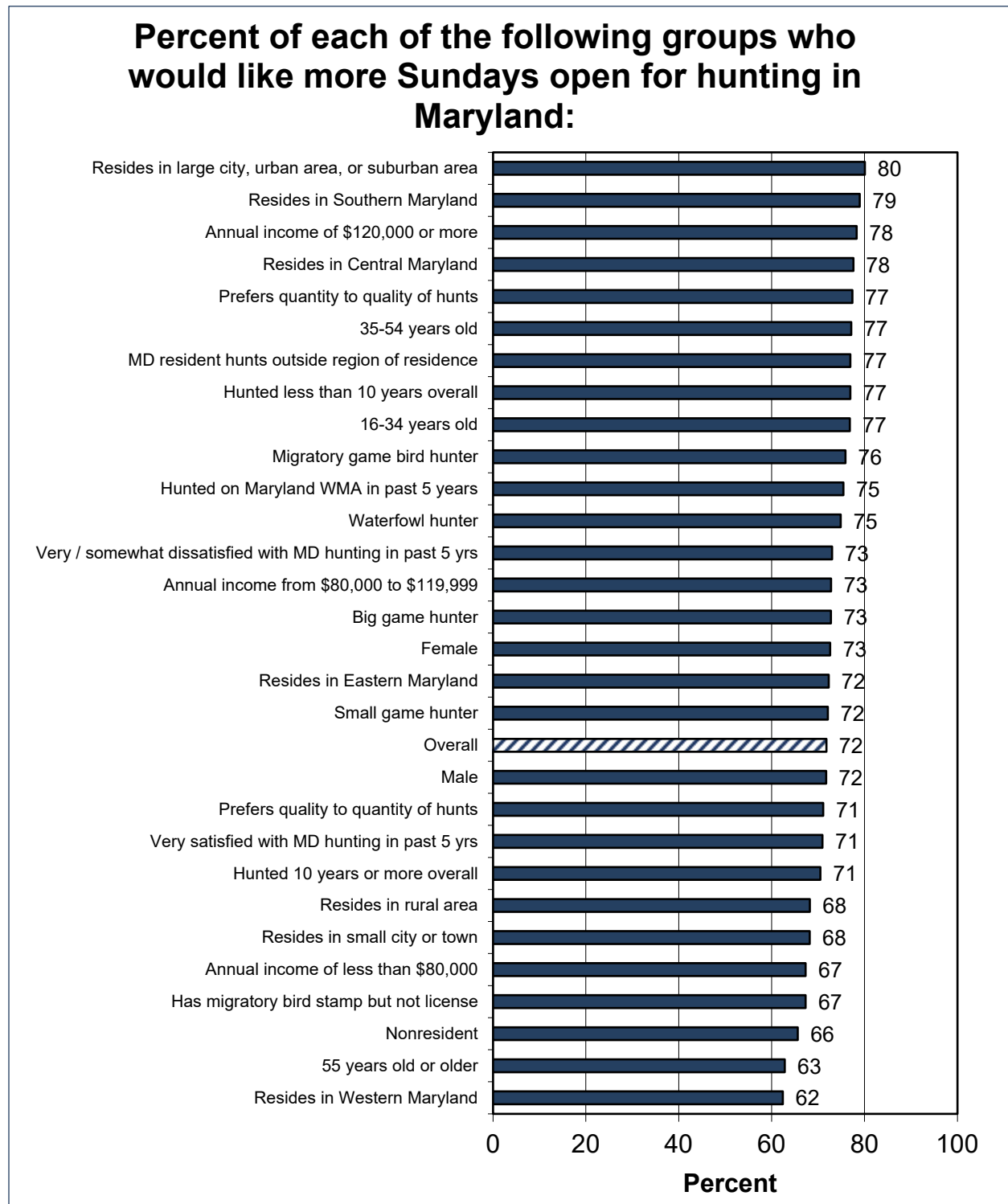
The large majority of hunters want more days of Sunday hunting (72% want more), far exceeding either those who want the same level of Sunday hunting (18%) and those who want fewer days (7%). Additionally, the large majority say that their hunting participation in Maryland would increase (69%) if there were more Sunday hunting days.



A slightly greater percentage of those with a hunting license and a stamp, compared to those with only a stamp, want more Sunday hunting.

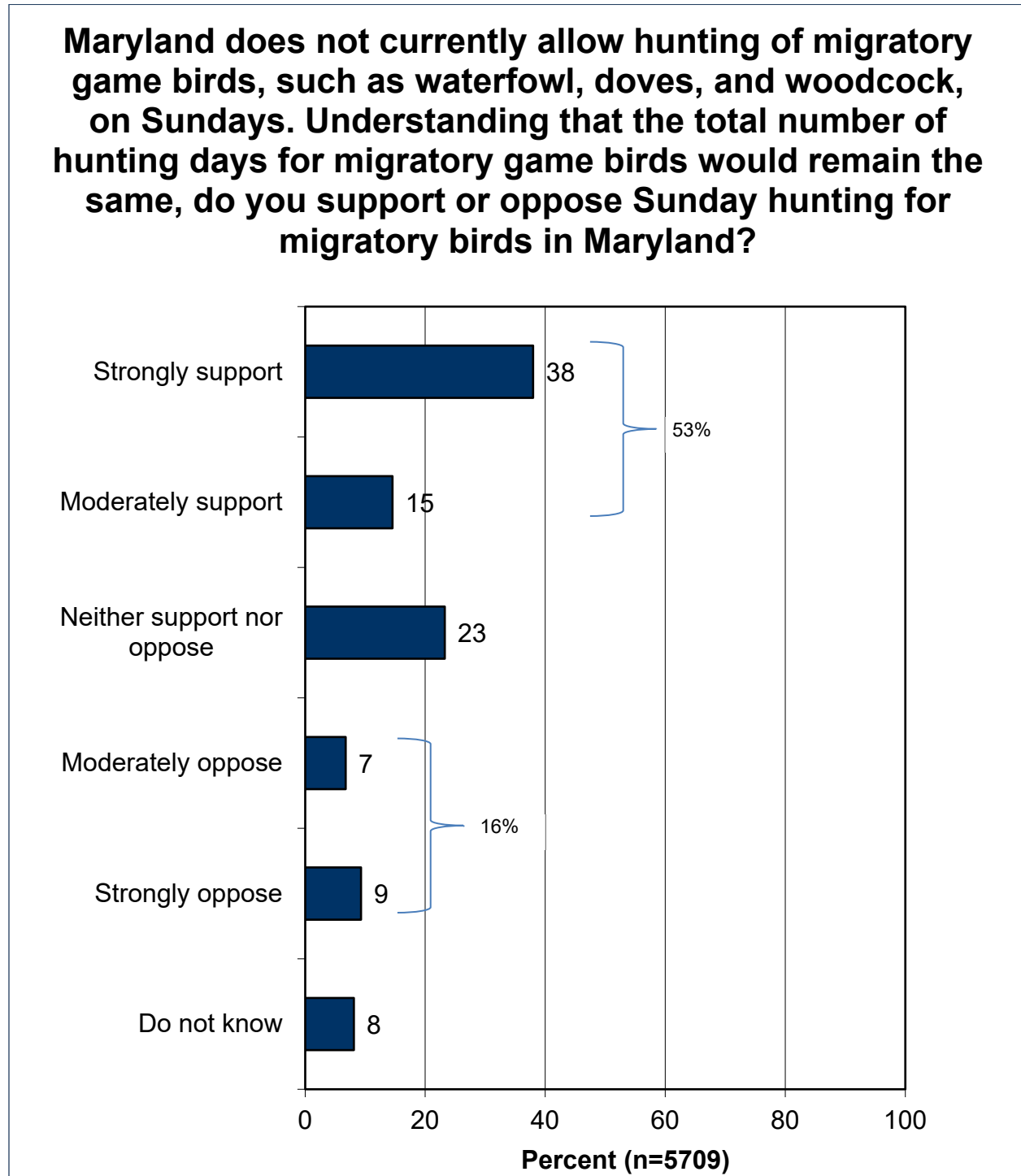


Those groups with the highest percentage saying that they want more Sunday hunting include hunters residing in urban areas, those residing in Southern Maryland, those in the upper income bracket, and those residing in Central Maryland. On the other hand, those with the lowest percentage wanting more Sunday hunting (although still a majority of them) include hunters residing in Western Maryland, older hunters, and nonresident hunters.

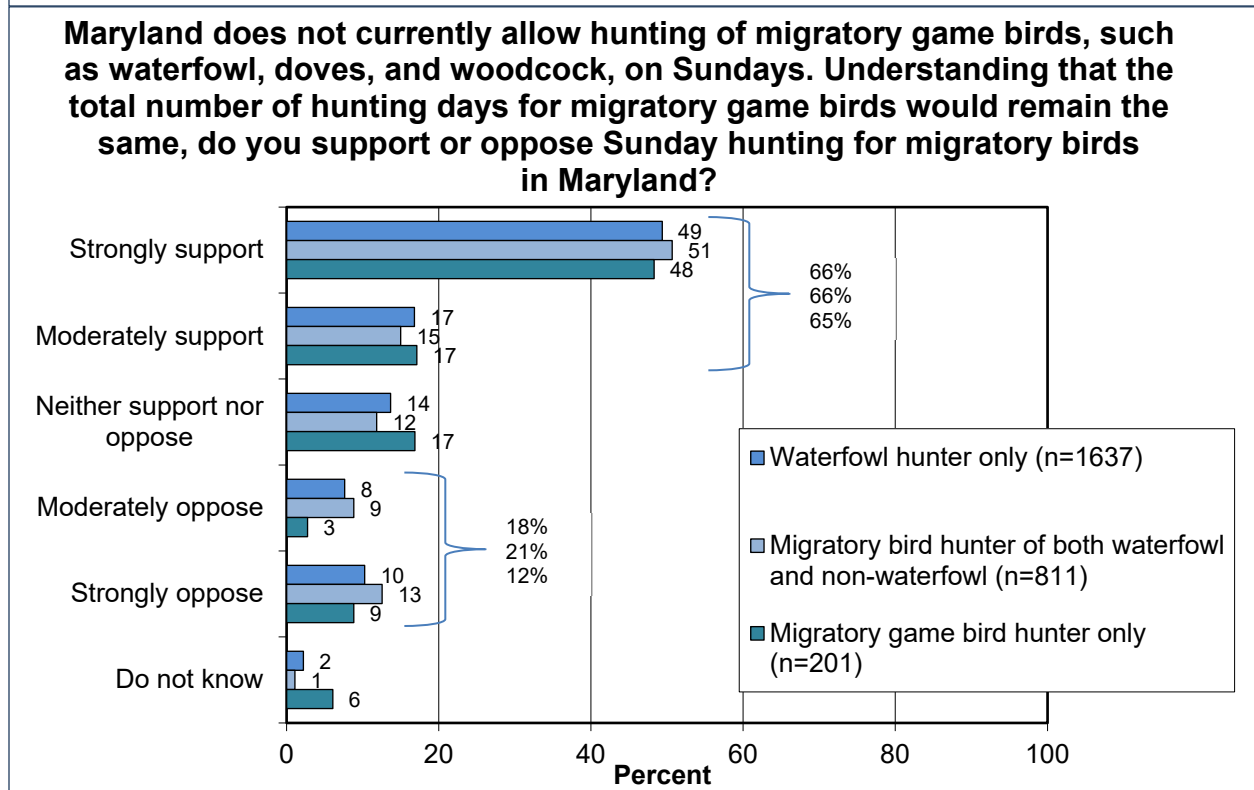
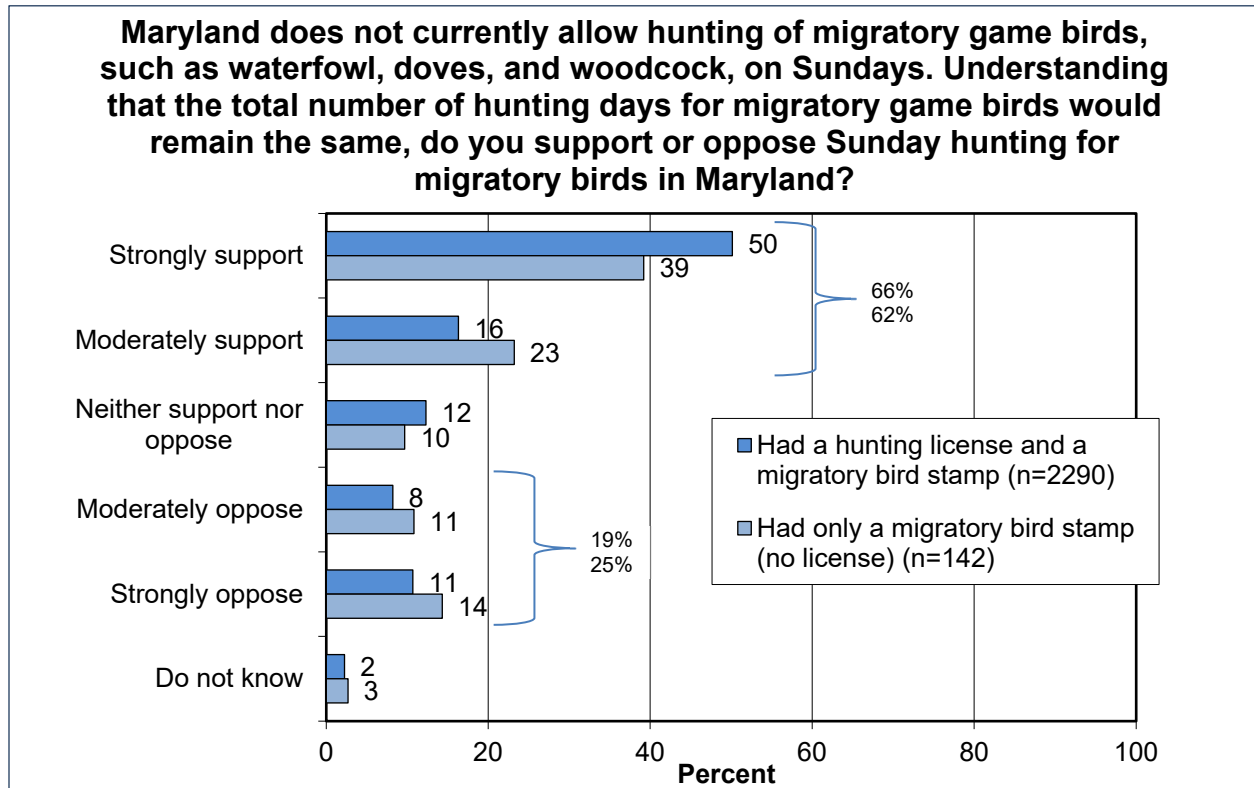


A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

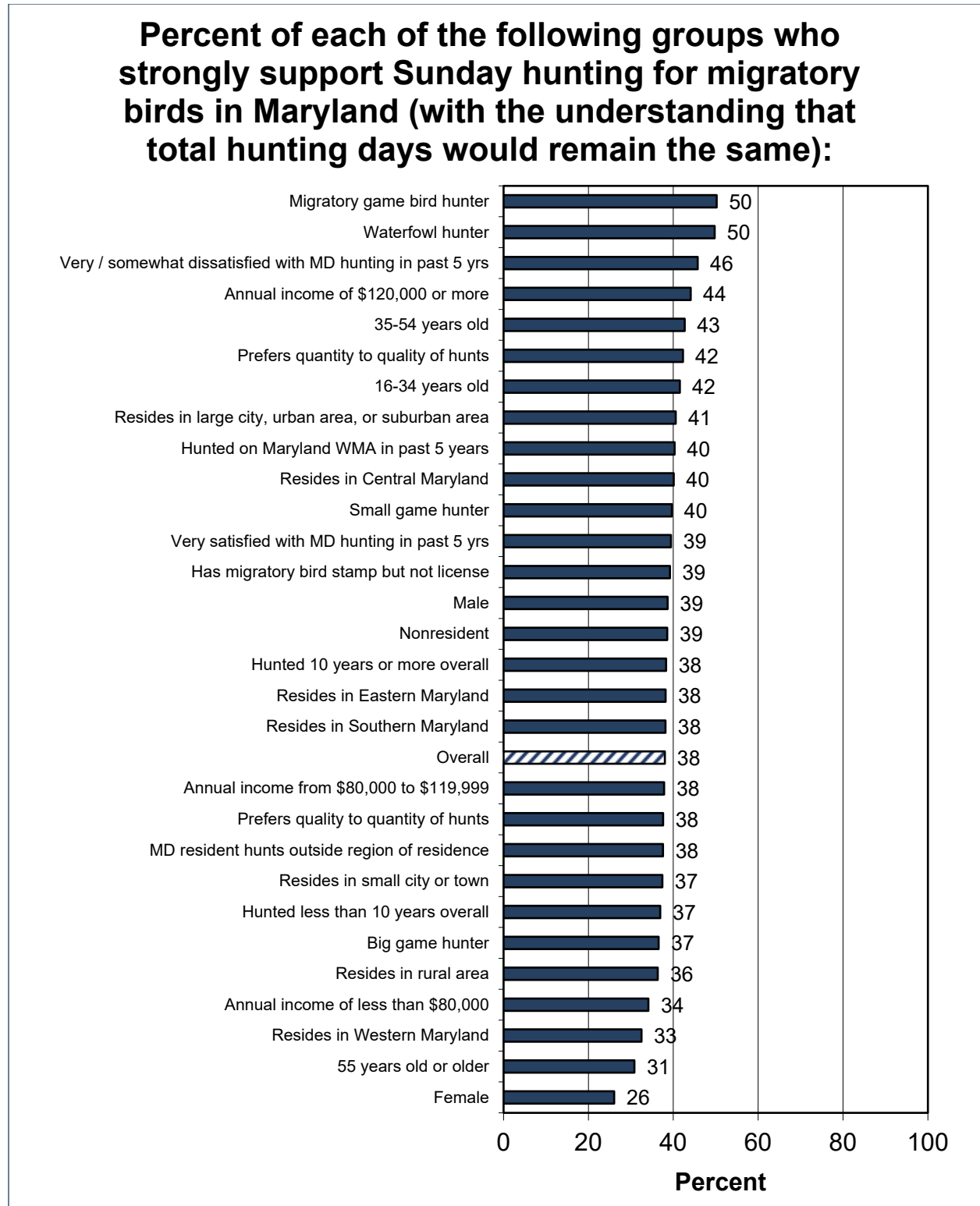
Support for Sunday hunting of migratory birds (53%) far exceeds opposition (16%), with the remaining hunters having no opinion.



The crosstabulation graphs on the following page show that those with a hunting license and a migratory bird stamp, compared to those with only a stamp, have more strong support for Sunday hunting of migratory birds. The second crosstabulation on the next page shows almost no difference in support among the three groups.

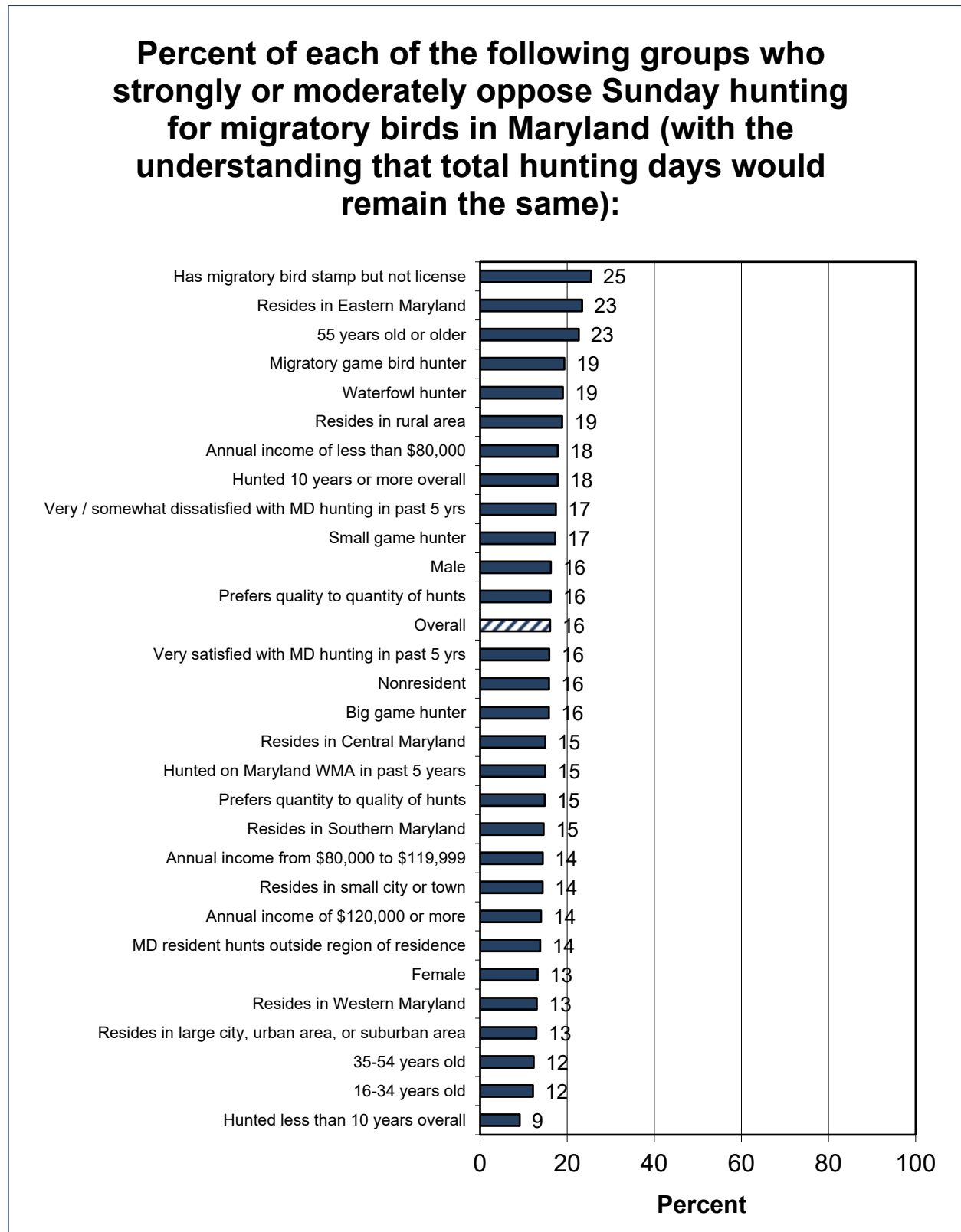


Groups with the highest support of Sunday hunting for migratory birds in Maryland (with the understanding that the total hunting days for migratory birds would remain the same) include (not surprisingly) migratory game bird hunters, waterfowl hunters, those in the higher income bracket, and hunters 35 to 54 years old. Another graph, on the following page, shows opposition.



A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

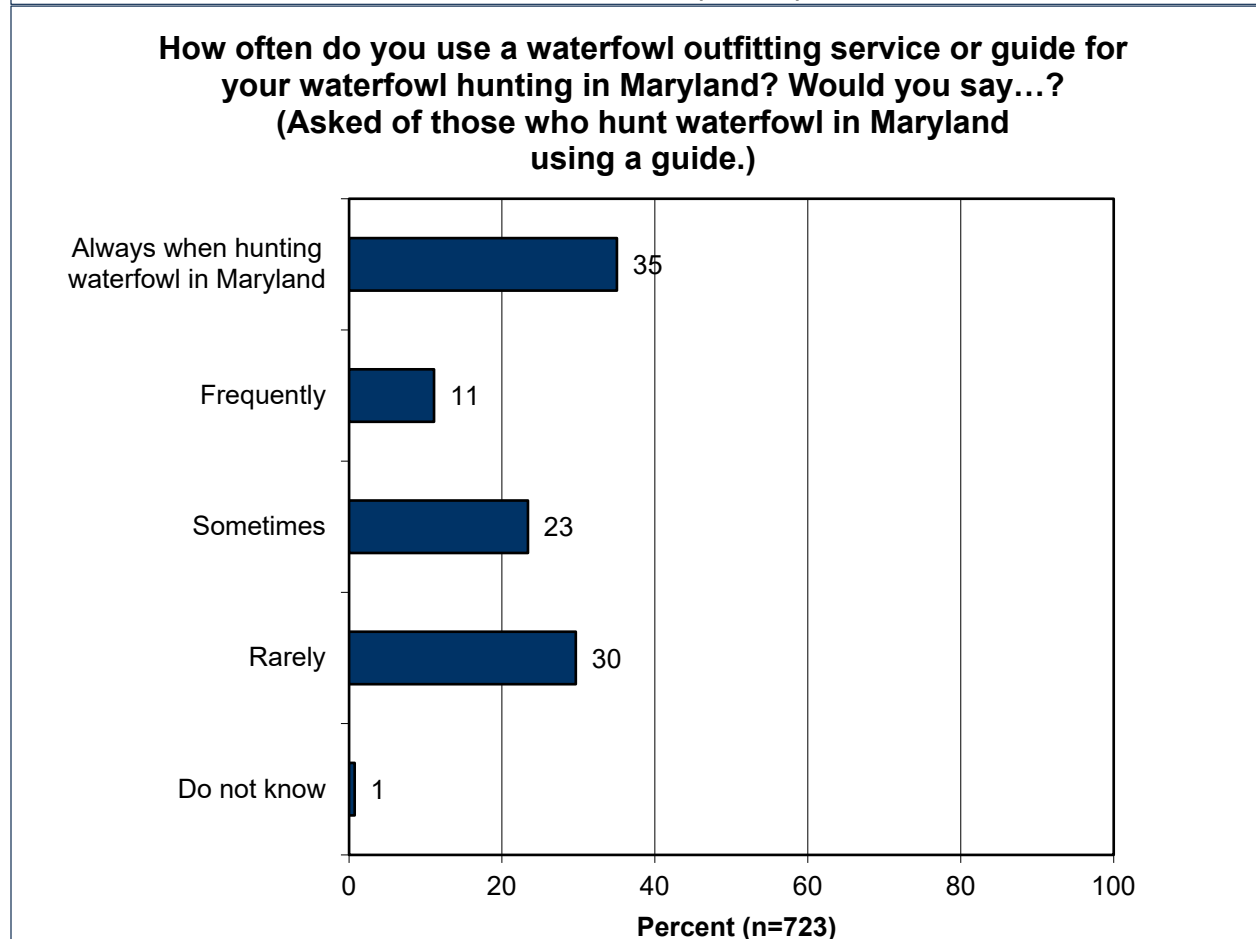
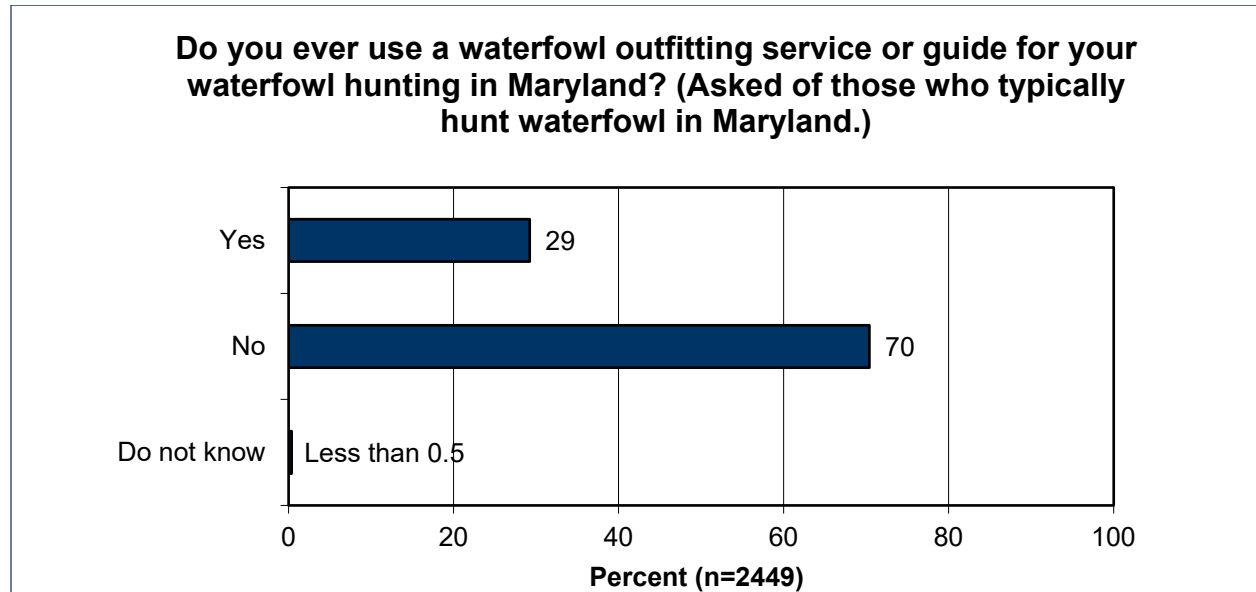
Opposition is highest among those with a migratory bird stamp but no license, hunters residing in Eastern Maryland, and older hunters.



