

# Outdoor Enthusiasts' Perceptions of Hunting and Animal Welfare

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## Executive Summary

Researchers in the Department of Agricultural Economics at Purdue University conducted an online survey of 872 outdoor enthusiasts from across the United States with regard to their outdoor activities, views on animal welfare, and perceptions of food safety for a variety of domestic and wild animals. Outdoor enthusiasts are individuals who regularly fish, hunt or participate in other outdoor activities such as hiking and/or camping. Of those surveyed, 63 percent regularly fished, 27 percent regularly hunted and 79 percent regularly participated in other outdoor activities. Thirty-eight percent of respondents indicated they had altered their meat consumption in response to food safety concerns, while 32 percent indicated they had done so in response to animal welfare concerns. Most respondents, 93 percent, agreed with hunting to obtain food, and 95 percent agreed with fishing to obtain food. More than half of respondents reported being concerned for the welfare of bison, beef cattle and dairy cattle. Meanwhile, one quarter or more of respondents were unconcerned with the welfare of deer, feral pigs, farmed pigs, chickens, wild turkey and catfish.

**Keywords:** consumer perceptions, animal welfare, hunting practices

## Introduction

Consumers care about how their food is produced including the treatment of livestock and the social and environmental impacts of food production (McKendree et al., 2013; Olynk, Tonsor, and Wolf, 2010; Tonsor et al., 2005; Olynk, Wolf, and Tonsor, 2009). In fact, consumers link the treatment and handling of livestock animals to the food safety of meat and dairy products (Wolf, Tonsor and Olynk, 2011). Past research has focused on consumer demographics related to sentiments toward animal welfare and the willingness to pay for animal welfare attributes. Few people raise animals for food, but consumers interact with animals in other ways. For example, 36.5 percent of U.S. households have dogs, and 30.4 percent have cats, in addition to many other companion animals (American Veterinary Medical Association, 2014). McKendree (2014) found that pet ownership and concern for domestic food animal welfare are linked.

Additionally, people may come into contact with wild animals through activities like fishing, hunting or enjoying other outdoor activities. According to the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, 14 percent of U.S. residents age 16 and older participated in fishing; 6 percent participated in hunting; and 30 percent participated in wildlife watching (U.S. Dept. of the Interior et al., 2011). In fact, there are 33.1 million anglers, 13.7 million hunters and 71.8 million wildlife watchers in the United States. Meanwhile, less than 1 percent of Americans list farming as their occupation, and 2 percent of Americans live on a farm (USDA, 2014). Hunters and anglers are unique in that they are directly involved with the capture, slaughter and often processing of wild animals into food or other products. With more people fishing and hunting than farming, outdoor enthusiasts are an important link in understanding consumer sentiments toward animal welfare and meat demand.

## Research Methods and Data

### Survey Instrument

Purdue University researchers administered an online survey in May 2014 to a sample of 872 self-reported outdoor enthusiasts to collect information about participation in outdoor activities, views on animal welfare and food safety, and perceptions of hunting and hunting practices.

Global Market Insite (GMI), a panel data provider that specializes in maintaining a large opt-in panel of consumers, recruited and contacted survey respondents. The research team used Qualtrics, an online survey platform, to administer the study. The researchers also targeted a sample that was approximately representative of the U.S. population, based on U.S. census data for gender, age, household income, education level and region of residence. Respondents had to be at least 18 years old and regularly participate in fishing, hunting or another outdoor activity such as hiking or camping.

Internet surveys are a popular means of gathering consumer data because they are less expensive and faster to administer than mail or phone surveys (Olynk, Tonsor, and Wolf, 2010). Internet survey results have been found not to differ significantly from conventional survey results (Fleming and Bowden, 2009; Marta-Pedrosa, Freitas and Domingos, 2007). Likewise, attitudes of mail and Internet respondents did not differ on the topics of land management, wildlife value (Carrozzino-Lyon, McMullin, and Parkhurst, 2013) or conservation (Graefe et al., 2011). Further, the results of Internet surveys were similar to mail surveys among licensed hunters (Lesser, Yang, and Newton, 2011).

