

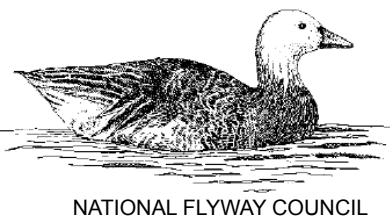
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# National Dove Hunter Survey 2013

National and Dove Management  
Unit Descriptive Statistics

July 2014



**DJCase**  
& associates

Note: This report contains descriptive statistics only. Additional analysis and modeling of survey results will be reported under separate cover.

## Foreword

Mourning doves are one of the most abundant and widely distributed game birds in the country, with hunting seasons established in 40 of the lower 48 states. Each year, about one-million dove hunters typically spend more than three-million days afield and harvest between 15-20 million mourning doves. Like many other migratory game bird hunters, dove hunters are a passionate group. Their rich hunting tradition coupled with a long history of wildlife conservation make mourning dove hunters, and their beliefs, especially important to wildlife managers throughout the country. The Cooperative National Dove Hunter Survey is a valuable opportunity to learn more about our dove hunting constituency.

This preliminary report provides a summary of hunter responses to the 26 questions on the survey. Although these results are interesting and insightful, the purpose of this report is to facilitate the prompt distribution of this information to cooperating agencies. Results from rigorous statistical analyses and modeling will be submitted for presentation in a peer-reviewed, scientific journal. This initial report is a first step in the all-important process of review and discussion among the Flyway Councils, the state fish and wildlife agencies, the U.S. Fish and Wildlife Service, other conservation partners, the outdoor media, and hunters themselves about what these results mean and how they can be used to inform future decisions about dove hunting and management in the United States.

Although several states have conducted similar surveys, their survey methodology and questions have differed, so results have not been directly comparable. This National Dove Hunter Survey is the first effort to ask a representative sample of dove hunters across the country to share their opinions on dove hunting and conservation issues. We were especially encouraged to learn that more than 12,000 dove hunters were willing to tell us about themselves, their time spent hunting, constraints to hunting, and their thoughts about the effects of spent lead ammunition on doves and perceptions of non-toxic shot.

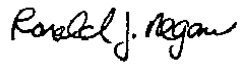
Results from this hunter survey will give wildlife and natural resources managers more science-based information about our hunter constituency, which will lead to more sound management and conservation of our migratory bird resources. Hunters' opinions are important and should be taken into consideration whenever possible.

Special recognition is due to the Pacific, Central, Mississippi, and Atlantic Flyway Councils and Technical Committees. This survey would not have been possible without their financial commitment and expertise. Thank you.



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Chief, Division of Migratory Bird Management  
U.S. Fish and Wildlife Service

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Summary Statistics Report



Ronald Regan  
Executive Director  
Association of Fish and Wildlife Agencies



Ronald Anglin  
President, National Flyway Council  
Wildlife Division Administrator  
Oregon Department of Fish & Wildlife

## Executive Summary

Hunter opinions, attitudes, and preferences should be incorporated into decision making when evaluating both regulations and species management. Management agencies wanted to learn more about dove hunter characteristics, their time spent hunting, perceived constraints to hunting, and attitudes and opinions about potential effects of spent lead from hunting ammunition on mourning doves and other wildlife.

In June 2013, this national survey was sent to randomly selected hunters (drawn from the Harvest Information Program (HIP) database) in 40 states with dove hunting seasons. The large sample (usually 800 per state) ensured that most results are applicable at the national, regional, (e.g., Dove Management Unit (DMU)) and state levels. Of the 30,382 surveys successfully delivered, 12,631 hunters responded (41.6% response rate). The rounded margin of error for national estimates is 1%, and for DMU estimates, 2% (95% confidence level). This report contains simple frequency analysis of hunter responses to the survey questions and serves to facilitate the timely distribution of this information to cooperating agencies. A more detailed information-theoretic analysis is being conducted and will be submitted for publication separately in a peer-reviewed, scientific journal.

On average, dove hunters are white males, 45 years of age and older, who live in small towns/cities or rural areas (more western hunters live in large cities or urban areas than eastern or central U.S. hunters). They are well educated (over 70% had at least some college) with higher-than-average income (over half make \$75,000 or more per year). Most dove hunters describe their occupation as professional/managerial, retired, or skilled trade.

Dove hunting is very important to many hunters and most surveyed had been hunting for 20 years or more. The majority of dove hunters harvest fewer than 30 birds per season (although about six percent harvest more than 100), but nearly half of the respondents said dove hunting was “one of my most important recreational activities” or “my most important recreational activity.”

Nationally, most participants hunt only on private land or mostly on private land, with a majority of respondents traveling 50 miles or more to get to their hunting spot (10% having traveled to another country to hunt doves).

The majority indicated they hunt “occasionally throughout the dove season” and spend \$50 or less on shotshells, but about a quarter hunt as many days as they can throughout the entire season, some expending “cases” of ammunition.

More than 85% of respondents “mostly” or “always” use lead shot to hunt doves, and the majority believe that lead shot substitutes are too expensive. In addition, more than half of respondents believe that non-lead shot doesn’t perform as well as lead for dove hunting, and will be hard to find in stores (although nearly 40% were neutral or didn’t know).

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Overall, there was a lot of uncertainty about the effects of lead on the health of doves and other wildlife, with only about 1 in 5 respondents indicating the concerns about lead shot consumption by wildlife have been explained to hunters; the other 4 of 5 hunters are either “neutral,” “don’t know,” or “agree” that explanation is lacking. For example, nearly half of respondents say they don’t know if eating lead pellets cause doves to die. Nearly half have concerns that non-lead shot cripples more doves than lead shot, but almost as many hunters answered either “don’t know” or “neutral.”

Forty percent of dove hunters say doves have such a short lifespan that exposure to lead makes practically no difference to the dove population (although 11% disagreed and 28% didn’t know), and half felt that the United States could not limit health effects of lead on dove populations because countries south of the U.S.-Mexico border have no lead shot restrictions (although 49% were neutral or didn’t know).

Requiring the use of non-lead shot could have significant impacts on hunter participation. Thirty-six percent agreed they would “probably quit hunting doves if required to use non-lead shot” (39% disagreed). Almost 50% thought requiring non-lead shot would reduce the number of young people recruited to hunting. Nearly half said they would probably reduce the number of trips they take to go dove hunting if required to use non-lead shot.

Overall, given what they know right now, two-thirds of dove hunters oppose a requirement for use of non-lead shot (9% support it and 25% are neutral or don’t know), with about half of them believing efforts to restrict lead ammunition is a tactic by animal rights groups to eliminate hunting and/or a tactic by gun control advocates to encroach on gun ownership rights (roughly one-third of respondents answered “neutral” or “don’t know” to both statements).

As usual, most hunters are willing to take significant actions for conservation if they are convinced of the need. Fifty-four percent agreed they would be willing to use non-lead shot if scientific evidence showed the dove population was being harmed by eating lead pellets (22% disagreed and 23% were neutral or didn’t know). This concern extended beyond the dove population to other wildlife as well. Fifty-nine percent said they would use non-lead shot if they thought it would help wildlife (17% disagreed and 24% were neutral or didn’t know). Regarding management agencies, 49% agreed that “If scientific evidence identifies negative impacts of lead shot on dove populations, then wildlife agencies have a responsibility to take appropriate action to conserve dove populations” (20% disagreed and 30% were neutral or didn’t know).

Respondents noted a number of other hindrances to their dove hunting that have become more of a problem over the past five years, including cost of gasoline (75% said it was more of a problem), cost of shotshells (60%), cost of gear other than shotshells (45%), and cost of hunting permits (36%).

To be effective when communicating with dove hunters, information needs to come from trusted sources and be accessible. Respondents indicated they largely trust avid/experienced dove hunters to represent the interest of dove hunters and they rely mostly upon friends/family and the Internet for hunting information. Dove hunters have only a “medium” level of trust for game wardens, hunting organizations, wildlife biologists, hunting guides, ammunition manufacturers,

and hunting businesses. Outdoor writers and staff at sporting goods stores were between a “medium” and “low” level of trust.

This reflected in how hunters got their information about dove hunting, with 79% of hunters getting a lot or some information from friends and family (versus 13% from radio, 28% from newspapers, 32% from sporting goods stores, 36% from television, 47% from the U.S. Fish and Wildlife Service, 58% from the internet, 61% from their state wildlife agency and 64% from magazines).

Fewer than half the respondents were currently members of hunting/wildlife conservation organizations; only 15% were currently members of fishing/fish conservation organizations. Fewer than half were currently members of a gun rights/shooting sports organization, while only 5% were currently members of an environmental organization.

Dove hunters engage in other hunting, including upland birds (59%), small mammals (63%), waterfowl (61%) and big game (83%). Almost all dove hunters (94%) have also shot sporting clays.

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## Background of National Dove Hunter Survey (NDHS)

Dove hunting is a popular activity across most of the U.S. However, there has never been a national survey of dove hunters to explore their attitudes and opinions about this activity, such as how often they participate, where they hunt, harvest levels, impediments to hunting, and where they turn for information. Additionally, in recent years, hunters, wildlife viewers, conservation agencies and other groups have raised concerns about potential impacts of spent lead ammunition on wildlife. These concerns have prompted managers at all levels, from local wildlife areas to state agencies to national programs, to examine policies and educational efforts regarding the use of non-lead ammunition.

The U.S. Fish and Wildlife Service (Service), state wildlife agencies and many of their partners felt that discussions about national or statewide non-lead ammunition policy for dove hunting should be informed with input from dove hunters—such as through a national dove hunter survey (NDHS).

After several years of raising the necessary funds, the NDHS project was launched as a cooperative venture among the Association of Fish and Wildlife Agencies (AFWA), all four Flyway Councils (represented by the National Flyway Council), and the Service. Several individual states also provided funding, and DJ Case & Associates (DJ Case) was contracted to conduct the survey.

DJ Case worked with the dove management community, including the Mourning Dove Task Force and dove technical committees representing the 3 dove management units (Eastern, Central and Western DMUs) to develop the survey objectives, framework, hypotheses, models, and ultimately, the survey instrument. Steve Williams, President of the Wildlife Management Institute (WMI), served as a liaison between the management community and the ammunition manufacturing industry, to keep them informed of the process.

