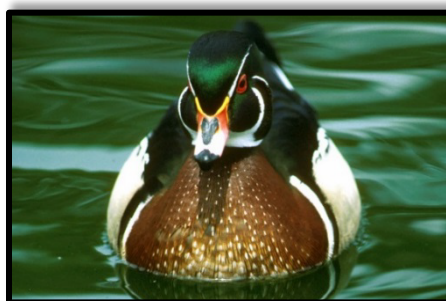




# Public Views of Wetlands and Waterfowl Conservation in the United States—Results of a Survey to Inform the 2018 Update of the North American Waterfowl Management Plan

By Emily J. Wilkins and Holly M. Miller



Open-File Report 2017–1148

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### **Suggested citation:**

Wilkins, E.J., and Miller, H.M., 2018, Public views of wetlands and waterfowl conservation in the United States—Results of a survey to inform the 2018 update of the North American Waterfowl Management Plan: U.S. Geological Survey Open-File Report 2017–1148, 134 p., <https://doi.org/10.3133/ofr20171148>.

ISSN 2331-1258 (online)

## **Acknowledgments**

We would like to acknowledge the members of the North American Waterfowl Management Plan (NAWMP) Human Dimensions Working Group and Public Engagement Team for their valuable feedback on the survey instrument and this report. Many thanks to Joe Buchanan, Wylie Carr, Ashley Dayer, Jennie Duberstein, Eileen Dowd Stukel, David Fulton, Howie Harshaw, Dale Humburg, Mike Kilgore, Don Krage, Lincoln Larson, Andy Raedeke, Greg Soulliere, Bryan Swift, Barry Wilson, and Greg Yarris for their input. Special thanks to Jessica Miles for her help with data collection and entry.

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## Abbreviations

|       |                                          |
|-------|------------------------------------------|
| DK    | don't know                               |
| FWS   | U.S. Fish and Wildlife Service           |
| MS    | Mississippi (Flyway)                     |
| NAWMP | North American Waterfowl Management Plan |
| PBC   | perceived behavioral control             |
| U-C   | urban cluster                            |
| U.S.  | United States of America                 |
| USGS  | U.S. Geological Survey                   |

## Executive Summary

This report provides information from a general public survey conducted in early 2017 to help inform the North American Waterfowl Management Plan (NAWMP) 2018 update. This report is intended for use by the NAWMP advisory committees and anyone interested in the human dimensions of wetlands and waterfowl management. A mail-out survey was sent to 5,000 addresses in the United States, which were selected randomly in proportion to the population of each State. A total of 1,030 completed surveys representing 49 States were returned, resulting in a 23 percent overall response rate.

When comparing the demographics of the respondents to the U.S. census data, this sample overrepresented people who are male, older, highly educated, and white. Data were weighted on gender and age to make the results more representative of the overall U.S. population. Additionally, this sample had higher participation rates in all wildlife-related recreation activities than has been found in previous studies; this indicates there may have been selection bias, with people interested in nature-related topics more likely to complete the survey. Therefore, results likely represent a segment of the U.S. public that is more oriented toward and aware of wildlife and conservation issues than the general public as a whole. Because of this bias, responses for each question were also broken down by recreationist type (hunters, anglers, wildlife viewers, and no wildlife-related recreation). Additionally, responses for each question were split by administrative flyway (Atlantic, Central, Mississippi, Pacific) and residency (urban, urban cluster, rural) to better understand the different groups.

Most respondents knew of wetlands in their local area or community, and more than half had visited wetlands in the previous 12 months. Of those who had visited wetlands, the most common reasons were for walking/hiking/biking and enjoying nature/picnicking. In addition, this sample was very concerned about the reduction or loss of ecosystem services resulting from wetlands degradation or loss. A majority of respondents were somewhat or very concerned about 9 out of 10 wetlands benefits, with hunting opportunities being the only benefit the majority of people were not concerned about. People were the most concerned about clean water, clean air, and providing a home for wildlife. In contrast, people were least concerned about hunting opportunities and wetlands providing scenic places for inspiration or spiritual renewal. Communication about wetlands that focuses on habitat, clean air, and clean water may resonate with the widest variety of people. However, if communication is targeted toward wildlife-related recreationists, including more information about the recreation benefits of wetlands and emphasizing habitat benefits may be the most effective.

Many people reported having participated in conservation behaviors in the last year. The most popular activity was making the yard more desirable to wildlife, with more than three-fourths of respondents participating, followed by donating money to support wildlife/habitat conservation and talking to others in their community about conservation issues. There was lower participation in conservation behavior specifically related to wetlands and waterfowl, with two-fifths of respondents voting for candidates or ballot issues to support wetlands/waterfowl conservation and one-third advocating for political action to conserve wetlands/waterfowl.

In order to better understand how to reach out to the public on nature-related topics, preferences in information channels and trust in information sources were explored. Respondents were mostly likely to want to receive their information through personal experience, by reading or accessing online content, and through watching visual media online. People were least likely to want to receive information through listening to recorded audio media, attending educational opportunities, and listening to live audio media. These results emphasize the importance of

having content available online in an easily accessible and appealing format. Visual media in particular seems to be preferred across a wide variety of people. Additionally, people had the highest trust in scientific organizations, universities/educational organizations, and friends/family/neighbors/colleagues. The least trusted sources were national media/news, religious organizations, and local media/news. Urban respondents had higher trust levels overall, particularly for the government. Hunters and those in rural areas had lower levels of trust in the government but higher trust in family/friends.

In this sample, few respondents reported hunting waterfowl (5 percent) or hunting other game (16 percent) in the last year. Additionally, few respondents said they were very or somewhat likely to hunt waterfowl in the following 12 months. Even after considering that self-selection bias would make it more likely for hunters to respond to the survey, the relatively small number of respondents who identified as hunters reinforces that engagement of other wildlife-related recreationists is critical to meeting the third goal of the NAWMP 2012 revision—to increase numbers of wetlands/waterfowl conservationists. Many people also had negative perceptions of hunting. Half of the respondents stated that hunting would be unpleasant, and two-fifths believed hunting would be boring. In contrast, people had more favorable attitudes toward birdwatching, with only one-sixth saying it would be unpleasant and less than one-third saying it would be boring. A majority of respondents thought they could easily go hunting or birdwatching in the following 12 months. Overall, people had much more positive views toward birdwatching and expressed fewer barriers to participating in it. When asked what would prevent them from hunting, the most frequently stated reasons were moral opposition, no interest, personal health, and time constraints; for birdwatching, the most popular responses were nothing, no interest, and time constraints. These responses indicate it may be beneficial to move beyond hunting and find ways for other groups, such as birdwatchers, to play a more active role in conservation.

Although not many people hunted and many people tended to have negative attitudes toward hunting, over three-fourths of people said they knew a hunter. Given that wildlife viewers, those who did not participate in wildlife-related recreation, and urban residents tended to have negative attitudes toward hunting and (or) were not interested in participating, attempting to recruit them to participate in hunting may not be effective. However, given how many people across all groups knew a hunter and the relatively high levels of trust people had in their friends/family, hunters may be effective ambassadors for promoting waterfowl and wetlands conservation among nonhunters. Additionally, because people had less preference for viewing waterfowl and other game birds compared to their preference for seeing hummingbirds and birds of prey, conservation efforts that extend beyond waterfowl and include other species that benefit from wetlands may have more appeal to a broader range of people.



# **Public Views of Wetlands and Waterfowl Conservation in the United States—Results of a Survey to Inform the 2018 Update of the North American Waterfowl Management Plan**

By Emily J. Wilkins and Holly M. Miller

## **Introduction**

The North American Waterfowl Management Plan (NAWMP) was implemented in 1986 with an overarching goal to maintain abundant and resilient waterfowl populations in North America and sufficient wetlands and related habitats to sustain those populations (U.S. Fish and Wildlife Service and Canadian Wildlife Service, 1986). The plan is a partnership between the United States, Canada, and Mexico. In 2012, after 25 years of conservation success, the NAWMP planning committee, in consultation with stakeholders, decided to revise the NAWMP with additional goals to plan ahead for changing times and anticipated future challenges. The 2012 revision to the NAWMP added a new goal: growing numbers of waterfowl hunters, other conservationists, and citizens who enjoy and actively support waterfowl and wetlands conservation (North American Waterfowl Management Plan Committee, 2012). Although the goals relating to waterfowl populations and habitat have always been a foundation of NAWMP, the additional goal of engaging citizens in wetlands and waterfowl conservation had not previously been explicitly stated.

To reach this goal, NAWMP partners recognized the need to engage both the traditional waterfowl hunting community and the broader nontraditional stakeholder groups who are interested in the conservation of waterfowl and wetlands. According to the 2012 revision, the third goal was added because

It underscores the importance of people to the success of waterfowl conservation, and is born out of concern for the ongoing loss of waterfowl hunters, the opportunity presented by growing numbers of people who pursue waterfowl with cameras and binoculars, and a recognition that the NAWMP can succeed only if waterfowl conservation is relevant to broader societal issues. (North American Waterfowl Management Plan Committee, 2012, p. x)

In order to inform the final goal, three surveys were administered in the United States—a waterfowl hunter survey, a birder/birdwatcher survey, and a general public survey. Similar hunter and birder surveys were conducted concurrently in Canada. This report presents results from the U.S. general public survey.

The objectives of the general public survey were (1) to assess the general public's awareness and perceptions of the importance of the benefits provided by waterfowl and wetlands

conservation, (2) to assess potential avenues for public outreach and education on waterfowl and wetlands conservation, (3) to evaluate the general public's participation in waterfowl-associated recreation and how much they support waterfowl and wetlands conservation, and (4) to identify groups within the public that are more or less engaged with waterfowl and wetlands conservation.

## Methods

### Sampling

The population of interest for this study was all adults (18 years or older) in the United States. A randomly selected list of 5,000 residents and their mailing addresses throughout the United States was obtained from Survey Sampling International ([www.surveysampling.com](http://www.surveysampling.com)). The sample was demographically representative of the general U.S. population and was selected in proportion to the population of each State.

The survey was conducted as a mail-out survey in order to reach a random sample of U.S. citizens. The Dillman tailored design method (Dillman and others, 2014) was used to achieve higher response rates. Each potential participant received up to four mailings: (1) initial survey, (2) reminder postcard, (3) replacement survey, and (4) nonresponse questionnaire. Participants were sent a business reply envelope to mail back their surveys postage-free. The initial survey was mailed January 30, 2017, followed by the reminder postcards 7 days later; the postcards also had a web address and personalized access codes to complete the survey online. The replacement survey was mailed 24 days after the initial mailing to those who had yet to respond. The nonresponse questionnaire, to check for nonresponse bias, was mailed out 21 days after the replacement survey to those who still had not responded.

A total of 559 addresses were removed because the surveys were undeliverable, and an additional 36 addresses were removed because the resident was deceased. Therefore, the survey reached 4,405 potential participants. Of those, 1,030 responded. This is a response rate of 23.4 percent. The majority of responses (989) were on paper, with only a small portion (41) opting to fill out the survey online. Additionally, 275 people responded to the nonresponse questionnaire but did not respond to the full survey.

### Survey

The survey was nine pages in length and contained four main sections: (A) nature and wetlands activities, (B) sources of information about conservation issues, (C) opinions about wetlands, and (D) demographics. All survey questions were chosen and edited by the NAWMP Human Dimensions Working Group to help meet the objectives of the general public survey. It took an estimated 20 minutes to complete the survey. See appendix 1 for the full survey instrument.

Before the first question, the following definition of wetlands was stated:

**Wetlands include swamps, marshes, bogs, shallow ponds (less than 6 feet deep), and shallow areas on lakeshores and seashores.** Some wetlands are only wet some of the year, while others are wet year round. They can be in cities or in rural areas and can be smaller than a basketball court or cover several square miles. **We'll also be asking questions about waterfowl, such as ducks and geese,** which rely on the resources wetlands provide.

This definition was provided up front because this was a survey for the general public and many people may not have previously known what wetlands or waterfowl are.

Section A, on nature and wetlands activities, had 10 questions. Question 1 asked about participation in nature-related activities (past participation and future intention). It addressed part of objective 3 of the survey, to evaluate the general public's participation in waterfowl- and wetlands-associated recreation. It also served the purpose of beginning with a broad question that almost everyone could answer, so that everyone felt the survey was relevant to them even if they were not interested in or familiar with wetlands and waterfowl specifically.

Next, people were asked about their attitudes, subjective norms, and perceived behavioral control (PBC) related to hunting and birdwatching (questions 2–4). These questions also informed objective 3 because hunting and birdwatching are two ways that people interact with waterfowl and because attitudes, norms, and PBC all influence behavior (Ajzen, 1991). Therefore, to better understand how to increase participation in hunting and birdwatching, we must first understand people's attitudes, norms, and PBC related to these activities. Attitudes are positive or negative evaluations of specific objects, concepts, situations, and behaviors (Manfredo and others, 2009). To measure this concept, respondents were asked to rate hunting and birdwatching on two different 5-point scales: (1) unpleasant to pleasant and (2) boring to interesting. Subjective norms are "beliefs about what others expect us to do," and people are more likely to participate in a behavior if they believe others would support their decision (Manfredo and others, 2009, p. 36). To measure norms, participants were asked whether people important to them would support them in hunting or birdwatching in the following 12 months. PBC represents how easily someone could actually participate in a behavior; the greater the PBC, the more likely someone is to engage in a behavior (Ajzen and Driver, 1991). For PBC, participants were asked if they could easily hunt or birdwatch in the following 12 months if they desired. Both norms and PBC were measured on a 5-point Likert scale with an additional option for "don't know." These questions on attitudes, norms, and PBC were taken from Daigle and others (2002) and Shrestha and others (2012) (see appendix 1, p. 62).

In addition, perceived constraints to hunting and birdwatching were addressed to better understand what may be preventing people from engaging in waterfowl-related recreation. Two open-ended questions (questions 5–6) asked what would prevent respondents from hunting and birdwatching in the following 12 months, and responses were coded based on emergent themes to facilitate analysis. Participants also had the option to check a box stating "I don't know/I've never thought about it" instead of writing an answer.

Additionally, respondents were asked in this section whether they knew people who were hunters, birdwatchers, wildlife photographers, or conservationists (question 7) to better understand the influence of social networks on attitudes and behaviors. Categories for these questions (acquaintance, close friend, and relative) were taken from a study by Harshaw and Tindall (2005). This question was added because social networks influence attitudes and behavior (Harshaw and Tindall, 2005). People may have different definitions of who counts as a "conservationist," but no further definition was provided because we were interested in their perceptions of their networks. Another question (question 8) asked what types of wild birds people prefer to see to gauge perceptions of waterfowl compared to other birds. Finally, the last two questions in this group (questions 9–10) asked about conservation behaviors: one on general and wildlife-related conservation, and one specifically on wetlands/waterfowl conservation. The conservation activity questions were based on those by Cooper and others (2015) (see appendix 1, p. 64). They addressed the second part of objective 3 of the survey by assessing how much the

public supports waterfowl and wetlands conservation and how that compares to more general conservation behaviors.

Section B of the survey contained only two questions (11–12), one on information channel preference and one on trust in sources. Each of these aspects of communication plays an important role in the dissemination of information. Additionally, trust in a source is often used as a proxy for whether the information is credible (Eagly and Chaiken, 1993). These questions accomplished objective 2 of the survey, to assess potential avenues for public outreach and education on waterfowl and wetlands conservation, and their responses can help those in wetlands and waterfowl management understand how to best communicate to the public. The questions were adapted from the Canadian Nature Survey (Federal, Provincial, and Territorial Governments of Canada, 2014) (see appendix 1, p. 65–66).

Section C contained five questions (13–17), all relating specifically to wetlands. These questions were to inform objective 1, to assess the general public's awareness and perceptions of the importance of the benefits provided by wetlands. Questions in this section assessed awareness of wetlands in the local community, visitation to wetlands in the previous 12 months, and the purpose of their wetlands visit(s) (if applicable). Additionally, respondents were asked to state their level of concern over ecosystem services provided by wetlands and to choose the ecosystem services they were most and least concerned about.

Finally, section D covered demographics by asking seven questions (18–24). Demographics collected included year of birth, gender, education, size and type (urban/rural) of current residence, size and type (urban/rural) of childhood residence, employment in a nature-related profession, ethnicity, and race. Ethnicity and race questions were based on guidelines from the U.S. Census Bureau (2017b).

The nonresponse questionnaire was much shorter, containing only seven questions: three on demographics, three on wetlands, and one on past outdoor recreation participation. The definition of wetlands from the survey was repeated, but the last sentence defining waterfowl was removed because the nonresponse questionnaire did not ask about waterfowl specifically. The purpose of this questionnaire was to see if there were any differences between those who chose to respond to the survey and those who did not.

## Analysis

All data analyzed in this report are available online (Wilkins and others, 2017). The data in this report were analyzed by examining frequencies and by running chi-square analysis to test for differences among groups. Chi-square tests of independence were used to test for significant differences between groups when the data were categorical (for example, gender). This tests if the frequency of people in each category is different than what would be expected by chance if there were no relationship (Vaske, 2008, p. 317–322). The chi-square statistic ( $\chi^2$ ) is the sum of the differences between the actual and expected frequency distributions. Therefore, a large chi-square value indicates there is a large difference between the expected distribution (no relationship) and the actual distribution.

For this report, results were considered statistically significant if  $p < 0.05$ . Any  $p$ -values less than 0.05 are marked with an asterisk (\*) in tables.  $P$ -values indicate whether the difference among groups is real or simply by chance. At a  $p$ -value of 0.05, there is a 5 percent chance of finding a significant difference when there actually is none. For statistically significant results, Cramer's  $V$  values are presented to depict the effect size, which shows the magnitude of the difference rather than just the statistical difference. According to Cohen (1988, p. 25–27), a small

effect size is 0.1, a medium effect size is 0.3, and a large effect size is 0.5. A statistically significant result with at least a small effect size (0.1 or greater) is typically viewed as a meaningful difference (Cohen, 1988, p. 25).

## **Generalizability of the Sample**

Nonresponse bias can occur in survey research when those who do not respond to the survey are in some way different from those who do respond to the survey (Vaske, 2008, p. 212–213). The initial sample for this survey was demographically representative of the U.S. population, but that does not ensure that the sample of respondents was representative. One reason for this is self-selection; people who are interested in a topic are more likely to respond to a survey on that topic. Self-selection can result in respondents who report beliefs, attitudes, and behaviors that are different from those of the population as a whole. To check for nonresponse bias, the survey results for demographics, wildlife-related and other outdoor activities, and awareness of wetlands were compared to data available from the U.S. Census Bureau; the National Survey of Fishing, Hunting, and Wildlife Associated Recreation; and the nonresponse survey. Where possible, the data were weighted to improve representativeness. The data comparison process and weighting process is described below.

## **Demographics**

Seven questions were asked on the survey to determine the demographics of the sample population: age, gender, level of education, size and type (urban/rural) of current residence and childhood residence, employment in a nature-related profession, ethnicity, and race. Additionally, census region was obtained from mailing addresses. These demographics were compared to U.S. Census Bureau data to determine how representative the survey sample was of the U.S. general population (table 1). All census statistics are from the 2011–2015 American Community Survey 5-year estimates (U.S. Census Bureau, 2015a, c, d, 2017c), except for current residency, which is from the 2010 census (U.S. Census Bureau, 2010a).

The survey sample overrepresented people who are male, older, highly educated, and white. Although there appears to be a large difference in current residency, with many more survey respondents than census respondents living in urban clusters, this is likely because the data are self-reported and people perceive their communities differently from the way the census categorizes them. For example, a respondent might have considered the population of only their immediate town; the U.S. Census Bureau (2017a) draws boundaries based on the population density of each census block and neighboring blocks, so the population of the respondent's town might have been included within a larger area. In terms of attitudes and behavior, people's perceptions of their situations are likely to matter more than formal categories. Data on childhood residency are not collected in the census, so survey responses to that question could not be checked for bias. Additionally, table 1 shows that the sample also has a higher proportion of people who participate in nature-related professions, which could be because the survey widened the definition of such professions to include environmental science and conservation-related jobs; the census limits it to forestry, farming, and fisheries jobs.

**Table 1.** Demographic data from the survey respondents compared to data from the U.S. Census Bureau.

[Sample is percent of total survey respondents (n=1,030); does not include nonresponse questionnaire respondents. Census is percent of U.S. general population. U.S. Census data from U.S. Census Bureau, 2010, 2015a, c, d, 2017c. %, percent; pop., population; N/A, not applicable]

|                     | Demographic category               | Sample | Census |
|---------------------|------------------------------------|--------|--------|
| Age                 | 18–44 (% of adults)                | 21.4%  | 48.1%  |
|                     | 45–65 (% of adults)                | 45.8%  | 34.7%  |
|                     | 65+ (% of adults)                  | 32.7%  | 17.2%  |
| Gender              | Male                               | 65.1%  | 49.2%  |
|                     | Female                             | 34.9%  | 50.8%  |
| Education           | High school degree or less         | 17.4%  | 41.1%  |
|                     | Some college or associate’s degree | 30.3%  | 26.4%  |
|                     | Bachelor’s degree                  | 26.8%  | 20.5%  |
|                     | Graduate degree                    | 25.5%  | 12.0%  |
| Current residence   | Urban (pop. 50,000+)               | 46.8%  | 71.2%  |
|                     | Urban cluster (pop. 2,500–50,000)  | 37.9%  | 9.5%   |
|                     | Rural (pop. <2,500)                | 15.4%  | 19.3%  |
| Childhood residence | Urban (pop. 50,000+)               | 44.7%  | N/A    |
|                     | Urban cluster (pop. 2,500–50,000)  | 36.9%  | N/A    |
|                     | Rural (pop. <2,500)                | 18.4%  | N/A    |
| Nature profession   | Yes                                | 5.2%   | 1.7%   |
|                     | No                                 | 94.8%  | 98.3%  |
| Ethnicity           | Hispanic                           | 5.6%   | 17.1%  |
|                     | Not Hispanic                       | 94.4%  | 82.9%  |
| Race                | American Indian/Alaskan            | 1.3%   | 0.8%   |
|                     | Asian                              | 3.9%   | 5.1%   |
|                     | Black                              | 5.0%   | 12.6%  |
|                     | Hawaiian/Pacific Islander          | 0.2%   | 0.2%   |
|                     | White                              | 86.1%  | 73.6%  |
|                     | Other alone                        | N/A    | 4.7%   |
|                     | Two or more                        | 3.2%   | 3.0%   |
| Census region       | Northeast                          | 19.7%  | 17.5%  |
|                     | Midwest                            | 27.7%  | 21.1%  |
|                     | South                              | 31.1%  | 37.7%  |
|                     | West                               | 21.6%  | 23.7%  |

## Demographic Data Weighting

Data weighting is a statistical technique used to give the responses of some people more weight while decreasing the weight of others. In survey research, this technique is often used when the sample of people who responded to the survey is significantly different from the population being studied (Kalton and Flores-Cervantes, 2003). For example, if a survey sample is only 20 percent women but women make up 50 percent of the general population, then the responses of women would be given more weight so the results are more representative of the population. Weights are calculated by dividing the population percent by the sample percent (for the gender example,  $50/20 =$  a weight of 2.5). Weights can be applied to multiple variables, but with each additional variable weighted, the sample size within the categories decreases (Vaske, 2008).

For this report, all subsequent data presented for general results were weighted using census data for both gender and age (table 2). However, both weighted and unweighted frequencies for each question can be found in appendix 3. Previous research has shown that outdoor recreation and conservation attitudes and behavior differ by gender (Virden and Walker, 1999; Cordell, 2012), and this sample had a disproportionate response from males (65.1 percent of respondents were male, compared to males being only 48.6 percent of the adult population). Additionally, this sample also underrepresents younger people (44 or younger) (21.4 percent of respondents were in this category, compared to 47.4 percent of the adult population). Because age has also been shown to have an effect on outdoor recreation participation (Cordell, 2012; U.S. Fish and Wildlife Service and U.S. Census Bureau, 2014), age was applied as a weight to make the results more representative of the general population. The categories for ages were determined by looking at previous survey results on differences in outdoor recreation participation by age (U.S. Fish and Wildlife Service and U.S. Census Bureau, 2014).

**Table 2.** Weights applied to each respondent's answers based on gender and age.

| Age   | Male  | Female |
|-------|-------|--------|
| 18–44 | 1.952 | 2.550  |
| 45–64 | 0.563 | 1.095  |
| 65+   | 0.343 | 1.097  |

The sample also showed differences between the survey respondents and the general public for other demographics, including level of education, ethnicity, and race. Weights using these categories were not applied, however, because the addition of weighted variables decreases the sample size for each group. For example, the “Female, age 18–44” category has only 92 respondents; breaking this group down further by race or education level would create very small sample groups. Weighting with small numbers in each category gives a large voice to a small handful of people who may not be representative of their demographic. Therefore, the data were weighted only on gender and age to maintain a reasonable amount of respondents per category. However, this means that the results are more representative of highly educated, white Americans.

## Wildlife-Related Activities

In addition to some of the survey sample demographics differing from the U.S. population, the rates of participation in various outdoor activities were also different from what previous studies have found. When our results are compared to the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Fish and Wildlife Service and U.S. Census Bureau, 2014), it is clear that those more interested in wildlife were more likely to respond to the survey and that survey respondents showed a much higher likelihood of participation in wildlife-related activities (table 3). For example, of the adults 18 and older who responded to this survey, 39.1 percent reported having participated in fishing in the previous 12 months; the 2011 survey found that only 13.4 percent of adults 16 and over had participated in fishing. Therefore, when interpreting the results, it must be noted that this sample is more inclined toward wildlife-related recreation activities than the general public and thus could be more conservation-minded, which might have influenced their responses on many questions.

**Table 3.** Reported participation in wildlife-related activities among survey respondents, compared to responses to the 2011 U.S. Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife Associated Recreation.

| Activity                            | Sample participation rate (weighted) | Sample participation rate (unweighted) | 2011 participation rate <sup>1</sup> |
|-------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------|
| Viewing/feeding/photographing birds | 58.3%                                | 61.0%                                  | 19.0%                                |
| Viewing/photographing any wildlife  | 68.7%                                | 65.9%                                  | 29.1%                                |
| Fishing                             | 39.1%                                | 40.2%                                  | 13.4%                                |
| Hunting waterfowl                   | 5.2%                                 | 5.1%                                   | 1.0%                                 |
| Hunting other game                  | 16.2%                                | 17.4%                                  | 5.6%                                 |

<sup>1</sup>U.S. Fish and Wildlife Service and U.S. Census Bureau (2014).

Though those who participated in the survey were more likely to engage in wildlife-related activities, it was not possible to apply weights based on data from the 2011 survey. First, categories must be mutually exclusive to apply weights, and the 2011 survey allowed people to fall into more than one category; for example, someone could have identified as both a hunter and an angler. Categories must be mutually exclusive to apply weights, and the 2011 survey does not provide these data. Additionally, population numbers for each subgroup are needed to calculate weights (Kalton and Flores-Cervantes, 2003; Vaske, 2008). The 2011 survey does not provide mutually exclusive data on true population numbers of people who participate in various outdoor activities by age and gender, nor does it provide data on how many people do not participate in any wildlife-related activities. Further, because of the known bias toward wildlife recreationists in the respondents to this survey, this report also contains results broken down by type of wildlife recreationist; results by hunters, anglers, wildlife viewers, and those who do not participate in any wildlife-related recreation are presented when statistically significant differences are found between these groups. Because this sample is more wildlife-oriented than other studies have found, it can be assumed that the group of those who did not participate in any wildlife-related recreation is larger in the general population than in the sample for this survey. Consequently, overall results would most likely tilt more in the direction of the “none” group if the sample was truly representative of the American public as a whole.



## Nonresponse Survey

The survey sample differs from the U.S. population both demographically and with regards to wildlife-related activities, but the sample may also differ in other areas. One way to determine if there is bias regarding nondemographic questions is to test for significant differences by administering a shorter nonresponse survey with a small subset of the questions asked on the full survey. In this study, those who did not respond to the first two survey mailings were mailed a nonresponse survey; 275 people responded to this last survey. There were significant differences between respondents and nonrespondents for knowledge of wetlands in their local communities, visitation to wetlands, and outdoor activity participation. Those who responded to the full survey were more likely to know about wetlands, visit wetlands, and participate in all outdoor activities. The nonresponse survey data aligns more with the lower national rates of participation presented in table 3. These results reiterate that the sample is more nature-oriented and wildlife-oriented than the general public and is thus more likely to show support for conservation and wetlands. For full results comparing the full survey sample to the nonresponse sample, see appendix 2.

## Confidence Levels and Margin of Error

Most of the data presented are based on a sample size of 998 people. Although 1,030 people responded to the survey, 32 did not report gender and (or) age and thus could not be included because the respondents were weighted based on gender and age. The population of interest is adults in the United States ages 18 years and older, 242.77 million as of 2015 (U.S. Census Bureau, 2015b), so the confidence interval is 3.10 at a confidence level of 95 percent. However, weighting the data adds additional variance (Valliant and others, 2013), which increases the standard error of the estimates; the confidence interval after weighting is 3.35 at a confidence level of 95 percent. That is, if 50 percent of the people in the sample responded “yes” to a question, we can say with 95 percent confidence that the real percentage of the entire population who would respond “yes” to that question is between 46.65 and 53.35 percent. Some people did not answer each question, but this does not greatly alter the confidence interval. Therefore, the confidence level will not be reported for each question; it should be assumed with 95 percent confidence that the true percentages are  $\pm 3.35$  percent of the reported value. However, given the known differences between the respondents and the population with regards to wildlife-related activities and awareness of wetlands, caution should be exercised in generalizing the results of this survey to the general public as a whole.

## Respondent Categories of Interest

In order to inform the fourth objective of the general public survey—identifying groups within the public that are more or less engaged with waterfowl and wetlands conservation—the general public sample was split into groups by recreationist type, flyway, and residency. All of the data are unweighted when presented by these categories. In addition, overall sample sizes are not given in figures and tables for data broken down by groups because sample sizes of the smaller groups are more important; they can be found for each question in the appendixes.

### Recreationist Type

As was described previously, there was likely some selection bias in those who chose to respond to the survey. This sample had higher percentages of people who participated in all

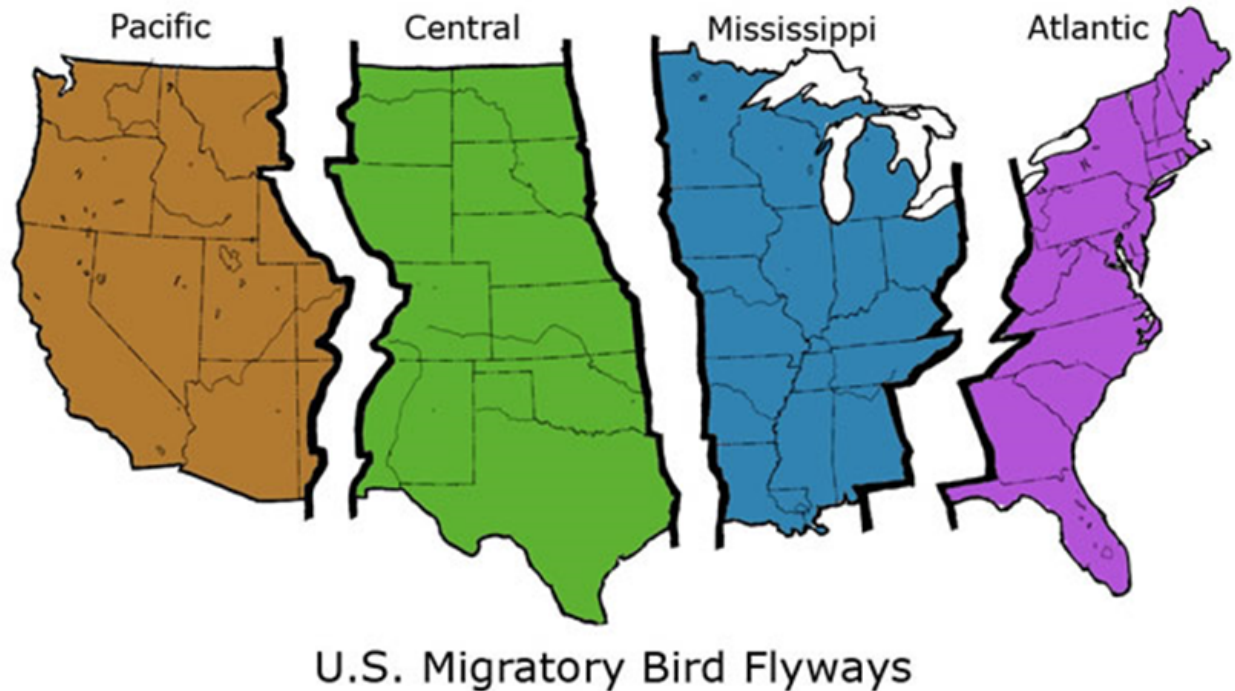
outdoor and wildlife-related activities than previously found for the general public (Cordell, 2012; U.S. Fish and Wildlife Service and U.S. Census Bureau, 2014). Because of this difference, respondents were separated into categories based on type of wildlife-related recreation activity in order to better understand the opinions and behavior of these groups.

The categories of recreationists were hunters (n=183), anglers (n=251), wildlife viewers (n=415), and those who do not participate in any wildlife-related recreation (n=168, referred to as “none”). Hunters included those who had participated in any kind of hunting in the previous 12 months. Of the 183 hunters, 51 participated in waterfowl hunting (28 percent). Although there are likely differences in attitudes and conservation behaviors between waterfowl hunters and big game hunters, there are not enough waterfowl hunters to analyze separately. Anglers included anyone who fished but did not hunt in the previous 12 months (some were also wildlife viewers). Wildlife viewers were those who did not hunt or fish but reported viewing birds or other wildlife in the previous 12 months. Finally, those who did not participate in any wildlife-related recreation did not participate in hunting, fishing, or viewing in the previous 12 months.

Although these activities are not mutually exclusive (for example, hunters can also be anglers), each person was placed into only one category to facilitate analysis. Most people in the hunter group also participated in the other activities, with 95 percent fishing and (or) viewing, feeding, or photographing wildlife. Additionally, many people in the “none” group participated in outdoor activities that are not wildlife-related. For example, just over one-third of this group participated in nonmotorized outdoor recreation in the previous 12 months. To see more results of activity participation by recreation group, as well as responses for every question in the survey broken down by recreationist type, see appendix 4. Others have found that those who participate in more than one category of wildlife-related recreation (hunting, angling, and viewing) tend to be the most involved in conservation (Cooper and others, 2015). Given that most hunters participated in at least one other wildlife-related activity, they most closely represent this multiactivity group. Because the number of hunters who did not participate in another wildlife-related activity was small (n=10), it was not feasible to create another category of hunters only for analysis.

## Flyway

A flyway describes a common route that is used by a group of birds in their migration from breeding to wintering areas. There are four waterfowl flyways in North America, which are divided into administrative boundaries to facilitate management (U.S. Fish and Wildlife Service, 2017). Therefore, data were also broken down by administrative flyway: Atlantic, Mississippi, Central, and Pacific (fig. 1). The Pacific Flyway also includes Alaska; Hawaii is not a part of any flyway.



**Figure 1.** A map of the flyway divisions in the United States. (From South Carolina Department of Natural Resources, 2015)

The original sample was chosen in proportion to the population of each State. Therefore, sample percentages are similar to the overall population percent living in each flyway (table 4). However, this means there is a larger sample from the Atlantic Flyway (because of its higher population) and much smaller samples from the Central and Pacific Flyways. Therefore, the margin of error is higher for the Central and Pacific Flyways, and caution should be used when extrapolating the results from these samples onto the entire flyway.

**Table 4.** Sample size, population size, and confidence interval by flyway.  
[Population data from U.S. Census Bureau, 2015b. mil, million]

| Flyway      | Sample size | Sample percent | Adult population | Population percent | Confidence interval |
|-------------|-------------|----------------|------------------|--------------------|---------------------|
| Atlantic    | n=391       | 38.0%          | 92.02 mil        | 37.9%              | 4.96                |
| Mississippi | n=329       | 31.9%          | 67.11 mil        | 27.6%              | 5.40                |
| Central     | n=126       | 12.2%          | 32.70 mil        | 13.5%              | 8.73                |
| Pacific     | n=184       | 17.9%          | 49.91 mil        | 20.6%              | 7.22                |

### Current Residence

The United States becomes more urbanized every decade (U.S. Census Bureau, 1993, 2015). It has been recognized that there are many differences between those who live in rural areas and those who live in urban areas, especially in terms of environmental attitudes and behaviors (Jones and others, 1999; Berenguer and others, 2005; Huddart-Kennedy and others, 2009). Therefore, each question is also broken down into three categories of residency defined

according to the U.S. census: urban, a population of 50,000 or more; urban clusters, a population between 2,500 and 50,000; and rural, a population of less than 2,500.

Rather than categorizing people by zip code, survey respondents were asked to select the category that represents their current place of residence. Although people may not categorize themselves exactly as the census would, we believe people's perceptions of the places they live are likely to matter more than formal categories. However, this means the sample percentages do not align with the population percentages reported by the census, likely because people assess the size of the community in which they live differently than the census would; for example, the number of people who indicated they live in urban clusters is far greater than the number from the census (table 5).

**Table 5.** Sample size, population size, and confidence intervals by current residence type.  
[Population data from U.S. Census Bureau, 2010a. mil, million]

| Residence                         | Sample size | Sample percent | Population | Population percent | Confidence interval |
|-----------------------------------|-------------|----------------|------------|--------------------|---------------------|
| Urban (pop. 50,000+)              | n=472       | 46.8%          | 219.92 mil | 71.2%              | 4.51                |
| Urban cluster (pop. 2,500–50,000) | n=382       | 37.9%          | 29.33 mil  | 9.5%               | 5.01                |
| Rural (pop. <2,500)               | n=155       | 15.4%          | 59.49 mil  | 19.3%              | 7.87                |

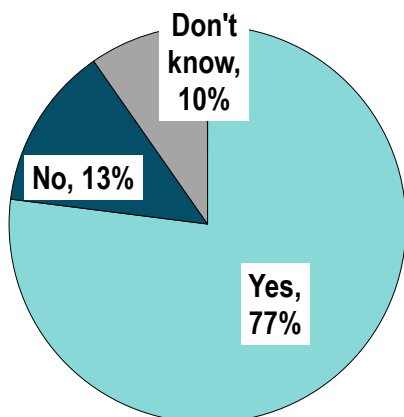
## Results

### Awareness and Importance of Wetlands

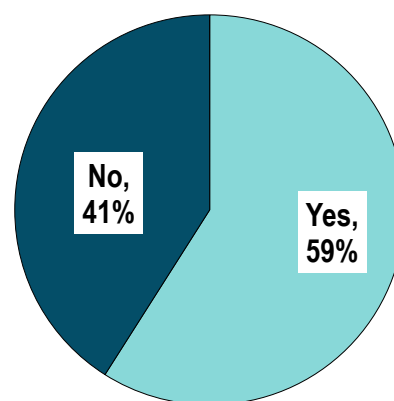
#### Knowledge of and Visitation to Wetlands

People were asked whether they knew about wetlands in their local community and if they had visited wetlands in the previous 12 months (fig. 2). Over three-fourths of respondents reported that they knew of wetlands in their local community (77 percent), and three-fifths also reported having visited wetlands in the previous 12 months (59 percent). Of those who had visited wetlands, the majority were engaged in walking (including dog walking), hiking, or biking and (or) enjoying nature (including picnicking and nature photography) (fig. 3). Comparatively, fewer people were participating in wildlife viewing (including birdwatching) or photography; fishing; boating; or hunting.

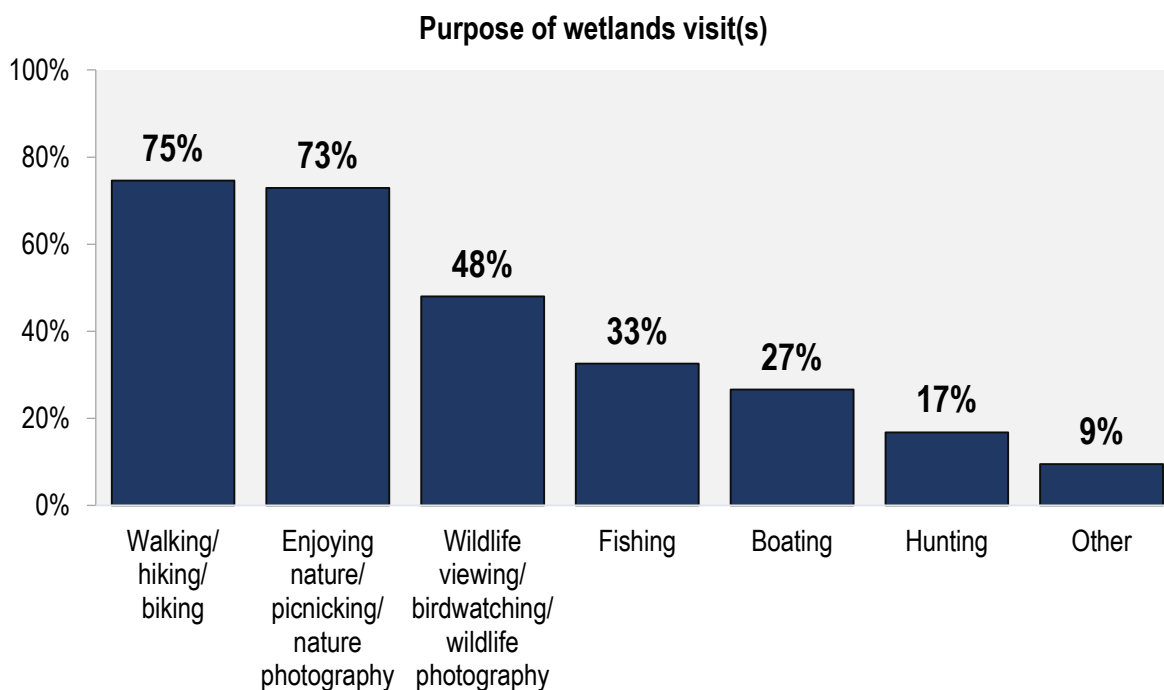
Do you know of any wetlands in your local area or community?



Have you visited any wetlands in the last 12 months?



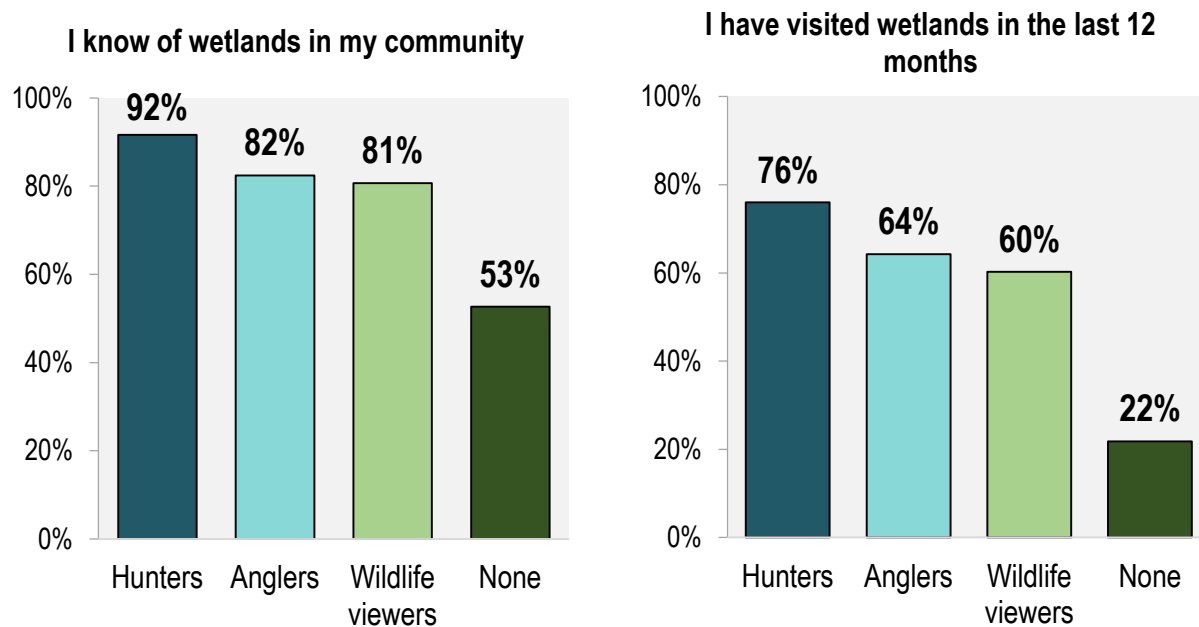
**Figure 2.** Percentages of respondents who knew of wetlands in their community (n=984) and who had visited wetlands in the previous 12 months (n=985).



**Figure 3.** The purpose of wetlands visits, for those who had visited wetlands in the previous 12 months (in percentages; n=590).

There were also many differences in wetlands knowledge and visitation by recreation groups and by flyway. Hunters had the highest knowledge of wetlands in their local community, and those who did not participate in wildlife-related recreation had the lowest (fig. 4) ( $\chi^2=95.555$ , 6 degrees of freedom,  $p<0.001$ , Cramer's  $V=0.219$ ). The same trends followed for wetlands

visitation in the previous 12 months, with hunters having the highest visitation rates and the group engaging in no wildlife recreation having the lowest ( $\chi^2=16.903$ , 3 degrees of freedom,  $p<0.001$ , Cramer's  $V=0.343$ ). Respondents broken down by recreation groups also had differing purposes for their wetlands visits (table 6). Hunters were more likely than other groups to have visited a wetland to hunt, fish, or boat, and those who did not participate in wildlife-related recreation were much less likely to visit wetlands to hunt, fish, view wildlife, or enjoy nature.



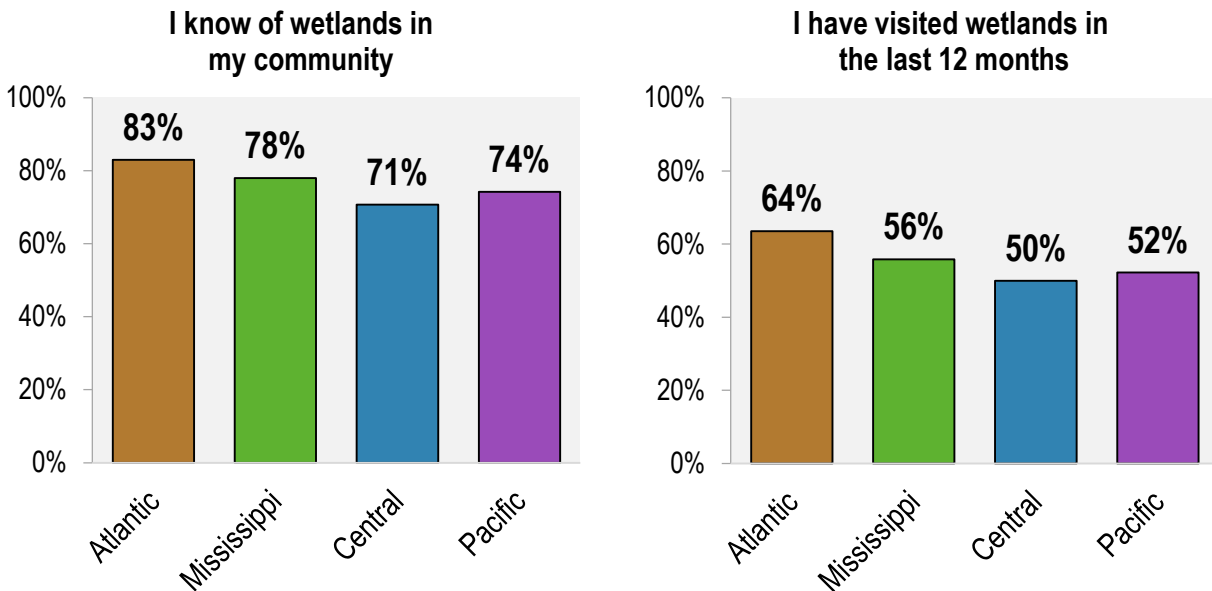
**Figure 4.** Percentage of respondents who knew of wetlands in their community (n=995) and who had visited wetlands in the previous 12 months (n=995), by recreation group.

