

Alabama Hunter Harvest 2018-2019

Final Report



**This study was conducted for the
Alabama Department of Conservation
and Natural Resources**

**by
Responsive Management**

2019



ALABAMA HUNTER HARVEST 2018-2019

2019

Responsive Management National Office

Mark Damian Duda, Executive Director
Martin Jones, Senior Research Associate
Tom Beppler, Senior Research Associate
Steven J. Bissell, Ph.D., Qualitative Research Associate
Amanda Center, Research Associate
Andrea Criscione, Senior Research Associate
Patrick Doherty, Research Associate
Gregory L. Hughes, P.E., Research Associate
Caroline Gerken, Survey Center Manager
Alison Lanier, Business Manager

130 Franklin Street
Harrisonburg, VA 22801
540/432-1888
E-mail: mark@responsivemanagement.com
www.responsivemanagement.com

Acknowledgments

Responsive Management would like to thank Amy Silvano of the Alabama Department of Conservation and Natural Resources for her input, support, and guidance on this project.

TABLE OF CONTENTS

Introduction and Methodology.....	1
Use of Telephones for the Survey.....	1
Questionnaire Design.....	1
Survey Sample	2
Telephone Interviewing Facilities.....	2
Interviewing Dates and Times	2
Telephone Survey Data Collection, Quality Control, and Data Analysis.....	3
Sampling Error.....	4
Hunting Deer: Participation, Location, Types of Land, Equipment, Days, and Harvest.....	5
Hunting Turkey: Participation, Location, Seasons, Types of Land, Equipment, Days, and Harvest	9
Types Used and Opinions on Game Check Methods.....	12
Hunting Quail: Participation, Types of Quail Hunted, Types of Land, Days, and Harvest	15
Hunting Dove: Participation, Split Hunted, Types of Land, Days, and Harvest	16
Hunting Other Species: Participation, Types of Land, Days, and Harvest	17
Demographic Data	18
About Responsive Management	19

INTRODUCTION AND METHODOLOGY

This study was conducted for the Alabama Department of Conservation and Natural Resources (hereinafter referred to as the Department) to determine hunters' participation in hunting various species, their harvest, and other characteristics of their hunting in Alabama in 2018-2019. This follows a similar survey conducted by Responsive Management regarding the 2017-2018 hunting season. The study entailed a scientific telephone survey of licensed Alabama hunters. Specific aspects of the research methodology are discussed below.

USE OF TELEPHONES FOR THE SURVEY

Telephones were selected as the preferred sampling medium for the survey because of the nearly universal ownership of telephones among Alabama hunters (both landlines and cell phones were called). Also note that telephone surveys, relative to mail or Internet surveys, allow for more scientific sampling and data collection, provide higher quality data, obtain higher response rates, are more timely, and are more cost-effective. In particular, telephone surveys have better representation of the sample than do surveys that are read by the respondent (i.e., mail and Internet surveys) because those types of surveys systematically exclude those who are not literate enough to complete the surveys or who would be intimidated by having to complete a survey that they have to read to themselves—by an estimate of the U.S. Department of Education's National Institute of Literacy (2016), up to 43% of the general population read no higher than a "basic level," suggesting that they would be reticent to complete a survey that they have to read to themselves. Finally, telephone surveys also have fewer negative effects on the environment than do mail surveys because of reduced use of paper and reduced energy consumption for delivering and returning the questionnaires.

QUESTIONNAIRE DESIGN

The telephone survey questionnaire was developed cooperatively by Responsive Management and the Department, based on the previous survey administered in 2018. Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey and to ensure that the survey was updated for the 2018-2019 hunting season.

SURVEY SAMPLE

The sample of licensed Alabama hunters was obtained from the Department. The sample was stratified based on resident/non-resident and by lifetime license/non-lifetime license (i.e., lifetime versus any other type of hunting license). Within each of these sub-samples, a probability-based selection process ensured that each eligible hunter had an approximately equal chance of being selected for the survey. All groups were then proportioned properly in the data analyses, using the proportions in the entire dataset of license holders (resident vs. non-resident, and lifetime license holder vs. any other license holder). Note that this sample of Alabama hunters was not (and will not be) used for any other purpose outside of this survey.

TELEPHONE INTERVIEWING FACILITIES

A central polling site at the Responsive Management office allowed for rigorous quality control over the interviews and data collection. Responsive Management maintains its own in-house telephone interviewing facilities. These facilities are staffed by interviewers with experience conducting computer-assisted telephone surveys on the subjects of outdoor recreation and natural resources, specifically including hunter harvest surveys.

To ensure the integrity of the telephone survey data, Responsive Management has interviewers who have been trained according to the standards established by the Council of American Survey Research Organizations. Methods of instruction included lecture and role-playing. The Survey Center Managers and other professional staff conducted a project briefing with the interviewers prior to the administration of this survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey questionnaire, reading of the survey questions, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey questionnaire.

INTERVIEWING DATES AND TIMES

Telephone surveying times are Monday through Friday from 10:00 a.m. to 9:00 p.m., Saturday from noon to 7:00 p.m., and Sunday from 1:00 p.m. to 8:00 p.m., local time. A five-callback design was used to maintain the representativeness of the sample, to avoid bias toward people easy to reach by telephone, and to provide an equal opportunity for all to participate. When a

respondent could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. The survey was conducted in August 2019.

TELEPHONE SURVEY DATA COLLECTION, QUALITY CONTROL, AND DATA ANALYSIS

The software used for data collection was Questionnaire Programming Language (QPL). The survey data were entered into the computer as each interview was being conducted, eliminating manual data entry after the completion of the survey and the concomitant data entry errors that may occur with manual data entry. The survey questionnaire was programmed so that QPL branched, coded, and substituted phrases in the survey based on previous responses to ensure the integrity and consistency of the data collection.