All stakeholders were asked to review and comment on the survey framework, models and instrument. A Comment Review Committee (CRC) was assembled to represent dove management interests from each DMU and the Service. This committee reviewed all comments, making decisions on whether/how to incorporate suggested edits into the draft survey to best represent dove management interests, and to assist the Service in responding to stakeholder input. Final survey objectives, models and the survey instrument were approved by all four Flyway Councils.

Prior to going to the field, the survey was vetted and approved within the Service, the Department of Interior, and the Office of Management and Budget (OMB) (in that order). A Notice of Intent to proceed with the survey was published in the *Federal Register* and on May 15, 2013, final approval was given for the survey to proceed. See Appendix A for final survey instrument.

## **NDHS Purpose**

Hunter opinions and preferences should be taken into account whenever possible in establishing hunting seasons, methods, and limits. The overall purpose of the NDHS was to ask dove hunters across the U.S. to share their experiences and opinions about dove hunting. Management agencies wanted to better understand dove hunter characteristics, their time spent hunting, perceived constraints to hunting, and attitudes and opinions about potential effects of spent lead from hunting ammunition on mourning doves and other wildlife.

Though several states have conducted related studies, the survey methods, questions, and objectives differed, so results have not been comparable. The large sample (usually 800 per state) of this national survey ensured that most results are applicable at the national, regional, (e.g., DMU) and state levels. Results will thus allow individual agencies to better understand and communicate issues concerning dove hunting to hunters and to make informed decisions when addressing dove hunting issues.

## **NDHS Theoretical Framework**

The survey was developed using an information-theoretic methodology (Anderson 2008) designed to address explicit objectives and reduce unnecessary questions. The survey was further refined with input from a wide range of technical experts and stakeholders. A detailed, information-theoretic analysis is underway and will be reported in a separate scientific manuscript for a peer-reviewed journal. This report, however, presents only basic summary information and a brief description of apparent relationships.

## Methods

A sample of 800 randomly selected dove hunters from each of 40 states that have dove-hunting seasons was drawn from the Harvest Information Program (HIP) database. Because of state legal constraints, the Service delivered Rhode Island surveys separately. In West Virginia and Wyoming, dove hunters available for contact fell short of 800, and North Carolina funded an oversample totaling 1,600 dove hunters.

DJ Case contracted the Assessment Resource Center (ARC) at the University of Missouri (MU) to print a four-page scannable survey instrument that was administered in three separate mail waves with no leading or ending postcards. The confidential HIP information was protected by limiting staff access to demographic information and by storing data on a secure server.

The Service pulled a sample of 37,813 names and addresses from the HIP database, which were sent to MU Campus Mail for “cleaning” using the National Change of Address database. From this up-to-date dataset, DJ Case randomly selected a sample of 30,650 dove hunters and ARC added a unique identification number (ID) for each name in the sample.

In May 2012, ARC staff prepared the Wave 1 packets, which consisted of the four-page survey with a unique barcode to identify the hunter, a dated cover letter, and a #9 business return mailer stuffed into an addressed #10 envelope marked with the same identification number used for the barcode on the matching survey. ARC also prepared 62 unaddressed packets for Rhode Island hunters, which were to be mailed by the Service. Near the end of May the Service decided to conduct additional review among key stakeholders before sending the survey to the field, so the project was temporarily postponed.

Work resumed in May, 2013. Rather than reprinting the cover letter and survey form, ARC added an insert to each packet explaining the 2012 date on the survey and cover letter. A new sample of hunters was drawn from the HIP database, and new mailing labels were printed and affixed. Because the number of hunters in the population increased over the previous year, the sample size increased from 30,650 in 2012 to 31,407 hunters. Packets were mailed as they were completed beginning on June 19, 2013.

Surveys that were returned with notes declining participation or with nothing marked are coded as “refusals.” Notes included in the return packet were saved and sent to DJ Case at the completion of the project. Damaged surveys were re-copied so they could be scanned and kept with the original identification number.

Wave 2 packets were sent to non-respondents on August 5-9, and Wave 3 packets were shipped September 26-October 3. The fate of surveys from all mail waves is detailed in Table 1.

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**Table 1: Fate of National Dove Hunter Surveys.**

<b>Wave 1 -Packet</b>	<b>Date Sent June-July 2013</b>	<b>Percentage</b>
Sent 6/19/13 thru 7/11/13*	31,407	100.0%
Completed and scanned 7/23/13	6,339	20.6%
<b>2012 Sample sent W1**</b>	7/11/13	
Sent W1 from 2012 sample	74	
Completions unique to 2012 sample	9	
Completions with respondent also in 2013 sample (and receiving all non-respondent waves)	3	
<b>Wave 2 - Packet</b>	<b>Date Sent Begins 8/5/13</b>	<b>Ends 8/9/13</b>
Packets made 7/25/13 (incl 98 RI)	24,445	
Sent W2 (8/5 to 8/9)	22,935	73.0%
Completed and scanned 8/1/13	1,356	4.3% of total
Completed and scanned 8/29/13	2,727	8.7% of total
Completed and scanned 9/10/13	588	1.9% of total
Rhode Island (N=100) To MD. 6/5, 8/16, 10/3		
<b>Wave 3 - Packet</b>	<b>Date Sent 9/26/13</b>	<b>Ends 10/3/13</b>
Sent	19,253	
Completed and scanned 11/20/13	1,748	5.6% of total
<b>TOTALS</b>	<b>End 11/20/13</b>	
Sent from 2013 Sample	31,406	
Undeliverables	1,033	
Refusals	26	
Survey mutilated so ID# not recoverable	4	
Total responses (includes 126 duplicates)	12,748	
Total respondents	12,622	
Total additional respondents from 2012 sample	9	
Total deliverable addresses (excludes 2012 respondents)	30,374	
Response rate	41.6%	

\*Due to increase in sample size, more surveys and #10 envelopes had to be ordered and stuffing was on hold until new supplies arrived.

\*\*After labeling the 31,650 packets from 2012, ordering additional materials, making 243 additional packets, and mailing all packets, 74 unused 2013 Wave 1 labels were returned to coordinator. These barcode numbers were discarded since barcoded surveys with these numbers could not be found and it would be 2 weeks before these barcodes could be printed on new surveys. Believing these packets could have been lost during the 1-year wait, coordinator reassigned barcode numbers to these leftover 74 hunters using 74 survey packets recently returned as undeliverable, and mailed this extra Wave 1 by July 11, 2013. These 74 discarded barcode numbers had a few completed and undeliverable surveys returned posing a confusing issue. After viewing returned packets, it was determined that these 74 packets had been mailed without the 2013 label affixed, thereby going to the 2012 sample hunters. Of the 12 completed surveys returned, 3 hunters were also included in the 2013 sample and therefore their data was added to the 2013 data; however, 9 respondents were solely from the 2012 sample. These barcode numbers in final dataset are 23219, 23249, 23252, 23229, 23232, 23236, 26249, 23246, and 23251. When sorting final dataset by "Order#," these 9 had no number.

**Totals including respondents from 2012 sample**

Total Sample: N=31,415  
Total responses (including 126 duplicates): N=12,757  
Total respondents (excluding duplicates): N=12,631  
Total undeliverables: 1033 (includes 10 deceased)  
Total deliverable addresses: 30382  
Total response rate: 41.6%

**NDHS Data Treatment**

In total, 12,622 responses were received. Of these, 1,043 indicated at the start of the survey that they did not hunt doves, and an additional 125 respondents did not provide any additional information on the survey; these respondents were removed prior to frequency analyses.

Each bona fide dove hunter received a code identifying the state in which the respondent was HIP-registered (rather than their state of residence), the assumption being that a respondent's HIP state was likely a stronger indicator of where s/he hunted rather than mailing address. In fact, only two hunters had a different HIP state than their home address (two Alabama hunters: one HIP registered in Arkansas and one in Missouri).

Fifty-two respondents were from Michigan. Based upon consultation with the Service, Michigan respondents were removed because Michigan does not have a statewide dove hunting season, and did not have enough responses to draw meaningful inferences.

**Table 2: Responses by State**

HIP State	Frequency	HIP State	Frequency
AL	253	ND	264
AR	190	NE	352
AZ	275	NM	313
CA	345	NV	373
CO	362	OH	400
DE	321	OK	281
FL	209	OR	299
GA	233	PA	321
IA	222	RI	26
ID	350	SC	311
IL	352	SD	329
IN	441	TN	204
KS	276	TX	262
KY	260	UT	357
LA	138	VA	382
MD	226	WA	355
MN	215	WI	315
MO	276	WV	112
MT	367	WY	295
NC	540		
Total			11,402

Based upon the total number of hunters per state, data were weighted with two separate weights; these weights are invoked during data analyses when appropriate.

**National Weight.** A “national weight” was calculated for each HIP state based upon the total population of dove hunters and each state’s proportional contribution to the national population, and this weight applied to produce national estimates: (See Appendix B for National Weight Table)

*STEP 1:* Determine each state's actual proportional contribution to national dove hunter total by dividing the national population of dove hunters by each state’s population of dove hunters.

*STEP 2:* Calculate “normalized,” or proportional, or “ideal” distribution of dove hunter numbers for each state by multiplying each state’s actual proportional contribution by the national total number of respondents.

*STEP 3:* Create a weight for each respondent by dividing the normalized number of dove hunters for each state by the actual survey respondents for each state.

**Dove Management Unit Weight.** In like manner, each HIP state was grouped into its appropriate DMU (Western, Central and Eastern) and weighted based on each state’s proportional contribution of dove hunters to its corresponding DMU, and this weight applied to produce DMU estimates. (See Appendix C for DMU Weight Table)

**Table 3: Responses by Dove Management Unit**

Dove Management Unit	States	Frequency
Western	AZ, CA, ID, NV, OR, UT, WA	2,354
Central	AR, CO, IA, KS, MN, MO, MT, ND, NE, NM, OK, SD, TX, WY	4,004
Eastern	AL, DE, FL, GA, IL, IN, KY, LA, MD, MS, NC, OH, PA, SC, TN, VA, WI, WV	5,044
Total		11,402

*STEP 1:* Determine each state’s actual proportional contribution to DMU dove hunter total by dividing the DMU population of dove hunters by each member-state’s population of dove hunters.

*STEP 2:* Calculate “normalized,” or proportional, or “ideal” distribution of dove hunter numbers for each state by multiplying each state’s actual proportional contribution by the DMU’s total number of respondents.

*STEP 3:* Create a weight for each respondent by dividing the normalized number of dove hunters for each state within the DMU by the actual survey respondents for each state.