**Table 6.** Significant differences in purpose(s) of wetlands visit(s), for those who had visited wetlands in the previous 12 months, by recreation group.

[Degrees of freedom equal 3 for all items. Statistically significant  $p$ -values (less than 0.05) are marked with an asterisk (\*). Percentages do not sum to 100 because some people had multiple purposes]

| Purpose of visit                                           | Recreation group |         |                  |       | Chi-square | $p$ -value | Cramer's V |
|------------------------------------------------------------|------------------|---------|------------------|-------|------------|------------|------------|
|                                                            | Hunters          | Anglers | Wildlife viewers | None  |            |            |            |
| Enjoying nature/<br>picnicking/<br>nature photography      | 63.5%            | 71.2%   | 76.6%            | 44.7% | 19.615     | <0.001*    | 0.182      |
| Wildlife viewing/<br>birdwatching/<br>wildlife photography | 46.0%            | 48.5%   | 58.7%            | 7.9%  | 35.641     | <0.001*    | 0.246      |
| Boating                                                    | 41.6%            | 33.1%   | 14.7%            | 18.4% | 39.271     | <0.001*    | 0.258      |
| Fishing                                                    | 70.8%            | 57.1%   | 4.8%             | 2.6%  | 232.590    | <0.001*    | 0.628      |
| Hunting                                                    | 75.9%            | 2.5%    | 0.4%             | 0.0%  | 391.155    | <0.001*    | 0.814      |

By flyway, the Atlantic Flyway group had the highest knowledge of wetlands in their communities and highest visitation of wetlands in the previous 12 months, followed by the Mississippi, Pacific, and Central Flyways (fig. 5) (knowledge:  $\chi^2=16.656$ , 6 degrees of freedom,  $p=0.011$ , Cramer's  $V=0.091$ ; visitation:  $\chi^2=10.889$ , 3 degrees of freedom,  $p=0.012$ , Cramer's  $V=0.104$ ). There were also differences in the purpose of wetlands visits between the flyway groups. Respondents in the Central and Mississippi Flyways were more likely to have visited wetlands for boating, fishing, and hunting (table 7).



**Figure 5.** Percentage of respondents who knew of wetlands in their community (n=1,005) and who had visited wetlands in the previous 12 months (n=1,004), by flyway.

**Table 7.** Significant differences in purposes of wetlands visits for those who had visited wetlands in the previous 12 months, by flyway.

[Degrees of freedom equal 3 for all items. Statistically significant  $p$ -values (less than 0.05) are marked with an asterisk (\*)]

| Purpose of visit | Flyway   |             |         |         | Chi-square | $p$ -value | Cramer's V |
|------------------|----------|-------------|---------|---------|------------|------------|------------|
|                  | Atlantic | Mississippi | Central | Pacific |            |            |            |
| Boating          | 25.1%    | 31.7%       | 30.6%   | 15.8%   | 9.092      | 0.028*     | 0.124      |
| Fishing          | 32.4%    | 41.3%       | 46.8%   | 17.9%   | 20.071     | <0.001*    | 0.184      |
| Hunting          | 15.4%    | 23.3%       | 27.4%   | 10.5%   | 11.785     | 0.008*     | 0.141      |

Although there were no significant differences in knowledge of wetlands in the local community or wetlands visitation based on current residence, there were some differences in the purpose of wetlands visits. People in rural areas were most likely to visit wetlands for fishing ( $\chi^2=10.905$ , 2 degrees of freedom,  $p=0.004$ , Cramer's  $V=0.136$ ) and hunting ( $\chi^2=34.361$ , 2 degrees of freedom,  $p<0.001$ , Cramer's  $V=0.242$ ).

## Importance of Wetlands Ecosystem Services

Regardless of their wetlands awareness, everyone was asked to indicate what their level of concern would be if certain ecosystem services or benefits were substantially reduced or lost in their community because of a loss of wetlands. Respondents rated each of 10 benefits on a scale from 0 (not at all concerned) to 3 (very concerned) (table 8). Clean water and clear air had the highest levels of concern, with almost all respondents being somewhat or very concerned about a reduction in those benefits. A reduction in hunting opportunities had the lowest levels of concern, with two-fifths of respondents not at all concerned.

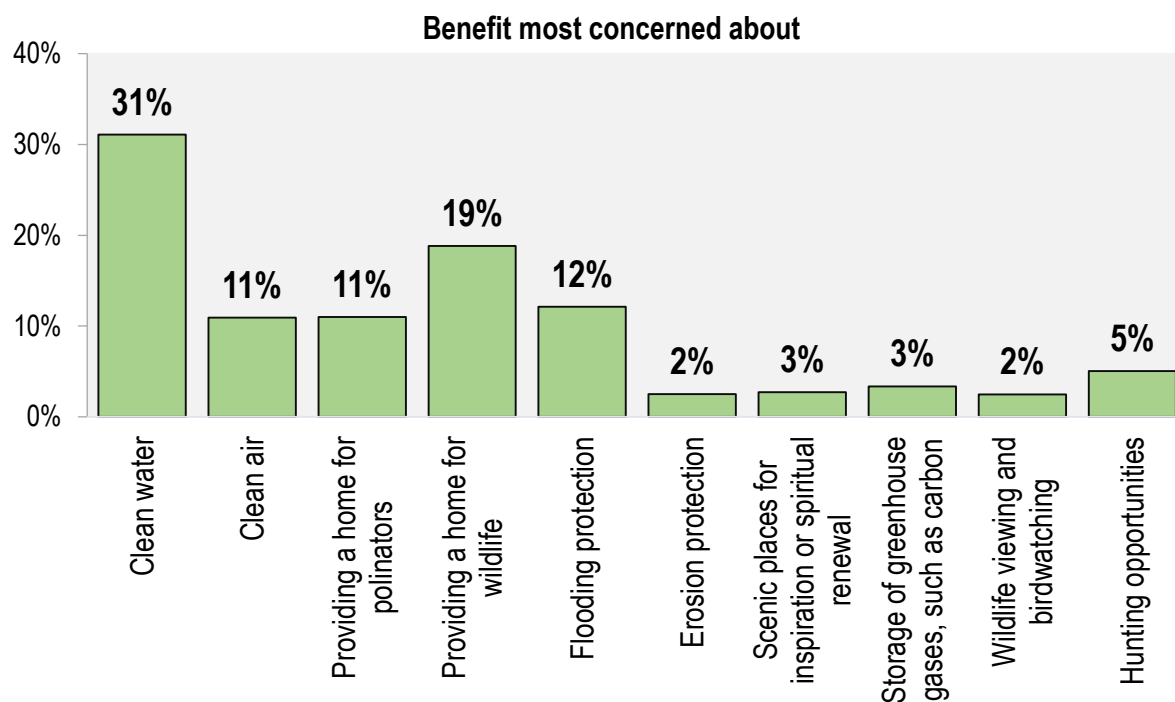
**Table 8.** Level of concern respondents reported regarding ecosystem services being reduced or lost if wetlands were to disappear or be degraded.

[In percent of survey respondents (n=962–980)]

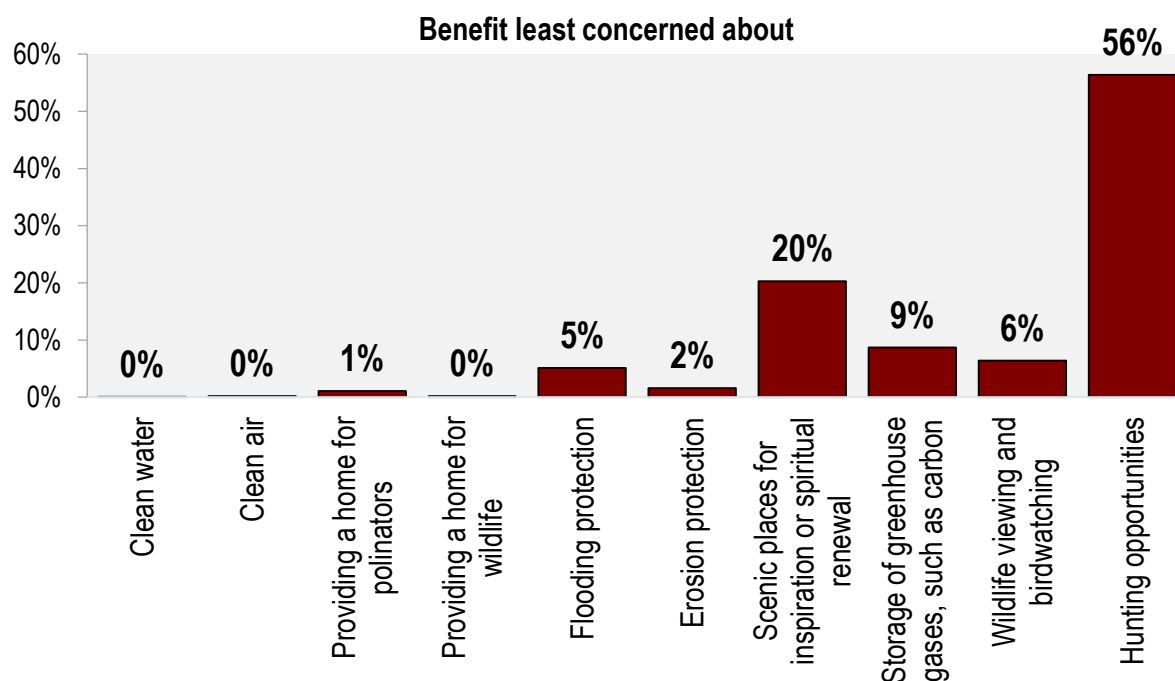
| Ecosystem service                                  | Very concerned | Somewhat concerned | Slightly concerned | Not at all concerned |
|----------------------------------------------------|----------------|--------------------|--------------------|----------------------|
| Clean water                                        | 79.5%          | 11.9%              | 5.6%               | 3.0%                 |
| Clean air                                          | 76.6%          | 14.4%              | 5.9%               | 3.0%                 |
| Providing a home for pollinators                   | 68.7%          | 21.4%              | 5.6%               | 4.3%                 |
| Providing a home for wildlife                      | 67.5%          | 21.9%              | 7.0%               | 3.6%                 |
| Flooding protection                                | 56.9%          | 24.8%              | 11.9%              | 6.4%                 |
| Erosion protection                                 | 56.6%          | 26.1%              | 11.4%              | 5.9%                 |
| Scenic places for inspiration or spiritual renewal | 43.4%          | 26.4%              | 18.3%              | 11.9%                |
| Storage of greenhouse gases, such as carbon        | 42.2%          | 29.0%              | 17.1%              | 11.7%                |
| Wildlife viewing and birdwatching                  | 40.9%          | 33.1%              | 16.3%              | 9.7%                 |
| Hunting opportunities                              | 19.6%          | 19.3%              | 19.2%              | 41.9%                |

Because it was expected that many people would express high concern over a reduction or loss of more than one ecosystem service or benefit, they were also asked to identify the one benefit they were most concerned about losing (fig. 6) and the one benefit they were least concerned about losing (fig. 7). People expressed the highest concern for a reduction or loss of clean water, followed by providing a home for wildlife and flooding protection. Conversely, figure 7 displays the percentages of people who were least concerned about a reduction or loss of the wetlands benefits. By far, people were least concerned about losing hunting opportunities (over half of respondents), followed by scenic places for inspiration or spiritual renewal.





**Figure 6.** Benefits from wetlands that respondents are most concerned about losing (in percentages; n=841).



**Figure 7.** Benefits from wetlands that respondents are least concerned about losing (in percentages; n=812).

The recreation groups had differing concerns regarding wetlands ecosystem services being reduced or lost (table 9). The reduction or loss of some ecosystem services, such as hunting opportunities and wildlife viewing/birdwatching, prompted very different levels of concern across the groups. Concern over other ecosystem services, however, such as clean water and clean air, was more consistent across all groups. Overall, those who did not participate in wildlife recreation had the lowest concern for the reduction or loss of all benefits except hunting opportunities, in which this group had similar levels of concern as the wildlife viewer group.

**Table 9.** Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded, by recreation group.

[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Ecosystem service                                  | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|----------------------------------------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                                                    | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Clean water                                        | 86.6%            | 93.4%   | 92.8%            | 81.8% | 21.236     | <0.001*         | 0.146      |
| Clean air                                          | 86.6%            | 93.4%   | 92.6%            | 81.1% | 22.503     | <0.001*         | 0.151      |
| Providing a home for pollinators                   | 88.2%            | 94.6%   | 93.1%            | 73.0% | 58.887     | <0.001*         | 0.244      |
| Providing a home for wildlife                      | 89.8%            | 92.6%   | 92.3%            | 70.1% | 63.606     | <0.001*         | 0.253      |
| Flooding protection                                | 74.7%            | 85.8%   | 85.4%            | 74.1% | 18.543     | <0.001*         | 0.137      |
| Erosion protection                                 | 78.5%            | 88.0%   | 88.8%            | 69.1% | 39.130     | <0.001*         | 0.200      |
| Scenic places for inspiration or spiritual renewal | 63.3%            | 73.8%   | 77.3%            | 54.3% | 35.229     | <0.001*         | 0.189      |
| Storage of greenhouse gases, such as carbon        | 62.7%            | 72.2%   | 75.8%            | 52.4% | 33.53      | <0.001*         | 0.186      |
| Wildlife viewing and birdwatching                  | 73.1%            | 77.7%   | 83.8%            | 46.6% | 85.445     | <0.001*         | 0.296      |
| Hunting opportunities                              | 88.7%            | 46.4%   | 22.5%            | 23.2% | 248.55     | <0.001*         | 0.504      |

Additionally, the flyway groups showed significant differences in levels of concern for a reduction or loss of a few of the ecosystem services that wetlands offer (table 10). The Central Flyway group had higher concern for lost hunting opportunities, which may be due to the higher proportion of hunters there. The Atlantic and Central Flyway groups had higher levels of concern for reductions in clean water and clean air, and the Atlantic Flyway group was more concerned about losing wildlife habitat.

**Table 10.** Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded, by flyway.

[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Ecosystem service             | Flyway   |             |         |         | Chi-square | p-value | Cramer's V |
|-------------------------------|----------|-------------|---------|---------|------------|---------|------------|
|                               | Atlantic | Mississippi | Central | Pacific |            |         |            |
| Clean water                   | 94.3%    | 86.3%       | 90.1%   | 86.4%   | 14.905     | 0.002*  | 0.122      |
| Clean air                     | 93.7%    | 86.0%       | 90.1%   | 86.9%   | 12.837     | 0.005*  | 0.113      |
| Providing a home for wildlife | 93.0%    | 85.4%       | 87.6%   | 82.3%   | 16.387     | 0.001*  | 0.128      |
| Hunting opportunities         | 38.5%    | 43.3%       | 52.5%   | 31.2%   | 14.957     | 0.002*  | 0.123      |

Differences by current residence were also found (table 11). Rural respondents had a higher concern for a loss of hunting benefits, which is consistent with their higher engagement in hunting. However, urban respondents were more concerned about reductions in flooding protection, storage of greenhouse gases, clean air, and pollinator habitat. Across all benefits, rural respondents had the lowest level of concern about losing wetlands benefits except for the loss of wildlife viewing/birdwatching and hunting opportunities.

**Table 11.** Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded, by current residence.

[Degrees of freedom equal 2 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Ecosystem service                | Current residence |               |       | Chi-square | p-value | Cramer's V |
|----------------------------------|-------------------|---------------|-------|------------|---------|------------|
|                                  | Urban             | Urban cluster | Rural |            |         |            |
| Clean air                        | 92.1%             | 89.7%         | 84.2% | 8.018      | 0.018*  | 0.090      |
| Providing a home for pollinators | 90.4%             | 90.5%         | 83.7% | 6.249      | 0.044*  | 0.079      |
| Flooding protection              | 84.7%             | 80.0%         | 75.0% | 7.851      | 0.020*  | 0.089      |
| Storage of greenhouse gases      | 73.1%             | 67.8%         | 56.3% | 14.882     | 0.001*  | 0.124      |
| Hunting opportunities            | 32.8%             | 43.9%         | 55.3% | 26.622     | <0.001* | 0.165      |

## Conservation Behavior

### General and Wildlife-Related Conservation

Many respondents indicated that they had been involved in wildlife-related conservation activities in the previous 12 months (table 12). More than three-fourths made their yard or land more desirable to wildlife, and over half talked to others in their community about conservation issues or donated money to support wildlife/habitat conservation. Two-fifths of respondents volunteered to improve wildlife habitat in their communities or participated as an active member in a nature, outdoor, or conservation group. However, these numbers seem remarkably high for the general public and may be attributable to the high percentages of respondents who participate in wildlife-related recreation. Additionally, some respondents may not have seen the statement in the instructions that asked for their level of involvement “in the last 12 months” and indicated their involvement over a longer time span instead.

**Table 12.** Participation rates in conservation and wildlife-related activities in the previous 12 months.  
[In percent of sample survey respondents (n=991–993)]

| Activity                                                                     | Very often | Often | Sometimes | Rarely | Never |
|------------------------------------------------------------------------------|------------|-------|-----------|--------|-------|
| Made my yard or land more desirable to wildlife                              | 18.4%      | 23.1% | 24.7%     | 13.2%  | 20.7% |
| Donated money to support wildlife/habitat conservation                       | 5.8%       | 9.0%  | 21.7%     | 19.5%  | 44.1% |
| Participated as an active member in a nature, outdoor, or conservation group | 4.1%       | 5.8%  | 11.8%     | 18.6%  | 59.7% |
| Talked to others in my community about conservation issues                   | 3.8%       | 9.6%  | 24.5%     | 17.5%  | 44.5% |
| Volunteered to improve wildlife habitat in my community                      | 3.2%       | 5.3%  | 13.2%     | 21.2%  | 57.1% |

For all five general wildlife-related conservation behaviors, hunters had the highest participation, and those who did not participate in wildlife-related recreation had the lowest participation (table 13). Participation levels for the angler and wildlife viewer groups were very similar. These findings concur with those from a survey conducted in New York by Cooper and others (2015), from which these survey items were adapted. They also found that people who participate in wildlife-related recreation were more likely to engage in conservation behaviors than those who do not participate in wildlife-related recreation.

**Table 13.** Participation rates in conservation and wildlife-related activities (sometimes, often, or very often) in the previous 12 months, by recreation group.  
[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Activity                                                              | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|-----------------------------------------------------------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                                                                       | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Made my yard or my land more desirable to wildlife                    | 82.6%            | 76.0%   | 71.8%            | 33.9% | 117.976    | <0.001*         | 0.342      |
| Donated money to support wildlife/habitat conservation                | 50.6%            | 37.2%   | 40.7%            | 14.3% | 53.520     | <0.001*         | 0.230      |
| Participated as an active member in a nature, outdoor, or cons. group | 32.4%            | 24.6%   | 19.1%            | 5.4%  | 42.172     | <0.001*         | 0.205      |
| Talked to others in my community about conservation issues            | 52.2%            | 40.2%   | 40.8%            | 11.4% | 67.581     | <0.001*         | 0.259      |
| Volunteered to improve wildlife habitat in my community               | 31.1%            | 25.3%   | 20.4%            | 6.5%  | 34.576     | <0.001*         | 0.185      |

Rural respondents were more likely to make their yard more desirable to wildlife, and urban respondents were less likely to participate in this activity ( $\chi^2=23.179$ , 2 degrees of freedom,  $p<0.001$ , Cramer's  $V=0.152$ ). This behavior could be because some people living in urban areas do not have a yard or land that would allow them to participate in this action. The only difference among flyway groups was for those who donated money to support

wildlife/habitat conservation, with the Central Flyway having higher participation and the Mississippi Flyway having lower participation ( $\chi^2=8.360$ , 3 degrees of freedom,  $p=0.039$ , Cramer's  $V=0.091$ ).

## Wetlands and Waterfowl Conservation

Fewer people participated in conservation behaviors specific to wetlands and waterfowl in the previous 12 months than participated in general wildlife-related conservation (table 14). The majority had never participated in any of the listed wetlands/waterfowl conservation activities in the previous 12 months. Of all the activities, voting for candidates or ballot issues to support wetlands/waterfowl conservation was the most common, with about two-fifths of respondents participating at any frequency. The lowest participation was in attending meetings about wetlands/waterfowl conservation, with one-fifth saying they had participated in some capacity in the previous 12 months. As was consistent with the general conservation behaviors, hunters also had the highest levels of participation in wetlands/waterfowl conservation, and those who did not participate in wildlife-related recreation had the lowest levels of participation (table 15). There was only one significant difference among residency groups—those in urban areas were more likely to contact their elected officials or government agencies about wetlands/waterfowl conservation, and rural residents were less likely to do this ( $\chi^2=9.928$ , 2 degrees of freedom,  $p=0.007$ , Cramer's  $V=0.100$ ). Additionally, there was one difference by flyway, with Central Flyway residents more likely to have attended meetings about wetlands/waterfowl conservation ( $\chi^2=9.658$ , 3 degrees of freedom,  $p=0.022$ , Cramer's  $V=0.097$ ).

**Table 14.** Participation rates in wetlands and waterfowl conservation activities in the previous 12 months.

[In percent of sample survey respondents (n=986–989)]

| Activity                                                                                 | Very often | Often | Sometimes | Rarely | Never |
|------------------------------------------------------------------------------------------|------------|-------|-----------|--------|-------|
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 10.7%      | 10.1% | 15.8%     | 7.7%   | 55.7% |
| Advocated for political action to conserve wetlands/waterfowl                            | 6.1%       | 6.5%  | 12.0%     | 8.4%   | 66.9% |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 1.3%       | 1.7%  | 6.0%      | 11.2%  | 79.8% |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 0.8%       | 2.8%  | 7.0%      | 12.6%  | 76.9% |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 0.5%       | 2.8%  | 6.1%      | 11.4%  | 79.1% |
| Attend meetings about wetlands/waterfowl conservation                                    | 0.2%       | 1.6%  | 5.4%      | 12.9%  | 79.9% |

**Table 15.** Participation rates in wetlands and waterfowl conservation activities (sometimes, often, or very often) in the previous 12 months, by recreation group.

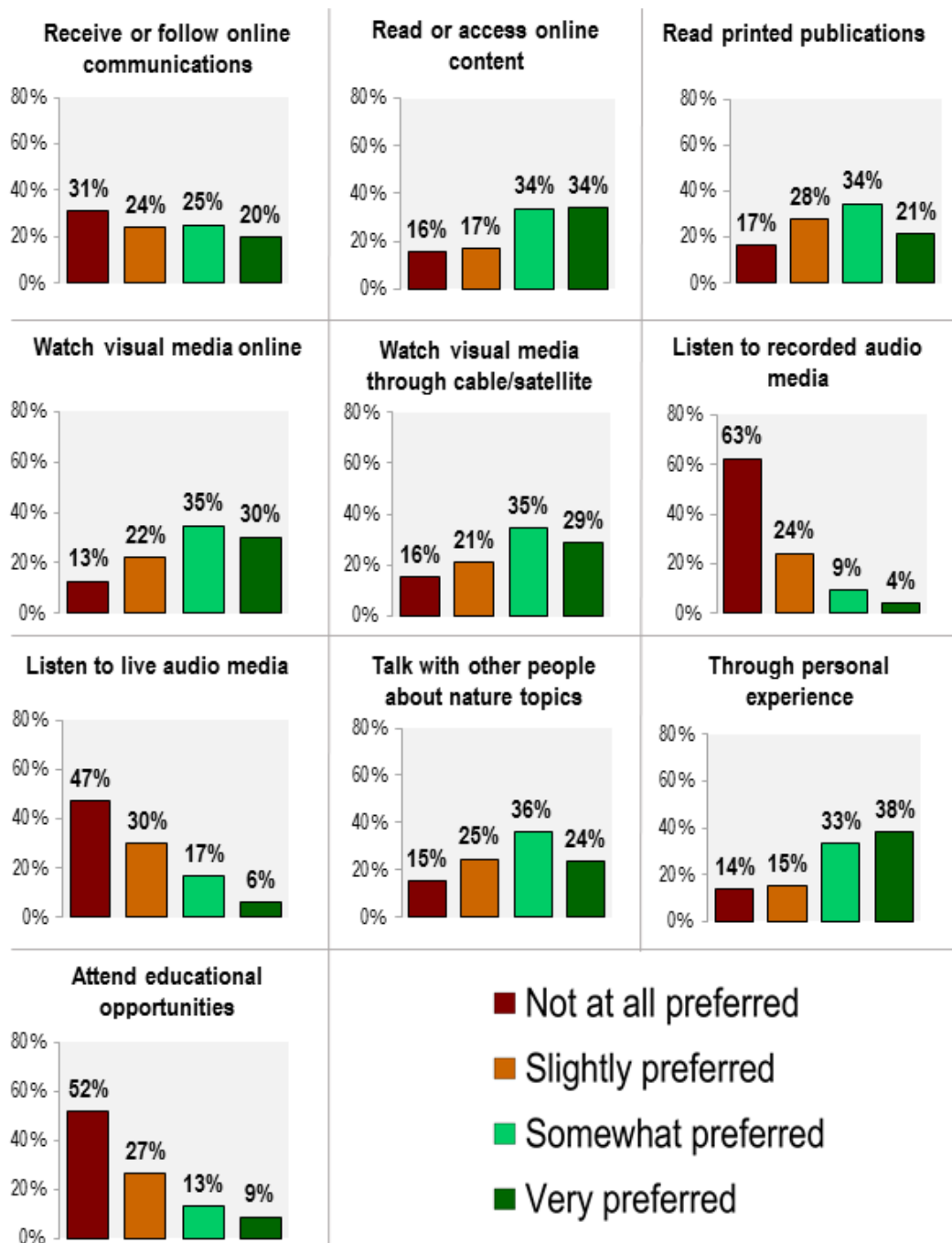
[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Activity                                                                                 | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|------------------------------------------------------------------------------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                                                                                          | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 47.5%            | 44.6%   | 39.0%            | 20.4% | 33.095     | <0.001*         | 0.182      |
| Advocated for political action to conserve wetlands/waterfowl                            | 31.3%            | 30.4%   | 26.6%            | 12.5% | 21.027     | <0.001*         | 0.145      |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 11.2%            | 12.4%   | 10.0%            | 3.0%  | 11.243     | <0.001*         | 0.106      |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 17.9%            | 17.6%   | 8.5%             | 1.8%  | 35.708     | <0.001*         | 0.188      |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 15.1%            | 14.5%   | 7.1%             | 2.4%  | 26.022     | <0.001*         | 0.161      |
| Attended meetings about wetlands/waterfowl conservation                                  | 15.6%            | 10.8%   | 7.3%             | 0.6%  | 27.525     | <0.001*         | 0.165      |

## Obtaining Information on Conservation Issues

### Channels of Information

In order to better understand how to reach out to the public about conservation and nature-related topics, people were asked to rate their preference for different information channels. Some people (173) reported that they did not look for information about nature-related topics; however, most reported that they do occasionally look for information. Most people preferred to get their information through personal experience; by reading or accessing online content; by watching visual media online; and by watching visual media through cable, satellite, or network (fig. 8). The least popular information channels included listening to recorded audio media, such as podcasts and audiobooks; attending educational opportunities; and listening to live audio media, such as the radio.



**Figure 8.** Preferences for channels of information on nature-related topics (in percentages; n=811–850).

There were differences in preference among recreation groups, primarily driven by significantly lower levels of preference for all information channels among those who did not participate in wildlife-related recreation (table 16), which may be because they are less interested in the topic to begin with. The highest preference for this group was for watching visual media through cable, satellite, or network, followed by reading or accessing online content. For all respondents who participated in wildlife-related recreation, their most preferred sources were

personal experience and watching visual media, both through cable, satellite, or network and online. Hunters had stronger preferences for personal experience and reading printed publications than other groups, and anglers showed a stronger preference for recorded audio media. Wildlife viewers were very similar to anglers in their preferences overall, but they showed less preference for online communications than both hunters and anglers.

**Table 16.** Preferred channels of information on nature-related topics (somewhat or very preferred), by recreation group.

[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

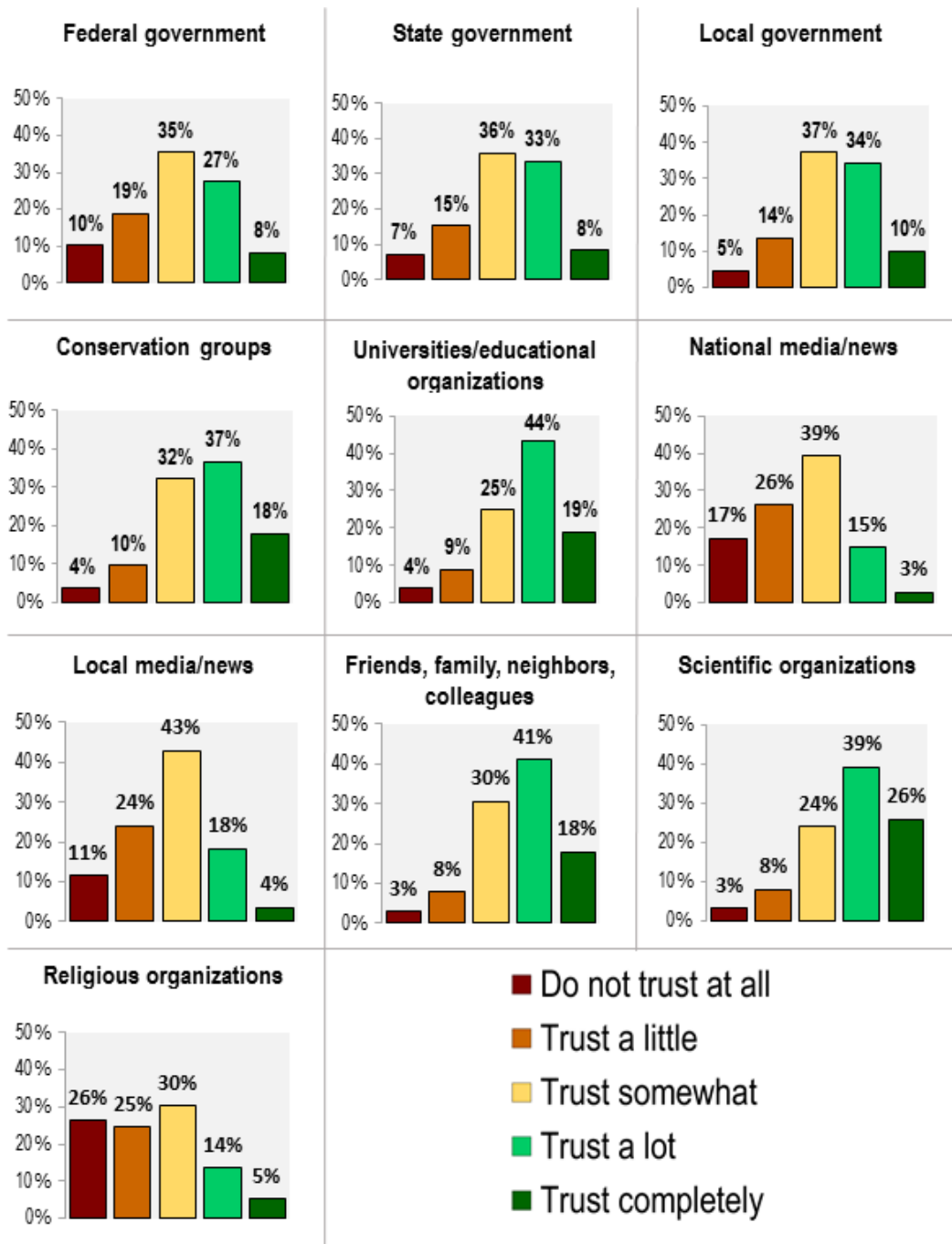
| Information channel                                     | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|---------------------------------------------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                                                         | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Receive or follow online communications                 | 51.8%            | 49.5%   | 38.5%            | 23.8% | 27.624     | <0.001*         | 0.181      |
| Read or access online content                           | 67.5%            | 68.2%   | 65.6%            | 39.0% | 30.952     | <0.001*         | 0.191      |
| Read printed publications                               | 69.0%            | 59.4%   | 61.1%            | 28.0% | 49.497     | <0.001*         | 0.241      |
| Watch visual media online                               | 73.5%            | 68.5%   | 66.2%            | 35.2% | 47.046     | <0.001*         | 0.235      |
| Watch visual media through cable, satellite, or network | 75.0%            | 71.7%   | 68.1%            | 43.7% | 32.681     | <0.001*         | 0.196      |
| Listen to recorded audio media                          | 9.0%             | 17.9%   | 10.6%            | 3.9%  | 16.166     | 0.001*          | 0.138      |
| Listen to live audio media                              | 24.8%            | 26.8%   | 24.3%            | 10.6% | 10.218     | 0.017*          | 0.113      |
| Talk with other people about nature topics              | 70.1%            | 62.6%   | 57.9%            | 29.2% | 47.788     | <0.001*         | 0.237      |
| Through personal experience                             | 80.1%            | 70.0%   | 72.0%            | 35.1% | 59.976     | <0.001*         | 0.276      |
| Attend educational opportunities                        | 23.0%            | 22.1%   | 21.2%            | 7.7%  | 11.668     | 0.009*          | 0.118      |

There were very few significant differences in information channel preference among respondents from different flyways or current residence categories, except that urban respondents were slightly less likely than the others to want to read printed publications ( $\chi^2=6.498$ , 2 degrees of freedom,  $p=0.039$ , Cramer's V=0.088).

### Trust in Sources of Information

The survey also asked respondents how much they trust 10 different sources to provide accurate information on nature-related topics, on a scale from 0 (do not trust at all) to 4 (trust completely). Figure 9 shows the full results for trust in the various sources. The three most trusted sources were scientific organizations, universities/educational organizations, and friends/family (friends, family, neighbors, and colleagues). The three least trusted sources were religious organizations, the national media/news, and local media/news.

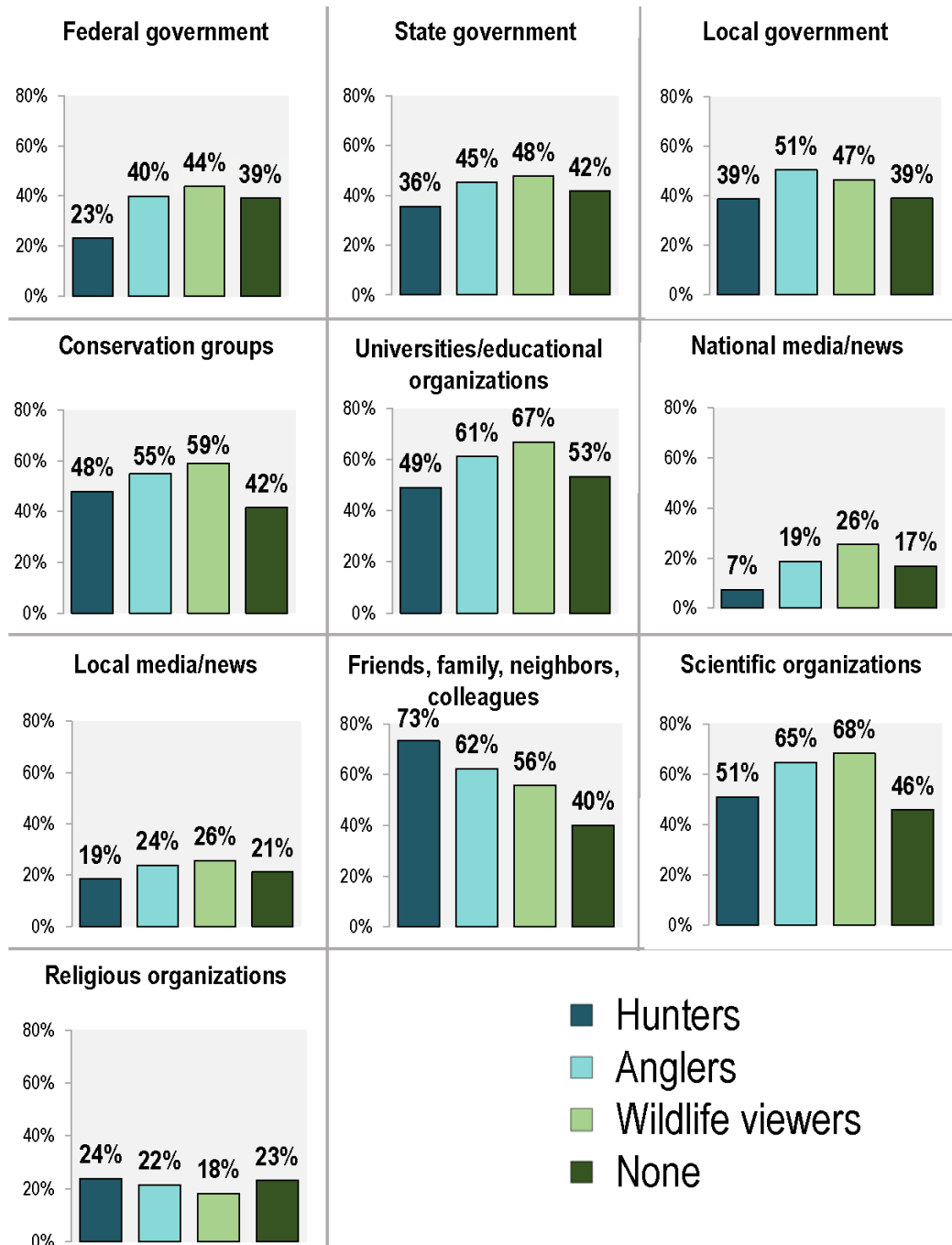




**Figure 9.** Trust in information sources to provide accurate information on nature-related topics (in percentages; n=855–879).

There were differences in levels of trust in information sources among recreation groups (fig. 10 and table 17). Hunters had the lowest levels of trust of any group in all levels of government and media/news and were less trusting of almost all sources than anglers and wildlife viewers. Some of these differences may be because hunters are more likely to live in rural areas. However, they had significantly higher levels of trust in friends/family. Wildlife

viewers tended to have the highest levels of trust, although they are similar to anglers for most sources. Those who do not participate in wildlife-related recreation tend to have lower trust in conservation groups than the others. They also have much lower trust in friends/family than the others, which could be because they know fewer people who are knowledgeable about nature-related topics. They placed the highest trust in universities and scientific organizations.



**Figure 10.** Percentage of respondents who trust information sources (a lot or completely) (n=862–877), by recreation group.

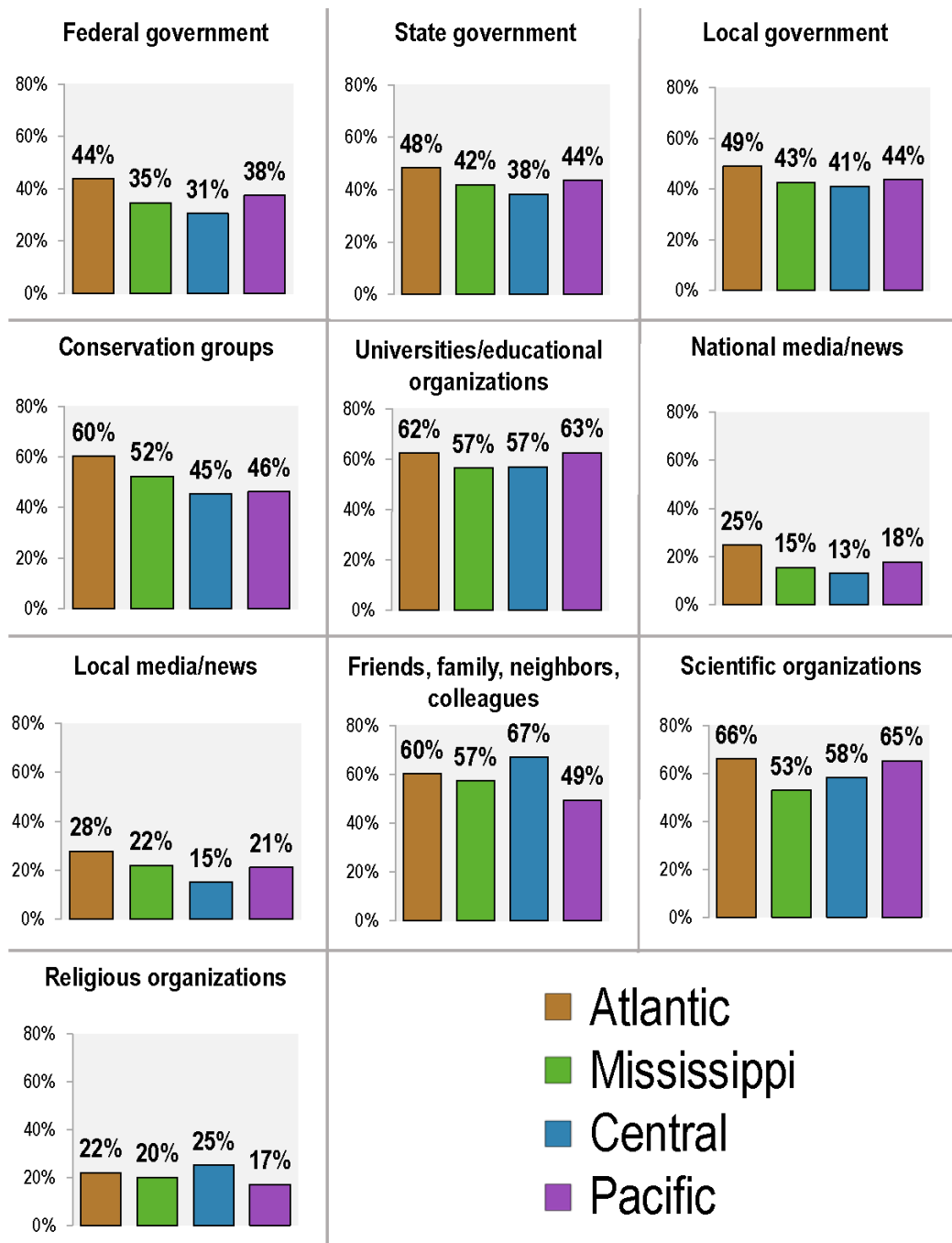
**Table 17.** Significant statistics for trust in information sources, by recreation group (see figure 10).  
[Degrees of freedom equal 6 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Source                                 | Chi-square | <i>p</i> -value | Cramer's V |
|----------------------------------------|------------|-----------------|------------|
| Federal government                     | 22.707     | 0.001*          | 0.114      |
| Local government                       | 13.446     | 0.036*          | 0.088      |
| Conservation groups                    | 17.543     | 0.007*          | 0.100      |
| Universities/educational organizations | 29.674     | <0.001*         | 0.131      |
| National media/news                    | 38.702     | <0.001*         | 0.149      |
| Friends, family, neighbors, colleagues | 40.229     | <0.001*         | 0.151      |
| Scientific organizations               | 29.987     | <0.001*         | 0.131      |

By flyway, the Atlantic Flyway group had higher than expected trust overall, and the Central Flyway group had lower than expected trust (fig. 11 and table 18). However, the Central Flyway group had the highest trust in friends/family, and the Pacific Flyway group had much lower trust in them, most likely reflecting the differences in numbers of hunters within these groups.

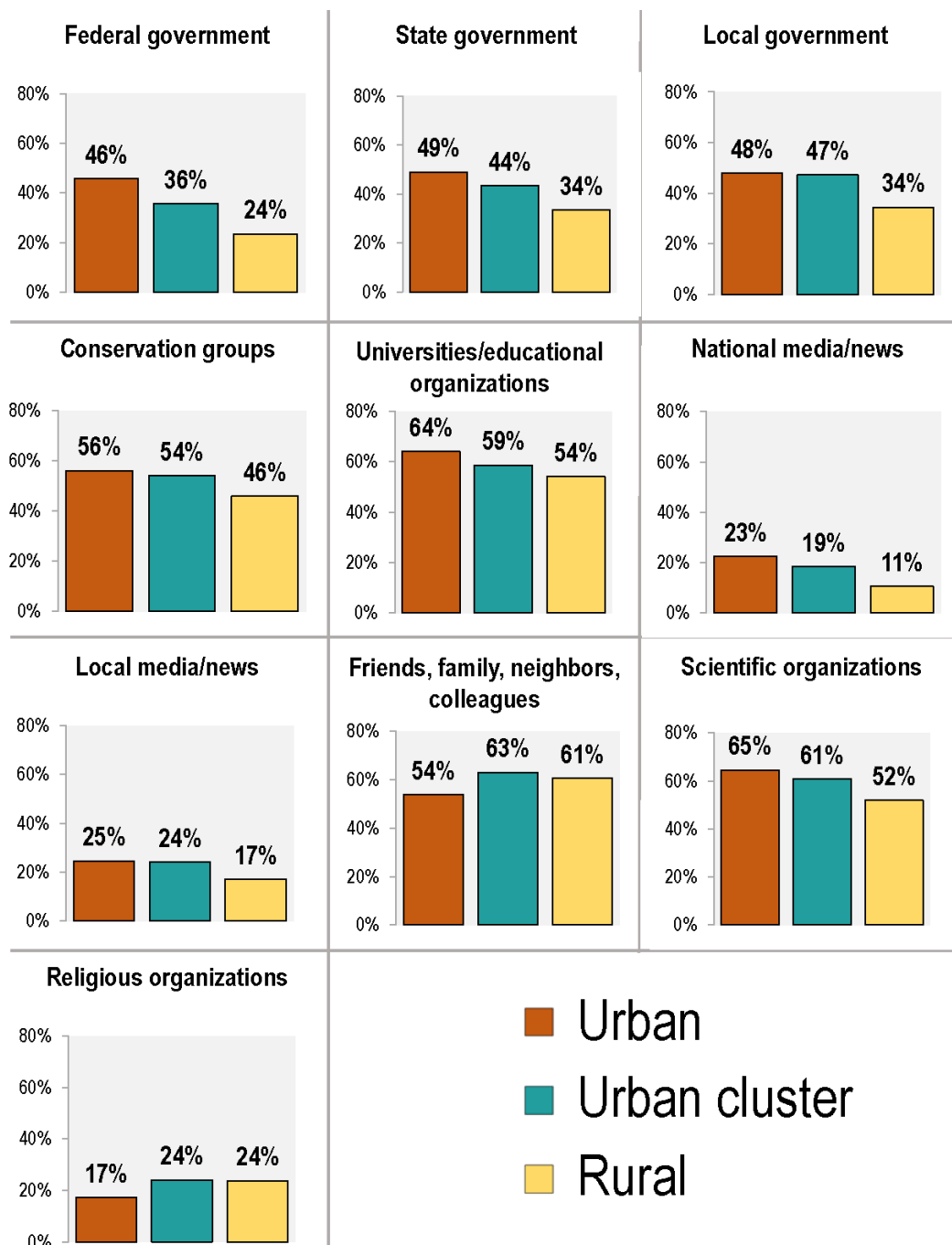
**Table 18.** Significant statistics for trust in information sources, by flyway (see figure 11).  
[Degrees of freedom equal 6 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Source                                 | Chi-square | <i>p</i> -value | Cramer's V |
|----------------------------------------|------------|-----------------|------------|
| Federal government                     | 14.244     | 0.027*          | 0.090      |
| State government                       | 13.597     | 0.034*          | 0.088      |
| Conservation groups                    | 12.973     | 0.043*          | 0.086      |
| National media/news                    | 17.901     | 0.006*          | 0.101      |
| Friends, family, neighbors, colleagues | 14.746     | 0.022*          | 0.091      |
| Scientific organizations               | 12.728     | 0.048*          | 0.085      |



**Figure 11.** Percentage of respondents who trust the information sources (a lot or completely) (n=871–886), by flyway.

There were also many differences in levels of trust in sources between people living in different residency categories (fig. 12 and table 19). Specifically, rural respondents were significantly less likely to trust all levels of government, conservation groups, universities/educational organizations, and the national media/news.