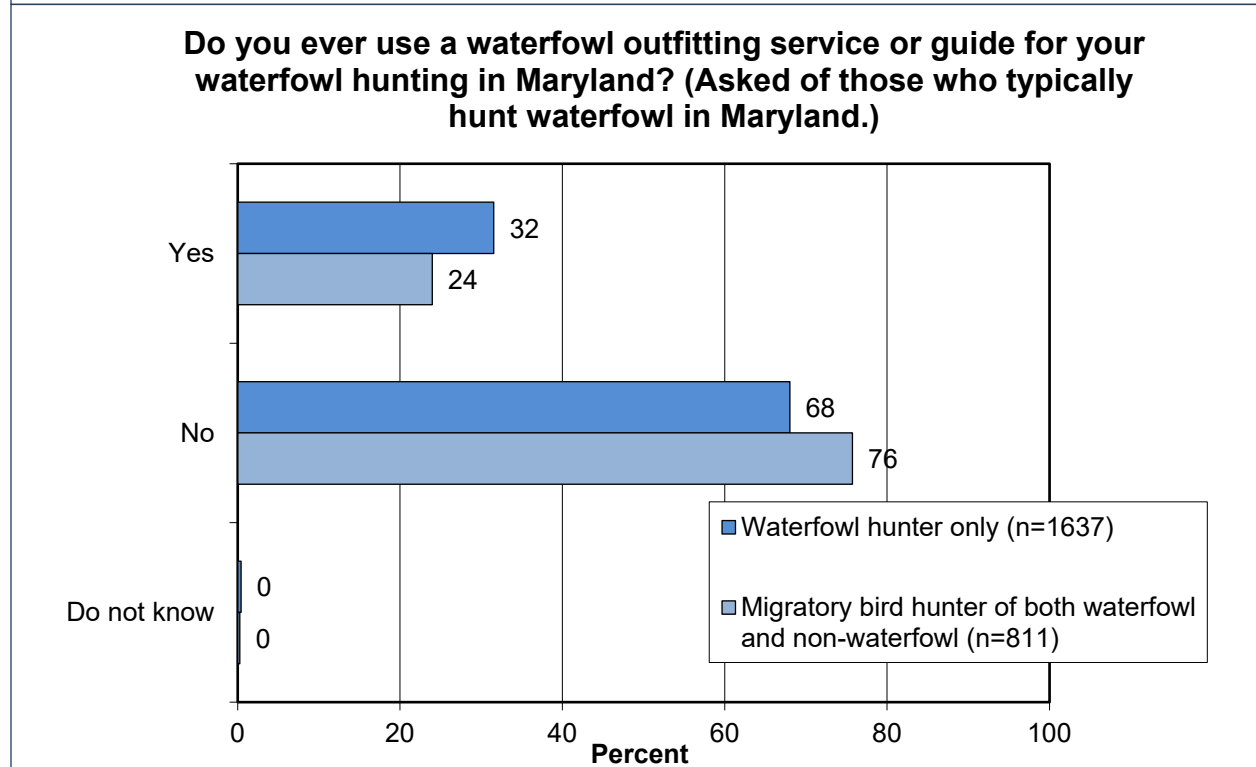
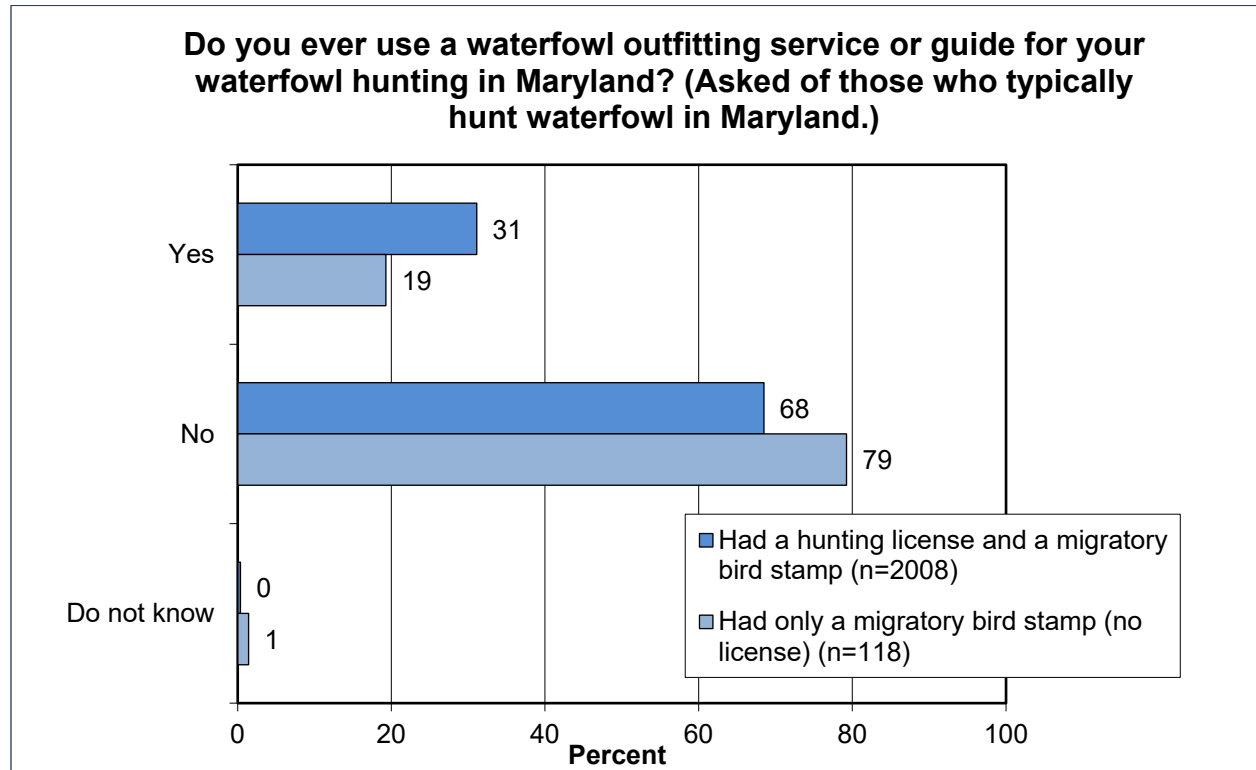
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

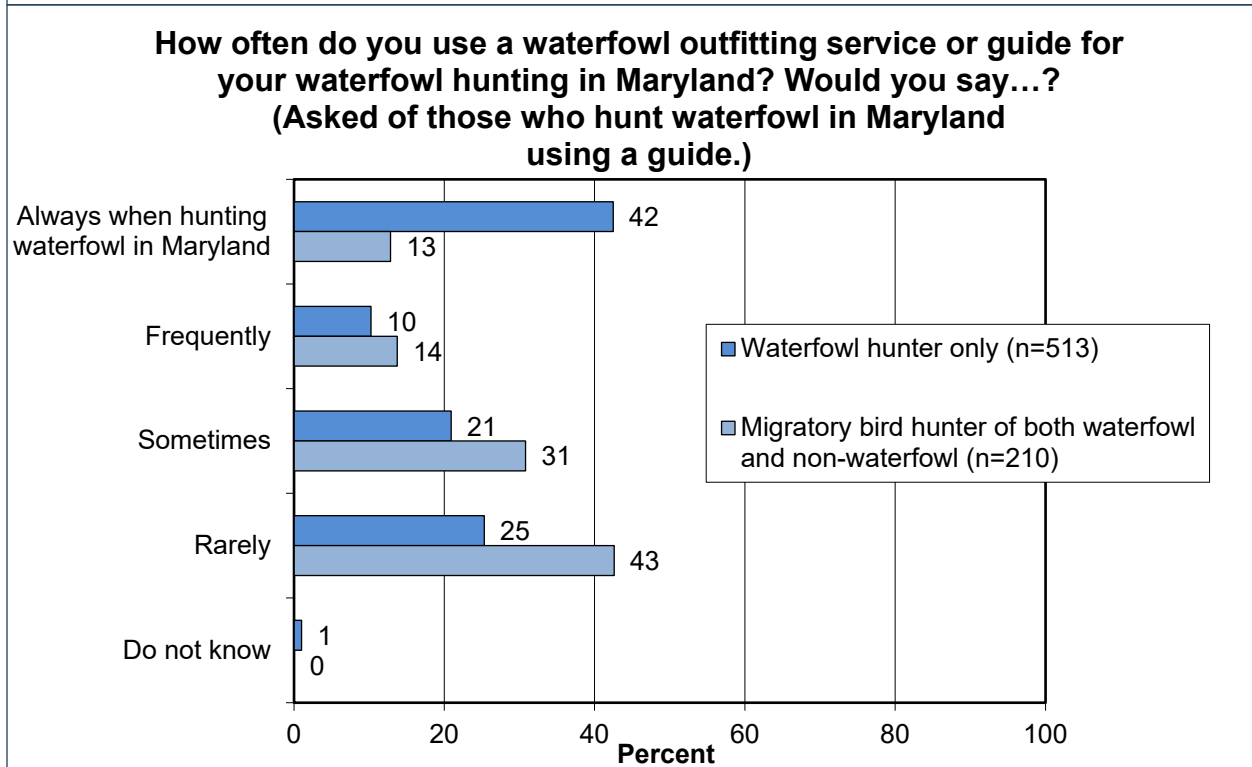
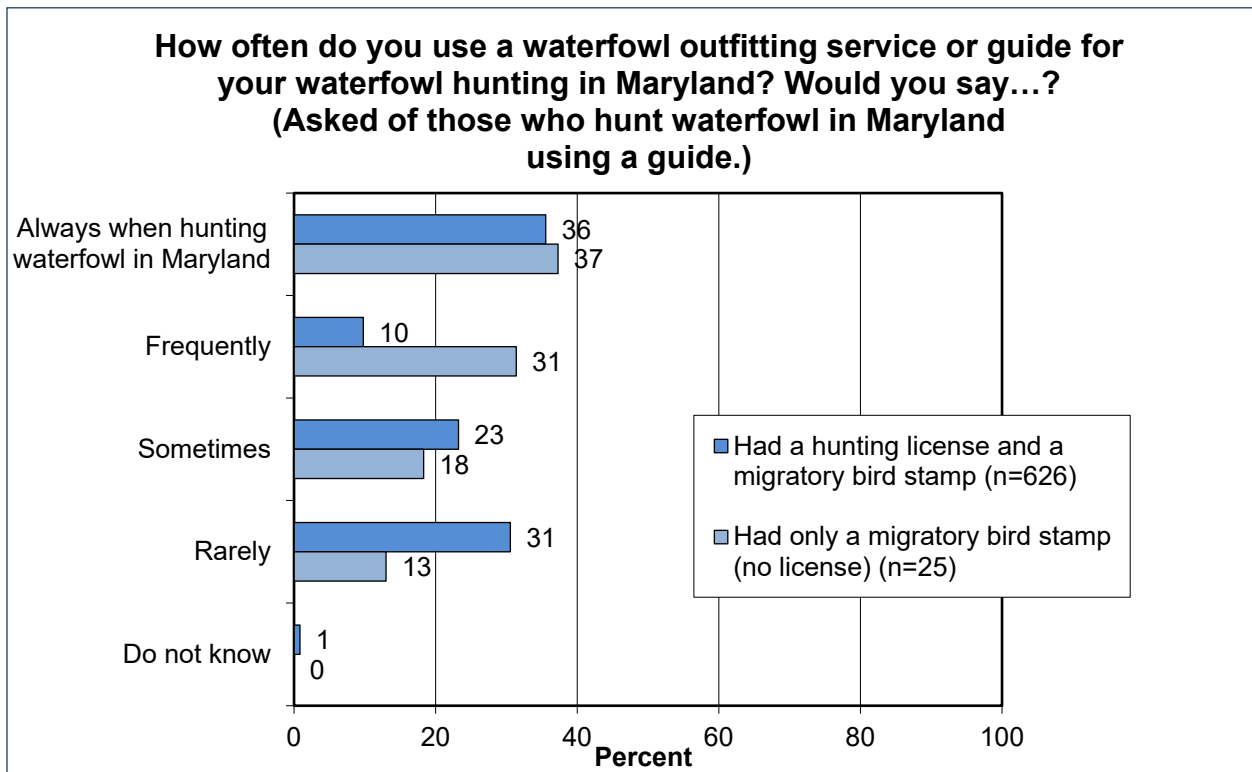
USE OF GUIDES FOR HUNTING

Just under a third of Maryland waterfowl hunters use an outfitter or guide for waterfowl hunting (29% do so). These users were then asked to indicate the amount of their hunting for which they use a guide, as shown in the graph. About a third of them always use a guide for waterfowl hunting in Maryland.

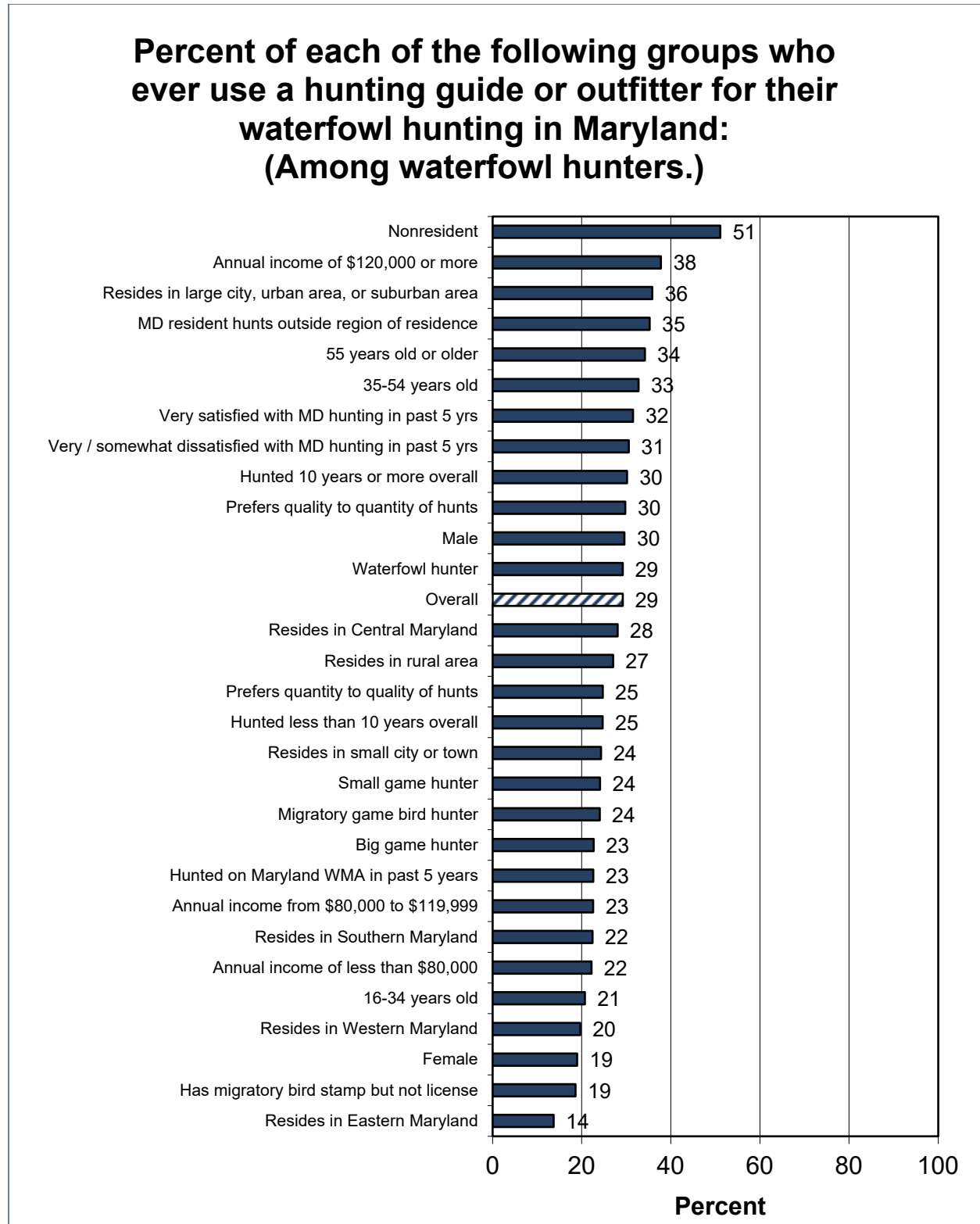


Those with a license and a stamp and waterfowl hunters are more likely than their counterparts to use an outfitting service or guide.



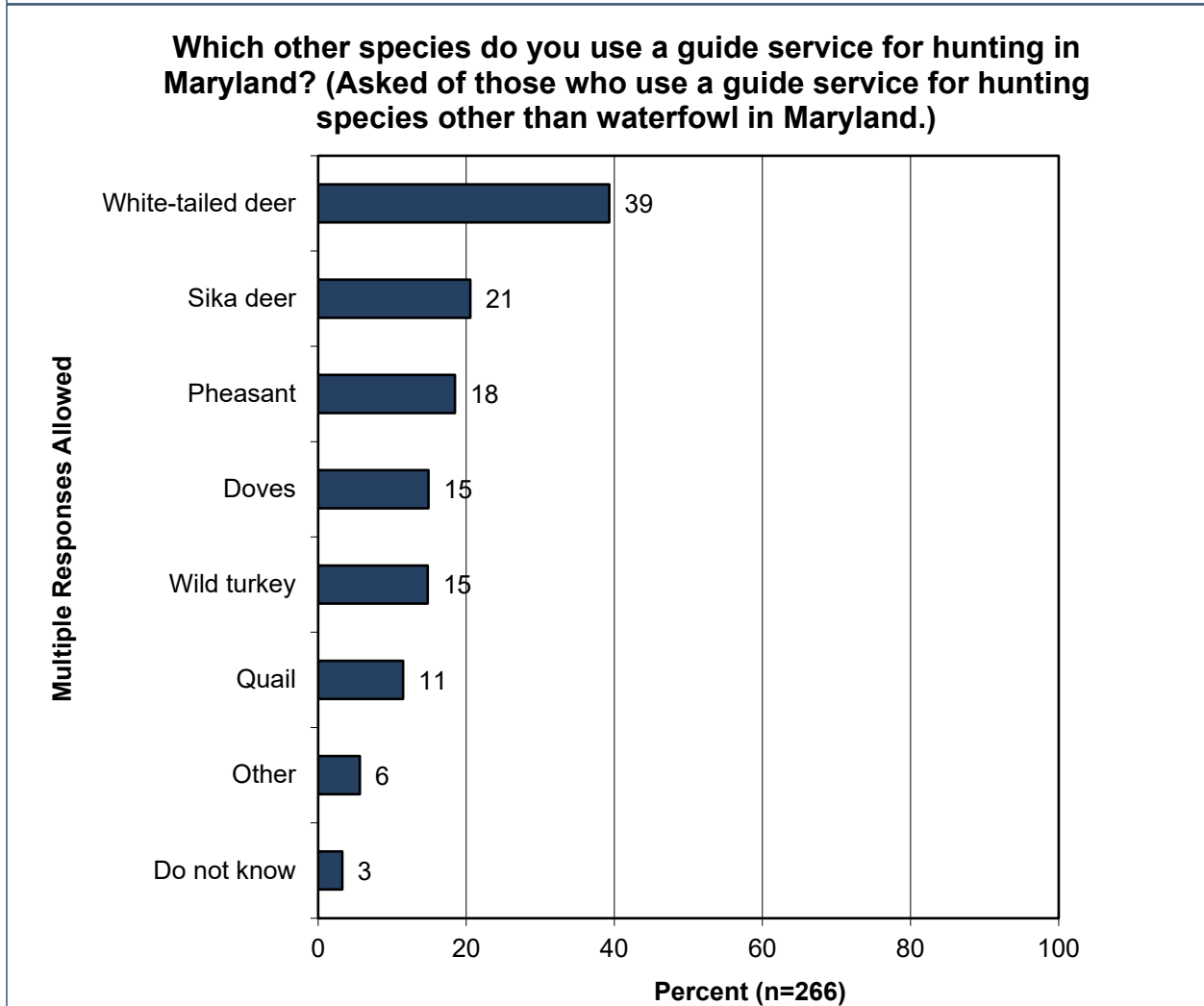
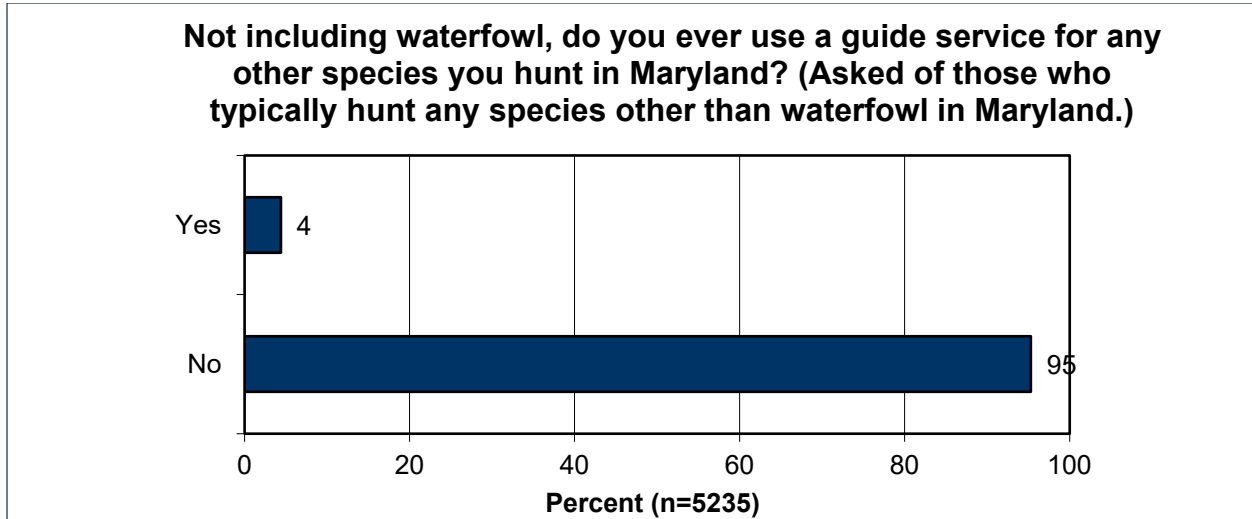


The demographic analyses graph shows that nonresidents have the greatest rate of using a guide, among waterfowl hunters. Also with a high rate of using a guide are waterfowl hunters in the higher income bracket, waterfowl hunters from an urban area, and Maryland resident waterfowl hunters who most commonly hunt outside of their region of residence.



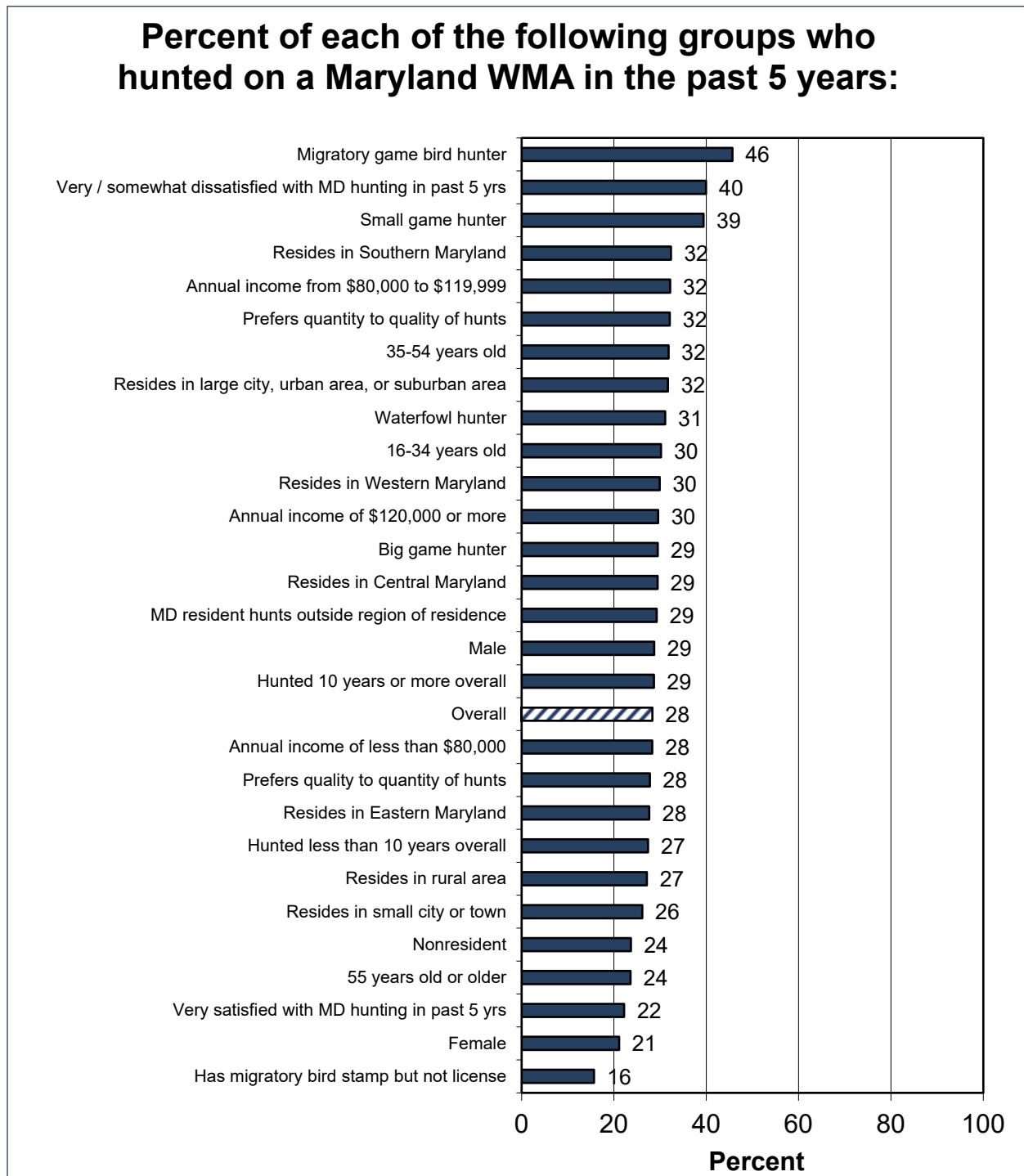
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Among those who hunted any species other than waterfowl (this includes waterfowl hunters who also hunted non-waterfowl species), 4% sometimes use a guide (the small percentage of “do not know” is not shown in the graph). These hunters most often use guides for deer hunting (either to hunt white-tailed or sika deer).



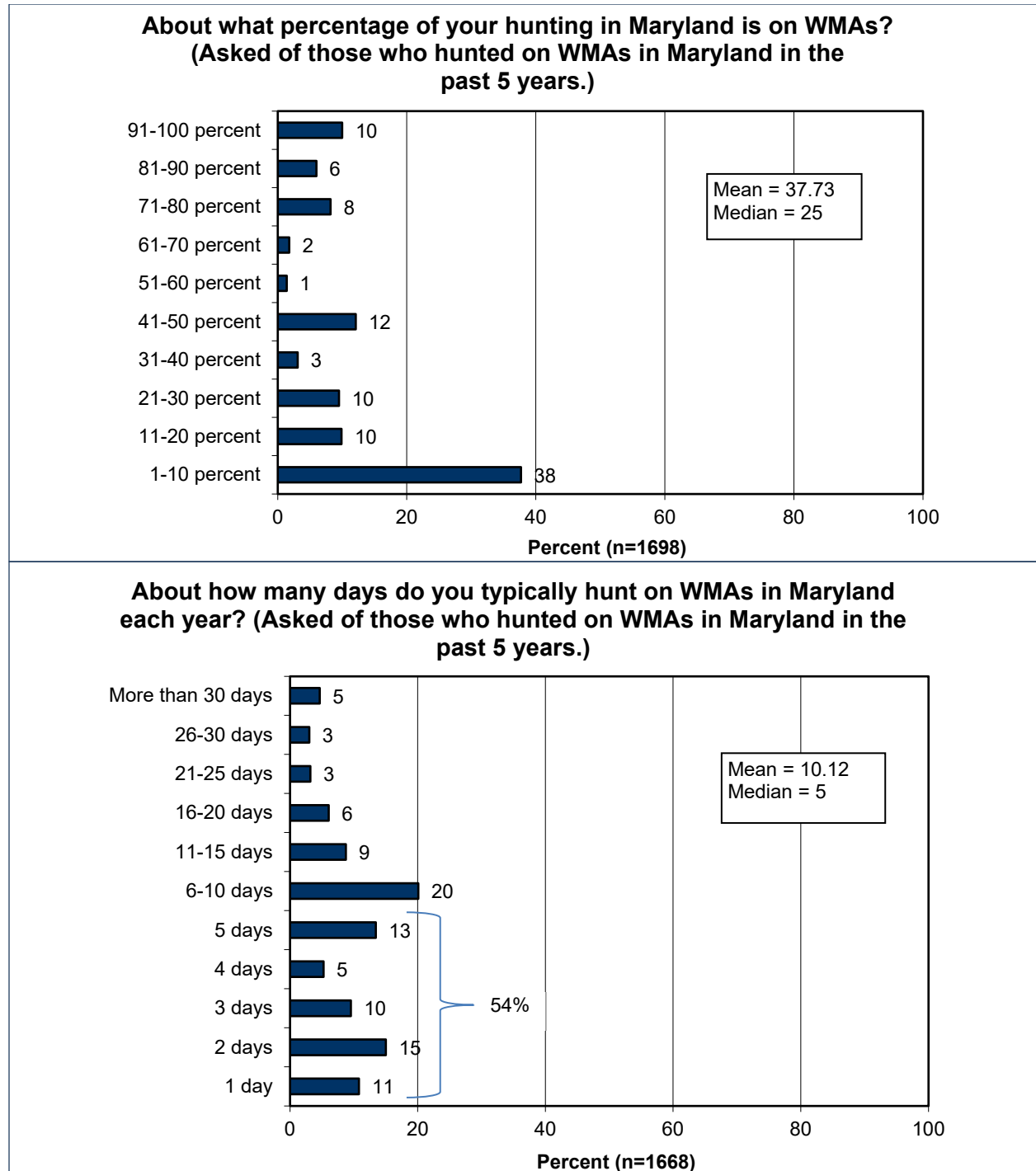
HUNTING ON WMAs

A previous question about the location of hunting had found that 28% of license/stamp holders had hunted on a WMA in Maryland within the past 5 years. (This graph was presented in the section of the report titled “Location of Hunting.”) The demographic analyses graph of those who hunted on a Maryland WMA in the past 5 years shows that migratory game bird hunters, those very or somewhat dissatisfied with hunting in Maryland, and small game hunters are the most likely to have hunted on a WMA.