### Sample Summary Statistics and Demographics

**Table 1** presents the demographic data of the 872 survey respondents. They had a mean age of 47, and half of them, 50 percent, were male. The mean household income, after conversion to a continuous variable, was \$59,495, which is slightly above the median household income of \$53,046 (U.S. Census Bureau, 2014). Nearly all respondents, 99 percent, graduated high school, and 42 percent earned at

**Table 1: Respondent Demographics (n=872)**

Demographic Variable	Value
<b>Mean Age of Respondents</b>	47
<b>Male</b>	50%
<b>Education</b>	
Did not graduate from high school	1%
Graduated from high school, did not attend college	21%
Attended college, no degree earned	21%
Attended college, associate or trade degree earned	14%
Attended college, bachelor's degree earned	29%
Attended college, graduate or advanced degree earned (MS, Ph.D., JD)	13%
<b>Annual Household Pretax Income</b>	
Less than \$20,000	14%
\$20,000-\$39,999	22%
\$40,000-\$59,999	21%
\$60,000-\$79,999	17%
\$80,000-\$99,999	10%
\$100,000-\$119,999	6%
\$120,000 or more	11%
<b>Region of Residence</b>	
Northeast	17%
South	33%
Midwest	26%
West	25%
<b>Race</b>	
White, Caucasian	84%
Black, African American	6%
Asian, Pacific Islander	4%
Mexican, Latino	3%
American Indian	1%
Other	1%
<b>Political Affiliation</b>	
Democratic Party	32%
Republican Party	28%
Independent	31%
None of the above	9%

least a bachelor’s degree. According to the most recent census, 85.7 percent of Americans age 25 and older have graduated high school, and 28.5 percent of respondents have at least a bachelor’s degree (U.S. Census Bureau, 2014). The mean household size of 2.62 persons is nearly equal to the U.S. average of 2.61 persons (U.S. Census Bureau, 2014).

Respondents reported spending an average of \$219.22 per week on food, with an average of 80 percent spent on food consumed at home and 20 percent spent on food consumed away from home. The survey also asked respondents about other life events that may affect food purchasing or participation in outdoor activities. More than 10 percent of respondents said that someone in their household had lost his or her job in the last six months; 21 percent reported that a member of the household had experienced serious financial distress in the past six months. Finally, 6 percent of respondents indicated that a household member was currently pregnant or had been pregnant in the last year.

Whether a respondent consumes meat and/or milk products could also be related to his or her sentiments toward animal welfare and hunting. Six percent of respondents reported being vegetarian, and 4 percent said a member of their household was vegetarian. In addition, 4 percent of respondents reported being vegan, and 2 percent said a member of their household was vegan.

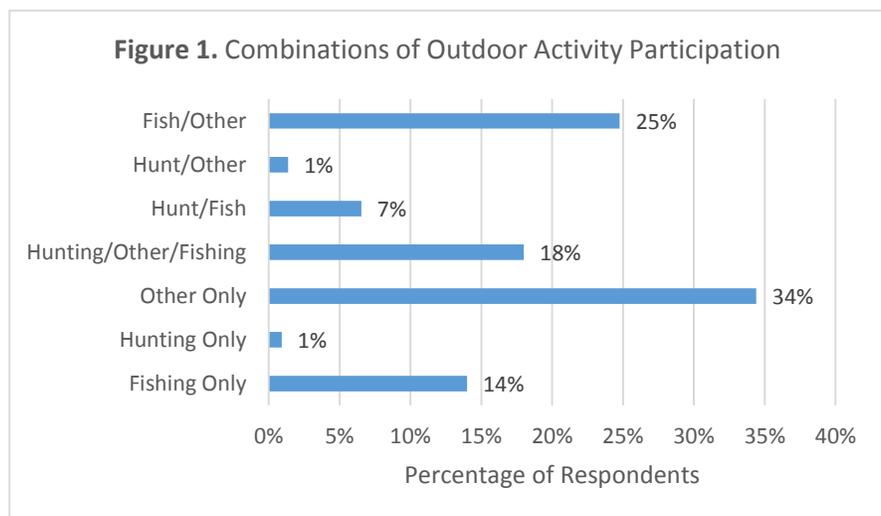
Interactions with animals can be related to sentiments about animal welfare. Previous research has discovered that pet owners are more likely to report being concerned about the welfare of farmed pigs (McKendree et al., 2014). Likewise, a study found that cat owners were less likely to approve of lethal control of coyote populations, but owning a dog had the opposite effect (Martinez-Espineira, 2006). In the current research, 70 percent of households reported owning a pet (at least one cat or dog). Specifically, 54 percent owned at least one dog, and 46 percent of households reported owning at least one cat.

## Results and Discussion

### *Participation in Fishing, Hunting and Other Outdoor Activities*

Respondents’ outdoor activities were of particular interest to this research study. Sixty-three percent of respondents indicated that they regularly fish, while 27 percent regularly hunt. Seventy-nine percent of respondents reported they regularly participate in other outdoor activities such as camping or hiking. The survey allowed respondents to choose more than one outdoor activity.