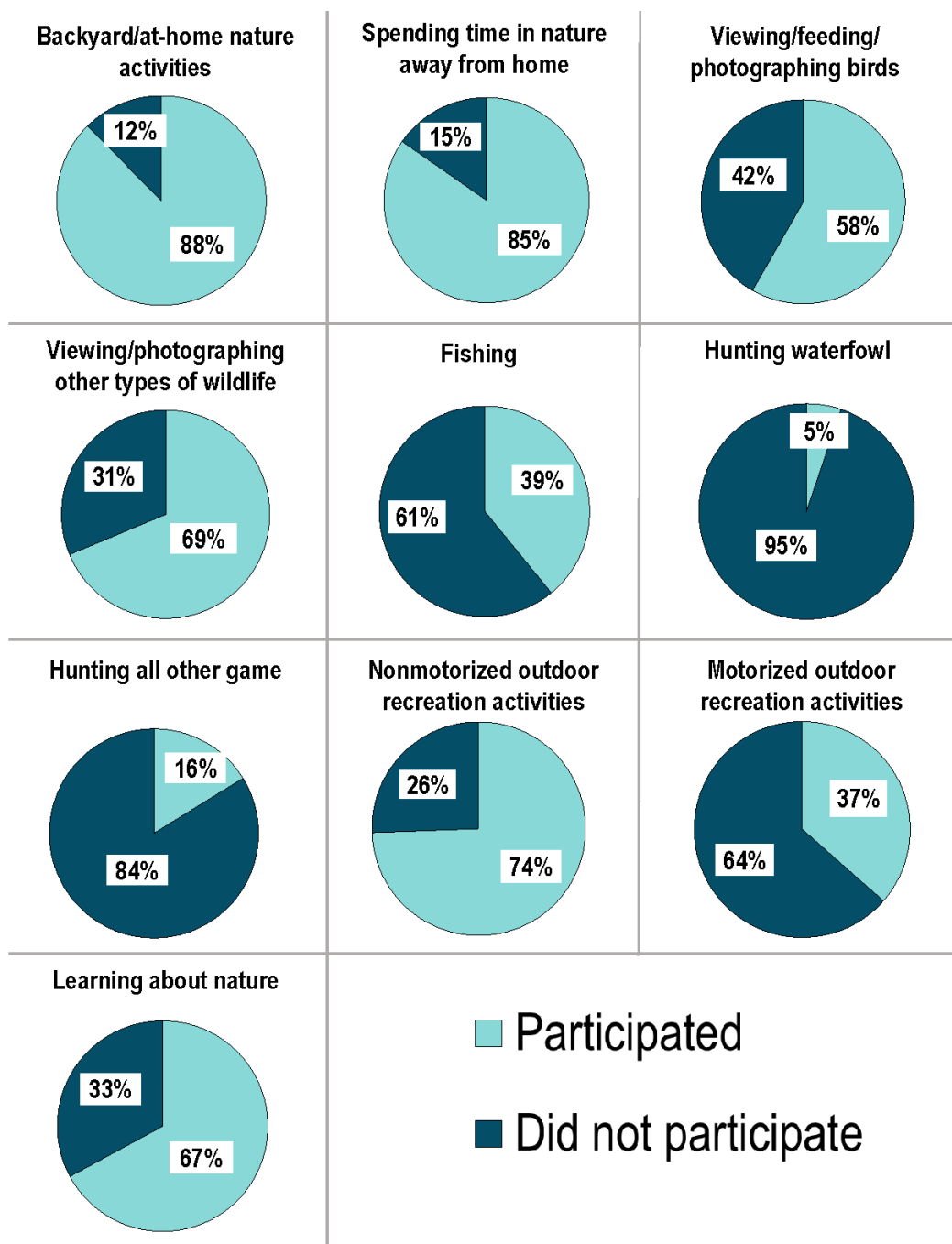
**Figure 12.** Percentage of respondents who trust the information sources (a lot or completely) (n=857–872), by current residence.

**Table 19.** Significant statistics for trust in information sources, by current residence (see figure 12).  
[Degrees of freedom equal 4 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Source                               | Chi-square | <i>p</i> -value | Cramer's V |
|--------------------------------------|------------|-----------------|------------|
| Federal government                   | 29.295     | <0.001*         | 0.130      |
| State government                     | 14.655     | 0.005*          | 0.092      |
| Local government                     | 14.690     | 0.005*          | 0.092      |
| Conservation groups                  | 15.522     | 0.004*          | 0.095      |
| Universities/education organizations | 13.003     | 0.011*          | 0.087      |
| National media/news                  | 21.299     | <0.001*         | 0.111      |

## Outdoor Recreation Activities

Ten categories of outdoor recreation activities were listed on the survey, and respondents were asked if they had participated in each activity in the previous 12 months (fig. 13). The most popular activity was backyard/at-home nature activities (such as gardening and landscaping), followed by spending time in nature away from home (such as picnicking). The least popular activities were hunting waterfowl and all other hunting.



**Figure 13.** Percentages of respondents who participated in nature-related activities in the previous 12 months (n=966–987).

For many of the nature-related activities, there were no statistically significant differences in participation rates among the flyway groups, though there were differences in three activities: viewing/feeding/photographing birds, hunting (everything except waterfowl), and motorized outdoor recreation (table 20). The Pacific and Atlantic Flyway groups tended to have lower participation in hunting and motorized outdoor recreation, and the Central Flyway group had lower participation in viewing/feeding birds.

**Table 20.** Significant differences in nature-related activity participation in the previous 12 months, by flyway.

[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Activity                            | Flyway   |             |         |         | Chi-square | <i>p</i> -value | Cramer's V |
|-------------------------------------|----------|-------------|---------|---------|------------|-----------------|------------|
|                                     | Atlantic | Mississippi | Central | Pacific |            |                 |            |
| Viewing/feeding/photographing birds | 65.3%    | 62.3%       | 50.4%   | 57.0%   | 10.312     | 0.016*          | 0.101      |
| Hunting all other game              | 15.2%    | 20.0%       | 24.8%   | 12.4%   | 10.634     | 0.014*          | 0.103      |
| Motorized outdoor recreation        | 32.9%    | 41.4%       | 39.2%   | 26.3%   | 13.390     | 0.004*          | 0.115      |

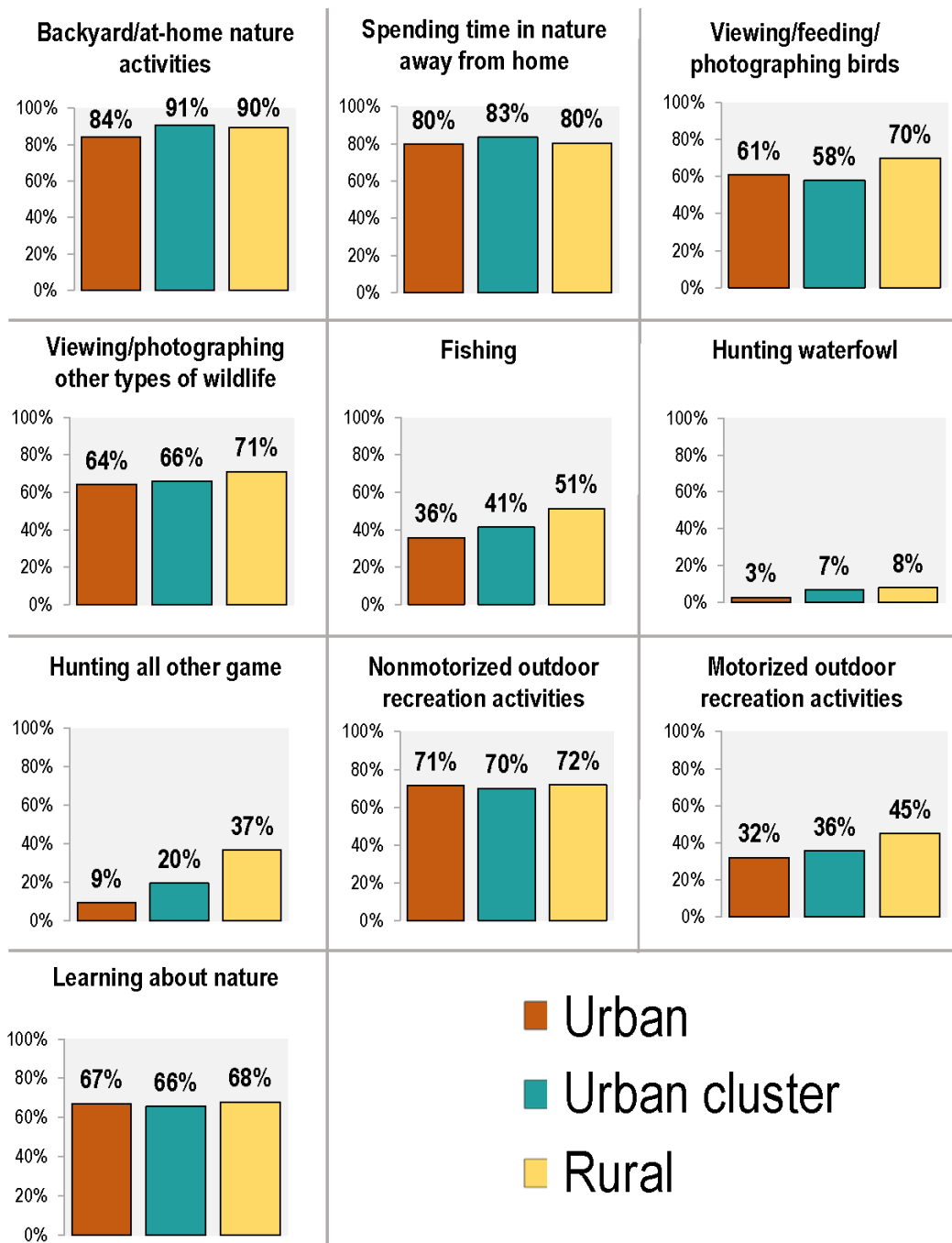
There were more differences in activity participation rates among people living in different residency categories. Where there were significant differences, rural respondents tended to have the highest participation, and urban respondents tended to have lower participation (table 21 and fig. 14).

**Table 21.** Significant differences in nature-related activity participation in the previous 12 months, by current residence.

[Degrees of freedom equal 2 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

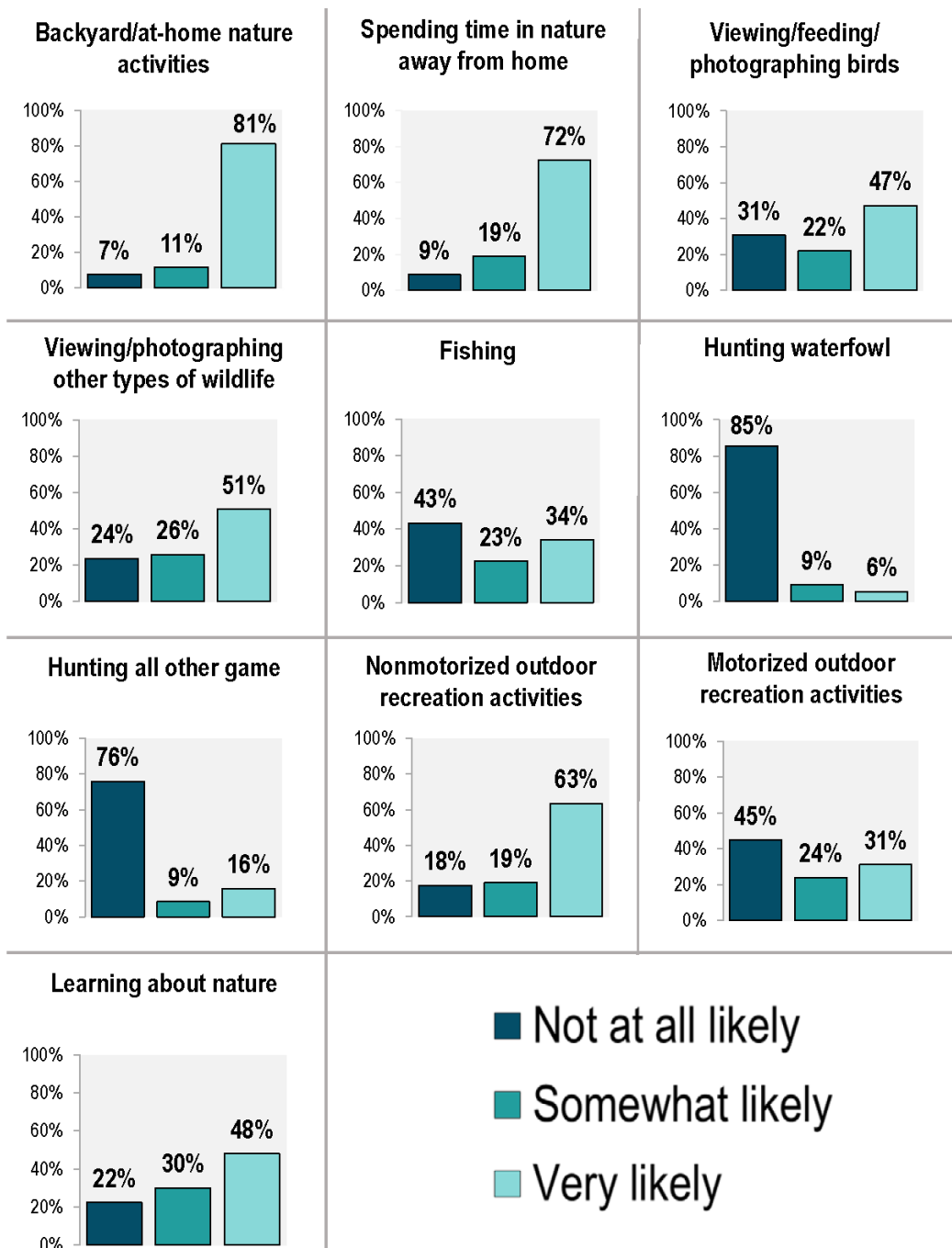
| Activity                            | Current residence |               |       | Chi-square | <i>p</i> -value | Cramer's V |
|-------------------------------------|-------------------|---------------|-------|------------|-----------------|------------|
|                                     | Urban             | Urban cluster | Rural |            |                 |            |
| At-home nature activities           | 84.2%             | 90.7%         | 89.5% | 8.532      | 0.014*          | 0.093      |
| Viewing/feeding/photographing birds | 61.0%             | 57.9%         | 69.9% | 6.676      | 0.036*          | 0.082      |
| Fishing                             | 35.7%             | 41.4%         | 51.3% | 11.983     | 0.002*          | 0.110      |
| Hunting waterfowl                   | 2.6%              | 6.7%          | 8.0%  | 10.508     | 0.005*          | 0.104      |
| Hunting all other game              | 9.3%              | 19.5%         | 36.8% | 61.971     | <0.001*         | 0.251      |
| Motorized outdoor recreation        | 32.0%             | 35.5%         | 45.0% | 8.525      | 0.014*          | 0.093      |





**Figure 14.** Activity participation rates in the previous 12 months (in percentages; n=976–994), by current residence.

Respondents were also asked if they were likely to participate in each activity in the following 12 months (fig. 15). The majority of people are either very likely or somewhat likely to participate in all listed outdoor activities, except hunting waterfowl and hunting other game. Motorized outdoor recreation activities and fishing also had a substantial percentage of respondents (more than 40 percent) indicate they were not at all likely to participate when compared to other activities. The most popular activity was again backyard/at-home nature activities, with almost all respondents very likely or somewhat likely to participate in the following 12 months. The percentages for intent to participate in these activities are likely higher than for the general public because this sample had a higher rate of previous participation. Intended future participation in all activities was highly correlated with actual participation in the previous 12 months. Correlations represent how closely two items are linearly associated, with 0 representing no association and 1 representing perfect association (Vaske, 2008, p. 409–410). Spearman's correlation coefficients between actual and intended participation ranged from 0.576 to 0.864, with most around 0.80, so there is a high linear association between past participation in an activity and future intent to participate.

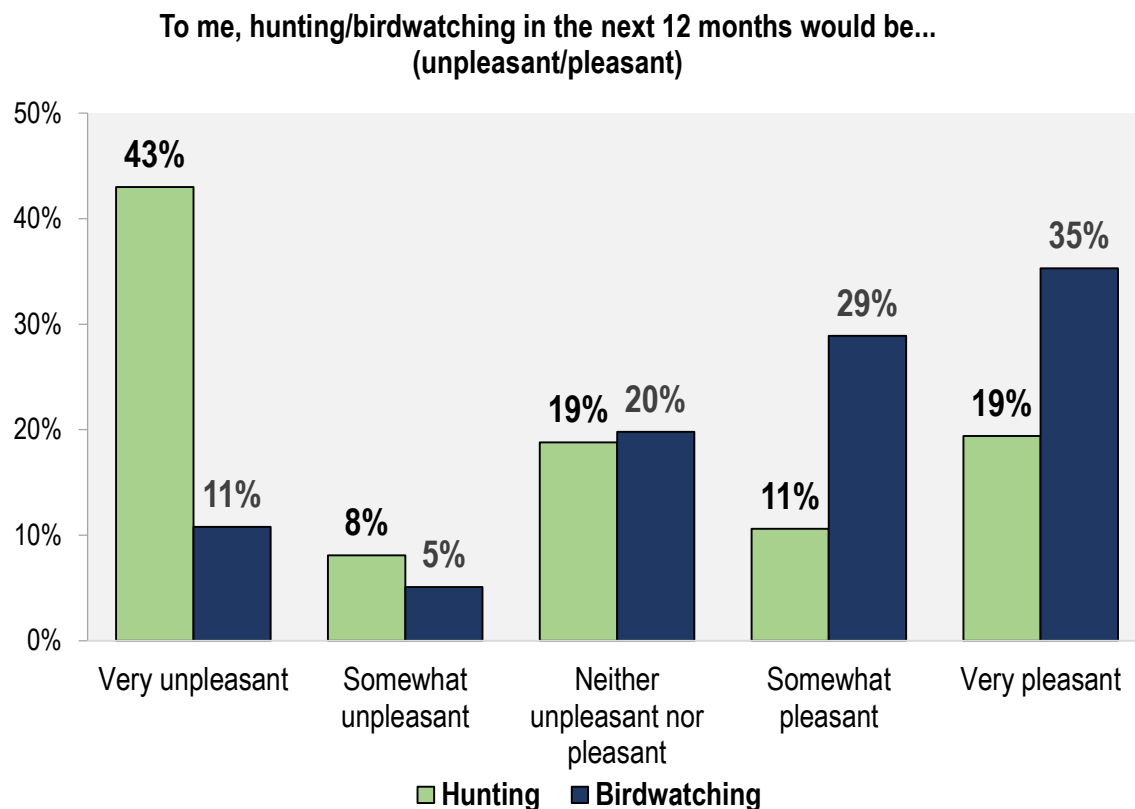


**Figure 15.** The likelihood that respondents were going to participate in outdoor recreational activities in the following 12 months (in percentages; n=951–976). (Because of rounding, percentages may not sum to 100.)

## Hunting and Birdwatching Attitudes, Norms, and Behavioral Control

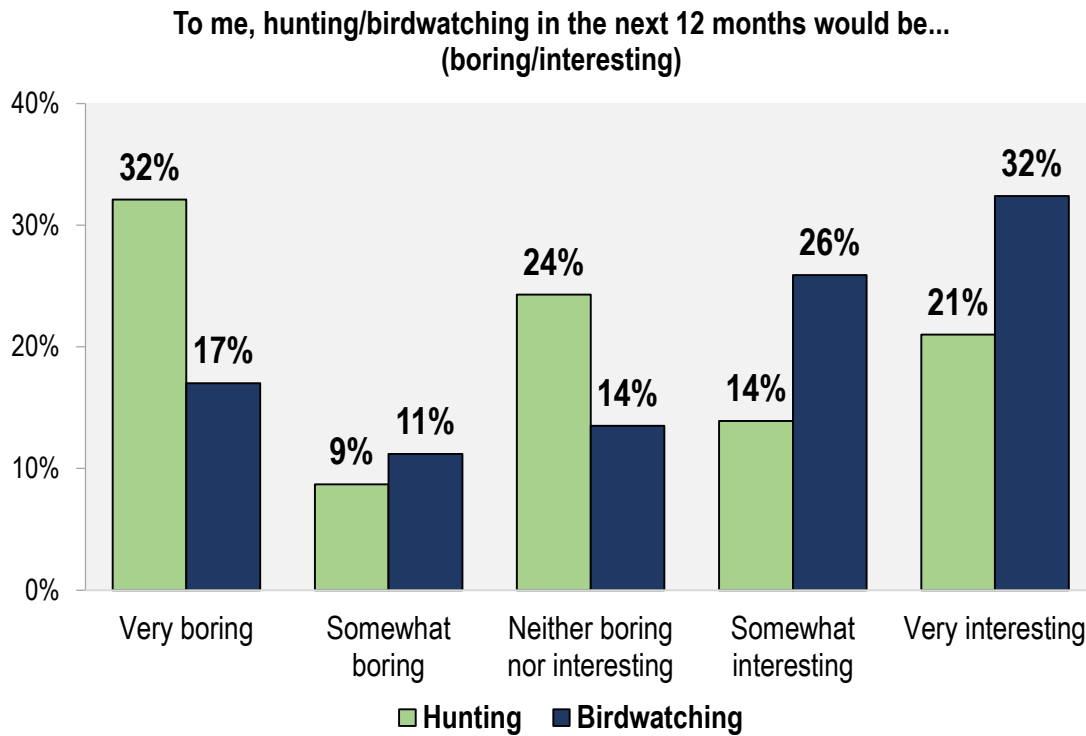
### Attitudes Toward Hunting and Birdwatching

On the unpleasant/pleasant scale, half of the respondents believed hunting would be either very unpleasant or somewhat unpleasant, whereas less than one-third believed it would be very pleasant or pleasant (fig. 16). In contrast, for birdwatching, only one-sixth thought it would be very or somewhat unpleasant, whereas two-thirds believed it would be very or somewhat pleasant.



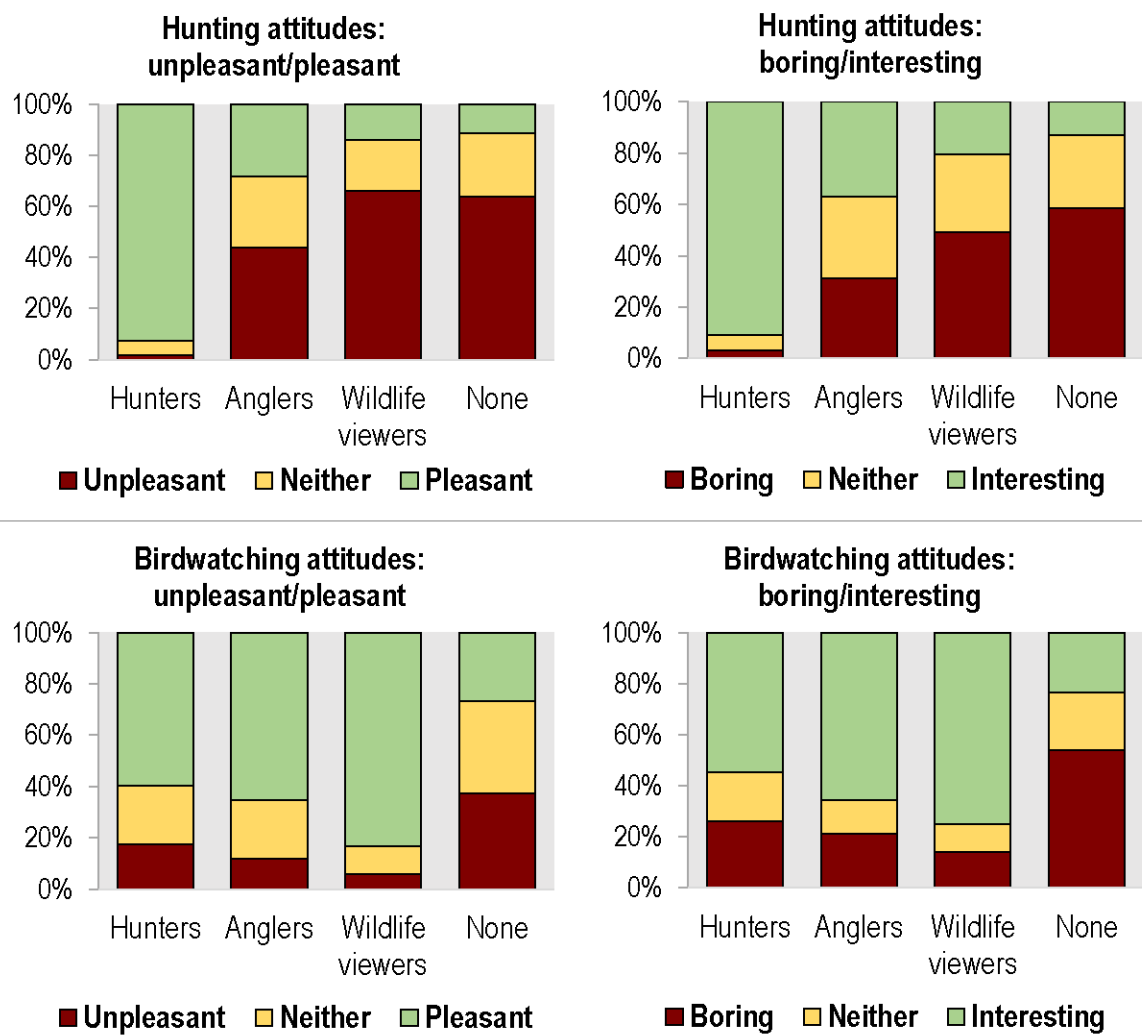
**Figure 16.** Attitudes toward hunting (n=946) and birdwatching (n=937), whether they are unpleasant or pleasant (in percentages).

On the boring/interesting scale, two-fifths of respondents said hunting would be very or somewhat boring, and slightly fewer people said it would be somewhat or very interesting (fig. 17). On the other hand, slightly over one-fourth thought birdwatching would be very or somewhat boring, and over half believed it would be very or somewhat interesting.



**Figure 17.** Attitudes toward hunting (n=926) and birdwatching (n=946), whether they are boring or interesting (in percentages).

The recreation groups had differing attitudes on hunting and birdwatching (fig. 18). Although almost all hunters thought hunting would be pleasant and interesting, far fewer respondents in the other groups agreed. Slightly more than one-third of anglers believed hunting would be interesting, and just over one-fourth believed it would be pleasant. The majority of wildlife viewers and those who did not participate in wildlife-related recreation thought hunting would be unpleasant and boring. In contrast, birdwatching was viewed as pleasant and interesting by the majority of participants in wildlife-related recreation. Not all wildlife viewers thought birdwatching would be pleasant or interesting, possibly because they might not be interested in birds and prefer viewing other wildlife. Of those who did not participate in wildlife-related recreation, a majority thought birdwatching would be boring, and two-fifths thought it would be unpleasant. For all four questions, chi-square tests reveal significant differences between recreation groups (table 22).



**Figure 18.** Hunting and birdwatching attitudes (in percentages; n=927–963), by recreation group.

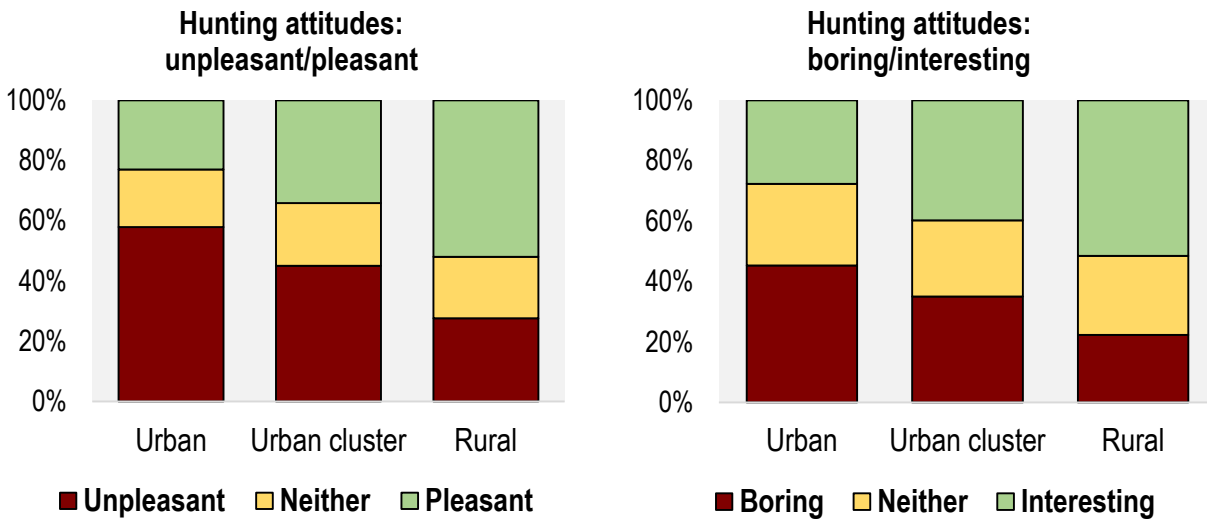
**Table 22.** Significant differences in hunting and birdwatching attitudes, by recreation group.

[Degrees of freedom equal 6 for all activities. Statistically significant  $p$ -values (less than 0.05) are marked with an asterisk (\*)]

| Attitude                  | Recreation group |         |                  |       | Chi-square | p-value | Cramer's V |
|---------------------------|------------------|---------|------------------|-------|------------|---------|------------|
|                           | Hunters          | Anglers | Wildlife viewers | None  |            |         |            |
| Hunting                   |                  |         |                  |       |            |         |            |
| Very/somewhat unpleasant  | 1.7%             | 43.9%   | 65.9%            | 63.8% | 412.202    | <0.001* | 0.463      |
| Neither                   | 5.6%             | 27.8%   | 20.2%            | 25.0% |            |         |            |
| Very/somewhat pleasant    | 92.7%            | 28.3%   | 13.9%            | 11.2% |            |         |            |
| Very/somewhat boring      | 3.0%             | 31.1%   | 49.1%            | 58.4% | 304.971    | <0.001* | 0.406      |
| Neither                   | 6.1%             | 32.0%   | 30.5%            | 28.6% |            |         |            |
| Very/somewhat interesting | 90.9%            | 36.9%   | 20.4%            | 13.0% |            |         |            |
| Birdwatching              |                  |         |                  |       |            |         |            |
| Very/somewhat unpleasant  | 17.6%            | 11.7%   | 5.8%             | 37.2% | 164.556    | <0.001* | 0.294      |
| Neither                   | 22.7%            | 22.9%   | 11.1%            | 35.9% |            |         |            |
| Very/somewhat pleasant    | 59.7%            | 65.4%   | 83.1%            | 26.9% |            |         |            |
| Very/somewhat boring      | 26.2%            | 21.3%   | 14.2%            | 54.1% | 136.242    | <0.001* | 0.268      |
| Neither                   | 19.0%            | 13.2%   | 10.9%            | 22.3% |            |         |            |
| Very/somewhat interesting | 54.8%            | 65.5%   | 74.9%            | 23.6% |            |         |            |

There were some differences in hunting attitudes among the flyway groups, but there were no significant differences in birdwatching attitudes. For hunting attitudes, more people in the Pacific and Atlantic Flyway groups were likely to say hunting would be unpleasant, and more people in the Central and Mississippi Flyway groups were likely to say hunting would be pleasant ( $\chi^2=26.184$ , 6 degrees of freedom,  $p < 0.001$ , Cramer's  $V=0.116$ ). These trends could be because fewer people in the Pacific and Atlantic Flyway groups hunt, and fewer people in these groups know hunters.

There were no significant differences for birdwatching attitudes by current residence, but there were differences in attitudes toward hunting by current residence. Rural respondents were more likely to think hunting would be pleasant and interesting than urban or urban cluster respondents (fig. 19 and table 23).



**Figure 19.** Hunting attitudes (in percentages; n=915–954), by current residence.

**Table 23.** Significant differences in hunting attitudes, by current residence.

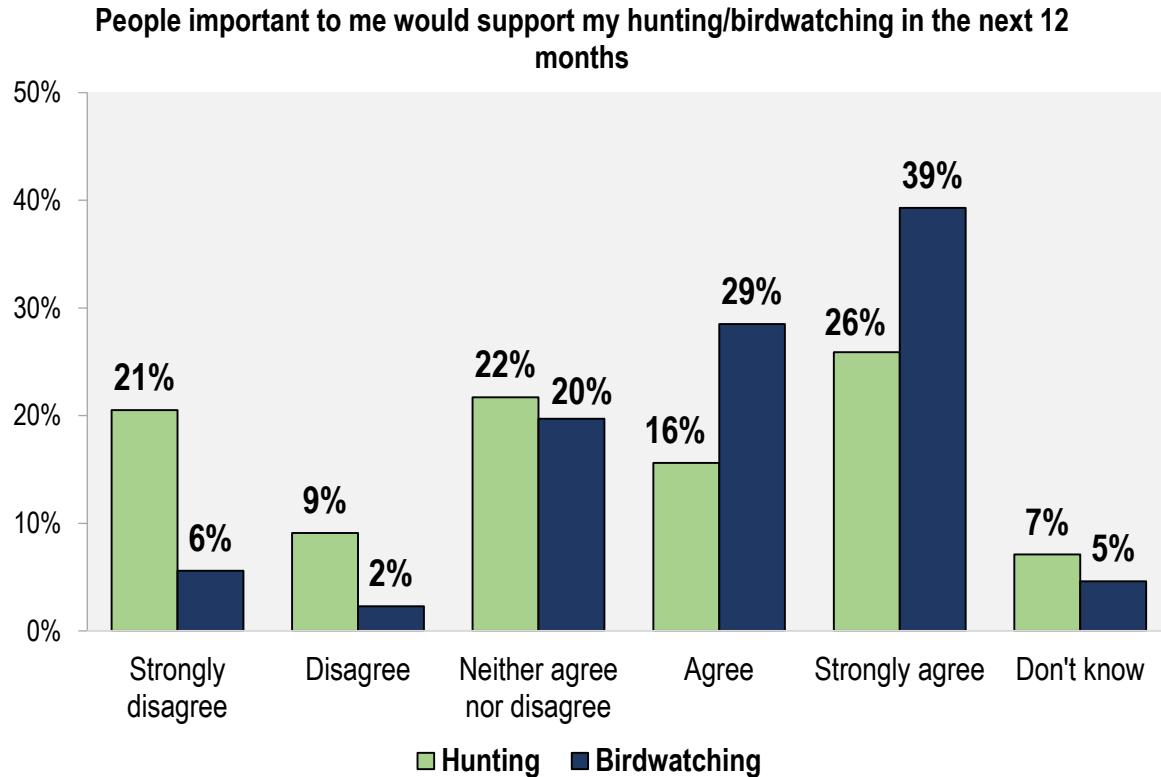
[Degrees of freedom equal 4 for all activities. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

| Hunting attitude          | Current residence |               |       | Chi-square | <i>p</i> -value | Cramer's V |
|---------------------------|-------------------|---------------|-------|------------|-----------------|------------|
|                           | Urban             | Urban cluster | Rural |            |                 |            |
| Very/somewhat unpleasant  | 57.9%             | 45.1%         | 27.7% | 53.42      | <0.001*         | 0.167      |
| Neither                   | 19.2%             | 20.9%         | 20.3% |            |                 |            |
| Very/somewhat pleasant    | 22.9%             | 34.1%         | 52.0% |            |                 |            |
| Very/somewhat boring      | 45.3%             | 35.2%         | 22.3% | 33.88      | <0.001*         | 0.136      |
| Neither                   | 27.0%             | 25.3%         | 26.2% |            |                 |            |
| Very/somewhat interesting | 27.7%             | 39.8%         | 51.5% |            |                 |            |

### Subjective Norms and Perceived Behavioral Control Related to Hunting and Birdwatching

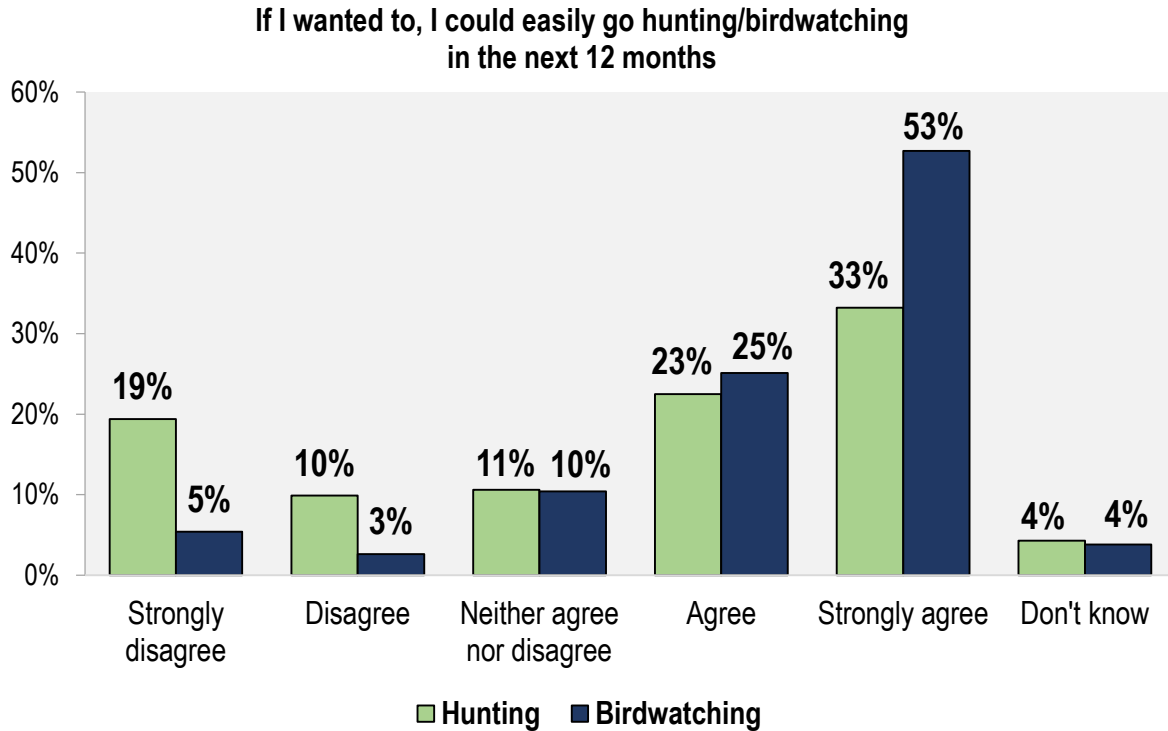
When asked about participating in hunting in the following 12 months, two-fifths of respondents believed that people important to them would support them in hunting, whereas just under one-third of people believed others would not support them (fig. 20). For birdwatching, the majority of people believed others important to them would support them in birdwatching, while less than one-tenth thought others would not support them.





**Figure 20.** Subjective norms for hunting (n=989) and birdwatching (n=990) (in percentages).

Slightly more than half agreed they could easily go hunting in the following 12 months, with just under one-third disagreeing (fig. 21). For birdwatching, the majority agreed they could easily go, and very few disagreed.



**Figure 21.** Perceived behavioral control of participation in hunting (n=985) and birdwatching (n=989) (in percentages).

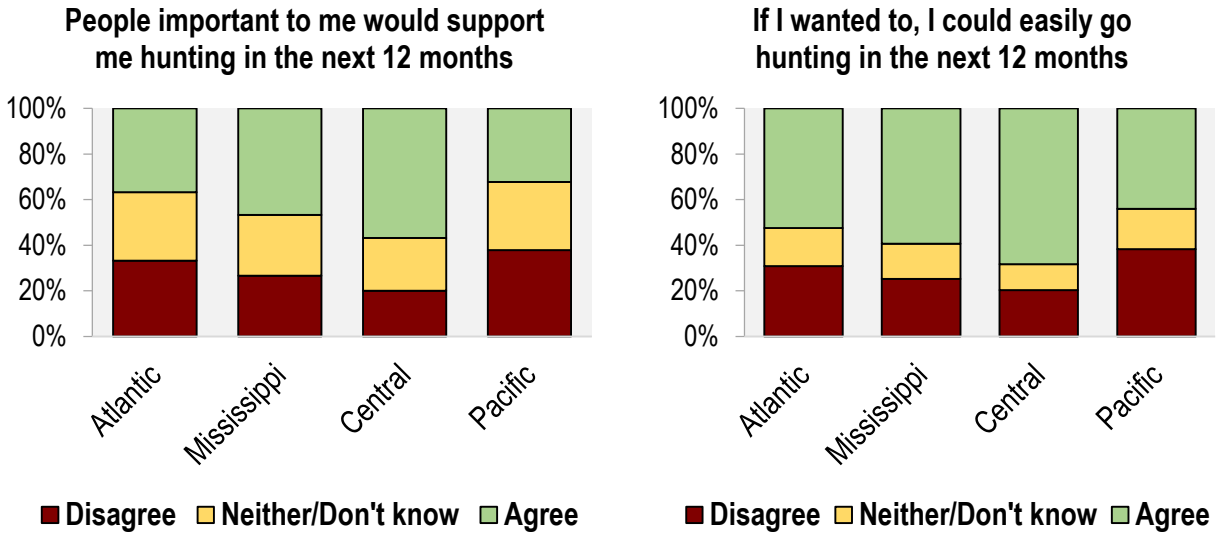
Recreation groups differed significantly in these subjective norms and perceived behavioral control (table 24). For example, almost all hunters thought that people important to them would support them if they participated in hunting and that they could easily go hunting in the following 12 months. Almost half of anglers felt they would be supported in hunting, and a majority believed they could easily go hunting. Wildlife viewers and those who did not participate in wildlife-related recreation were less likely to believe people would support them in hunting and that they could easily go hunting. In contrast, the majority of hunters, anglers, and wildlife viewers believed people would support them in birdwatching and that they could easily go birdwatching in the following 12 months. However, those who did not participate in wildlife-related recreation were much less likely to feel supported or that they could easily go birdwatching.

**Table 24.** Subjective norms and perceived behavioral control for hunting and birdwatching in the following 12 months, by recreation group.

[Degrees of freedom equal 6 for all controls and norms. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

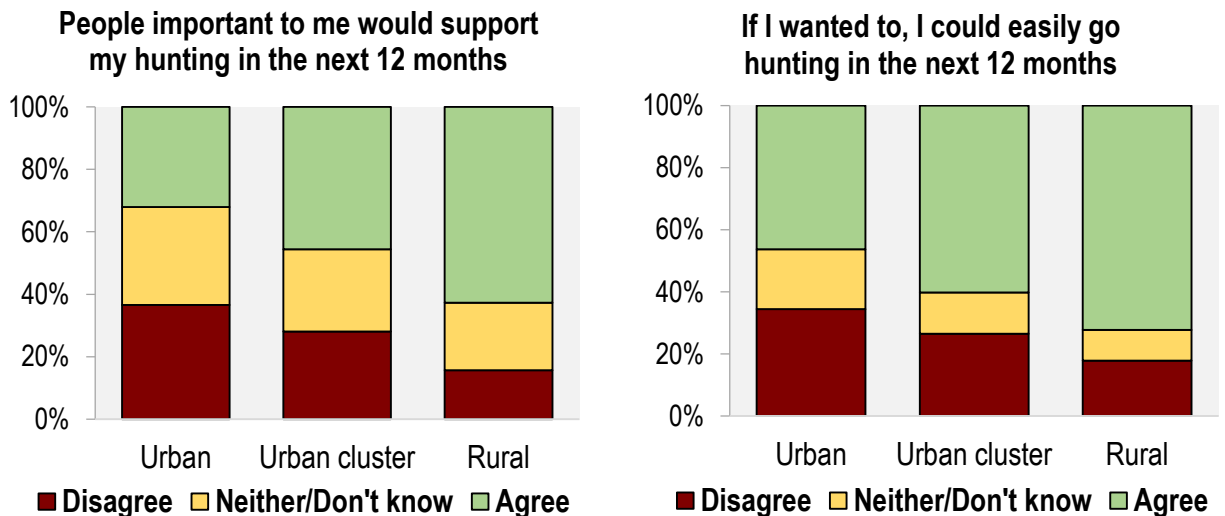
| Control or norm                                      | Response           | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|------------------------------------------------------|--------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                                                      |                    | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| People important to me would support my hunting      | Disagree           | 1.1%             | 25.1%   | 44.3%            | 36.1% | 299.094    | <0.001*         | 0.385      |
|                                                      | Neither/Don't know | 5.5%             | 28.3%   | 31.8%            | 43.4% |            |                 |            |
|                                                      | Agree              | 93.4%            | 46.6%   | 24.0%            | 20.5% |            |                 |            |
| If I wanted to, I could easily go hunting            | Disagree           | 3.9%             | 20.8%   | 39.0%            | 45.1% | 193.714    | <0.001*         | 0.311      |
|                                                      | Neither/Don't know | 2.2%             | 15.2%   | 17.9%            | 27.2% |            |                 |            |
|                                                      | Agree              | 93.9%            | 64.0%   | 43.1%            | 27.8% |            |                 |            |
| People important to me would support my birdwatching | Disagree           | 4.9%             | 8.4%    | 5.6%             | 21.8% | 111.701    | <0.001*         | 0.235      |
|                                                      | Neither/Don't know | 29.5%            | 19.6%   | 15.5%            | 41.8% |            |                 |            |
|                                                      | Agree              | 65.6%            | 72.0%   | 78.9%            | 36.4% |            |                 |            |
| If I wanted to, I could easily go birdwatching       | Disagree           | 6.0%             | 4.8%    | 5.3%             | 26.1% | 144.714    | <0.001*         | 0.268      |
|                                                      | Neither/Don't know | 15.9%            | 12.4%   | 7.8%             | 30.9% |            |                 |            |
|                                                      | Agree              | 78.0%            | 82.8%   | 86.9%            | 43.0% |            |                 |            |

There were also differences in subjective norms and perceived behavioral control for hunting among the flyway groups, in similar patterns to their attitudes on hunting (fig. 22). People in the Atlantic and Pacific Flyway groups were less likely to think that people important to them would support them in hunting ( $\chi^2=27.209$ , 6 degrees of freedom,  $p < 0.001$ , Cramer's  $V=0.116$ ). Additionally, they were more likely to say they could not easily go hunting if they wanted to ( $\chi^2=21.768$ , 6 degrees of freedom,  $p=0.001$ , Cramer's  $V=0.104$ ).



**Figure 22.** Subjective norms (n=1,014) and perceived behavioral control (n=1,005) for hunting in the following 12 months (in percentages), by flyway.

Similar to the flyway groups, there were no significant differences by current residence in subjective norms or perceived behavioral control for birdwatching, but there were for hunting (fig. 23). Rural residents were more likely to think people important to them would support them in hunting ( $\chi^2=49.801$ , 4 degrees of freedom,  $p < 0.001$ , Cramer's  $V=0.158$ ). They also were more likely to say they could easily go hunting if they wanted to ( $\chi^2=36.290$ , 6 degrees of freedom,  $p < 0.001$ , Cramer's  $V=0.135$ ).