The Survey Center Managers and statisticians monitored the data collection to ensure the integrity of the data, including monitoring of the actual telephone interviews without the interviewers' knowledge to evaluate the performance of each interviewer. The survey questionnaire itself contained error checkers and computation statements to ensure quality and consistent data. After the surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness. Responsive Management obtained 3,357 completed interviews with Alabama licensed hunters, 2,800 of whom went hunting.

The data were collected and weighted by license type. The sample was divided into three distinct groups: lifetime license holders, resident non-lifetime license holders, and non-resident non-lifetime license holders. Survey interviews from these groups were then obtained in their proper proportions. Once the data were collected, response rates were computed for each of these groups individually, and these were used to estimate the total number of participants and then to weight the final data, as lifetime licensees had a considerably lower rate of participation in hunting than the other license categories. The final weighting was slight: the highest weight (lifetime license holders) being 1.27 and the lowest weight (resident non-lifetime license holders) being 0.96.

The analysis of the final data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. The results were weighted by the aforementioned stratification variables so that the sample was representative of Alabama licensed hunters as a whole. As indicated, residents and non-residents were in their proper proportions, as were lifetime license holders and non-lifetime license holders.

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

SAMPLING ERROR

Throughout this report, findings of the telephone survey are reported at a 95% confidence interval. For the entire sample of Alabama licensed hunters, the sampling error is at most plus or minus 1.66 percentage points. This means that if the survey were conducted 100 times on different samples that were selected in the same way, the findings of 95 out of the 100 surveys would fall within plus or minus 1.66 percentage points of each other. Sampling error was calculated using the standard formula described below, with a sample size of 3,357 and an estimated population size of 263,260.

Sampling Error Equation

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

Where: B = maximum sampling error (as decimal)
 N_p = population size (i.e., total number who could be surveyed)
 N_s = sample size (i.e., total number of respondents surveyed)

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the maximum sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

HUNTING DEER: PARTICIPATION, LOCATION, TYPES OF LAND, EQUIPMENT, DAYS, AND HARVEST

- Slightly more than 191 thousand licensed hunters hunted deer in Alabama during the 2018-2019 deer seasons.
 - They spent just under 4.1 million days hunting deer.
 - They harvested just over 200 thousand deer.
 - Modern firearms accounts for the most deer hunters, days, and harvest, followed by archery; primitive weapons are the least-used for deer hunting.
 - Private lands accounted, by far, for the majority of hunters, hunting days, and harvest.
 - County data are shown starting on the following page.

Deer Hunting: Hunters, Days, and Harvest (2018-2019)

Deer / Equipment / Land / Deer Type	Number of Hunters			Hunter-Days			Number Harvested		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Deer-all	191,054	188,538	193,570	4,093,081	3,889,227	4,296,934	203,040	187,809	218,272
Archery	75,815	71,983	79,648	1,121,685	1,012,492	1,230,878	39,086	29,468	48,703
Modern	171,293	168,015	174,571	2,848,141	2,705,660	2,990,622	157,433	144,379	170,486
Primitive	16,895	14,741	19,050	123,254	94,293	152,214	6,522	0	14,647
Private land				3,731,519	3,539,344	3,923,693	192,142	176,995	207,289
WMAs				217,415	166,330	268,500	6,650	0	16,687
Other public				144,147	110,228	178,066	4,248	0	10,659
Buck							83,162	76,342	89,982
Doe							114,553	103,118	125,989

Deer Hunting: Mean Days, Deer Harvest per Hunter, Days per Harvest, and Buck-Doe Percentages (2018-2019)

	Mean Days per Hunter	Deer Harvest per Hunter	Days per Harvest	Percentage
Deer Overall	21.4	1.06	20.2	
Archery		0.52	18.1	
Modern		0.92	28.7	
Primitive		0.39	18.9	
Buck				41.0
Doe				59.0

Deer Hunting: Harvest of Bucks, Does, and Fawns by County (2018-2019)

County	Harvest of Bucks			Harvest of Does			Harvest of Fawns		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Autauga	1,559	632	2,485	1,553	605	2,501	222	0	479
Baldwin	3,187	1,889	4,485	4,446	2,110	6,783	0	0	0
Barbour	2,141	1,217	3,066	3,410	1,851	4,970	74	0	223
Bibb	889	296	1,482	667	92	1,241	74	0	223
Blount	444	0	959	370	0	763	0	0	0
Bullock	2,057	970	3,143	3,401	1,766	5,035	74	0	223
Butler	1,354	525	2,183	3,400	1,145	5,654	98	0	269
Calhoun	148	0	358	296	0	660	0	0	0
Chambers	968	392	1,543	1,417	256	2,578	74	0	223
Cherokee	898	231	1,565	913	314	1,512	0	0	0
Chilton	667	0	1,379	519	73	964	0	0	0
Choctaw	1,314	533	2,095	1,509	521	2,497	0	0	0
Clarke	1,117	99	2,136	2,175	246	4,103	0	0	0
Clay	744	188	1,300	815	44	1,586	0	0	0
Cleburne	74	0	223	222	0	554	0	0	0
Coffee	1,231	429	2,033	1,193	140	2,246	0	0	0
Colbert	715	80	1,350	593	0	1,289	0	0	0
Conecuh	1,169	476	1,862	3,234	3	6,465	74	0	223
Coosa	1,135	389	1,882	839	122	1,556	0	0	0
Covington	918	354	1,482	1,642	592	2,693	451	0	924
Crenshaw	741	186	1,296	1,219	272	2,166	296	0	660
Cullman	543	43	1,042	617	140	1,094	0	0	0
Dale	1,308	465	2,151	815	0	1,641	74	0	223
Dallas	2,221	1,077	3,364	5,931	3,366	8,495	98	0	269
DeKalb	519	73	964	815	103	1,526	74	0	223
Elmore	2,224	679	3,770	2,438	409	4,467	566	0	1,434
Escambia	665	159	1,171	921	204	1,638	98	0	269
Etowah	345	0	728	0	0	0	0	0	0
Fayette	1,111	184	2,038	1,333	372	2,295	0	0	0
Franklin	691	73	1,309	963	60	1,866	0	0	0
Geneva	522	75	968	679	25	1,333	0	0	0
Greene	1,514	780	2,247	1,539	656	2,423	0	0	0
Hale	765	130	1,400	3,382	910	5,854	0	0	0
Henry	2,179	1,037	3,321	1,533	352	2,714	74	0	223
Houston	889	260	1,518	892	1	1,783	296	0	766
Jackson	1,850	578	3,123	1,826	597	3,055	74	0	223
Jefferson	1,308	547	2,068	1,556	623	2,489	0	0	0
Lamar	1,037	224	1,850	1,456	562	2,349	74	0	223
Lauderdale	916	316	1,516	1,553	516	2,590	0	0	0
Lawrence	593	123	1,062	222	0	554	0	0	0
Lee	1,451	618	2,284	1,932	905	2,960	0	0	0
Limestone	1,678	773	2,583	1,926	398	3,453	0	0	0
Lowndes	1,293	460	2,126	2,844	1,186	4,502	0	0	0
Macon	1,462	627	2,297	3,115	1,773	4,457	0	0	0
Madison	1,483	328	2,639	1,408	436	2,380	665	42	1,289
Marengo	1,061	272	1,851	743	214	1,271	74	0	223
Marion	1,135	332	1,939	1,704	545	2,862	0	0	0
Marshall	172	0	399	0	0	0	0	0	0
Mobile	889	225	1,552	1,556	539	2,572	0	0	0
Monroe	1,635	841	2,428	2,714	1,380	4,049	0	0	0
Montgomery	1,836	905	2,766	1,780	624	2,935	77	0	229
Morgan	395	0	894	74	0	223	0	0	0
Perry	1,209	478	1,941	3,133	1,620	4,645	74	0	223
Pickens	997	341	1,652	768	132	1,404	0	0	0
Pike	1,195	407	1,982	1,565	526	2,604	0	0	0
Randolph	824	174	1,475	972	170	1,774	0	0	0
Russell	1,880	854	2,907	4,340	2,023	6,657	148	0	358