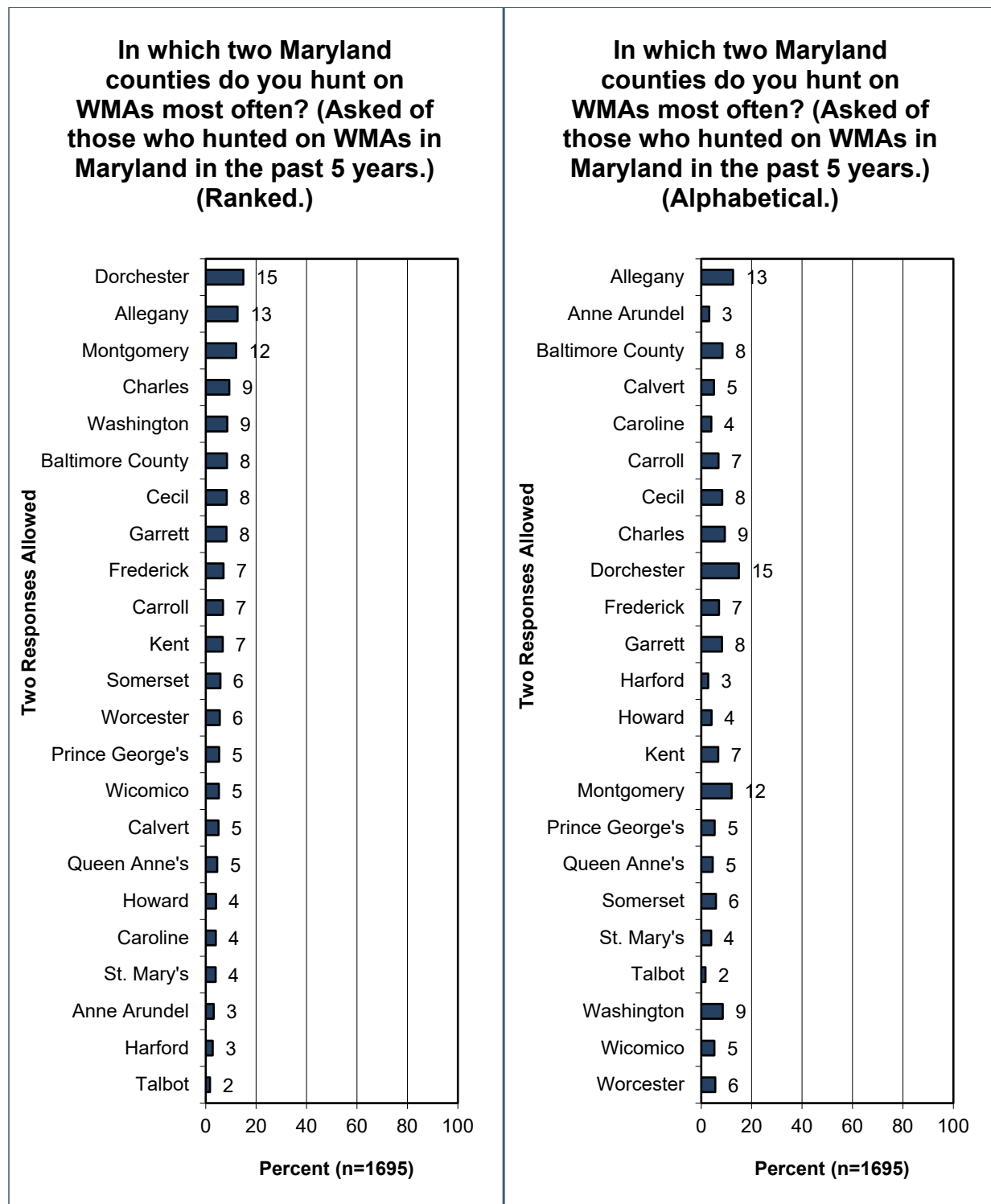


A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

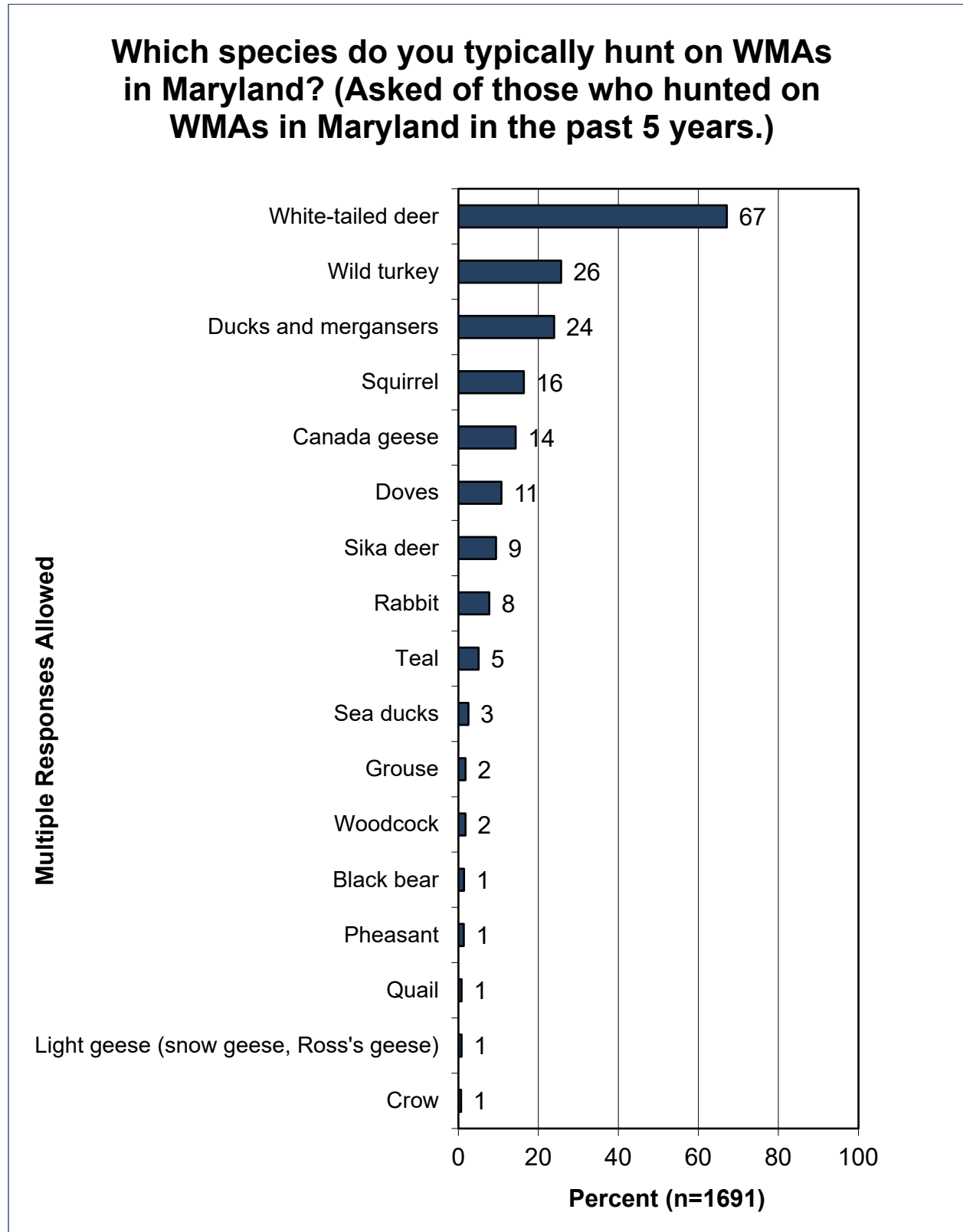
WMA hunters were asked to indicate the percentage of their time spent hunting on WMAs, as shown in the graph. The mean percentage of time is 37.73; the median is 25. Another graph shows the typical days of hunting in WMAs. The majority of WMA hunters (54%) hunt for no more than 5 days on WMAs. The mean is 10.12 days, and the median is 5 days.



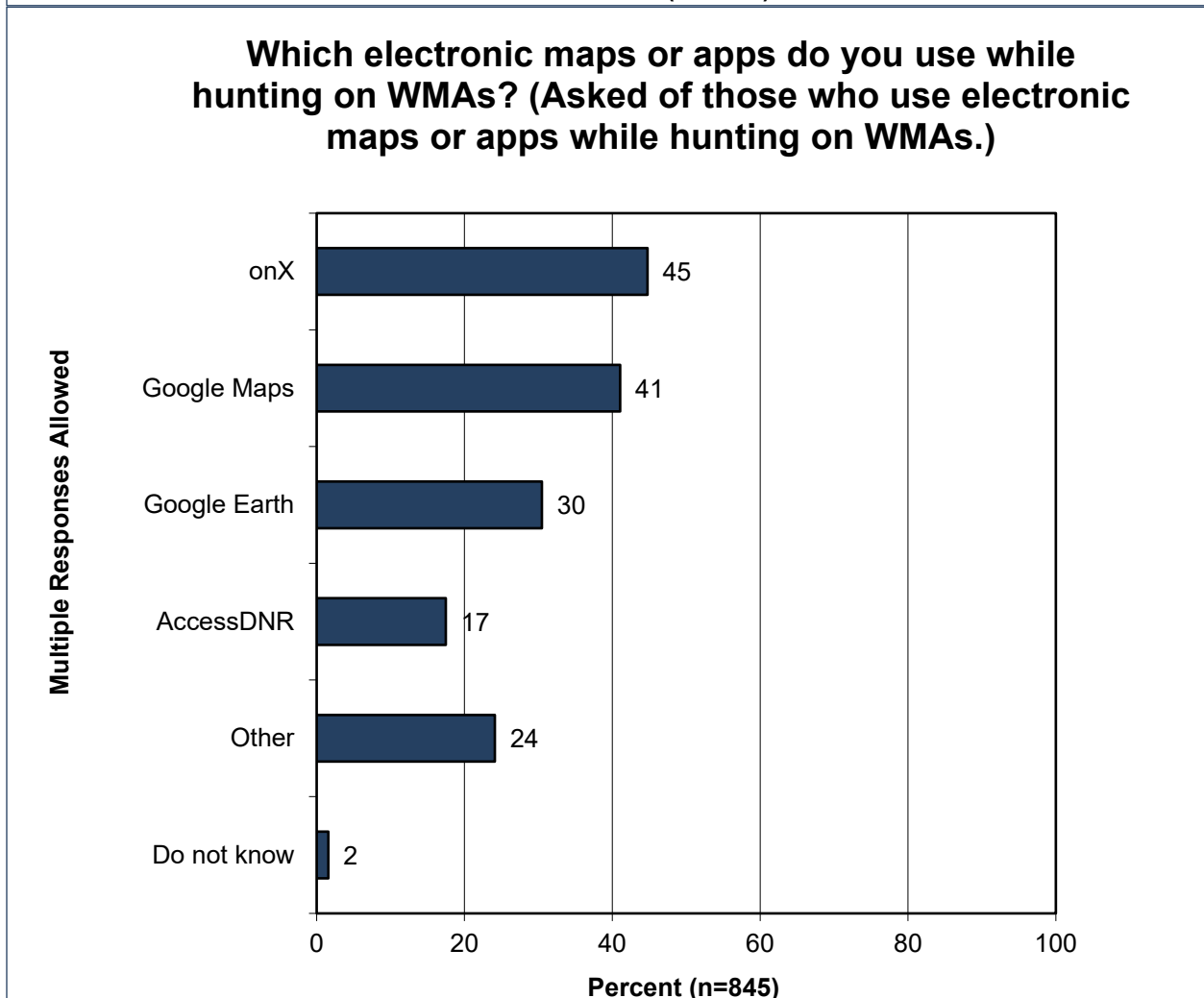
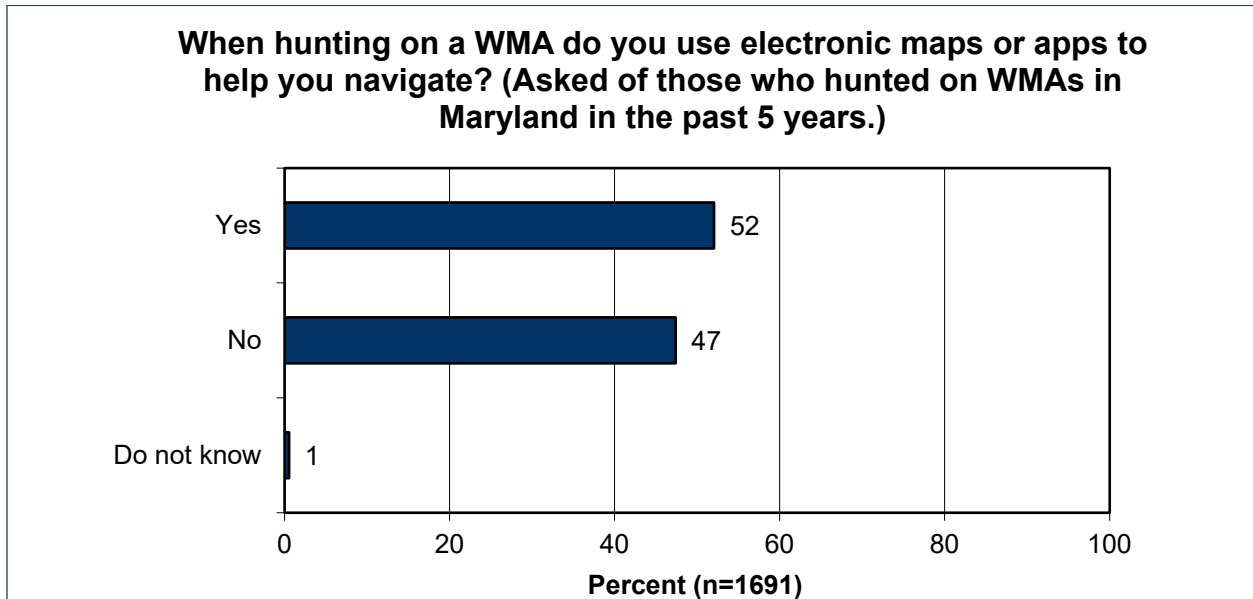
Dorchester, Allegany, and Montgomery County have the highest percentage of WMA hunters hunting there (when hunting on a WMA). The graph on the left shows the counties ranked; the one on the right is alphabetical. Baltimore City is not shown because it was at 0%.



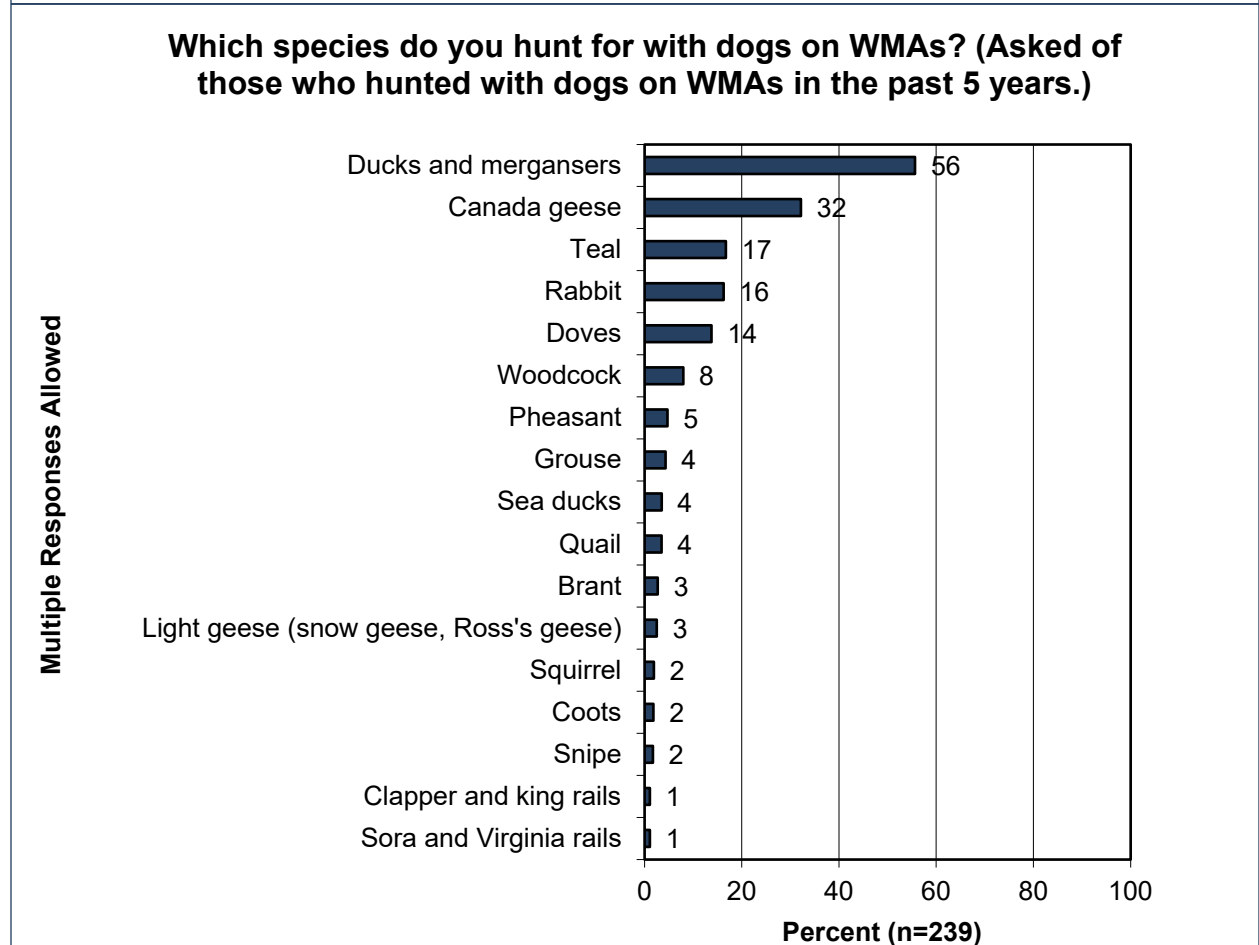
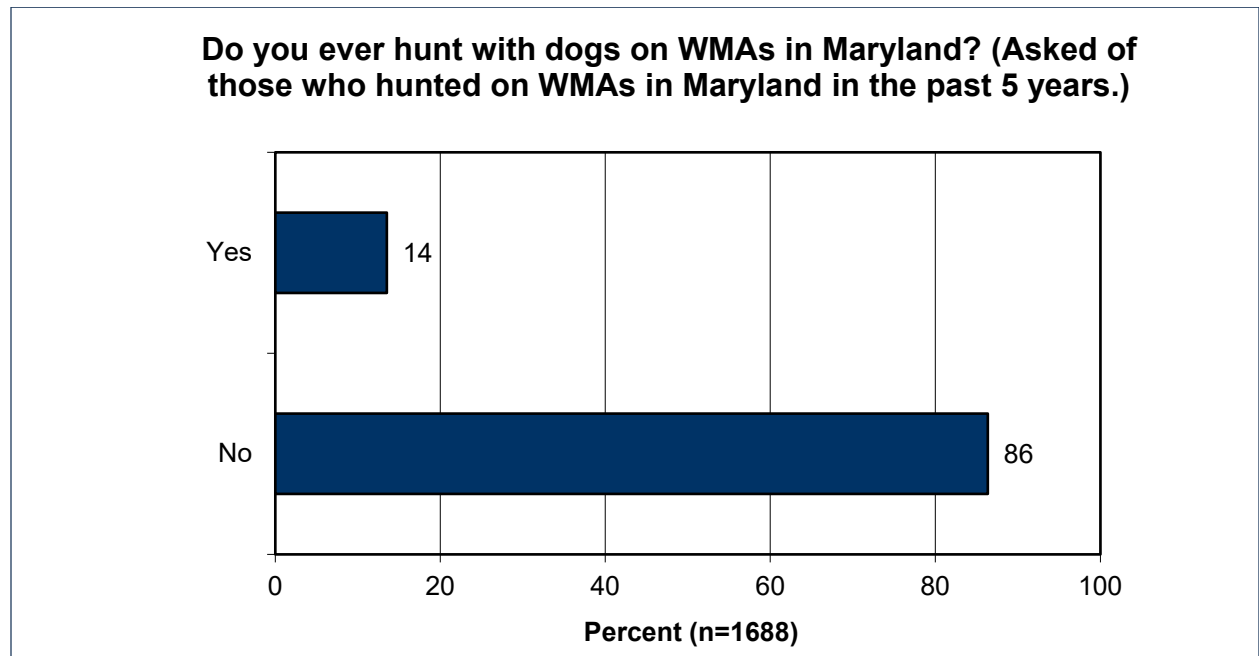
White-tailed deer is the most popular species hunted on WMAs (67%). This is followed by wild turkey (26%) and ducks and mergansers (24%).



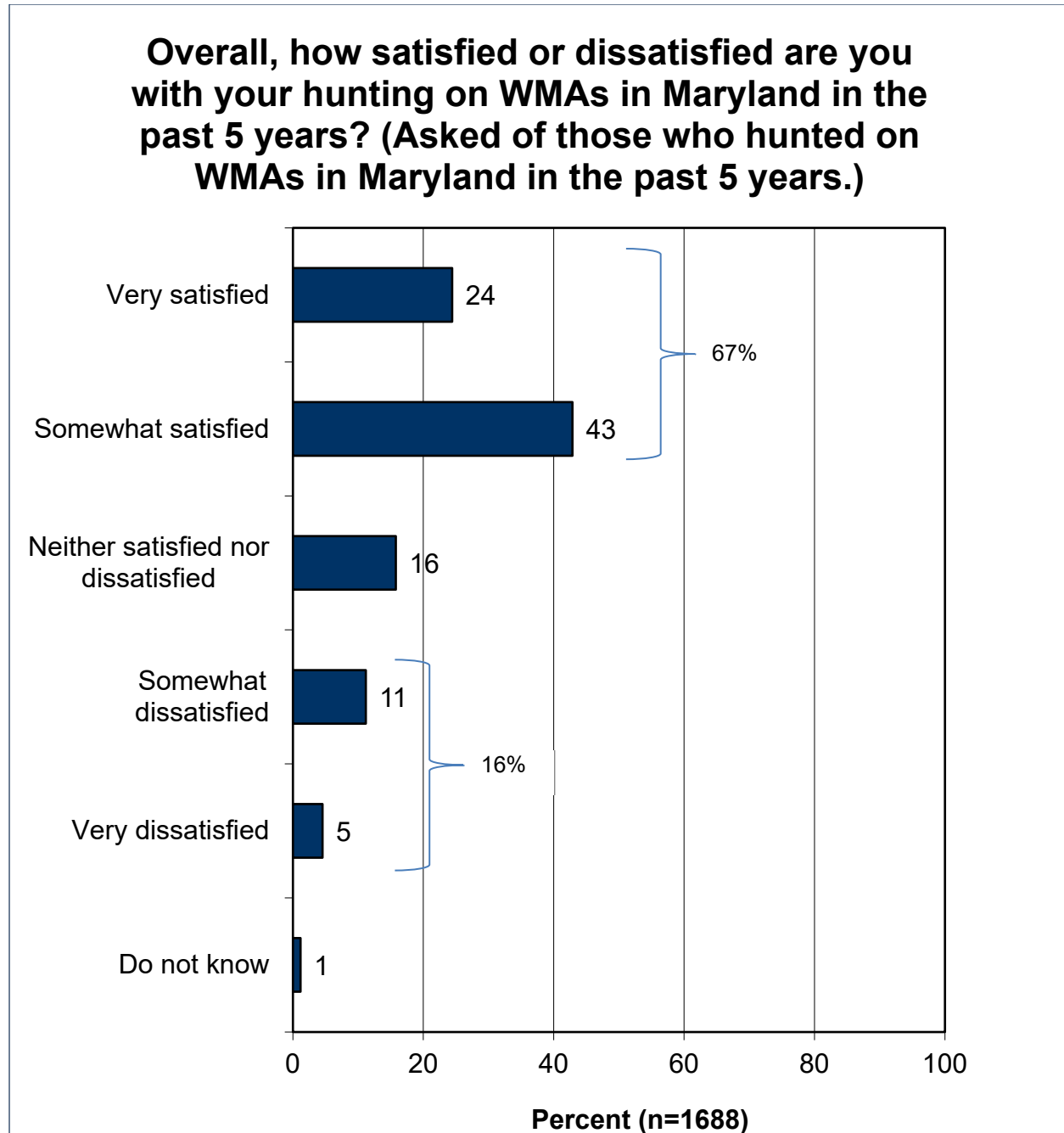
About half of WMA hunters use electronic maps or apps to help them navigate, most commonly using onX, Google Maps, or Google Earth.



Of those who hunted on a WMA in Maryland in the past 5 years, 14% of them had used dogs on a WMA at some time. Most commonly they used dogs to hunt ducks and mergansers or Canada geese.



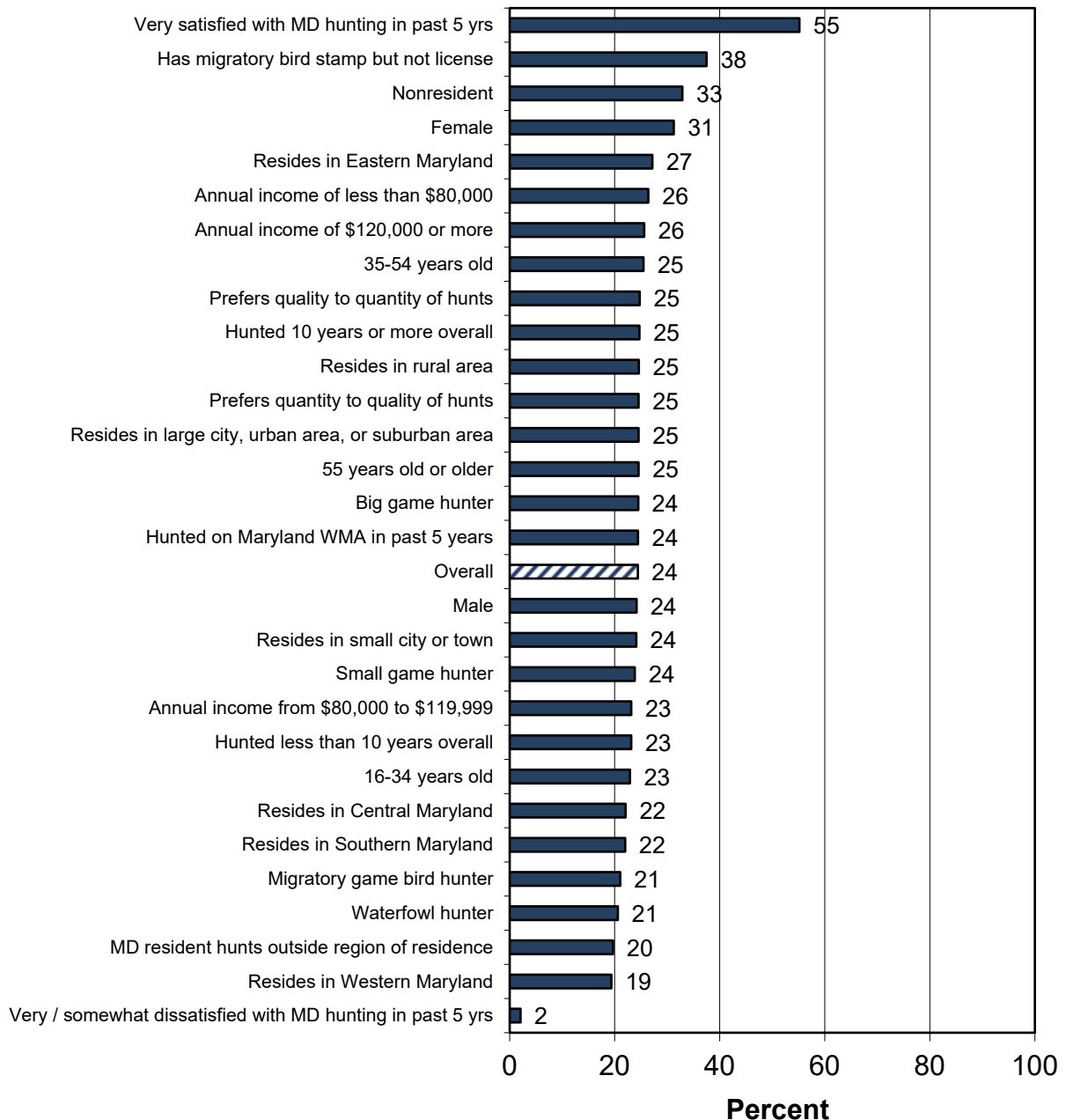
Satisfaction (67%) with hunting on WMAs far exceeds dissatisfaction (16%) among WMA hunters. Crowding, lack of access, and the poor behavior of other hunters are the primary things that WMA hunters say take away from their enjoyment or satisfaction with hunting on WMAs, as shown in the graph on the following page.



Demographic analyses were run of those *very* satisfied with their WMA hunting and those *very* or *somewhat* dissatisfied with their WMA hunting. Nonresident and female WMA hunters are the most likely to be very satisfied. On the other hand, groups markedly more dissatisfied include female WMA hunters and those resident WMA hunters who are hunting outside of their region of residence. Females are near the top of both graphs because *somewhat* satisfied is not included in the analyses; if it were, they would be near the bottom. In other words, female WMA hunters tend to have strong opinions on the question, largely being either *very* satisfied or being

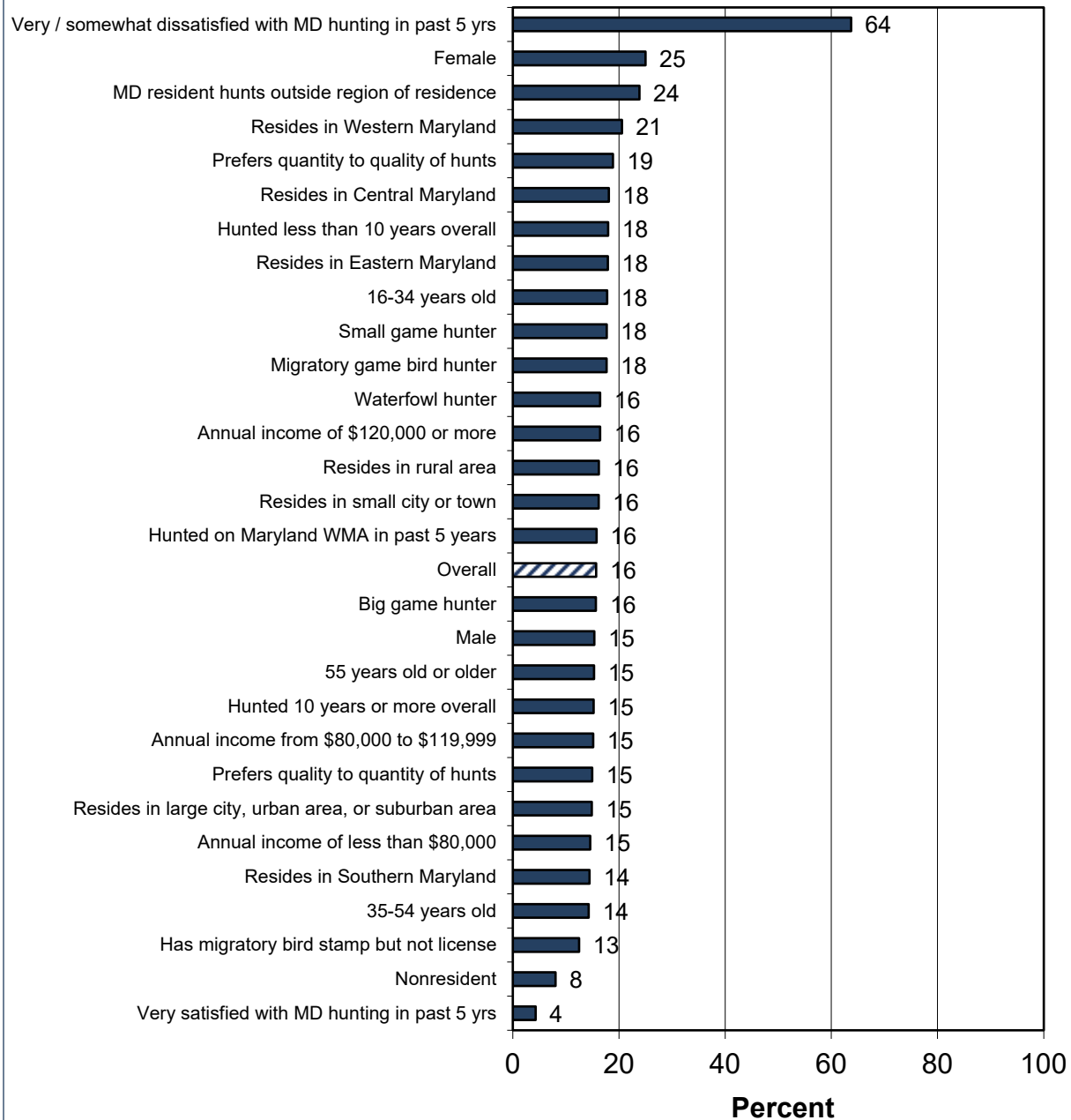
dissatisfied. Note that these analyses are of WMA hunters and ignores those hunters who did not hunt on a WMA within the previous 5 years.