**Figure 23.** Subjective norms (n=997) and perceived behavioral control (n=989) for hunting in the following 12 months (in percentages), by current residence.

## Knowledge of Others Who Participate in Nature-Related Activities

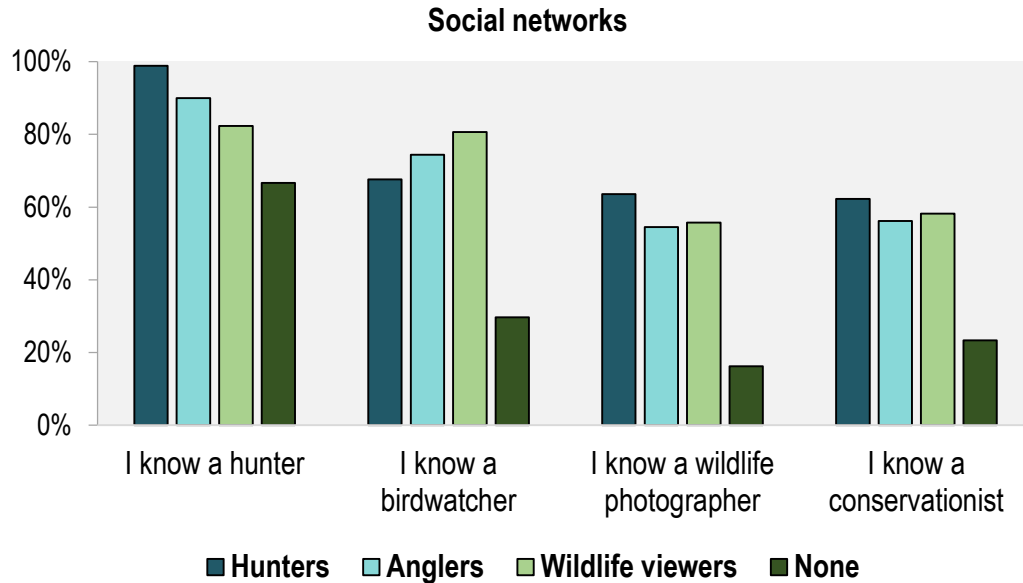
Behavior and attitudes toward wildlife-related recreation and conservation may partially depend on the people someone knows, otherwise known as their social network. Social networks are known to affect opportunities, values, and attitudes (Gartrell, 1987). If a person knows others who engage in these types of activities, then they may view the activities more favorably, have more knowledge about how to participate, and (or) have more opportunities to participate. Therefore, the survey asked people to identify whether they knew people who participated in certain kinds of nature-related activities (table 25). The majority of respondents knew people who were hunters, birdwatchers, wildlife photographers, or conservationists. Hunters were the most well-known, with a large majority knowing a hunter. More than two-thirds knew a birdwatcher, and just slightly over half of respondents knew a wildlife photographer or conservationist.

**Table 25.** Degree of acquaintance with someone who participates in nature-related activities.  
[In percent of sample survey respondents (n=978–988)]

| Type of person        | Acquaintance | Close friend | Relative | No one |
|-----------------------|--------------|--------------|----------|--------|
| Hunter                | 47.6%        | 43.3%        | 49.9%    | 14.1%  |
| Birdwatcher           | 32.0%        | 28.1%        | 36.3%    | 32.7%  |
| Wildlife photographer | 29.5%        | 20.3%        | 20.9%    | 46.1%  |
| Conservationist       | 31.6%        | 25.5%        | 19.3%    | 44.4%  |

As expected, the recreation groups had different levels of knowledge of others who participate in these activities (fig. 24 and table 26). Respondents who participated in any type of wildlife-related activity were more likely to know each type of person than respondents who did not participate in wildlife-related recreation. Interestingly, all groups were most likely to know a hunter compared to people in the other categories. Even among those respondents who did not participate in wildlife-related recreation, more than half indicated they knew a hunter, though far fewer knew a birdwatcher, wildlife photographer, or conservationist.

There were also differences in knowledge of hunters by flyway and current residence. Fewer people in the Pacific Flyway group knew someone who hunts ( $\chi^2=13.348$ , 3 degrees of freedom,  $p=0.004$ , Cramer's  $V=0.115$ ). Additionally, more people in the rural group knew a hunter, compared to people in the urban group ( $\chi^2=20.459$ , 2 degrees of freedom,  $p<0.001$ , Cramer's  $V=0.143$ ).



**Figure 24.** Acquaintance with someone who participates in nature-related activities (in percentages; n=988–1,003), by recreation group.

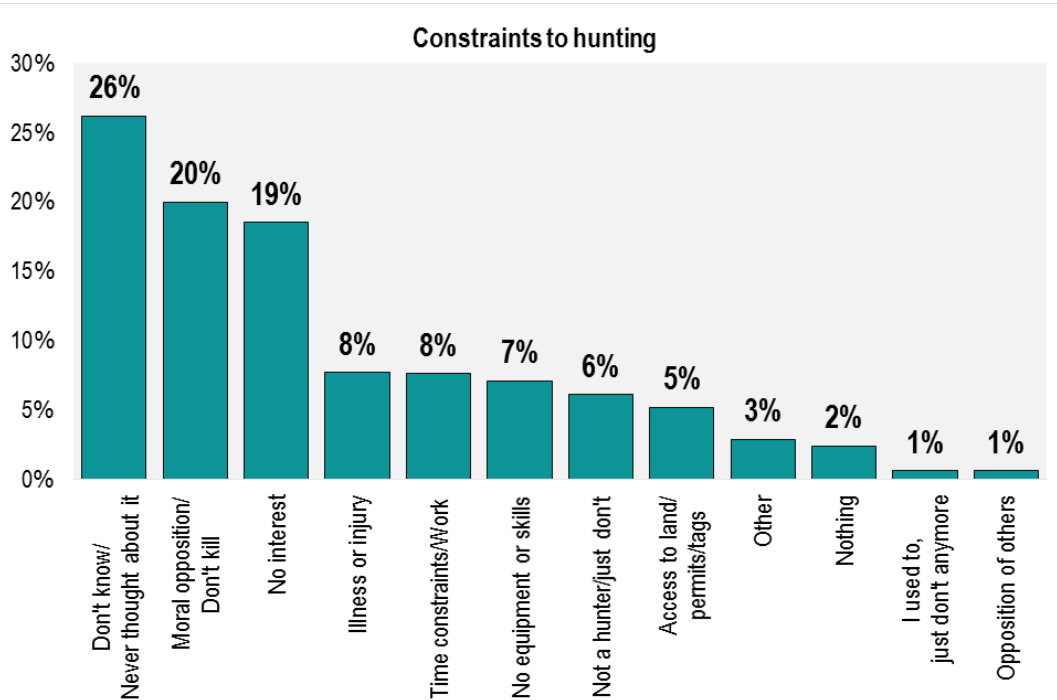
**Table 26.** Acquaintance with someone who participates in nature-related activities.

[Degrees of freedom equal 3 for all items. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*)]

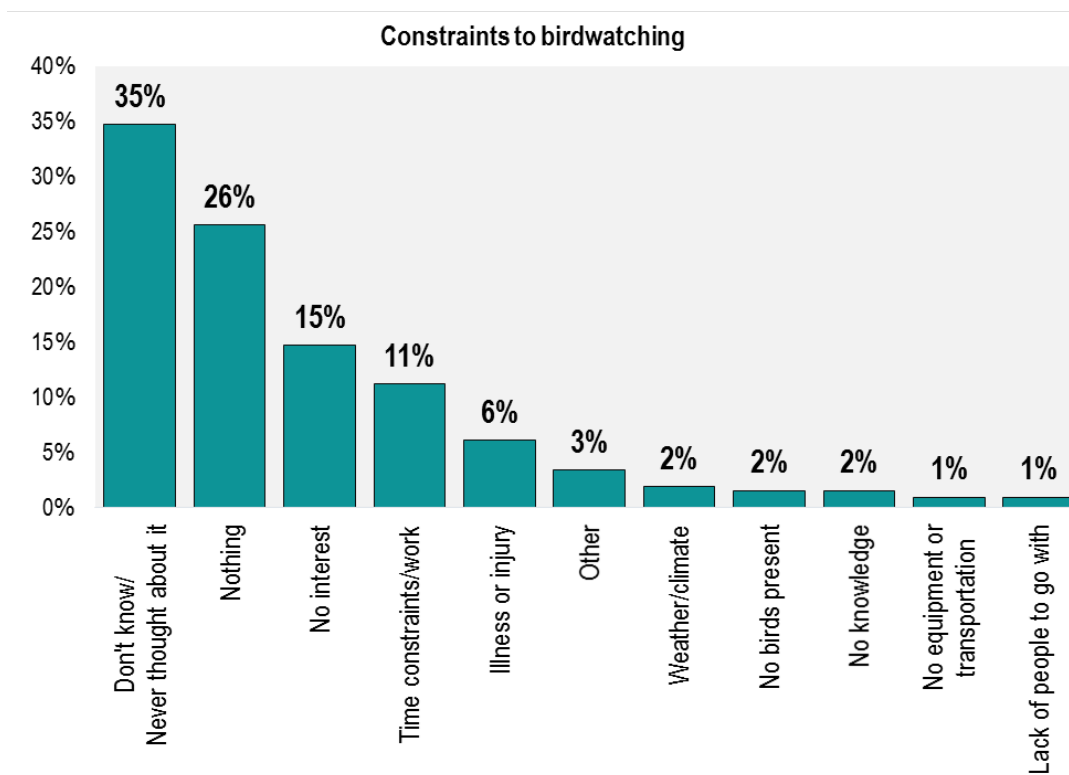
| Type of person        | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|-----------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                       | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Hunter                | 98.9%            | 90.0%   | 82.3%            | 66.7% | 76.407     | <0.001*         | 0.276      |
| Birdwatcher           | 67.6%            | 74.4%   | 80.7%            | 29.7% | 146.973    | <0.001*         | 0.384      |
| Wildlife photographer | 63.6%            | 54.5%   | 55.7%            | 16.2% | 96.447     | <0.001*         | 0.312      |
| Conservationist       | 62.3%            | 56.1%   | 58.2%            | 23.4% | 70.231     | <0.001*         | 0.266      |

## Constraints to Participation

Following the questions regarding attitudes, norms, and perceived behavioral control, people were asked what would prevent them from hunting in the following 12 months (fig. 25) and what would prevent them from birdwatching in the following 12 months (fig. 26).



**Figure 25.** Perceived constraints to hunting (in percentages; n=985).



**Figure 26.** Perceived constraints to birdwatching (in percentages; n=972).

Both questions were open ended, and responses were categorized based on emergent themes. Some responses had more than one theme, so percentages do not sum to 100. For both questions, the most common answer was “I don’t know/I’ve never thought about it,” which was given as an option to check instead of writing an open-ended answer. The most common write-in answer for a barrier to hunting was along the lines of “morally opposed” or “I don’t kill animals,” with one-fifth expressing this view. However, it is unclear whether these people are just against hunting for themselves or if they are against all people hunting. Some people in this group may still support other people hunting. Additionally, almost as many people expressed a lack of interest. Less than one-tenth mentioned that things such as a lack of equipment, no skills, or the cost of equipment would prevent them from hunting, and even fewer people said access to land or hunting permits/tags would be a barrier to participation.

Among recreation groups, hunters were more likely to cite illness/injury and access to land/permits/tags as barriers to hunting and less likely to cite moral opposition or no interest (table 27). The wildlife viewer group was the most likely to cite moral opposition. By current residence, more people in the rural sample were likely to say illness or injury would prevent them from hunting, and they were less likely to cite moral opposition to hunting as a barrier. Statistical tests were not run to test significant differences among the various groups because the response categories are not mutually exclusive (some people listed multiple constraints).

**Table 27.** Perceived constraints to hunting, by recreation group.

| Perceived constraint              | Recreation group |         |                  |       |
|-----------------------------------|------------------|---------|------------------|-------|
|                                   | Hunters          | Anglers | Wildlife viewers | None  |
| Don't know/never thought about it | 23.2%            | 26.0%   | 21.4%            | 38.2% |
| Moral opposition/don't kill       | 0.6%             | 15.2%   | 28.0%            | 15.2% |
| No interest                       | 0.0%             | 18.0%   | 25.1%            | 20.0% |
| Illness or injury                 | 32.8%            | 9.2%    | 6.1%             | 6.7%  |
| Time constraints/work             | 13.6%            | 7.6%    | 3.2%             | 5.5%  |
| No equipment or skills            | 0.0%             | 7.6%    | 7.8%             | 9.1%  |
| Not a hunter/just don't           | 0.0%             | 4.8%    | 8.8%             | 5.5%  |
| Access to land/permits/tags       | 14.7%            | 6.8%    | 1.9%             | 1.8%  |
| Other                             | 3.4%             | 4.4%    | 1.5%             | 0.6%  |
| Nothing                           | 12.4%            | 3.6%    | 1.2%             | 0.6%  |
| I used to, just don't anymore     | 0.0%             | 1.2%    | 0.7%             | 1.2%  |
| Opposition of others              | 0.6%             | 1.2%    | 0.5%             | 0.6%  |

The most popular answer for what would prevent someone from birdwatching was also “I don’t know/I’ve never thought about it.” Secondly, one-fourth wrote in that nothing would prevent them from birdwatching, followed by people just not having an interest. Actual barriers, such as no knowledge, no birds present, no equipment or transportation, or no people to go with, made up relatively small proportions of reasons listed. Among recreation groups, wildlife viewers were most likely to say nothing would prevent them from birdwatching, and those who do not participate in wildlife-related recreation were most likely to cite they had no interest in birdwatching (table 28).

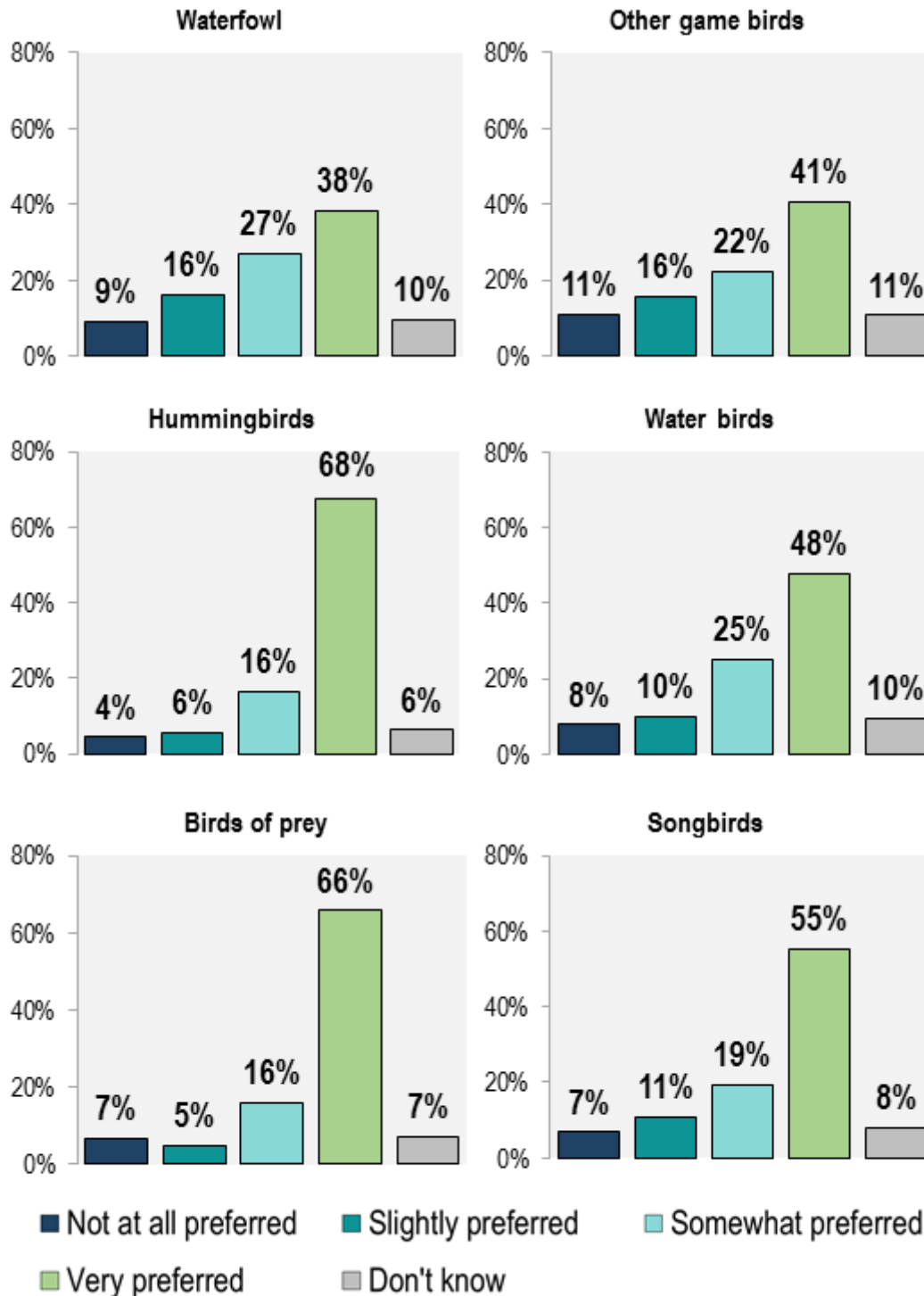


**Table 28.** Perceived constraints to birdwatching, by recreation group.

| Perceived constraint              | Recreation group |         |                  |       |
|-----------------------------------|------------------|---------|------------------|-------|
|                                   | Hunters          | Anglers | Wildlife viewers | None  |
| Don't know/never thought about it | 39.5%            | 38.2%   | 24.3%            | 48.5% |
| Nothing                           | 22.6%            | 26.8%   | 38.5%            | 7.4%  |
| No interest                       | 10.7%            | 13.4%   | 9.7%             | 25.8% |
| Time constraints/work             | 7.9%             | 8.9%    | 11.4%            | 9.2%  |
| Illness or injury                 | 12.4%            | 8.1%    | 7.4%             | 6.7%  |
| Other                             | 3.4%             | 2.0%    | 2.7%             | 1.2%  |
| Weather/climate                   | 2.3%             | 1.6%    | 3.0%             | 0.0%  |
| No birds present                  | 1.1%             | 1.2%    | 2.5%             | 0.0%  |
| No knowledge                      | 1.1%             | 1.2%    | 1.0%             | 1.2%  |
| No equipment or transportation    | 0.6%             | 0.8%    | 0.7%             | 1.8%  |
| Lack of people to go with         | 0.0%             | 0.0%    | 1.7%             | 0.6%  |

### Preferred Birds

People were also asked what types of birds they preferred to see. Hummingbirds and birds of prey had the highest levels of preference, with over three-fifths saying they were very preferred. Waterfowl and other game birds had the lowest levels of preference, although overall people still expressed a desire to see them (fig. 27).



**Figure 27.** Preferences for seeing any of six types of wild birds (in percentages; n=975–987).

There were many differences in wild bird preferences among recreation groups (table 29). Those who do not participate in wildlife-related recreation were more likely to say they did not know their preference among bird types listed; they were also the most likely to say they did not prefer to see each bird type. Hunters' highest preference was for other game birds. Additionally, people in rural areas had a higher preference for other game birds than people in urban areas ( $\chi^2=23.346$ , 4 degrees of freedom,  $p < 0.001$ , Cramer's  $V=0.109$ ).

**Table 29.** Preferences for seeing any of six types of birds in the wild, by recreation group.

[Degrees of freedom equal 6 for all types of birds. Statistically significant  $p$ -values (less than 0.05) are marked with an asterisk (\*)]

| Type of bird     | Preference          | Recreation group |         |                  |       | Chi-square | $p$ -value | Cramer's V |
|------------------|---------------------|------------------|---------|------------------|-------|------------|------------|------------|
|                  |                     | Hunters          | Anglers | Wildlife viewers | None  |            |            |            |
| Waterfowl        | Not at all/slightly | 16.6%            | 16.5%   | 23.4%            | 37.7% | 126.196    | <0.001*    | 0.252      |
|                  | Somewhat/very       | 77.7%            | 74.8%   | 72.2%            | 34.7% |            |            |            |
|                  | Don't know          | 5.7%             | 8.7%    | 4.4%             | 27.5% |            |            |            |
| Other game birds | Not at all/slightly | 6.3%             | 18.5%   | 26.7%            | 39.8% | 171.178    | <0.001*    | 0.295      |
|                  | Somewhat/very       | 90.3%            | 71.8%   | 67.1%            | 30.1% |            |            |            |
|                  | Don't know          | 3.4%             | 9.7%    | 6.2%             | 30.1% |            |            |            |
| Hummingbirds     | Not at all/slightly | 14.6%            | 5.3%    | 2.9%             | 24.4% | 186.301    | <0.001*    | 0.305      |
|                  | Somewhat/very       | 81.5%            | 90.2%   | 94.8%            | 51.8% |            |            |            |
|                  | Don't know          | 3.9%             | 4.5%    | 2.2%             | 23.8% |            |            |            |
| Water birds      | Not at all/slightly | 22.0%            | 10.8%   | 11.4%            | 29.7% | 136.144    | <0.001*    | 0.263      |
|                  | Somewhat/very       | 71.2%            | 80.5%   | 83.9%            | 41.2% |            |            |            |
|                  | Don't know          | 6.8%             | 8.7%    | 4.7%             | 29.1% |            |            |            |
| Birds of prey    | Not at all/slightly | 12.9%            | 5.3%    | 7.4%             | 23.4% | 152.156    | <0.001*    | 0.276      |
|                  | Somewhat/very       | 83.1%            | 89.8%   | 90.4%            | 52.1% |            |            |            |
|                  | Don't know          | 3.9%             | 4.9%    | 2.2%             | 24.6% |            |            |            |
| Songbirds        | Not at all/slightly | 22.2%            | 12.8%   | 9.5%             | 33.3% | 177.052    | <0.001*    | 0.298      |
|                  | Somewhat/very       | 73.9%            | 80.7%   | 87.6%            | 39.4% |            |            |            |
|                  | Don't know          | 4.0%             | 6.6%    | 2.9%             | 27.3% |            |            |            |

## Demographics by Groups

Overall, the hunter sample had higher rates of males participating, and the wildlife viewer sample had more females participating (table 30). Additionally, Whites were more likely to participate in wildlife-related recreation than other racial groups. Hunters tended to have less formal education, but wildlife viewers tended to have more formal education. Hunters were also more likely to currently live and have grown up in a rural area; those who did not participate in wildlife recreation were more likely to currently live and have grown up in an urban area.

There were no significant differences in the samples by flyway in terms of gender, education, and age (table 31). There were differences in ethnicity and race, with the Central Flyway group having a higher Hispanic population and fewer Whites (it should be noted that the overall number of people of color is small in each flyway, which makes it risky to generalize to these populations). The higher Hispanic population in the Central Flyway is likely because it includes Texas; as of 2010, Texas had 9.5 million Hispanic/Latino residents, which made up 37.6 percent of the State population (U.S. Census Bureau, 2010c). Additionally, there were significant differences in current and childhood residence. The Pacific Flyway sample had fewer respondents from rural areas and more from urban areas, which is likely driven by California, the most urbanized State as of 2010 (U.S. Census Bureau, 2010b). Additionally, fewer people in the Pacific and Atlantic Flyway groups grew up in rural areas compared to the Mississippi and Central Flyway groups.

As is consistent with previous research (Institute of Medicine, 2005), rural respondents tended to be less educated, less racially diverse, and slightly older than the urban sample (table 32). Additionally, rural respondents were more likely to be male than urban and urban cluster respondents. Respondents were more likely to have grown up in an area similar in population size to where they live now.

**Table 30.** Demographics, by recreation group.

[See footnotes for degrees of freedom for each item. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*). %, percent; N/A, not applicable]

| Demographic category |                                    | Recreation group |         |                  |       | Chi-square | <i>p</i> -value | Cramer's V |
|----------------------|------------------------------------|------------------|---------|------------------|-------|------------|-----------------|------------|
|                      |                                    | Hunters          | Anglers | Wildlife viewers | None  |            |                 |            |
| Age                  | 18–44 (% of adults)                | 24.0%            | 24.1%   | 19.4%            | 20.4% | 115.506    | 0.017*          | 0.089      |
|                      | 45–64 (% of adults)                | 48.0%            | 51.9%   | 44.0%            | 41.4% |            |                 |            |
|                      | 65+ (% of adults)                  | 27.9%            | 24.1%   | 36.6%            | 38.3% |            |                 |            |
| Gender               | Male                               | 86.1%            | 70.9%   | 51.7%            | 67.5% | 271.608    | <0.001*         | 0.267      |
|                      | Female                             | 13.9%            | 29.1%   | 48.3%            | 32.5% |            |                 |            |
| Education            | High school degree or less         | 22.7%            | 19.3%   | 12.4%            | 21.5% | 329.163    | 0.001*          | 0.098      |
|                      | Some college or associate's degree | 39.2%            | 28.5%   | 27.9%            | 28.8% |            |                 |            |
|                      | Bachelor's degree                  | 21.0%            | 25.3%   | 31.1%            | 24.5% |            |                 |            |
|                      | Graduate degree                    | 17.1%            | 26.9%   | 28.6%            | 25.2% |            |                 |            |
| Current residence    | Urban (pop. 50,000+)               | 25.6%            | 49.2%   | 50.9%            | 56.8% | 162.222    | <0.001*         | 0.176      |
|                      | Urban cluster (pop. 2,500–50,000)  | 43.3%            | 36.7%   | 37.4%            | 34.6% |            |                 |            |
|                      | Rural (pop. <2,500)                | 31.1%            | 14.1%   | 11.7%            | 8.6%  |            |                 |            |
| Childhood residence  | Urban (pop. 50,000+)               | 23.6%            | 43.7%   | 49.9%            | 56.3% | 159.260    | <0.001*         | 0.174      |
|                      | Urban cluster (pop. 2,500–50,000)  | 42.1%            | 39.2%   | 35.7%            | 31.0% |            |                 |            |
|                      | Rural (pop. <2,500)                | 34.3%            | 17.1%   | 14.4%            | 12.7% |            |                 |            |
| Ethnicity            | Hispanic                           | 5.8%             | 7.6%    | 4.5%             | 5.8%  | 22.782     | 0.426           | N/A        |
|                      | Not Hispanic                       | 94.2%            | 92.4%   | 95.5%            | 94.2% |            |                 |            |
| Race                 | White (only)                       | 89.3%            | 89.1%   | 87.8%            | 73.8% | 224.674    | <0.001*         | 0.159      |
|                      | People of color                    | 10.7%            | 10.9%   | 12.2%            | 26.3% |            |                 |            |

<sup>1</sup>Degrees of freedom equals 6.

<sup>2</sup>Degrees of freedom equals 3.

<sup>3</sup>Degrees of freedom equals 9.

**Table 31. Demographics, by flyway.**

[See footnotes for degrees of freedom for each item. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*). %, percent; N/A, not applicable]

| Demographic category |                                    | Flyway   |             |         |         | Chi-square          | <i>p</i> -value | Cramer's V |
|----------------------|------------------------------------|----------|-------------|---------|---------|---------------------|-----------------|------------|
|                      |                                    | Atlantic | Mississippi | Central | Pacific |                     |                 |            |
| Age                  | 18–44 (% of adults)                | 20.4%    | 21.3%       | 24.0%   | 22.3%   | <sup>1</sup> 5.582  | 0.472           | N/A        |
|                      | 45–64 (% of adults)                | 47.8%    | 45.9%       | 48.8%   | 39.4%   |                     |                 |            |
|                      | 65+ (% of adults)                  | 31.9%    | 32.8%       | 27.3%   | 38.3%   |                     |                 |            |
| Gender               | Male                               | 65.1%    | 66.6%       | 61.0%   | 65.4%   | <sup>2</sup> 1.231  | 0.746           | N/A        |
|                      | Female                             | 34.9%    | 33.4%       | 39.0%   | 34.6%   |                     |                 |            |
| Education            | High school degree or less         | 17.3%    | 19.6%       | 20.3%   | 11.7%   | <sup>3</sup> 10.897 | 0.283           | N/A        |
|                      | Some college or associate's degree | 27.6%    | 31.9%       | 28.5%   | 34.6%   |                     |                 |            |
|                      | Bachelor's degree                  | 26.3%    | 25.8%       | 28.5%   | 28.5%   |                     |                 |            |
|                      | Graduate degree                    | 28.9%    | 22.7%       | 22.8%   | 25.1%   |                     |                 |            |
| Current residence    | Urban (pop. 50,000+)               | 42.6%    | 41.7%       | 48.0%   | 64.2%   | <sup>1</sup> 36.717 | <0.001*         | 0.135      |
|                      | Urban cluster (pop. 2,500–50,000)  | 43.9%    | 38.6%       | 32.5%   | 27.4%   |                     |                 |            |
|                      | Rural (pop. <2,500)                | 13.6%    | 19.8%       | 19.5%   | 8.4%    |                     |                 |            |
| Childhood residence  | Urban (pop. 50,000+)               | 43.4%    | 37.4%       | 44.2%   | 61.2%   | <sup>1</sup> 34.096 | <0.001*         | 0.131      |
|                      | Urban cluster (pop. 2,500–50,000)  | 41.2%    | 38.6%       | 34.2%   | 26.4%   |                     |                 |            |
|                      | Rural (pop. <2,500)                | 15.4%    | 24.0%       | 21.7%   | 12.4%   |                     |                 |            |
| Ethnicity            | Hispanic                           | 6.1%     | 1.6%        | 14.1%   | 6.6%    | <sup>2</sup> 22.913 | <0.001*         | 0.153      |
|                      | Not Hispanic                       | 93.9%    | 98.4%       | 86.9%   | 93.4%   |                     |                 |            |
| Race                 | White (only)                       | 85.8%    | 90.3%       | 81.0%   | 82.6%   | <sup>2</sup> 9.036  | 0.029*          | 0.096      |
|                      | People of color                    | 14.2%    | 9.7%        | 19.0%   | 17.4%   |                     |                 |            |

<sup>1</sup>Degrees of freedom equals 6.

<sup>2</sup>Degrees of freedom equals 3.

<sup>3</sup>Degrees of freedom equals 9.

**Table 32.** Demographics, by current residence.

[See footnotes for degrees of freedom for each item. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*). %, percent; N/A, not applicable]

| Demographic category |                                    | Current residence |               |       | Chi-square           | <i>p</i> -value | Cramer's V |
|----------------------|------------------------------------|-------------------|---------------|-------|----------------------|-----------------|------------|
|                      |                                    | Urban             | Urban cluster | Rural |                      |                 |            |
| Age                  | 18–44 (% of adults)                | 22.5%             | 22.5%         | 15.5% | <sup>1</sup> 5.881   | 0.208           | N/A        |
|                      | 45–64 (% of adults)                | 47.2%             | 43.7%         | 46.5% |                      |                 |            |
|                      | 65+ (% of adults)                  | 30.3%             | 33.8%         | 38.1% |                      |                 |            |
| Gender               | Male                               | 64.2%             | 61.5%         | 79.4% | <sup>2</sup> 16.243  | <0.001*         | 0.127      |
|                      | Female                             | 35.8%             | 38.5%         | 20.6% |                      |                 |            |
| Education            | High school degree or less         | 11.9%             | 19.4%         | 27.9% | <sup>3</sup> 24.485  | <0.001*         | 0.110      |
|                      | Some college or associate's degree | 30.6%             | 30.9%         | 27.9% |                      |                 |            |
|                      | Bachelor's degree                  | 29.9%             | 24.9%         | 22.7% |                      |                 |            |
|                      | Graduate degree                    | 27.6%             | 24.9%         | 21.4% |                      |                 |            |
| Childhood residence  | Urban (pop. 50,000+)               | 64.9%             | 27.6%         | 24.8% | <sup>1</sup> 280.431 | <0.001*         | 0.377      |
|                      | Urban cluster (pop. 2,500–50,000)  | 24.7%             | 58.6%         | 21.6% |                      |                 |            |
|                      | Rural (pop. <2,500)                | 10.3%             | 13.8%         | 53.6% |                      |                 |            |
| Ethnicity            | Hispanic                           | 6.8%              | 4.7%          | 3.4%  | <sup>2</sup> 3.227   | 0.199           | N/A        |
|                      | Not Hispanic                       | 93.2%             | 95.3%         | 96.6% |                      |                 |            |
| Race                 | White (only)                       | 83.6%             | 88.1%         | 90.7% | <sup>2</sup> 6.288   | 0.043*          | 0.080      |
|                      | Not White or 2+                    | 16.4%             | 11.9%         | 9.3%  |                      |                 |            |

<sup>1</sup>Degrees of freedom equals 4.

<sup>2</sup>Degrees of freedom equals 2.

<sup>3</sup>Degrees of freedom equals 6.

## Discussion

The results of this survey can help inform efforts to meet the NAWMP objectives, particularly in growing the number of supporters of waterfowl and wetlands conservation. Understanding the public's thoughts about and engagement with waterfowl and wetlands and their communication preferences can lead to more effective recruitment of active stakeholders. The survey results also give some clues about the public's desires for habitat management, particularly with respect to the species and benefits wetlands can support, which is discussed below. As stated at the beginning of this report, there are some limitations with the results presented here, namely that the sample of people who responded to the survey tended to be more wildlife-oriented than the true general public. Because of this bias, the results were also analyzed by wildlife-related recreationist groups. It can be assumed that the "none" recreationist group would make up a larger percent of the true general public than is present in this sample.

The survey assessed the general public's awareness and perceptions regarding the importance of the benefits provided by waterfowl and wetlands conservation. Overall, the respondents were very concerned about the reduction or loss of all of the listed wetlands/waterfowl benefits except hunting opportunities, for which they generally had low

concern. The highest concern was for clean air and clean water, followed by providing habitat for wildlife and pollinators. As expected, those who did not participate in wildlife-related recreation cared much less about the wetlands benefits related to wildlife recreation (hunting opportunities and wildlife viewing) than the other groups; however, their levels of concern were still fairly high for the habitat-related ecosystem services. This group also had more equal levels of concern with wildlife-related recreationists for benefits like flooding protection, clean air, and clean water. Communication about wetlands that focuses on habitat, clean air, and clean water may resonate with the widest variety of people. However, communication targeted toward wildlife-related recreationists may be most effective if it includes more information about the recreation benefits of wetlands and emphasizes habitat benefits.

The survey also identified groups with differing levels of engagement with waterfowl and wetlands conservation. Overall, support for general and wildlife conservation was high among respondents, though it was lower for conservation specific to wetlands and waterfowl. Hunters and rural residents were the most engaged groups, and wildlife viewers, people who did not participate in wildlife-related recreation, and urban residents were the least engaged. However, urban respondents and wildlife viewers were just as concerned (if not more so) about the loss of wetlands benefits as other groups. Wildlife viewers and urban residents may respond to outreach efforts when they focus on habitat and a broader suite of species than just waterfowl or even birds. For urban residents and those who did not participate in wildlife-related recreation, outdoor nonmotorized activities that are not related to wildlife may be appealing as well, which aligns with the results on bird preference. Although hunters had high preference for waterfowl, others were not as excited about waterfowl; it was the least preferred wild bird type overall. Conservation efforts that extend beyond waterfowl and include other species that benefit from wetlands may have more appeal to a broader range of people.

Additionally, the survey assessed potential avenues for public outreach and education about waterfowl and wetlands conservation. Most people preferred to get their information through personal experience, by reading or accessing online content, and by watching visual media online or through cable, satellite, or network. These results emphasize the importance of having content available online in an easily accessible and appealing format. Visual media in particular seems to be preferred by a wide variety of people. For hunters and anglers, online communication in the form of email newsletters or similar formats may be effective. Audio media and in-person educational opportunities were not preferred channels for any group.

The source of conservation information is important as well. The three most trusted sources of information were scientific organizations, universities/educational organizations, and friends/family. The three least trusted sources were the national media/news, religious organizations, and local media/news. Partnering with scientific organizations and universities to disseminate conservation information may be beneficial in communicating with the public. Interestingly, urban respondents had higher trust levels overall, particularly for the government. These results show the importance of knowing your audience when trying to communicate information because different groups do exhibit differing levels of trust.

Finally, the survey evaluated the general public's participation in waterfowl-associated recreation and how much they support waterfowl and wetlands conservation. The respondents indicated very high levels of participation in outdoor recreation, but the possibility of selection bias means that these results are not representative of the general public as a whole.

Participation in hunting was low compared to other activities. For example, only 5 percent of respondents hunted waterfowl in the year prior to the survey, compared to more than



half who watched birds and two-thirds who viewed wildlife in general. The relatively small numbers of hunters, even with self-selection bias making it more likely that hunters would respond to the survey, reinforces that engagement of other wildlife-related recreationists is critical to meeting the third goal of the NAWMP 2012 revision—to increase numbers of wetlands/waterfowl conservationists.

Given that wildlife viewers, those who did not participate in wildlife-related recreation, and urban residents tended to have negative attitudes toward hunting and (or) are not interested in participating, attempts to recruit them to participate in hunting may not be effective. However, given how many people across all groups knew a hunter and the relatively high levels of trust people had in their friends/family, hunters may be effective ambassadors for promoting waterfowl and wetlands conservation. Additionally, opposition to hunting and killing animals was a common barrier to hunting among nonhunters. Although trying to recruit these people to hunt is likely to be unsuccessful, a component of outreach may focus on the ethics of wildlife management and the benefits of hunting, so even those who do not engage can still appreciate the activity. In contrast, respondents had much more positive views toward birdwatching and expressed fewer barriers to participation in birdwatching. It therefore may be beneficial to move beyond hunting and find ways for other groups, such as birdwatchers, to play a more active role in conservation. Finally, the group who did not participate in wildlife-related recreation was the least likely to know hunters, birdwatchers, or conservationists, and they were the most likely to feel like they could not easily go hunting or birdwatching. Reaching out to these people is likely to be difficult and may necessitate more community events such as easy hikes or beginner birdwatching trips with equipment provided, which would help spread information beyond one's immediate network.

## Conclusion

This report provided information from the general public to help inform the 2018 revision of the North American Waterfowl Management Plan (NAWMP). Using a mail-out survey, attitudes and behaviors were assessed on many nature-related topics, including activity participation, hunting and birdwatching attitudes and behaviors, conservation behaviors, wetlands visitation, evaluation of wetlands benefits, preferred channels of information, and trust in information sources. Additionally, results were broken down by wildlife-related recreationist type, flyway, and residency to help better understand the attitudes, behavior, and reactions to outreach strategies among different groups of people. These results complement two other surveys to help inform the human dimensions of wetlands and waterfowl management: one survey specifically for hunters and one specifically for birdwatchers.

This survey and report provided more insight to the attitudes and behaviors of the general public in the United States. Overall, most people recognize the benefits of wetlands, and most value them for much more than recreation. However, waterfowl do not resonate with the public as much as other bird species, so focusing on a wider range of species is likely to generate more support for wetlands conservation. Additionally, although hunters are key conservation champions, other groups, such as wildlife viewers, make up larger portions of the population and also show concern for losing wetlands benefits. Thus, future conservation efforts may benefit from including and engaging birdwatchers as well. Finally, when promoting wetlands and waterfowl conservation, it is important to develop different messages for different audiences and spread them through channels and sources that are most preferred by the differing audiences.

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## Appendix 1. Survey Instrument

In this survey, we'll be asking for your opinions about and interactions with nature, specifically wetlands. **Wetlands include swamps, marshes, bogs, shallow ponds (less than 6 feet deep), and shallow areas on lakeshores and seashores.** Some wetlands are only wet some of the year, while others are wet year round. They can be in cities or in rural areas and can be smaller than a basketball court or cover several square miles. **We'll also be asking questions about waterfowl, such as ducks and geese,** which rely on the resources wetlands provide. ***While you may not have ever heard of wetlands or waterfowl before, we still want to hear from you!***

### SECTION A: NATURE AND WETLANDS ACTIVITIES

1. In the **last 12 months**, (A) Which of the following activities related to nature and wetlands did you participate in, if any? and (B) In the future, which activities are you interested in participating in, regardless of whether you have done them before? *In the first column, please check Yes or No for each activity. Then circle the number which best represents your interest level in this activity.*

| Activity                                                                                                   | A. In the <b>last 12 months</b> , I participated in this activity. | B. How likely are you to participate in this activity in the <b>next 12 months</b> ? |                 |             |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------|-------------|
|                                                                                                            |                                                                    | Not at all likely                                                                    | Somewhat likely | Very likely |
| Backyard/at-home nature activities (e.g., gardening, landscaping)                                          | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Spending time in nature away from home (e.g., picnicking)                                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Viewing/feeding/photographing birds                                                                        | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Viewing/photographing other types of wildlife                                                              | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Fishing (salt or freshwater)                                                                               | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Hunting waterfowl (e.g., ducks, geese)                                                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Hunting all other game (e.g., deer, rabbit)                                                                | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Non-motorized outdoor recreation activities (e.g., hiking, camping, horseback riding, bicycling, canoeing) | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Motorized outdoor recreation activities (e.g., motorized boating, riding ATVs, snowmobiling)               | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Learning about nature (e.g., reading/watching videos about nature, attending nature festivals/lectures)    | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |
| Other ( <i>please specify</i> ) _____                                                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No           | 0                                                                                    | 1               | 2           |

Next, we would like to know more about how you feel about hunting and birdwatching, even if you don't participate in these activities.

2. Using the scales below, please complete the following statement: "For me, **hunting** in the next 12 months would be..." *Please circle one number for each row.*

|                   | Very | Somewhat | Neither | Somewhat | Very |                    |
|-------------------|------|----------|---------|----------|------|--------------------|
| <b>Unpleasant</b> | 1    | 2        | 3       | 4        | 5    | <b>Pleasant</b>    |
| <b>Boring</b>     | 1    | 2        | 3       | 4        | 5    | <b>Interesting</b> |

3. Using the scales below, please complete the following statement: "For me, **birdwatching** in the next 12 months would be..." *Please circle one number for each row.*

|                   | Very | Somewhat | Neither | Somewhat | Very |                    |
|-------------------|------|----------|---------|----------|------|--------------------|
| <b>Unpleasant</b> | 1    | 2        | 3       | 4        | 5    | <b>Pleasant</b>    |
| <b>Boring</b>     | 1    | 2        | 3       | 4        | 5    | <b>Interesting</b> |

4. How much do you agree or disagree with the following statements? *Please circle one number for each statement.*

|                                                                                    | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know |
|------------------------------------------------------------------------------------|-------------------|----------|----------------------------|-------|----------------|------------|
| People important to me would support my <b>hunting</b> in the next 12 months.      | 1                 | 2        | 3                          | 4     | 5              | DK         |
| If I wanted to, I could easily go <b>hunting</b> in the next 12 months.            | 1                 | 2        | 3                          | 4     | 5              | DK         |
| People important to me would support my <b>birdwatching</b> in the next 12 months. | 1                 | 2        | 3                          | 4     | 5              | DK         |
| If I wanted to, I could easily go <b>birdwatching</b> in the next 12 months.       | 1                 | 2        | 3                          | 4     | 5              | DK         |

5. What would prevent you from **hunting** in the next 12 months? *Write your answer or check the box below.*

\_\_\_\_\_

\_\_\_\_\_

☐ I don't know/I've never thought about it

6. What would prevent you from **birdwatching** in the next 12 months? *Write your answer or check the box below.*

\_\_\_\_\_

\_\_\_\_\_

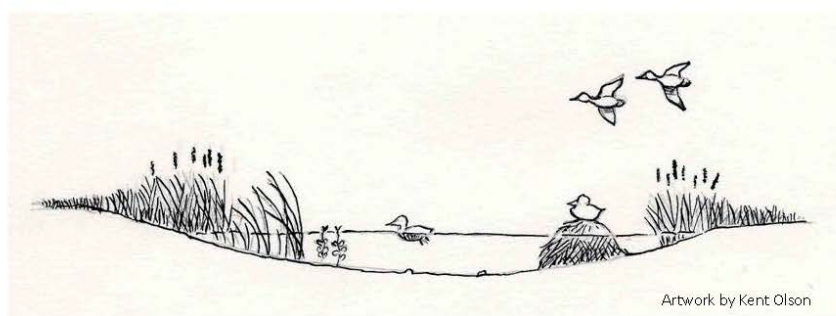
☐ I don't know/I've never thought about it

7. We're interested in whether you know people who participate in certain kinds of nature-related activities. Do you know any of the following types of people? *Please check all that apply for each type of person OR check "No one" if you do not know that type of person.*

| Type of person        | Acquaintance             | Close Friend             | Relative                 | No one                   |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Hunter                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Birdwatcher           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wildlife photographer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Conservationist       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8. What types of wild birds do you or would you prefer to see? *Please circle one number for each type of bird.*

| Type of bird                                            | Not at all preferred | Slightly preferred | Somewhat preferred | Very preferred | Don't know |
|---------------------------------------------------------|----------------------|--------------------|--------------------|----------------|------------|
| Waterfowl (ducks, geese, etc.)                          | 0                    | 1                  | 2                  | 3              | DK         |
| Other game birds (grouse, pheasant, turkey, etc.)       | 0                    | 1                  | 2                  | 3              | DK         |
| Hummingbirds                                            | 0                    | 1                  | 2                  | 3              | DK         |
| Water birds (shorebirds, herons, etc.)                  | 0                    | 1                  | 2                  | 3              | DK         |
| Birds of prey (hawks, eagles, owls, etc.)               | 0                    | 1                  | 2                  | 3              | DK         |
| Songbirds (warblers, sparrows, thrushes, finches, etc.) | 0                    | 1                  | 2                  | 3              | DK         |
| Other birds (anything not mentioned)                    | 0                    | 1                  | 2                  | 3              | DK         |



9. Please indicate your level of involvement in the following **conservation and wildlife-related** activities in the **last 12 months**. *Please circle one number for each activity.*

| Activity                                                                     | Never | Rarely | Sometimes | Often | Very often |
|------------------------------------------------------------------------------|-------|--------|-----------|-------|------------|
| Made my yard or my land more desirable to wildlife                           | 0     | 1      | 2         | 3     | 4          |
| Volunteered to improve wildlife habitat in my community                      | 0     | 1      | 2         | 3     | 4          |
| Talked to others in my community about conservation issues                   | 0     | 1      | 2         | 3     | 4          |
| Participated as an active member in a nature, outdoor, or conservation group | 0     | 1      | 2         | 3     | 4          |
| Donated money to support wildlife/habitat conservation                       | 0     | 1      | 2         | 3     | 4          |

10. Please indicate your level of involvement in the following **wetlands/waterfowl conservation** activities in the **last 12 months**. *Please circle one number for each activity.*

| Activity                                                                                 | Never | Rarely | Sometimes | Often | Very often |
|------------------------------------------------------------------------------------------|-------|--------|-----------|-------|------------|
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 0     | 1      | 2         | 3     | 4          |
| Attended meetings about wetlands/waterfowl conservation                                  | 0     | 1      | 2         | 3     | 4          |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 0     | 1      | 2         | 3     | 4          |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 0     | 1      | 2         | 3     | 4          |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 0     | 1      | 2         | 3     | 4          |
| Advocated for political action to conserve wetlands/waterfowl                            | 0     | 1      | 2         | 3     | 4          |



## SECTION B: SOURCES OF INFORMATION ABOUT CONSERVATION ISSUES

11. When you are looking for information about nature-related topics, such as recreational activities, wildlife, natural areas, or conservation issues, in which of the following ways do you prefer to get this information? *Please circle only one number for each source OR check "I do not look for information about conservation issues" at the bottom of the table.*

|                                                                                                           | Not at all preferred | Slightly preferred | Somewhat preferred | Very preferred |
|-----------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------|----------------|
| Receive or follow <b>online</b> communications (email updates or newsletters, social media, etc.)         | 0                    | 1                  | 2                  | 3              |
| Read or access <b>online</b> content (websites, apps, blogs, magazines, newspapers, books, reports, etc.) | 0                    | 1                  | 2                  | 3              |
| Read <b>printed</b> publications (magazines, newspapers, books, reports, newsletters, brochures, etc.)    | 0                    | 1                  | 2                  | 3              |
| Watch visual media <b>online</b> (videos, webinars, television shows, movies, etc.)                       | 0                    | 1                  | 2                  | 3              |
| Watch visual media through cable, satellite, or network (television shows, movies, etc.)                  | 0                    | 1                  | 2                  | 3              |
| Listen to <b>recorded</b> audio media (podcasts, audio books, etc.)                                       | 0                    | 1                  | 2                  | 3              |
| Listen to <b>live</b> audio media (radio, etc.)                                                           | 0                    | 1                  | 2                  | 3              |
| Talk with other people about nature-related topics (friends, family, colleagues, etc.)                    | 0                    | 1                  | 2                  | 3              |
| Through personal experience                                                                               | 0                    | 1                  | 2                  | 3              |
| Attend educational opportunities (courses, seminars, conferences, etc.)                                   | 0                    | 1                  | 2                  | 3              |
| Other ( <i>please specify</i> ) _____                                                                     | 0                    | 1                  | 2                  | 3              |

☐ I do not look for information about nature-related topics (*skip to Section C, question 13*)

12. When you are looking for information about nature-related topics, such as recreational activities, wildlife, natural areas or conservation issues, how much do you trust the following sources to provide accurate information? *Please circle only one number for each source.*

|                                           | Do not<br>trust at all | Trust<br>a little | Trust<br>somewhat | Trust<br>a lot | Trust<br>completely |
|-------------------------------------------|------------------------|-------------------|-------------------|----------------|---------------------|
| Federal government                        | 0                      | 1                 | 2                 | 3              | 4                   |
| State government                          | 0                      | 1                 | 2                 | 3              | 4                   |
| Local government (city, county,<br>etc.)  | 0                      | 1                 | 2                 | 3              | 4                   |
| Conservation groups                       | 0                      | 1                 | 2                 | 3              | 4                   |
| Universities/Educational<br>organizations | 0                      | 1                 | 2                 | 3              | 4                   |
| National media/news                       | 0                      | 1                 | 2                 | 3              | 4                   |
| Local media/news                          | 0                      | 1                 | 2                 | 3              | 4                   |
| Friends, family, neighbors,<br>colleagues | 0                      | 1                 | 2                 | 3              | 4                   |
| Scientific organizations                  | 0                      | 1                 | 2                 | 3              | 4                   |
| Religious organizations                   | 0                      | 1                 | 2                 | 3              | 4                   |
| Other ( <i>please specify</i> )<br>_____  | 0                      | 1                 | 2                 | 3              | 4                   |

#### SECTION C: YOUR OPINIONS ABOUT WETLANDS

13. Wetlands include swamps, marshes, bogs, shallow ponds (less than 6 feet deep), and shallow areas on lakeshores and seashores. Some wetlands are only wet some of the year, while others are wet year round. They can be in cities or in rural areas and can be smaller than a basketball court or cover several square miles. Based on this description, do you know of any wetlands in your local area or community? *Please check only one.*

- ☐ Yes  
☐ No  
☐ Don't know

14. Have you visited any wetlands in the last 12 months? *Please check only one.*

- ☐ Yes → *Go to next question.*  
☐ No → *Skip to question #16.*

15. What was the purpose of your wetlands visit(s)? *Please check all that apply.*

- ☐ Enjoying nature/picnicking/nature photography
- ☐ Walking/dog walking/hiking/biking
- ☐ Boating
- ☐ Wildlife viewing/birdwatching/wildlife photography
- ☐ Fishing
- ☐ Hunting
- ☐ Other (please specify \_\_\_\_\_)

16. Wetlands perform a variety of functions which are beneficial to people. When wetlands are lost or degraded, these benefits can be reduced or disappear altogether. How concerned would you be if the following benefits were substantially reduced in your community due to a loss of wetlands?  
*Please circle one number for each benefit.*

| Benefit                                                                                      | Not at all<br>concerned | Slightly<br>concerned | Somewhat<br>concerned | Very<br>concerned |
|----------------------------------------------------------------------------------------------|-------------------------|-----------------------|-----------------------|-------------------|
| A. Flooding protection                                                                       | 0                       | 1                     | 2                     | 3                 |
| B. Erosion protection                                                                        | 0                       | 1                     | 2                     | 3                 |
| C. Wildlife viewing and birdwatching                                                         | 0                       | 1                     | 2                     | 3                 |
| D. Hunting opportunities                                                                     | 0                       | 1                     | 2                     | 3                 |
| E. Storage of greenhouse gases, such as carbon                                               | 0                       | 1                     | 2                     | 3                 |
| F. Clean water                                                                               | 0                       | 1                     | 2                     | 3                 |
| G. Clean air                                                                                 | 0                       | 1                     | 2                     | 3                 |
| H. Providing a home for wildlife                                                             | 0                       | 1                     | 2                     | 3                 |
| I. Providing a home for animals such as butterflies and bees that pollinate plants and crops | 0                       | 1                     | 2                     | 3                 |
| J. Scenic places for inspiration or spiritual renewal                                        | 0                       | 1                     | 2                     | 3                 |

17. Which of the wetlands benefits listed above would you be **most and least** concerned about being substantially reduced in your community? *Please write the letter associated with the benefit you are most concerned about losing and then the letter associated with the benefit you are least concerned about losing on the lines below. Use a letter only one time.*

Benefit **most** concerned about \_\_\_\_\_

Benefit **least** concerned about \_\_\_\_\_

#### SECTION D: ABOUT YOU

To help us compare your responses to those of others, we have some questions about you. Please be assured that all of your answers will remain completely confidential.