Deer Hunting: Harvest of Bucks, Does, and Fawns by County (2018-2019) (continued)

County	Harvest of Bucks			Harvest of Does			Harvest of Fawns		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
St. Clair	694	152	1,237	448	83	812	74	0	223
Shelby	739	172	1,307	519	26	1,011	0	0	0
Sumter	839	187	1,491	1,358	305	2,410	0	0	0
Talladega	543	43	1,042	1,011	260	1,763	0	0	0
Tallapoosa	889	260	1,518	1,756	209	3,304	77	0	229
Tuscaloosa	2,153	1,197	3,109	3,130	1,116	5,143	0	0	0
Walker	765	130	1,400	1,923	533	3,313	0	0	0
Washington	1,805	774	2,836	2,251	933	3,570	0	0	0
Wilcox	2,014	1,079	2,950	2,457	1,137	3,778	0	0	0
Winston	1,727	774	2,679	1,802	408	3,196	74	0	223

Deer Hunting: Days by County (2018-2019)

County	Days		
	Estimate	Lower Bound	Upper Bound
Autauga	70,192	43,176	97,208
Baldwin	125,266	88,147	162,386
Barbour	100,355	70,360	130,351
Bibb	38,189	20,651	55,727
Blount	45,539	21,417	69,661
Bullock	65,104	42,797	87,411
Butler	82,286	51,130	113,441
Calhoun	44,543	21,784	67,301
Chambers	55,974	33,736	78,212
Cherokee	31,946	16,194	47,699
Chilton	39,242	21,862	56,622
Choctaw	55,404	28,091	82,717
Clarke	74,656	32,033	117,280
Clay	28,954	16,493	41,415
Cleburne	42,707	5,260	80,153
Coffee	65,242	35,282	95,201
Colbert	28,852	9,883	47,820
Conecuh	67,279	37,052	97,506
Coosa	68,866	40,994	96,739
Covington	66,714	40,179	93,248
Crenshaw	41,372	22,248	60,497
Cullman	38,731	19,428	58,033
Dale	54,448	29,976	78,919
Dallas	95,345	66,324	124,367
DeKalb	31,703	12,424	50,982
Elmore	56,115	33,588	78,643
Escambia	56,106	29,667	82,546
Etowah	24,856	9,380	40,332
Fayette	40,243	19,411	61,075
Franklin	34,681	15,018	54,344
Geneva	20,081	7,655	32,508
Greene	59,668	39,031	80,305
Hale	42,617	23,356	61,878
Henry	64,780	34,940	94,620
Houston	35,079	17,724	52,433
Jackson	88,588	53,887	123,289
Jefferson	70,532	44,735	96,329
Lamar	47,656	22,107	73,206
Lauderdale	61,787	30,593	92,982
Lawrence	28,071	13,954	42,188
Lee	79,343	47,524	111,161
Limestone	65,662	35,243	96,081
Lowndes	59,966	37,016	82,916

Deer Hunting: Days by County (2018-2019) (continued)

County	Days		
	Estimate	Lower Bound	Upper Bound
Macon	82,135	51,685	112,585
Madison	80,686	38,451	122,920
Marengo	57,236	36,154	78,318
Marion	56,989	34,746	79,233
Marshall	25,858	11,347	40,369
Mobile	62,969	36,644	89,293
Monroe	100,407	63,933	136,881
Montgomery	85,865	49,827	121,902
Morgan	28,693	11,511	45,875
Perry	84,841	51,899	117,782
Pickens	45,600	25,781	65,419
Pike	48,738	27,303	70,173
Randolph	40,960	23,966	57,955
Russell	66,176	38,799	93,552
St. Clair	42,824	22,908	62,740
Shelby	46,563	29,326	63,801
Sumter	35,569	20,983	50,155
Talladega	37,094	21,192	52,996
Tallapoosa	90,597	50,147	131,046
Tuscaloosa	98,039	66,068	130,011
Walker	80,833	49,045	112,622
Washington	80,361	43,979	116,742
Wilcox	74,080	46,468	101,691
Winston	83,342	51,618	115,065

HUNTING TURKEY: PARTICIPATION, LOCATION, SEASONS, TYPES OF LAND, EQUIPMENT, DAYS, AND HARVEST

- Just under 50 thousand licensed hunters hunted turkey in Alabama in the 2018-2019 seasons.
 - They spent nearly 522 thousand hunter-days hunting turkey.
 - They harvested approximately 26 thousand turkeys.
 - Using modern firearms was the most popular way to hunt turkey, accounting for most of the days of turkey hunting.
 - The spring season far exceeded the fall season in participation and harvest.
 - County data are shown starting on the following page.