Percent of each of the following groups who are very satisfied with their WMA hunting in Maryland: (Asked of Maryland WMA hunters.)



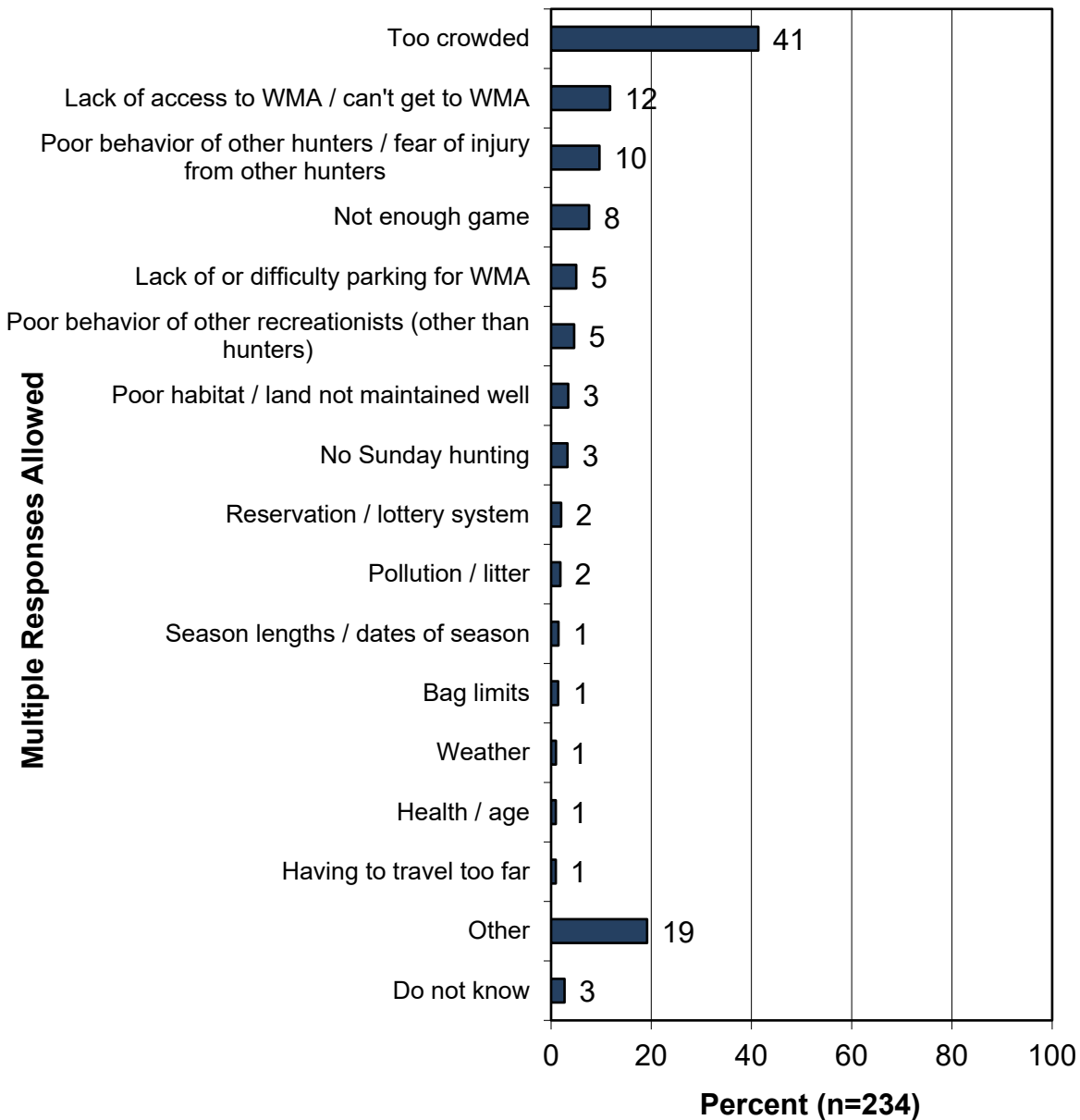
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

**Percent of each of the following groups who are
very or somewhat dissatisfied with their WMA
hunting in Maryland:
(Asked of Maryland WMA hunters.)**



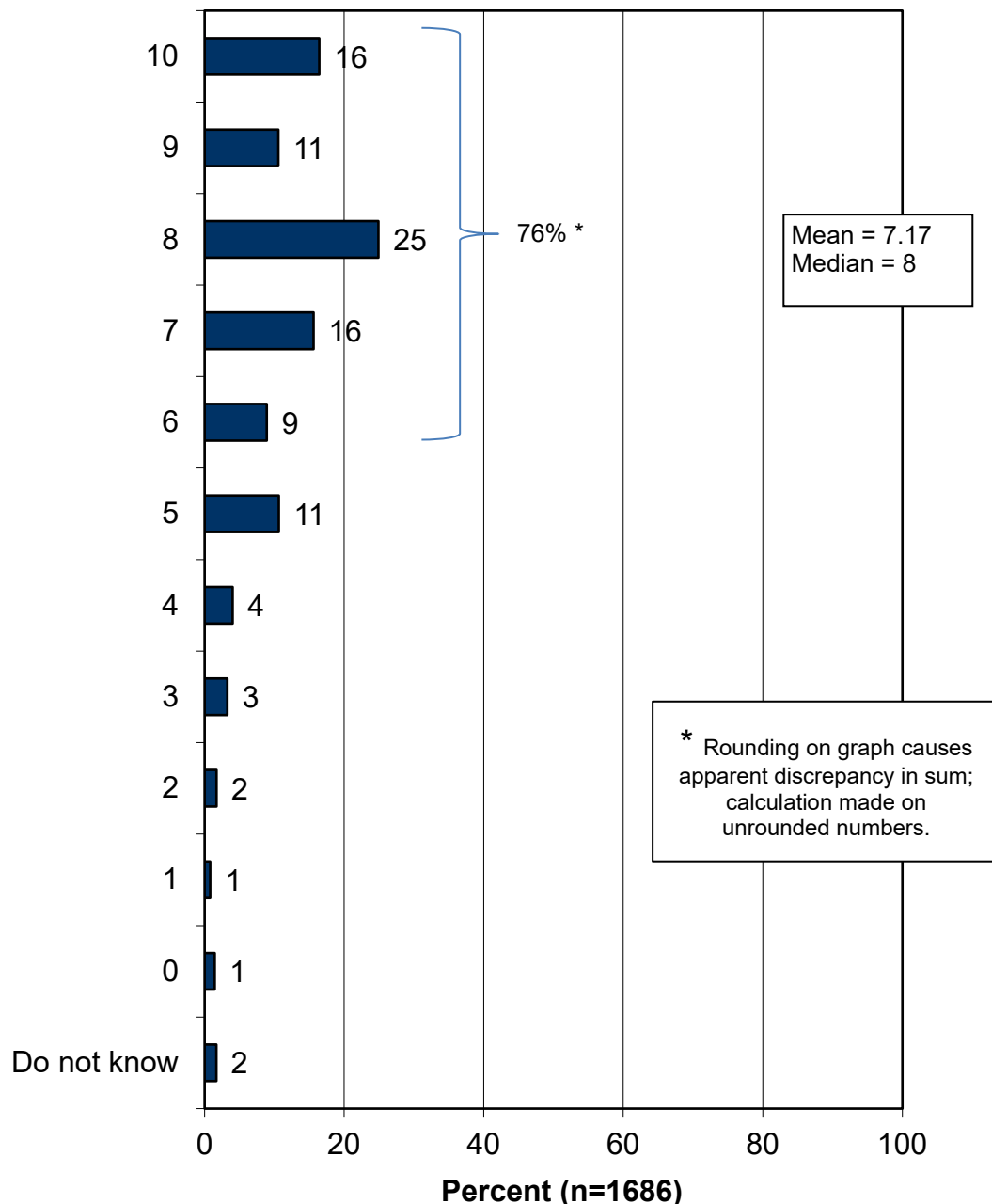
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Are there any things that have taken away from your enjoyment of or satisfaction with hunting on Maryland WMAs in the past 5 years, even if they didn't prevent you from actually going hunting? (Asked of those who hunted on WMAs in Maryland in the past 5 years.)

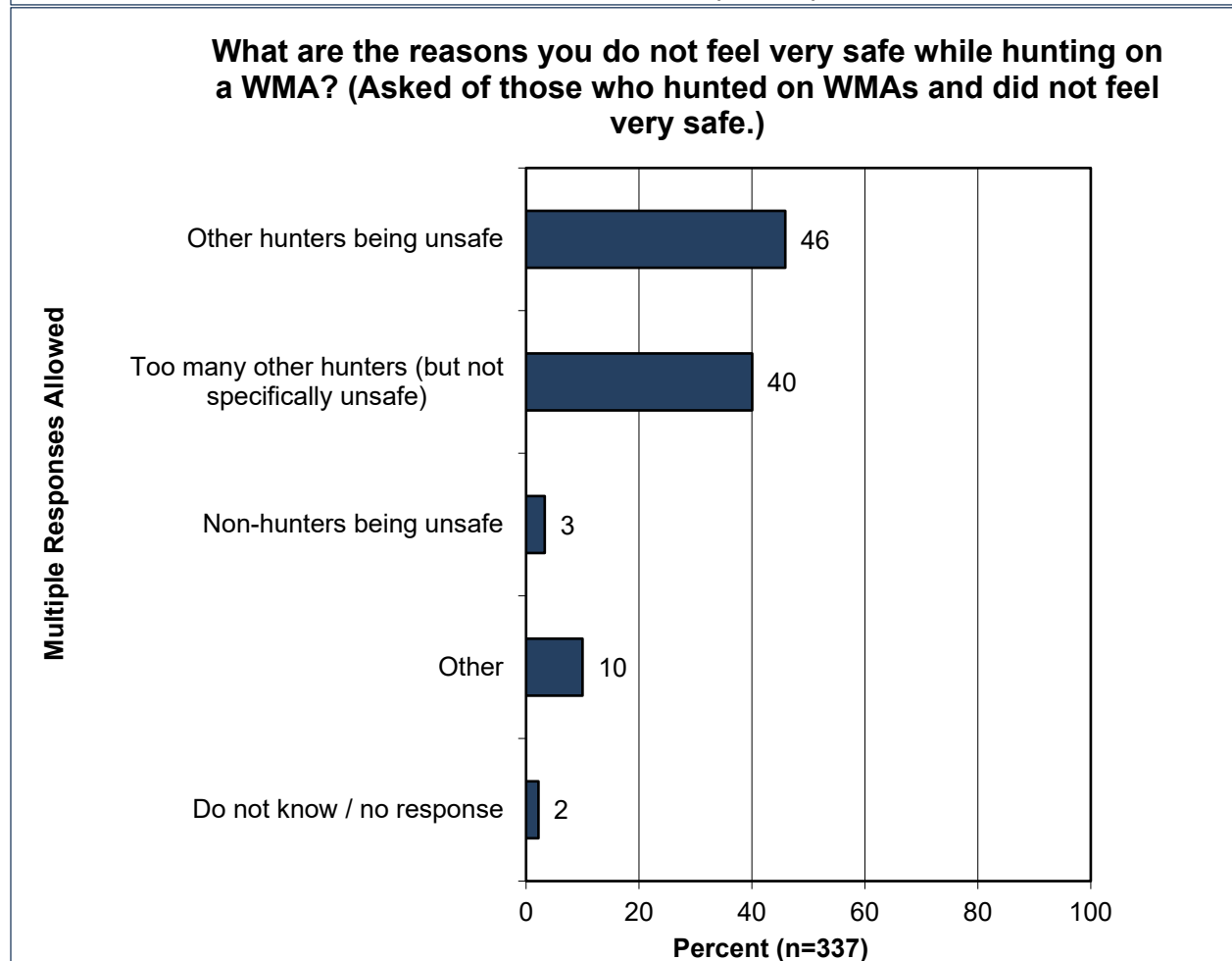
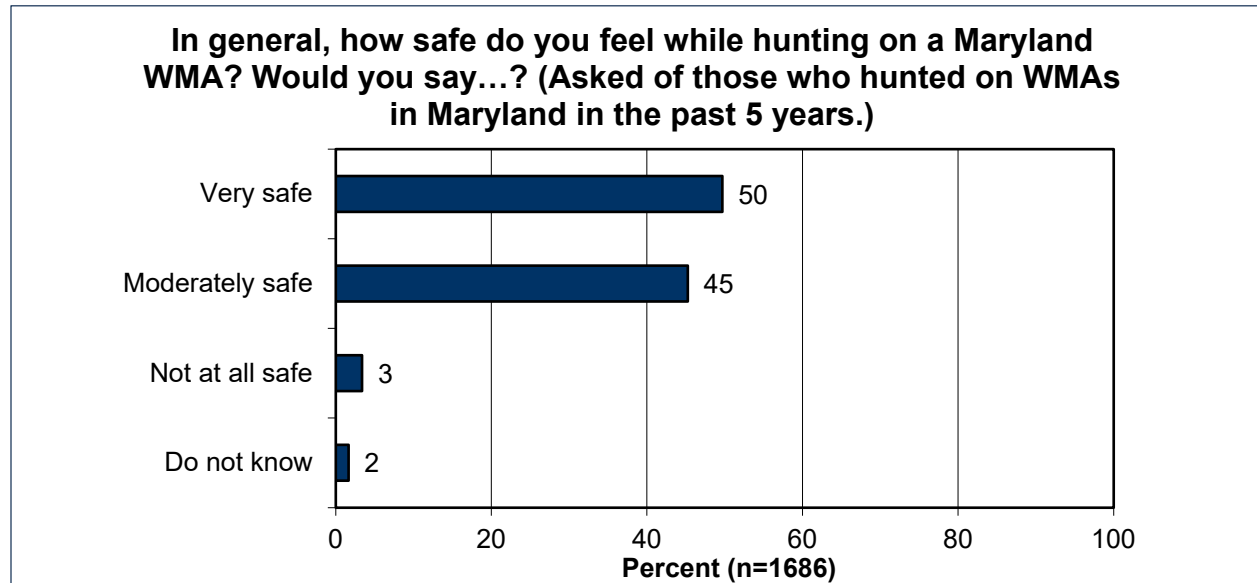


Ratings of access to Maryland WMAs are fairly positive, with 76% of WMA hunters giving a rating above the midpoint. The mean rating is 7.17.

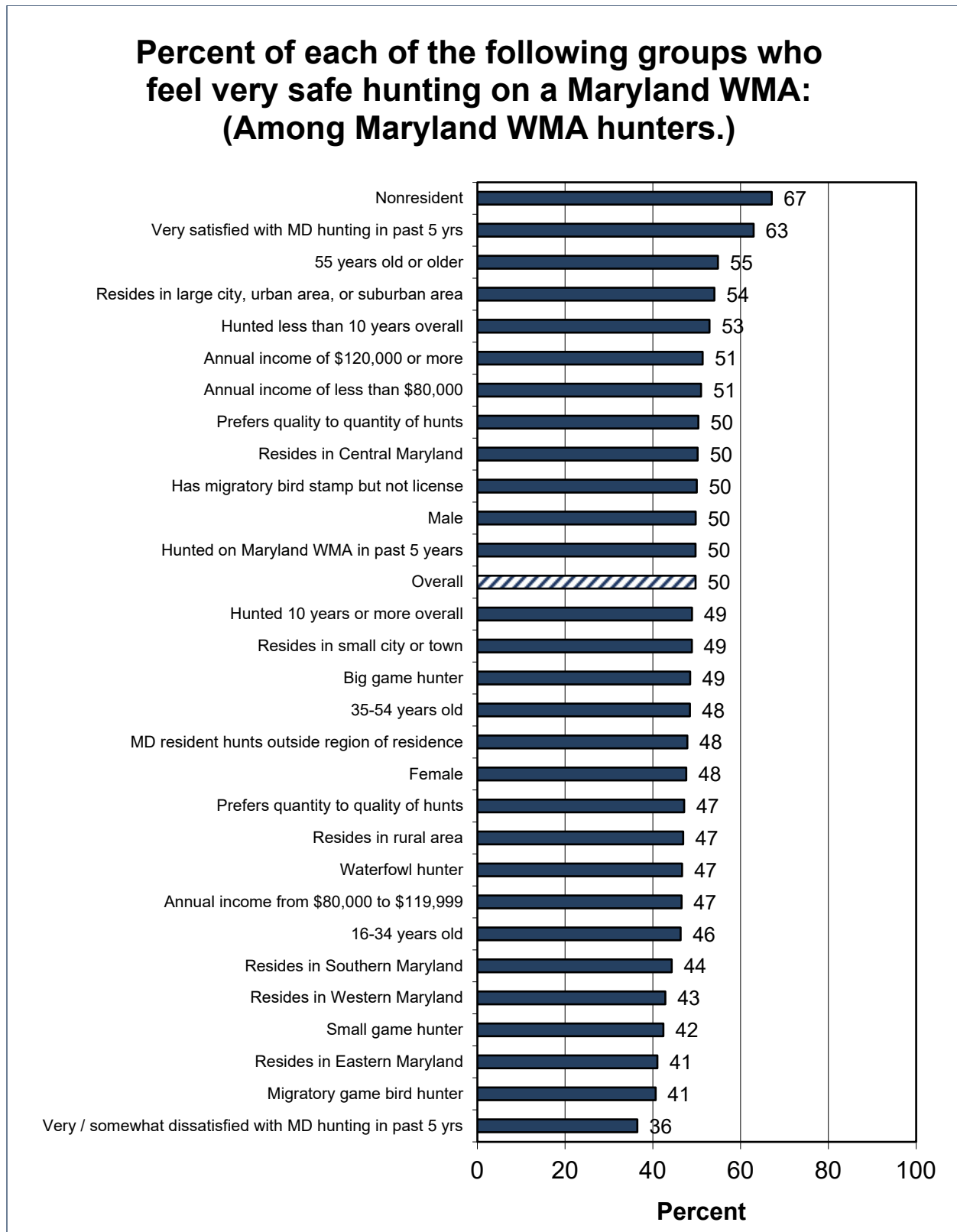
How would you rate access to the Maryland WMAs that you hunt, including the roads, trails, and parking availability for the WMAs, on a scale of 0 to 10, where 0 is poor and 10 is excellent? (Asked of those who hunted on WMAs in Maryland in the past 5 years.)



Half of WMA hunters (50%) indicate feeling *very* safe while hunting on WMAs in Maryland. However, this leaves half who feel less than *very* safe, although fortunately most of those remaining feel *moderately* safe (45%). Only 3% do not feel *at all* safe. Issues with other hunters' lack of safety and too many hunters in general are the primary reasons that WMA hunters do not feel *very* safe.

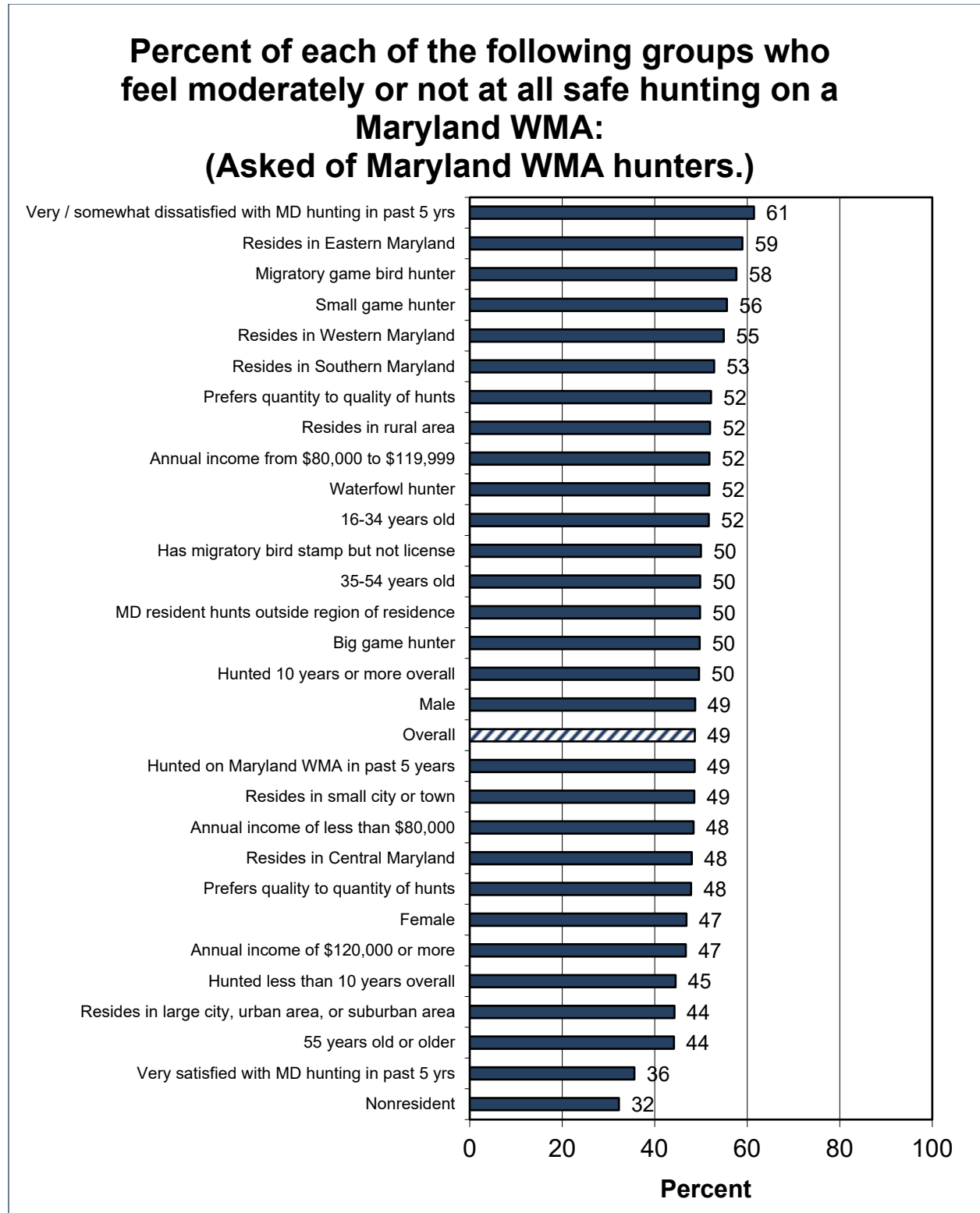


A demographic analyses graph was run of those who feel very safe while hunting on a WMA. This analysis was only of those who had hunted on a WMA in the previous 5 years. Among the findings, nonresident WMA hunters were the most likely to feel very safe on WMAs.



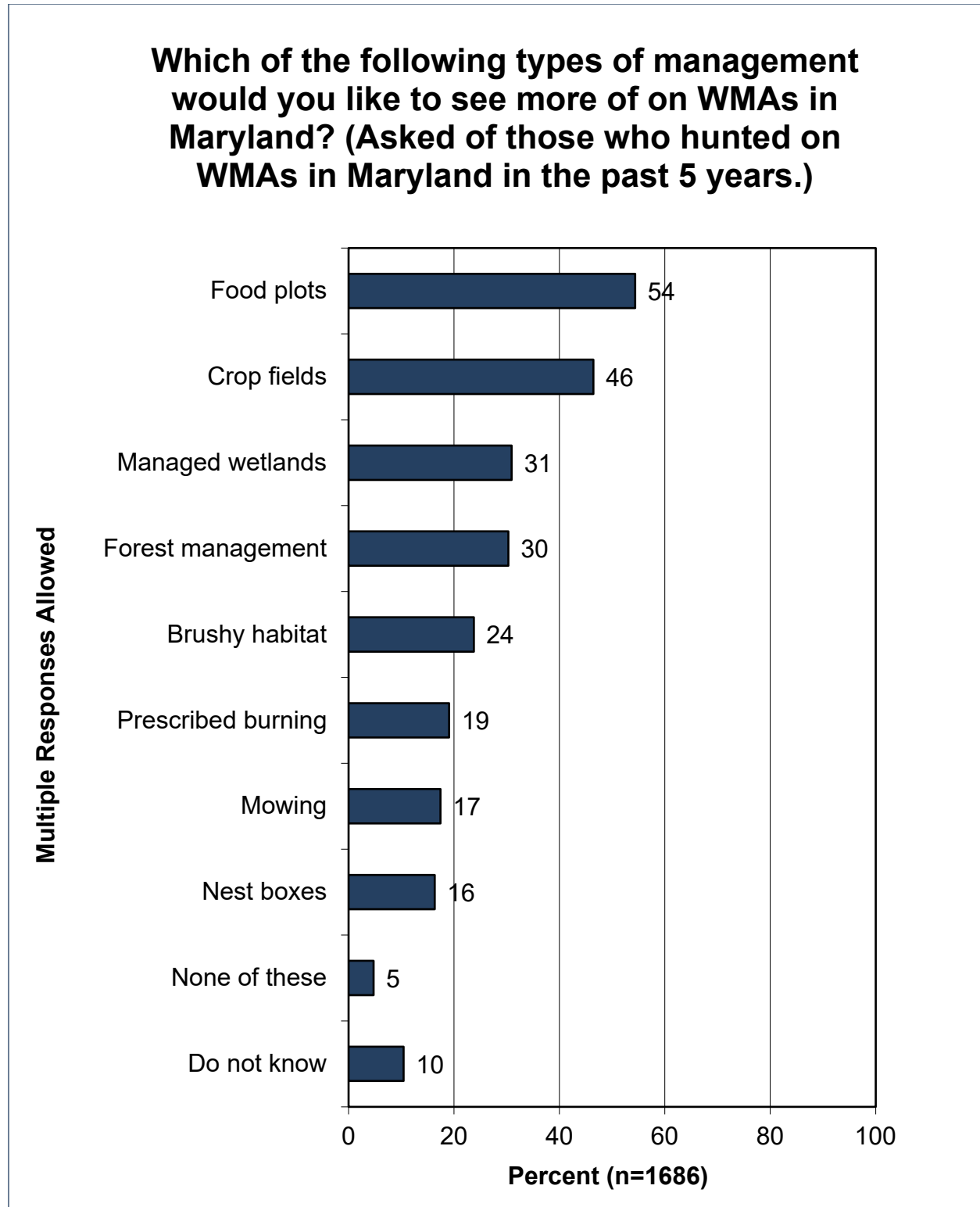
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

On the other hand, those groups (among WMA hunters) the most likely *not* to feel *very* safe (i.e., those who feel moderately safe or not at all safe) include WMA hunters who were dissatisfied with their hunting in Maryland, WMA hunters residing in Eastern Maryland or Western Maryland, migratory game bird hunters, and small game hunters.