SPSS (Version 20) was used to calculate frequencies. Because DMU weights and national weights are different, the *additive total responses* from the Western, Central and Eastern Units will not necessarily exactly equal the national total in a given frequency table. Missing values are not reported.

Finally, to analyze “other” responses for questions 17 and 18, these open-ended answers were individually grouped by theme into categories. Responses that did not fit a category were coded as “other” or “individual responses.” Answers that did not pertain to the question or appeared nonsensical formed a separate, small group.

## Results

Based on sample sizes, rounded margin of error for national estimates is 1%, and for DMU estimates, 2% (95% confidence level).

Both nationally and within each DMU, most dove hunters have hunted doves for more than 20 years (Table 4).

**Table 4: Q1 How many total years since you first began hunting have you actually hunted doves?**

	National	Western	Central	Eastern
Less than 5 years	10.8%	12.6%	10.8%	9.9%
5 to 10 years	17.3%	16.7%	16.8%	18.0%
11 to 20 years	20.7%	17.2%	22.2%	20.6%
21 to 30 years	18.5%	17.0%	18.5%	19.2%
31 years to 40 years	14.2%	15.5%	12.2%	15.7%
More than 40 years	18.5%	21.1%	19.4%	16.6%
Total	10,835	2,215	3,841	4,766

On average, the typical dove hunter harvests 30 doves or fewer in a season (Table 5). Yet there is a small group (about 6%) of hunters who each harvest more than 101 in a typical season. Hunters in the Central DMU appear to have a higher seasonal bag than the other management units.

**Table 5: Q2 About how many doves do you typically harvest in a season?**

	National	Western	Central	Eastern
None	1.3%	1.2%	0.8%	1.9%
Between 1 and 10 doves	19.8%	25.3%	17.3%	20.1%
Between 11 and 30 doves	38.9%	44.3%	36.5%	39.2%
Between 31 and 100 doves	33.2%	25.5%	37.5%	32.1%
Between 101 and 200 doves	5.3%	3.0%	6.3%	5.3%
More than 200 doves	1.4%	0.7%	1.6%	1.5%
Total	11,353	2,350	3,978	5,028

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As one would expect, hunter expenditures on shotgun shells reflect number of doves harvested (Table 6). The majority of hunters spend \$50 or less on shells, and again with proportionately more Central DMU hunters in the higher expenditure categories.

**Table 6: Q3 About how much do you typically spend in a year on shotgun shells for dove hunting?**

	National	Western	Central	Eastern
Less than \$5	2.1%	2.6%	1.6%	2.5%
\$5 to \$15	9.4%	11.1%	8.3%	9.8%
\$16 to \$24	14.5%	17.5%	12.8%	15.0%
\$25 to \$50	28.5%	32.6%	26.3%	29.1%
\$51 to \$100	27.7%	22.2%	31.9%	25.6%
\$101 to \$200	12.6%	10.0%	13.7%	12.5%
More than \$200	5.2%	3.9%	5.4%	5.5%
Total	11,353	2,336	3,988	5,029

While most dove hunters don't harvest particularly large numbers of birds, the recreational importance of dove hunting to participants is high. Nearly half of all respondents identified dove hunting as "one of my most important recreational activities" or "my most important recreational activity" (Table 7).

**Table 7: Q4 How important is dove hunting to you?**

	National	Western	Central	Eastern
It's my most important recreational activity.	3.4%	4.3%	3.9%	2.5%
It's one of my most important recreational activities.	45.6%	48.6%	45.8%	44.2%
It's no more important than my other recreational activities.	32.7%	29.9%	32.9%	33.7%
It's less important than some of my other recreational activities.	14.5%	13.8%	14.3%	15.1%
It's one of my least important recreational activities.	3.8%	3.4%	3.1%	4.5%
Total	11,334	2,336	3,982	5,016

Dove hunters revealed a wide spectrum of other hunting interests. At least half of the respondents from each DMU have also hunted upland birds, waterfowl, other small game and big game (Table 8). Across DMUs, apparent differences exist in the percentage of hunters who participated in these activities, with a high percentage (86.5%) of Western respondents hunting upland birds and a large percentage (74.6%) of Eastern dove hunters pursuing other small game. Respondents across all DMUs tended to hunt big game.

**Table 8: Q5 Have you hunted the following types of game in the past 3 years?**

Upland birds (pheasants, quail, chukar, etc.)	National	Western	Central	Eastern
Yes	59.0%	86.5%	55.8%	50.0%
No	41.0%	13.5%	44.2%	50.0%
Total	10,533	2,302	3,690	4,557

Other small game (rabbits, squirrels, rail, snipe, etc.)	National	Western	Central	Eastern
Yes	62.9%	57.2%	52.9%	74.6%
No	37.1%	42.8%	47.1%	25.4%
Total	10,175	1,990	3,503	4,690

Waterfowl (ducks & geese)	National	Western	Central	Eastern
Yes	60.7%	64.9%	57.9%	61.7%
No	39.3%	35.1%	42.1%	38.3%
Total	10,069	2,086	3,557	4,420

Big game	National	Western	Central	Eastern
Yes	83.2%	72.5%	83.9%	86.7%
No	16.8%	27.5%	16.1%	13.3%
Total	10,598	2,114	3,734	4,739

The plurality of respondents indicated that they hunt “occasionally throughout the dove season” (Table 9). However, for about a quarter of dove hunters—both nationally and by DMU—these respondents indicating they hunt “as many days as I can throughout the entire season.”

**Table 9: Q6 How would you describe your participation in dove hunting? Typically, do you dove hunt...**

	National	Western	Central	Eastern
Only occasionally over the years.	5.7%	4.3%	5.4%	6.7%
"Opening day" only.	4.9%	7.6%	3.0%	5.6%
First complete weekend of the Season.	8.3%	9.6%	8.9%	7.2%
First two weekends of the Season or no more than 5 total days.	20.9%	22.1%	18.9%	22.4%
Occasionally throughout the dove season.	34.5%	30.1%	34.7%	36.0%
As many days as I can throughout the entire dove season.	25.7%	26.4%	29.0%	22.1%
Total	11,146	2,297	3,901	4,951

The distances respondents travel to hunt doves are quite variable (Table 10). Nationally, distances traveled are roughly equally distributed across mileage groupings, with the plurality category being “50 miles or more.” There is, however, great variation in miles traveled among DMUs, likely attributable to geographic variability across DMUs, and further influenced by habitat and access to hunting locales. Data suggest Eastern DMU hunters travel shorter distances than dove hunters in the Western and Central DMUs.

**Table 10: Q7 How many miles is it, one-way, to the area you hunt most for doves?**

	National	Western	Central	Eastern
Less than 5 miles	17.2%	12.2%	15.9%	20.6%
5 to 10 miles	15.2%	13.9%	11.1%	19.8%
11 to 20 miles	20.2%	17.4%	17.7%	23.9%
21 to 49 miles	20.6%	22.0%	19.2%	21.4%
50 or more miles	26.9%	34.5%	36.1%	14.4%
Total	11,270	2,328	3,955	4,989

Nationally most participants hunt only on private land or mostly on private land (Table 11). Differences among DMUs are to be expected due to the distribution of public land in the nation. Evidence suggests the majority of Central and Eastern hunters tend to hunt doves mostly or exclusively on private lands, whereas Western respondents hunt more often on public lands.

**Table 11: Q8 When dove hunting, do you typically hunt...**

	National	Western	Central	Eastern
Only on public land	6.3%	19.2%	3.7%	3.6%
Mostly on public land	8.6%	21.8%	6.4%	5.4%
On public and private land equally	13.5%	24.5%	10.4%	12.0%
Mostly on private land	31.7%	22.9%	32.4%	34.6%
Only on private land	39.9%	11.5%	47.0%	44.3%
Total	11,290	2,314	3,977	4,995

The amount of ammunition used by respondents reflects dove hunting participation, dollars expended for ammo, and number of doves shot (Table 12). Data suggest Central and Eastern hunters tend to use more shells than Western hunters. However, in each DMU, the majority of hunters use five boxes or less, but with notable percentages in the nation and across DMUs measuring ammo expended pursuing doves in “cases.”

**Table 12: Q9 How much ammunition do you typically use in a season of hunting doves?**

	National	Western	Central	Eastern
Less than 1 box (25 shells to a box)	3.9%	5.9%	2.8%	4.3%
1 box	5.1%	7.5%	3.9%	5.3%
2 to 5 boxes	45.7%	52.1%	45.2%	43.7%
6 to 9 boxes	24.6%	19.9%	25.7%	25.3%
1 to 2 cases (250 shells (or 10 boxes) to a case)	18.3%	12.6%	20.0%	18.8%
More than 2 cases	2.4%	1.9%	2.4%	2.6%
Total	10,408	2,068	3,716	4,600

Nationally and within each DMU, the large majority of hunters (over 85% in each DMU) “mostly” or “always” use lead shot (Table 13).

**Table 13: Q10 How often do you use lead shot when you hunt doves?**

	Never	Occasionally	Mostly	Always
National	6.4%	6.5%	18.3%	68.7%
Western	6.3%	6.1%	17.0%	70.6%
Central	6.9%	7.2%	21.1%	64.8%
Eastern	6.0%	6.1%	16.0%	71.9%
Total	11,213	2,307	3,950	4,951

Dove hunters were presented a series of statements, and asked to agree or disagree with each. Respondents also were afforded the chance to answer “neutral” or “don’t know.” Given the many facets of dove hunting and related issues—and in light of the well-balanced frequency distributions that emerged from many of these statements, the answers of “neutral” and “don’t know” were important and revealing alternatives.

Majorities of respondents in each DMU and the nation either “strongly” or “somewhat agree” that lead shot substitutes are too expensive (Table 14).

**Table 14: Q11a To what extent do you agree or disagree with each of the following statements? Lead shot substitutes for dove hunting are too expensive.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	4.0%	4.0%	14.3%	17.8%	50.4%	9.5%	11,245
Western	5.3%	3.4%	11.6%	17.5%	55.5%	6.7%	2,304
Central	3.9%	4.5%	17.0%	18.0%	45.8%	10.8%	3,962
Eastern	3.5%	3.8%	12.5%	17.8%	53.1%	9.3%	4,973

Nationally, and across DMUs, pluralities of dove hunters “strongly” agree “non-lead shot doesn’t perform as well as lead shot for dove hunting” (Table 15). And about 16% of respondents “somewhat” agree with this statement. Notable percentages across all geographic groupings said they were “neutral” or “don’t know.”