Turkey Hunting: Hunters, Days, and Harvest (2018-2019)

Turkey / Equipment / Season / Turkey Type	Number of Hunters			Hunter-Days			Number Harvested		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Turkey-all	49,878	46,510	53,246	521,678	461,592	581,764	25,750	21,410	30,090
Archery				14,700	3,647	25,752			
Modern				494,233	436,588	551,878			
Primitive				12,744	4,583	20,906			
Fall	1,833	1,097	2,569	9,497	3,087	15,907	98	-73	269
Spring	48,194	44,852	51,535	512,181	452,872	571,490	25,652	21,314	29,989
Jakes							1,208	530	1,887
Gobblers							24,542	20,320	28,764

Turkey Hunting: Mean Days, Turkey Harvest per Hunter, and Days per Harvest (2018-2019)

	Mean Days per Hunter	Turkey Harvest per Hunter	Days per Harvest
Turkey Overall	10.5	0.52	20.3
Fall	5.2	*	*
Spring	10.6	0.53	20.0

* Sample size too small for calculations.

Turkey Hunting: Harvest and Days by County (2018-2019)

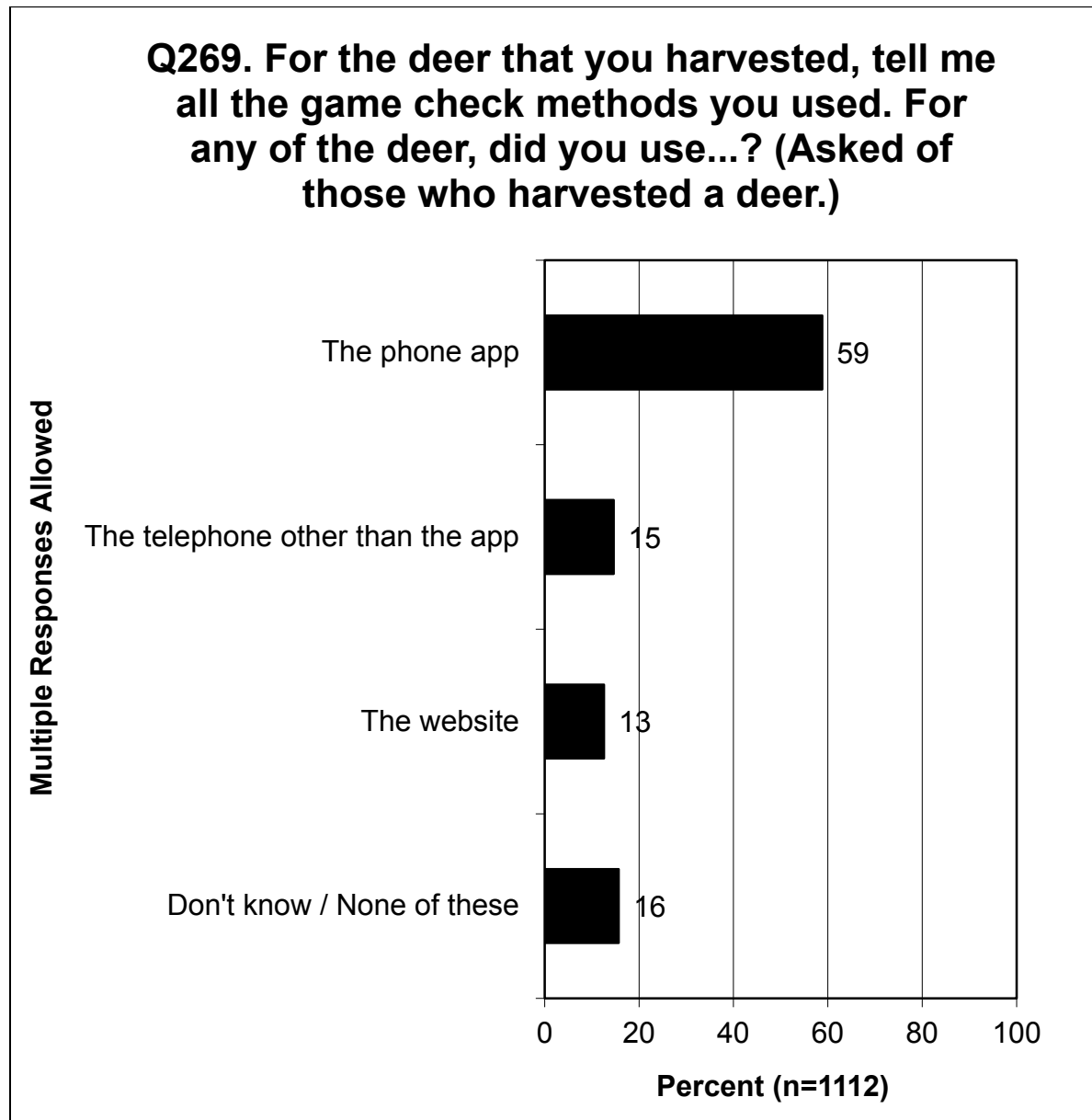
County	Harvest of Turkeys			Days of Turkey Hunting		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Autauga	667	0	1,520	14,740	3,570	25,910
Baldwin	815	0	1,916	14,778	5,219	24,338
Barbour	789	221	1,357	15,258	6,872	23,643
Bibb	444	25	864	9,037	2,333	15,740
Blount	74	0	223	3,926	0	10,664
Bullock	617	17	1,217	4,505	1,236	7,774
Butler	641	0	1,316	15,041	0	30,804
Calhoun	296	0	593	6,047	1,028	11,066
Chambers	74	0	223	3,108	850	5,366
Cherokee	370	0	906	6,862	826	12,898
Chilton	912	151	1,672	10,583	3,517	17,649
Choctaw	1,259	26	2,492	12,823	2,613	23,033
Clarke	0	0	0	7,640	2,822	12,459
Clay	744	0	1,668	6,906	1,071	12,741
Cleburne	172	0	399	5,182	0	10,788
Coffee	714	0	1,678	4,522	121	8,922
Colbert	296	0	890	4,122	361	7,884
Conecuh	543	0	1,228	7,300	2,030	12,569
Coosa	818	106	1,530	16,869	7,173	26,565
Covington	222	0	479	7,475	1,167	13,783
Crenshaw	148	0	358	4,889	0	10,514
Cullman	74	0	223	2,222	0	5,973
Dale	395	0	796	12,606	3,478	21,734
Dallas	697	113	1,281	12,841	5,213	20,469
DeKalb	148	0	358	2,593	0	5,397
Elmore	0	0	0	4,245	0	8,600
Escambia	0	0	0	2,741	0	6,181
Etowah	98	0	269	2,040	0	5,465
Fayette	246	0	589	1,060	0	2,231
Franklin	148	0	358	2,667	210	5,123
Geneva	296	0	766	4,717	0	10,078
Greene	813	102	1,525	13,478	4,374	22,583
Hale	469	0	1,104	6,172	1,160	11,185
Henry	395	0	796	4,489	0	9,142
Houston	74	0	223	4,296	0	9,166
Jackson	1,036	214	1,857	18,254	6,260	30,249
Jefferson	246	0	517	10,090	2,666	17,514
Lamar	77	0	229	2,320	282	4,358
Lauderdale	148	0	445	4,043	1,199	6,887
Lawrence	0	0	0	741	0	1,748
Lee	303	0	671	7,201	1,221	13,181
Limestone	0	0	0	3,332	528	6,135
Lowndes	422	0	900	12,812	2,765	22,858
Macon	543	90	996	7,947	3,168	12,726
Madison	246	0	517	9,790	1,761	17,819
Marengo	519	0	1,166	8,147	2,292	14,002
Marion	370	0	983	6,667	1,284	12,049
Marshall	0	0	0	593	0	1,458
Mobile	222	0	554	5,185	709	9,662
Monroe	222	0	668	9,556	2,928	16,185
Montgomery	1,085	187	1,984	16,086	6,606	25,565
Morgan	0	0	0	148	0	445
Perry	246	0	517	7,675	2,331	13,019
Pickens	525	78	972	9,572	3,277	15,867
Pike	0	0	0	1,858	336	3,380
Randolph	0	0	0	1,778	0	4,306
Russell	419	0	895	3,896	1,094	6,698

