



KENTUCKY

Bridging the 50-State Survey
of Fishing, Hunting, and Wildlife-
Associated Recreation with
Previous National Survey of
Fishing, Hunting, and Wildlife-
Associated Recreation Trends

Final Methodology Overview

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OVERVIEW

In 2016, the Rockville Institute conducted the 50-State Survey of Fishing, Hunting and Wildlife-Associated Recreation (FHWAR); see more details in Rockville Institute (2018). Concurrently, the Census Bureau conducted the 2016 National Survey of FHWAR; see more details in U.S. Department of the Interior, U.S. Fish & Wildlife Service, and U.S. Department of Commerce U.S. Census Bureau (2018). The two surveys were based on samples of addresses intended to be representative of the United States population living in households, and used questionnaires as nearly identical as possible. Both surveys identified likely sports-persons and wildlife watchers within sampled households, and individual participation surveys covered all of calendar year 2016. However, differences in sample design, sample selection process and mode of data collection resulted in estimates that were substantially different between the surveys.

Estimates from the 2016 National Survey of FHWAR are directly comparable to those from previous surveys such as the 2011 National Survey of FHWAR; see U.S. Department of the Interior, U.S. Fish & Wildlife Service, and U.S. Department of Commerce U.S. Census Bureau (2014). Due to its modest sample size, it can only produce reliable estimates at the national and census division level. In contrast, the 50-State Survey of FHWAR produced state-level estimates, but these estimates are not directly comparable to those from previous surveys. The Rockville Institute therefore completed a project to create new state-level estimates that are calibrated to those of the 2016 National Survey of FHWAR. The dual purpose of these calibrated estimates is to maintain the fine level of granularity of the 50-State Survey of FHWAR but enable comparison to previous National Surveys of FHWAR.

Through this bridging project, the Rockville Institute created new state-level tables showing adjusted survey

estimates by state of residency of the participants. These tables show the estimated demographics, participation, days, trips and expenditures, for fishing, hunting and wildlife-related activities for residents of each of the 50 states and DC. The tables correspond to Tables 5, 15, 22, 28, 30, 33, 35, and 36 in the state reports released by the Rockville Institute in 2018, with the exception of Tables 28 and 33, where we report an extended set of statistics compared to those reported in the 50-State Survey of FHWAR report.

The calibration procedure used to create these tables involved a combination of data harmonization and statistical modeling of the differences between the two surveys. The procedure consisted of the following major steps. First, the estimated demographic compositions of both surveys were aligned at the census division level, using survey calibration methods. Second, a statistical model was developed to account for the differences in participation rates in hunting, fishing and wildlife-related activities between the two surveys. This “bridging model” was used to predict state-level participating rates that are consistent with those obtained using the Census Bureau methodology. By combining these predicted participation rates with the harmonized population estimates, calibrated estimates of the numbers of participants in each state were obtained. Third, the characteristics of the participants’ activities, such as the number and type of activities, days of participation and types of associated expenditures, were adjusted by means of estimated products or ratios of these characteristics between the two surveys. Finally, applying these products or ratios to the calibrated estimates of the participant numbers made it possible to produce the calibrated tables of estimates mentioned above. For more details about the bridging project, see Rockville Institute (2020).

References

- Rockville Institute. 2018. *2016 50-State Survey of Fishing, Hunting, and Wildlife-Related Recreation: National*.
- Rockville Institute. 2020. *Bridging the 50-State Surveys of Fishing, Hunting, and Wildlife-Associated Recreation with Previous National Survey of Fishing, Hunting, and Wildlife-Associated Recreation Trends. Final Methodology Report*.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce U.S. Census Bureau. 2014. *2011 National Survey of Fishing, Hunting, and Wildlife-Related Recreation*.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce U.S. Census Bureau. 2018. *2016 National Survey of Fishing, Hunting, and Wildlife-Related Recreation*.

APPENDIX A: POINT ESTIMATES

The tables in Appendix A depict the calibrated point estimates, subject to rounding error. The format of the calibrated tables in this appendix matches closely the format used in the 50-State Survey of FHWAR reports. Summary statistics reported in the calibrated tables are described below, by table.

Table 5

Fishing and hunting, participation, days, and trips

- Total fishing participation and total hunting participation: product-type statistics derived using model predictions for percent participation in the population and total population based on adjusted 50-State Survey of FHWAR weights.
- Total freshwater, freshwater except Great Lakes, Great Lakes, and saltwater fishing participation, total big game, small game, migratory birds, and other animals hunting participation: product-type statistics derived using total fishing participation, total hunting participation, percent participation of freshwater, freshwater except Great Lakes, Great Lakes, and saltwater fishing in all fishing, and percent participation of big game, small game, migratory birds, and other animals hunting in all hunting (columns denoted by %).
- Total fishing (all and subcategories) days/trips of participation and total hunting (all and subcategories) days/trips of participation: product-type statistics derived using total number of fishing (all and subcategories) participants, total number of hunting (all and subcategories) participants, and days/trips per participant (not displayed).
- Percent participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the fishing or hunting survey for the fishing and hunting sections, respectively.

Table 15

Fishing and hunting, demographics

- Total population (all and subcategories): composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final weights, using data from both the fishing and the hunting surveys.
- Total number of anglers and total number of hunters: product-type statistics derived using model predictions for percent participation in the population (columns denoted by % Pop.), and total population based on adjusted 50-State Survey of FHWAR final weights.
- Total number of sportspersons: ratio-type statistics derived using total number of anglers and percent anglers in sportspersons (not displayed).
- Total population, sportspersons, anglers, hunters, by demographics: product-type statistics, derived using total population, sportspersons, anglers, hunters participation, and percent demographic-specific participation in total participation (columns denoted by %).
- Percent demographic-specific population, sportspersons, anglers, hunters participation in total participation (columns denoted by %): composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final weights, using data from the fishing and hunting surveys.
- Percent demographic-specific anglers and hunters participation in the total demographic-specific population (columns denoted by % Pop.): ratio-type statistics, derived using total demographic-specific anglers and hunters participation and total demographic-specific population.