**Table 15: Q11b To what extent do you agree or disagree with each of the following statements? Non-lead shot doesn't perform as well as lead shot for dove hunting.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	3.4%	5.7%	19.3%	16.5%	37.2%	18.0%	10,901
Western	4.7%	5.6%	16.3%	17.4%	42.2%	13.8%	2,242
Central	3.1%	6.7%	22.2%	16.1%	30.8%	21.1%	3,831
Eastern	3.2%	4.6%	17.5%	16.5%	41.7%	16.6%	4,827

Generally, over half of all respondents believe “it will be hard to find lead shot substitutes for dove hunting,” again, with notable proportions of respondents answering “neutral” or “don’t know” on the statement (Table 16).

**Table 16: Q11c To what extent do you agree or disagree with each of the following statements? I think it will be hard to find lead shot substitutes for dove hunting in my local stores.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	5.9%	10.2%	17.1%	23.8%	30.0%	13.1%	11,050
Western	6.7%	9.4%	15.1%	21.9%	36.6%	10.2%	2,271
Central	6.5%	11.4%	18.3%	23.2%	26.3%	14.3%	3,881
Eastern	4.9%	9.3%	16.6%	25.1%	31.0%	13.1%	4,897

Respondents did not have strong opinions regarding whether “there are non-lead loads available that will not damage vintage or older shotguns” (Table 17), with majorities of respondents answering either “neutral” or “don’t know.”

**Table 17: Q11d To what extent do you agree or disagree with each of the following statements? There are non-lead loads available that will not damage vintage or older shotguns.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	7.7%	9.8%	24.4%	12.4%	8.2%	37.3%	11,155
Western	11.7%	12.0%	22.6%	15.3%	9.0%	29.4%	2,293
Central	5.2%	9.7%	23.8%	12.0%	8.1%	41.2%	3,924
Eastern	8.7%	9.0%	25.9%	11.6%	8.0%	36.7%	4,936

In response to the statement, “Doves have such a short life span that any exposure to lead makes practically no difference in the health of the dove population,” a plurality of respondents don’t know (Table 18). Roughly the same percentage of hunters answered “neutral” or “don’t know” as “somewhat” or “strongly” agree. A consistent 10-11% of respondents in all DMUs somewhat or strongly disagreed.

**Table 18: Q11e To what extent do you agree or disagree with each of the following statements? Doves have such a short life span that any exposure to lead makes practically no difference in the health of the dove population.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	3.8%	7.3%	20.4%	16.9%	23.7%	28.0%	11,218
Western	4.2%	7.1%	21.1%	15.4%	27.6%	24.6%	2,312
Central	4.2%	7.7%	20.0%	16.7%	20.5%	30.9%	3,947
Eastern	3.2%	6.9%	20.5%	17.8%	25.2%	26.4%	4,958

Across geographic regions, either pluralities or majorities of hunters believe “requiring non-lead shot for dove hunting will reduce the numbers of young people recruited to hunting” (Table 19).

**Table 19: Q11f To what extent do you agree or disagree with each of the following statements? Any changes requiring non-lead shot for dove hunting will reduce the number of young people recruited to hunting.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	7.5%	12.3%	17.2%	21.4%	28.2%	13.4%	11,185
Western	7.9%	10.0%	14.7%	21.8%	33.5%	12.1%	2,299
Central	8.0%	13.9%	19.5%	20.9%	22.7%	14.9%	3,937
Eastern	6.7%	11.6%	16.0%	21.7%	31.6%	12.4%	4,946

Respondents were asked to what extent they agreed with the following statement, “I’d probably quit hunting doves if I were required to use non-lead shot for dove hunting” (Table 20). Nationally and within each DMU, 30-40% of hunters “somewhat” or “strongly agreed.” About the same percentage of hunters “somewhat” or “strongly disagreed.” There is also about one-quarter of hunters across all geographic divisions who responded “neutral” or “don’t know.”

**Table 20: Q11g To what extent do you agree or disagree with each of the following statements? I'd probably quit hunting doves if I were required to use non-lead shot for dove hunting.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	22.7%	16.9%	16.9%	18.2%	18.0%	7.3%	11,123
Western	21.8%	12.9%	16.0%	22.3%	20.4%	6.6%	2,289
Central	26.1%	19.2%	16.4%	16.6%	15.0%	6.7%	3,922
Eastern	19.5%	16.3%	17.8%	18.1%	20.1%	8.1%	4,907

The degree to which U.S. actions can influence the health of a migratory species—specifically, doves migrating south of the international border—is by no means clear in the minds of many hunters (Table 21). In response to the statement, “The U.S. can’t limit health effects of lead on dove populations because countries south of the border have no lead shot restrictions,” near-majorities of dove hunters across all geographic divisions either “strongly” or “somewhat” agreed with the idea. But many of the remaining half of respondents answered either “neutral” or “don’t know,” with the relatively small remainder thinking the U.S. could influence the health of dove populations.

**Table 21: Q11h To what extent do you agree or disagree with each of the following statements? The U.S. can't limit health effects of lead on dove populations because countries south of the border have no lead shot restrictions.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	4.9%	6.9%	19.0%	20.2%	29.0%	20.0%	11,197
Western	6.0%	5.8%	17.6%	18.5%	35.0%	17.2%	2,305
Central	5.1%	8.3%	17.9%	21.8%	27.0%	19.9%	3,947
Eastern	4.1%	5.9%	20.8%	19.4%	28.6%	21.2%	4,940

Dove hunters were asked to consider a statement at the heart of the North American Model of Wildlife Conservation: “If scientific evidence identifies negative impacts of lead shot on dove populations, then wildlife agencies have a responsibility to take appropriate action to conserve dove populations” (Table 22). Pluralities of respondents—in fact, near-majorities—either “strongly” or “somewhat” agreed with this statement; but about 30% of dove hunters across all geographic divisions answered “neutral” or “don’t know.”

**Table 22: Q11i To what extent do you agree or disagree with each of the following statements? If scientific evidence identifies negative impacts of lead shot on dove populations, then wildlife agencies have a responsibility to take appropriate action to conserve dove populations.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	9.9%	11.3%	22.9%	28.0%	20.9%	7.0%	11,194
Western	14.4%	11.6%	22.3%	25.1%	20.2%	6.4%	2,302
Central	8.7%	11.2%	23.7%	27.9%	21.3%	7.1%	3,935
Eastern	9.4%	11.1%	22.2%	29.4%	20.8%	7.1%	4,953



Large pluralities of hunters across all geographic divisions “don’t know” if most doves that eat lead pellets become severely ill or die (Table 23).

**Table 23: Q12a To what extent do you agree or disagree with each of the following statements? Most doves that eat lead pellets become severely ill or die.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	14.1%	12.3%	17.5%	7.6%	3.2%	45.3%	11,187
Western	20.2%	12.0%	15.7%	8.4%	4.3%	39.3%	2,291
Central	12.4%	13.5%	17.7%	7.7%	3.1%	45.6%	3,956
Eastern	13.4%	11.2%	18.1%	7.1%	2.9%	47.4%	4,931

Majorities of dove hunters either “strongly” or “somewhat” agreed that they “would be willing to use non-lead shot if scientific evidence showed the dove population was being harmed by eating lead pellets,” while roughly one-fifth of hunters across geographic divisions either “strongly” or “somewhat disagreed,” and another fifth answered either “neutral” or “don’t know” (Table 24).

**Table 24: Q12b To what extent do you agree or disagree with each of the following statements? I would be willing to use non-lead shot if scientific evidence showed the dove population was being harmed by eating lead pellets.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	11.3%	11.1%	18.0%	31.6%	22.7%	5.2%	11,112
Western	16.0%	12.1%	17.1%	28.9%	21.1%	4.9%	2,287
Central	8.9%	10.8%	17.9%	33.8%	23.7%	4.9%	3,898
Eastern	11.8%	11.0%	18.5%	30.5%	22.4%	5.8%	4,925

Only about 1 in 5 respondents indicated the concerns about effects of wildlife consumption of lead shot have been explained to hunters; the other 4 of 5 hunters are either “neutral” on the statement, “don’t know,” or “agree” that explanation is lacking (Table 25).

**Table 25: Q12c To what extent do you agree or disagree with each of the following statements? Concerns about effects of wildlife consumption of lead shot have not been explained to hunters.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	6.3%	11.9%	17.1%	32.0%	22.6%	10.1%	11,200
Western	10.8%	16.0%	17.3%	26.6%	20.5%	8.9%	2,288
Central	5.1%	11.8%	17.8%	33.4%	21.2%	10.8%	3,952
Eastern	5.8%	10.4%	16.3%	32.8%	24.9%	9.8%	4,951

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Across all geographic divisions, majorities of hunters indicated they would be willing to use non-lead shot if they thought it would help wildlife (Table 26), yet again with notable proportions answering “neutral” or “don’t know.”

**Table 26: Q12d To what extent do you agree or disagree with each of the following statements? If I thought it would help wildlife, I would use non-lead shot for dove hunting.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	8.6%	8.4%	18.6%	32.3%	26.8%	5.2%	11,129
Western	12.2%	9.2%	19.7%	30.3%	23.8%	4.7%	2,280
Central	7.3%	7.8%	17.9%	34.1%	28.1%	4.8%	3,925
Eastern	8.5%	8.8%	18.9%	31.3%	26.7%	5.9%	4,917

Across all geographic divisions, near-majorities of hunters have concerns that non-lead shot cripples more doves than lead shot (Table 27). But almost as many hunters answered either “don’t know” or “neutral.”

**Table 27: Q12e To what extent do you agree or disagree with each of the following statements? Non-lead shot is more likely than lead shot to cripple doves.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	5.3%	6.6%	15.8%	18.1%	30.8%	23.3%	11,156
Western	7.4%	6.2%	16.2%	18.0%	32.9%	19.3%	2,279
Central	5.5%	6.9%	17.2%	18.1%	26.6%	25.7%	3,950
Eastern	4.4%	6.5%	14.3%	18.1%	34.3%	22.4%	4,917

Nationally and regionally, about half of dove hunters believe efforts to restrict lead ammunition is a tactic by animal rights groups to eliminate hunting (Table 28), a sentiment particularly strong in the Western DMU. Roughly one out of every three hunters are “neutral” or “don’t know.”