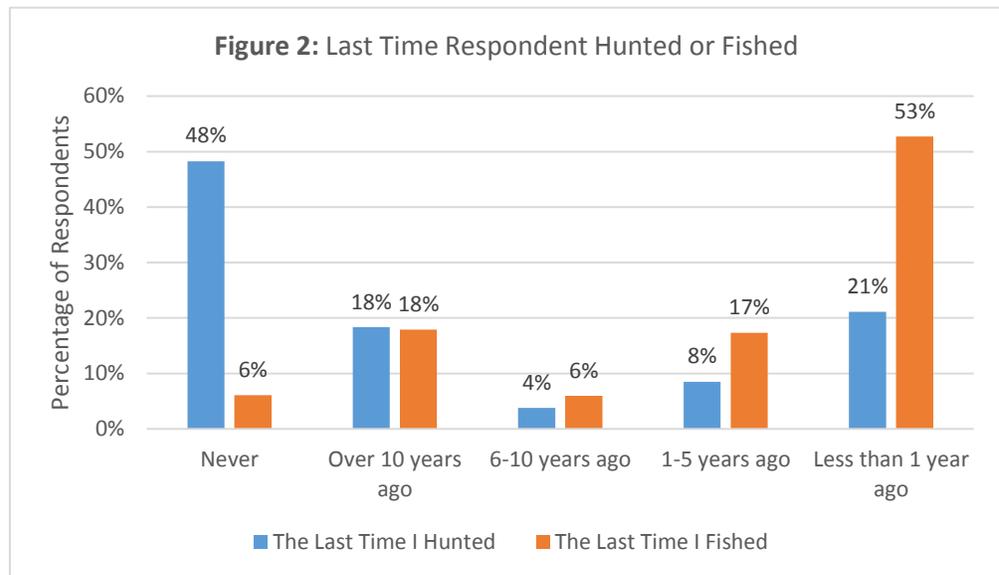
**Figure 1** shows the combinations of activities respondents participated in. The largest percentage of respondents, 34 percent, reported only participating in outdoor activities other than hunting or fishing. Twenty-five percent of respondents regularly participated in fishing and other activities. Eighteen percent of



respondents indicated regular participation in all outdoor activities in this survey; most hunters fell into this category.

Regardless of whether they reported regularly hunting and fishing or not, the survey asked respondents when they last hunted or fished.

**Figure 2** shows the results of this question. Nearly half of respondents, 48 percent, said they had never hunted; 6 percent said they had never fished. Twenty-one percent of respondents reported having hunted in the last year; meanwhile,

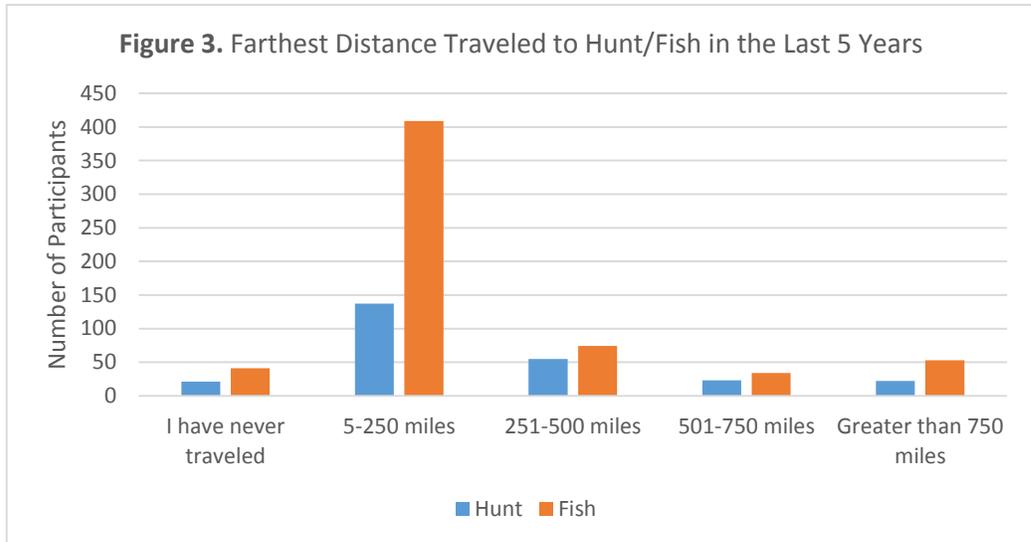


53 percent stated they had fished in the past year. When these categories are aggregated, 30 percent of respondents have hunted in the past five years, and 70 percent of respondents have fished in the past five years. Putting current participation in hunting or fishing aside, it is conceivable that having participated in these activities at some point in time may be related to current sentiments toward animal welfare and food safety.