Turkey Hunting: Harvest and Days by County (2018-2019) (continued)

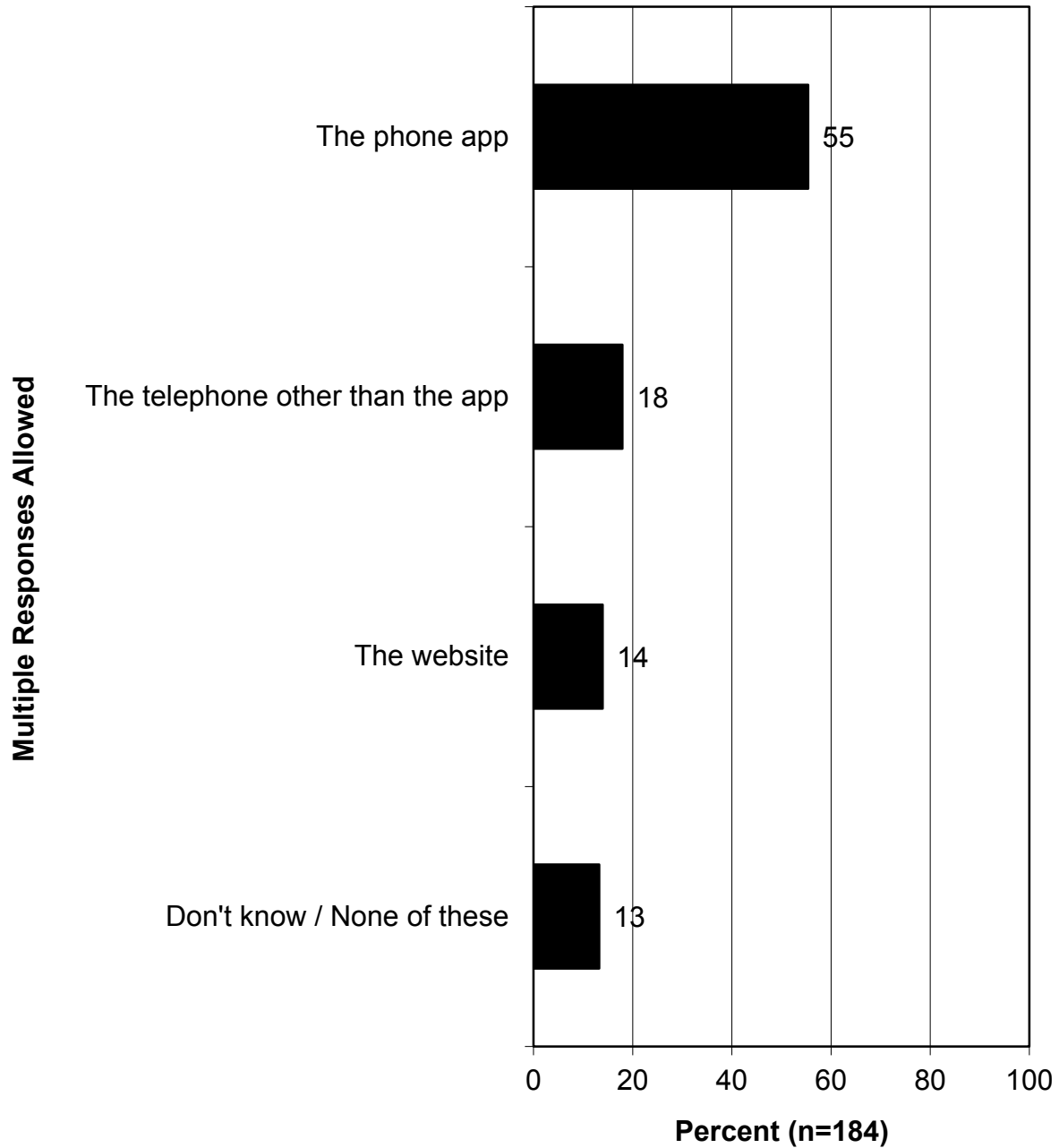
County	Harvest of Turkeys			Days of Turkey Hunting		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
St. Clair	370	39	702	8,121	2,496	13,746
Shelby	370	39	702	11,774	3,777	19,770
Sumter	593	0	1,433	10,831	3,108	18,554
Talladega	225	0	559	3,488	763	6,212
Tallapoosa	444	0	959	12,000	3,665	20,335
Tuscaloosa	519	0	1,166	13,961	6,303	21,619
Walker	148	0	445	5,382	0	11,352
Washington	345	0	746	24,400	6,138	42,661
Wilcox	567	0	1,166	10,099	2,014	18,183
Winston	296	0	766	7,208	569	13,847