**Table 28: Q12f To what extent do you agree or disagree with each of the following statements? The effort to restrict lead ammunition is a tactic by animal rights groups to eliminate hunting.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	7.2%	8.4%	15.5%	21.5%	30.7%	16.5%	11,170
Western	6.6%	6.7%	13.0%	19.3%	42.9%	11.7%	2,288
Central	8.1%	9.6%	16.8%	21.7%	26.6%	17.3%	3,941
Eastern	6.7%	8.0%	15.3%	22.3%	30.0%	17.7%	4,935

Roughly one-third of respondents across the nation and in DMUs disagreed that “discontinuing the use of lead shot for waterfowl was a necessary change,” and another one-third answered either “don’t know” or “neutral” (Table 29).

**Table 29: Q12g To what extent do you agree or disagree with each of the following statements? Discontinuing the use of lead shot for waterfowl was a necessary change.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	14.0%	15.6%	18.3%	19.8%	16.4%	15.8%	11,205
Western	17.6%	15.8%	17.3%	19.3%	17.0%	13.0%	2,296
Central	11.9%	15.4%	18.5%	19.8%	17.6%	16.8%	3,957
Eastern	14.7%	15.8%	18.5%	20.1%	15.0%	16.0%	4,944

Many hunters agreed (almost half nationally, and 40% to 50% in DMUs) that they would likely reduce the number of dove hunting trips they would take if required to use non-lead shot (Table 30).

**Table 30: Q12h To what extent do you agree or disagree with each of the following statements? I'd probably reduce the number of dove hunting trips I'd take if I was required to use non-lead shot for doves.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	14.6%	13.1%	16.6%	20.6%	27.0%	8.2%	11,204
Western	15.4%	10.3%	15.5%	18.9%	32.4%	7.6%	2,300
Central	15.2%	14.5%	18.5%	21.4%	22.2%	8.1%	3,951
Eastern	13.8%	12.7%	15.1%	20.5%	29.5%	8.4%	4,948

Notable percentages of dove hunters—approaching half of respondents—expressed suspicions about the origins of lead ammunition concerns, either “strongly” or “somewhat” agreeing with the statement, “The effort to restrict lead ammunition is a tactic by gun control advocates to encroach on gun ownership rights.” Roughly one-third of respondents across all geographic divisions answered “neutral” or “don’t know” on this statement (Table 31).

**Table 31: Q12i To what extent do you agree or disagree with each of the following statements? The effort to restrict lead ammunition is a tactic by gun control advocates to encroach on gun ownership rights.**

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know	Total
National	10.0%	10.5%	18.1%	17.6%	26.6%	17.1%	11,233
Western	8.8%	7.7%	14.7%	17.8%	38.5%	12.6%	2,298
Central	11.1%	12.3%	18.7%	15.7%	23.7%	18.5%	3,968
Eastern	9.5%	9.9%	18.9%	19.5%	24.7%	17.5%	4,961

Respondents were asked, “Based on what you know and feel at the present time, what is your opinion of requiring the use of non-lead shot for dove hunting?” Pluralities across all geographies (with a majority in the Western DMU) “strongly” opposed the proposition; when adding those answering “somewhat” opposed, majorities across all geographic divisions expressed disapproval of the notion. Across geographies, 20% to 29% answered either “neutral” or “don’t know,” with roughly 1 in 10 hunters expressing some degree of support (Table 32).

**Table 32: Q13 Based on what you know and feel at the present time, what is your opinion of requiring the use of non-lead shot for dove hunting?**

	National	Western	Central	Eastern
Strongly oppose requiring non-lead shot	43.1%	53.0%	37.5%	44.7%
Somewhat oppose requiring non-lead shot	22.6%	18.5%	23.4%	23.4%
Neutral on requiring non-lead shot	18.6%	15.5%	21.4%	17.1%
Somewhat support requiring non-lead shot	6.5%	5.2%	7.2%	6.3%
Strongly support requiring non-lead shot	2.5%	2.9%	2.9%	2.0%
Don't know	6.7%	5.0%	7.6%	6.6%
Total	11,199	2,308	3,937	4,954

Dove hunters were asked a series of questions designed to reveal their level of engagement with a variety of activities that might influence, or provide insight to, their perceptions of dove hunting and related issues.

**Table 33: Q14a Have you ever...? Reloaded shot shells with lead shot?**

	Nationally	Western	Central	Eastern
Yes	48.6%	58.9%	45.7%	47.3%
No	51.4%	41.1%	54.3%	52.7%
Total	10,827	2,222	3,780	4,830

**Table 34: Q14b Have you ever...? Reloaded shot shells with non-lead shot?**

	Nationally	Western	Central	Eastern
Yes	7.2%	12.1%	6.1%	6.2%
No	92.8%	87.9%	93.9%	93.8%
Total	10,642	2,185	3,717	4,744

**Table 35: Q14c Have you ever...? Shot trap/skeet/sporting clays?**

	Nationally	Western	Central	Eastern
Yes	94.2%	91.8%	95.1%	94.1%
No	5.8%	8.2%	4.9%	5.9%
Total	10,858	2,225	3,806	4,828

**Table 36: Q14d Have you ever...? Hunted doves on your own land?**

	Nationally	Western	Central	Eastern
Yes	59.7%	35.8%	62.7%	66.4%
No	40.3%	64.2%	37.3%	33.6%
Total	10,806	2,197	3,802	4,802

**Table 37: Q14e Have you ever...? Leased land so you could hunt doves?**

	Nationally	Western	Central	Eastern
Yes	27.6%	7.7%	36.7%	26.5%
No	72.4%	92.3%	63.3%	73.5%
Total	10,749	2,194	3,766	4,789

**Table 38: Q14f Have you ever...? Traveled to another country to hunt doves?**

	Nationally	Western	Central	Eastern
Yes	10.3%	9.4%	11.6%	9.4%
No	89.7%	90.6%	88.4%	90.6%
Total	10,708	2,189	3,744	4,779

**Table 39: Q14g Have you ever...? Experienced damage to your shotgun from using non-lead shot?**

	Nationally	Western	Central	Eastern
Yes	13.6%	21.0%	11.5%	12.7%
No	86.4%	79.0%	88.5%	87.3%
Total	10,594	2,171	3,706	4,720

**Table 40: Q15a Are you currently a member of? Hunting/wildlife conservation organizations (for example, Ducks Unlimited, National Wild Turkey Federation, Quail Unlimited)?**

	National	Western	Central	Eastern
Yes	44.1%	43.2%	41.1%	47.5%
No	55.9%	56.8%	58.9%	52.5%
Total	11,167	2,290	3,935	4,937

**Table 41: Q15b Are you currently a member of? Fishing/fish conservation organizations (for example, Trout Unlimited, North American Fishing Club, Stripercoast Surfcasters Club)?**

	National	Western	Central	Eastern
Yes	15.5%	15.1%	17.2%	13.8%
No	84.5%	84.9%	82.8%	86.2%
Total	11,006	2,265	3,868	4,871

**Table 42: Q15c: Are you currently a member of? Gun rights/shooting sports organizations (for example, NRA, NSSF)?**

	National	Western	Central	Eastern
Yes	45.8%	48.8%	44.6%	45.9%
No	54.2%	51.2%	55.4%	54.1%
Total	11,128	2,299	3,903	4,927

**Table 43: Q15d Are you currently a member of? Environmental organizations (for example, Audubon Society, Sierra Club)?**

	National	Western	Central	Eastern
Yes	4.8%	4.6%	4.2%	5.4%
No	95.2%	95.4%	95.8%	94.6%
Total	10,967	2,254	3,858	4,851

Dove hunters were presented a list of possible hindrances to their involvement in dove hunting, and asked, "Please indicate how much more or less of a problem the following have become for you over the last 5 years in your dove hunting."

**Table 44: Q16a Problem of: Leasing a place to hunt doves?**

	Much more of a problem	Somewhat more of a problem	Neither more nor less of a problem	Somewhat less of a problem	Much less of a problem	Don't know	Total
Nationally	11.1%	13.2%	36.7%	1.4%	6.6%	30.9%	11,125
Western	9.8%	5.8%	31.0%	0.4%	6.4%	46.7%	2,264
Central	9.0%	16.4%	40.1%	1.8%	7.8%	24.9%	3,928
Eastern	13.7%	13.1%	35.5%	1.5%	5.5%	30.6%	4,923

**Table 45: Q16b Problem of: Cost of shot shells?**

	Much more of a problem	Somewhat more of a problem	Neither more nor less of a problem	Somewhat less of a problem	Much less of a problem	Don't know	Total
Nationally	26.3%	39.3%	25.7%	2.7%	4.8%	1.3%	11,141
Western	27.5%	36.9%	24.7%	3.4%	6.3%	1.1%	2,285
Central	24.2%	40.4%	27.4%	2.5%	4.4%	1.1%	3,922
Eastern	27.9%	39.2%	24.4%	2.6%	4.5%	1.6%	4,929

**Table 46: Q16c Problem of: Cost of hunting gear other than shot shells?**

	Much more of a problem	Somewhat more of a problem	Neither more nor less of a problem	Somewhat less of a problem	Much less of a problem	Don't know	Total
Nationally	13.4%	31.1%	43.6%	3.4%	6.8%	1.7%	11,171
Western	13.5%	30.7%	41.3%	3.6%	8.5%	2.3%	2,298
Central	11.8%	30.7%	46.3%	3.1%	6.8%	1.2%	3,931
Eastern	14.9%	31.8%	41.9%	3.7%	6.0%	1.8%	4,939

**Table 47: Q16d Problem of: Cost of gasoline?**

	Much more of a problem	Somewhat more of a problem	Neither more nor less of a problem	Somewhat less of a problem	Much less of a problem	Don't know	Total
Nationally	46.6%	29.9%	18.0%	1.4%	3.2%	0.9%	11,232
Western	52.8%	28.4%	12.4%	1.7%	3.4%	1.2%	2,314
Central	43.7%	31.5%	20.2%	1.2%	3.0%	0.5%	3,955
Eastern	46.9%	29.0%	18.0%	1.6%	3.3%	1.2%	4,961

**Table 48: Q16e Problem of: Cost of hunting permits?**

	Much more of a problem	Somewhat more of a problem	Neither more nor less of a problem	Somewhat less of a problem	Much less of a problem	Don't know	Total
Nationally	14.2%	24.3%	48.4%	3.2%	7.7%	2.2%	11,211
Western	25.7%	33.1%	30.8%	2.5%	6.3%	1.7%	2,306
Central	11.2%	23.5%	52.3%	4.2%	6.9%	1.8%	3,954
Eastern	12.5%	21.5%	51.7%	2.5%	9.1%	2.7%	4,950

Nationally dove hunters identified the cost of gasoline as the top problem in dove hunting (Table 49). The mean response fell between “much more a problem” and “somewhat more a problem.”