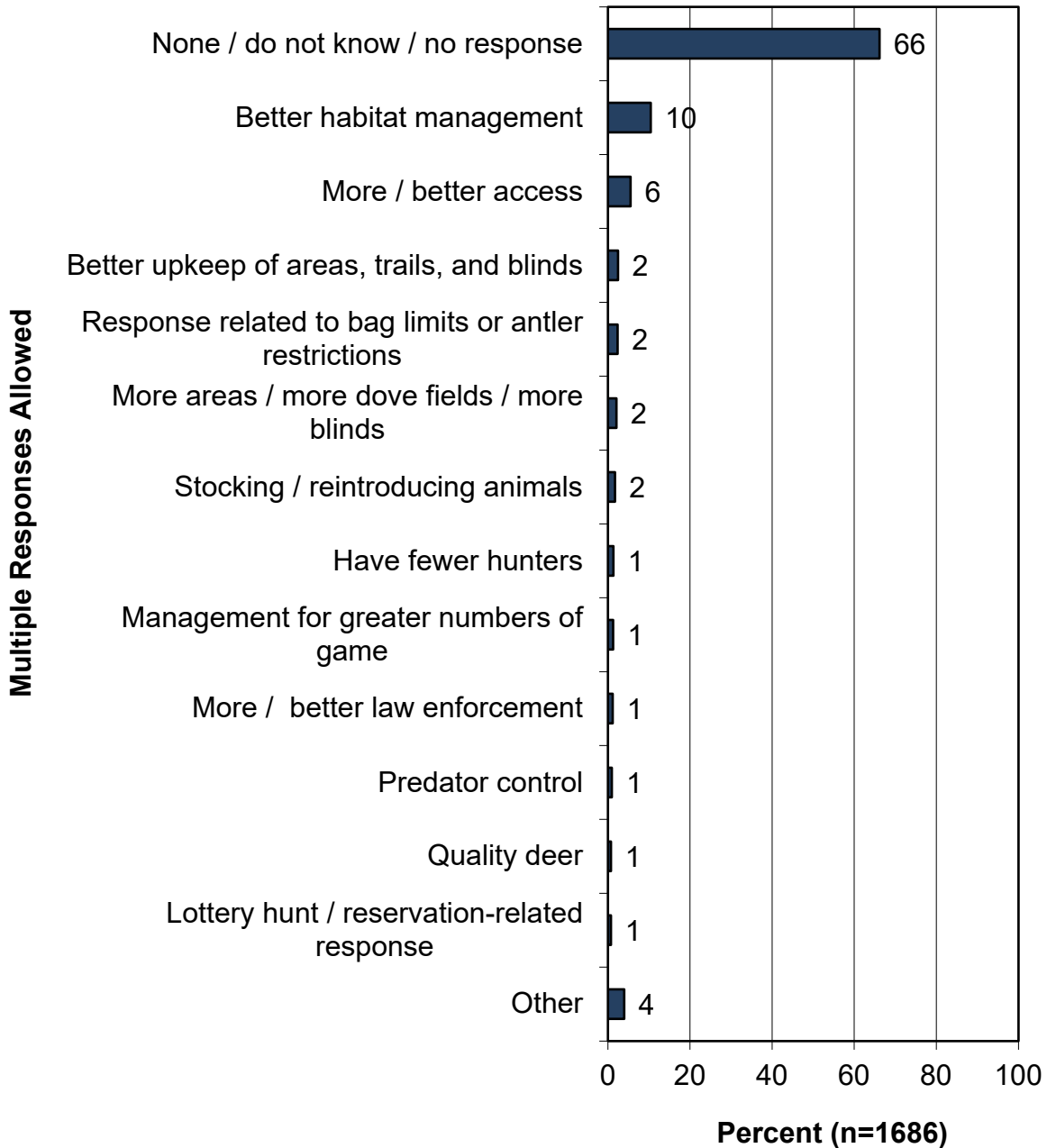


A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Food plots and crop fields are the types of management on WMAs which WMA hunters as a whole wish to have more of. Note that the list was presented to respondents. An open-ended follow-up question asked for any other wanted types of management, as shown in the graph on the following page.

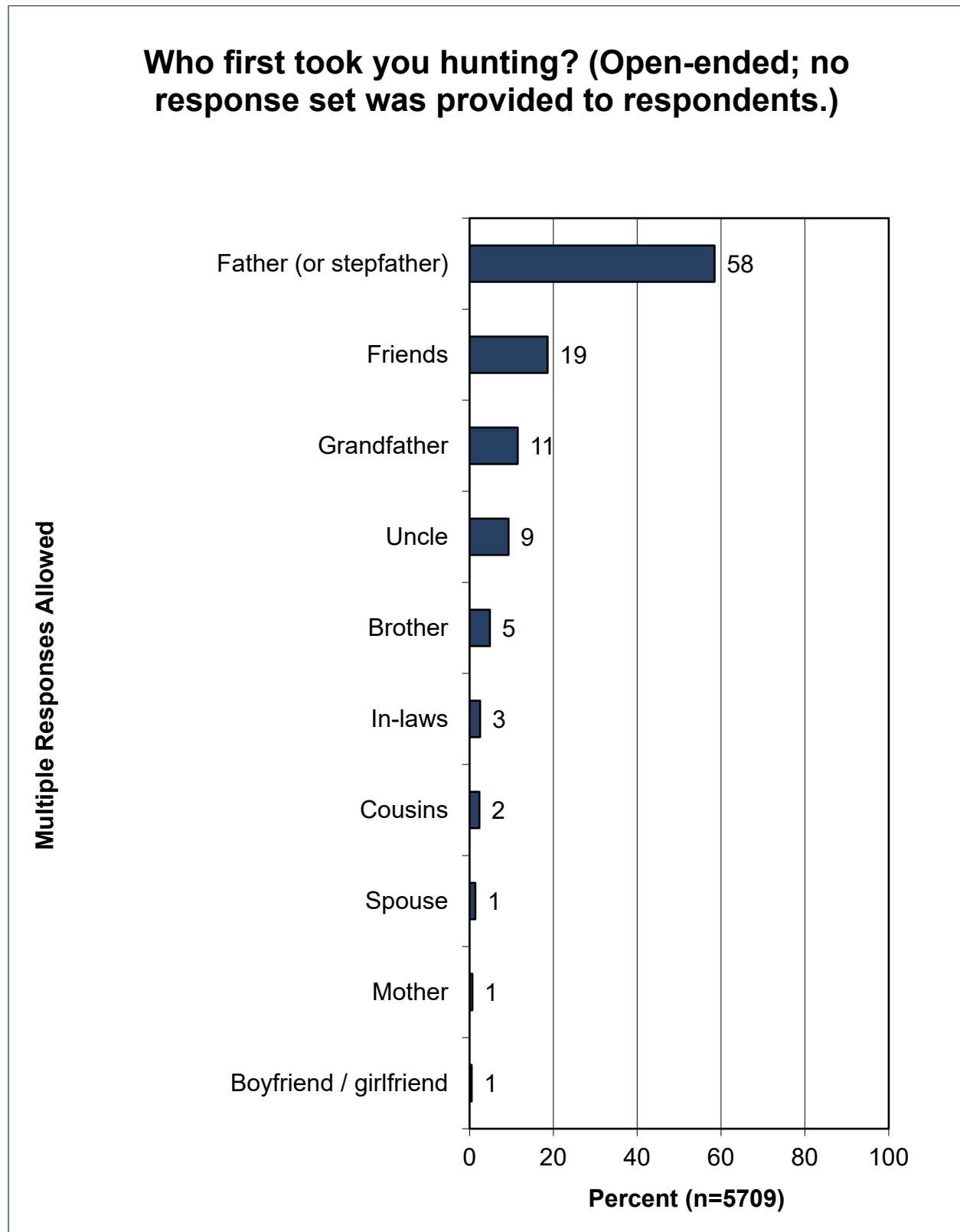


Are there any other types of management you would like to see on WMAs in Maryland? (Asked of those who hunted on WMAs in Maryland in the past 5 years.)

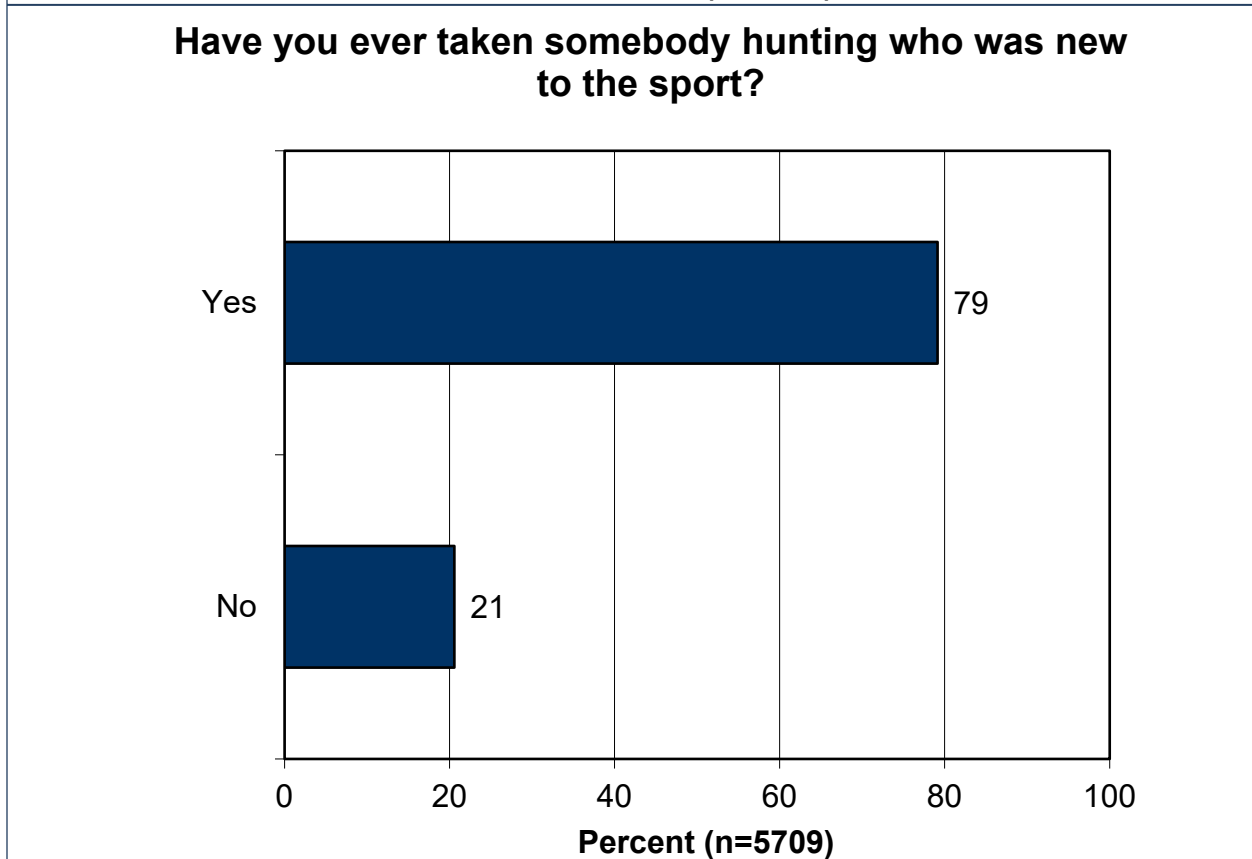
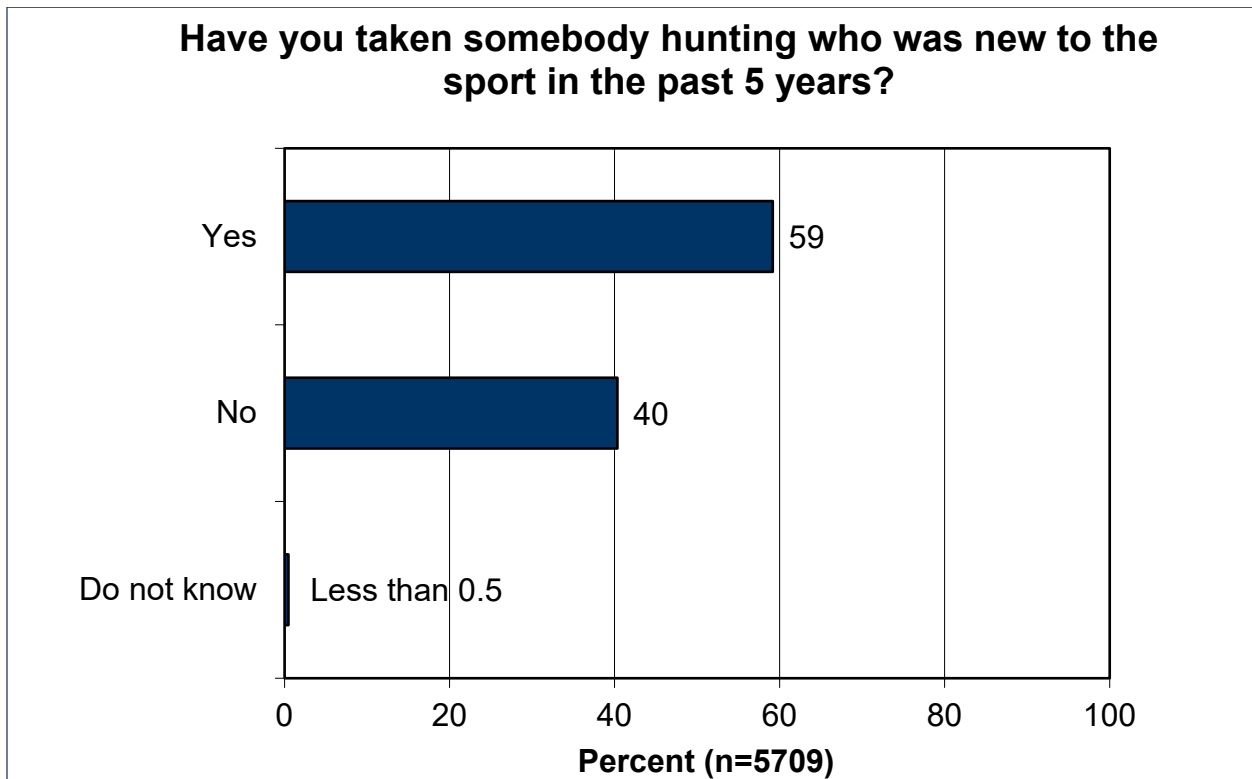


INITIATION INTO HUNTING AND MENTORING

Male family members remain the top way that hunters were introduced to hunting, most commonly their father.

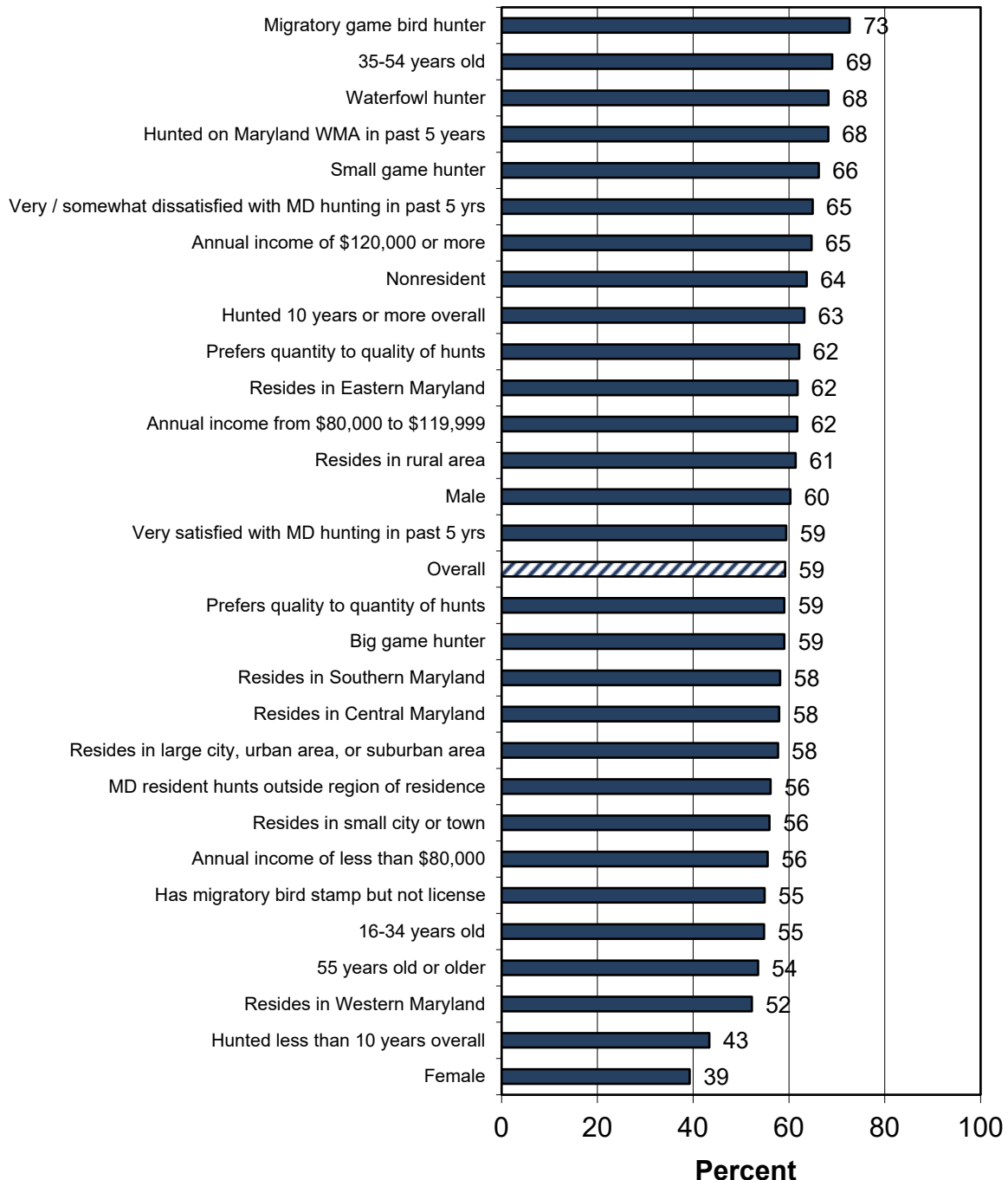


More than half of license/stamp holders (59%) have taken, within the past 5 years, another person hunting who was, prior to that, new to hunting. Without the timeframe, 79% have taken someone hunting who is new to the sport.



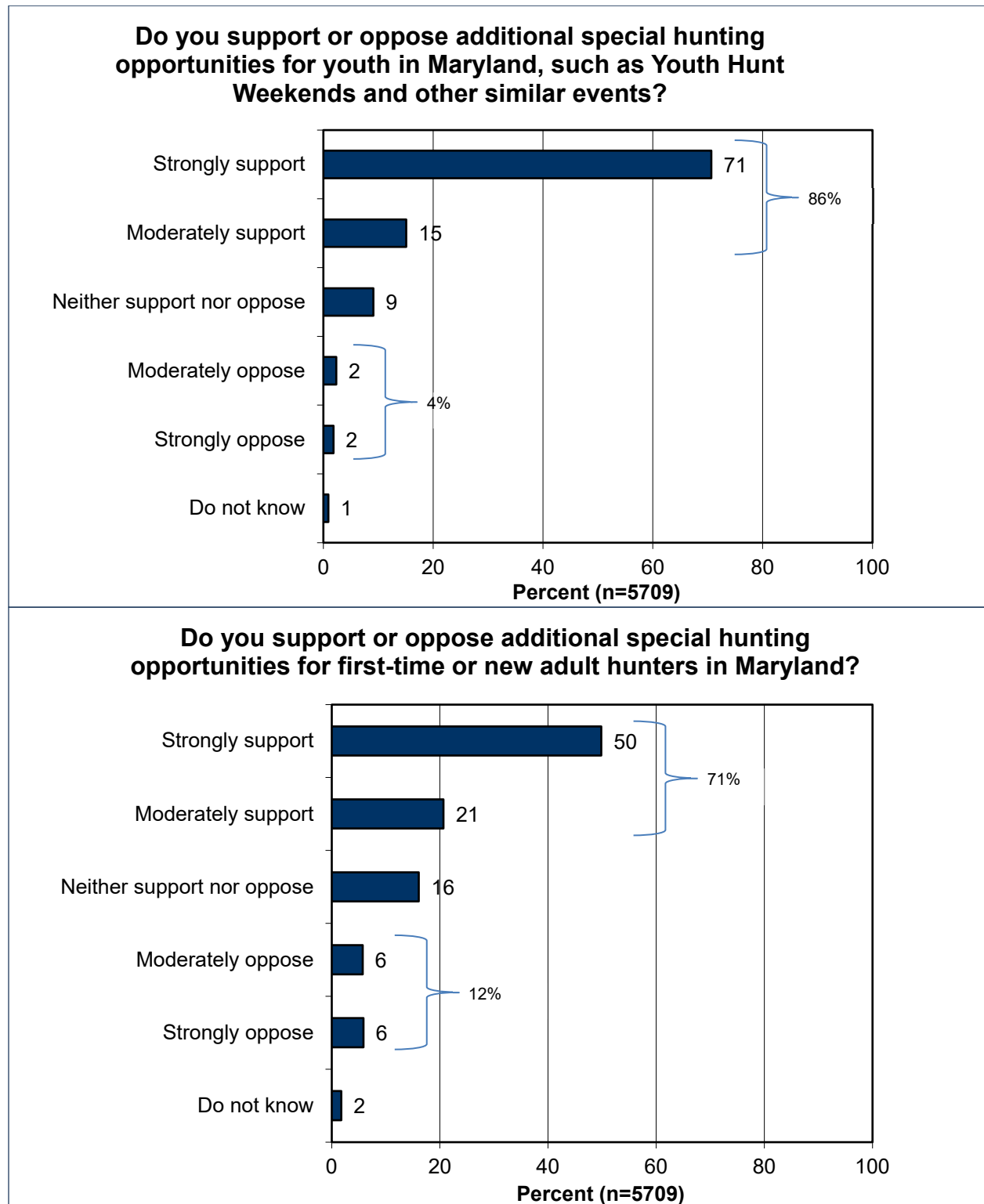
The demographic analyses show that those groups most likely to have taken hunting someone who was new to the sport include migratory game bird hunters, middle aged hunters, waterfowl hunters, WMA hunters, and small game hunters. Those least likely to have taken a new person hunting include females and those who were relatively new to hunting themselves.

Percent of each of the following groups who took someone new hunting in the past 5 years:

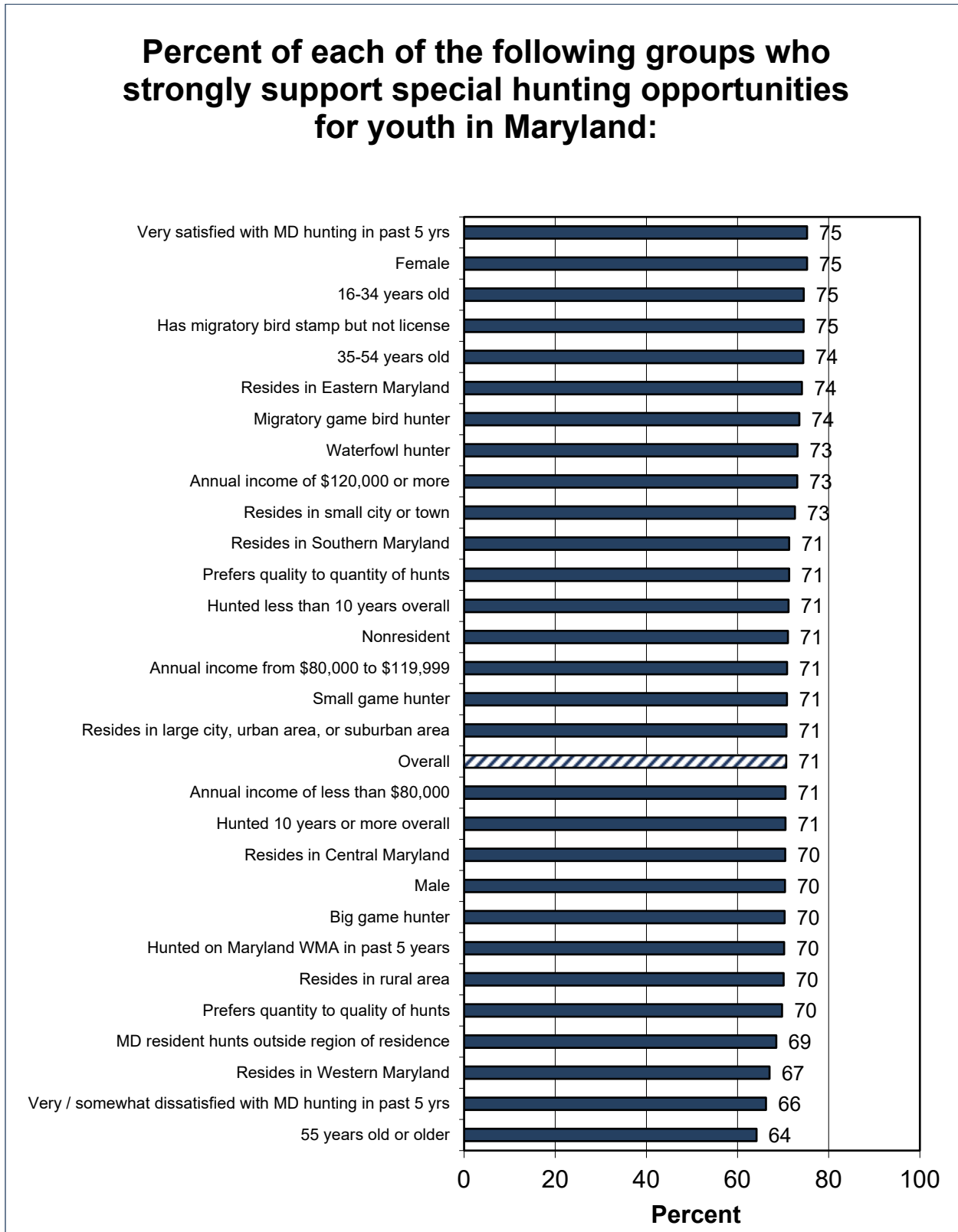


A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

The overwhelming majority of license/stamp holders (86%) support additional special hunting opportunities for youth in Maryland, and a large majority (71%) support additional special hunting opportunities for adults new to the sport.



Demographic analyses graphs show little differences among the groups regarding their support for special hunting opportunities for youth or for new adult hunters in Maryland.



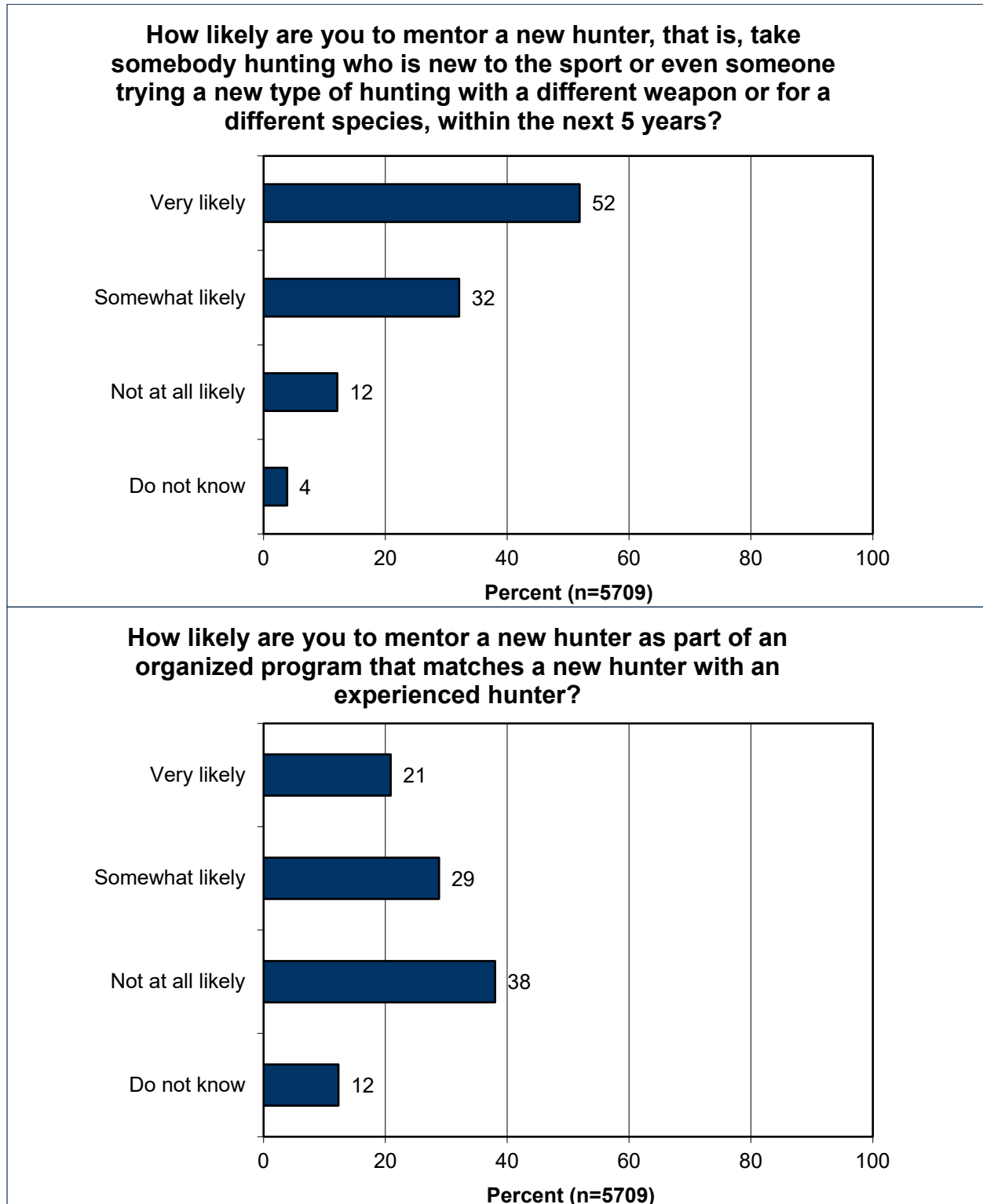
A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

Percent of each of the following groups who strongly support special hunting opportunities for new adult hunters in Maryland:

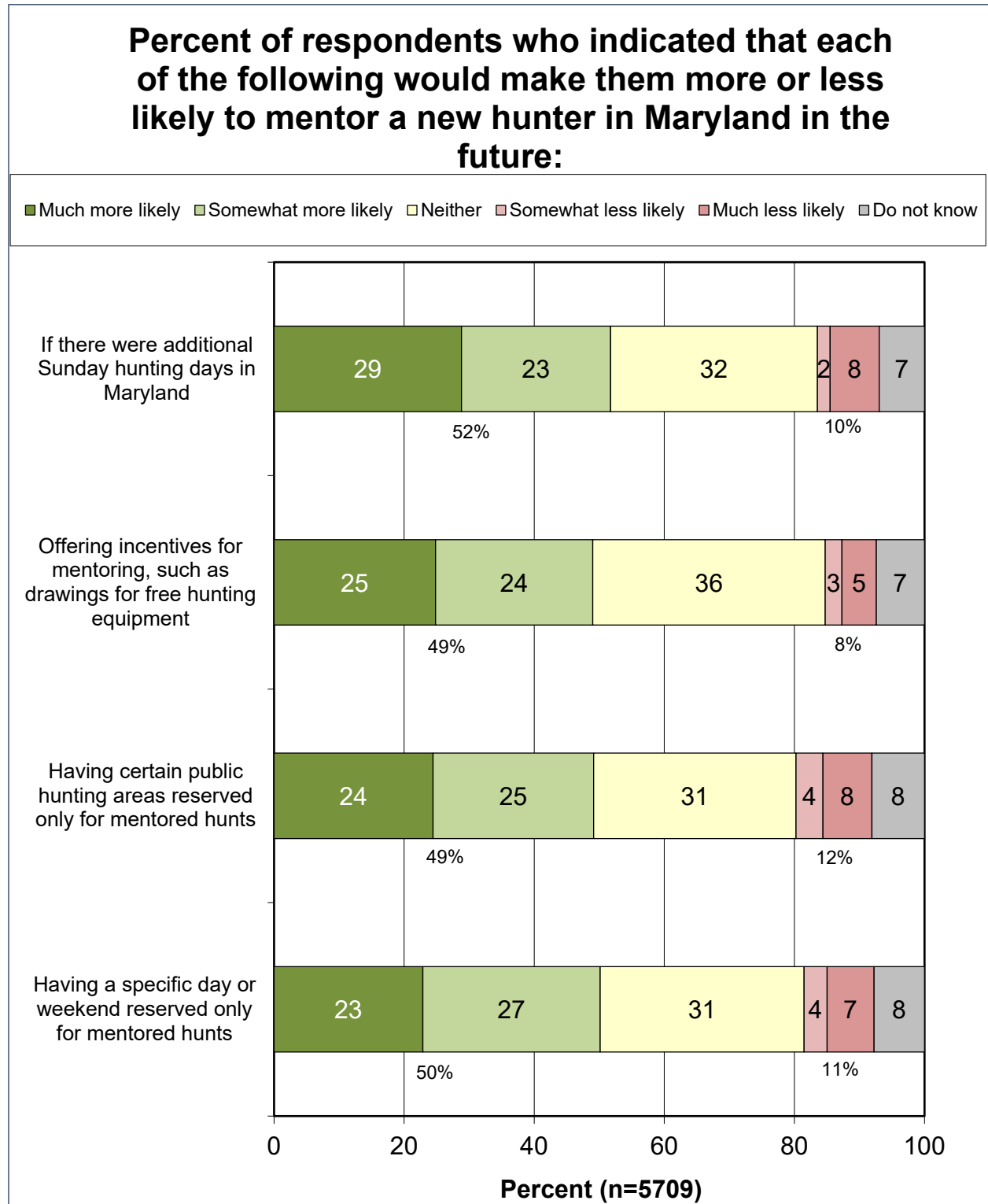


A full explanation of how to interpret these demographic analyses graphs is presented on pages 10-11.