Of the respondents who had hunted at some point in their lives, 73 percent reported hunting on privately held land, and 52 percent hunted on public land. Of those hunting on privately held land, 28 percent said they owned the land; 38 percent stated they hunted on land owned by family; 52 percent reported hunting on land owned by friends; and 17 percent described the land being owned by a private hunting operation. Of those who had hunted in their lifetime, the majority, 81 percent, reported the meat obtained by hunting was consumed by someone in their household; 39 percent gave meat to a friend or family member living outside their household; and 25 percent stated they donated meat to charity. The survey allowed respondents to select multiple answers for these questions.

Respondents who hunted or fished in the past five years or less were asked the farthest they had traveled in the past five years.

**Figure 3** illustrates the results. The most common distance reported for either hunting or fishing was 5 to 250 miles. Of

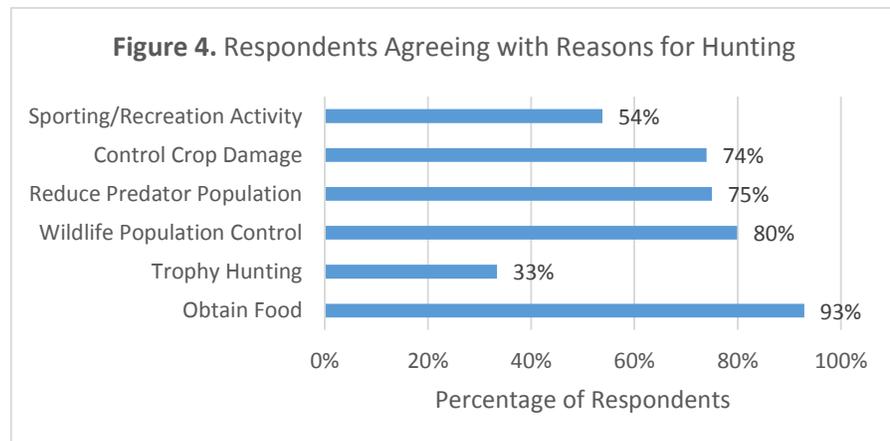


those who had hunted and fished in the past five years, 53 percent of hunters and 91 percent of anglers reported 5 to 250 miles as the maximum distance they had traveled. Therefore, most respondents traveled at least some distance to take part in hunting or fishing activities.

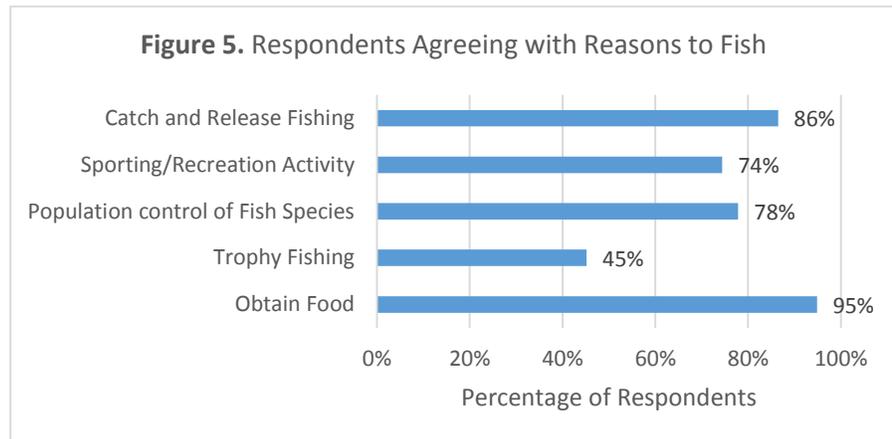
### ***Acceptance of Hunting and Hunting Practices***

Researchers asked respondents whether or not they agreed with various reasons that people give for hunting or fishing. **Figure 4** shows the number of respondents agreeing with various reasons for hunting.

**Figure 5** shows the same for fishing. Ninety-three percent of respondents agreed that obtaining food is an acceptable reason to hunt. Likewise, 95 percent agreed with fishing to obtain food. Thus, among this group of survey respondents, obtaining food is the most acceptable reason for hunting or fishing.