18. In what year were you born? 19\_\_\_\_

19. Are you...?

- ☐ Male
- ☐ Female

20. What is the highest grade (or year) of regular school you have completed? *Please check only one.*

- ☐ Some high school or less
- ☐ High school diploma or GED
- ☐ Some college (no degree)
- ☐ Associate's degree (2 years)
- ☐ Bachelor's degree (4 years)
- ☐ Graduate or professional school

21. Which of these categories best describes the place where you live now and where you lived during most of the time you were growing up (that is, until age 16)? *Please check only one in each column.*

| Where you live now                                                                 | Where you grew up                                                                  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <input type="checkbox"/> Large urban area (population of 500,000 or more)          | <input type="checkbox"/> Large urban area (population of 500,000 or more)          |
| <input type="checkbox"/> Medium urban area (population between 50,000 and 500,000) | <input type="checkbox"/> Medium urban area (population between 50,000 and 500,000) |
| <input type="checkbox"/> Small city (population between 10,000 and 50,000)         | <input type="checkbox"/> Small city (population between 10,000 and 50,000)         |
| <input type="checkbox"/> Small town (population between 2,500 and 10,000)          | <input type="checkbox"/> Small town (population between 2,500 and 10,000)          |
| <input type="checkbox"/> Rural area (population less than 2,500)                   | <input type="checkbox"/> Rural area (population less than 2,500)                   |

22. Is a nature-related profession (such as fisheries, forestry, farming, environmental science, or conservation) the primary source of your personal income? *Please check only one.*

- ☐ Yes
- ☐ No

**23.** What ethnicity do you consider yourself? *Please check only one.*

- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

**24.** From what racial origin(s) do you consider yourself? *Please check all that apply.*

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or other Pacific Islander
- ☐ White

## Thank you!

**Comments? Please write them below.**

PAPERWORK REDUCTION ACT STATEMENT: The Paperwork Reduction Act requires us to tell you why we are collecting this information, how we will use it, and whether or not you have to respond. The information that we collect in this survey will help us understand the general public's experiences with and views on nature and wetlands and help the U.S. Fish and Wildlife Service and state agencies manage waterfowl and wetlands through the North American Waterfowl Management Plan. Your response is voluntary. An agency may not conduct or sponsor a collection of information unless it displays a valid OMB Control Number. We estimate it will take an average of 20 minutes to complete this survey. You may send comments concerning the burden estimate or any aspect of the survey to the Information Collection Clearance Officer, U.S. Geological Survey, 12201 Sunrise Valley Dr. 807, Reston, VA 20192. OMB CONTROL #1028-0120. EXPIRATION DATE 11/30/2019.

## Appendix 2. Nonresponse Bias Table

**Table 33.** Nonresponse bias table, in percent of respondents to the survey (n=1,030) and the nonresponse survey (n=275).

[See footnotes for degrees of freedom for each item. Statistically significant *p*-values (less than 0.05) are marked with an asterisk (\*). GED, general equivalency diploma]

| Survey item            | Response                        | Sample percentage | Nonresponse percentage | Chi-square             | <i>p</i> -value |
|------------------------|---------------------------------|-------------------|------------------------|------------------------|-----------------|
| Know of wetlands       | Yes                             | 78.3%             | 58.8%                  | <sup>1</sup> 42.886    | <0.001*         |
|                        | No                              | 11.8%             | 23.9%                  |                        |                 |
|                        | Don't know                      | 9.9%              | 17.3%                  |                        |                 |
| Wetlands visit         | Yes                             | 57.4%             | 35.4%                  | <sup>2</sup> 41.233    | <0.001*         |
|                        | No                              | 42.6%             | 64.6%                  |                        |                 |
| Activity participation | At-home nature activities       | 87.2%             | 74.1%                  | <sup>2</sup> 27.997    | <0.001*         |
|                        | Spending time in nature         | 80.8%             | 65.2%                  | <sup>2</sup> 29.490    | <0.001*         |
|                        | Viewing/photo birds             | 61.0%             | 38.8%                  | <sup>2</sup> 42.442    | <0.001*         |
|                        | Viewing/photo wildlife          | 65.9%             | 43.0%                  | <sup>2</sup> 46.031    | <0.001*         |
|                        | Fishing                         | 40.2%             | 32.5%                  | <sup>2</sup> 5.310     | 0.021*          |
|                        | Hunting waterfowl               | 5.1%              | 4.2%                   | <sup>2</sup> 0.433     | 0.510           |
|                        | Hunting other                   | 17.4%             | 14.2%                  | <sup>2</sup> 1.499     | 0.221           |
|                        | Nonmotorized outdoor recreation | 70.5%             | 50.9%                  | <sup>2</sup> 36.289    | <0.001*         |
|                        | Motorized outdoor recreation    | 35.2%             | 31.1%                  | <sup>2</sup> 1.572     | 0.210           |
|                        | Learning about nature           | 66.7%             | 53.1%                  | <sup>2</sup> 16.941    | <0.001*         |
| Gender                 | Male                            | 65.1%             | 66.2%                  | <sup>2</sup> 0.106     | 0.745           |
|                        | Female                          | 34.9%             | 33.8%                  |                        |                 |
| Education              | Some high school or less        | 3.0%              | 4.8%                   | <sup>3</sup> 22.170    | <0.001*         |
|                        | High school diploma or GED      | 14.5%             | 23.9%                  |                        |                 |
|                        | Some college                    | 20.0%             | 21.0%                  |                        |                 |
|                        | Associate's degree              | 10.3%             | 11.0%                  |                        |                 |
|                        | Bachelor's degree               | 26.8%             | 22.4%                  |                        |                 |
|                        | Graduate school                 | 25.5%             | 16.9%                  |                        |                 |
| Age                    | Mean (t-test)                   | 56.8 years        | 56.8 years             | <sup>4</sup> t = -0.02 | 0.987           |

<sup>1</sup>Degrees of freedom equals 2.

<sup>2</sup>Degrees of freedom equals 1.

<sup>3</sup>Degrees of freedom equals 5.

<sup>4</sup>Degrees of freedom equals 369.61.

### Appendix 3. Raw Data by Survey Question

This appendix contains frequencies and percentages for all questions asked in the survey, both unweighted and weighted on age and gender. For the unweighted data, the sample size is 1,030. For the weighted data, the sample size is 998 (those who did not respond to the questions on age and gender were removed from the sample). The number of respondents per question is slightly less for many questions because of people missing or skipping some questions.

**Table 34.** Raw data: Nature-related activity participation in the previous 12 months.

| Activity                                      | Response            | Unweighted |         | Weighted |         |
|-----------------------------------------------|---------------------|------------|---------|----------|---------|
|                                               |                     | Count      | Percent | Count    | Percent |
| Backyard/at-home nature activities            | Participated        | 880        | 87.2%   | 862      | 87.6%   |
|                                               | Did not participate | 129        | 12.8%   | 122      | 12.4%   |
| Spending time in nature away from home        | Participated        | 815        | 80.8%   | 833      | 84.7%   |
|                                               | Did not participate | 194        | 19.2%   | 150      | 15.3%   |
| Viewing/feeding/ photographing birds          | Participated        | 615        | 61.0%   | 575      | 58.3%   |
|                                               | Did not participate | 393        | 39.0%   | 410      | 41.7%   |
| Viewing/feeding/ photographing other wildlife | Participated        | 660        | 65.9%   | 670      | 68.7%   |
|                                               | Did not participate | 342        | 34.1%   | 306      | 31.3%   |
| Fishing                                       | Participated        | 404        | 40.2%   | 382      | 39.1%   |
|                                               | Did not participate | 601        | 59.8%   | 596      | 60.9%   |
| Hunting waterfowl                             | Participated        | 51         | 5.1%    | 50       | 5.2%    |
|                                               | Did not participate | 942        | 94.9%   | 916      | 94.8%   |
| Hunting all other game                        | Participated        | 175        | 17.4%   | 159      | 16.2%   |
|                                               | Did not participate | 830        | 82.6%   | 818      | 83.8%   |
| Nonmotorized outdoor recreation activities    | Participated        | 713        | 70.5%   | 733      | 74.4%   |
|                                               | Did not participate | 299        | 29.5%   | 253      | 25.6%   |
| Motorized outdoor recreation activities       | Participated        | 355        | 35.2%   | 359      | 36.5%   |
|                                               | Did not participate | 654        | 64.8%   | 624      | 63.5%   |
| Learning about nature                         | Participated        | 674        | 66.7%   | 663      | 67.1%   |
|                                               | Did not participate | 337        | 33.3%   | 324      | 32.9%   |
| Other                                         | Participated        | 71         | 33.2%   | 66       | 32.0%   |
|                                               | Did not participate | 143        | 66.8%   | 140      | 68.0%   |

**Table 35.** Raw data: Intended nature-related activity participation in the following 12 months.

| Activity                                      | Response          | Unweighted |         | Weighted |         |
|-----------------------------------------------|-------------------|------------|---------|----------|---------|
|                                               |                   | Count      | Percent | Count    | Percent |
| Backyard/at-home nature activities            | Not at all likely | 86         | 8.7%    | 73       | 7.4%    |
|                                               | Somewhat likely   | 118        | 12.0%   | 111      | 11.4%   |
|                                               | Very likely       | 781        | 79.3%   | 792      | 81.1%   |
| Spending time in nature away from home        | Not at all likely | 116        | 11.8%   | 85       | 8.7%    |
|                                               | Somewhat likely   | 202        | 20.5%   | 185      | 19.0%   |
|                                               | Very likely       | 669        | 67.8%   | 705      | 72.3%   |
| Viewing/feeding/ photographing birds          | Not at all likely | 292        | 29.9%   | 299      | 30.8%   |
|                                               | Somewhat likely   | 199        | 20.3%   | 213      | 22.0%   |
|                                               | Very likely       | 487        | 49.8%   | 459      | 47.3%   |
| Viewing/feeding/ photographing other wildlife | Not at all likely | 254        | 26.2%   | 226      | 23.6%   |
|                                               | Somewhat likely   | 235        | 24.3%   | 247      | 25.8%   |
|                                               | Very likely       | 479        | 49.5%   | 486      | 50.7%   |
| Fishing                                       | Not at all likely | 432        | 44.9%   | 412      | 43.3%   |
|                                               | Somewhat likely   | 196        | 20.4%   | 215      | 22.5%   |
|                                               | Very likely       | 335        | 34.8%   | 325      | 34.1%   |
| Hunting waterfowl                             | Not at all likely | 815        | 85.7%   | 805      | 85.4%   |
|                                               | Somewhat likely   | 83         | 8.7%    | 86       | 9.2%    |
|                                               | Very likely       | 53         | 5.6%    | 51       | 5.5%    |
| Hunting all other game                        | Not at all likely | 729        | 75.8%   | 721      | 75.8%   |
|                                               | Somewhat likely   | 77         | 8.0%    | 80       | 8.5%    |
|                                               | Very likely       | 156        | 16.2%   | 150      | 15.8%   |
| Nonmotorized outdoor recreation activities    | Not at all likely | 210        | 21.6%   | 169      | 17.5%   |
|                                               | Somewhat likely   | 199        | 20.4%   | 184      | 19.1%   |
|                                               | Very likely       | 565        | 58.0%   | 611      | 63.4%   |
| Motorized outdoor recreation activities       | Not at all likely | 210        | 21.6%   | 433      | 44.9%   |
|                                               | Somewhat likely   | 199        | 20.4%   | 232      | 24.0%   |
|                                               | Very likely       | 565        | 58.0%   | 300      | 31.1%   |
| Learning about nature                         | Not at all likely | 229        | 23.5%   | 215      | 22.2%   |
|                                               | Somewhat likely   | 282        | 28.9%   | 289      | 29.9%   |
|                                               | Very likely       | 465        | 47.6%   | 464      | 47.9%   |
| Other                                         | Not at all likely | 123        | 59.7%   | 122      | 62.4%   |
|                                               | Somewhat likely   | 15         | 7.3%    | 14       | 6.9%    |
|                                               | Very likely       | 68         | 33.0%   | 60       | 30.7%   |



**Table 36.** Raw data: Hunting and birdwatching attitudes.

| Attitude             | Unweighted |         | Weighted |         |
|----------------------|------------|---------|----------|---------|
|                      | Count      | Percent | Count    | Percent |
| Hunting              |            |         |          |         |
| Very unpleasant      | 392        | 40.5%   | 407      | 43.0%   |
| Somewhat unpleasant  | 74         | 7.7%    | 77       | 8.1%    |
| Neither              | 195        | 20.2%   | 178      | 18.8%   |
| Somewhat pleasant    | 100        | 10.3%   | 101      | 10.6%   |
| Very pleasant        | 206        | 21.3%   | 183      | 19.4%   |
| Very boring          | 276        | 29.6%   | 297      | 32.1%   |
| Somewhat boring      | 78         | 8.4%    | 80       | 8.7%    |
| Neither              | 244        | 26.2%   | 225      | 24.3%   |
| Somewhat interesting | 123        | 13.2%   | 129      | 13.9%   |
| Very interesting     | 210        | 22.6%   | 195      | 21.0%   |
| Birdwatching         |            |         |          |         |
| Very unpleasant      | 85         | 8.9%    | 101      | 10.8%   |
| Somewhat unpleasant  | 52         | 5.5%    | 48       | 5.1%    |
| Neither              | 189        | 19.9%   | 186      | 19.8%   |
| Somewhat pleasant    | 272        | 28.6%   | 271      | 28.9%   |
| Very pleasant        | 354        | 37.2%   | 331      | 35.3%   |
| Very boring          | 140        | 14.7%   | 160      | 17.0%   |
| Somewhat boring      | 97         | 10.2%   | 106      | 11.2%   |
| Neither              | 140        | 14.7%   | 128      | 13.5%   |
| Somewhat interesting | 252        | 26.5%   | 245      | 25.9%   |
| Very interesting     | 322        | 33.9%   | 306      | 32.4%   |

**Table 37.** Raw data: Perceived behavioral control and subjective norms for hunting and birdwatching.

| Control or norm                                                            | Response                   | Unweighted |         | Weighted |         |
|----------------------------------------------------------------------------|----------------------------|------------|---------|----------|---------|
|                                                                            |                            | Count      | Percent | Count    | Percent |
| People important to me would support my hunting in the next 12 months      | Strongly disagree          | 212        | 20.9%   | 203      | 20.5%   |
|                                                                            | Disagree                   | 95         | 9.4%    | 90       | 9.1%    |
|                                                                            | Neither agree nor disagree | 208        | 20.5%   | 215      | 21.7%   |
|                                                                            | Agree                      | 165        | 16.3%   | 154      | 15.6%   |
|                                                                            | Strongly agree             | 257        | 25.3%   | 257      | 25.9%   |
|                                                                            | Don't know                 | 77         | 7.6%    | 70       | 7.1%    |
| If I wanted to, I could easily go hunting in the next 12 months            | Strongly disagree          | 197        | 19.6%   | 191      | 19.4%   |
|                                                                            | Disagree                   | 95         | 9.4%    | 98       | 9.9%    |
|                                                                            | Neither agree nor disagree | 112        | 11.1%   | 105      | 10.6%   |
|                                                                            | Agree                      | 224        | 22.3%   | 222      | 22.5%   |
|                                                                            | Strongly agree             | 331        | 32.9%   | 327      | 33.2%   |
|                                                                            | Don't know                 | 47         | 4.7%    | 42       | 4.3%    |
| People important to me would support my birdwatching in the next 12 months | Strongly disagree          | 59         | 5.8%    | 55       | 5.6%    |
|                                                                            | Disagree                   | 31         | 3.1%    | 23       | 2.3%    |
|                                                                            | Neither agree nor disagree | 187        | 18.4%   | 195      | 19.7%   |
|                                                                            | Agree                      | 285        | 28.1%   | 282      | 28.5%   |
|                                                                            | Strongly agree             | 403        | 39.7%   | 389      | 39.3%   |
|                                                                            | Don't know                 | 51         | 5.0%    | 46       | 4.6%    |
| If I wanted to, I could easily go birdwatching in the next 12 months       | Strongly disagree          | 61         | 6.0%    | 53       | 5.4%    |
|                                                                            | Disagree                   | 27         | 2.7%    | 25       | 2.6%    |
|                                                                            | Neither agree nor disagree | 106        | 10.5%   | 103      | 10.4%   |
|                                                                            | Agree                      | 261        | 25.7%   | 248      | 25.1%   |
|                                                                            | Strongly agree             | 521        | 51.4%   | 522      | 52.7%   |
|                                                                            | Don't know                 | 38         | 3.7%    | 38       | 3.8%    |

**Table 38.** Perceived constraints to participating in hunting in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint                       | Unweighted<br>(n=1,008) |         | Weighted<br>(n=985) |         |
|--------------------------------------------|-------------------------|---------|---------------------|---------|
|                                            | Count                   | Percent | Count               | Percent |
| Don't know/never thought about it          | 259                     | 25.7%   | 258                 | 26.2%   |
| Illness or injury                          | 118                     | 11.7%   | 76                  | 7.7%    |
| Moral opposition/don't kill                | 179                     | 17.8%   | 197                 | 20.0%   |
| No interest                                | 183                     | 18.2%   | 182                 | 18.5%   |
| Time constraints/work                      | 65                      | 6.4%    | 75                  | 7.6%    |
| No guns/equipment/skills/cost of equipment | 66                      | 6.5%    | 70                  | 7.1%    |
| Not a hunter/just don't                    | 57                      | 5.7%    | 60                  | 6.1%    |
| Access to land/permits/tags                | 54                      | 5.4%    | 51                  | 5.2%    |
| I used to, just don't anymore              | 8                       | 0.8%    | 6                   | 0.6%    |
| Nothing                                    | 37                      | 3.7%    | 24                  | 2.4%    |
| Opposition of others                       | 7                       | 0.7%    | 6                   | 0.6%    |
| Other                                      | 24                      | 2.4%    | 29                  | 2.9%    |

**Table 39.** Perceived constraints to participating in birdwatching in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint              | Unweighted<br>(n=993) |         | Weighted<br>(n=972) |         |
|-----------------------------------|-----------------------|---------|---------------------|---------|
|                                   | Count                 | Percent | Count               | Percent |
| Don't know/never thought about it | 343                   | 34.5%   | 337                 | 34.7%   |
| Illness or injury                 | 83                    | 8.4%    | 59                  | 6.1%    |
| No birds present                  | 15                    | 1.5%    | 15                  | 1.5%    |
| No interest                       | 134                   | 13.5%   | 143                 | 14.7%   |
| Time constraints/work             | 97                    | 9.8%    | 109                 | 11.2%   |
| No knowledge                      | 11                    | 1.1%    | 6                   | 1.5%    |
| Lack of people to go with         | 8                     | 0.8%    | 9                   | 0.9%    |
| No equipment or transportation    | 9                     | 0.9%    | 9                   | 0.9%    |
| Nothing                           | 274                   | 27.6%   | 249                 | 25.6%   |
| Other                             | 24                    | 2.4%    | 33                  | 3.4%    |
| Weather/climate                   | 20                    | 2.0%    | 18                  | 1.9%    |

**Table 40.** Raw data: Acquaintance with someone who participates in nature-related activities.  
[UnW, unweighted; W, weighted]

| Type of person                                | Degree of acquaintance | Unweighted |         | Weighted |         |
|-----------------------------------------------|------------------------|------------|---------|----------|---------|
|                                               |                        | Count      | Percent | Count    | Percent |
| Hunter<br>n=1,012 UnW<br>n=988 W              | Acquaintance           | 479        | 47.3%   | 470      | 47.6%   |
|                                               | Close friend           | 444        | 43.9%   | 428      | 43.3%   |
|                                               | Relative               | 491        | 48.5%   | 493      | 49.9%   |
|                                               | No one                 | 157        | 15.5%   | 140      | 14.1%   |
| Birdwatcher<br>n=1,005 UnW<br>n=981 W         | Acquaintance           | 318        | 31.6%   | 314      | 32.0%   |
|                                               | Close friend           | 303        | 30.2%   | 275      | 28.1%   |
|                                               | Relative               | 346        | 34.4%   | 356      | 36.3%   |
|                                               | No one                 | 321        | 31.9%   | 321      | 32.7%   |
| Wildlife photographer<br>n=996 UnW<br>n=978 W | Acquaintance           | 269        | 27.0%   | 288      | 29.5%   |
|                                               | Close friend           | 187        | 18.8%   | 199      | 20.3%   |
|                                               | Relative               | 184        | 18.5%   | 204      | 20.9%   |
|                                               | No one                 | 499        | 50.1%   | 450      | 46.1%   |
| Conservationist<br>n=1,003 UnW<br>n=984 W     | Acquaintance           | 294        | 29.3%   | 311      | 31.6%   |
|                                               | Close friend           | 242        | 24.1%   | 251      | 25.5%   |
|                                               | Relative               | 191        | 19.0%   | 190      | 19.3%   |
|                                               | No one                 | 478        | 47.7%   | 437      | 44.4%   |

**Table 41.** Raw data: Preferred types of wild birds.

| Type of bird                                            | Preference           | Unweighted |         | Weighted |         |
|---------------------------------------------------------|----------------------|------------|---------|----------|---------|
|                                                         |                      | Count      | Percent | Count    | Percent |
| Waterfowl (ducks, geese, etc.)                          | Not at all preferred | 90         | 9.0%    | 89       | 9.1%    |
|                                                         | Slightly preferred   | 139        | 13.9%   | 158      | 16.1%   |
|                                                         | Somewhat preferred   | 285        | 28.5%   | 265      | 27.0%   |
|                                                         | Very preferred       | 388        | 38.8%   | 376      | 38.3%   |
|                                                         | Don't know           | 97         | 9.7%    | 93       | 9.5%    |
| Other game birds (grouse, pheasant, turkey, etc.)       | Not at all preferred | 97         | 9.8%    | 107      | 11.0%   |
|                                                         | Slightly preferred   | 134        | 13.5%   | 152      | 15.6%   |
|                                                         | Somewhat preferred   | 242        | 24.4%   | 216      | 22.2%   |
|                                                         | Very preferred       | 414        | 41.7%   | 395      | 40.5%   |
|                                                         | Don't know           | 106        | 10.7%   | 104      | 10.7%   |
| Hummingbirds                                            | Not at all preferred | 45         | 4.5%    | 43       | 4.3%    |
|                                                         | Slightly preferred   | 49         | 4.9%    | 57       | 5.7%    |
|                                                         | Somewhat preferred   | 153        | 15.2%   | 161      | 16.3%   |
|                                                         | Very preferred       | 694        | 68.8%   | 666      | 67.4%   |
|                                                         | Don't know           | 68         | 6.7%    | 61       | 6.2%    |
| Water birds (shorebirds, herons, etc.)                  | Not at all preferred | 77         | 7.7%    | 76       | 7.8%    |
|                                                         | Slightly preferred   | 86         | 8.6%    | 96       | 9.8%    |
|                                                         | Somewhat preferred   | 261        | 26.2%   | 245      | 25.0%   |
|                                                         | Very preferred       | 471        | 47.2%   | 467      | 47.8%   |
|                                                         | Don't know           | 102        | 10.2%   | 94       | 9.6%    |
| Birds of prey (hawks, eagles, owls, etc.)               | Not at all preferred | 58         | 5.8%    | 64       | 6.5%    |
|                                                         | Slightly preferred   | 49         | 4.9%    | 45       | 4.6%    |
|                                                         | Somewhat preferred   | 156        | 15.5%   | 155      | 15.8%   |
|                                                         | Very preferred       | 672        | 66.8%   | 648      | 66.1%   |
|                                                         | Don't know           | 71         | 7.1%    | 69       | 7.0%    |
| Songbirds (warblers, sparrows, thrushes, finches, etc.) | Not at all preferred | 68         | 6.8%    | 67       | 6.8%    |
|                                                         | Slightly preferred   | 99         | 9.9%    | 105      | 10.6%   |
|                                                         | Somewhat preferred   | 209        | 20.8%   | 190      | 19.3%   |
|                                                         | Very preferred       | 548        | 54.5%   | 543      | 55.2%   |
|                                                         | Don't know           | 81         | 8.1%    | 79       | 8.1%    |
| Other birds (anything not mentioned)                    | Not at all preferred | 68         | 7.5%    | 71       | 8.0%    |
|                                                         | Slightly preferred   | 57         | 6.3%    | 63       | 7.1%    |
|                                                         | Somewhat preferred   | 153        | 16.9%   | 144      | 16.2%   |
|                                                         | Very preferred       | 348        | 38.4%   | 330      | 37.1%   |
|                                                         | Don't know           | 280        | 30.9%   | 282      | 31.7%   |

**Table 42.** Raw data: Participation in conservation and wildlife-related activities in the previous 12 months.

| Activity                                                                     | Response   | Unweighted |         | Weighted |         |
|------------------------------------------------------------------------------|------------|------------|---------|----------|---------|
|                                                                              |            | Count      | Percent | Count    | Percent |
| Made my yard or land more desirable to wildlife                              | Never      | 206        | 20.2%   | 205      | 20.7%   |
|                                                                              | Rarely     | 116        | 11.4%   | 131      | 13.2%   |
|                                                                              | Sometimes  | 263        | 25.8%   | 245      | 24.7%   |
|                                                                              | Often      | 245        | 24.1%   | 229      | 23.1%   |
|                                                                              | Very often | 188        | 18.5%   | 182      | 18.4%   |
| Volunteered to improve wildlife habitat in my community                      | Never      | 597        | 58.8%   | 566      | 57.1%   |
|                                                                              | Rarely     | 203        | 20.0%   | 210      | 21.2%   |
|                                                                              | Sometimes  | 129        | 12.7%   | 131      | 13.2%   |
|                                                                              | Often      | 57         | 5.6%    | 52       | 5.3%    |
|                                                                              | Very often | 29         | 2.9%    | 32       | 3.2%    |
| Talked to others in my community about conservation issues                   | Never      | 448        | 44.0%   | 442      | 44.5%   |
|                                                                              | Rarely     | 187        | 18.4%   | 174      | 17.5%   |
|                                                                              | Sometimes  | 245        | 24.1%   | 243      | 24.5%   |
|                                                                              | Often      | 96         | 9.4%    | 96       | 9.6%    |
|                                                                              | Very often | 42         | 4.1%    | 38       | 3.8%    |
| Participated as an active member in a nature, outdoor, or conservation group | Never      | 640        | 62.9%   | 593      | 59.7%   |
|                                                                              | Rarely     | 169        | 16.6%   | 185      | 18.6%   |
|                                                                              | Sometimes  | 111        | 10.9%   | 117      | 11.8%   |
|                                                                              | Often      | 55         | 5.4%    | 58       | 5.8%    |
|                                                                              | Very often | 43         | 4.2%    | 41       | 4.1%    |
| Donated money to support wildlife/habitat conservation                       | Never      | 453        | 44.5%   | 437      | 44.1%   |
|                                                                              | Rarely     | 188        | 18.4%   | 193      | 19.5%   |
|                                                                              | Sometimes  | 230        | 22.6%   | 216      | 21.7%   |
|                                                                              | Often      | 90         | 8.8%    | 89       | 9.0%    |
|                                                                              | Very often | 58         | 5.7%    | 57       | 5.8%    |

**Table 43.** Raw data: Participation in wetlands and waterfowl conservation activities in the previous 12 months.

| Activity                                                                                 | Response   | Unweighted |         | Weighted |         |
|------------------------------------------------------------------------------------------|------------|------------|---------|----------|---------|
|                                                                                          |            | Count      | Percent | Count    | Percent |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | Never      | 790        | 77.7%   | 760      | 76.9%   |
|                                                                                          | Rarely     | 112        | 11.0%   | 124      | 12.6%   |
|                                                                                          | Sometimes  | 73         | 7.2%    | 69       | 7.0%    |
|                                                                                          | Often      | 33         | 3.2%    | 27       | 2.8%    |
|                                                                                          | Very often | 9          | 0.9%    | 8        | 0.8%    |
| Attended meetings about wetlands/waterfowl conservation                                  | Never      | 816        | 80.1%   | 791      | 79.9%   |
|                                                                                          | Rarely     | 117        | 11.5%   | 128      | 12.9%   |
|                                                                                          | Sometimes  | 66         | 6.5%    | 53       | 5.4%    |
|                                                                                          | Often      | 16         | 1.6%    | 16       | 1.6%    |
|                                                                                          | Very often | 4          | 0.4%    | 2        | 0.2%    |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | Never      | 810        | 79.8%   | 780      | 79.1%   |
|                                                                                          | Rarely     | 109        | 10.7%   | 113      | 11.4%   |
|                                                                                          | Sometimes  | 64         | 6.3%    | 61       | 6.1%    |
|                                                                                          | Often      | 25         | 2.5%    | 27       | 2.8%    |
|                                                                                          | Very often | 7          | 0.7%    | 5        | 0.5%    |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | Never      | 815        | 80.0%   | 789      | 79.8%   |
|                                                                                          | Rarely     | 107        | 10.5%   | 111      | 11.2%   |
|                                                                                          | Sometimes  | 69         | 6.8%    | 60       | 6.0%    |
|                                                                                          | Often      | 18         | 1.8%    | 17       | 1.7%    |
|                                                                                          | Very often | 10         | 1.0%    | 12       | 1.3%    |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | Never      | 542        | 53.5%   | 550      | 55.7%   |
|                                                                                          | Rarely     | 80         | 7.9%    | 76       | 7.7%    |
|                                                                                          | Sometimes  | 179        | 17.7%   | 156      | 15.8%   |
|                                                                                          | Often      | 117        | 11.5%   | 100      | 10.1%   |
|                                                                                          | Very often | 96         | 9.5%    | 106      | 10.7%   |
| Advocated for political action to conserve wetlands/waterfowl                            | Never      | 666        | 65.9%   | 659      | 66.9%   |
|                                                                                          | Rarely     | 83         | 8.2%    | 83       | 8.4%    |
|                                                                                          | Sometimes  | 129        | 12.8%   | 118      | 12.0%   |
|                                                                                          | Often      | 73         | 7.2%    | 65       | 6.5%    |
|                                                                                          | Very often | 60         | 5.9%    | 60       | 6.1%    |

**Table 44.** Raw data: Preferred channels of information on nature-related topics.  
[172 people said they do not look for information about nature-related topics]

| Information channel                                     | Response             | Unweighted |         | Weighted |         |
|---------------------------------------------------------|----------------------|------------|---------|----------|---------|
|                                                         |                      | Count      | Percent | Count    | Percent |
| Receive or follow online communications                 | Not at all preferred | 301        | 35.2%   | 263      | 31.1%   |
|                                                         | Slightly preferred   | 193        | 22.6%   | 205      | 24.2%   |
|                                                         | Somewhat preferred   | 208        | 24.3%   | 212      | 25.1%   |
|                                                         | Very preferred       | 153        | 17.9%   | 166      | 19.6%   |
| Read or access online content                           | Not at all preferred | 160        | 18.7%   | 133      | 15.7%   |
|                                                         | Slightly preferred   | 156        | 18.2%   | 144      | 16.9%   |
|                                                         | Somewhat preferred   | 278        | 32.4%   | 284      | 33.6%   |
|                                                         | Very preferred       | 263        | 30.7%   | 287      | 33.8%   |
| Read printed publications                               | Not at all preferred | 138        | 16.0%   | 140      | 16.6%   |
|                                                         | Slightly preferred   | 221        | 25.7%   | 233      | 27.5%   |
|                                                         | Somewhat preferred   | 299        | 34.8%   | 292      | 34.4%   |
|                                                         | Very preferred       | 202        | 23.5%   | 182      | 21.5%   |
| Watch visual media online                               | Not at all preferred | 118        | 13.7%   | 109      | 12.8%   |
|                                                         | Slightly preferred   | 192        | 22.4%   | 187      | 22.1%   |
|                                                         | Somewhat preferred   | 288        | 33.5%   | 295      | 34.8%   |
|                                                         | Very preferred       | 261        | 30.4%   | 287      | 30.3%   |
| Watch visual media through cable, satellite, or network | Not at all preferred | 112        | 13.1%   | 132      | 15.5%   |
|                                                         | Slightly preferred   | 172        | 20.0%   | 178      | 21.0%   |
|                                                         | Somewhat preferred   | 306        | 35.7%   | 295      | 34.7%   |
|                                                         | Very preferred       | 268        | 31.2%   | 245      | 28.9%   |
| Listen to recorded audio media                          | Not at all preferred | 563        | 65.8%   | 528      | 62.5%   |
|                                                         | Slightly preferred   | 197        | 23.0%   | 204      | 24.1%   |
|                                                         | Somewhat preferred   | 69         | 8.1%    | 78       | 9.2%    |
|                                                         | Very preferred       | 27         | 3.2%    | 36       | 4.2%    |
| Listen to live audio media                              | Not at all preferred | 384        | 47.5%   | 384      | 47.3%   |
|                                                         | Slightly preferred   | 236        | 29.2%   | 245      | 30.2%   |
|                                                         | Somewhat preferred   | 140        | 17.3%   | 134      | 16.5%   |
|                                                         | Very preferred       | 48         | 5.9%    | 48       | 6.0%    |
| Talk with other people about nature topics              | Not at all preferred | 138        | 16.0%   | 130      | 15.3%   |
|                                                         | Slightly preferred   | 227        | 26.4%   | 209      | 24.6%   |
|                                                         | Somewhat preferred   | 312        | 36.2%   | 308      | 36.2%   |
|                                                         | Very preferred       | 184        | 21.4%   | 202      | 23.8%   |
| Through personal experience                             | Not at all preferred | 115        | 14.5%   | 111      | 13.8%   |
|                                                         | Slightly preferred   | 137        | 17.3%   | 120      | 14.9%   |
|                                                         | Somewhat preferred   | 259        | 32.7%   | 266      | 33.1%   |
|                                                         | Very preferred       | 282        | 35.6%   | 306      | 38.1%   |
| Attend educational opportunities                        | Not at all preferred | 459        | 53.9%   | 435      | 51.7%   |
|                                                         | Slightly preferred   | 223        | 26.2%   | 225      | 26.7%   |
|                                                         | Somewhat preferred   | 108        | 12.7%   | 109      | 12.9%   |
|                                                         | Very preferred       | 62         | 7.3%    | 74       | 8.8%    |
| Other                                                   | Not at all preferred | 2          | 13.3%   | 3        | 21.1%   |
|                                                         | Slightly preferred   | 0          | 0.0%    | 0        | 0.0%    |
|                                                         | Somewhat preferred   | 5          | 33.3%   | 3        | 27.0%   |
|                                                         | Very preferred       | 8          | 53.3%   | 6        | 51.9%   |



**Table 45.** Raw data: Level of trust in information sources when looking for information on nature-related topics.

| Source                                 | Response            | Unweighted |         | Weighted |         |
|----------------------------------------|---------------------|------------|---------|----------|---------|
|                                        |                     | Count      | Percent | Count    | Percent |
| Federal government                     | Do not trust at all | 91         | 10.4%   | 89       | 10.2%   |
|                                        | Trust a little      | 154        | 17.5%   | 165      | 18.8%   |
|                                        | Trust somewhat      | 298        | 33.9%   | 309      | 35.4%   |
|                                        | Trust a lot         | 253        | 28.8%   | 240      | 27.4%   |
|                                        | Trust completely    | 83         | 9.4%    | 71       | 8.2%    |
| State government                       | Do not trust at all | 61         | 7.0%    | 62       | 7.1%    |
|                                        | Trust a little      | 130        | 14.8%   | 134      | 15.3%   |
|                                        | Trust somewhat      | 298        | 34.0%   | 313      | 35.8%   |
|                                        | Trust a lot         | 301        | 34.3%   | 293      | 33.5%   |
|                                        | Trust completely    | 87         | 9.9%    | 73       | 8.3%    |
| Local government                       | Do not trust at all | 43         | 4.9%    | 41       | 4.6%    |
|                                        | Trust a little      | 123        | 14.0%   | 120      | 13.7%   |
|                                        | Trust somewhat      | 316        | 36.0%   | 326      | 37.2%   |
|                                        | Trust a lot         | 309        | 35.2%   | 300      | 34.3%   |
|                                        | Trust completely    | 87         | 9.9%    | 89       | 10.2%   |
| Conservation group                     | Do not trust at all | 48         | 5.4%    | 34       | 3.8%    |
|                                        | Trust a little      | 95         | 10.8%   | 84       | 9.6%    |
|                                        | Trust somewhat      | 267        | 30.3%   | 282      | 32.2%   |
|                                        | Trust a lot         | 327        | 37.1%   | 319      | 36.5%   |
|                                        | Trust completely    | 144        | 16.3%   | 157      | 17.9%   |
| Universities/educational organizations | Do not trust at all | 48         | 5.5%    | 35       | 3.9%    |
|                                        | Trust a little      | 85         | 9.7%    | 77       | 8.8%    |
|                                        | Trust somewhat      | 219        | 24.9%   | 217      | 24.8%   |
|                                        | Trust a lot         | 364        | 41.5%   | 382      | 43.5%   |
|                                        | Trust completely    | 162        | 18.5%   | 166      | 18.9%   |
| National media/news                    | Do not trust at all | 163        | 18.6%   | 151      | 17.2%   |
|                                        | Trust a little      | 220        | 25.1%   | 229      | 26.1%   |
|                                        | Trust somewhat      | 327        | 37.2%   | 343      | 39.2%   |
|                                        | Trust a lot         | 141        | 16.1%   | 129      | 14.8%   |
|                                        | Trust completely    | 27         | 3.1%    | 23       | 2.7%    |
| Local media/news                       | Do not trust at all | 99         | 11.4%   | 100      | 11.5%   |
|                                        | Trust a little      | 213        | 24.4%   | 208      | 23.9%   |
|                                        | Trust somewhat      | 358        | 41.1%   | 373      | 42.9%   |
|                                        | Trust a lot         | 171        | 19.6%   | 158      | 18.2%   |
|                                        | Trust completely    | 31         | 3.6%    | 31       | 3.5%    |
| Friends, family, neighbors, colleagues | Do not trust at all | 23         | 2.6%    | 24       | 2.8%    |
|                                        | Trust a little      | 71         | 8.0%    | 69       | 7.8%    |
|                                        | Trust somewhat      | 277        | 31.3%   | 268      | 30.5%   |
|                                        | Trust a lot         | 365        | 41.2%   | 360      | 41.0%   |
|                                        | Trust completely    | 150        | 16.9%   | 158      | 17.9%   |

**Table 45.** Raw data: Level of trust in information sources when looking for information on nature-related topics.—Continued

| Source                   | Response            | Unweighted |         | Weighted |         |
|--------------------------|---------------------|------------|---------|----------|---------|
|                          |                     | Count      | Percent | Count    | Percent |
| Scientific organizations | Do not trust at all | 43         | 4.9%    | 28       | 3.2%    |
|                          | Trust a little      | 82         | 9.3%    | 69       | 7.9%    |
|                          | Trust somewhat      | 221        | 25.0%   | 211      | 24.0%   |
|                          | Trust a lot         | 332        | 37.6%   | 344      | 39.1%   |
|                          | Trust completely    | 206        | 23.3%   | 227      | 25.9%   |
| Religious organizations  | Do not trust at all | 208        | 23.9%   | 229      | 26.4%   |
|                          | Trust a little      | 202        | 23.2%   | 213      | 24.5%   |
|                          | Trust somewhat      | 279        | 32.0%   | 262      | 30.2%   |
|                          | Trust a lot         | 131        | 15.0%   | 118      | 13.6%   |
|                          | Trust completely    | 51         | 5.9%    | 46       | 5.3%    |
| Other                    | Do not trust at all | 4          | 21.1%   | 2        | 13.0%   |
|                          | Trust a little      | 2          | 10.5%   | 5        | 25.9%   |
|                          | Trust somewhat      | 1          | 5.3%    | 1        | 6.3%    |
|                          | Trust a lot         | 4          | 21.1%   | 4        | 22.2%   |
|                          | Trust completely    | 8          | 42.1%   | 6        | 32.6%   |

**Table 46.** Raw data: Knowledge of wetlands in the local community and wetlands visitation in the previous 12 months.

| Survey item                        | Response   | Unweighted |         | Weighted |         |
|------------------------------------|------------|------------|---------|----------|---------|
|                                    |            | Count      | Percent | Count    | Percent |
| I know of wetlands in my community | Yes        | 787        | 78.3%   | 758      | 77.0%   |
|                                    | No         | 119        | 11.8%   | 131      | 13.3%   |
|                                    | Don't know | 99         | 9.9%    | 96       | 9.7%    |
| I've visited wetlands              | Yes        | 576        | 57.4%   | 581      | 59.0%   |
|                                    | No         | 428        | 42.6%   | 404      | 41.0%   |

**Table 47.** Raw data: Purpose(s) of wetlands visit(s), for those who had visited wetlands in the previous 12 months.

[Percentages do not sum to 100 because some people had multiple purposes]

| Purpose of visit                                       | Response               | Unweighted |         | Weighted |         |
|--------------------------------------------------------|------------------------|------------|---------|----------|---------|
|                                                        |                        | Count      | Percent | Count    | Percent |
| Enjoying nature/picnicking/<br>nature photography      | Participated in        | 416        | 70.2%   | 430      | 72.9%   |
|                                                        | Did not participate in | 177        | 29.8%   | 160      | 27.1%   |
| Walking/dog walking/<br>hiking/biking                  | Participated in        | 432        | 72.8%   | 440      | 74.5%   |
|                                                        | Did not participate in | 161        | 27.2%   | 151      | 25.5%   |
| Boating                                                | Participated in        | 156        | 26.3%   | 157      | 26.6%   |
|                                                        | Did not participate in | 437        | 73.7%   | 433      | 73.4%   |
| Wildlife viewing/birdwatching/<br>wildlife photography | Participated in        | 293        | 49.4%   | 283      | 48.0%   |
|                                                        | Did not participate in | 300        | 50.6%   | 307      | 52.0%   |
| Fishing                                                | Participated in        | 204        | 34.4%   | 192      | 32.5%   |
|                                                        | Did not participate in | 389        | 65.6%   | 398      | 67.5%   |
| Hunting                                                | Participated in        | 109        | 18.4%   | 99       | 16.8%   |
|                                                        | Did not participate in | 484        | 81.6%   | 491      | 83.2%   |
| Other                                                  | Participated in        | 65         | 10.7%   | 56       | 9.5%    |
|                                                        | Did not participate in | 527        | 86.7%   | 533      | 89.4%   |