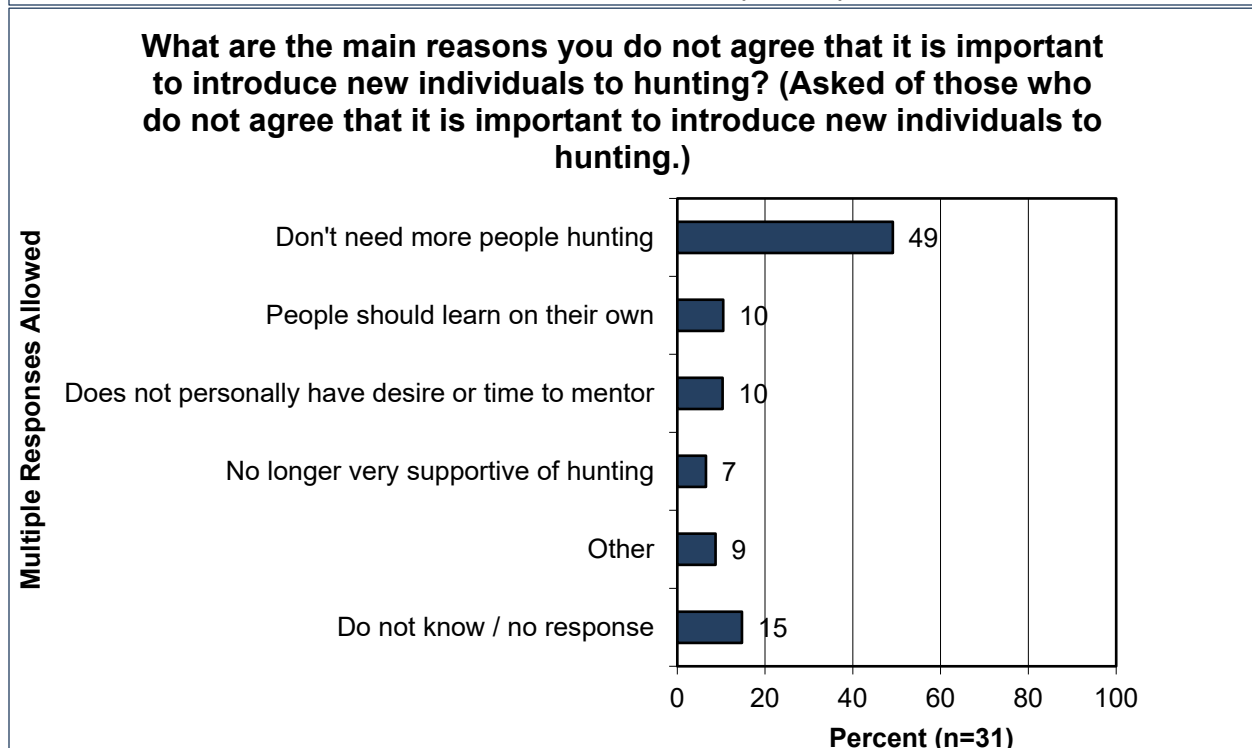
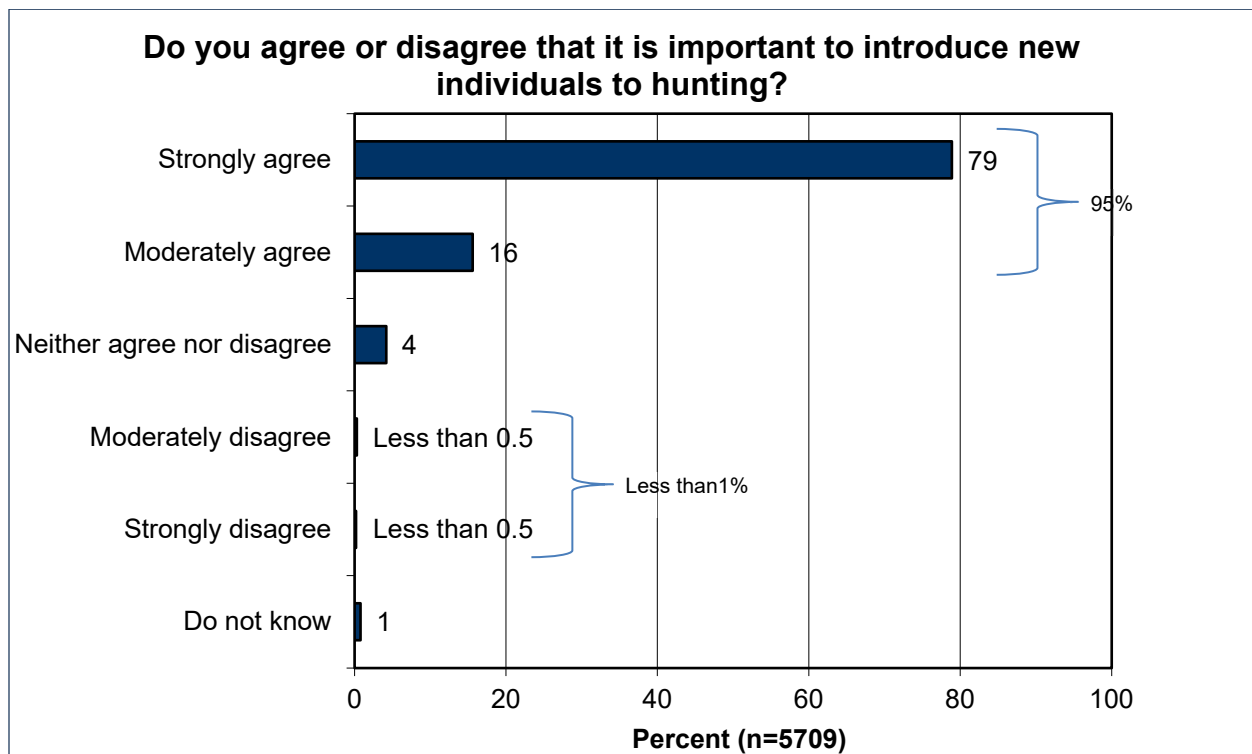
Half of license/stamp holders say that they are *very* likely to mentor a new hunter within the next 5 years, and 21% say that they would be *very* likely to do so as part of an organized program.



The survey asked about four possible ways to encourage people to mentor a new hunter. For each of the ways, approximately half of the license/stamp holders would be more likely to mentor, but no way was markedly more effective than the other ways, based on responses to the question. The sum of much more likely and somewhat more likely is shown beneath each bar, as is the sum on the less likely side.

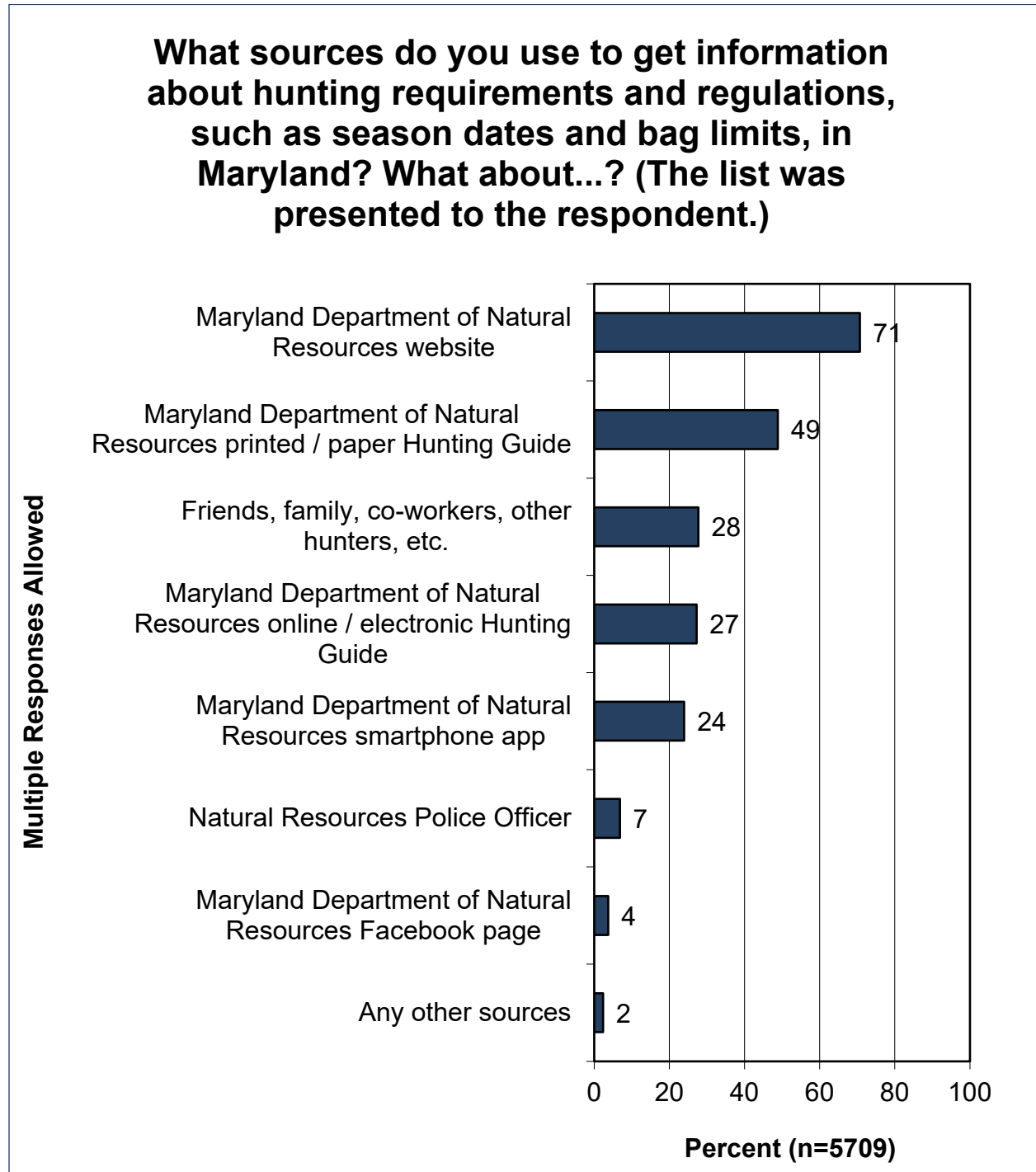


The overwhelming majority of license/stamp holders agree that it is important to introduce new people to hunting (95% do so). Among the few that do not, crowding—not needing more people out hunting—is the primary reason for not agreeing.



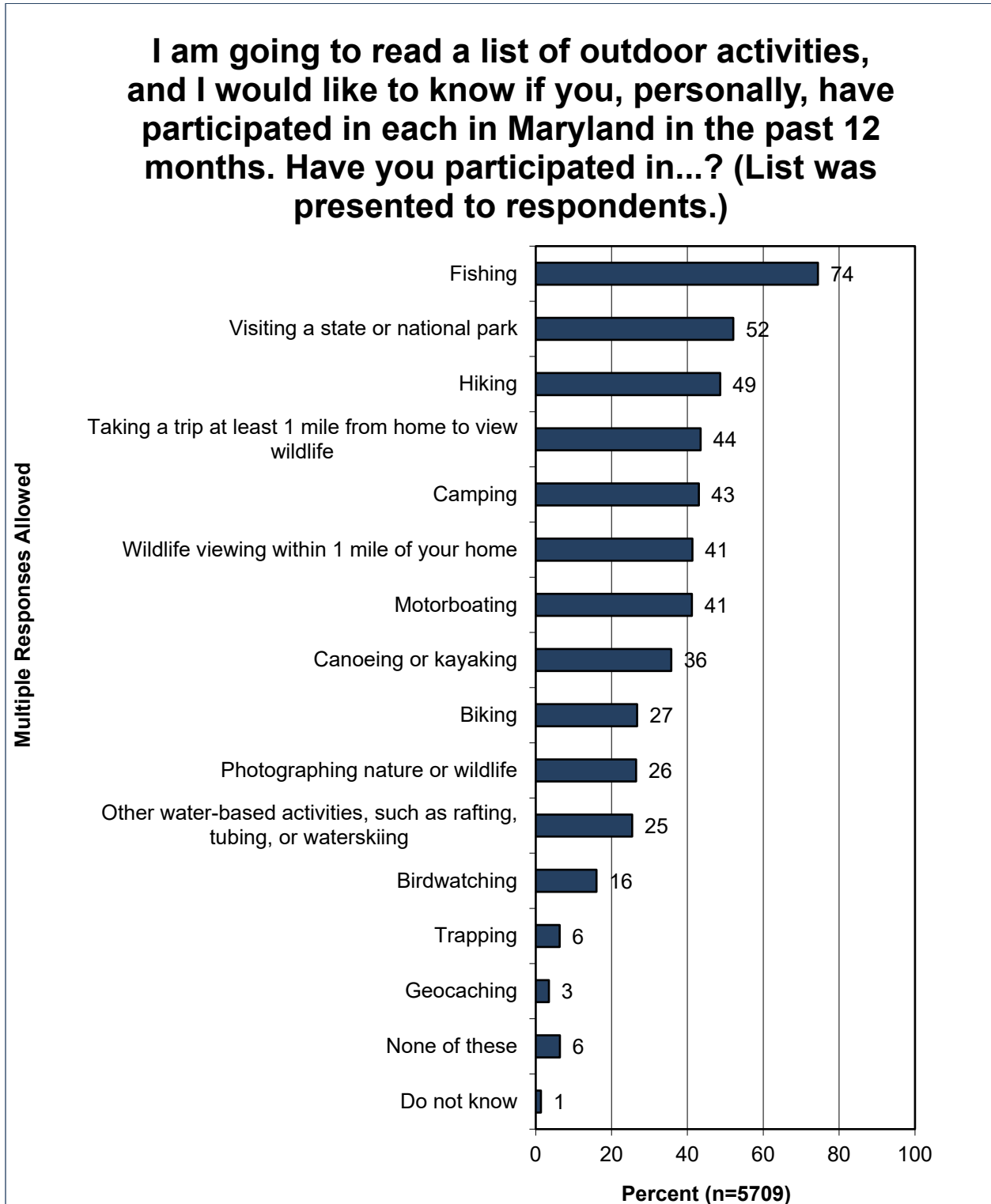
SOURCES OF INFORMATION ABOUT HUNTING IN MARYLAND

License/stamp holders were presented with seven possible sources of information about hunting requirements and regulations, and they were asked which they use. The Department's website is the most popular by far, and its paper hunting regulations guide is next.



OTHER ACTIVITIES

Among license/stamp holders, fishing is the most popular other outdoor activity (other than hunting). Also popular are visiting state/national parks and hiking. The full list is shown on the graph. A follow-up question then asked about any other activities, as shown.



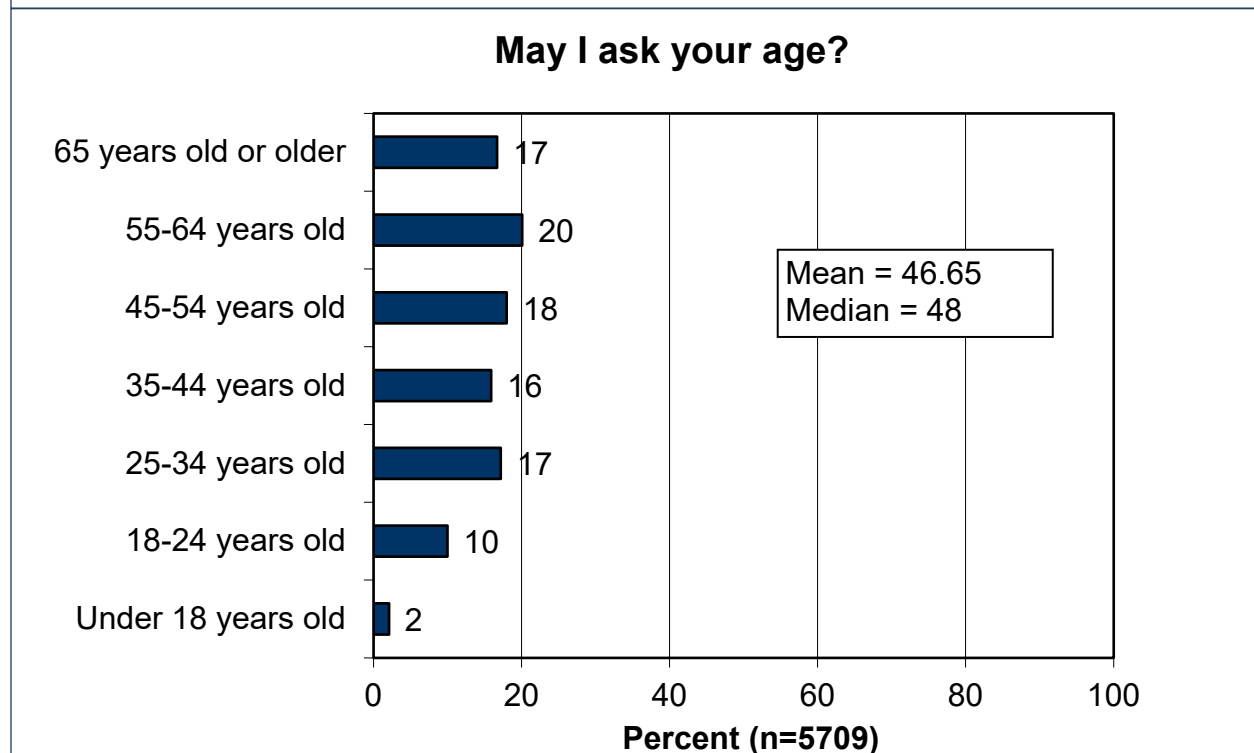
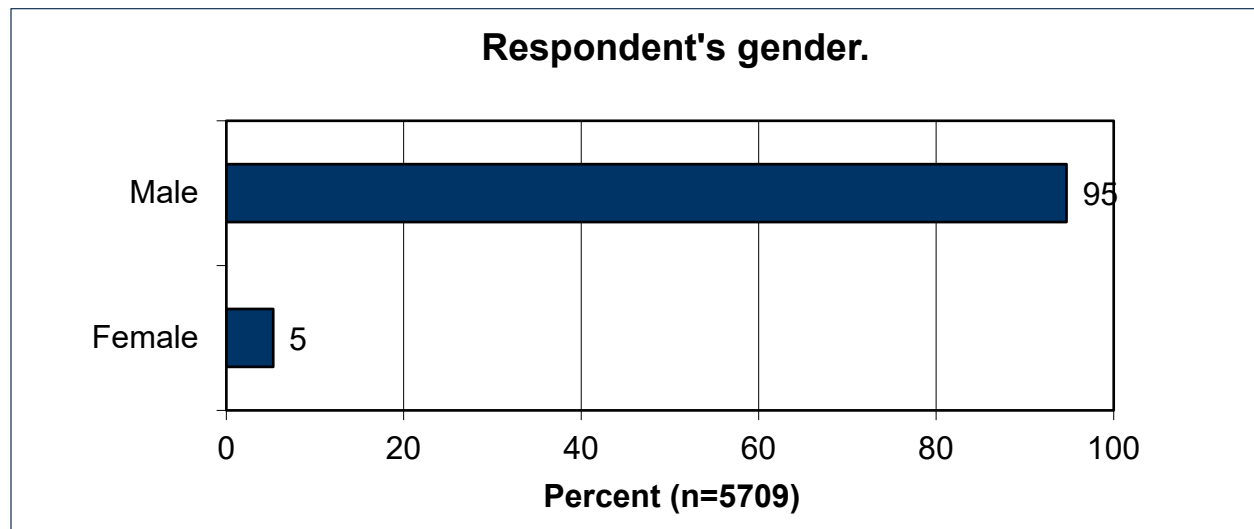


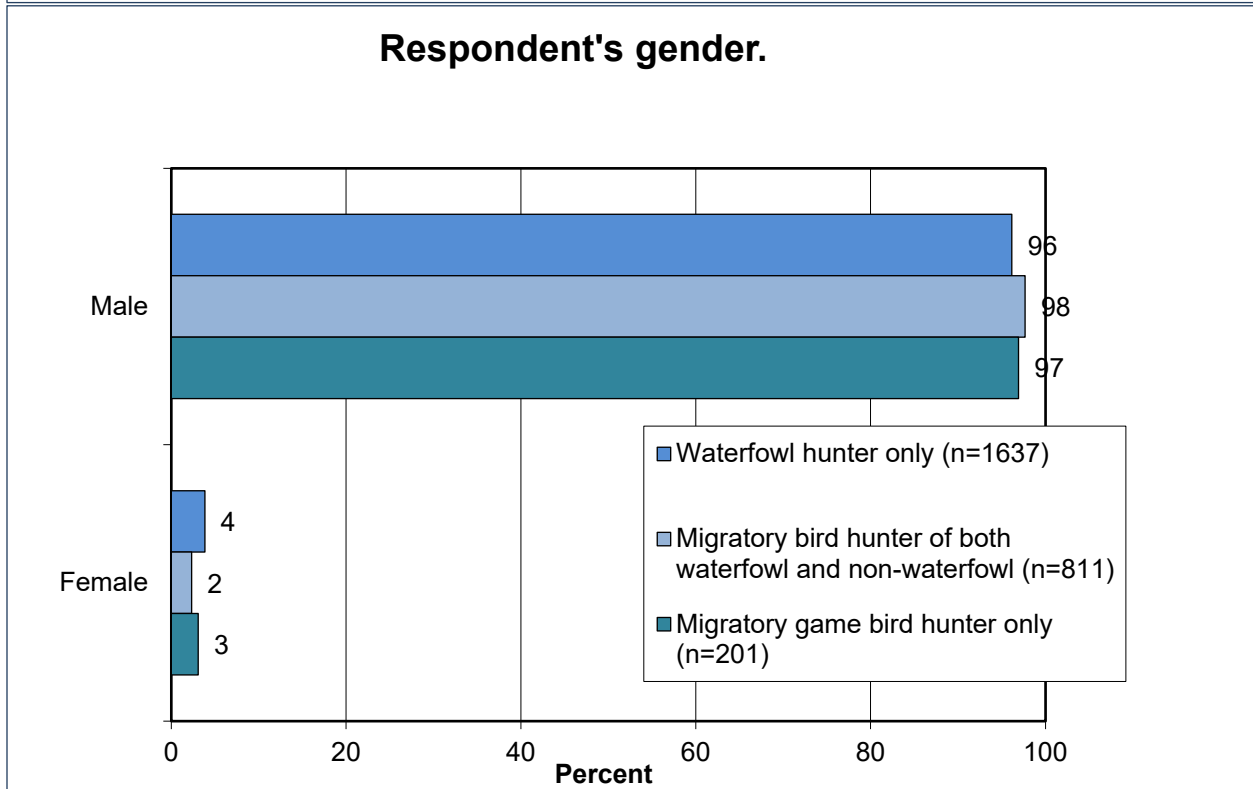
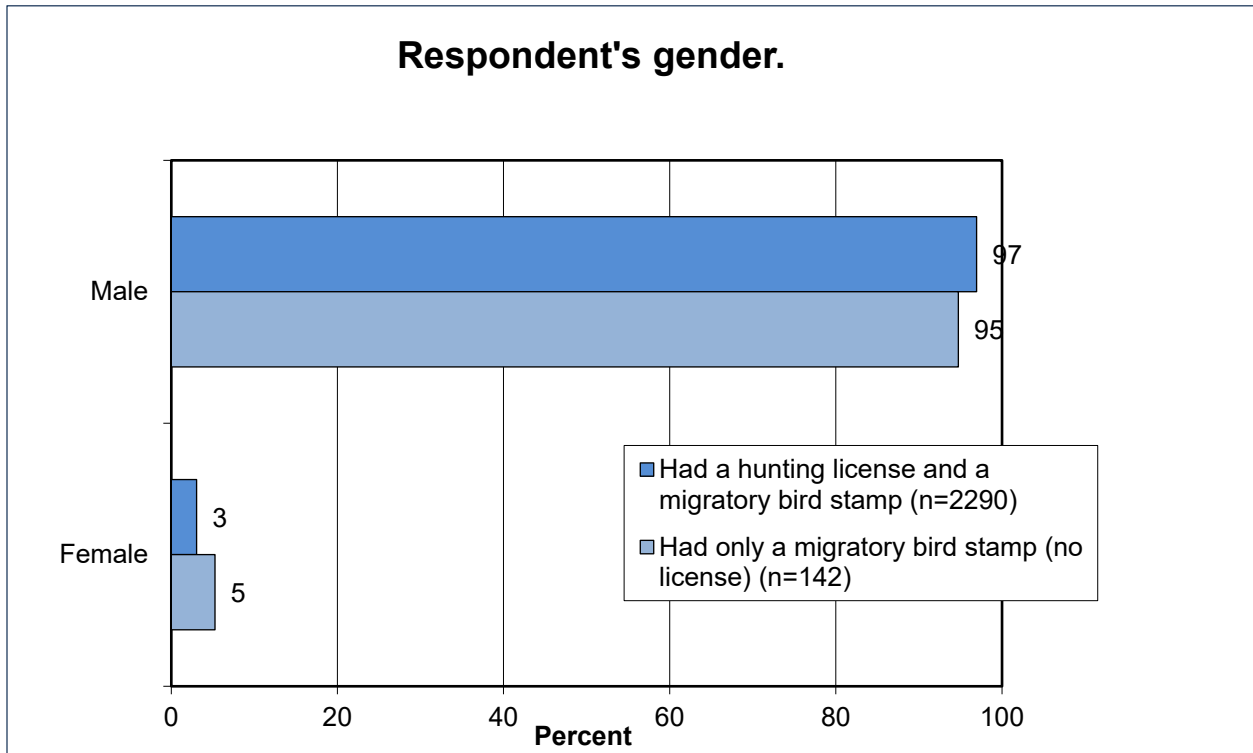
The use of one decimal place is not to imply that the survey is accurate to that level; rather, it was done because otherwise the activities at the bottom would round to 0.