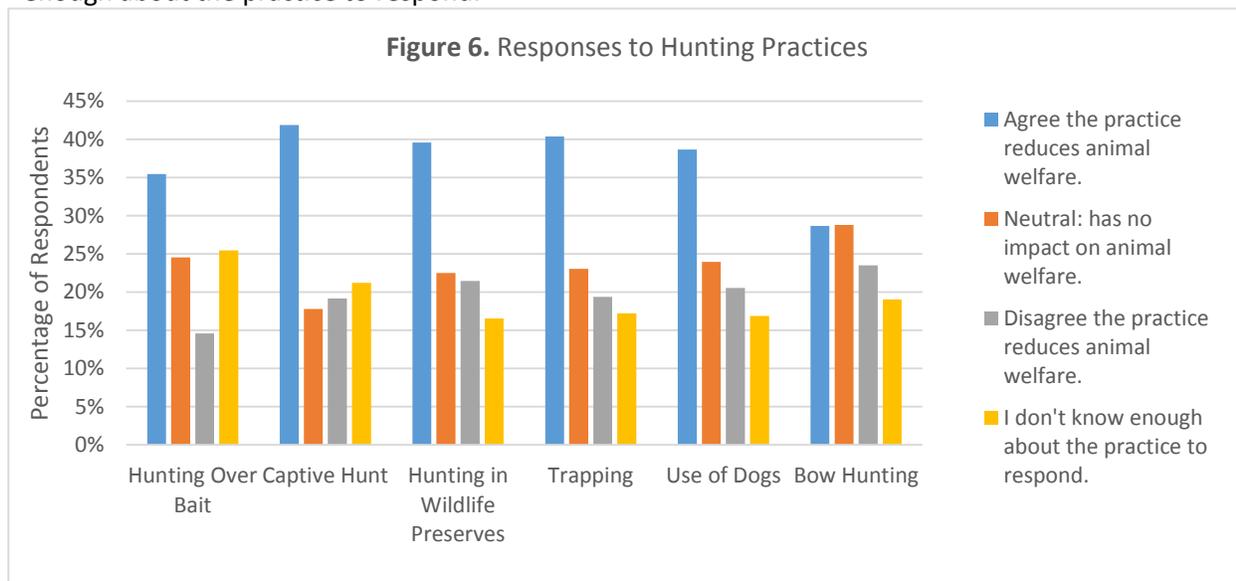


Controlling wildlife, reducing predator populations and controlling crop damage are the next most widely accepted reasons for hunting. These are followed by sporting/recreation, with 54 percent of respondents agreeing with it as a reason for hunting. Finally, only 33 percent of respondents agreed with trophy hunting as a reason.



A total of 86 percent of respondents agreed with catch and release fishing. Population control and sporting/recreation activity were the next most widely accepted reasons for fishing, with 78 percent and 74 percent of respondents agreeing respectively. Finally, only 45 percent of respondents agreed with trophy fishing as a reason to fish.

The survey also asked respondents whether they felt certain hunting practices reduced the welfare of hunted animals. **Figure 6** shows whether respondents agreed that the practices reduced animal welfare, thought the practice had no impact, disagreed that the practice reduced animal welfare or did not know enough about the practice to respond.

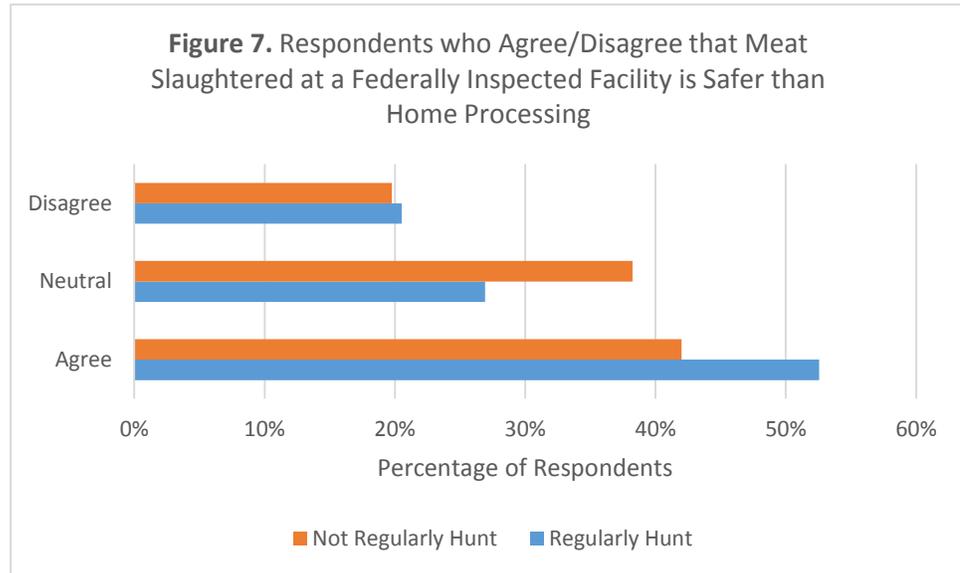


Thirty-five percent of respondents thought hunting over bait reduced animal welfare; 42 percent indicated that captive hunting reduced animal welfare; 40 percent said hunting in wildlife preserves and trapping reduced animal welfare; and 39 percent believed using dogs while hunting reduced animal welfare. However, only 29 percent of respondents thought bow hunting reduced the welfare of hunted animals. Bow hunting was the practice most respondents, 24 percent, reported disagreeing with in terms of it reducing animal welfare. Twenty-five percent of respondents indicated not knowing enough about hunting over bait to respond; likewise, 21 percent of respondents stated they did not know enough about captive hunts to respond.