**Table 49: Q16 National Means (1: much more of a problem, 2: somewhat more a problem, 3: neither more nor less a problem, 4: somewhat less a problem, 5: much less a problem)**

Problem of...	N	Mean	Std. Deviation
Cost of gasoline?	11,130	1.8	1.0
Cost of shot shells?	10,999	2.2	1.0
Cost of hunting gear other than shot shells?	10,985	2.6	1.0
Cost of hunting permits?	10,968	2.7	1.0
Leasing a place to hunt doves?	7,684	2.7	1.1

Dove hunters were presented a list of potential opinion leaders or influencers, and asked, “How much trust do you put in each of the following to represent the interests of dove hunters like you?”

**Table 50: Q17a How much trust do you put in... Ammunition manufacturers?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	23.2%	42.4%	16.8%	7.2%	10.5%	11,200
Western	29.9%	43.1%	13.4%	4.8%	8.9%	2,298
Central	23.1%	42.8%	16.6%	6.8%	10.8%	3,943
Eastern	20.5%	41.7%	18.4%	8.5%	10.9%	4,953

**Table 51: Q17b How much trust do you put in... Businesses that manufacture hunting products?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	19.6%	46.2%	18.3%	6.2%	9.7%	11,200
Western	26.3%	45.8%	14.7%	3.7%	9.5%	2,295
Central	18.7%	45.9%	19.8%	6.1%	9.5%	3,900
Eastern	17.7%	46.7%	18.3%	7.3%	9.9%	4,925

**Table 52: Q17c How much trust do you put in... Avid/experienced dove hunters?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	56.2%	32.9%	3.9%	1.1%	6.0%	11,155
Western	56.4%	32.3%	4.6%	1.1%	5.5%	2,293
Central	54.8%	34.4%	3.5%	0.6%	6.6%	3,926
Eastern	57.6%	31.5%	4.0%	1.5%	5.5%	4,932

**Table 53: Q17d How much trust do you put in... Wildlife biologists?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	27.2%	40.7%	18.8%	6.0%	7.3%	11,151
Western	19.4%	35.5%	26.6%	11.0%	7.4%	2,296
Central	30.2%	40.9%	16.7%	4.0%	8.1%	3,936
Eastern	27.3%	42.7%	17.6%	5.9%	6.5%	4,914

**Table 54: Q17e: How much trust do you put in... Hunting guides?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	22.5%	41.0%	16.9%	5.6%	14.0%	11,128
Western	24.4%	38.4%	16.8%	5.9%	14.5%	2,277
Central	21.2%	42.2%	17.9%	5.9%	12.8%	3,929
Eastern	23.0%	40.7%	15.9%	5.2%	15.1%	4,915



**Table 55: Q17f How much trust do you put in... Game wardens?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	36.9%	36.5%	13.3%	7.3%	5.9%	11,125
Western	28.9%	38.5%	17.0%	9.8%	5.7%	2,289
Central	45.0%	32.9%	11.3%	5.2%	5.7%	3,927
Eastern	31.9%	39.3%	13.9%	8.6%	6.3%	4,902

**Table 56: Q17g How much trust do you put in... Outdoors writers/TV personalities?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	7.2%	37.4%	30.0%	13.7%	11.6%	11,110
Western	6.2%	35.4%	30.0%	14.9%	13.4%	2,285
Central	7.2%	39.3%	30.0%	12.0%	11.4%	3,910
Eastern	7.7%	36.3%	30.0%	14.8%	11.1%	4,913

**Table 57: Q17h How much trust do you put in... Staff at sporting goods stores selling hunting supplies?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	5.9%	30.3%	35.4%	19.4%	9.1%	11,154
Western	6.7%	36.1%	32.7%	15.7%	8.9%	2,294
Central	5.6%	27.9%	38.0%	19.5%	9.1%	3,937
Eastern	5.8%	30.4%	33.7%	20.9%	9.2%	4,917

**Table 58: Q17i How much trust do you put in... Hunting organizations?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	25.0%	48.8%	13.4%	4.3%	8.4%	11,133
Western	30.9%	46.1%	11.9%	3.7%	7.4%	2,289
Central	24.2%	50.0%	13.3%	3.4%	9.0%	3,932
Eastern	23.4%	48.8%	14.2%	5.4%	8.2%	4,906

The data for level of trust in “other” is complicated because respondents who felt compelled to enter specific groups beyond the survey categories listed widely diverse individual entities, groups, or organizations—or in fact, responded “other” but did not fill-in the blank provided. In addition, many of those responding “other” listed organizations or groups that easily fell within the general categories offered (such as “hunters (Table 59).

**Table 59: Q17j Other?**

	High trust	Medium trust	Low trust	No trust	Don't know	Total
National	15.7%	6.5%	5.5%	26.9%	45.4%	2,513
Western	23.0%	7.2%	3.6%	29.7%	36.5%	588
Central	11.8%	6.4%	6.2%	23.6%	52.1%	884
Eastern	16.3%	6.3%	5.8%	29.0%	42.6%	1,049

**Table 60: Q17 Means Other coded (1: high trust, 2: medium trust, 3: low trust, 4: no trust)**

Coded organization trusted	Mean	N	Std. Deviation
Hunting NGO's	1.0	24	0.1
Personal Experience	1.0	65	0.3
Family	1.1	16	0.4
Friends, Neighbors, Locals	1.2	28	0.4
Hunters	1.3	54	0.5
Gun Rights NGO's	1.4	98	1.0
Landowners, Farmers	1.6	37	1.0
Shooting/Hunting Clubs	1.7	6	1.2
Scientific Research	2.0	20	1.4
State Government	2.3	68	1.3
Gun Manufacturers, Industry	2.6	22	1.4
Off Topic	2.7	50	1.5
Surveys	2.9	6	0.8
USFWS, DOI	2.9	36	1.0
Other (individual responses)	3.0	36	1.4
No One, N/A	3.3	2	0.7
Non-Hunters, General Public	3.7	15	0.7
Elected Officials	3.9	209	0.3
Animal Rights NGO's	3.9	127	0.4
US Government or Government	4.0	172	0.2
Liberals, Democrats	4.0	17	0.2
Media	4.0	19	0.0
Anti Hunters	4.0	3	0.0

Hunters, on average, have “high” or “medium” trust of avid/experienced hunters (Table 61). Most of the remaining organizations had a “medium” level of trust with the exception of outdoor writers and staff at sporting goods stores who fell between a “medium” and “low” level of trust.

**Table 61: Q17 National means of organizational trust (1: high trust, 2: medium trust, 3: low trust, 4: no trust)**

How much trust...	N	Mean	Std. Deviation
Avid/experienced dove hunters	10,489	1.5	0.6
Game wardens	10,464	1.9	0.9
Hunting organizations	10,195	2.0	0.8
Wildlife biologists	10,333	2.0	0.9
Hunting guides	9,566	2.1	0.8
Ammunition manufacturers	10,026	2.1	0.9
Businesses that manufacture hunting products	10,041	2.1	0.8
Outdoor writers/TV personalities	9,818	2.6	0.8
Staff at sporting goods stores selling hunting supplies	10,140	2.8	0.9
Other	1,372	2.8	1.3

Dove hunters were presented a list of possible sources of information, and asked how much hunting information they received from each.

**Table 62: Q18a How much hunting information from: Newspapers?**

	A lot	Some	A little	None	Total
National	4.3%	23.2%	30.1%	42.5%	11,203
Western	3.0%	19.7%	27.3%	50.0%	2,290
Central	5.6%	25.1%	30.0%	39.3%	3,950
Eastern	3.5%	22.6%	31.2%	42.7%	4,955

**Table 63: Q18b How much hunting information from: Magazines?**

	A lot	Some	A little	None	Total
National	22.3%	41.5%	23.8%	12.4%	11,232
Western	18.1%	38.9%	25.0%	17.9%	2,299
Central	21.6%	41.9%	24.7%	11.8%	3,962
Eastern	24.7%	42.2%	22.5%	10.7%	4,963

**Table 64: Q18c How much hunting information from: Radio?**

	A lot	Some	A little	None	Total
National	2.1%	10.8%	22.1%	65.0%	11,161
Western	1.5%	9.2%	16.7%	72.5%	2,285
Central	2.8%	12.3%	26.6%	58.3%	3,938
Eastern	1.5%	10.1%	19.6%	68.8%	4,932

**Table 65: Q18d How much hunting information from: Television?**

	A lot	Some	A little	None	Total
National	13.0%	32.6%	29.2%	25.2%	11,178
Western	9.4%	26.6%	27.9%	36.1%	2,293
Central	12.0%	34.0%	30.9%	23.2%	3,933
Eastern	15.7%	33.6%	28.1%	22.7%	4,950

**Table 66: Q18e How much hunting information from: Internet?**

	A lot	Some	A little	None	Total
National	22.1%	35.9%	20.6%	21.5%	11,133
Western	23.0%	33.3%	20.0%	23.8%	2,281
Central	21.4%	36.9%	21.2%	20.6%	3,915
Eastern	22.4%	35.9%	20.3%	21.4%	4,935

**Table 67: Q18f How much hunting information from: State wildlife agency?**

	A lot	Some	A little	None	Total
National	19.9%	40.6%	25.9%	13.6%	11,172
Western	17.5%	40.4%	25.5%	16.6%	2,291
Central	19.3%	40.2%	27.1%	13.4%	3,946
Eastern	21.4%	41.2%	24.8%	12.6%	4,928

**Table 68: Q18g How much hunting information from: U.S. Fish & Wildlife Service?**

	A lot	Some	A little	None	Total
National	12.5%	34.0%	32.1%	21.4%	11,155
Western	12.7%	35.2%	28.8%	23.3%	2,281
Central	11.3%	32.0%	34.6%	22.2%	3,932
Eastern	13.7%	35.5%	30.9%	19.9%	4,937

**Table 69: Q18h How much hunting information from: Friends/family?**

	A lot	Some	A little	None	Total
National	38.6%	40.9%	16.2%	4.3%	11,180
Western	44.2%	38.5%	12.5%	4.9%	2,271
Central	37.1%	41.0%	18.2%	3.7%	3,947
Eastern	37.8%	41.9%	15.7%	4.5%	4,950