TYPES USED AND OPINIONS ON GAME CHECK METHODS

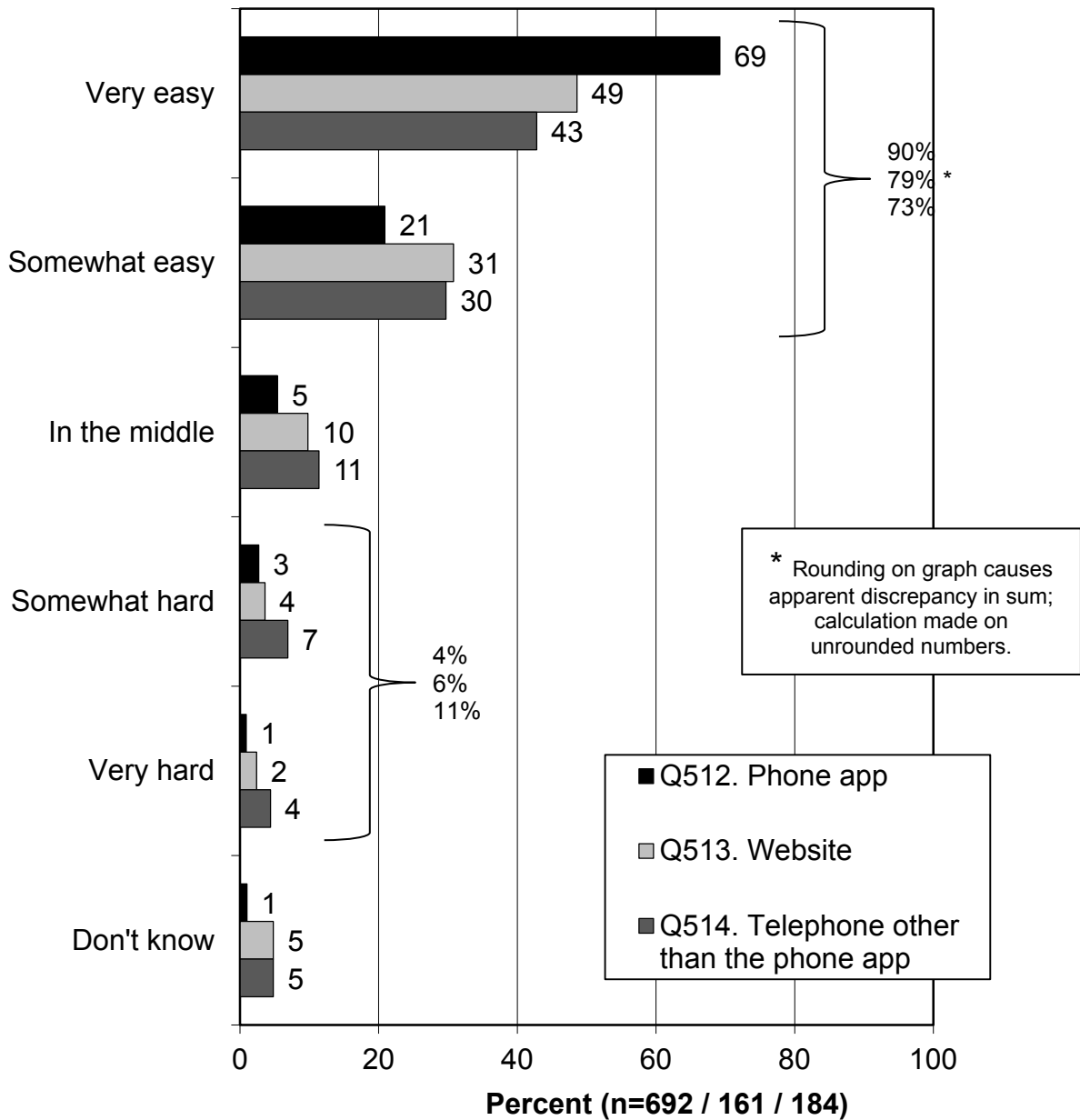
- The phone app is the most popular way to check both deer and turkey. More than half of those who harvested each species used the phone app to check their game in the 2018-2019 deer and turkey seasons.
 - The survey had hunters rate the ease of use for each method of checking game that they had used. The phone app had the highest ratings for ease of use, followed by the website.