## Wild Game and Fish Consumption and Processing

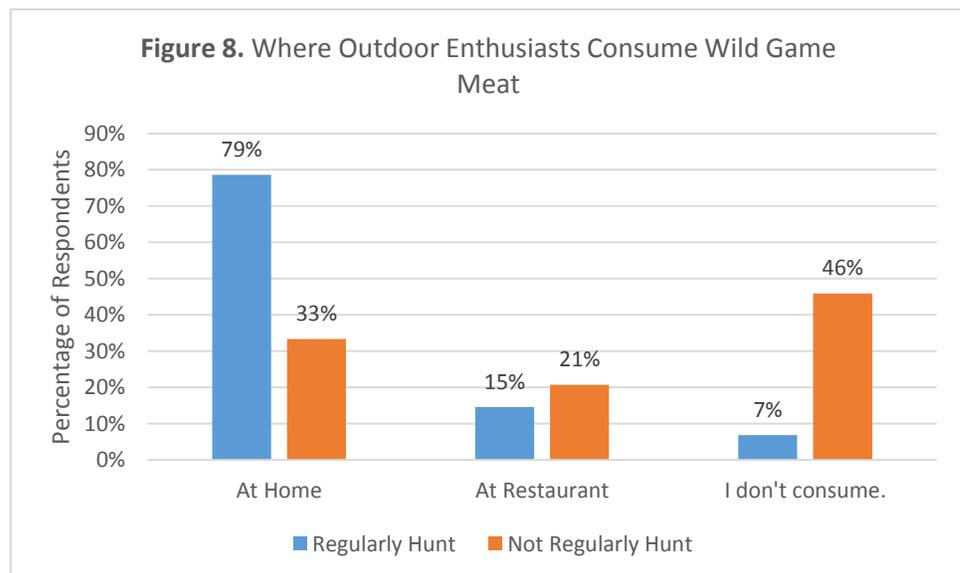
Those who hunt and fish are directly involved in the slaughter and often the processing of the animal into meat products. Respondents who stated they either consumed the wild game meat they hunted themselves or gave it to a friend/family member were asked who primarily processed the meat. Fifty-five percent reported they were the primary processors of the wild game meat; 25 percent said a friend/family member was the primary processor; and 20 percent indicated that they took wild game to a slaughterhouse for processing.

**Figure 7** illustrates answers to the question related to whether meat processed at a federal- or state-inspected facility is safer than home processing. Fifty-three percent of respondents who regularly hunted agreed with this statement versus only 42 percent of non-hunters. On the other hand, 38 percent of non-hunters neither agreed nor disagreed with this statement. Hunters are directly involved in the slaughter and often field dressing (process of removing an animal's internal organs) and processing the animal into cuts of usable meat. Thus, hunters are likely to be more familiar with the slaughter process of farmed animals and the potential for contamination during processing.



It is not surprising that consumption of wild game meat may differ depending on whether respondents were regular hunters. **Figure 8** shows where respondents were most likely to consume wild game meat.

Seventy-nine percent of regular hunters were most likely to consume wild game meat at home. This is likely due to the fact that most hunters would have access to wild game meat. Those who do not regularly hunt most likely don't consume wild game meat. However, 33 percent of respondents who did not regularly hunt