**Table 48.** Raw data: Level of concern for ecosystem services being reduced or lost in the respondent's community if wetlands were to disappear or be degraded.

| Ecosystem service                                  | Response             | Unweighted |         | Weighted |         |
|----------------------------------------------------|----------------------|------------|---------|----------|---------|
|                                                    |                      | Count      | Percent | Count    | Percent |
| Flooding protection                                | Not at all concerned | 65         | 6.5%    | 63       | 6.4%    |
|                                                    | Slightly concerned   | 120        | 12.1%   | 116      | 11.9%   |
|                                                    | Somewhat concerned   | 260        | 26.1%   | 242      | 14.8%   |
|                                                    | Very concerned       | 550        | 55.3%   | 555      | 56.9%   |
| Erosion protection                                 | Not at all concerned | 55         | 5.5%    | 57       | 5.9%    |
|                                                    | Slightly concerned   | 111        | 11.2%   | 112      | 11.4%   |
|                                                    | Somewhat concerned   | 277        | 27.9%   | 254      | 26.1%   |
|                                                    | Very concerned       | 550        | 55.4%   | 552      | 56.6%   |
| Wildlife viewing and birdwatching                  | Not at all concerned | 101        | 10.2%   | 93       | 9.7%    |
|                                                    | Slightly concerned   | 155        | 15.7%   | 157      | 16.3%   |
|                                                    | Somewhat concerned   | 311        | 31.5%   | 319      | 33.1%   |
|                                                    | Very concerned       | 419        | 42.5%   | 393      | 40.9%   |
| Hunting opportunities                              | Not at all concerned | 401        | 40.5%   | 406      | 41.9%   |
|                                                    | Slightly concerned   | 189        | 19.1%   | 186      | 19.2%   |
|                                                    | Somewhat concerned   | 204        | 20.6%   | 187      | 19.3%   |
|                                                    | Very concerned       | 197        | 19.9%   | 190      | 19.6%   |
| Storage of greenhouse gases, such as carbon        | Not at all concerned | 137        | 13.3%   | 112      | 11.7%   |
|                                                    | Slightly concerned   | 174        | 17.7%   | 165      | 17.1%   |
|                                                    | Somewhat concerned   | 276        | 28.1%   | 280      | 29.0%   |
|                                                    | Very concerned       | 396        | 40.3%   | 407      | 42.2%   |
| Clean water                                        | Not at all concerned | 42         | 4.2%    | 29       | 3.0%    |
|                                                    | Slightly concerned   | 60         | 6.0%    | 55       | 5.6%    |
|                                                    | Somewhat concerned   | 131        | 13.1%   | 117      | 11.9%   |
|                                                    | Very concerned       | 768        | 76.7%   | 777      | 79.5%   |
| Clean air                                          | Not at all concerned | 44         | 4.4%    | 30       | 3.0%    |
|                                                    | Slightly concerned   | 60         | 6.0%    | 58       | 5.9%    |
|                                                    | Somewhat concerned   | 157        | 15.7%   | 141      | 14.4%   |
|                                                    | Very concerned       | 741        | 74.0%   | 750      | 76.6%   |
| Providing a home for wildlife                      | Not at all concerned | 45         | 4.5%    | 35       | 3.6%    |
|                                                    | Slightly concerned   | 75         | 7.5%    | 69       | 7.0%    |
|                                                    | Somewhat concerned   | 223        | 22.3%   | 215      | 21.9%   |
|                                                    | Very concerned       | 658        | 65.7%   | 661      | 67.5%   |
| Providing a home for pollinators                   | Not at all concerned | 46         | 4.6%    | 42       | 4.3%    |
|                                                    | Slightly concerned   | 63         | 6.3%    | 55       | 5.6%    |
|                                                    | Somewhat concerned   | 217        | 21.7%   | 209      | 21.4%   |
|                                                    | Very concerned       | 675        | 67.4%   | 673      | 68.7%   |
| Scenic places for inspiration or spiritual renewal | Not at all concerned | 130        | 13.0%   | 116      | 11.9%   |
|                                                    | Slightly concerned   | 170        | 17.1%   | 178      | 18.3%   |
|                                                    | Somewhat concerned   | 280        | 28.1%   | 257      | 26.4%   |
|                                                    | Very concerned       | 417        | 41.8%   | 423      | 43.4%   |

**Table 49.** Raw data: Ecosystem services about which respondents were most concerned and least concerned.

| Ecosystem service             |                                                    | Unweighted |         | Weighted |         |
|-------------------------------|----------------------------------------------------|------------|---------|----------|---------|
|                               |                                                    | Count      | Percent | Count    | Percent |
| Benefit most concerned about  | Flooding protection                                | 111        | 13.1%   | 102      | 12.1%   |
|                               | Erosion protection                                 | 24         | 2.8%    | 21       | 2.5%    |
|                               | Wildlife viewing and birdwatching                  | 22         | 2.6%    | 21       | 2.5%    |
|                               | Hunting opportunities                              | 47         | 5.6%    | 42       | 5.0%    |
|                               | Storage of greenhouse gases, such as carbon        | 30         | 3.5%    | 28       | 3.4%    |
|                               | Clean water                                        | 258        | 30.5%   | 262      | 31.1%   |
|                               | Clean air                                          | 74         | 8.7%    | 92       | 10.9%   |
|                               | Providing a home for wildlife                      | 166        | 19.6%   | 158      | 18.8%   |
|                               | Providing a home for pollinators                   | 94         | 11.1%   | 92       | 11.0%   |
|                               | Scenic places for inspiration or spiritual renewal | 20         | 2.4%    | 23       | 2.7%    |
| Benefit least concerned about | Flooding protection                                | 38         | 4.6%    | 41       | 5.1%    |
|                               | Erosion protection                                 | 13         | 1.6%    | 13       | 1.6%    |
|                               | Wildlife viewing and birdwatching                  | 48         | 5.8%    | 52       | 6.4%    |
|                               | Hunting opportunities                              | 437        | 53.0%   | 458      | 56.4%   |
|                               | Storage of greenhouse gases, such as carbon        | 85         | 10.3%   | 71       | 8.7%    |
|                               | Clean water                                        | 2          | 0.2%    | 1        | 0.1%    |
|                               | Clean air                                          | 3          | 0.4%    | 1        | 0.2%    |
|                               | Providing a home for wildlife                      | 4          | 0.5%    | 2        | 0.2%    |
|                               | Providing a home for pollinators                   | 9          | 1.1%    | 9        | 1.1%    |
|                               | Scenic places for inspiration or spiritual renewal | 185        | 22.5%   | 165      | 20.3%   |

**Table 50.** Raw data: Demographic data.  
[% , percent; pop., population]

| Demographic category |                                         | Unweighted |         | Weighted |         |
|----------------------|-----------------------------------------|------------|---------|----------|---------|
|                      |                                         | Count      | Percent | Count    | Percent |
| Age                  | 18–44 (% of adults)                     | 214        | 21.4%   | 473      | 47.4%   |
|                      | 45–65 (% of adults)                     | 458        | 45.8%   | 342      | 34.3%   |
|                      | 65+ (% of adults)                       | 327        | 32.7%   | 183      | 18.3%   |
| Gender               | Male                                    | 659        | 65.1%   | 485      | 48.6%   |
|                      | Female                                  | 353        | 34.9%   | 513      | 51.4%   |
| Education            | High school degree or less              | 177        | 17.4%   | 147      | 14.7%   |
|                      | Some college or associate's degree      | 308        | 30.3%   | 317      | 31.8%   |
|                      | Bachelor's degree                       | 272        | 26.8%   | 272      | 27.3%   |
|                      | Graduate degree                         | 259        | 25.5%   | 260      | 26.1%   |
| Current residence    | Large urban area (pop. 500,000+)        | 245        | 24.3%   | 256      | 25.9%   |
|                      | Medium urban area (pop. 50,000–500,000) | 227        | 22.5%   | 218      | 22.1%   |
|                      | Small city (pop. 10,000–50,000)         | 196        | 19.4%   | 195      | 19.8%   |
|                      | Small town (pop. 2,500–10,000)          | 186        | 18.4%   | 190      | 19.2%   |
|                      | Rural (pop. <2,500)                     | 155        | 15.4%   | 127      | 12.9%   |
| Childhood residence  | Large urban area (pop. 500,000+)        | 224        | 22.5%   | 218      | 22.4%   |
|                      | Medium urban area (pop. 50,000–500,000) | 221        | 22.2%   | 222      | 22.9%   |
|                      | Small city (pop. 10,000–50,000)         | 186        | 18.7%   | 195      | 20.0%   |
|                      | Small town (pop. 2,500–10,000)          | 181        | 18.2%   | 181      | 18.6%   |
|                      | Rural (pop. <2,500)                     | 183        | 18.4%   | 157      | 16.1%   |
| Nature profession    | Yes                                     | 52         | 5.2%    | 40       | 4.1%    |
|                      | No                                      | 950        | 94.8%   | 947      | 95.9%   |
| Ethnicity            | Hispanic                                | 55         | 5.6%    | 62       | 6.4%    |
|                      | Not Hispanic                            | 921        | 94.4%   | 902      | 93.6%   |
| Race                 | American Indian/Alaskan                 | 13         | 1.3%    | 18       | 1.9%    |
|                      | Asian                                   | 39         | 3.9%    | 43       | 4.4%    |
|                      | Black                                   | 52         | 5.3%    | 52       | 5.4%    |
|                      | Hawaiian/Pacific Islander               | 2          | 0.2%    | 5        | 0.5%    |
|                      | White                                   | 852        | 86.1%   | 812      | 84.2%   |
|                      | Two or more                             | 32         | 3.2%    | 35       | 3.7%    |
| Census region        | Northeast                               | 203        | 19.7%   | 200      | 20.1%   |
|                      | Midwest                                 | 285        | 27.7%   | 266      | 26.6%   |
|                      | South                                   | 320        | 31.1%   | 312      | 31.3%   |
|                      | West                                    | 222        | 21.6%   | 220      | 22.1%   |

## Appendix 4. Data by Wildlife-Related Recreation Group

This appendix contains data on responses to each question sorted according to respondents' involvement in wildlife recreation (hunters, anglers, wildlife viewers, or no wildlife recreation). The overall sample size is 1,017 (hunters: 183, anglers: 251, wildlife viewers: 415, and no wildlife recreation: 168). Confidence intervals cannot be estimated because the population size of each category is unknown. Additionally, because of the small sample sizes of some of the groups, caution should be taken when extrapolating the results to larger populations. This sample excludes 13 people who did not respond to the questions on wildlife-related recreation participation; therefore, the numbers found in the "all" sections here may vary slightly from values in appendix 4.

**Table 51.** By recreation group: Nature-related activity participation in the previous 12 months.

| Activity                                     | Recreation group (percentage) |         |         |         |       | Recreation group (count/total) |         |         |         |         |
|----------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------------|---------|---------|---------|---------|
|                                              | All                           | Hunters | Anglers | Viewers | None  | All                            | Hunters | Anglers | Viewers | None    |
| Backyard/at-home nature activities           | 87.2%                         | 94.0%   | 93.5%   | 90.0%   | 63.7% | 879/1,008                      | 171/182 | 231/247 | 370/411 | 107/168 |
| Spending time in nature away from home       | 80.8%                         | 94.0%   | 88.4%   | 83.2%   | 48.8% | 815/1,009                      | 172/183 | 221/250 | 341/410 | 81/166  |
| Viewing/feeding/photographing birds          | 61.0%                         | 60.4%   | 62.9%   | 84.8%   | 0.0%  | 615/1,008                      | 110/182 | 154/245 | 351/414 | 0/167   |
| Viewing/feeding/photographing other wildlife | 65.9%                         | 76.9%   | 73.0%   | 83.5%   | 0.0%  | 660/1,002                      | 140/182 | 181/248 | 339/406 | 0/166   |
| Fishing                                      | 40.2%                         | 83.6%   | 100.0%  | 0.0%    | 0.0%  | 404/1,005                      | 153/183 | 251/251 | 0/405   | 0/166   |
| Hunting waterfowl                            | 5.1%                          | 28.2%   | 0.0%    | 0.0%    | 0.0%  | 51/993                         | 51/181  | 0/243   | 0/402   | 0/167   |
| Hunting all other game                       | 17.4%                         | 95.6%   | 0.0%    | 0.0%    | 0.0%  | 175/1,005                      | 175/183 | 0/247   | 0/407   | 0/168   |
| Nonmotorized outdoor recreation activities   | 70.5%                         | 83.6%   | 80.8%   | 73.0%   | 34.5% | 713/1,012                      | 153/183 | 202/250 | 300/411 | 58/168  |
| Motorized outdoor recreation activities      | 35.2%                         | 69.6%   | 53.4%   | 19.7%   | 8.9%  | 355/1,009                      | 126/181 | 133/249 | 81/411  | 15/168  |
| Learning about nature                        | 66.7%                         | 67.2%   | 69.4%   | 78.9%   | 32.1% | 674/1,011                      | 123/183 | 172/248 | 325/412 | 54/168  |

**Table 52.** By recreation group: Intended nature-related activity participation in the following 12 months.

| Activity                                     | Response          | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|----------------------------------------------|-------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                              |                   | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Backyard/at-home nature activities           | Not at all likely | 8.8%                          | 5.0%    | 3.7%    | 6.2%    | 27.4% | 86                       | 9       | 9       | 25      | 43   |
|                                              | Somewhat likely   | 12.0%                         | 10.1%   | 9.9%    | 12.2%   | 17.2% | 118                      | 18      | 24      | 49      | 27   |
|                                              | Very likely       | 79.2%                         | 84.9%   | 86.4%   | 81.5%   | 55.4% | 776                      | 152     | 210     | 327     | 87   |
| Spending time in nature away from home       | Not at all likely | 11.7%                         | 3.9%    | 5.3%    | 8.2%    | 39.2% | 115                      | 7       | 13      | 33      | 62   |
|                                              | Somewhat likely   | 20.4%                         | 12.8%   | 18.9%   | 21.4%   | 28.5% | 200                      | 23      | 46      | 86      | 45   |
|                                              | Very likely       | 67.9%                         | 83.2%   | 75.8%   | 70.3%   | 32.3% | 667                      | 149     | 185     | 282     | 51   |
| Viewing/feeding/photographing birds          | Not at all likely | 29.8%                         | 27.5%   | 29.0%   | 10.4%   | 84.4% | 290                      | 49      | 69      | 42      | 130  |
|                                              | Somewhat likely   | 20.5%                         | 23.0%   | 18.1%   | 23.3%   | 13.6% | 199                      | 41      | 43      | 94      | 21   |
|                                              | Very likely       | 49.7%                         | 49.4%   | 52.9%   | 66.3%   | 1.9%  | 484                      | 88      | 126     | 267     | 3    |
| Viewing/feeding/photographing other wildlife | Not at all likely | 26.2%                         | 14.7%   | 21.7%   | 11.5%   | 83.8% | 252                      | 26      | 52      | 45      | 129  |
|                                              | Somewhat likely   | 24.3%                         | 19.2%   | 26.7%   | 29.1%   | 14.3% | 234                      | 34      | 64      | 114     | 22   |
|                                              | Very likely       | 49.5%                         | 66.1%   | 51.7%   | 59.4%   | 1.9%  | 477                      | 117     | 124     | 233     | 3    |
| Fishing                                      | Not at all likely | 44.8%                         | 7.8%    | 1.7%    | 73.2%   | 85.2% | 429                      | 14      | 4       | 279     | 132  |
|                                              | Somewhat likely   | 20.5%                         | 17.8%   | 21.9%   | 24.1%   | 12.3% | 196                      | 32      | 53      | 92      | 19   |
|                                              | Very likely       | 34.8%                         | 74.4%   | 76.4%   | 2.6%    | 2.6%  | 333                      | 134     | 185     | 10      | 4    |
| Hunting waterfowl                            | Not at all likely | 85.6%                         | 48.9%   | 89.7%   | 95.6%   | 96.7% | 810                      | 86      | 209     | 367     | 148  |
|                                              | Somewhat likely   | 8.8%                          | 23.9%   | 9.0%    | 3.9%    | 3.3%  | 83                       | 42      | 21      | 15      | 5    |
|                                              | Very likely       | 5.6%                          | 27.3%   | 1.3%    | 0.5%    | 0.0%  | 53                       | 48      | 3       | 2       | 0    |
| Hunting all other game                       | Not at all likely | 75.8%                         | 2.2%    | 85.7%   | 95.3%   | 96.1% | 725                      | 4       | 204     | 368     | 149  |
|                                              | Somewhat likely   | 8.0%                          | 14.6%   | 12.2%   | 4.1%    | 3.9%  | 77                       | 26      | 29      | 16      | 6    |
|                                              | Very likely       | 16.2%                         | 83.1%   | 2.1%    | 0.5%    | 0.0%  | 155                      | 148     | 5       | 2       | 6    |
| Nonmotorized outdoor recreation activities   | Not at all likely | 21.6%                         | 9.0%    | 13.4%   | 18.5%   | 55.7% | 209                      | 16      | 32      | 73      | 88   |
|                                              | Somewhat likely   | 20.3%                         | 19.1%   | 20.1%   | 21.6%   | 19.0% | 197                      | 34      | 48      | 85      | 30   |
|                                              | Very likely       | 58.1%                         | 71.9%   | 66.5%   | 59.9%   | 25.3% | 563                      | 128     | 159     | 236     | 40   |
| Motorized outdoor recreation activities      | Not at all likely | 49.4%                         | 22.3%   | 30.4%   | 60.7%   | 80.9% | 478                      | 40      | 73      | 238     | 127  |
|                                              | Somewhat likely   | 20.9%                         | 14.0%   | 27.1%   | 23.5%   | 12.7% | 202                      | 25      | 65      | 92      | 20   |
|                                              | Very likely       | 29.8%                         | 63.7%   | 42.5%   | 15.8%   | 6.4%  | 288                      | 114     | 102     | 62      | 10   |
| Learning about nature                        | Not at all likely | 23.4%                         | 19.7%   | 21.3%   | 13.8%   | 55.1% | 227                      | 35      | 51      | 55      | 86   |
|                                              | Somewhat likely   | 29.0%                         | 29.2%   | 29.3%   | 30.4%   | 25.0% | 282                      | 52      | 70      | 121     | 39   |
|                                              | Very likely       | 47.6%                         | 51.1%   | 49.4%   | 55.8%   | 19.9% | 462                      | 91      | 118     | 222     | 31   |



**Table 53.** By recreation group: Hunting and birdwatching attitudes.

| Attitude                  | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|---------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                           | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Hunting                   |                               |         |         |         |       |                          |         |         |         |      |
| Very/somewhat unpleasant  | 48.3%                         | 1.7%    | 43.9%   | 65.9%   | 63.8% | 465                      | 3       | 104     | 261     | 97   |
| Neither                   | 20.1%                         | 5.6%    | 27.8%   | 20.2%   | 25.0% | 194                      | 10      | 66      | 80      | 38   |
| Very/somewhat pleasant    | 31.6%                         | 92.7%   | 28.3%   | 13.9%   | 11.2% | 304                      | 165     | 67      | 55      | 17   |
| Very/somewhat boring      | 38.1%                         | 3.0%    | 31.1%   | 49.1%   | 58.4% | 353                      | 5       | 70      | 188     | 90   |
| Neither                   | 26.2%                         | 6.1%    | 32.0%   | 30.5%   | 28.6% | 243                      | 10      | 72      | 117     | 44   |
| Very/somewhat interesting | 35.7%                         | 90.9%   | 36.9%   | 20.4%   | 13.0% | 331                      | 150     | 83      | 78      | 20   |
| Birdwatching              |                               |         |         |         |       |                          |         |         |         |      |
| Very/somewhat unpleasant  | 14.2%                         | 17.6%   | 11.7%   | 5.8%    | 37.2% | 135                      | 31      | 27      | 23      | 54   |
| Neither                   | 19.9%                         | 22.7%   | 22.9%   | 11.1%   | 35.9% | 189                      | 40      | 53      | 44      | 52   |
| Very/somewhat pleasant    | 65.9%                         | 59.7%   | 65.4%   | 83.1%   | 26.9% | 625                      | 105     | 151     | 330     | 39   |
| Very/somewhat boring      | 24.7%                         | 26.2%   | 21.3%   | 14.2%   | 54.1% | 234                      | 44      | 50      | 55      | 85   |
| Neither                   | 14.8%                         | 19.0%   | 13.2%   | 10.9%   | 22.3% | 140                      | 32      | 31      | 42      | 35   |
| Very/somewhat interesting | 60.5%                         | 54.8%   | 65.5%   | 74.9%   | 23.6% | 572                      | 92      | 154     | 289     | 37   |

**Table 54.** By recreation group: Perceived behavioral control and subjective norms for hunting and birdwatching.  
 [“Disagree” also includes “Strongly disagree” responses and “Agree” also includes “Strongly agree” responses]

| Control or norm                                                            | Response           | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|----------------------------------------------------------------------------|--------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                                                            |                    | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| People important to me would support my hunting in the next 12 months      | Disagree           | 30.3%                         | 1.1%    | 25.1%   | 44.3%   | 36.1% | 306                      | 2       | 63      | 181     | 60   |
|                                                                            | Neither/Don’t know | 28.0%                         | 5.5%    | 28.3%   | 31.8%   | 43.4% | 283                      | 10      | 71      | 130     | 72   |
|                                                                            | Agree              | 41.6%                         | 93.4%   | 46.6%   | 24.0%   | 20.5% | 420                      | 171     | 117     | 98      | 34   |
| If I wanted to, I could easily go hunting in the next 12 months            | Disagree           | 29.1%                         | 3.9%    | 20.8%   | 39.0%   | 45.1% | 291                      | 7       | 52      | 159     | 73   |
|                                                                            | Neither/Don’t know | 15.9%                         | 2.2%    | 15.2%   | 17.9%   | 27.2% | 159                      | 4       | 38      | 73      | 44   |
|                                                                            | Agree              | 55.0%                         | 93.9%   | 64.0%   | 43.1%   | 27.8% | 550                      | 169     | 160     | 176     | 45   |
| People important to me would support my birdwatching in the next 12 months | Disagree           | 8.8%                          | 4.9%    | 8.4%    | 5.6%    | 21.8% | 89                       | 9       | 21      | 23      | 36   |
|                                                                            | Neither/Don’t know | 23.3%                         | 29.5%   | 19.6%   | 15.5%   | 41.8% | 236                      | 54      | 49      | 64      | 69   |
|                                                                            | Agree              | 67.9%                         | 65.6%   | 72.0%   | 78.9%   | 36.4% | 686                      | 120     | 180     | 326     | 60   |
| If I wanted to, I could easily go birdwatching in the next 12 months       | Disagree           | 8.7%                          | 6.0%    | 4.8%    | 5.3%    | 26.1% | 88                       | 11      | 12      | 22      | 43   |
|                                                                            | Neither/Don’t know | 14.2%                         | 15.9%   | 12.4%   | 7.8%    | 30.9% | 143                      | 29      | 31      | 32      | 51   |
|                                                                            | Agree              | 77.1%                         | 78.0%   | 82.8%   | 86.9%   | 43.0% | 778                      | 142     | 207     | 358     | 71   |

**Table 55.** By recreation group: Perceived constraints to participating in hunting in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint                       | Recreation group (percentage) |         |         |         |       | Recreation group (count) |                    |                    |                    |                 |
|--------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|--------------------|--------------------|--------------------|-----------------|
|                                            | All                           | Hunters | Anglers | Viewers | None  | All<br>(n=1,003)         | Hunters<br>(n=177) | Anglers<br>(n=250) | Viewers<br>(n=411) | None<br>(n=165) |
| Don't know/never thought about it          | 25.6%                         | 23.2%   | 26.0%   | 21.4%   | 38.2% | 257                      | 41                 | 65                 | 88                 | 63              |
| Illness or injury                          | 11.7%                         | 32.8%   | 9.2%    | 6.1%    | 6.7%  | 117                      | 58                 | 23                 | 25                 | 11              |
| Moral opposition/don't kill                | 17.8%                         | 0.6%    | 15.2%   | 28.0%   | 15.2% | 179                      | 1                  | 38                 | 115                | 25              |
| No interest                                | 18.0%                         | 0.0%    | 18.0%   | 25.1%   | 20.0% | 181                      | 0                  | 45                 | 103                | 33              |
| Time constraints/work                      | 6.5%                          | 13.6%   | 7.6%    | 3.2%    | 5.5%  | 65                       | 24                 | 19                 | 13                 | 9               |
| No guns/equipment/skills/cost of equipment | 6.6%                          | 0.0%    | 7.6%    | 7.8%    | 9.1%  | 66                       | 0                  | 19                 | 32                 | 15              |
| Not a hunter/just don't                    | 5.7%                          | 0.0%    | 4.8%    | 8.8%    | 5.5%  | 57                       | 0                  | 12                 | 36                 | 9               |
| Access to land/permits/tags                | 5.4%                          | 14.7%   | 6.8%    | 1.9%    | 1.8%  | 54                       | 26                 | 17                 | 8                  | 3               |
| I used to, just don't anymore              | 0.8%                          | 0.0%    | 1.2%    | 0.7%    | 1.2%  | 8                        | 0                  | 3                  | 3                  | 2               |
| Nothing                                    | 3.7%                          | 12.4%   | 3.6%    | 1.2%    | 0.6%  | 37                       | 22                 | 9                  | 5                  | 1               |
| Opposition of others                       | 0.7%                          | 0.6%    | 1.2%    | 0.5%    | 0.6%  | 7                        | 1                  | 3                  | 2                  | 1               |
| Other                                      | 2.4%                          | 3.4%    | 4.4%    | 1.5%    | 0.6%  | 24                       | 6                  | 11                 | 6                  | 1               |

**Table 56.** By recreation group: Perceived constraints to participating in birdwatching in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint              | Recreation group (percentage) |         |         |         |       | Recreation group (count) |                 |                 |                 |              |
|-----------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|-----------------|-----------------|-----------------|--------------|
|                                   | All                           | Hunters | Anglers | Viewers | None  | All (n=989)              | Hunters (n=177) | Anglers (n=246) | Viewers (n=403) | None (n=163) |
| Don't know/never thought about it | 34.5%                         | 39.5%   | 38.2%   | 24.3%   | 48.5% | 341                      | 70              | 94              | 98              | 79           |
| Illness or injury                 | 8.4%                          | 12.4%   | 8.1%    | 7.4%    | 6.7%  | 83                       | 22              | 20              | 30              | 11           |
| No birds present                  | 1.5%                          | 1.1%    | 1.2%    | 2.5%    | 0.0%  | 15                       | 2               | 3               | 10              | 0            |
| No interest                       | 13.5%                         | 10.7%   | 13.4%   | 9.7%    | 25.8% | 134                      | 19              | 33              | 39              | 42           |
| Time constraints/work             | 9.8%                          | 7.9%    | 8.9%    | 11.4%   | 9.2%  | 97                       | 14              | 22              | 46              | 15           |
| No knowledge                      | 1.1%                          | 1.1%    | 1.2%    | 1.0%    | 1.2%  | 11                       | 2               | 3               | 4               | 2            |
| Lack of people to go with         | 0.8%                          | 0.0%    | 0.0%    | 1.7%    | 0.6%  | 8                        | 0               | 0               | 7               | 1            |
| No equipment or transportation    | 0.9%                          | 0.6%    | 0.8%    | 0.7%    | 1.8%  | 9                        | 1               | 2               | 3               | 3            |
| Nothing                           | 27.6%                         | 22.6%   | 26.8%   | 38.5%   | 7.4%  | 273                      | 40              | 66              | 155             | 12           |
| Other                             | 2.4%                          | 3.4%    | 2.0%    | 2.7%    | 1.2%  | 24                       | 6               | 5               | 11              | 2            |
| Weather/climate                   | 2.0%                          | 2.3%    | 1.6%    | 3.0%    | 0.0%  | 20                       | 4               | 4               | 12              | 0            |

**Table 57.** By recreation group: Acquaintance with someone who participates in nature-related activities.

| Type of person        | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |         |
|-----------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|---------|
|                       | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunter  | Anglers | Viewers | None    |
| Hunter                | 84.5%                         | 98.9%   | 90.0%   | 82.3%   | 66.7% | 848/1003                 | 177/179 | 224/249 | 335/407 | 112/168 |
| Birdwatcher           | 68.4%                         | 67.6%   | 74.4%   | 80.7%   | 29.7% | 681/996                  | 119/176 | 183/246 | 330/409 | 49/165  |
| Wildlife photographer | 50.1%                         | 63.6%   | 54.5%   | 55.7%   | 16.2% | 495/988                  | 110/173 | 133/244 | 225/404 | 27/167  |
| Conservationist       | 52.6%                         | 62.3%   | 56.1%   | 58.2%   | 23.4% | 523/995                  | 109/175 | 137/244 | 238/409 | 39/167  |

**Table 58.** By recreation group: Preferred types of wild birds.

| Type of bird     | Preference       | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|------------------|------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                  |                  | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Waterfowl        | Not or slightly  | 22.9%                         | 16.6%   | 16.5%   | 23.4%   | 37.7% | 227                      | 29      | 40      | 95      | 63   |
|                  | Somewhat or very | 67.5%                         | 77.7%   | 74.8%   | 72.2%   | 34.7% | 668                      | 136     | 181     | 293     | 58   |
|                  | Don't know       | 9.6%                          | 5.7%    | 8.7%    | 4.4%    | 27.5% | 95                       | 10      | 21      | 18      | 46   |
| Other game birds | Not or slightly  | 23.3%                         | 6.3%    | 18.5%   | 26.7%   | 39.8% | 229                      | 11      | 44      | 108     | 66   |
|                  | Somewhat or very | 66.2%                         | 90.3%   | 71.8%   | 67.1%   | 30.1% | 651                      | 159     | 171     | 271     | 50   |
|                  | Don't know       | 10.6%                         | 3.4%    | 9.7%    | 6.2%    | 30.1% | 104                      | 6       | 23      | 25      | 50   |
| Hummingbirds     | Not or slightly  | 9.2%                          | 14.6%   | 5.3%    | 2.9%    | 24.4% | 92                       | 26      | 13      | 12      | 41   |
|                  | Somewhat or very | 84.1%                         | 81.5%   | 90.2%   | 94.8%   | 51.8% | 840                      | 145     | 222     | 386     | 87   |
|                  | Don't know       | 6.7%                          | 3.9%    | 4.5%    | 2.2%    | 23.8% | 67                       | 7       | 11      | 9       | 40   |
| Water birds      | Not or slightly  | 16.2%                         | 22.0%   | 10.8%   | 11.4%   | 29.7% | 160                      | 39      | 26      | 46      | 49   |
|                  | Somewhat or very | 73.7%                         | 71.2%   | 80.5%   | 83.9%   | 41.2% | 727                      | 126     | 194     | 339     | 68   |
|                  | Don't know       | 10.1%                         | 6.8%    | 8.7%    | 4.7%    | 29.1% | 100                      | 12      | 21      | 19      | 48   |
| Birds of prey    | Not or slightly  | 10.5%                         | 12.9%   | 5.3%    | 7.4%    | 23.4% | 105                      | 23      | 13      | 30      | 39   |
|                  | Somewhat or very | 82.5%                         | 83.1%   | 89.8%   | 90.4%   | 52.1% | 822                      | 148     | 219     | 368     | 87   |
|                  | Don't know       | 6.9%                          | 3.9%    | 4.9%    | 2.2%    | 24.6% | 69                       | 7       | 12      | 9       | 41   |
| Songbirds        | Not or slightly  | 16.5%                         | 22.2%   | 12.8%   | 9.5%    | 33.3% | 164                      | 39      | 31      | 39      | 55   |
|                  | Somewhat or very | 75.5%                         | 73.9%   | 80.7%   | 87.6%   | 39.4% | 751                      | 130     | 196     | 360     | 65   |
|                  | Don't know       | 8.0%                          | 4.0%    | 6.6%    | 2.9%    | 27.3% | 80                       | 7       | 16      | 12      | 45   |

**Table 59.** By recreation group: Participation in conservation and wildlife-related activities in the previous 12 months.

| Activity                                                                     | Response         | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|------------------------------------------------------------------------------|------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                                                              |                  | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Made my yard or my land more desirable to wildlife                           | Never            | 20.1%                         | 11.8%   | 12.8%   | 14.3%   | 54.2% | 203                      | 21      | 32      | 59      | 91   |
|                                                                              | Rarely/sometimes | 37.4%                         | 38.2%   | 40.4%   | 36.7%   | 33.9% | 377                      | 68      | 101     | 151     | 57   |
|                                                                              | Often/very often | 42.5%                         | 50.0%   | 46.8%   | 49.0%   | 11.9% | 428                      | 89      | 117     | 202     | 20   |
| Volunteered to improve wildlife habitat in my community                      | Never            | 58.6%                         | 43.5%   | 54.6%   | 57.4%   | 83.3% | 589                      | 77      | 136     | 236     | 140  |
|                                                                              | Rarely/sometimes | 32.9%                         | 40.7%   | 35.7%   | 35.5%   | 14.3% | 331                      | 72      | 89      | 146     | 24   |
|                                                                              | Often/very often | 8.5%                          | 15.8%   | 9.6%    | 7.1%    | 2.4%  | 85                       | 28      | 24      | 29      | 4    |
| Talked to others in my community about conservation issues                   | Never            | 43.8%                         | 26.4%   | 43.0%   | 38.1%   | 77.2% | 441                      | 47      | 108     | 157     | 129  |
|                                                                              | Rarely/sometimes | 42.7%                         | 50.0%   | 43.0%   | 48.8%   | 19.2% | 430                      | 89      | 108     | 201     | 32   |
|                                                                              | Often/very often | 13.6%                         | 23.6%   | 13.9%   | 13.1%   | 3.6%  | 137                      | 42      | 35      | 54      | 6    |
| Participated as an active member in a nature, outdoor, or conservation group | Never            | 62.7%                         | 48.6%   | 59.3%   | 60.5%   | 88.1% | 632                      | 87      | 147     | 250     | 148  |
|                                                                              | Rarely/sometimes | 27.7%                         | 34.6%   | 30.6%   | 30.0%   | 10.1% | 279                      | 62      | 76      | 124     | 17   |
|                                                                              | Often/very often | 9.6%                          | 16.8%   | 10.1%   | 9.4%    | 1.8%  | 97                       | 30      | 25      | 39      | 3    |
| Donated money to support wildlife/habitat conservation                       | Never            | 44.3%                         | 29.2%   | 40.4%   | 40.4%   | 75.6% | 447                      | 52      | 101     | 167     | 127  |
|                                                                              | Rarely/sometimes | 41.1%                         | 44.4%   | 45.6%   | 44.8%   | 22.0% | 415                      | 79      | 114     | 185     | 37   |
|                                                                              | Often/very often | 14.6%                         | 26.4%   | 14.0%   | 14.8%   | 2.4%  | 147                      | 47      | 35      | 61      | 4    |

**Table 60.** By recreation group: Participation in wetlands and waterfowl conservation activities (rarely, sometimes, often, or very often) in the previous 12 months.

| Activity                                                                                 | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |        |
|------------------------------------------------------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|--------|
|                                                                                          | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None   |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 22.5%                         | 36.3%   | 26.0%   | 19.8%   | 9.0%  | 226/1,006                | 65/179  | 65/250  | 81/410  | 15/167 |
| Attended meetings about wetlands/waterfowl conservation                                  | 20.1%                         | 34.6%   | 23.9%   | 18.0%   | 4.2%  | 203/1,008                | 62/179  | 60/251  | 74/410  | 7/168  |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 20.4%                         | 31.8%   | 23.7%   | 18.8%   | 7.2%  | 205/1,004                | 57/179  | 59/249  | 77/409  | 12/167 |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 20.2%                         | 29.6%   | 22.3%   | 20.2%   | 7.1%  | 204/1,008                | 53/179  | 56/251  | 83/410  | 12/168 |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 46.8%                         | 56.5%   | 51.4%   | 48.8%   | 24.6% | 469/1,003                | 100/177 | 129/251 | 199/408 | 41/167 |
| Advocated for political action to conserve wetlands/waterfowl                            | 34.3%                         | 42.6%   | 37.2%   | 36.5%   | 16.1% | 343/1,000                | 75/176  | 93/250  | 148/406 | 27/168 |

**Table 61.** By recreation group: Preferred channels of information on nature-related topics (somewhat or very preferred).

| Information channel                                     | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |        |
|---------------------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|--------|
|                                                         | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None   |
| Receive or follow online communications                 | 42.1%                         | 51.8%   | 49.5%   | 38.5%   | 23.8% | 357/847                  | 86/166  | 108/218 | 138/358 | 25/105 |
| Read or access online content                           | 63.4%                         | 67.5%   | 68.2%   | 65.6%   | 39.0% | 538/849                  | 112/166 | 150/220 | 235/358 | 41/105 |
| Read printed publications                               | 58.1%                         | 69.0%   | 59.4%   | 61.1%   | 28.0% | 495/852                  | 116/168 | 129/217 | 220/360 | 30/107 |
| Watch visual media online                               | 64.4%                         | 73.5%   | 68.5%   | 66.2%   | 35.2% | 548/851                  | 122/166 | 150/219 | 239/361 | 37/105 |
| Watch visual media through cable, satellite, or network | 67.4%                         | 75.0%   | 71.7%   | 68.1%   | 43.7% | 573/850                  | 126/168 | 157/219 | 245/360 | 45/103 |
| Listen to recorded audio media                          | 11.3%                         | 9.0%    | 17.9%   | 10.6%   | 3.9%  | 96/848                   | 15/167  | 39/218  | 38/360  | 4/103  |
| Listen to live audio media                              | 23.5%                         | 24.8%   | 26.8%   | 24.3%   | 10.6% | 188/801                  | 40/161  | 55/205  | 83/341  | 10/94  |
| Talk with other people about nature topics              | 57.9%                         | 70.1%   | 62.6%   | 57.9%   | 29.2% | 494/853                  | 117/167 | 137/219 | 209/361 | 31/106 |
| Through personal experience                             | 68.6%                         | 80.1%   | 70.0%   | 72.0%   | 35.1% | 539/786                  | 117/146 | 142/203 | 247/343 | 33/94  |
| Attend educational opportunities                        | 20.1%                         | 23.0%   | 22.1%   | 21.2%   | 7.7%  | 170/844                  | 38/165  | 48/217  | 76/358  | 8/104  |



**Table 62.** By recreation group: Level of trust in information sources when looking for information on nature-related topics.

| Source                                 | Response                    | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|----------------------------------------|-----------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                        |                             | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Federal government                     | Do not trust/trust a little | 27.7%                         | 35.4%   | 23.9%   | 26.1%   | 29.2% | 241                      | 58      | 52      | 96      | 35   |
|                                        | Trust somewhat              | 34.0%                         | 41.5%   | 36.2%   | 30.2%   | 31.7% | 296                      | 68      | 79      | 111     | 38   |
|                                        | Trust a lot/completely      | 38.3%                         | 23.2%   | 39.9%   | 43.8%   | 39.2% | 333                      | 38      | 87      | 161     | 47   |
| State government                       | Do not trust/trust a little | 21.8%                         | 25.2%   | 19.4%   | 20.9%   | 24.2% | 189                      | 41      | 42      | 77      | 29   |
|                                        | Trust somewhat              | 34.2%                         | 39.3%   | 35.5%   | 31.3%   | 34.2% | 297                      | 64      | 77      | 115     | 41   |
|                                        | Trust a lot/completely      | 44.0%                         | 35.6%   | 45.2%   | 47.8%   | 41.7% | 382                      | 58      | 98      | 176     | 50   |
| Local government                       | Do not trust/trust a little | 18.9%                         | 22.7%   | 12.4%   | 18.9%   | 25.4% | 164                      | 37      | 27      | 70      | 30   |
|                                        | Trust somewhat              | 36.1%                         | 38.7%   | 37.2%   | 34.6%   | 35.6% | 314                      | 63      | 81      | 128     | 42   |
|                                        | Trust a lot/completely      | 45.0%                         | 38.7%   | 50.5%   | 46.5%   | 39.0% | 391                      | 63      | 110     | 172     | 46   |
| Conservation groups                    | Do not trust/trust a little | 16.2%                         | 19.0%   | 17.8%   | 11.8%   | 22.9% | 141                      | 31      | 39      | 44      | 27   |
|                                        | Trust somewhat              | 30.3%                         | 33.1%   | 27.4%   | 29.0%   | 35.6% | 264                      | 54      | 60      | 108     | 42   |
|                                        | Trust a lot/completely      | 53.6%                         | 47.9%   | 54.8%   | 59.1%   | 41.5% | 467                      | 78      | 120     | 220     | 49   |
| Universities/educational organizations | Do not trust/trust a little | 15.0%                         | 24.8%   | 11.0%   | 10.8%   | 21.6% | 130                      | 41      | 24      | 40      | 25   |
|                                        | Trust somewhat              | 24.7%                         | 26.1%   | 27.9%   | 22.2%   | 25.0% | 215                      | 43      | 61      | 82      | 29   |
|                                        | Trust a lot/completely      | 60.3%                         | 49.1%   | 61.2%   | 66.9%   | 53.4% | 524                      | 81      | 134     | 247     | 62   |
| National media/news                    | Do not trust/trust a little | 43.4%                         | 61.3%   | 42.0%   | 36.1%   | 43.7% | 377                      | 100     | 92      | 133     | 52   |
|                                        | Trust somewhat              | 37.4%                         | 31.3%   | 39.3%   | 38.3%   | 39.5% | 325                      | 51      | 86      | 141     | 47   |
|                                        | Trust a lot/completely      | 19.2%                         | 7.4%    | 18.7%   | 25.5%   | 16.8% | 167                      | 12      | 41      | 94      | 20   |
| Local media/news                       | Do not trust/trust a little | 35.6%                         | 45.7%   | 33.0%   | 31.4%   | 39.8% | 308                      | 74      | 72      | 115     | 47   |
|                                        | Trust somewhat              | 41.1%                         | 35.8%   | 43.1%   | 42.9%   | 39.0% | 355                      | 58      | 94      | 157     | 46   |
|                                        | Trust a lot/completely      | 23.3%                         | 18.5%   | 23.9%   | 25.7%   | 21.2% | 201                      | 30      | 52      | 94      | 25   |
| Friends, family, neighbors, colleagues | Do not trust/trust a little | 10.6%                         | 3.6%    | 8.6%    | 11.8%   | 20.0% | 93                       | 6       | 19      | 44      | 24   |
|                                        | Trust somewhat              | 30.9%                         | 23.0%   | 29.1%   | 32.5%   | 40.0% | 271                      | 38      | 64      | 121     | 48   |
|                                        | Trust a lot/completely      | 58.5%                         | 73.3%   | 62.3%   | 55.6%   | 40.0% | 513                      | 121     | 137     | 207     | 48   |
| Scientific organizations               | Do not trust/trust a little | 14.1%                         | 18.2%   | 11.3%   | 11.1%   | 22.9% | 123                      | 30      | 25      | 41      | 27   |
|                                        | Trust somewhat              | 24.9%                         | 30.9%   | 24.0%   | 20.8%   | 31.4% | 218                      | 51      | 53      | 77      | 37   |
|                                        | Trust a lot/completely      | 61.0%                         | 50.9%   | 64.7%   | 68.2%   | 45.8% | 534                      | 84      | 143     | 253     | 54   |

**Table 62.** By recreation group: Level of trust in information sources when looking for information on nature-related topics.—Continued

| Source                  | Response                    | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|-------------------------|-----------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                         |                             | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Religious organizations | Do not trust/trust a little | 47.1%                         | 39.6%   | 46.1%   | 50.4%   | 48.7% | 406                      | 63      | 101     | 185     | 57   |
|                         | Trust somewhat              | 32.1%                         | 36.5%   | 32.4%   | 31.3%   | 28.2% | 277                      | 58      | 71      | 115     | 33   |
|                         | Trust a lot/completely      | 20.8%                         | 23.9%   | 21.5%   | 18.3%   | 23.1% | 179                      | 38      | 47      | 67      | 27   |

**Table 63.** By recreation group: Knowledge of wetlands in the local community and wetlands visitation in the previous 12 months.

| Survey item                        | Response   | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|------------------------------------|------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                    |            | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| I know of wetlands in my community | Yes        | 78.4%                         | 91.6%   | 82.4%   | 80.7%   | 52.7% | 780                      | 164     | 202     | 326     | 88   |
|                                    | No         | 11.8%                         | 5.0%    | 9.0%    | 12.4%   | 21.6% | 117                      | 9       | 22      | 50      | 36   |
|                                    | Don't know | 9.8%                          | 3.4%    | 8.6%    | 6.9%    | 25.7% | 98                       | 6       | 21      | 28      | 43   |
| I've visited wetlands              | Yes        | 57.7%                         | 76.0%   | 64.2%   | 60.2%   | 21.8% | 574                      | 136     | 158     | 244     | 36   |
|                                    | No         | 42.3%                         | 24.0%   | 35.8%   | 39.8%   | 78.2% | 421                      | 43      | 88      | 161     | 129  |

**Table 64.** By recreation group: Purpose(s) of wetlands visit(s), for those who had visited wetlands in the previous 12 months.  
[Percentages do not sum to 100 because some people had multiple purposes]

| Purpose of visit                                       | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|--------------------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                                                        | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Enjoying nature/picnicking/<br>nature photography      | 70.0%                         | 63.5%   | 71.2%   | 76.6%   | 44.7% | 413                      | 87      | 116     | 193     | 17   |
| Walking/dog walking/<br>hiking/biking                  | 72.7%                         | 67.2%   | 71.8%   | 76.2%   | 73.7% | 429                      | 92      | 117     | 192     | 28   |
| Boating                                                | 26.3%                         | 41.6%   | 33.1%   | 14.7%   | 18.4% | 155                      | 57      | 54      | 37      | 7    |
| Wildlife viewing/birdwatching/<br>wildlife photography | 49.7%                         | 46.0%   | 48.5%   | 58.7%   | 7.9%  | 293                      | 63      | 79      | 148     | 3    |
| Fishing                                                | 34.4%                         | 70.8%   | 57.1%   | 4.8%    | 2.6%  | 203                      | 97      | 93      | 12      | 1    |
| Hunting                                                | 18.5%                         | 75.9%   | 2.5%    | 0.4%    | 0.0%  | 109                      | 104     | 4       | 1       | 0    |
| Other                                                  | 2.2%                          | 2.8%    | 1.2%    | 1.6%    | 7.3%  | 13                       | 4       | 2       | 4       | 3    |