Q510. For the turkey that you harvested, tell me all the game check methods you used. For any of the turkeys, did you use...? (Asked of those who harvested a turkey.)



Q512 / Q513 / Q514. How easy or hard was it to use the [phone app / website / telephone other than the phone app] for checking game? Was it...? (Asked of those who used the method to report a deer or turkey harvest.)



HUNTING QUAIL: PARTICIPATION, TYPES OF QUAIL HUNTED, TYPES OF LAND, DAYS, AND HARVEST

- The almost 9 thousand quail hunters harvested approximately 322 thousand quail in the 2018-2019 season.

Quail Hunting: Hunters, Days, and Harvest

Quail / Quail Type	Number of Hunters			Hunter-Days			Number Harvested		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Quail-all	8,953	7,354	10,552	52,336	35,521	69,152	321,589	226,689	416,488
Wild	2,144	1,349	2,939	12,710	6,392	19,028	37,851	13,180	62,522
Pen-raised	8,087	6,564	9,609	39,603	25,891	53,316	283,738	199,915	367,562

Quail Hunting: Avg. Days and Days per Harvest

Quail	
Avg. Days per Hunter	Days per Harvest
5.8	0.2

HUNTING DOVE: PARTICIPATION, SPLIT HUNTED, TYPES OF LAND, DAYS, AND HARVEST

- There were nearly 36 thousand dove hunters. They hunted nearly 200 thousand days. The harvest was approximately 1.3 million dove in the 2018-2019 season.

Dove Hunting: Hunters, Days, and Harvest

Dove / Split	Number of Hunters			Hunter-Days			Number Harvested		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Dove-all	35,955	32,966	38,944	194,068	167,738	220,398	1,257,006	1,085,444	1,428,569
First split				143,766	125,793	161,739	884,211	771,836	996,586
Remaining splits				49,601	36,435	62,767	317,444	234,406	400,482
Unknown splits							55,351	29,532	81,171

Dove Hunting: Avg. Days and Days per Harvest

Dove	
Avg. Days per Hunter	Days per Harvest
5.4	0.2

HUNTING OTHER SPECIES: PARTICIPATION, TYPES OF LAND, DAYS, AND HARVEST

- Other species are detailed in the tabulations below. Of those other species asked about in the survey, wild hog, duck, squirrel, and coyote were the most popular among hunters in the 2018-2019 season.

Small Game Hunting: Hunters, Days, and Harvest (2018-2019)

Species	Number of Hunters			Hunter-Days			Number Harvested		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
Bobcat	2,594	1,721	3,468	14,493	0	29,870	3,109	1,368	4,850
Coot	895	380	1,411	7,053	0	15,653	24,660	0	56,330
Coyote	14,117	12,134	16,099	60,219	37,182	83,256	65,668	30,985	100,351
Duck	22,421	19,974	24,868	227,003	188,823	265,184	540,023	408,161	671,885
Fox	296	0	593	2,296	0	5,692	148	0	358
Goose	4,927	3,730	6,125	25,653	14,111	37,196	40,148	24,199	56,097
Opossum	718	257	1,180	1,163	0	2,979	2,194	111	4,277
Rabbit	4,527	3,378	5,676	41,386	24,177	58,595	45,403	24,435	66,371
Raccoon	4,199	3,091	5,306	74,479	30,913	118,045	37,783	9,899	65,667
Snipe	148	0	358	1,628	0	4,610	2,222	0	6,677
Squirrel	14,549	12,538	16,559	90,910	66,072	115,747	179,245	114,721	243,769
Wild hog	27,076	24,419	29,732	174,767	129,304	220,230	258,924	179,842	338,006
Woodcock	74	0	223	**0	0	0	222	0	668

**No hunters in the survey *specifically* hunted woodcock (i.e., 0 days hunting woodcock) but there was reported harvest.