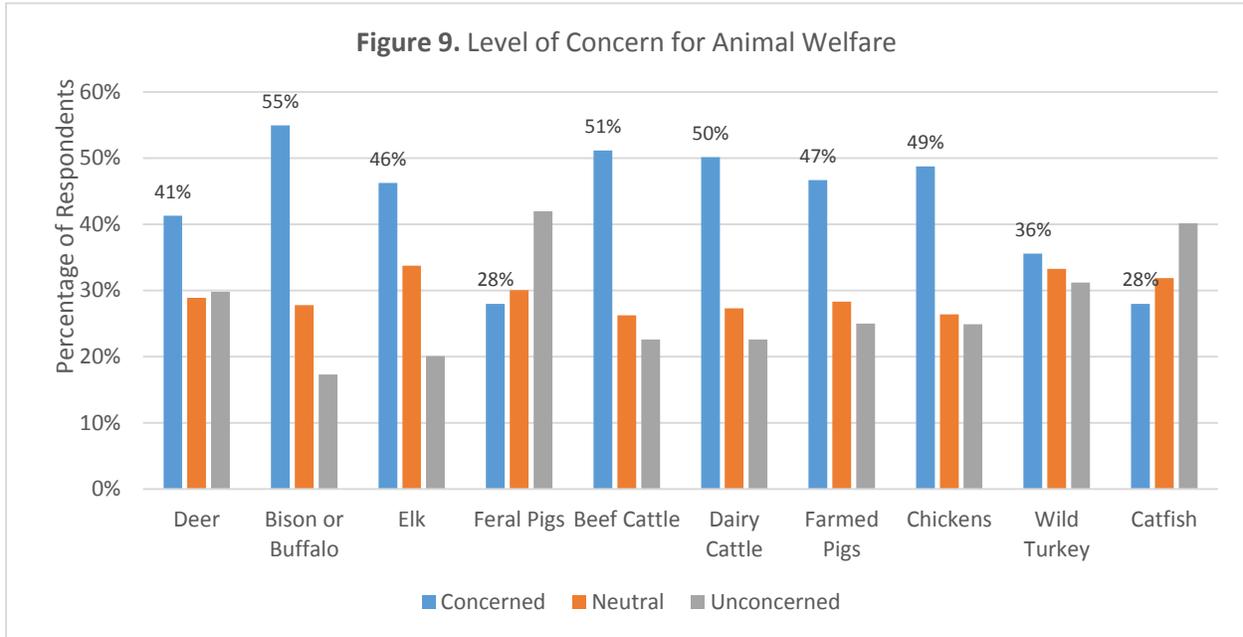


were most likely to consume wild game meat at home. Non-hunters were also more likely to consume wild game meat at a restaurant than those who regularly hunted. Overall, 19 percent of respondents were more likely to consume wild game in a restaurant. When asked why they were more likely to consume wild game meat in a restaurant, 30 percent of those respondents stated they did not like handling raw wild game meat; 22 percent felt they could not safely cook wild game meat; 39 percent did not know how to cook wild game meat; and 25 percent only ate game meat for special occasions. The survey allowed respondents to choose more than one reason.

Thirty-five percent of respondents stated they did not consume wild game meat. Of those respondents, 32 percent stated they did not have access to wild game meat; 16 percent did not feel wild game meat was safe to consume; 55 percent listed they did not hunt as a reason for not consuming wild game meat; and 53 percent did not like wild game meat.

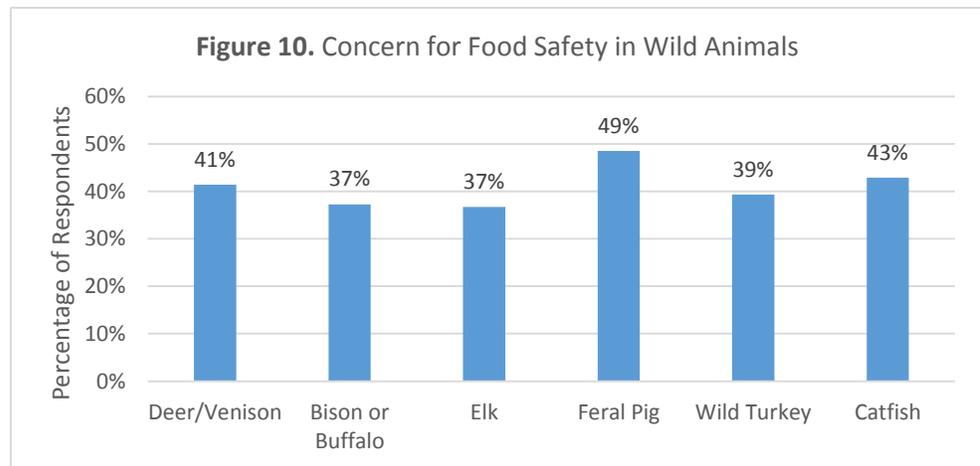
### Level of Concern for Animal Welfare and Food Safety in Farmed and Wild Species

The survey also asked respondents to state their level of concern for various species of wild and domestic animals. **Figure 9** depicts their responses. Fifty-five percent of respondents indicated concern with the welfare of bison, followed by 51 percent for beef cattle, 50 percent for dairy cattle and 49 percent for chickens. Forty-two percent of respondents were unconcerned for the welfare of feral pigs, and 40 percent of respondents were unconcerned for the welfare of catfish.