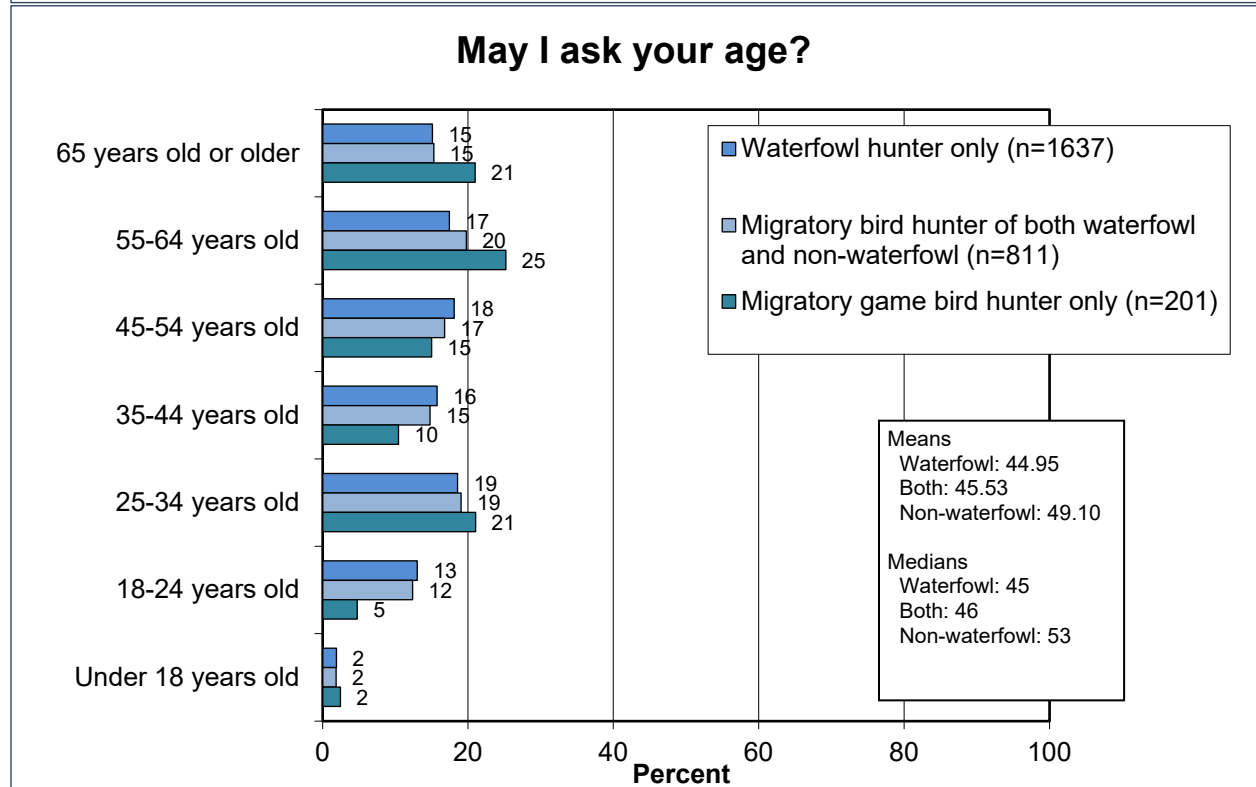
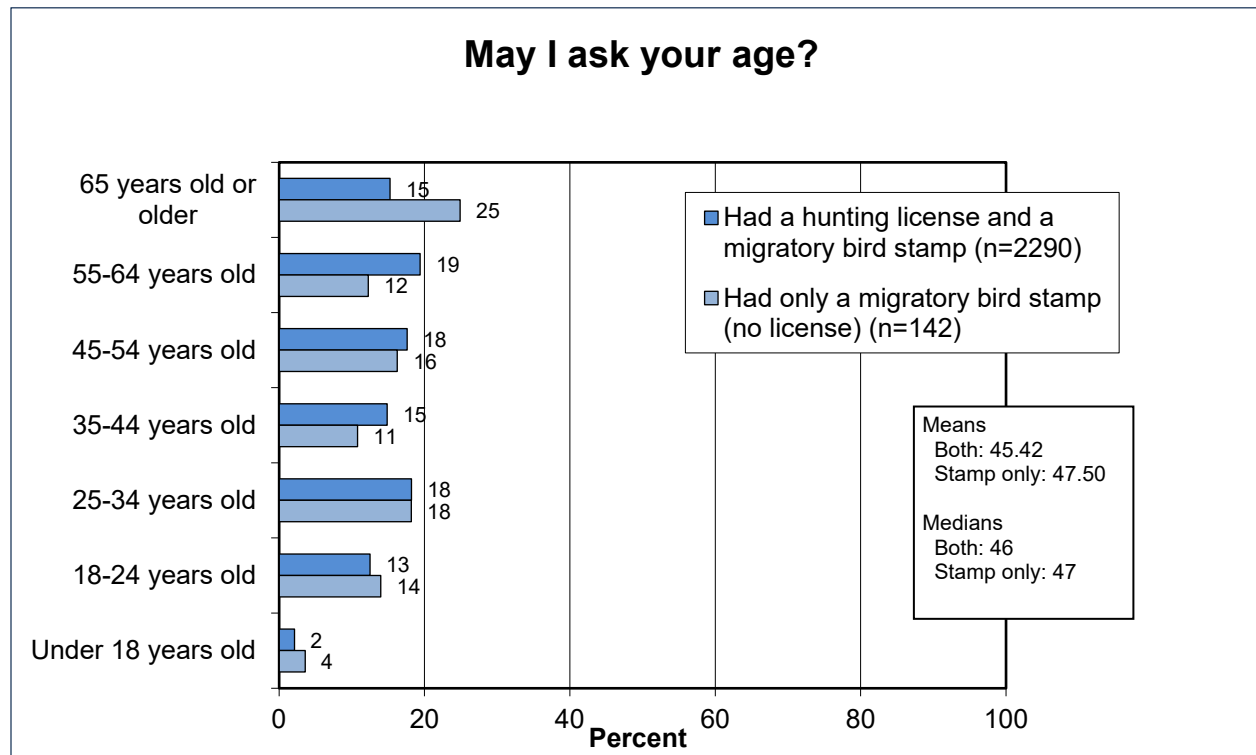
DEMOGRAPHIC INFORMATION

The following demographic information was obtained:

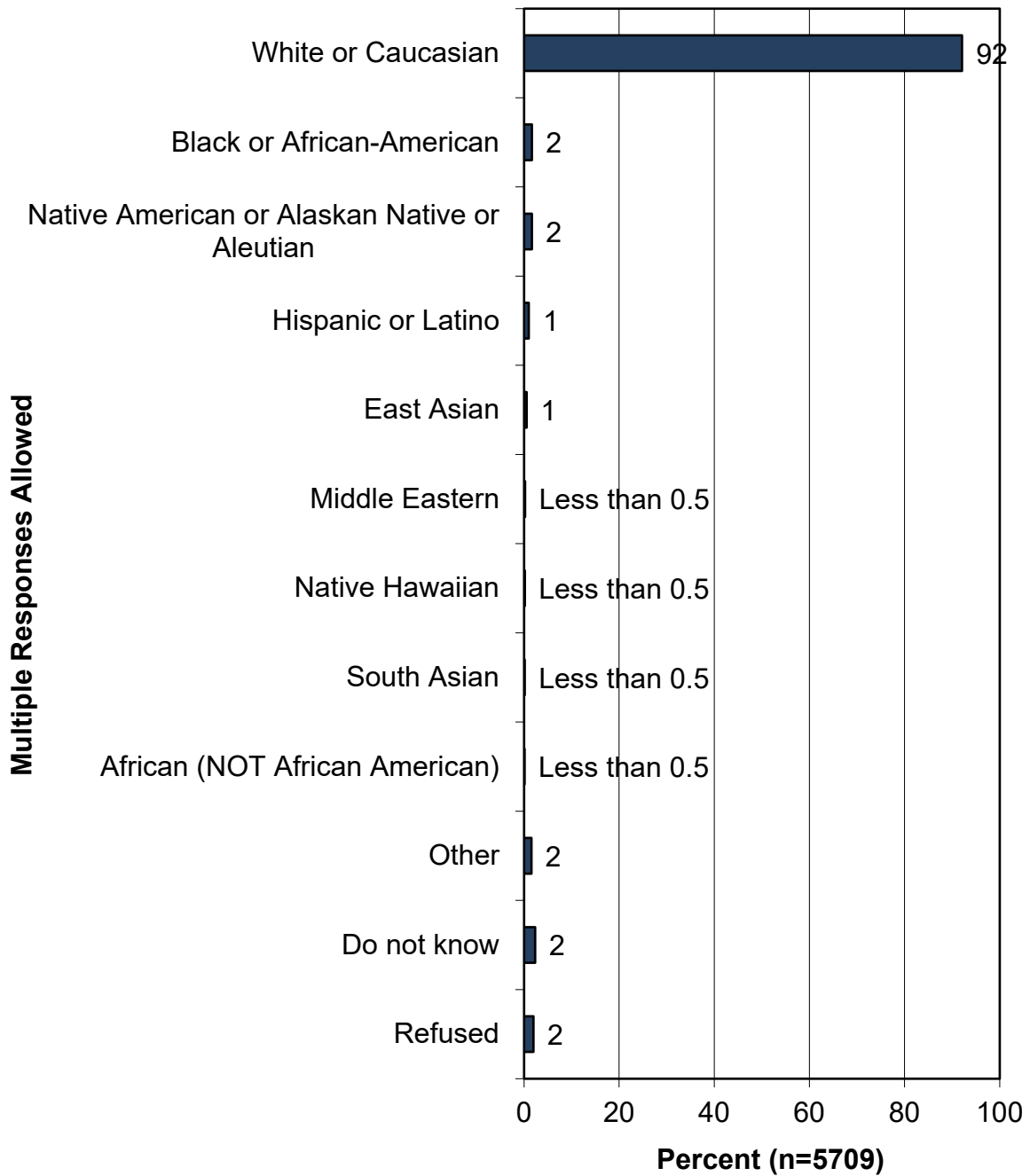
- Gender.
- Age. Non-waterfowl hunters tend to be slightly older than waterfowl hunters.
- Ethnicity. (Because all ethnicities other than Caucasian/white were so low in percentage, no crosstabulations were run.)
- Location of residence, including urban-rural residency. Those with both a license and a stamp and waterfowl-only hunters are more likely to be from out of state compared to their counterparts.
- Household income.

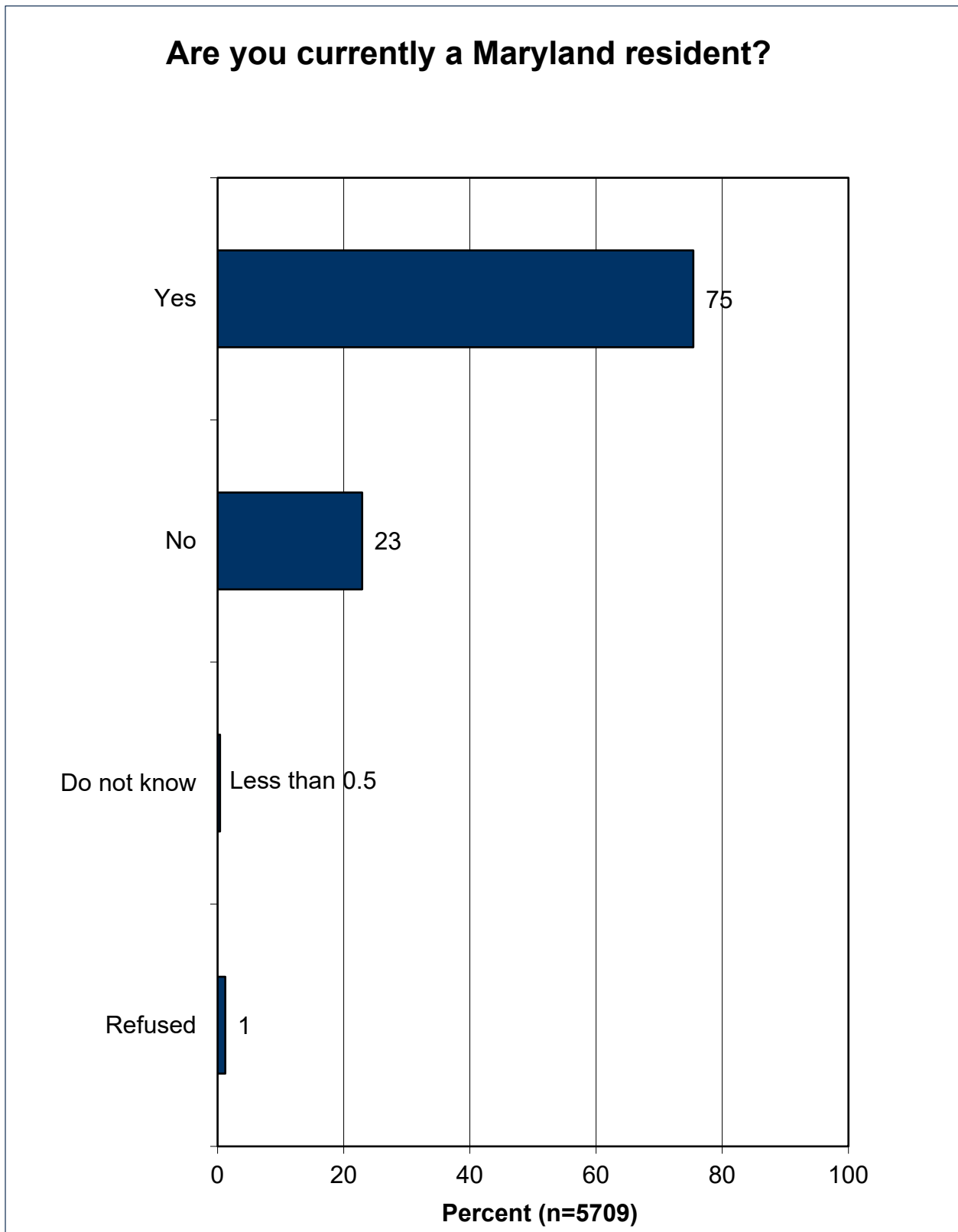


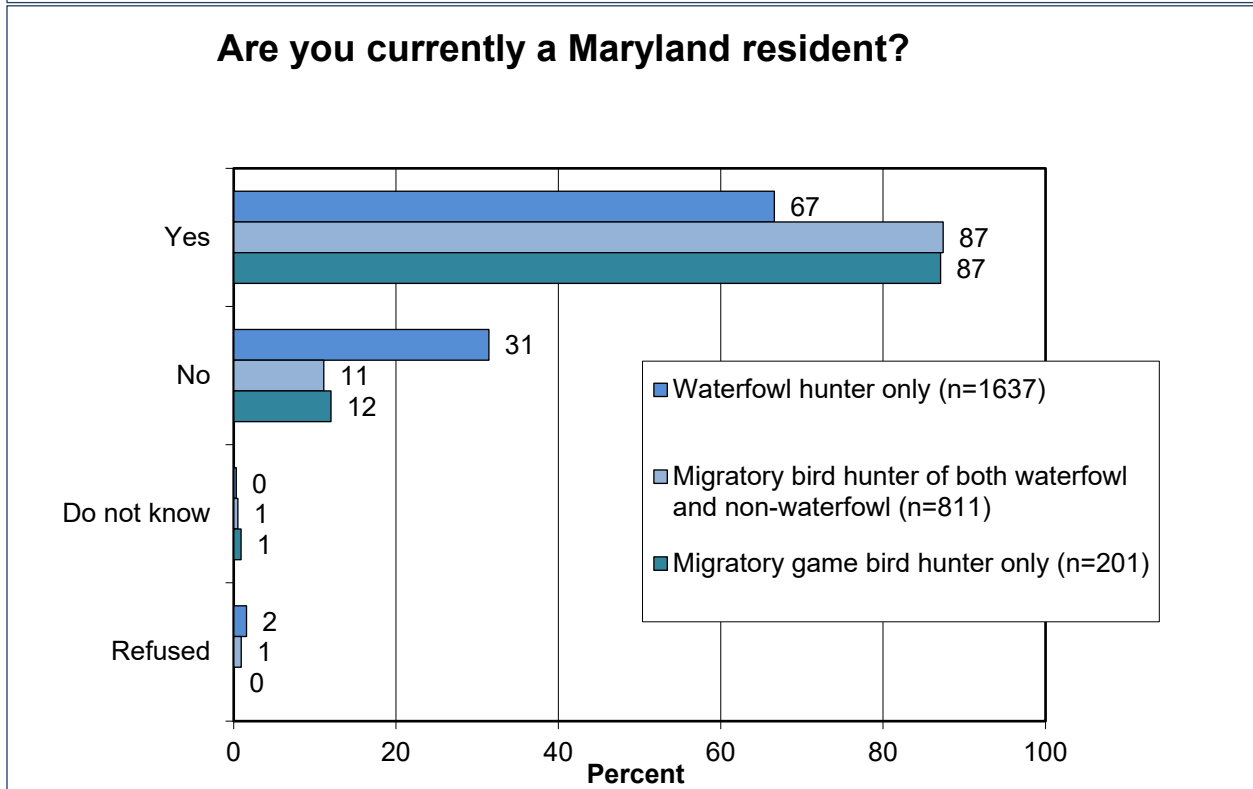
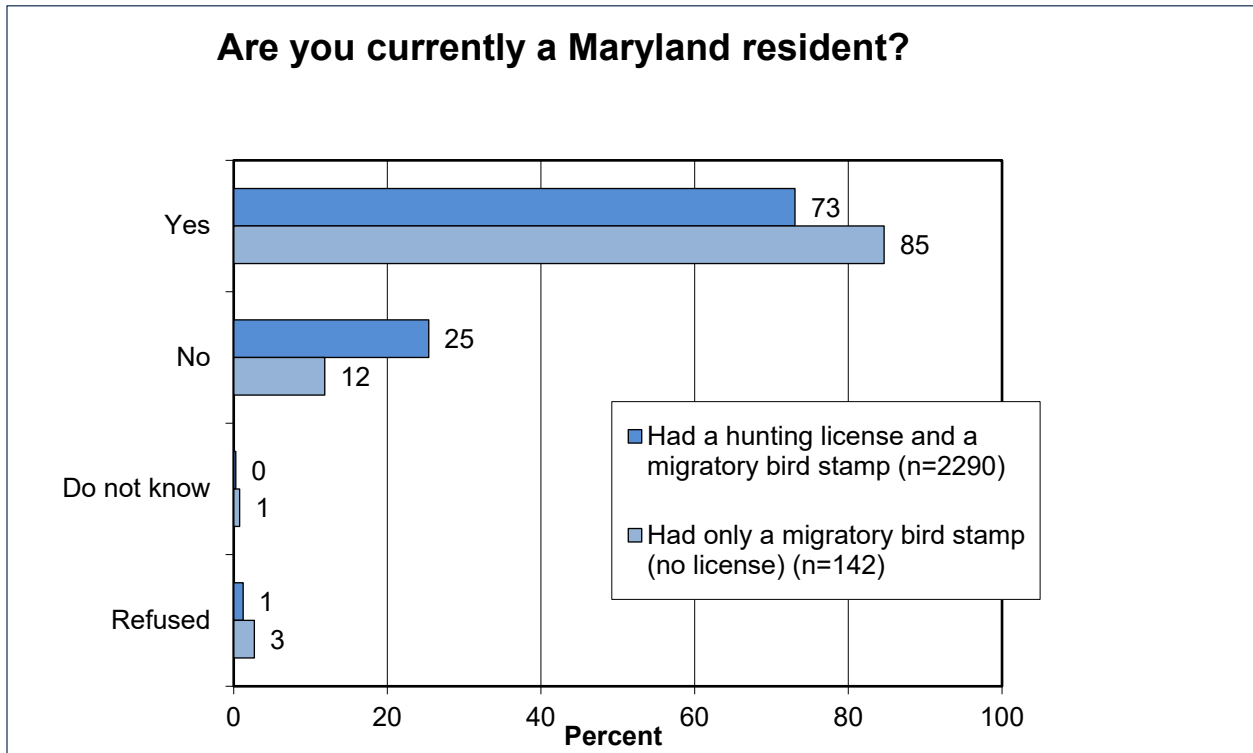


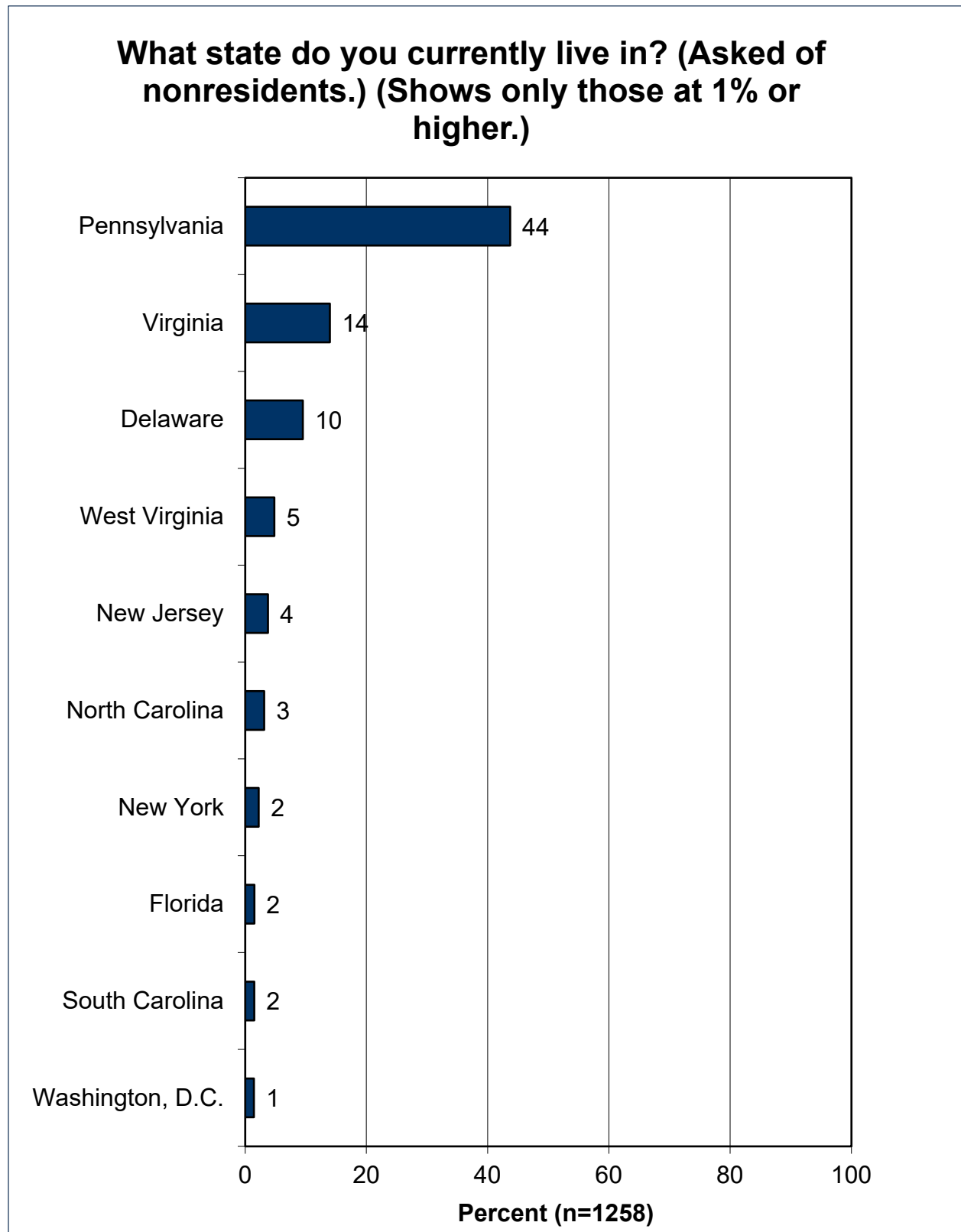


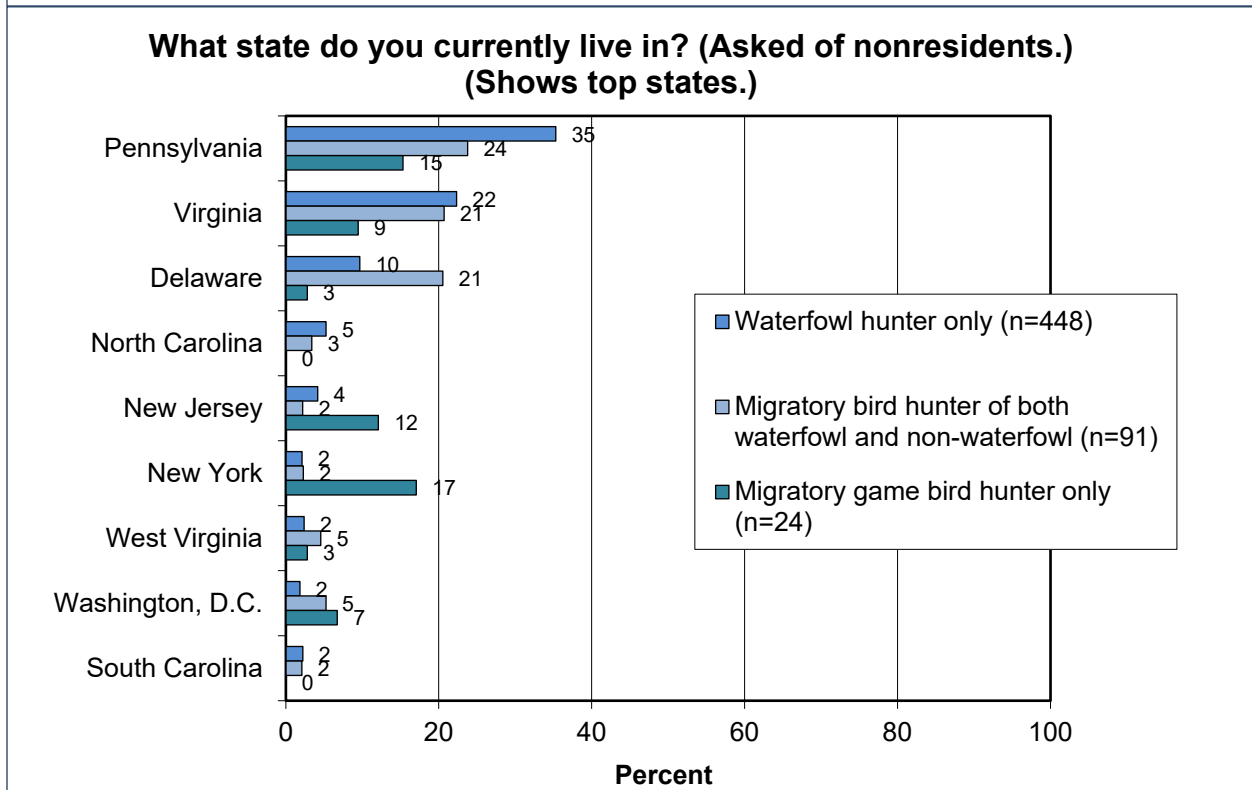
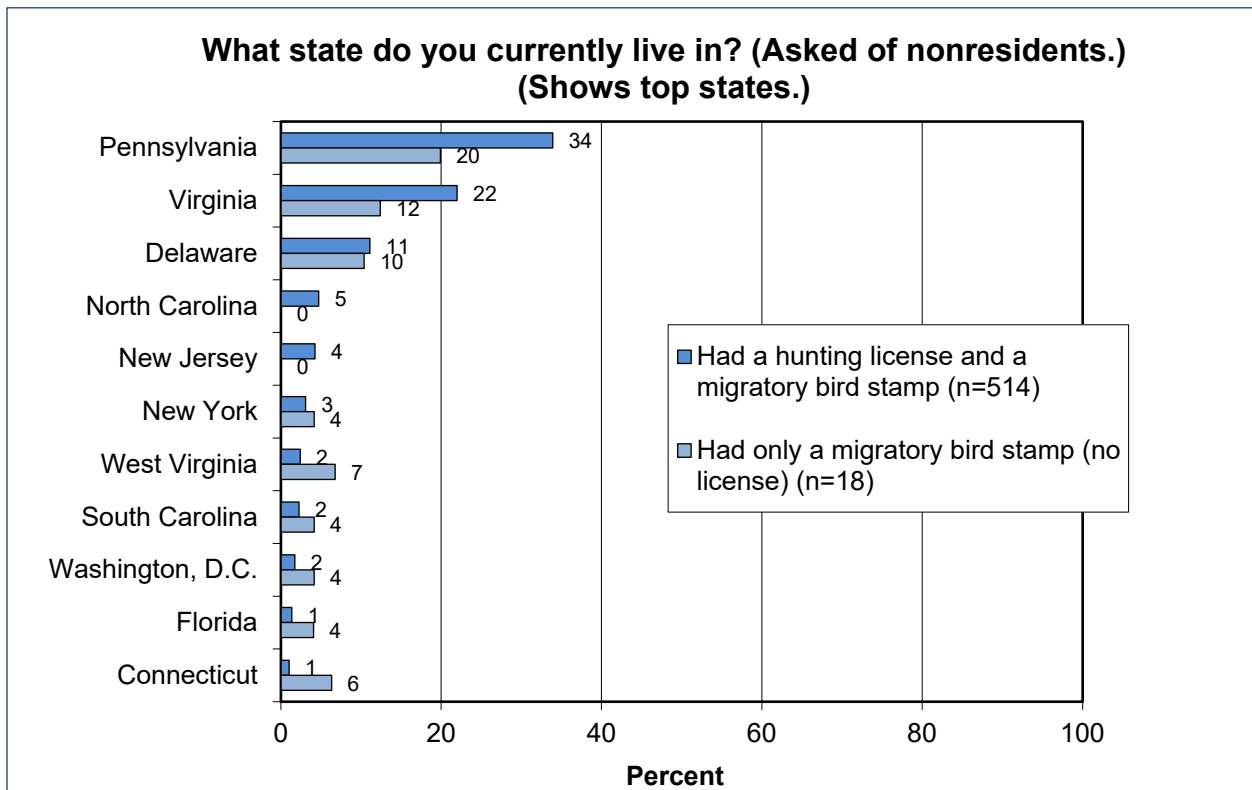
What races or ethnic backgrounds do you consider yourself? Please mention all that apply.