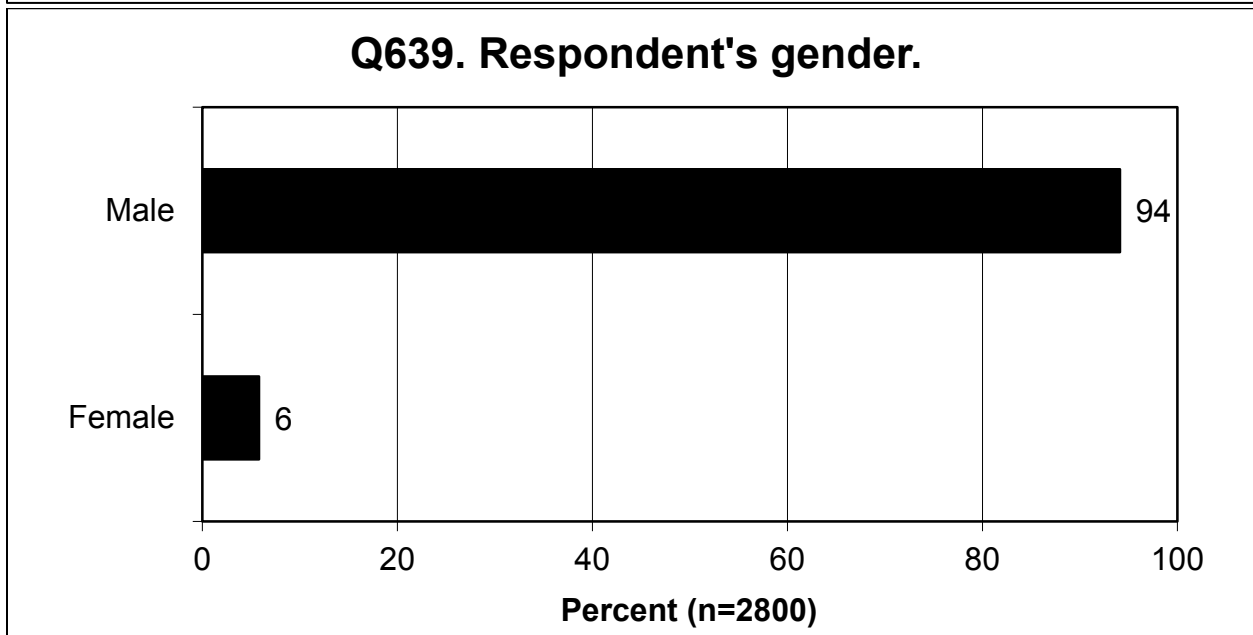
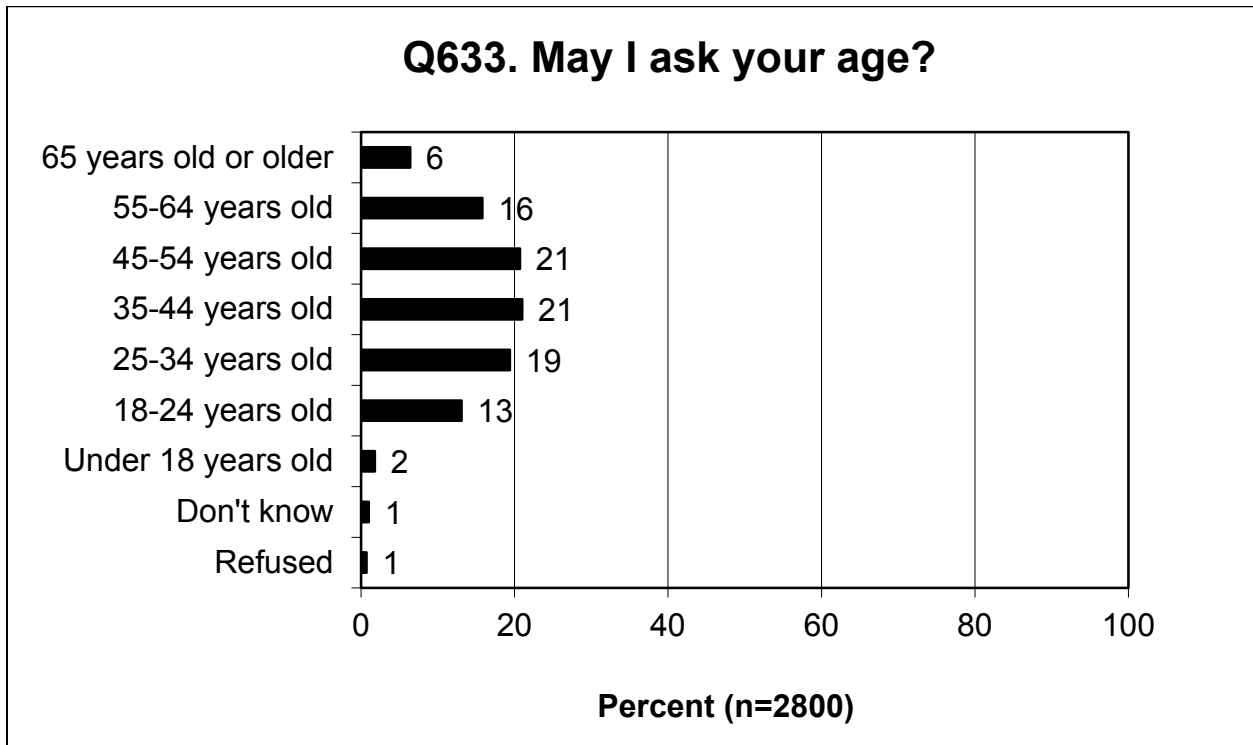
Small Game Hunting: Mean Days and Days per Harvest (2018-2019)

	Mean Days per Hunter	Days per Harvest
Bobcat	5.6	4.7
Coot	7.9	0.3
Coyote	4.3	0.9
Duck	10.1	0.4
Fox	7.8	15.5
Goose	5.2	0.6
Opossum	1.6	0.5
Rabbit	9.1	0.9
Raccoon	17.7	2.0
Snipe	11.0	0.7
Squirrel	6.2	0.5
Wild hog	6.5	0.7
Woodcock	0.0	**

**No hunters in the survey *specifically* hunted woodcock (i.e., 0 days hunting woodcock) but there was reported harvest.

DEMOGRAPHIC DATA

- The survey gathered data on the age and gender of licensed hunters for the 2018-2019 seasons.



ABOUT RESPONSIVE MANAGEMENT

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

Focusing only on natural resource and outdoor recreation issues, Responsive Management has conducted telephone, mail, and online surveys, as well as multi-modal surveys, on-site intercepts, focus groups, public meetings, personal interviews, needs assessments, program evaluations, marketing and communication plans, and other forms of human dimensions research measuring how people relate to the natural world for more than 30 years. Utilizing our in-house, full-service survey facilities with 75 professional interviewers, we have conducted studies in all 50 states and 15 countries worldwide, totaling more than 1,000 human dimensions projects and almost \$70 million in research *only* on natural resource and outdoor recreation issues.

Responsive Management has conducted research for every state fish and wildlife agency and every federal natural resource agency, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, Bureau of Land Management, U.S. Coast Guard, and the National Marine Fisheries Service. Additionally, we have also provided research for all the major conservation NGOs including the Archery Trade Association, the American Sportfishing Association, the Association of Fish and Wildlife Agencies, Dallas Safari Club, Ducks Unlimited, Environmental Defense Fund, the Izaak Walton League of America, the National Rifle Association, the National Shooting Sports Foundation, the National Wildlife Federation, the Recreational Boating and Fishing Foundation, the Rocky Mountain Elk Foundation, Safari Club International, the Sierra Club, Trout Unlimited, and the Wildlife Management Institute. Other nonprofit and NGO clients include the American Museum of Natural History, the BoatUS Foundation, the National Association of Conservation Law Enforcement Chiefs, the National Association of State Boating Law Administrators, and the Ocean Conservancy. As well, Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Vista Outdoor (whose brands include Federal Premium, CamelBak, Bushnell, Primos, and more), Trijicon, Yamaha, and others.

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

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

responsivemanagement.com