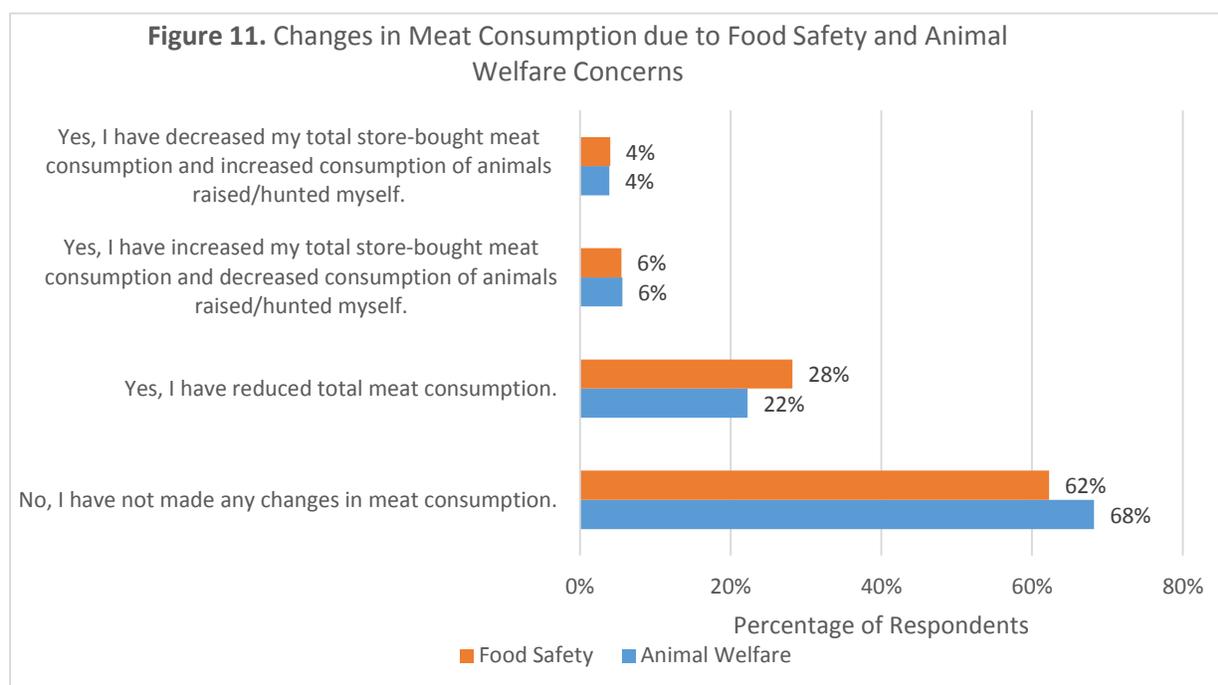


The survey asked respondents about their concern for food safety when consuming meat from several wild species. The results are shown in **Figure 10**. Nearly half of respondents, 49 percent, stated they were concerned with the food safety associated with consumption of feral pig. Yet, only 37 percent were concerned with the food safety associated with consumption of either bison or elk.

Finally, respondents also indicated whether they had changed their meat consumption patterns in response to food safety or animal welfare concerns. **Figure 11** shows the breakdown of responses. Overall, most people had not made any



changes in meat consumption. In fact, 62 percent of respondents stated they had not changed meat consumption due to food safety concerns, and 68 percent stated they had not changed their meat consumption patterns due to animal welfare concerns. Twenty-eight percent of respondents reduced total meat consumption due to food safety concerns, and 22 percent stated they had reduced their



meat consumption due to animal welfare concerns. Six percent of respondents stated they had increased consumption of store-bought meat and decreased consumption of hunted or raised animals due to food safety and animal welfare concerns. Likewise, 4 percent of respondents stated they had reduced their store-bought meat consumption and increased consumption of hunted or raised animals due to either food safety or animal welfare concerns.

## Conclusions and Implications

In general, consumers are concerned about how their food is produced. There has been a great deal of research into consumer sentiments for animal welfare in farm animals, the willingness to pay for farm animal welfare and the demographics related to concern for animal welfare. While few people raise animals for food or live on farms, far more people take part in hunting, fishing and observing wildlife. Although previous research linked pet ownership to increased concern for farm animal welfare (McKendree et al., 2014), the relationship of farm and wild animals in the minds of consumers has yet to be fully explored. Further, there is little information available about how consumers feel about wild animals and if there is concern for their welfare or the safety of consuming their meat.

More than 90 percent of respondents agreed with hunting to obtain food. Likewise, 95 percent of respondents agreed with fishing to obtain food. Despite the fact most people agreed with hunting for food, many respondents indicated concern for animal welfare. Fifty-five percent of respondents were concerned with the welfare of bison, 51 percent with the welfare of beef cattle and 50 percent with the welfare of dairy cattle. Fewer were concerned with the welfare of feral pigs and wild turkey, with 26 percent and 36 percent of respondents indicating they were concerned with the welfare of these animals respectively. When it came to the food safety concerns of consuming wild species, 49 percent were apprehensive about consuming feral pig. Likewise, 41 percent were concerned with consuming deer and 39 percent with wild turkey.

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