**Table 65.** By recreation group: Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded.

| Ecosystem service                                  | Recreation group (percentage) |         |         |         |       | Recreation group (count/total) |         |         |         |         |
|----------------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------------|---------|---------|---------|---------|
|                                                    | All                           | Hunters | Anglers | Viewers | None  | All                            | Hunters | Anglers | Viewers | None    |
| Flooding protection                                | 81.7%                         | 74.7%   | 85.8%   | 85.4%   | 74.1% | 804/984                        | 133/178 | 206/240 | 345/404 | 120/162 |
| Erosion protection                                 | 83.5%                         | 78.5%   | 88.0%   | 88.8%   | 69.1% | 820/982                        | 139/177 | 213/242 | 356/401 | 112/162 |
| Wildlife viewing and birdwatching                  | 74.3%                         | 73.1%   | 77.7%   | 83.8%   | 46.6% | 725/976                        | 128/175 | 185/238 | 337/402 | 75/161  |
| Hunting opportunities                              | 40.4%                         | 88.7%   | 46.4%   | 22.5%   | 23.2% | 396/980                        | 157/177 | 111/239 | 90/400  | 38/164  |
| Storage of greenhouse gases, such as carbon        | 68.6%                         | 62.7%   | 72.2%   | 75.8%   | 52.4% | 668/974                        | 111/177 | 171/237 | 300/396 | 86/164  |
| Clean water                                        | 90.0%                         | 86.6%   | 93.4%   | 92.8%   | 81.8% | 891/990                        | 155/179 | 225/241 | 376/405 | 135/165 |
| Clean air                                          | 89.8%                         | 86.6%   | 93.4%   | 92.6%   | 81.1% | 890/991                        | 155/179 | 227/243 | 375/405 | 133/164 |
| Providing a home for wildlife                      | 88.3%                         | 89.8%   | 92.6%   | 92.3%   | 70.1% | 874/990                        | 159/177 | 226/244 | 374/405 | 115/164 |
| Providing a home for pollinators                   | 89.3%                         | 88.2%   | 94.6%   | 93.1%   | 73.0% | 884/990                        | 157/178 | 229/242 | 379/407 | 119/163 |
| Scenic places for inspiration or spiritual renewal | 70.1%                         | 63.3%   | 73.8%   | 77.3%   | 54.3% | 692/987                        | 112/177 | 177/240 | 314/406 | 89/164  |

**Table 66.** By recreation group: Ecosystem services about which respondents were most concerned and least concerned.

| Ecosystem service             |                                                    | Recreation group (percentage) |         |         |         |       | Recreation group (count) |                 |                 |                 |              |
|-------------------------------|----------------------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|-----------------|-----------------|-----------------|--------------|
|                               |                                                    | All                           | Hunters | Anglers | Viewers | None  | All (n=840)              | Hunters (n=153) | Anglers (n=203) | Viewers (n=358) | None (n=126) |
| Benefit most concerned about  | Flooding protection                                | 13.2%                         | 9.2%    | 17.2%   | 11.7%   | 15.9% | 111                      | 14              | 35              | 42              | 20           |
|                               | Erosion protection                                 | 2.5%                          | 3.9%    | 2.5%    | 1.7%    | 3.2%  | 21                       | 6               | 5               | 6               | 4            |
|                               | Wildlife viewing and birdwatching                  | 2.6%                          | 2.6%    | 2.0%    | 3.9%    | 0.0%  | 22                       | 4               | 4               | 14              | 0            |
|                               | Hunting opportunities                              | 5.6%                          | 26.1%   | 1.5%    | 0.8%    | 0.8%  | 47                       | 40              | 3               | 3               | 1            |
|                               | Storage of greenhouse gases, such as carbon        | 3.6%                          | 3.3%    | 2.0%    | 4.2%    | 4.8%  | 30                       | 5               | 4               | 15              | 6            |
|                               | Clean water                                        | 30.6%                         | 25.5%   | 30.5%   | 29.1%   | 41.3% | 257                      | 39              | 62              | 104             | 52           |
|                               | Clean air                                          | 8.7%                          | 3.9%    | 10.8%   | 9.5%    | 8.7%  | 73                       | 6               | 22              | 34              | 11           |
|                               | Providing a home for wildlife                      | 19.6%                         | 18.3%   | 18.2%   | 23.5%   | 12.7% | 165                      | 28              | 37              | 84              | 16           |
|                               | Providing a home for pollinators                   | 11.2%                         | 5.9%    | 12.8%   | 12.8%   | 10.3% | 94                       | 9               | 26              | 46              | 13           |
|                               | Scenic places for inspiration or spiritual renewal | 2.4%                          | 1.3%    | 2.5%    | 2.8%    | 2.4%  | 20                       | 2               | 5               | 10              | 3            |
| Ecosystem service             |                                                    | All                           | Hunters | Anglers | Viewers | None  | All (n=819)              | Hunters (n=147) | Anglers (n=199) | Viewers (n=351) | None (n=122) |
| Benefit least concerned about | Flooding protection                                | 4.6%                          | 10.2%   | 4.5%    | 3.4%    | 1.6%  | 38                       | 15              | 9               | 12              | 2            |
|                               | Erosion protection                                 | 1.5%                          | 2.7%    | 1.5%    | 0.0%    | 4.1%  | 12                       | 4               | 3               | 0               | 5            |
|                               | Wildlife viewing and birdwatching                  | 5.7%                          | 7.5%    | 7.5%    | 1.1%    | 13.9% | 47                       | 11              | 15              | 4               | 17           |
|                               | Hunting opportunities                              | 53.2%                         | 6.8%    | 52.8%   | 73.5%   | 51.6% | 436                      | 10              | 105             | 258             | 63           |
|                               | Storage of greenhouse gases, such as carbon        | 10.3%                         | 20.4%   | 8.5%    | 7.1%    | 9.8%  | 84                       | 30              | 17              | 25              | 12           |
|                               | Clean water                                        | 0.2%                          | 0.7%    | 0.5%    | 0.0%    | 0.0%  | 2                        | 1               | 1               | 0               | 0            |
|                               | Clean air                                          | 0.4%                          | 2.0%    | 0.0%    | 0.0%    | 0.0%  | 3                        | 3               | 0               | 0               | 0            |
|                               | Providing a home for wildlife                      | 0.5%                          | 2.0%    | 0.0%    | 0.3%    | 0.0%  | 4                        | 3               | 0               | 1               | 0            |
|                               | Providing a home for pollinators                   | 1.1%                          | 4.1%    | 0.5%    | 0.3%    | 0.8%  | 9                        | 6               | 1               | 1               | 1            |
|                               | Scenic places for inspiration or spiritual renewal | 22.5%                         | 43.5%   | 24.1%   | 14.2%   | 18.0% | 184                      | 64              | 48              | 50              | 22           |

**Table 67.** By recreation group: Demographic data.  
[% , percent; pop., population]

| Demographic category |                                    | Recreation group (percentage) |         |         |         |       | Recreation group (count) |         |         |         |      |
|----------------------|------------------------------------|-------------------------------|---------|---------|---------|-------|--------------------------|---------|---------|---------|------|
|                      |                                    | All                           | Hunters | Anglers | Viewers | None  | All                      | Hunters | Anglers | Viewers | None |
| Age                  | 18–44 (% of adults)                | 21.5%                         | 24.0%   | 24.1%   | 19.4%   | 20.4% | 213                      | 43      | 58      | 79      | 33   |
|                      | 45–64 (% of adults)                | 46.2%                         | 48.0%   | 51.9%   | 44.0%   | 41.4% | 457                      | 86      | 125     | 179     | 67   |
|                      | 65+ (% of adults)                  | 32.3%                         | 27.9%   | 24.1%   | 36.6%   | 38.3% | 319                      | 50      | 58      | 149     | 62   |
| Gender               | Male                               | 65.2%                         | 86.1%   | 70.9%   | 51.7%   | 67.5% | 653                      | 155     | 175     | 213     | 110  |
|                      | Female                             | 34.8%                         | 13.9%   | 29.1%   | 48.3%   | 32.5% | 349                      | 25      | 72      | 199     | 53   |
| Education            | High school degree or less         | 17.4%                         | 22.7%   | 19.3%   | 12.4%   | 21.5% | 175                      | 41      | 48      | 51      | 35   |
|                      | Some college or associate's degree | 30.2%                         | 39.2%   | 28.5%   | 27.9%   | 28.8% | 304                      | 71      | 71      | 115     | 47   |
|                      | Bachelor's degree                  | 26.8%                         | 21.0%   | 25.3%   | 31.1%   | 24.5% | 269                      | 38      | 63      | 128     | 40   |
|                      | Graduate degree                    | 25.6%                         | 17.1%   | 26.9%   | 28.6%   | 25.2% | 257                      | 31      | 67      | 118     | 41   |
| Current residence    | Urban (pop. 50,000+)               | 46.8%                         | 25.6%   | 49.2%   | 50.9%   | 56.8% | 468                      | 46      | 122     | 208     | 92   |
|                      | Urban cluster (pop. 2,500–50,000)  | 37.8%                         | 43.3%   | 36.7%   | 37.4%   | 34.6% | 378                      | 78      | 91      | 153     | 56   |
|                      | Rural (pop. <2,500)                | 15.3%                         | 31.1%   | 14.1%   | 11.7%   | 8.6%  | 153                      | 56      | 35      | 48      | 14   |
| Childhood residence  | Urban (pop. 50,000+)               | 44.6%                         | 23.6%   | 43.7%   | 49.9%   | 56.3% | 439                      | 42      | 107     | 201     | 89   |
|                      | Urban cluster (pop. 2,500–50,000)  | 37.0%                         | 42.1%   | 39.2%   | 35.7%   | 31.0% | 364                      | 75      | 96      | 144     | 49   |
|                      | Rural (pop. <2,500)                | 18.4%                         | 34.3%   | 17.1%   | 14.4%   | 12.7% | 181                      | 61      | 42      | 58      | 20   |
| Ethnicity            | Hispanic                           | 5.7%                          | 5.8%    | 7.6%    | 4.5%    | 5.8%  | 55                       | 10      | 18      | 18      | 9    |
|                      | Not Hispanic                       | 94.3%                         | 94.2%   | 92.4%   | 95.5%   | 94.2% | 912                      | 163     | 218     | 385     | 146  |
| Race                 | White (only)                       | 86.1%                         | 89.3%   | 89.1%   | 87.8%   | 73.8% | 842                      | 159     | 212     | 353     | 118  |
|                      | Not White or 2+                    | 13.9%                         | 10.7%   | 10.9%   | 12.2%   | 26.3% | 136                      | 19      | 26      | 49      | 42   |

## Appendix 5. Data by Flyway

This appendix contains data on responses to each question sorted according to the flyway in which respondents live. The overall sample size is 1,030 (Atlantic Flyway: 391, Mississippi Flyway: 329, Central Flyway: 126, and Pacific Flyway: 184). Confidence intervals cannot be estimated because the population size of each category is unknown. Additionally, because of the small sample sizes of some of the groups, caution should be taken when extrapolating the results to larger populations.

**Table 68.** By flyway: Nature-related activity participation in the previous 12 months.

| Activity                                      | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|-----------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                               | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Backyard/at-home nature activities            | 87.2%               | 86.8%    | 87.7%       | 87.2%   | 87.2%   | 880/1,009      | 336/387  | 279/318     | 109/125 | 156/179 |
| Spending time in nature away from home        | 80.8%               | 80.8%    | 81.2%       | 81.6%   | 79.4%   | 815/1,009      | 311/385  | 259/319     | 102/125 | 143/180 |
| Viewing/feeding/ photographing birds          | 61.0%               | 65.3%    | 62.3%       | 50.4%   | 57.0%   | 615/1,008      | 252/386  | 198/318     | 63/125  | 102/179 |
| Viewing/feeding/ photographing other wildlife | 65.9%               | 67.7%    | 64.4%       | 65.3%   | 64.8%   | 660/1,002      | 262/387  | 203/315     | 81/124  | 114/176 |
| Fishing                                       | 40.2%               | 38.2%    | 42.1%       | 48.4%   | 35.4%   | 404/1,005      | 147/385  | 134/318     | 60/124  | 63/178  |
| Hunting waterfowl                             | 5.1%                | 4.5%     | 5.4%        | 8.1%    | 4.0%    | 51/993         | 17/380   | 17/315      | 10/123  | 7/175   |
| Hunting all other game                        | 17.4%               | 15.2%    | 20.0%       | 24.8%   | 12.4%   | 175/1,005      | 59/387   | 63/315      | 31/125  | 22/178  |
| Nonmotorized outdoor recreation activities    | 70.5%               | 70.6%    | 69.4%       | 68.8%   | 73.2%   | 713/1,012      | 274/388  | 222/320     | 86/125  | 131/179 |
| Motorized outdoor recreation activities       | 35.2%               | 32.9%    | 41.4%       | 39.2%   | 26.3%   | 355/1,009      | 127/386  | 132/319     | 49/125  | 47/179  |
| Learning about nature                         | 66.7%               | 69.3%    | 65.6%       | 64.8%   | 64.2%   | 674/1,011      | 268/387  | 210/320     | 81/125  | 115/179 |

**Table 69.** By flyway: Intended nature-related activity participation in the following 12 months.

| Activity                                     | Response          | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|----------------------------------------------|-------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                              |                   | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Backyard/at-home nature activities           | Not at all likely | 8.7%                | 7.7%     | 7.9%        | 10.7%   | 11.2%   | 86             | 29       | 25          | 13      | 19      |
|                                              | Somewhat likely   | 12.0%               | 14.5%    | 9.8%        | 10.7%   | 11.2%   | 118            | 55       | 31          | 13      | 19      |
|                                              | Very likely       | 79.3%               | 77.8%    | 82.2%       | 78.5%   | 77.6%   | 781            | 295      | 259         | 95      | 132     |
| Spending time in nature away from home       | Not at all likely | 11.8%               | 10.6%    | 11.9%       | 13.1%   | 12.9%   | 116            | 40       | 38          | 16      | 22      |
|                                              | Somewhat likely   | 20.5%               | 22.1%    | 21.7%       | 18.9%   | 15.8%   | 202            | 83       | 69          | 23      | 27      |
|                                              | Very likely       | 67.8%               | 67.3%    | 66.4%       | 68.0%   | 71.3%   | 669            | 253      | 211         | 83      | 122     |
| Viewing/feeding/photographing birds          | Not at all likely | 29.9%               | 27.0%    | 30.3%       | 36.9%   | 30.4%   | 292            | 101      | 95          | 45      | 51      |
|                                              | Somewhat likely   | 20.3%               | 17.9%    | 19.4%       | 24.6%   | 24.4%   | 199            | 67       | 61          | 30      | 41      |
|                                              | Very likely       | 49.8%               | 55.1%    | 50.3%       | 38.5%   | 45.2%   | 487            | 206      | 158         | 47      | 76      |
| Viewing/feeding/photographing other wildlife | Not at all likely | 26.2%               | 23.5%    | 28.3%       | 31.7%   | 24.7%   | 254            | 87       | 88          | 38      | 41      |
|                                              | Somewhat likely   | 24.3%               | 22.9%    | 23.8%       | 25.0%   | 27.7%   | 235            | 85       | 74          | 30      | 46      |
|                                              | Very likely       | 49.5%               | 53.6%    | 47.9%       | 43.3%   | 47.6%   | 479            | 199      | 149         | 52      | 79      |
| Fishing                                      | Not at all likely | 44.9%               | 49.6%    | 42.6%       | 32.5%   | 47.3%   | 432            | 184      | 130         | 39      | 79      |
|                                              | Somewhat likely   | 20.4%               | 16.7%    | 21.3%       | 25.8%   | 22.8%   | 196            | 62       | 65          | 31      | 38      |
|                                              | Very likely       | 34.8%               | 33.7%    | 36.1%       | 41.7%   | 29.9%   | 335            | 125      | 110         | 50      | 50      |
| Hunting waterfowl                            | Not at all likely | 85.7%               | 86.5%    | 86.0%       | 79.7%   | 87.7%   | 815            | 314      | 264         | 94      | 143     |
|                                              | Somewhat likely   | 8.7%                | 8.8%     | 7.5%        | 11.0%   | 9.2%    | 83             | 32       | 23          | 13      | 15      |
|                                              | Very likely       | 5.6%                | 4.7%     | 6.5%        | 9.3%    | 3.1%    | 53             | 17       | 20          | 11      | 5       |
| Hunting all other game                       | Not at all likely | 75.8%               | 77.4%    | 74.4%       | 67.5%   | 80.6%   | 729            | 285      | 230         | 81      | 133     |
|                                              | Somewhat likely   | 8.0%                | 7.9%     | 6.1%        | 10.0%   | 10.3%   | 77             | 29       | 19          | 12      | 17      |
|                                              | Very likely       | 16.2%               | 14.7%    | 19.4%       | 22.5%   | 9.1%    | 156            | 54       | 60          | 27      | 15      |
| Nonmotorized outdoor recreation activities   | Not at all likely | 21.6%               | 20.9%    | 21.2%       | 24.8%   | 21.3%   | 210            | 78       | 66          | 30      | 36      |
|                                              | Somewhat likely   | 20.4%               | 19.6%    | 21.2%       | 25.6%   | 17.2%   | 199            | 73       | 66          | 31      | 29      |
|                                              | Very likely       | 58.0%               | 59.5%    | 57.6%       | 49.6%   | 61.5%   | 565            | 222      | 179         | 60      | 104     |
| Motorized outdoor recreation activities      | Not at all likely | 49.5%               | 52.4%    | 44.1%       | 45.9%   | 55.7%   | 481            | 195      | 137         | 56      | 93      |
|                                              | Somewhat likely   | 20.8%               | 19.6%    | 20.9%       | 23.0%   | 21.6%   | 202            | 73       | 65          | 28      | 36      |
|                                              | Very likely       | 29.7%               | 28.0%    | 35.0%       | 31.1%   | 22.8%   | 289            | 104      | 109         | 38      | 38      |
| Learning about nature                        | Not at all likely | 23.5%               | 21.1%    | 24.7%       | 25.6%   | 24.9%   | 229            | 79       | 77          | 31      | 42      |
|                                              | Somewhat likely   | 28.9%               | 27.5%    | 29.2%       | 33.9%   | 27.8%   | 282            | 103      | 91          | 41      | 47      |
|                                              | Very likely       | 47.6%               | 51.3%    | 46.2%       | 40.5%   | 47.3%   | 465            | 192      | 144         | 49      | 80      |



**Table 70.** By flyway: Hunting and birdwatching attitudes.

| Attitude                  | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|---------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                           | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Hunting                   |                     |          |             |         |         |                |          |             |         |         |
| Very/somewhat unpleasant  | 48.2%               | 55.3%    | 41.4%       | 34.7%   | 54.7%   | 466            | 203      | 127         | 42      | 94      |
| Neither                   | 20.2%               | 18.3%    | 22.5%       | 22.3%   | 18.6%   | 195            | 67       | 69          | 27      | 32      |
| Very/somewhat pleasant    | 31.6%               | 26.4%    | 36.2%       | 43.0%   | 26.7%   | 306            | 97       | 111         | 52      | 46      |
| Very/somewhat boring      | 38.0%               | 42.1%    | 35.7%       | 28.1%   | 40.5%   | 354            | 149      | 107         | 32      | 66      |
| Neither                   | 26.2%               | 24.3%    | 28.3%       | 24.6%   | 27.6%   | 244            | 86       | 85          | 28      | 45      |
| Very/somewhat interesting | 35.8%               | 33.6%    | 36.0%       | 47.4%   | 31.9%   | 333            | 119      | 108         | 54      | 52      |
| Birdwatching              |                     |          |             |         |         |                |          |             |         |         |
| Very/somewhat unpleasant  | 14.4%               | 11.7%    | 16.5%       | 16.1%   | 15.2%   | 137            | 42       | 50          | 19      | 26      |
| Neither                   | 19.9%               | 19.2%    | 18.8%       | 22.0%   | 21.6%   | 189            | 69       | 57          | 26      | 37      |
| Very/somewhat pleasant    | 65.8%               | 69.2%    | 64.7%       | 61.9%   | 63.2%   | 626            | 249      | 196         | 73      | 108     |
| Very/somewhat boring      | 24.9%               | 22.4%    | 26.3%       | 28.8%   | 25.2%   | 237            | 81       | 81          | 34      | 41      |
| Neither                   | 14.7%               | 12.7%    | 15.3%       | 17.8%   | 16.0%   | 140            | 46       | 47          | 21      | 26      |
| Very/somewhat interesting | 60.4%               | 64.9%    | 58.4%       | 53.4%   | 58.9%   | 574            | 235      | 180         | 63      | 96      |

**Table 71.** By flyway: Perceived behavioral control and subjective norms for hunting and birdwatching.

| Control or norm                                                            | Response           | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|----------------------------------------------------------------------------|--------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                                                            |                    | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| People important to me would support my hunting in the next 12 months      | Disagree           | 30.3%               | 33.2%    | 26.6%       | 20.0%   | 37.8%   | 307            | 128      | 86          | 25      | 68      |
|                                                                            | Neither/Don't know | 28.1%               | 30.1%    | 26.6%       | 23.2%   | 30.0%   | 285            | 116      | 86          | 29      | 54      |
|                                                                            | Agree              | 41.6%               | 36.8%    | 46.7%       | 56.8%   | 32.2%   | 422            | 142      | 151         | 71      | 58      |
| If I wanted to, I could easily go hunting in the next 12 months            | Disagree           | 29.1%               | 30.8%    | 25.3%       | 20.3%   | 38.3%   | 292            | 118      | 82          | 25      | 67      |
|                                                                            | Neither/Don't know | 15.8%               | 16.7%    | 15.4%       | 11.4%   | 17.7%   | 159            | 64       | 50          | 14      | 31      |
|                                                                            | Agree              | 55.1%               | 52.5%    | 59.3%       | 68.3%   | 44.0%   | 554            | 201      | 192         | 84      | 77      |
| People important to me would support my birdwatching in the next 12 months | Disagree           | 8.9%                | 7.3%     | 9.2%        | 9.6%    | 11.1%   | 90             | 28       | 30          | 12      | 20      |
|                                                                            | Neither/Don't know | 23.4%               | 22.8%    | 25.2%       | 24.8%   | 20.6%   | 238            | 88       | 82          | 31      | 37      |
|                                                                            | Agree              | 67.7%               | 69.9%    | 65.5%       | 65.6%   | 68.3%   | 688            | 270      | 213         | 82      | 123     |
| If I wanted to, I could easily go birdwatching in the next 12 months       | Disagree           | 8.7%                | 6.5%     | 10.2%       | 8.0%    | 11.2%   | 88             | 25       | 33          | 10      | 20      |
|                                                                            | Neither/Don't know | 14.2%               | 13.4%    | 13.9%       | 16.0%   | 15.2%   | 144            | 52       | 45          | 20      | 27      |
|                                                                            | Agree              | 77.1%               | 80.1%    | 75.9%       | 76.0%   | 73.6%   | 782            | 310      | 246         | 95      | 131     |

**Table 72.** By flyway: Perceived constraints to participating in hunting in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint                       | Flyway (percentage) |          |             |         |         | Flyway (count)   |                     |                        |                    |                    |
|--------------------------------------------|---------------------|----------|-------------|---------|---------|------------------|---------------------|------------------------|--------------------|--------------------|
|                                            | All                 | Atlantic | Mississippi | Central | Pacific | All<br>(n=1,008) | Atlantic<br>(n=387) | Mississippi<br>(n=323) | Central<br>(n=122) | Pacific<br>(n=176) |
| Don't know/never thought about it          | 25.7%               | 23.0%    | 25.1%       | 29.5%   | 30.1%   | 259              | 89                  | 81                     | 36                 | 53                 |
| Illness or injury                          | 11.7%               | 10.1%    | 12.7%       | 20.5%   | 7.4%    | 118              | 39                  | 41                     | 25                 | 13                 |
| Moral opposition/don't kill                | 17.8%               | 20.4%    | 13.3%       | 16.4%   | 21.0%   | 179              | 79                  | 43                     | 20                 | 37                 |
| No interest                                | 18.2%               | 21.7%    | 17.3%       | 11.5%   | 16.5%   | 183              | 84                  | 56                     | 14                 | 29                 |
| Time constraints/work                      | 6.4%                | 5.9%     | 9.0%        | 4.9%    | 4.0%    | 65               | 23                  | 29                     | 6                  | 7                  |
| No guns/equipment/skills/cost of equipment | 6.5%                | 7.0%     | 6.2%        | 6.6%    | 6.3%    | 66               | 27                  | 20                     | 8                  | 11                 |
| Not a hunter/just don't                    | 5.7%                | 4.1%     | 7.1%        | 4.1%    | 7.4%    | 57               | 16                  | 23                     | 5                  | 13                 |
| Access to land/permits/tags                | 5.4%                | 5.9%     | 4.3%        | 5.7%    | 5.7%    | 54               | 23                  | 14                     | 7                  | 10                 |
| I used to, just don't anymore              | 0.8%                | 0.8%     | 0.6%        | 0.0%    | 1.7%    | 8                | 3                   | 2                      | 0                  | 3                  |
| Nothing                                    | 3.7%                | 3.1%     | 5.0%        | 4.1%    | 2.3%    | 37               | 12                  | 16                     | 5                  | 4                  |
| Opposition of others                       | 0.7%                | 1.0%     | 0.6%        | 0.0%    | 0.6%    | 7                | 4                   | 2                      | 0                  | 1                  |
| Other                                      | 2.4%                | 2.6%     | 3.1%        | 0.0%    | 2.3%    | 24               | 10                  | 10                     | 0                  | 4                  |

**Table 73.** By flyway: Perceived constraints to participating in birdwatching in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint              | Flyway (percentage) |          |             |         |         | Flyway (count) |                  |                     |                 |                 |
|-----------------------------------|---------------------|----------|-------------|---------|---------|----------------|------------------|---------------------|-----------------|-----------------|
|                                   | All                 | Atlantic | Mississippi | Central | Pacific | All (n=993)    | Atlantic (n=379) | Mississippi (n=318) | Central (n=121) | Pacific (n=175) |
| Don't know/never thought about it | 34.5%               | 30.6%    | 36.5%       | 37.2%   | 37.7%   | 343            | 116              | 116                 | 45              | 66              |
| Illness or injury                 | 8.4%                | 7.9%     | 7.5%        | 12.4%   | 8.0%    | 83             | 30               | 24                  | 15              | 14              |
| No birds present                  | 1.5%                | 1.6%     | 1.9%        | 0.8%    | 1.1%    | 15             | 6                | 6                   | 1               | 2               |
| No interest                       | 13.5%               | 14.5%    | 13.5%       | 10.7%   | 13.1%   | 134            | 55               | 43                  | 13              | 23              |
| Time constraints/work             | 9.8%                | 11.1%    | 7.5%        | 11.6%   | 9.7%    | 97             | 42               | 24                  | 14              | 17              |
| No knowledge                      | 1.1%                | 0.5%     | 1.6%        | 2.5%    | 0.6%    | 11             | 2                | 5                   | 3               | 1               |
| Lack of people to go with         | 0.8%                | 0.8%     | 0.6%        | 1.7%    | 0.6%    | 8              | 3                | 2                   | 2               | 1               |
| No equipment or transportation    | 0.9%                | 0.5%     | 0.3%        | 1.7%    | 1.1%    | 9              | 2                | 1                   | 2               | 2               |
| Nothing                           | 27.6%               | 30.1%    | 27.0%       | 21.5%   | 27.4%   | 274            | 114              | 86                  | 26              | 48              |
| Other                             | 2.4%                | 2.9%     | 2.2%        | 2.5%    | 1.7%    | 24             | 11               | 7                   | 3               | 3               |
| Weather/climate                   | 2.0%                | 1.6%     | 2.8%        | 1.7%    | 1.1%    | 20             | 6                | 9                   | 2               | 2               |

**Table 74.** By flyway: Acquaintance with someone who participates in nature-related activities.

| Type of person        | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|-----------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                       | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Hunter                | 84.5%               | 84.6%    | 87.3%       | 88.7%   | 76.1%   | 855/1,012      | 325/384  | 283/324     | 110/124 | 137/180 |
| Birdwatcher           | 68.1%               | 72.3%    | 65.9%       | 62.3%   | 66.7%   | 684/1,005      | 277/383  | 211/320     | 76/122  | 120/180 |
| Wildlife photographer | 49.9%               | 48.9%    | 50.0%       | 52.4%   | 50.0%   | 497/996        | 185/378  | 159/318     | 65/124  | 88/176  |
| Conservationist       | 52.3%               | 52.9%    | 49.5%       | 53.7%   | 55.3%   | 525/1,003      | 201/380  | 159/321     | 66/123  | 99/179  |

**Table 75.** By flyway: Preferred types of wild birds.

| Type of bird     | Preference       | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|------------------|------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                  |                  | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Waterfowl        | Not or slightly  | 22.9%               | 23.6%    | 25.7%       | 17.1%   | 20.8%   | 229            | 90       | 80          | 21      | 38      |
|                  | Somewhat or very | 67.4%               | 69.4%    | 65.0%       | 71.5%   | 64.5%   | 673            | 265      | 202         | 88      | 118     |
|                  | Don't know       | 9.7%                | 7.1%     | 9.3%        | 11.4%   | 14.8%   | 97             | 27       | 29          | 14      | 27      |
| Other game birds | Not or slightly  | 23.3%               | 24.4%    | 24.4%       | 16.9%   | 23.3%   | 231            | 92       | 76          | 21      | 42      |
|                  | Somewhat or very | 66.1%               | 67.4%    | 65.1%       | 71.8%   | 61.1%   | 656            | 254      | 203         | 89      | 110     |
|                  | Don't know       | 10.7%               | 8.2%     | 10.6%       | 11.3%   | 15.6%   | 106            | 31       | 33          | 14      | 28      |
| Hummingbirds     | Not or slightly  | 9.3%                | 8.6%     | 9.7%        | 8.9%    | 10.4%   | 94             | 33       | 31          | 11      | 19      |
|                  | Somewhat or very | 83.9%               | 85.6%    | 83.4%       | 86.2%   | 79.8%   | 847            | 328      | 267         | 106     | 146     |
|                  | Don't know       | 6.7%                | 5.7%     | 6.9%        | 4.9%    | 9.8%    | 68             | 22       | 22          | 6       | 18      |
| Water birds      | Not or slightly  | 16.3%               | 15.3%    | 17.7%       | 16.5%   | 16.1%   | 163            | 58       | 56          | 20      | 29      |
|                  | Somewhat or very | 73.4%               | 76.8%    | 71.8%       | 71.9%   | 70%     | 732            | 292      | 227         | 87      | 126     |
|                  | Don't know       | 10.2%               | 7.9%     | 10.4%       | 11.6%   | 13.9%   | 102            | 30       | 33          | 14      | 25      |
| Birds of prey    | Not or slightly  | 10.6%               | 10.7%    | 12.6%       | 9.8%    | 7.7%    | 107            | 41       | 40          | 12      | 14      |
|                  | Somewhat or very | 82.3%               | 83.6%    | 80.1%       | 84.6%   | 81.9%   | 828            | 321      | 254         | 104     | 149     |
|                  | Don't know       | 7.1%                | 5.7%     | 7.3%        | 5.7%    | 10.4%   | 71             | 22       | 23          | 7       | 19      |
| Songbirds        | Not or slightly  | 16.6%               | 16.4%    | 17.0%       | 16.3%   | 16.6%   | 167            | 63       | 54          | 20      | 30      |
|                  | Somewhat or very | 75.3%               | 76.5%    | 75.8%       | 76.4%   | 71.3%   | 757            | 293      | 241         | 94      | 129     |
|                  | Don't know       | 8.1%                | 7.0%     | 7.2%        | 7.3%    | 12.2%   | 81             | 27       | 23          | 9       | 22      |

**Table 76.** By flyway: Participation in conservation and wildlife-related activities in the previous 12 months.

| Activity                                                                     | Response         | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|------------------------------------------------------------------------------|------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                                                              |                  | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Made my yard or my land more desirable to wildlife                           | Never            | 20.2%               | 19.6%    | 20.1%       | 17.9%   | 23.4%   | 206            | 76       | 65          | 22      | 43      |
|                                                                              | Rarely/sometimes | 37.2%               | 39.8%    | 36.4%       | 35.0%   | 34.8%   | 379            | 154      | 118         | 43      | 64      |
|                                                                              | Often/very often | 42.5%               | 40.6%    | 43.5%       | 47.2%   | 41.8%   | 433            | 157      | 141         | 58      | 77      |
| Volunteered to improve wildlife habitat in my community                      | Never            | 58.8%               | 59.2%    | 59.6%       | 55.3%   | 59.0%   | 597            | 228      | 193         | 68      | 108     |
|                                                                              | Rarely/sometimes | 32.7%               | 32.5%    | 32.7%       | 33.3%   | 32.8%   | 332            | 125      | 106         | 41      | 60      |
|                                                                              | Often/very often | 8.5%                | 8.3%     | 7.7%        | 11.4%   | 8.2%    | 86             | 32       | 25          | 14      | 15      |
| Talked to others in my community about conservation issues                   | Never            | 44.0%               | 44.0%    | 45.5%       | 41.9%   | 42.6%   | 448            | 170      | 148         | 52      | 78      |
|                                                                              | Rarely/sometimes | 42.4%               | 44.3%    | 43.4%       | 37.1%   | 40.4%   | 432            | 171      | 141         | 46      | 74      |
|                                                                              | Often/very often | 13.6%               | 11.7%    | 11.1%       | 21.0%   | 16.9%   | 138            | 45       | 36          | 26      | 31      |
| Participated as an active member in a nature, outdoor, or conservation group | Never            | 62.9%               | 60.8%    | 67.0%       | 60.2%   | 61.7%   | 640            | 236      | 217         | 74      | 113     |
|                                                                              | Rarely/sometimes | 27.5%               | 28.1%    | 26.2%       | 28.5%   | 27.9%   | 280            | 109      | 85          | 35      | 51      |
|                                                                              | Often/very often | 9.6%                | 11.1%    | 6.8%        | 11.4%   | 10.4%   | 98             | 43       | 22          | 14      | 19      |
| Donated money to support wildlife/habitat conservation                       | Never            | 44.5%               | 43.4%    | 50.0%       | 33.9%   | 44.0%   | 453            | 168      | 162         | 42      | 81      |
|                                                                              | Rarely/sometimes | 41.0%               | 41.9%    | 38.6%       | 45.2%   | 40.8%   | 418            | 162      | 125         | 56      | 75      |
|                                                                              | Often/very often | 14.5%               | 14.7%    | 11.4%       | 21.0%   | 15.2%   | 148            | 57       | 37          | 26      | 28      |

**Table 77.** By flyway: Participation in wetlands and waterfowl conservation activities (rarely, sometimes, often, or very often) in the previous 12 months.

| Activity                                                                                 | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|------------------------------------------------------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                                                                          | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 22.3%               | 22.2%    | 21.2%       | 22.6%   | 24.3%   | 227/1,017      | 86/387   | 69/325      | 28/124  | 44/181  |
| Attended meetings about wetlands/waterfowl conservation                                  | 19.9%               | 21.1%    | 17.2%       | 25.0%   | 18.7%   | 203/1,019      | 82/388   | 56/325      | 31/124  | 34/182  |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 20.2%               | 19.6%    | 19.8%       | 23.4%   | 19.9%   | 205/1,015      | 76/387   | 64/323      | 29/124  | 36/181  |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 20.0%               | 20.6%    | 16.3%       | 27.4%   | 20.3%   | 204/1,019      | 80/388   | 53/325      | 34/124  | 37/182  |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 46.5%               | 45.7%    | 45.2%       | 49.6%   | 48.6%   | 472/1,014      | 177/387  | 146/323     | 61/123  | 88/181  |
| Advocated for political action to conserve wetlands/waterfowl                            | 34.1%               | 32.9%    | 32.9%       | 39.0%   | 35.6%   | 345/1,011      | 127/386  | 106/322     | 48/123  | 64/180  |

**Table 78.** By flyway: Preferred channels of information on nature-related topics (somewhat or very preferred).

| Information channel                                     | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|---------------------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                                         | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Receive or follow online communications                 | 42.2%               | 43.4%    | 40.2%       | 48.6%   | 39.0%   | 361/855        | 144/332  | 106/264     | 51/105  | 60/154  |
| Read or access online content                           | 63.1%               | 65.7%    | 60.9%       | 63.8%   | 61.0%   | 541/857        | 218/332  | 162/266     | 67/105  | 94/154  |
| Read printed publications                               | 58.3%               | 61.9%    | 57.8%       | 53.8%   | 54.2%   | 501/860        | 206/333  | 155/268     | 56/104  | 84/155  |
| Watch visual media online                               | 63.9%               | 65.3%    | 60.2%       | 68.6%   | 64.1%   | 549/859        | 218/334  | 159/264     | 72/105  | 100/156 |
| Watch visual media through cable, satellite, or network | 66.9%               | 70.8%    | 63.4%       | 71.4%   | 61.4%   | 574/858        | 235/332  | 170/268     | 75/105  | 94/153  |
| Listen to recorded audio media                          | 11.2%               | 12.3%    | 8.6%        | 15.2%   | 10.5%   | 96/856         | 41/332   | 23/266      | 16/105  | 16/153  |
| Listen to live audio media                              | 23.3%               | 23.6%    | 20.2%       | 27.3%   | 25.2%   | 188/808        | 74/313   | 51/253      | 27/99   | 36/143  |
| Talk with other people about nature topics              | 57.6%               | 58.3%    | 54.9%       | 68.3%   | 53.8%   | 496/861        | 194/333  | 147/268     | 71/104  | 84/156  |
| Through personal experience                             | 68.2%               | 69.8%    | 65.2%       | 73.0%   | 66.7%   | 541/793        | 213/305  | 161/247     | 73/100  | 94/141  |
| Attend educational opportunities                        | 20.0%               | 20.8%    | 17.3%       | 28.2%   | 17.2%   | 170/852        | 69/332   | 46/266      | 29/103  | 26/151  |



**Table 79.** By flyway: Level of trust in information sources when looking for information on nature-related topics.

| Source                                  | Response                    | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|-----------------------------------------|-----------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                         |                             | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Federal government                      | Do not trust/trust a little | 27.9%               | 22.6%    | 30.6%       | 28.7%   | 33.8%   | 245            | 77       | 83          | 31      | 54      |
|                                         | Trust somewhat              | 33.9%               | 33.5%    | 34.7%       | 40.7%   | 28.8%   | 298            | 114      | 94          | 44      | 46      |
|                                         | Trust a lot/completely      | 38.2%               | 43.8%    | 34.7%       | 30.6%   | 37.5%   | 336            | 149      | 94          | 33      | 60      |
| State government                        | Do not trust/trust a little | 21.8%               | 16.9%    | 25.4%       | 19.6%   | 27.3%   | 191            | 57       | 69          | 21      | 44      |
|                                         | Trust somewhat              | 34.0%               | 34.7%    | 32.7%       | 42.1%   | 29.2%   | 298            | 117      | 89          | 45      | 47      |
|                                         | Trust a lot/completely      | 44.2%               | 48.4%    | 41.9%       | 38.3%   | 43.5%   | 388            | 163      | 114         | 41      | 70      |
| Local government                        | Do not trust/trust a little | 18.9%               | 15.9%    | 21.3%       | 17.8%   | 21.9%   | 166            | 54       | 58          | 19      | 35      |
|                                         | Trust somewhat              | 36.0%               | 35.1%    | 36.0%       | 41.1%   | 34.4%   | 316            | 119      | 98          | 44      | 55      |
|                                         | Trust a lot/completely      | 45.1%               | 49.0%    | 42.6%       | 41.1%   | 43.8%   | 396            | 166      | 116         | 44      | 70      |
| Conservation groups                     | Do not trust/trust a little | 16.2%               | 14.0%    | 16.5%       | 20.4%   | 17.7%   | 143            | 48       | 45          | 22      | 28      |
|                                         | Trust somewhat              | 30.3%               | 25.7%    | 31.1%       | 34.3%   | 36.1%   | 267            | 88       | 85          | 37      | 57      |
|                                         | Trust a lot/completely      | 53.5%               | 60.2%    | 52.4%       | 45.4%   | 46.2%   | 471            | 206      | 143         | 49      | 73      |
| Universities/ educational organizations | Do not trust/trust a little | 15.1%               | 12.4%    | 19.3%       | 14.0%   | 14.4%   | 133            | 42       | 52          | 16      | 23      |
|                                         | Trust somewhat              | 24.9%               | 25.3%    | 24.2%       | 28.4%   | 23.1%   | 219            | 86       | 65          | 31      | 37      |
|                                         | Trust a lot/completely      | 59.9%               | 62.4%    | 56.5%       | 56.9%   | 62.5%   | 526            | 212      | 152         | 62      | 100     |
| National media/news                     | Do not trust/trust a little | 43.6%               | 36.5%    | 50.2%       | 48.6%   | 44.3%   | 383            | 124      | 137         | 52      | 70      |
|                                         | Trust somewhat              | 37.2%               | 38.8%    | 34.4%       | 38.3%   | 38.0%   | 327            | 132      | 94          | 41      | 60      |
|                                         | Trust a lot/completely      | 19.1%               | 24.7%    | 15.4%       | 13.1%   | 17.7%   | 168            | 84       | 42          | 14      | 28      |
| Local media/news                        | Do not trust/trust a little | 35.8%               | 30.7%    | 39.6%       | 39.3%   | 37.9%   | 312            | 103      | 106         | 42      | 61      |
|                                         | Trust somewhat              | 41.1%               | 41.7%    | 38.4%       | 45.8%   | 41.0%   | 358            | 140      | 103         | 49      | 66      |
|                                         | Trust a lot/completely      | 23.2%               | 27.7%    | 22.0%       | 15.0%   | 21.1%   | 202            | 93       | 59          | 16      | 34      |
| Friends, family, neighbors, colleagues  | Do not trust/trust a little | 10.6%               | 8.5%     | 13.9%       | 9.2%    | 10.5%   | 94             | 29       | 38          | 10      | 17      |
|                                         | Trust somewhat              | 31.3%               | 31.4%    | 28.8%       | 23.9%   | 40.1%   | 277            | 107      | 79          | 26      | 65      |
|                                         | Trust a lot/completely      | 58.1%               | 60.1%    | 57.3%       | 67.0%   | 49.4%   | 515            | 205      | 157         | 73      | 80      |
| Scientific organizations                | Do not trust/trust a little | 14.1%               | 11.7%    | 17.3%       | 15.5%   | 13.0%   | 125            | 40       | 47          | 17      | 21      |
|                                         | Trust somewhat              | 25.0%               | 22.3%    | 29.8%       | 26.4%   | 21.7%   | 221            | 76       | 81          | 29      | 35      |
|                                         | Trust a lot/completely      | 60.9%               | 66.0%    | 52.9%       | 58.2%   | 65.2%   | 538            | 225      | 144         | 64      | 105     |
| Religious organizations                 | Do not trust/trust a little | 47.1%               | 47.6%    | 45.2%       | 40.2%   | 53.8%   | 410            | 160      | 122         | 43      | 85      |
|                                         | Trust somewhat              | 32.0%               | 30.4%    | 34.8%       | 34.6%   | 29.1%   | 279            | 102      | 94          | 37      | 46      |
|                                         | Trust a lot/completely      | 20.9%               | 22.0%    | 20.0%       | 25.2%   | 17.1%   | 182            | 74       | 54          | 27      | 27      |

**Table 80.** By flyway: Knowledge of wetlands in the local community and wetlands visitation in the previous 12 months.

| Survey item                        | Response   | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|------------------------------------|------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                    |            | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| I know of wetlands in my community | Yes        | 78.3%               | 83.0%    | 78.0%       | 70.7%   | 74.2%   | 787            | 317      | 251         | 87      | 132     |
|                                    | No         | 11.8%               | 8.9%     | 10.2%       | 19.5%   | 15.7%   | 119            | 34       | 33          | 24      | 28      |
|                                    | Don't know | 9.9%                | 8.1%     | 11.8%       | 9.8%    | 10.1%   | 99             | 31       | 38          | 12      | 18      |
| I've visited wetlands              | Yes        | 57.4%               | 63.5%    | 55.8%       | 50.0%   | 52.2%   | 576            | 242      | 179         | 62      | 93      |
|                                    | No         | 42.6%               | 36.5%    | 44.2%       | 50.0%   | 47.8%   | 428            | 139      | 142         | 62      | 85      |

**Table 81.** By flyway: Purpose(s) of wetlands visit(s), for those who had visited wetlands in the previous 12 months.  
[Percentages do not sum to 100 since some people had multiple purposes]

| Purpose of visit                                       | Flyway (percentage) |          |             |         |         | Flyway (count) |                  |                     |                |                |
|--------------------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|------------------|---------------------|----------------|----------------|
|                                                        | All                 | Atlantic | Mississippi | Central | Pacific | All (n=593)    | Atlantic (n=247) | Mississippi (n=189) | Central (n=62) | Pacific (n=95) |
| Enjoying nature/picnicking/<br>nature photography      | 70.2%               | 75.3%    | 65.1%       | 66.1%   | 69.5%   | 416            | 186              | 123                 | 41             | 66             |
| Walking/dog walking/<br>hiking/biking                  | 72.8%               | 77.3%    | 69.8%       | 64.5%   | 72.6%   | 432            | 191              | 132                 | 40             | 69             |
| Boating                                                | 26.3%               | 25.1%    | 31.7%       | 30.6%   | 15.8%   | 156            | 62               | 60                  | 19             | 15             |
| Wildlife viewing/birdwatching/<br>wildlife photography | 49.4%               | 52.6%    | 45.0%       | 46.8%   | 51.6%   | 293            | 130              | 85                  | 29             | 49             |
| Fishing                                                | 34.4%               | 32.4%    | 41.3%       | 46.8%   | 17.9%   | 204            | 80               | 78                  | 29             | 17             |
| Hunting                                                | 18.4%               | 15.4%    | 23.3%       | 27.4%   | 10.5%   | 109            | 38               | 44                  | 17             | 10             |
| Other                                                  | 2.6%                | 2.8%     | 1.0%        | 4.6%    | 4.0%    | 16             | 7                | 2                   | 3              | 4              |

**Table 82.** By flyway: Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded.

| Ecosystem service                                  | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|----------------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                                                    | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Flooding protection                                | 81.4%               | 84.2%    | 80.1%       | 81.7%   | 77.5%   | 810/995        | 320/380  | 258/322     | 98/120  | 134/173 |
| Erosion protection                                 | 83.3%               | 84.7%    | 80.8%       | 83.8%   | 84.4%   | 827/993        | 322/380  | 261/323     | 98/117  | 146/173 |
| Wildlife viewing and birdwatching                  | 74.0%               | 76.7%    | 72.4%       | 72.9%   | 72.1%   | 730/986        | 289/377  | 231/319     | 86/118  | 124/172 |
| Hunting opportunities                              | 40.5%               | 38.5%    | 43.3%       | 52.5%   | 31.2%   | 401/991        | 146/379  | 139/321     | 62/118  | 54/173  |
| Storage of greenhouse gases, such as carbon        | 68.4%               | 70.5%    | 65.5%       | 66.9%   | 69.9%   | 672/983        | 263/373  | 209/319     | 79/118  | 121/173 |
| Clean water                                        | 89.8%               | 94.3%    | 86.3%       | 90.1%   | 86.4%   | 899/1001       | 361/383  | 277/321     | 109/121 | 152/176 |
| Clean air                                          | 89.6%               | 93.7%    | 86.0%       | 90.1%   | 86.9%   | 898/1002       | 359/383  | 277/322     | 109/121 | 153/176 |
| Providing a home for wildlife                      | 88.0%               | 93.0%    | 85.4%       | 87.6%   | 82.3%   | 881/1001       | 356/383  | 275/322     | 106/121 | 144/175 |
| Providing a home for pollinators                   | 89.1%               | 91.9%    | 87.0%       | 88.3%   | 87.4%   | 892/1001       | 352/383  | 281/323     | 106/120 | 153/175 |
| Scenic places for inspiration or spiritual renewal | 69.9%               | 71.9%    | 65.7%       | 74.4%   | 70.1%   | 697/997        | 274/381  | 211/321     | 90/121  | 122/174 |