**Table 70: Q18i How much hunting information from: Sporting goods stores?**

	A lot	Some	A little	None	Total
National	5.0%	26.9%	40.1%	28.0%	11,179
Western	4.8%	31.6%	35.6%	28.0%	2,282
Central	5.7%	23.1%	43.2%	28.0%	3,946
Eastern	4.4%	28.7%	38.9%	28.0%	4,944

**Table 71: Q18j How much hunting information from: Other?**

	A lot	Some	A little	None	Total
National	16.7%	7.8%	6.4%	69.1%	1,752
Western	21.0%	6.3%	3.0%	69.7%	383
Central	11.7%	7.8%	7.9%	72.6%	583
Eastern	19.7%	8.5%	6.4%	65.5%	797

**Table 72: Q18 How much hunting information from: Other coded (1: a lot, 2: some, 3: a little, 4: none)**

	N	Mean	Std. Deviation
Elected officials	3	1.0	0.0
NRA	21	1.0	0.0
Personal experience	103	1.1	0.3
Family	9	1.1	0.3
Other (individual responses)	16	1.2	0.5
Regulations	16	1.2	0.4
Hunting NGO's	15	1.2	0.4
Landowners, farmers	30	1.3	0.5
Hunters	43	1.3	0.5
Nonsensical, off topic	4	1.3	0.8
Wildlife/Conservation organizations	1	1.4	0.9
Outdoor media, books	34	1.5	0.6
State agencies/officials	34	1.6	0.6
Guides	6	1.6	0.5
Retailers, manufacturers	9	1.8	0.9
Hunting/shooting clubs	8	1.9	0.9
Friends, neighbors	28	2.0	0.9
Universities, research	17	2.4	0.9

Respondents' top sources of hunting information are either from their friends/family or "other sources (Table 73). The largest group of respondents who selected "other" sources identified personal experience as a major source of information .

**Table 73: Q18 Hunting information source means coded (1: a lot, 2: some, 3: a little, 4: none)**

How much hunting information from:	N	Mean	Std. Deviation
Other	542	1.7	0.8
Friends/family	10,704	1.8	0.7
Internet	8,744	2.0	0.7
Magazines	9,840	2.0	0.7
State wildlife agency	9,651	2.1	0.7
Television	8,365	2.2	0.7
U.S. Fish & Wildlife Service	8,765	2.3	0.7
Newspapers	6,442	2.5	0.6
Sporting goods stores	8,052	2.5	0.6
Radio	3,904	2.6	0.6

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Selected socioeconomic variables were measured. While people have nationally trended toward moving to larger cities and suburbs, there is not a dramatic change between where dove hunters grew up and dove hunters live now (Tables 74-75). The largest migration occurred in the Central DMU, where approximately 10% of hunters moved from rural to suburban or urban areas. There are differences between the units ( $p < .01$ ), and these differences mirror the differences of where hunters grew up. Nationally, and in each DMU, most dove hunters currently live in small towns/cities, rural areas or on farms/ranches. More Central and Eastern respondents live on farms or ranches than Western hunters and more Western hunters live in large city or urban areas ( $p < .01$ ).

**Table 74: Q19a Which best describes where you grew up as a child?**

	National	Western	Central	Eastern
Large city or urban area	9.3%	17.1%	9.9%	5.6%
Suburban area	15.2%	18.6%	16.6%	12.4%
Small town or city	30.1%	30.0%	32.7%	27.5%
Rural area	26.0%	21.1%	21.6%	32.6%
Farm or ranch	19.3%	13.1%	19.3%	21.9%
Total	11,261	2,318	3,964	4,975

**Table 74: Q19b Which best describes where you live now?**

	National	Western	Central	Eastern
Large city or urban area	11.4%	18.2%	15.2%	4.8%
Suburban area	19.2%	22.4%	21.4%	15.7%
Small town or city	28.2%	30.3%	29.8%	25.6%
Rural area	26.0%	20.2%	18.3%	36.2%
Farm or ranch	15.2%	8.8%	15.4%	17.7%
Total	10,997	2,251	3,887	4,852

Nationally, dove hunters are educated (Table 76). Over 70% of dove hunters had at least some college, with over one-third of hunters being college graduates or advanced degree holders. Differences exist between DMUs ( $p < .01$ ). The Central Unit respondents are particularly educated with 77% of respondents having at least some college experience.

**Table 75: Q20 Education**

	National	Western	Central	Eastern
Less than high school	5.9%	7.9%	5.6%	5.3%
High school graduate	21.5%	22.4%	17.4%	25.3%
Some college	27.7%	32.5%	29.0%	24.2%
College graduate	32.5%	27.2%	33.7%	33.5%
Advanced degree (M.D., Lawyer, Doctorate, Graduate school)	12.5%	9.9%	14.3%	11.7%
Total	11,141	2,296	3,923	4,916

Dove hunter household income is fairly high, with a third of respondents in all Units and nationally reporting a household income of greater than or equal to \$100,000 (Table 77). More than half of respondents reported household incomes of \$75,000 or greater. While differences exist between the units ( $p < .01$ ), the overarching trend remains the same.

**Table 76: Q21 Household income**

	National	Western	Central	Eastern
Less than \$20,000	4.2%	5.9%	3.7%	4.1%
\$20,000 to \$29,999	4.4%	6.0%	3.2%	5.0%
\$30,000 to \$39,999	7.2%	6.7%	7.5%	7.1%
\$40,000 to \$49,999	8.0%	8.8%	7.0%	8.6%
\$50,000 to \$74,999	19.7%	19.7%	17.9%	21.6%
\$75,000 to \$99,999	17.3%	19.3%	15.6%	18.3%
\$100,000 to \$119,999	13.1%	12.1%	15.1%	11.3%
\$120,000 or more	26.1%	21.5%	30.0%	24.0%
Total	10,611	2,184	3,768	4,646

The largest proportions of hunters describe their occupation as either professional/managerial, retired or skilled trade (Table 78). The major differences between units are less Western hunters are professional/managerial and more are retired ( $p < .01$ ).

**Table 77: Q22 Which best describes your current occupation?**

	National	Western	Central	Eastern
Professional/managerial	24.7%	19.2%	27.6%	24.0%
Retired	17.5%	20.5%	15.9%	17.8%
Skilled trade	16.7%	18.9%	15.2%	17.2%
Government	7.5%	7.6%	7.0%	8.0%
Agriculture	5.9%	6.1%	5.7%	6.0%
Student	5.8%	7.0%	6.7%	4.3%
Manufacturing	5.7%	3.5%	5.6%	6.8%
Services	5.4%	4.6%	6.7%	4.4%
Retail	2.3%	2.5%	1.9%	2.5%
Not employed	1.0%	1.6%	0.6%	1.1%
Homemaker	0.5%	0.2%	0.9%	0.2%
Other	7.1%	8.2%	6.1%	7.7%
Total	11,018	2,277	3,872	4,870

An overwhelming majority of hunters are white (Table 79). As compared to the Eastern and Central Units, Western hunters are slightly more diverse with 89.8% of respondents identifying as white ( $p < .01$ ).

**Table 79: Q23 With which race do you most closely identify yourself?**

	National	Western	Central	Eastern
White	93.3%	89.8%	93.2%	94.9%
American Indian or Alaska Native	1.8%	2.1%	1.9%	1.5%
Asian	0.7%	2.3%	0.5%	0.2%
Black or African American	0.6%	0.5%	0.8%	0.5%
Native Hawaiian/Pacific Islander	0.2%	0.5%	0.1%	0.2%
Total	11,402	2,354	4,005	5,043

Hispanics and Latinos are in themselves a racially diverse group. Therefore, we asked respondents if they describe their ethnic group as “not Hispanic or Latino” or as “Hispanic or Latino.” As might be expected, the vast majority of respondents did not self-identify as Hispanic or Latino (Table 80). The Eastern Unit, as compared to the Western and Central Units, had a particularly small Hispanic or Latino population ( $p < .01$ ).

**Table 78: Q24 Which best describes your ethnic group?**

	National	Western	Central	Eastern
Not Hispanic or Latino	95.5%	93.4%	92.7%	99.3%
Hispanic or Latino	4.5%	6.6%	7.3%	0.7%
Total	10,782	2,218	3,827	4,726

The vast majority of dove hunters are male (Table 81). Statistical differences exist between the units ( $p < .01$ ), but these have minor real world implications.

**Table 79: Q25 Gender**

	National	Western	Central	Eastern
Male	97.4%	96.8%	97.1%	98.0%
Female	2.6%	3.2%	2.9%	2.0%
Total	11,200	2,315	3,911	4,980



Most respondents (greater than 60%) are 45 years old or older (Table 82). Statistical differences exist between the DMUs ( $p < .01$ ), but these likely have little practical significance.

**Table 80: Q26 Age**

	National	Western	Central	Eastern
17 years or younger	4.1%	6.0%	4.3%	3.2%
18 to 24 years	5.7%	6.4%	5.3%	5.8%
25 to 34 years	13.0%	11.7%	14.6%	11.9%
35 to 44 years	15.4%	12.2%	15.7%	16.4%
45 to 54 years	23.5%	22.6%	22.7%	24.8%
55 to 64 years	24.9%	25.2%	24.8%	24.8%
65 years or older	13.4%	16.0%	12.6%	13.1%
Total	11,270	2,320	3,965	4,984




## References

Case, D.J. and Associates. 2006. Non-toxic shot regulation inventory of the United States and Canada. D.J. Case and Associates, Mishawaka, IN. 29pp.

Anderson, D. R. 2008. Model based inference in the life sciences: a primer of evidence. Springer, New York, USA

## Appendix A. Survey Instrument

barcode



### 2012 National Mourning Dove Hunter Survey

Your ideas count! Please help us understand your experiences with dove hunting by answering the following questions—and please, provide your opinions and experiences without asking others. Your name will never be associated with your answers in any tabulation or reporting of this information.

Please completely and carefully fill in each chosen circle with a #2 pencil or blue/black pen.

1. How many total years since you first began hunting have you actually hunted doves? (Please include only those years when you actually hunted doves.)

☐ Less than 5 years

☐ 5 to 10 years

☐ 11 to 20 years

☐ 21 to 30 years

☐ 31 to 40 years

☐ More than 40 years

☐ I've never hunted doves.  
Thank you—you're done!  
Please return your survey.