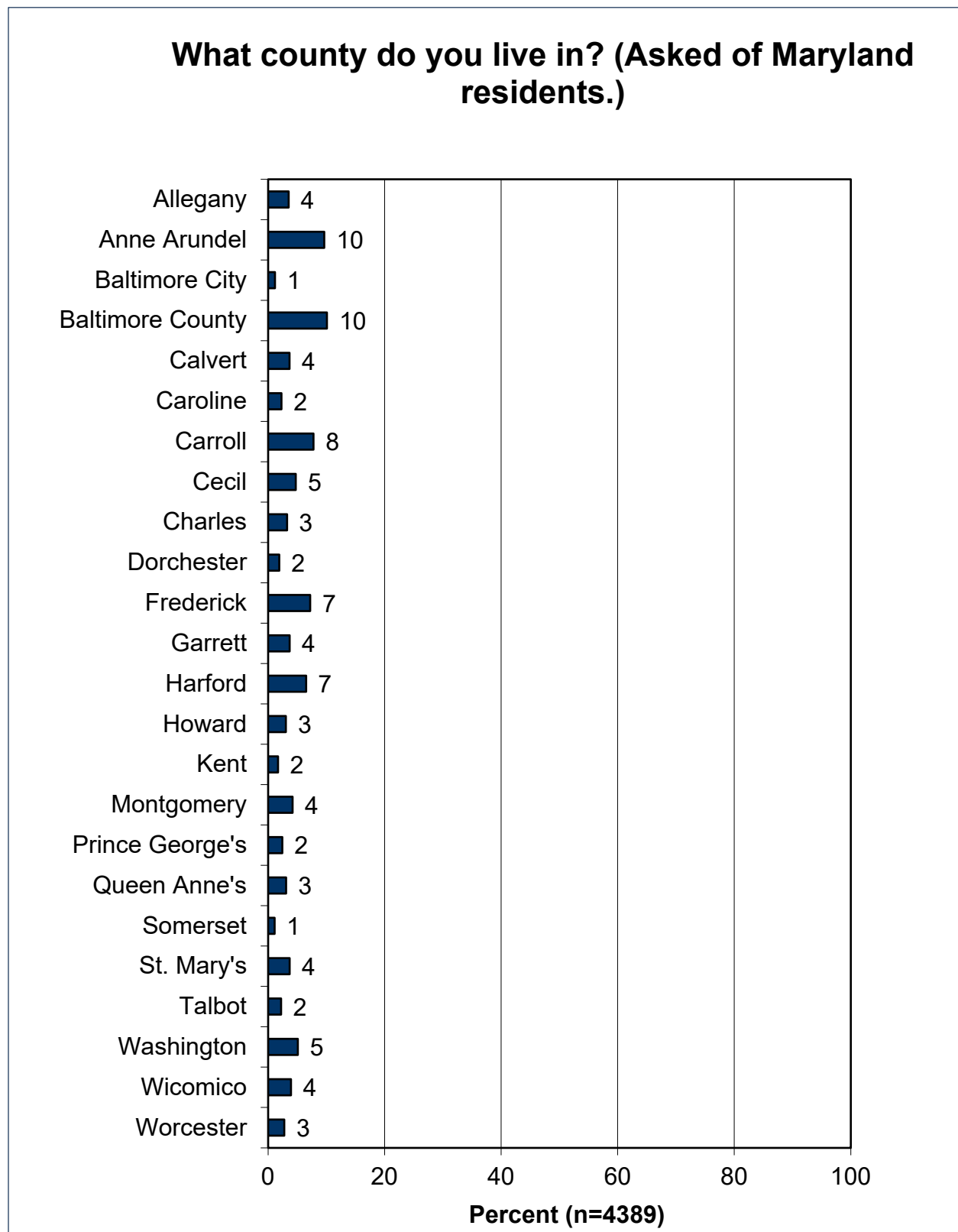




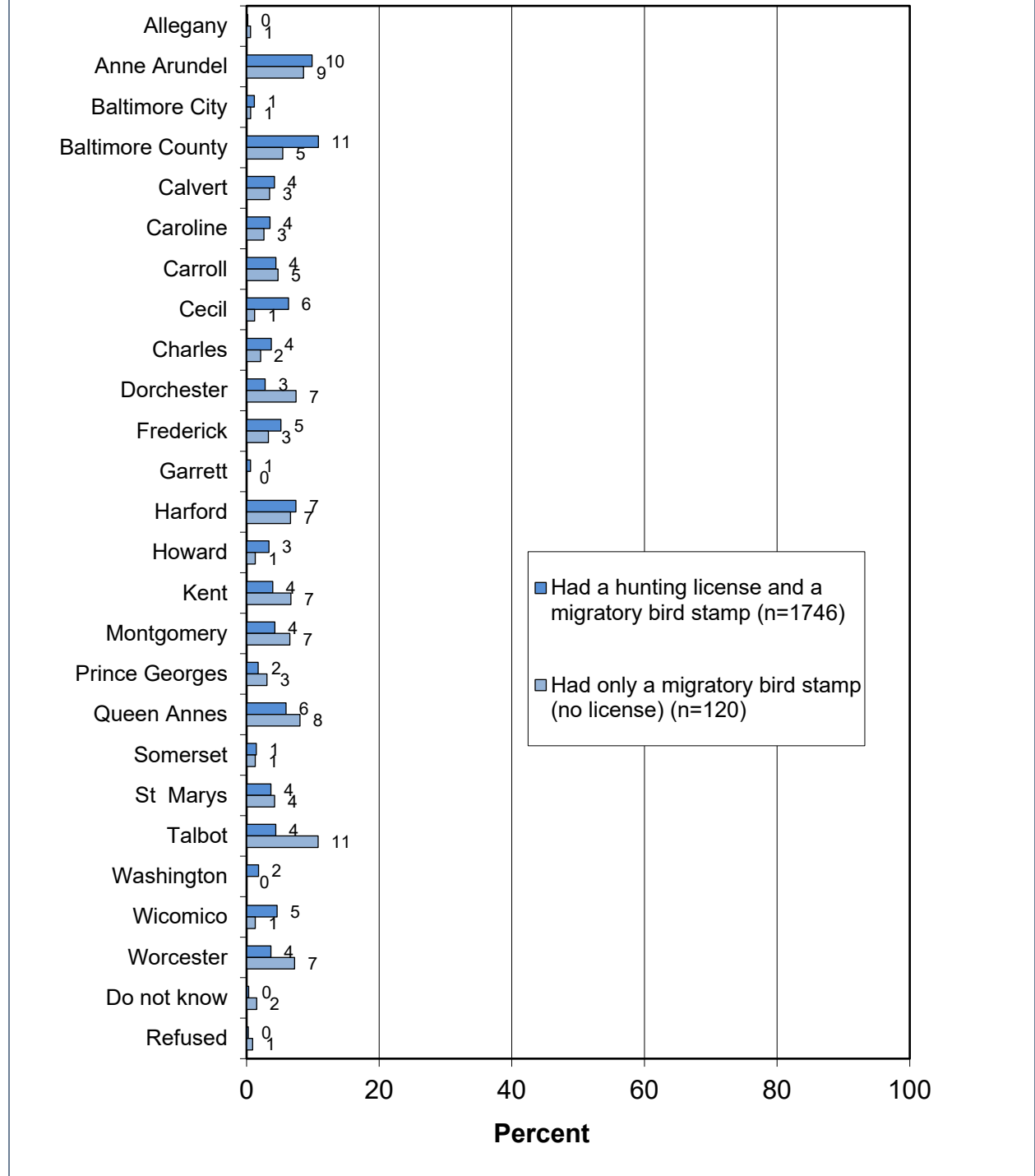




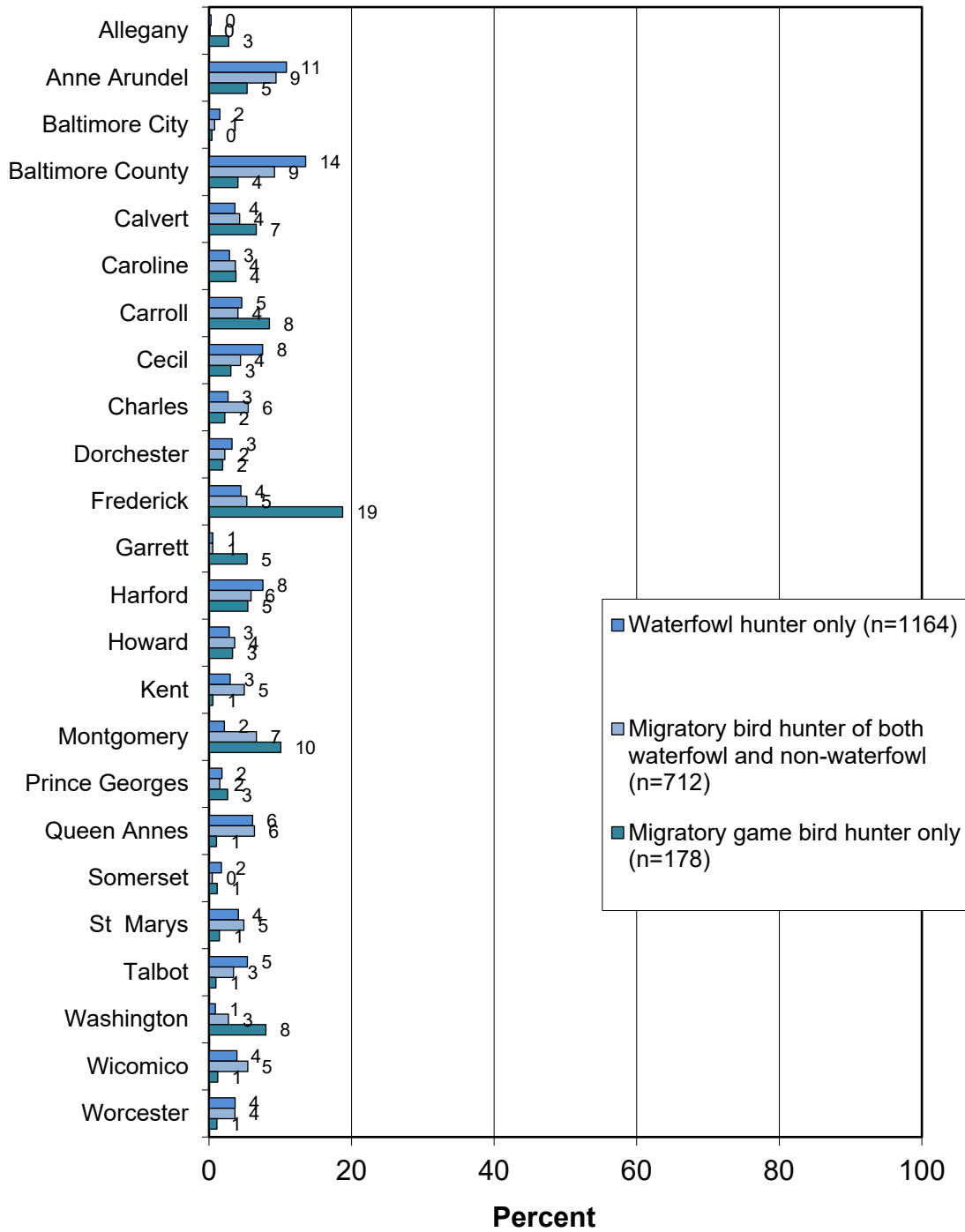




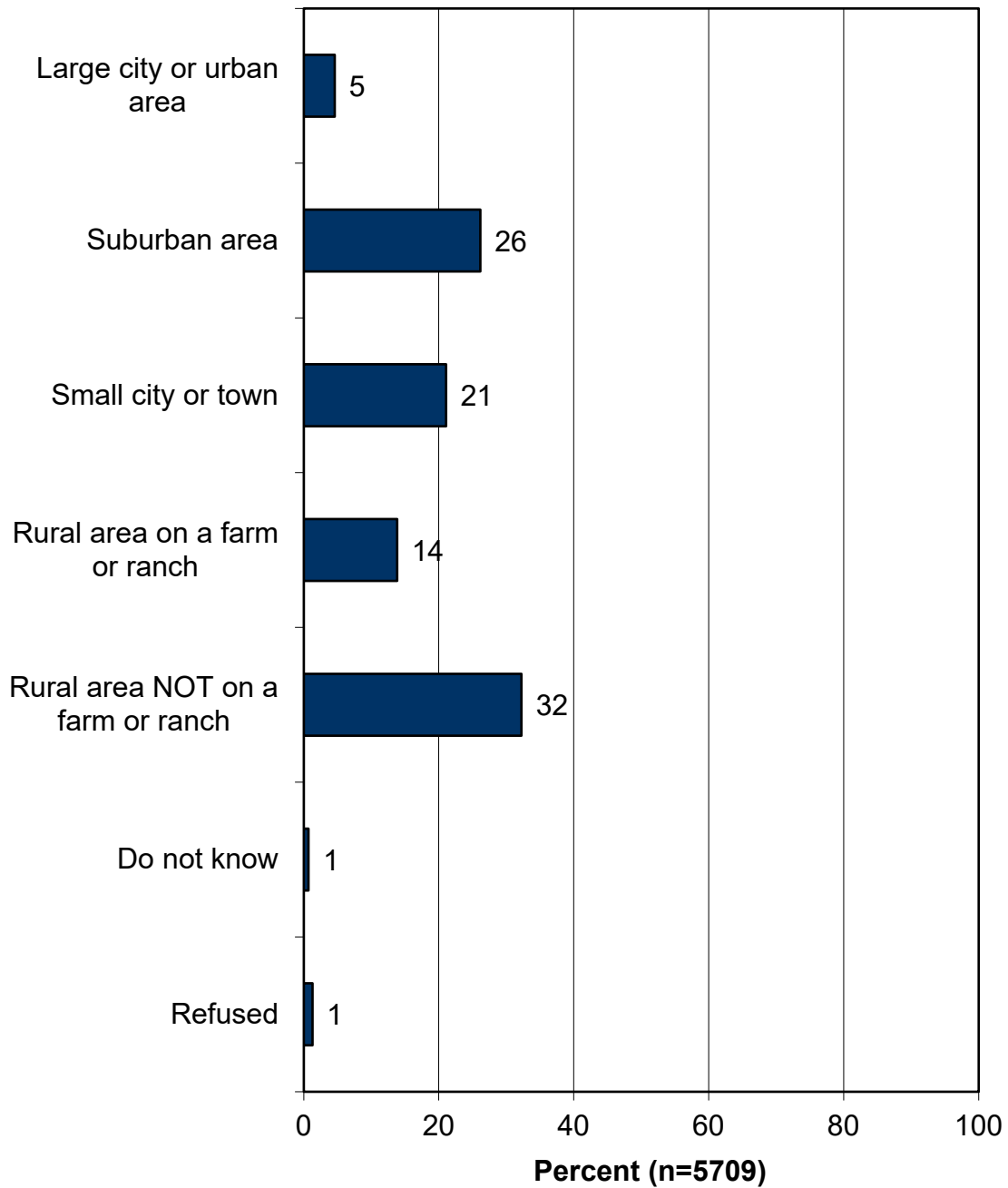
What county do you live in? (Asked of Maryland residents.)

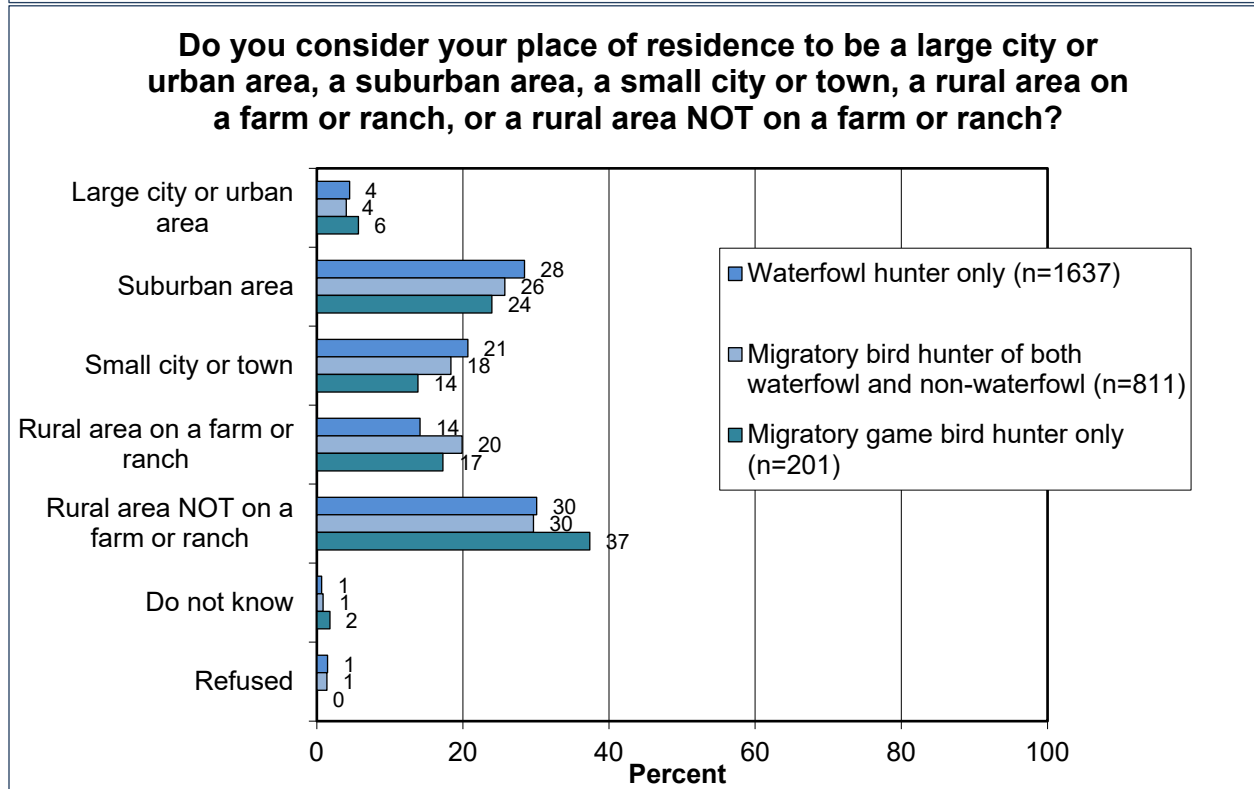
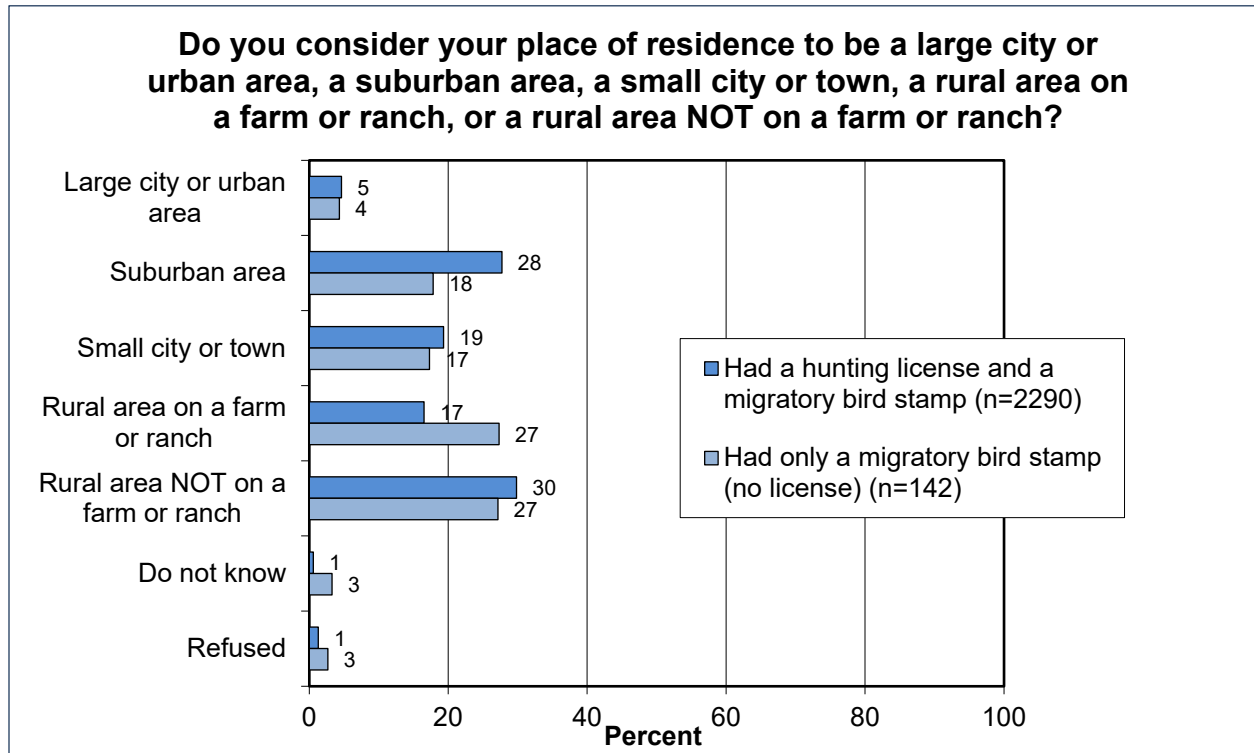


What county do you live in? (Asked of Maryland residents.)

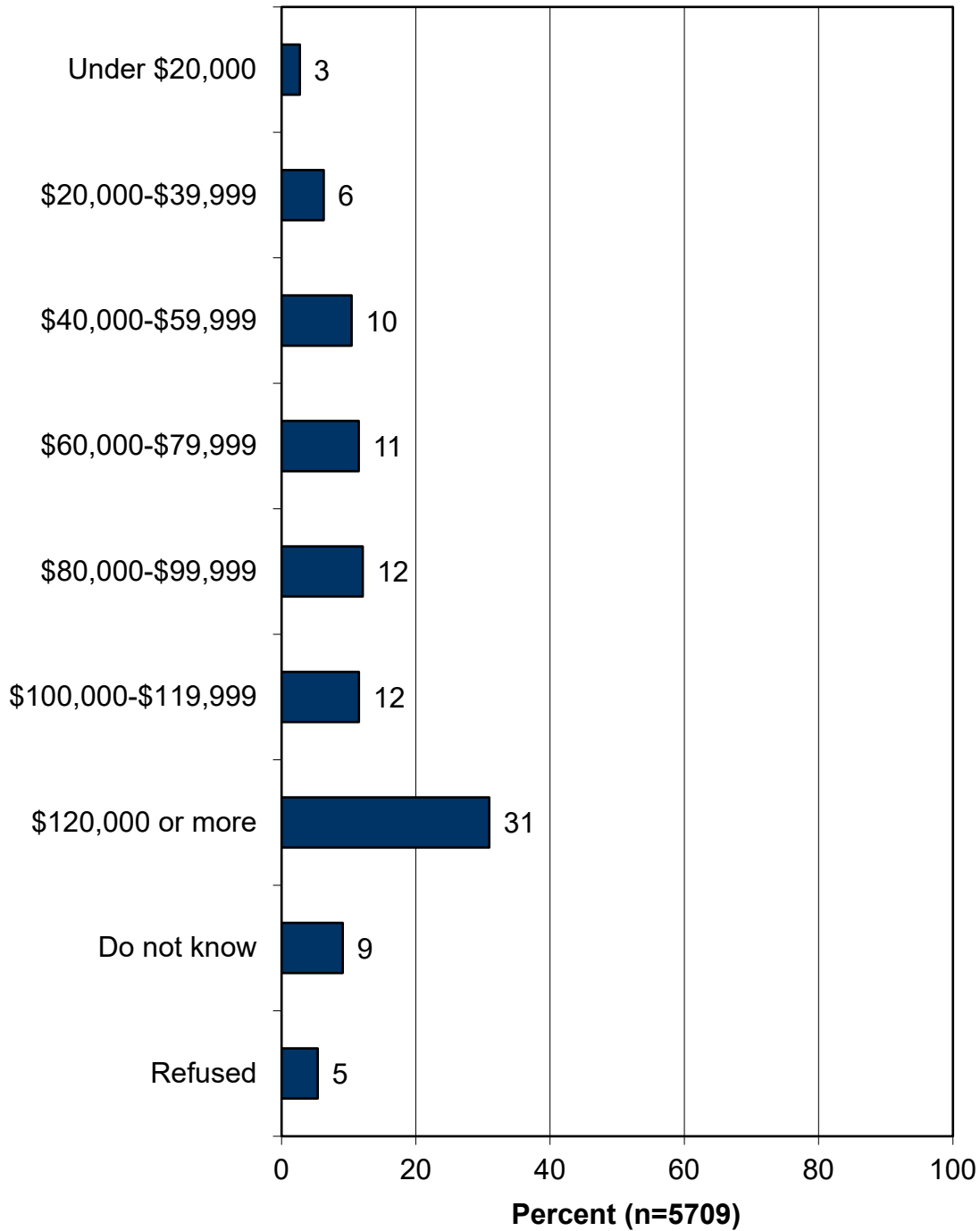


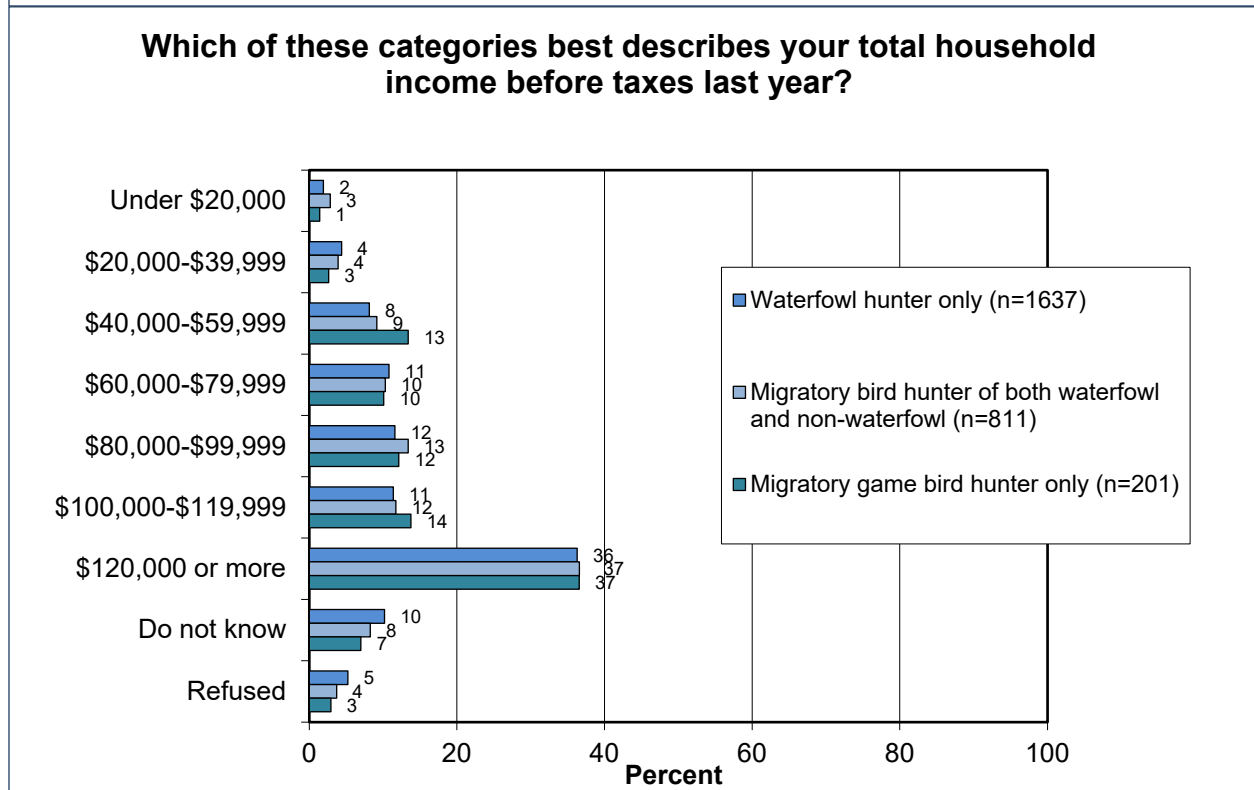
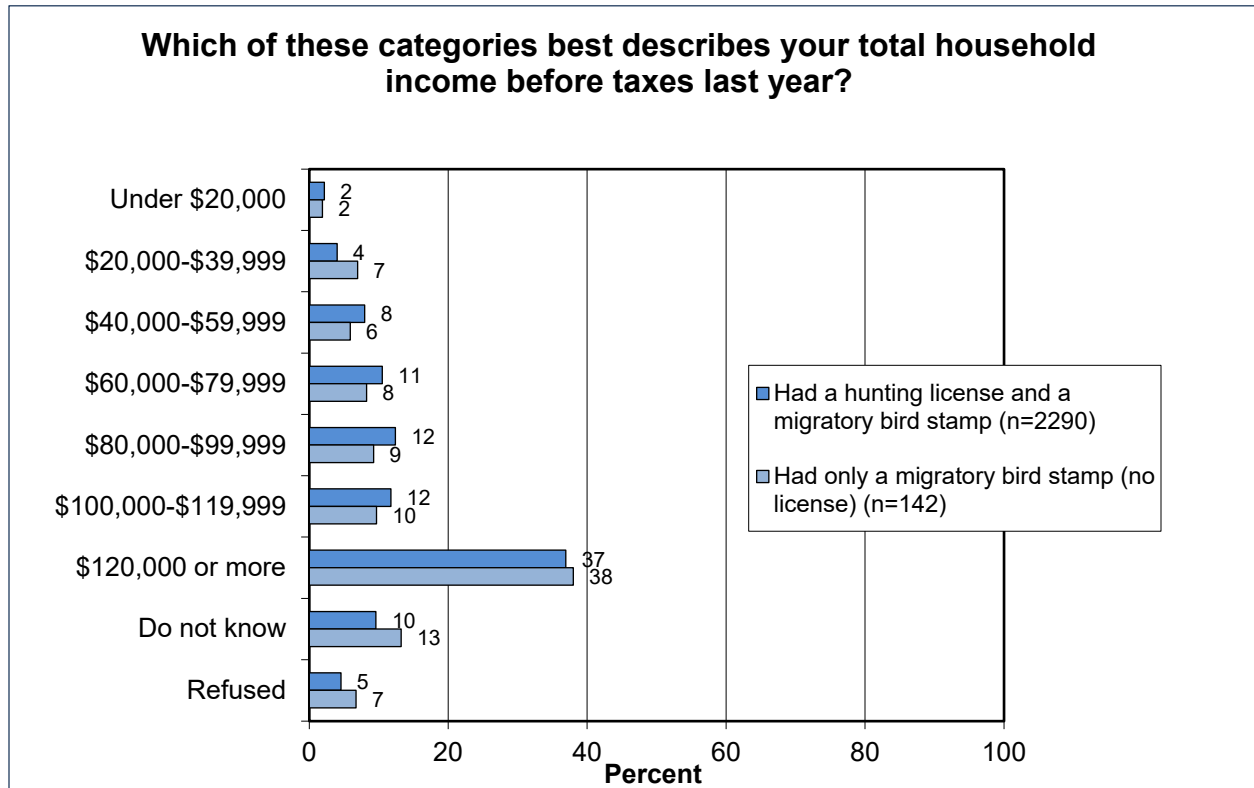
Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area NOT on a farm or ranch?





Which of these categories best describes your total household income before taxes last year?





ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized survey research firm specializing in 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. Focusing only on natural resource and outdoor recreation issues, 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 human dimensions research measuring how people relate to the natural world for more than 30 years. 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 human dimensions projects *only* on natural resource and outdoor recreation issues.

Responsive Management has conducted research for every state fish and wildlife agency and every federal natural resource agency, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, Bureau of Land Management, U.S. Coast Guard, and the National Marine Fisheries Service. Additionally, we have also provided research for all the major conservation NGOs including the Archery Trade Association, the American Sportfishing Association, the Association of Fish and Wildlife Agencies, Dallas Safari Club, Ducks Unlimited, Environmental Defense Fund, the Izaak Walton League of America, the National Rifle Association, the National Shooting Sports Foundation, the National Wildlife Federation, the Recreational Boating and Fishing Foundation, the Rocky Mountain Elk Foundation, Safari Club International, the Sierra Club, Trout Unlimited, and the Wildlife Management Institute.

Other nonprofit and NGO clients include the American Museum of Natural History, the BoatUS Foundation, the National Association of Conservation Law Enforcement Chiefs, the National Association of State Boating Law Administrators, and the Ocean Conservancy. As well, Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Vista Outdoor (whose brands include Federal Premium, CamelBak, Bushnell, Primos, and more), 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, Maryland 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, Yale 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, National Public Radio, and on the front pages of *The Washington Post* and *USA Today*.

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