**Table 83.** By flyway: Ecosystem services about which respondents were most concerned and least concerned.

| Ecosystem service             |                                                    | Flyway (percentage) |          |             |         |         | Flyway (count) |                  |                     |                |                 |
|-------------------------------|----------------------------------------------------|---------------------|----------|-------------|---------|---------|----------------|------------------|---------------------|----------------|-----------------|
|                               |                                                    | All                 | Atlantic | Mississippi | Central | Pacific | All (n=846)    | Atlantic (n=334) | Mississippi (n=279) | Central (n=91) | Pacific (n=142) |
| Benefit most concerned about  | Flooding protection                                | 13.1%               | 10.5%    | 16.1%       | 15.4%   | 12.0%   | 111            | 35               | 45                  | 14             | 17              |
|                               | Erosion protection                                 | 2.8%                | 1.8%     | 5.0%        | 2.2%    | 1.4%    | 24             | 6                | 14                  | 2              | 2               |
|                               | Wildlife viewing and birdwatching                  | 2.6%                | 3.3%     | 1.8%        | 3.3%    | 2.1%    | 22             | 11               | 5                   | 3              | 3               |
|                               | Hunting opportunities                              | 5.6%                | 5.1%     | 5.7%        | 5.5%    | 6.3%    | 47             | 17               | 16                  | 5              | 9               |
|                               | Storage of greenhouse gases, such as carbon        | 3.5%                | 3.3%     | 3.9%        | 4.4%    | 2.8%    | 30             | 11               | 11                  | 4              | 4               |
|                               | Clean water                                        | 30.5%               | 32.0%    | 29.4%       | 33.0%   | 27.5%   | 258            | 107              | 82                  | 30             | 39              |
|                               | Clean air                                          | 8.7%                | 9.9%     | 7.9%        | 7.7%    | 8.5%    | 74             | 33               | 22                  | 7              | 12              |
|                               | Providing a home for wildlife                      | 19.6%               | 21.6%    | 15.1%       | 19.8%   | 23.9%   | 166            | 72               | 42                  | 18             | 34              |
|                               | Providing a home for pollinators                   | 11.1%               | 10.2%    | 12.9%       | 6.6%    | 12.7%   | 94             | 34               | 36                  | 6              | 18              |
|                               | Scenic places for inspiration or spiritual renewal | 2.4%                | 2.4%     | 2.2%        | 2.2%    | 2.8%    | 20             | 8                | 6                   | 2              | 4               |
| Ecosystem service             |                                                    | All                 | Atlantic | MS          | Central | Pacific | All (n=824)    | Atlantic (n=328) | MS (n=269)          | Central (n=92) | Pacific (n=135) |
| Benefit least concerned about | Flooding protection                                | 4.6%                | 2.1%     | 3.7%        | 13.0%   | 6.7%    | 38             | 7                | 10                  | 12             | 9               |
|                               | Erosion protection                                 | 1.6%                | 1.2%     | 2.6%        | 0.0%    | 1.5%    | 13             | 4                | 7                   | 0              | 2               |
|                               | Wildlife viewing and birdwatching                  | 5.8%                | 4.6%     | 6.7%        | 10.9%   | 3.7%    | 48             | 15               | 18                  | 10             | 5               |
|                               | Hunting opportunities                              | 53.0%               | 58.8%    | 47.6%       | 35.9%   | 61.5%   | 437            | 193              | 128                 | 33             | 83              |
|                               | Storage of greenhouse gases, such as carbon        | 10.3%               | 10.1%    | 12.6%       | 8.7%    | 7.4%    | 85             | 33               | 34                  | 8              | 10              |
|                               | Clean water                                        | 0.2%                | 0.6%     | 0.0%        | 0.0%    | 0.0%    | 2              | 2                | 0                   | 0              | 0               |
|                               | Clean air                                          | 0.4%                | 0.3%     | 0.7%        | 0.0%    | 0.0%    | 3              | 1                | 2                   | 0              | 0               |
|                               | Providing a home for wildlife                      | 0.5%                | 0.6%     | 0.4%        | 1.1%    | 0.0%    | 4              | 2                | 1                   | 1              | 0               |
|                               | Providing a home for pollinators                   | 1.1%                | 0.6%     | 1.9%        | 2.2%    | 0.0%    | 9              | 2                | 5                   | 2              | 0               |
|                               | Scenic places for inspiration or spiritual renewal | 22.5%               | 21.0%    | 23.8%       | 28.3%   | 19.3%   | 185            | 69               | 64                  | 26             | 26              |

**Table 84.** By flyway: Demographic data.  
[% , percent; pop., population]

| Demographic category |                                    | Flyway (percentage) |          |             |         |         | Flyway (count) |          |             |         |         |
|----------------------|------------------------------------|---------------------|----------|-------------|---------|---------|----------------|----------|-------------|---------|---------|
|                      |                                    | All                 | Atlantic | Mississippi | Central | Pacific | All            | Atlantic | Mississippi | Central | Pacific |
| Age                  | 18–44 (% of adults)                | 21.4%               | 20.4%    | 21.3%       | 24.0%   | 22.3%   | 214            | 78       | 68          | 29      | 39      |
|                      | 45–64 (% of adults)                | 45.8%               | 47.8%    | 45.9%       | 48.8%   | 39.4%   | 458            | 183      | 147         | 59      | 69      |
|                      | 65+ (% of adults)                  | 32.7%               | 31.9%    | 32.8%       | 27.3%   | 38.3%   | 327            | 122      | 105         | 33      | 67      |
| Gender               | Male                               | 65.1%               | 65.1%    | 66.6%       | 61.0%   | 65.4%   | 659            | 252      | 215         | 75      | 117     |
|                      | Female                             | 34.9%               | 34.9%    | 33.4%       | 39.0%   | 34.6%   | 353            | 135      | 108         | 48      | 62      |
| Education            | High school degree or less         | 17.4%               | 17.3%    | 19.6%       | 20.3%   | 11.7%   | 177            | 67       | 64          | 25      | 21      |
|                      | Some college or associate's degree | 30.3%               | 27.6%    | 31.9%       | 28.5%   | 34.6%   | 308            | 107      | 104         | 35      | 62      |
|                      | Bachelor's degree                  | 26.8%               | 26.3%    | 25.8%       | 28.5%   | 28.5%   | 272            | 102      | 84          | 35      | 51      |
|                      | Graduate degree                    | 25.5%               | 28.9%    | 22.7%       | 22.8%   | 25.1%   | 259            | 112      | 74          | 28      | 45      |
| Current residence    | Urban (pop. 50,000+)               | 46.8%               | 42.6%    | 41.7%       | 48.0%   | 64.2%   | 472            | 163      | 135         | 59      | 115     |
|                      | Urban cluster (pop. 2,500–50,000)  | 37.9%               | 43.9%    | 38.6%       | 32.5%   | 27.4%   | 382            | 168      | 125         | 40      | 49      |
|                      | Rural (pop. <2,500)                | 15.4%               | 13.6%    | 19.8%       | 19.5%   | 8.4%    | 155            | 52       | 64          | 24      | 15      |
| Childhood residence  | Urban (pop. 50,000+)               | 44.7%               | 43.4%    | 37.4%       | 44.2%   | 61.2%   | 445            | 163      | 120         | 53      | 109     |
|                      | Urban cluster (pop. 2,500–50,000)  | 36.9%               | 41.2%    | 38.6%       | 34.2%   | 26.4%   | 367            | 155      | 124         | 41      | 47      |
|                      | Rural (pop. <2,500)                | 18.4%               | 15.4%    | 24.0%       | 21.7%   | 12.4%   | 183            | 58       | 77          | 26      | 22      |
| Ethnicity            | Hispanic                           | 5.6%                | 6.1%     | 1.6%        | 14.1%   | 6.6%    | 55             | 23       | 5           | 16      | 11      |
|                      | Not Hispanic                       | 94.4%               | 93.9%    | 98.4%       | 86.9%   | 93.4%   | 921            | 352      | 308         | 106     | 155     |
| Race                 | White (only)                       | 86.1%               | 85.8%    | 90.3%       | 81.00%  | 82.6%   | 852            | 325      | 287         | 98      | 142     |
|                      | Not White or 2+                    | 13.9%               | 14.2%    | 9.7%        | 19.0%   | 17.4%   | 138            | 54       | 31          | 23      | 30      |

## Appendix 6. Data by Current Residence

This appendix contains data on responses to each question broken down according to respondents' current residence category: urban area (population of more than 50,000), urban cluster (population of 2,500–50,000), or rural area (population less than 2,500).

**Table 85.** By residence: Nature-related activity participation in the previous 12 months.

| Activity                                     | Current residence (percentage) |       |               |       | Current residence (count/total) |         |               |         |
|----------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------------|---------|---------------|---------|
|                                              | All                            | Urban | Urban cluster | Rural | All                             | Urban   | Urban cluster | Rural   |
| Backyard/at-home nature activities           | 87.5%                          | 84.2% | 90.7%         | 89.5% | 867/991                         | 390/463 | 340/375       | 137/153 |
| Spending time in nature away from home       | 81.1%                          | 79.6% | 83.4%         | 80.3% | 804/991                         | 370/465 | 312/374       | 122/152 |
| Viewing/feeding/photographing birds          | 61.2%                          | 61.0% | 57.9%         | 69.9% | 606/990                         | 282/462 | 217/375       | 107/153 |
| Viewing/feeding/photographing other wildlife | 66.0%                          | 64.2% | 65.8%         | 71.1% | 649/984                         | 294/458 | 246/374       | 109/152 |
| Fishing                                      | 40.2%                          | 35.7% | 41.4%         | 51.3% | 398/989                         | 164/460 | 156/377       | 78/152  |
| Hunting waterfowl                            | 5.0%                           | 2.6%  | 6.7%          | 8.0%  | 49/976                          | 12/455  | 25/371        | 12/150  |
| Hunting all other game                       | 17.4%                          | 9.3%  | 19.5%         | 36.8% | 172/987                         | 43/461  | 73/374        | 56/152  |
| Nonmotorized outdoor recreation activities   | 70.9%                          | 71.4% | 70.0%         | 71.7% | 705/994                         | 332/465 | 264/377       | 109/152 |
| Motorized outdoor recreation activities      | 35.3%                          | 32.0% | 35.5%         | 45.0% | 350/991                         | 148/463 | 134/377       | 68/151  |
| Learning about nature                        | 66.6%                          | 67.0% | 65.6%         | 67.8% | 661/993                         | 310/463 | 248/378       | 103/152 |

**Table 86.** By residence: Intended nature-related activity participation in the following 12 months.

| Activity                                     | Response          | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|----------------------------------------------|-------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                                              |                   | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Backyard/at-home nature activities           | Not at all likely | 8.6%                           | 11.3% | 5.5%          | 7.5%  | 83                        | 52    | 20            | 11    |
|                                              | Somewhat likely   | 12.0%                          | 11.1% | 12.9%         | 12.3% | 116                       | 51    | 47            | 18    |
|                                              | Very likely       | 79.5%                          | 77.6% | 81.6%         | 80.1% | 771                       | 356   | 298           | 117   |
| Spending time in nature away from home       | Not at all likely | 11.4%                          | 12.8% | 9.3%          | 12.2% | 111                       | 59    | 34            | 18    |
|                                              | Somewhat likely   | 20.4%                          | 18.2% | 22.0%         | 23.1% | 198                       | 84    | 80            | 34    |
|                                              | Very likely       | 68.2%                          | 69.0% | 68.7%         | 64.6% | 663                       | 318   | 250           | 95    |
| Viewing/feeding/photographing birds          | Not at all likely | 29.6%                          | 30.6% | 30.5%         | 24.3% | 285                       | 139   | 110           | 36    |
|                                              | Somewhat likely   | 20.6%                          | 21.6% | 21.6%         | 14.9% | 198                       | 98    | 78            | 22    |
|                                              | Very likely       | 49.8%                          | 47.8% | 47.9%         | 60.8% | 480                       | 217   | 173           | 90    |
| Viewing/feeding/photographing other wildlife | Not at all likely | 26.0%                          | 27.7% | 25.9%         | 21.1% | 248                       | 124   | 93            | 31    |
|                                              | Somewhat likely   | 24.3%                          | 26.6% | 23.1%         | 20.4% | 232                       | 119   | 83            | 30    |
|                                              | Very likely       | 49.7%                          | 45.8% | 51.0%         | 58.5% | 474                       | 205   | 183           | 86    |
| Fishing                                      | Not at all likely | 44.5%                          | 48.4% | 43.4%         | 34.9% | 422                       | 217   | 154           | 51    |
|                                              | Somewhat likely   | 20.5%                          | 22.1% | 19.2%         | 19.2% | 195                       | 99    | 68            | 28    |
|                                              | Very likely       | 35.0%                          | 29.5% | 37.5%         | 45.9% | 332                       | 132   | 133           | 67    |
| Hunting waterfowl                            | Not at all likely | 85.8%                          | 88.9% | 84.7%         | 78.9% | 804                       | 394   | 298           | 112   |
|                                              | Somewhat likely   | 8.8%                           | 7.7%  | 8.8%          | 12.0% | 82                        | 34    | 31            | 17    |
|                                              | Very likely       | 5.4%                           | 3.4%  | 6.5%          | 9.2%  | 51                        | 15    | 23            | 13    |
| Hunting all other game                       | Not at all likely | 75.8%                          | 84.3% | 73.2%         | 56.6% | 719                       | 375   | 262           | 82    |
|                                              | Somewhat likely   | 8.0%                           | 7.2%  | 8.4%          | 9.7%  | 76                        | 32    | 30            | 14    |
|                                              | Very likely       | 16.1%                          | 8.5%  | 18.4%         | 33.8% | 153                       | 38    | 66            | 49    |
| Nonmotorized outdoor recreation activities   | Not at all likely | 21.3%                          | 22.6% | 19.1%         | 22.6% | 204                       | 102   | 69            | 33    |
|                                              | Somewhat likely   | 17.1%                          | 19.0% | 23.3%         | 17.1% | 195                       | 86    | 84            | 25    |
|                                              | Very likely       | 60.3%                          | 58.4% | 57.6%         | 60.3% | 560                       | 264   | 208           | 88    |
| Motorized outdoor recreation activities      | Not at all likely | 49.4%                          | 52.5% | 47.6%         | 43.8% | 473                       | 237   | 172           | 64    |
|                                              | Somewhat likely   | 20.8%                          | 21.7% | 21.1%         | 17.1% | 199                       | 98    | 76            | 25    |
|                                              | Very likely       | 29.9%                          | 25.7% | 31.3%         | 39.0% | 286                       | 116   | 113           | 57    |
| Learning about nature                        | Not at all likely | 23.4%                          | 22.4% | 24.0%         | 24.7% | 225                       | 102   | 87            | 36    |
|                                              | Somewhat likely   | 29.1%                          | 28.6% | 29.8%         | 28.8% | 280                       | 130   | 108           | 42    |
|                                              | Very likely       | 47.6%                          | 49.0% | 46.1%         | 46.6% | 458                       | 223   | 167           | 68    |



**Table 87.** By residence: Hunting and birdwatching attitudes.

| Attitude                  | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|---------------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                           | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Hunting                   |                                |       |               |       |                           |       |               |       |
| Very/somewhat unpleasant  | 48.3%                          | 57.9% | 45.1%         | 27.7% | 461                       | 256   | 164           | 41    |
| Neither                   | 20%                            | 19.2% | 20.9%         | 20.3% | 191                       | 85    | 76            | 30    |
| Very/somewhat pleasant    | 31.7%                          | 22.9% | 34.1%         | 52.0% | 302                       | 101   | 124           | 77    |
| Very/somewhat boring      | 38.1%                          | 45.3% | 35.2%         | 22.3% | 349                       | 196   | 124           | 29    |
| Neither                   | 26.1%                          | 27.0% | 25.3%         | 26.2% | 239                       | 117   | 88            | 34    |
| Very/somewhat interesting | 35.7%                          | 27.7% | 39.8%         | 51.5% | 327                       | 120   | 140           | 67    |
| Birdwatching              |                                |       |               |       |                           |       |               |       |
| Very/somewhat unpleasant  | 14.2%                          | 16.2% | 13.9%         | 9.0%  | 133                       | 70    | 50            | 13    |
| Neither                   | 19.9%                          | 17.1% | 22.8%         | 20.8% | 186                       | 74    | 82            | 30    |
| Very/somewhat pleasant    | 66%                            | 66.7% | 63.3%         | 70.1% | 618                       | 289   | 228           | 101   |
| Very/somewhat boring      | 24.9%                          | 27.4% | 24.1%         | 18.8% | 233                       | 120   | 87            | 26    |
| Neither                   | 14.6%                          | 11.6% | 17.2%         | 17.4% | 137                       | 51    | 62            | 24    |
| Very/somewhat interesting | 60.5%                          | 61.0% | 58.7%         | 63.8% | 567                       | 267   | 212           | 88    |

**Table 88.** By residence: Perceived behavioral control and subjective norms for hunting and birdwatching.

| Control or norm                                                            | Response           | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|----------------------------------------------------------------------------|--------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                                                                            |                    | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| People important to me would support my hunting in the next 12 months      | Disagree           | 30.2%                          | 36.6% | 28.1%         | 15.7% | 301                       | 171   | 106           | 24    |
|                                                                            | Neither/Don't know | 27.9%                          | 31.3% | 26.3%         | 21.6% | 278                       | 146   | 99            | 33    |
|                                                                            | Agree              | 41.9%                          | 32.1% | 45.6%         | 62.7% | 418                       | 150   | 172           | 96    |
| If I wanted to, I could easily go hunting in the next 12 months            | Disagree           | 28.9%                          | 34.5% | 26.5%         | 17.9% | 286                       | 160   | 99            | 27    |
|                                                                            | Neither/Don't know | 15.6%                          | 19.2% | 13.4%         | 9.9%  | 154                       | 89    | 50            | 15    |
|                                                                            | Agree              | 55.5%                          | 46.3% | 60.2%         | 72.2% | 549                       | 215   | 225           | 109   |
| People important to me would support my birdwatching in the next 12 months | Disagree           | 8.9%                           | 8.7%  | 10.4%         | 5.8%  | 89                        | 41    | 39            | 9     |
|                                                                            | Neither/Don't know | 23.3%                          | 23.9% | 22.6%         | 23.4% | 223                       | 112   | 85            | 36    |
|                                                                            | Agree              | 67.8%                          | 67.4% | 67.0%         | 70.8% | 677                       | 316   | 252           | 109   |
| If I wanted to, I could easily go birdwatching in the next 12 months       | Disagree           | 8.6%                           | 9.6%  | 8.0%          | 7.2%  | 86                        | 45    | 30            | 11    |
|                                                                            | Neither/Don't know | 13.9%                          | 14.5% | 13.3%         | 13.8% | 139                       | 68    | 50            | 21    |
|                                                                            | Agree              | 78.9%                          | 75.9% | 78.8%         | 78.9% | 772                       | 355   | 297           | 120   |

**Table 89.** By residence: Perceived constraints to participating in hunting in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint                       | Current residence (percentage) |       |               |       | Current residence (count) |               |                       |               |
|--------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------------|-----------------------|---------------|
|                                            | All                            | Urban | Urban cluster | Rural | All (n=994)               | Urban (n=467) | Urban cluster (n=375) | Rural (n=152) |
| Don't know/never thought about it          | 25.4%                          | 25.3% | 26.1%         | 23.7% | 252                       | 118           | 98                    | 36            |
| Illness or injury                          | 11.8%                          | 7.7%  | 12.3%         | 23.0% | 117                       | 36            | 46                    | 35            |
| Moral opposition/don't kill                | 17.7%                          | 20.6% | 17.9%         | 8.6%  | 176                       | 96            | 67                    | 13            |
| No interest                                | 18.4%                          | 20.3% | 17.9%         | 13.8% | 183                       | 95            | 67                    | 21            |
| Time constraints/work                      | 6.5%                           | 5.4%  | 6.4%          | 10.5% | 65                        | 25            | 24                    | 16            |
| No guns/equipment/skills/cost of equipment | 6.4%                           | 9.0%  | 4.0%          | 4.6%  | 64                        | 42            | 15                    | 7             |
| Not a hunter/just don't                    | 5.7%                           | 7.1%  | 4.8%          | 3.9%  | 57                        | 33            | 18                    | 6             |
| Access to land/permits/tags                | 5.4%                           | 4.9%  | 6.1%          | 5.3%  | 54                        | 23            | 23                    | 8             |
| I used to, just don't anymore              | 0.8%                           | 0.9%  | 0.5%          | 1.3%  | 8                         | 4             | 2                     | 2             |
| Nothing                                    | 3.6%                           | 1.9%  | 4.3%          | 7.2%  | 36                        | 9             | 16                    | 11            |
| Opposition of others                       | 0.7%                           | 0.6%  | 1.1%          | 0.0%  | 7                         | 3             | 4                     | 0             |
| Other                                      | 2.4%                           | 2.1%  | 2.7%          | 2.6%  | 24                        | 10            | 10                    | 4             |

**Table 90.** By residence: Perceived constraints to participating in birdwatching in the following 12 months.

[Data coded into categories based on responses to open-ended survey questions. Percentages do not sum to 100 because some people expressed multiple constraints]

| Perceived constraint              | Current residence (percentage) |       |               |       | Current residence (count) |               |                       |               |
|-----------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------------|-----------------------|---------------|
|                                   | All                            | Urban | Urban cluster | Rural | All (n=979)               | Urban (n=459) | Urban cluster (n=368) | Rural (n=152) |
| Don't know/never thought about it | 34.3%                          | 32.5% | 36.7%         | 34.2% | 336                       | 149           | 135                   | 52            |
| Illness or injury                 | 8.5%                           | 8.7%  | 6.3%          | 13.2% | 83                        | 40            | 23                    | 20            |
| No birds present                  | 1.5%                           | 1.5%  | 1.1%          | 2.6%  | 15                        | 7             | 4                     | 4             |
| No interest                       | 13.5%                          | 15.7% | 13.0%         | 7.9%  | 132                       | 72            | 48                    | 12            |
| Time constraints/work             | 9.7%                           | 10.2% | 8.2%          | 11.8% | 95                        | 47            | 30                    | 18            |
| No knowledge                      | 1.1%                           | 1.5%  | 1.1%          | 0.0%  | 11                        | 7             | 4                     | 0             |
| Lack of people to go with         | 0.8%                           | 1.1%  | 0.8%          | 0.0%  | 8                         | 5             | 3                     | 0             |
| No equipment or transportation    | 0.9%                           | 0.7%  | 1.4%          | 0.7%  | 9                         | 3             | 5                     | 1             |
| Nothing                           | 27.8%                          | 27.0% | 28.5%         | 28.3% | 272                       | 124           | 105                   | 43            |
| Other                             | 2.3%                           | 2.2%  | 2.4%          | 2.6%  | 23                        | 10            | 9                     | 4             |
| Weather/climate                   | 2.0%                           | 1.5%  | 3.3%          | 0.7%  | 20                        | 7             | 12                    | 1             |

**Table 91.** By residence: Acquaintance with someone who participates in nature-related activities.

| Type of person        | Current residence (percentage) |       |               |       | Current residence (count) |         |               |         |
|-----------------------|--------------------------------|-------|---------------|-------|---------------------------|---------|---------------|---------|
|                       | All                            | Urban | Urban cluster | Rural | All                       | Urban   | Urban cluster | Rural   |
| Hunter                | 84.6%                          | 80.3% | 85.7%         | 95.4% | 843/996                   | 375/467 | 324/378       | 144/151 |
| Birdwatcher           | 68.2%                          | 67.7% | 65.6%         | 76.0% | 675/990                   | 315/465 | 246/375       | 114/150 |
| Wildlife photographer | 49.9%                          | 47.1% | 54.3%         | 47.7% | 490/982                   | 218/463 | 201/370       | 71/149  |
| Conservationist       | 52.5%                          | 52.1% | 52.4%         | 54.4% | 519/988                   | 241/463 | 197/376       | 81/149  |

**Table 92.** By residence: Preferred types of wild birds.

| Type of bird     | Preference       | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|------------------|------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                  |                  | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Waterfowl        | Not or slightly  | 22.7%                          | 25.2% | 21.0%         | 19.5% | 223                       | 116   | 78            | 29    |
|                  | Somewhat or very | 67.7%                          | 63.3% | 70.7%         | 73.8% | 664                       | 291   | 263           | 110   |
|                  | Don't know       | 9.6%                           | 11.5% | 8.3%          | 6.7%  | 94                        | 53    | 31            | 10    |
| Other game birds | Not or slightly  | 23.2%                          | 27.7% | 21.2%         | 14.1% | 226                       | 127   | 78            | 21    |
|                  | Somewhat or very | 66.3%                          | 59.5% | 69.3%         | 79.9% | 647                       | 273   | 255           | 119   |
|                  | Don't know       | 10.6%                          | 12.9% | 9.5%          | 6.0%  | 103                       | 59    | 35            | 9     |
| Hummingbirds     | Not or slightly  | 9.2%                           | 10.3% | 8.5%          | 7.3%  | 91                        | 48    | 32            | 11    |
|                  | Somewhat or very | 84.3%                          | 82.2% | 85.1%         | 88.7% | 835                       | 383   | 319           | 133   |
|                  | Don't know       | 6.6%                           | 7.5%  | 6.4%          | 4.0%  | 65                        | 35    | 24            | 6     |
| Water birds      | Not or slightly  | 16.1%                          | 15.2% | 16.5%         | 18.1% | 158                       | 70    | 61            | 27    |
|                  | Somewhat or very | 73.9%                          | 73.5% | 74.6%         | 73.2% | 724                       | 339   | 276           | 109   |
|                  | Don't know       | 10.0%                          | 11.3% | 8.9%          | 8.7%  | 98                        | 52    | 33            | 13    |
| Birds of prey    | Not or slightly  | 10.2%                          | 10.3% | 10.5%         | 9.3%  | 101                       | 48    | 39            | 14    |
|                  | Somewhat or very | 82.9%                          | 81.9% | 82.5%         | 86.8% | 819                       | 381   | 307           | 131   |
|                  | Don't know       | 6.9%                           | 7.7%  | 7.0%          | 4.0%  | 68                        | 36    | 26            | 6     |
| Songbirds        | Not or slightly  | 16.4%                          | 15.9% | 16.9%         | 16.8% | 162                       | 74    | 63            | 25    |
|                  | Somewhat or very | 75.7%                          | 74.7% | 76.1%         | 77.9% | 748                       | 348   | 284           | 116   |
|                  | Don't know       | 7.9%                           | 9.4%  | 7.0%          | 5.4%  | 78                        | 44    | 26            | 8     |

**Table 93.** By residence: Participation in conservation and wildlife-related activities in the previous 12 months.

| Activity                                                                     | Response         | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|------------------------------------------------------------------------------|------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                                                                              |                  | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Made my yard or my land more desirable to wildlife                           | Never            | 19.9%                          | 23.7% | 18.9%         | 10.6% | 199                       | 111   | 72            | 16    |
|                                                                              | Rarely/sometimes | 37.7%                          | 38.8% | 37.9%         | 33.8% | 377                       | 182   | 144           | 51    |
|                                                                              | Often/very often | 42.4%                          | 37.5% | 43.2%         | 55.6% | 424                       | 176   | 164           | 84    |
| Volunteered to improve wildlife habitat in my community                      | Never            | 58.8%                          | 59.5% | 58.7%         | 56.7% | 586                       | 279   | 222           | 85    |
|                                                                              | Rarely/sometimes | 32.8%                          | 34.1% | 31.5%         | 32.0% | 327                       | 160   | 119           | 48    |
|                                                                              | Often/very often | 8.4%                           | 6.4%  | 9.8%          | 11.3% | 84                        | 30    | 37            | 17    |
| Talked to others in my community about conservation issues                   | Never            | 43.6%                          | 45.4% | 44.2%         | 36.4% | 436                       | 214   | 167           | 55    |
|                                                                              | Rarely/sometimes | 42.9%                          | 41.2% | 43.4%         | 47.0% | 429                       | 194   | 164           | 71    |
|                                                                              | Often/very often | 13.5%                          | 13.4% | 12.4%         | 16.6% | 135                       | 63    | 47            | 25    |
| Participated as an active member in a nature, outdoor, or conservation group | Never            | 62.8%                          | 63.2% | 62.6%         | 62.3% | 629                       | 297   | 238           | 94    |
|                                                                              | Rarely/sometimes | 27.7%                          | 27.4% | 27.1%         | 29.8% | 277                       | 129   | 103           | 45    |
|                                                                              | Often/very often | 9.5%                           | 9.4%  | 10.3%         | 7.9%  | 95                        | 44    | 39            | 12    |
| Donated money to support wildlife/habitat conservation                       | Never            | 44.3%                          | 45.0% | 45.2%         | 39.5% | 443                       | 212   | 171           | 60    |
|                                                                              | Rarely/sometimes | 41.2%                          | 40.1% | 40.7%         | 45.4% | 412                       | 189   | 154           | 69    |
|                                                                              | Often/very often | 14.6%                          | 14.9% | 14.0%         | 15.1% | 146                       | 70    | 53            | 23    |

**Table 94.** By residence: Participation in wetlands and waterfowl conservation activities (rarely, sometimes, often, or very often) in the previous 12 months.

| Activity                                                                                 | Current residence (percentage) |       |               |       | Current residence (count) |         |               |        |
|------------------------------------------------------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------|---------------|--------|
|                                                                                          | All                            | Urban | Urban cluster | Rural | All                       | Urban   | Urban cluster | Rural  |
| Worked on land improvement projects related to wetlands/waterfowl conservation           | 22.4%                          | 19.8% | 23.3%         | 28.3% | 224/999                   | 93/470  | 88/377        | 43/152 |
| Attended meetings about wetlands/waterfowl conservation                                  | 20.0%                          | 18.3% | 21.7%         | 21.1% | 200/1,000                 | 86/470  | 82/378        | 32/152 |
| Volunteered my personal time and effort to conserve wetlands/waterfowl                   | 20.3%                          | 18.8% | 21.0%         | 23.0% | 202/997                   | 88/469  | 79/376        | 35/152 |
| Contacted elected officials or government agencies about wetlands/waterfowl conservation | 20.3%                          | 20.2% | 21.2%         | 18.4% | 203/1,000                 | 95/470  | 80/378        | 28/152 |
| Voted for candidates or ballot issues to support wetlands/waterfowl conservation         | 46.9%                          | 47.7% | 45.2%         | 48.0% | 467/996                   | 224/467 | 171/378       | 72/151 |
| Advocated for political action to conserve wetlands/waterfowl                            | 34.2%                          | 36.0% | 33.5%         | 30.7% | 340/993                   | 168/467 | 126/376       | 46/150 |

**Table 95.** By residence: Preferred channels of information on nature-related topics (somewhat or very preferred).

| Information channel                                     | Current residence (percentage) |       |               |       | Current residence (count) |         |               |        |
|---------------------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------|---------------|--------|
|                                                         | All                            | Urban | Urban cluster | Rural | All                       | Urban   | Urban cluster | Rural  |
| Receive or follow online communications                 | 42.4%                          | 41.7% | 43.3%         | 42.2% | 356/840                   | 166/398 | 136/314       | 54/128 |
| Read or access online content                           | 63.7%                          | 63.2% | 64.6%         | 62.8% | 536/842                   | 252/399 | 203/314       | 81/129 |
| Read printed publications                               | 58.7%                          | 54.3% | 63.6%         | 60.3% | 496/845                   | 216/398 | 201/316       | 79/131 |
| Watch visual media online                               | 64.0%                          | 63.5% | 65.4%         | 62.0% | 540/844                   | 254/400 | 206/315       | 80/129 |
| Watch visual media through cable, satellite, or network | 67.1%                          | 63.7% | 71.3%         | 67.2% | 566/844                   | 254/399 | 224/314       | 88/131 |
| Listen to recorded audio media                          | 10.9%                          | 12.6% | 11.2%         | 5.4%  | 92/841                    | 50/398  | 35/313        | 7/130  |
| Listen to live audio media                              | 23.2%                          | 23.4% | 24.4%         | 19.8% | 185/796                   | 88/376  | 73/299        | 24/121 |
| Talk with other people about nature topics              | 57.9%                          | 54.6% | 61.0%         | 60.3% | 490/847                   | 219/401 | 192/315       | 79/131 |
| Through personal experience                             | 68.3%                          | 65.8% | 70.9%         | 69.8% | 534/782                   | 246/374 | 207/292       | 81/116 |
| Attend educational opportunities                        | 19.8%                          | 19.7% | 20.1%         | 19.4% | 166/838                   | 78/396  | 63/313        | 25/129 |



**Table 96.** By residence: Level of trust in information sources when looking for information on nature-related topics.

| Source                                 | Response                    | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|----------------------------------------|-----------------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                                        |                             | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Federal government                     | Do not trust/trust a little | 27.4%                          | 25.3% | 24.8%         | 40.2% | 237                       | 104   | 80            | 53    |
|                                        | Trust somewhat              | 34.0%                          | 29.0% | 39.4%         | 36.4% | 294                       | 119   | 127           | 48    |
|                                        | Trust a lot/completely      | 38.6%                          | 45.7% | 35.7%         | 23.5% | 334                       | 188   | 115           | 31    |
| State government                       | Do not trust/trust a little | 21.4%                          | 18.3% | 21.1%         | 32.1% | 185                       | 75    | 68            | 42    |
|                                        | Trust somewhat              | 34.0%                          | 32.7% | 35.4%         | 34.4% | 293                       | 134   | 114           | 45    |
|                                        | Trust a lot/completely      | 44.6%                          | 49.0% | 43.5%         | 33.6% | 385                       | 201   | 140           | 44    |
| Local government                       | Do not trust/trust a little | 18.6%                          | 17.6% | 15.6%         | 29.7% | 161                       | 72    | 51            | 38    |
|                                        | Trust somewhat              | 35.8%                          | 34.6% | 37.1%         | 35.9% | 309                       | 142   | 121           | 46    |
|                                        | Trust a lot/completely      | 45.6%                          | 47.8% | 47.2%         | 34.4% | 394                       | 196   | 154           | 44    |
| Conservation groups                    | Do not trust/trust a little | 16.0%                          | 15.5% | 12.3%         | 26.3% | 139                       | 64    | 40            | 35    |
|                                        | Trust somewhat              | 30.3%                          | 28.4% | 33.6%         | 27.8% | 263                       | 117   | 109           | 37    |
|                                        | Trust a lot/completely      | 53.7%                          | 56.1% | 54.0%         | 45.9% | 467                       | 231   | 175           | 61    |
| Universities/educational organizations | Do not trust/trust a little | 15.0%                          | 11.3% | 16.0%         | 23.7% | 130                       | 46    | 52            | 32    |
|                                        | Trust somewhat              | 24.5%                          | 24.6% | 25.3%         | 22.2% | 212                       | 100   | 82            | 30    |
|                                        | Trust a lot/completely      | 60.5%                          | 64.0% | 58.6%         | 54.1% | 523                       | 260   | 190           | 73    |
| National media/news                    | Do not trust/trust a little | 43.4%                          | 37.9% | 43.5%         | 59.8% | 375                       | 155   | 141           | 79    |
|                                        | Trust somewhat              | 37.5%                          | 39.6% | 38.0%         | 29.5% | 324                       | 162   | 123           | 39    |
|                                        | Trust a lot/completely      | 19.2%                          | 22.5% | 18.5%         | 10.6% | 166                       | 92    | 60            | 14    |
| Local media/news                       | Do not trust/trust a little | 35.5%                          | 34.5% | 33.4%         | 44.2% | 305                       | 140   | 108           | 57    |
|                                        | Trust somewhat              | 41.1%                          | 40.9% | 42.4%         | 38.8% | 353                       | 166   | 137           | 50    |
|                                        | Trust a lot/completely      | 23.3%                          | 24.6% | 24.1%         | 17.1% | 200                       | 100   | 78            | 22    |
| Friends, family, neighbors, colleagues | Do not trust/trust a little | 10.3%                          | 11.4% | 8.9%          | 10.4% | 90                        | 47    | 29            | 14    |
|                                        | Trust somewhat              | 31.3%                          | 34.7% | 28.0%         | 28.9% | 273                       | 143   | 91            | 39    |
|                                        | Trust a lot/completely      | 58.4%                          | 53.9% | 63.1%         | 60.7% | 509                       | 222   | 205           | 82    |
| Scientific organizations               | Do not trust/trust a little | 13.9%                          | 11.9% | 14.5%         | 18.5% | 121                       | 49    | 47            | 25    |
|                                        | Trust somewhat              | 24.9%                          | 23.6% | 24.6%         | 29.6% | 217                       | 97    | 80            | 40    |
|                                        | Trust a lot/completely      | 61.2%                          | 64.5% | 60.9%         | 51.9% | 533                       | 265   | 198           | 70    |
| Religious organizations                | Do not trust/trust a little | 47.1%                          | 50.0% | 43.4%         | 47.3% | 404                       | 203   | 139           | 62    |
|                                        | Trust somewhat              | 32.1%                          | 32.8% | 32.5%         | 29.0% | 275                       | 133   | 104           | 38    |
|                                        | Trust a lot/completely      | 20.8%                          | 17.2% | 24.1%         | 23.7% | 178                       | 70    | 77            | 31    |

**Table 97.** By residence: Knowledge of wetlands in the local community and wetlands visitation in the previous 12 months.

| Survey item                        | Response   | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|------------------------------------|------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                                    |            | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| I know of wetlands in my community | Yes        | 78.6%                          | 76.3% | 78.3%         | 86.1% | 777                       | 354   | 293           | 130   |
|                                    | No         | 11.7%                          | 13.1% | 11.5%         | 7.9%  | 116                       | 61    | 43            | 12    |
|                                    | Don't know | 9.7%                           | 10.6% | 10.2%         | 6.0%  | 96                        | 49    | 38            | 9     |
| I've visited wetlands              | Yes        | 57.5%                          | 54.8% | 58.6%         | 62.9% | 569                       | 256   | 218           | 95    |
|                                    | No         | 42.5%                          | 45.2% | 41.4%         | 37.1% | 421                       | 211   | 154           | 56    |

**Table 98.** By residence: Purpose(s) of wetlands visit(s), for those who had visited wetlands in the previous 12 months.  
[Percentages do not sum to 100 because some people had multiple purposes]

| Purpose of visit                                        | Current residence (percentage) |       |               |       | Current residence (count) |               |                       |              |
|---------------------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------------|-----------------------|--------------|
|                                                         | All                            | Urban | Urban cluster | Rural | All (n=587)               | Urban (n=262) | Urban cluster (n=226) | Rural (n=99) |
| Enjoying nature/picnicking/<br>nature photography       | 70.2%                          | 70.2% | 70.4%         | 69.7% | 412                       | 184           | 159                   | 69           |
| Walking/dog walking/<br>hiking/biking                   | 73.1%                          | 77.1% | 72.1%         | 64.6% | 429                       | 202           | 163                   | 64           |
| Boating                                                 | 26.4%                          | 25.2% | 27.0%         | 28.3% | 155                       | 66            | 61                    | 28           |
| Wildlife viewing/ birdwatching/<br>wildlife photography | 49.6%                          | 51.5% | 45.6%         | 53.5% | 291                       | 135           | 103                   | 53           |
| Fishing                                                 | 34.4%                          | 29.0% | 35.0%         | 47.5% | 202                       | 76            | 79                    | 47           |
| Hunting                                                 | 18.2%                          | 10.7% | 18.6%         | 37.4% | 107                       | 28            | 42                    | 37           |
| Other                                                   | 11.1%                          | 8.4%  | 10.2%         | 20.2% | 65                        | 22            | 23                    | 20           |

**Table 99.** By residence: Percent of respondents who would be somewhat or very concerned about ecosystem services being reduced or lost if wetlands were to disappear or be degraded.

| Ecosystem service                                  | Current residence (percentage) |       |               |       | Current residence (count) |         |               |         |
|----------------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------|---------------|---------|
|                                                    | All                            | Urban | Urban cluster | Rural | All                       | Urban   | Urban cluster | Rural   |
| Flooding protection                                | 81.4%                          | 84.7% | 80.0%         | 75.0% | 801/984                   | 387/457 | 300/375       | 114/152 |
| Erosion protection                                 | 83.2%                          | 85.0% | 82.8%         | 78.8% | 817/982                   | 390/459 | 308/372       | 119/151 |
| Wildlife viewing and birdwatching                  | 74.3%                          | 75.4% | 72.3%         | 75.7% | 724/975                   | 343/455 | 266/368       | 115/152 |
| Hunting opportunities                              | 40.5%                          | 32.8% | 43.9%         | 55.3% | 397/981                   | 150/457 | 164/374       | 83/150  |
| Storage of greenhouse gases, such as carbon        | 68.5%                          | 73.1% | 67.8%         | 56.3% | 667/974                   | 331/453 | 251/370       | 85/151  |
| Clean water                                        | 90.1%                          | 92.4% | 89.4%         | 84.9% | 889/987                   | 423/458 | 337/377       | 129/152 |
| Clean air                                          | 90.0%                          | 92.1% | 89.7%         | 84.2% | 889/988                   | 422/458 | 339/378       | 128/152 |
| Providing a home for wildlife                      | 88.1%                          | 88.0% | 89.1%         | 85.6% | 871/989                   | 405/460 | 335/376       | 131/153 |
| Providing a home for pollinators                   | 89.4%                          | 90.4% | 90.5%         | 83.7% | 884/989                   | 414/458 | 342/378       | 128/153 |
| Scenic places for inspiration or spiritual renewal | 70.0%                          | 73.4% | 68.2%         | 64.1% | 690/986                   | 337/459 | 255/374       | 98/153  |

**Table 100.** By residence: Ecosystem services about which respondents were most concerned and least concerned.

| Ecosystem service             |                                                    | Current residence (percentage) |       |               |       | Current residence (count) |               |                       |               |
|-------------------------------|----------------------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|---------------|-----------------------|---------------|
|                               |                                                    | All                            | Urban | Urban cluster | Rural | All (n=837)               | Urban (n=396) | Urban cluster (n=315) | Rural (n=126) |
| Benefit most concerned about  | Flooding protection                                | 13.1%                          | 15.2% | 10.5%         | 13.5% | 110                       | 60            | 33                    | 17            |
|                               | Erosion protection                                 | 2.7%                           | 2.0%  | 3.2%          | 4.0%  | 23                        | 8             | 10                    | 5             |
|                               | Wildlife viewing and birdwatching                  | 2.5%                           | 2.5%  | 2.5%          | 2.4%  | 21                        | 10            | 8                     | 3             |
|                               | Hunting opportunities                              | 5.6%                           | 4.0%  | 5.7%          | 10.3% | 47                        | 16            | 18                    | 13            |
|                               | Storage of greenhouse gases, such as carbon        | 3.6%                           | 4.3%  | 1.9%          | 5.6%  | 30                        | 17            | 6                     | 7             |
|                               | Clean water                                        | 30.7%                          | 29.8% | 34.9%         | 23.0% | 257                       | 118           | 110                   | 29            |
|                               | Clean air                                          | 8.5%                           | 9.3%  | 8.9%          | 4.8%  | 71                        | 37            | 28                    | 6             |
|                               | Providing a home for wildlife                      | 19.8%                          | 20.2% | 19.0%         | 20.6% | 166                       | 80            | 60                    | 26            |
|                               | Providing a home for pollinators                   | 11.0%                          | 10.1% | 11.1%         | 13.5% | 92                        | 40            | 35                    | 17            |
|                               | Scenic places for inspiration or spiritual renewal | 2.4%                           | 2.5%  | 2.2%          | 2.4%  | 20                        | 10            | 7                     | 3             |
| Ecosystem service             |                                                    | All                            | Urban | Urban cluster | Rural | All (n=817)               | Urban (380)   | Urban cluster (n=312) | Rural (n=125) |
| Benefit least concerned about | Flooding protection                                | 4.7%                           | 3.9%  | 4.5%          | 7.2%  | 38                        | 15            | 14                    | 9             |
|                               | Erosion protection                                 | 1.5%                           | 1.6%  | 1.0%          | 2.4%  | 12                        | 6             | 3                     | 3             |
|                               | Wildlife viewing and birdwatching                  | 5.9%                           | 5.8%  | 6.4%          | 4.8%  | 48                        | 22            | 20                    | 6             |
|                               | Hunting opportunities                              | 53.0%                          | 60.5% | 52.2%         | 32.0% | 433                       | 230           | 163                   | 40            |
|                               | Storage of greenhouse gases, such as carbon        | 10.3%                          | 8.2%  | 10.9%         | 15.2% | 84                        | 31            | 34                    | 19            |
|                               | Clean water                                        | 0.2%                           | 0.0%  | 0.3%          | 0.8%  | 2                         | 0             | 1                     | 1             |
|                               | Clean air                                          | 0.4%                           | 0.3%  | 0.3%          | 0.8%  | 3                         | 1             | 1                     | 1             |
|                               | Providing a home for wildlife                      | 0.5%                           | 0.3%  | 0.3%          | 1.6%  | 4                         | 1             | 1                     | 2             |
|                               | Providing a home for pollinators                   | 1.0%                           | 0.5%  | 1.3%          | 1.6%  | 8                         | 2             | 4                     | 2             |
|                               | Scenic places for inspiration or spiritual renewal | 22.6%                          | 18.9% | 22.8%         | 33.6% | 185                       | 72            | 71                    | 42            |

**Table 101.** By residence: Demographic data.  
[% , percent; pop., population]

| Demographic category |                                    | Current residence (percentage) |       |               |       | Current residence (count) |       |               |       |
|----------------------|------------------------------------|--------------------------------|-------|---------------|-------|---------------------------|-------|---------------|-------|
|                      |                                    | All                            | Urban | Urban cluster | Rural | All                       | Urban | Urban cluster | Rural |
| Age                  | 18–44 (% of adults)                | 21.4%                          | 22.5% | 22.5%         | 15.5% | 212                       | 104   | 84            | 24    |
|                      | 45–64 (% of adults)                | 45.8%                          | 47.2% | 43.7%         | 46.5% | 453                       | 218   | 163           | 72    |
|                      | 65+ (% of adults)                  | 32.8%                          | 30.3% | 33.8%         | 38.1% | 325                       | 140   | 126           | 59    |
| Gender               | Male                               | 65.5%                          | 64.2% | 61.5%         | 79.4% | 657                       | 301   | 233           | 123   |
|                      | Female                             | 34.5%                          | 35.8% | 38.5%         | 20.6% | 346                       | 168   | 146           | 32    |
| Education            | High school degree or less         | 17.2%                          | 11.9% | 19.4%         | 27.9% | 173                       | 56    | 74            | 43    |
|                      | Some college or associate's degree | 30.3%                          | 30.6% | 30.9%         | 27.9% | 305                       | 144   | 118           | 43    |
|                      | Bachelor's degree                  | 26.9%                          | 29.9% | 24.9%         | 22.7% | 271                       | 141   | 95            | 35    |
|                      | Graduate degree                    | 25.6%                          | 27.6% | 24.9%         | 21.4% | 258                       | 130   | 95            | 33    |
| Childhood residence  | Urban (pop. 50,000+)               | 44.7%                          | 64.9% | 27.6%         | 24.8% | 442                       | 302   | 102           | 38    |
|                      | Urban cluster (pop. 2,500–50,000)  | 36.9%                          | 24.7% | 58.6%         | 21.6% | 365                       | 115   | 217           | 33    |
|                      | Rural (pop. <2,500)                | 18.3%                          | 10.3% | 13.8%         | 53.6% | 181                       | 48    | 51            | 82    |
| Ethnicity            | Hispanic                           | 5.5%                           | 6.8%  | 4.7%          | 3.4%  | 53                        | 31    | 12            | 5     |
|                      | Not Hispanic                       | 94.5%                          | 93.2% | 95.3%         | 96.6% | 916                       | 426   | 347           | 143   |
| Race                 | White (only)                       | 86.4%                          | 83.6% | 88.1%         | 90.7% | 846                       | 383   | 327           | 136   |
|                      | Not White or 2+                    | 13.6%                          | 16.4% | 11.9%         | 9.3%  | 133                       | 75    | 44            | 14    |