2. About how many doves do you typically harvest in a season?

☐ None

☐ Between 1 and 10 doves

☐ Between 11 and 30 doves

☐ Between 31 and 100 doves

☐ Between 101 and 200 doves

☐ More than 200 doves

4. How important is dove hunting to you?

☐ It's my most important recreational activity.

☐ It's one of my most important recreational activities.

☐ It's no more important than my other recreational activities.

☐ It's less important than some of my other recreational activities.

☐ It's one of my least important recreational activities.

6. How would you describe your participation in dove hunting? Typically, do you dove hunt... (Select one.)

☐ "Opening day" only.

☐ First complete weekend of the Season.

☐ First 2 weekends of the Season or no more than 5 total days.

☐ Occasionally throughout the dove season.

☐ As many days as I can throughout the entire dove season.

☐ Only occasionally over the years.

3. About how much do you typically spend in a year on shotgun shells for dove hunting?

☐ Less than \$5

☐ \$5 to \$15

☐ \$16 to \$24

☐ \$25 to \$50

☐ \$51 to \$100

☐ \$101 to \$200

☐ More than \$200

☐ Less than 5 miles

☐ 5 to 10 miles

☐ 11 to 20 miles

☐ 21 to 49 miles

☐ 50 or more miles

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Expires 03/31/2015

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8. When dove hunting, do you typically hunt...

- ☐ Only on public land.
- ☐ Mostly on public land.
- ☐ On public and private land equally.
- ☐ Mostly on private land.
- ☐ Only on private land.

9. How much ammunition do you typically use in a season of hunting doves?

- ☐ Less than 1 box (25 shells to a box)
- ☐ 1 box
- ☐ 2 to 5 boxes
- ☐ 6 to 9 boxes
- ☐ 1 to 2 cases (250 shells (or 10 boxes) to a case)
- ☐ More than 2 cases

10. How often do you use lead shot when you hunt doves?

- ☐ ALWAYS use lead
- ☐ OCCASIONALLY use lead
- ☐ MOSTLY use lead
- ☐ NEVER use lead

11. To what extent do you agree or disagree with each of the following statements? (Check one box in each row.)

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know
Lead shot substitutes for dove hunting are too expensive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-lead shot doesn't perform as well as lead shot for dove hunting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it will be hard to find lead shot substitutes for dove hunting in my local stores.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are non-lead loads available that will not damage vintage or older shotguns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doves have such a short life span that any exposure to lead makes practically no difference in the health of the dove population.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any changes requiring non-lead shot for dove hunting will reduce the number of young people recruited to hunting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'd probably quit hunting doves if I were required to use non-lead shot for dove hunting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The U.S. can't limit health effects of lead on dove populations because countries south of the border have no lead shot restrictions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If scientific evidence identifies negative impacts of lead shot on dove populations, then wildlife agencies have a responsibility to take appropriate action to conserve dove populations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. To what extent do you agree or disagree with each of the following statements? (Check one box in each row.)

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Don't know
Most doves that eat lead pellets become severely ill or die.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to use non-lead shot if scientific evidence showed the dove population was being harmed by eating lead pellets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns about effects of wildlife consumption of lead shot have not been explained to hunters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I thought it would help wildlife, I would use non-lead shot for dove hunting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-lead shot is more likely than lead shot to cripple doves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The effort to restrict lead ammunition is a tactic by animal rights groups to eliminate hunting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discontinuing the use of lead shot for waterfowl was a necessary change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'd probably reduce the number of dove hunting trips I'd take if I was required to use non-lead shot for doves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The effort to restrict lead ammunition is a tactic by gun control advocates to encroach on gun ownership rights.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# National Dove Hunter Survey 2013 Summary Statistics Report

13. Based on what you know and feel at the present time, what is your opinion of requiring the use of non-lead shot for dove hunting?

- ☐ Strongly oppose requiring non-lead shot.
- ☐ Somewhat oppose requiring non-lead shot.
- ☐ Neutral on requiring non-lead shot.
- ☐ Somewhat support requiring non-lead shot.
- ☐ Strongly support requiring non-lead shot.
- ☐ Don't know.

14. Have you ever ...? (Check one box in each row.)

- | Yes                   | No  |
|-----------------------|---|
| <input type="radio"/> | <input type="radio"/> Reloaded shotshells with lead shot                          |
| <input type="radio"/> | <input type="radio"/> Reloaded shotshells with non-lead shot                      |
| <input type="radio"/> | <input type="radio"/> Shot trap/skeet/sporting clays                              |
| <input type="radio"/> | <input type="radio"/> Hunted doves on your own land                               |
| <input type="radio"/> | <input type="radio"/> Leased land so you could hunt doves                         |
| <input type="radio"/> | <input type="radio"/> Traveled to another country to hunt doves                   |
| <input type="radio"/> | <input type="radio"/> Experienced damage to your shotgun from using non-lead shot |

15. Are you currently a member of the following types of organizations? (Check one box in each row.)

- | Yes                   | No   |
|-----------------------|--|
| <input type="radio"/> | <input type="radio"/> Hunting/wildlife conservation organizations (for example, Ducks Unlimited, National Wild Turkey Federation, Quail Unlimited)       |
| <input type="radio"/> | <input type="radio"/> Fishing/fish conservation organizations (for example, Trout Unlimited, North American Fishing Club, Stripercoast Surfcasters Club) |
| <input type="radio"/> | <input type="radio"/> Gun rights/shooting sports organizations (for example, NRA, NSSF)  |
| <input type="radio"/> | <input type="radio"/> Environmental organizations (for example, Audubon Society, Sierra Club)  |

16. Please indicate how much more or less of a problem the following have become for you over the last 5 years in your dove hunting. (Check one box in each row.)

- |  | Much more a problem   | Somewhat more a problem | Neither more nor less a problem | Somewhat less a problem | Much less a problem   | Don't know            |
|--|-----------------------|-------------------------|---------------------------------|-------------------------|-----------------------|-----------------------|
| Leasing a place to hunt doves              | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>           | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> |
| Cost of shotshells                         | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>           | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> |
| Cost of hunting gear other than shotshells | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>           | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> |
| Cost of gasoline                           | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>           | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> |
| Cost of hunting permits                    | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>           | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> |

17. How much trust do you put in each of the following to represent the interests of dove hunters like you? (Check one box in each row.)

- |   | High trust            | Medium trust          | Low trust             | No trust              | Don't know            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Ammunition manufacturers                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Businesses that manufacture hunting products            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Avid/experienced dove hunters                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wildlife biologists                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hunting guides  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Game wardens  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Outdoor writers/TV personalities                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staff at sporting goods stores selling hunting supplies | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hunting organizations                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (Please fill-in): _____                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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18. How much hunting information do you obtain from each of the following sources?  
(Check one box in each row.)

	A lot	Some	A little	None
Newspapers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Magazines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State wildlife agency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
U.S. Fish & Wildlife Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends/family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sporting goods stores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please fill-in.): _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following background answers are collected for analysis purposes only; we offer our thanks to you for providing this information, and assure you these answers will never be associated with your name or identity in any way. Thank you in advance for your help.

19. Which best describes:  
(Check one box in each row.)

	Large city or urban area	Suburban area	Small city or town	Rural area	Farm or ranch
Where you grew up as a child?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Where you live now?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Education: (Check one box.)

- ☐ Less than high school  
☐ High school graduate  
☐ Some college  
☐ College graduate  
☐ Advanced degree (MD, Lawyer, Doctorate, Graduate school)

21. Household income: (Check one box.)

- ☐ Less than \$20,000  
☐ \$20,000 to \$29,999  
☐ \$30,000 to \$39,999  
☐ \$40,000 to \$49,999  
☐ \$50,000 to \$74,999  
☐ \$75,000 to \$99,999  
☐ \$100,000 to \$119,999  
☐ \$120,000 or more

22. Which best describes your current occupation:  
(Check one box.)

- ☐ Manufacturing  
☐ Professional/managerial  
☐ Retail  
☐ Skilled trade  
☐ Government  
☐ Agriculture  
☐ Services  
☐ Student  
☐ Homemaker  
☐ Not employed  
☐ Retired  
☐ Other

23. With which race do you most closely identify yourself?  
(Choose one or more.)

- ☐ American Indian or Alaska Native  
☐ Asian  
☐ Black or African American  
☐ Native Hawaiian/Pacific Islander  
☐ White

24. Which best describes your ethnic group?

- ☐ Hispanic or Latino  
☐ Not Hispanic or Latino

25. You are: ☐ Female  
☐ Male

26. You are: ☐ 17 years or younger  
☐ 18 to 24 years  
☐ 25 to 34 years  
☐ 35 to 44 years  
☐ 45 to 54 years  
☐ 55 to 64 years  
☐ 65 years or older

**THANK YOU FOR TAKING TIME TO COMPLETE THIS SURVEY!**

Please return this questionnaire using the postage paid, self-addressed envelope provided.

## Appendix B: National Weights

State	Weight
AL	2.12
AR	1.55
AZ	1.62
CA	2.62
CO	0.65
DE	0.10
FL	0.71
GA	2.11
IA	0.36
ID	0.39
IL	0.81
IN	0.44
KS	0.61
KY	1.15
LA	1.79
MD	0.38
MN	0.44
MO	1.20
MT	0.01
NC	1.59
ND	0.26
NE	0.52
NM	0.40
NV	0.13
OH	0.30
OK	0.77
OR	0.56
PA	0.78
RI	0.04
SC	1.12
SD	0.19
TN	1.83
TX	10.96
UT	0.51
VA	0.72
WA	0.19
WI	0.39
WV	0.12
WY	0.13

## Appendix C: Dove Management Unit Weights

Western DMU	
State	Weights
AZ	1.95
CA	3.16
ID	0.47
NV	0.16
OR	0.67
UT	0.62
WA	0.23

Central DMU	
State	Weight
AR	1.30
CO	0.55
IA	0.30
KS	0.51
MN	0.37
MO	1.00
MT	0.01
ND	0.22
NE	0.44
NM	0.34
OK	0.65
SD	0.16
TX	9.19
WY	0.11

Eastern DMU	
State	Weight
AL	2.28
DE	0.11
FL	0.76
GA	2.28
IL	0.87
IN	0.48
KY	1.24
LA	1.92
MD	0.41
NC	1.72
OH	0.32
PA	0.84
RI	0.04
SC	1.20
TN	1.97
VA	0.78
WI	0.42
WV	0.13