- Percent total and demographic-specific sportspersons participation in the total and demographic-specific population (column denoted by % Pop.): ratio-type statistics, derived using total population and sportspersons participation.

Table 22

Fishing and hunting, spenders and expenses

- Total fishing and hunting expenditure (all and subcategories) amount, total fishing expenditure (all and subcategories) amount, total hunting expenditure (all and subcategories) amount, and total unspecified expenditure amount: product-type statistics derived using expenditure amount per participant (columns denoted by Average Per Sportsperson), and total sportspersons participation (all and subcategories), total anglers participation (all and subcategories), total hunters participation (all and subcategories) and total sportspersons participation, respectively.
- Expenditure amount per participant (columns denoted by Average Per Sportsperson) and expenditure amount per spender (columns denoted by Average Per Spender):
 - > Fishing section: statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the fishing survey only.
 - > Hunting section: statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the hunting survey only.
 - > Fishing and hunting, and unspecified sections: except for some expenses and spenders noted in the table footnotes, these are composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final weights, using data from the fishing and hunting surveys.
- Total fishing and hunting (all and subcategories) number of spenders, total fishing (all and subcategories) number of spenders, total hunting (all and subcategories) number of spenders, and total unspecified number of spenders: product-type statistics derived using the percent spenders in total participation (not displayed), and total sportspersons participation (all and subcategories),

total anglers participation (all and subcategories), total hunters participation (all and subcategories) and total sportspersons participation, respectively.

Table 28

Wildlife watching, participation, days, and trips

- Total wildlife watching participation: product-type statistics derived using model predictions for percent participation in the population, and total population based on adjusted 50-State Survey of FHWAR final weights.
- Total away from home (all and subcategories) and around the home (all and subcategories) wildlife watching participation: product-type statistics derived using total wildlife watching participation, and percent participation of away from home (all and subcategories) and around the home (all and subcategories) wildlife watching in all wildlife watching (columns denoted by %).
- Total wildlife watching (all and subcategories) days/trips of participation: product-type statistics derived using total number of wildlife watching (all and subcategories) participants and days/trips per participant (not displayed).
- Percent participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey.
- Percent participation in the total population (column denoted by % Pop.): ratio-type statistics, derived using total population from Table 30 and wildlife watching participation.

Table 30

Wildlife watching, demographics

- Total population (all and subcategories): composite statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey. Note that the total population estimates in Tables 15 and 30 differ due to demographic harmonization without state targets estimated from the National Survey of FHWAR (information not available); see Rockville Institute (2020) for more details about the demographic harmonization.

- Total number of wildlife watchers: product-type statistics derived using model predictions for percent participation in the population (columns denoted by % Pop.) and total population based on adjusted 50-State Survey of FHWAR weights.
- Total number of away from home or around the home wildlife watchers: product-type statistics derived using total number of wildlife watchers, and percent away from home or around the home wildlife watchers in all wildlife watchers (columns denoted by % Pop. in Table 35; not displayed).
- Total population, wildlife watchers, away from home, around the home, by demographics: product-type statistics, derived using total population, wildlife watchers, away from home, around the home participation, and percent demographic-specific participation in total participation (columns denoted by %).
- Percent demographic-specific population, wildlife watchers, away from home, around the home participation in total participation (columns denoted by %): composite statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey.
- Percent demographic-specific wildlife watchers, participation in the total demographic-specific population (column denoted by % Pop.): ratio-type statistics, derived using total demographic-specific wildlife watchers participation and total demographic-specific population.
- Percent total and demographic-specific away from home and around the home participation in the total and demographic-specific population (columns denoted by % Pop.): ratio-type statistics, derived using total population and away from home and around the home participation, respectively.

Table 33

Wildlife watching, spenders and expenditures — three versions for all wildlife watchers, away from home wildlife watchers, and around the home wildlife watchers

- Total wildlife watching expenditure (all and subcategories) amount: product-type statistics derived using total number of wildlife watching (all and subcategories)

participants and expenditure amount per participant (columns denoted by Average Per Wildlife Watcher).

- Expenditure amount per participant (columns denoted by Average Per Wildlife Watcher) and expenditure amount per spender (columns denoted by Average Per Spender): statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey only.
- Total wildlife watching (all and subcategories) number of spenders: product-type statistics derived using total number of wildlife watching (all and subcategories) participants and the percent spenders in total participation (columns denoted by Percent of Wildlife Watchers).
- Percent spenders in total participation (columns denoted by Percent of Wildlife Watchers): statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey only.

Table 35

Wildlife watchers participating in fishing and hunting

- Total number of wildlife watchers: product-type statistics derived using model predictions for percent participation in the population (columns denoted by % Pop. in Table 30), and total population based on adjusted 50-State Survey of FHWAR final weights (displayed in Table 30).
- Total number of away from home or around the home wildlife watchers: product-type statistics derived using total number of wildlife watchers, and percent away from home or around the home wildlife watchers in all wildlife watchers (columns not displayed).
- Total number of wildlife watchers, away from home, around the home who did not fish or hunt, fished or hunted, fished, hunted: product-type statistics, derived using total number of wildlife watchers, and percent sportsperson-specific category in the corresponding total participation (columns denoted by %).
- Percent sportsperson-specific category in the corresponding total participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final weights, using data from the wildlife watching survey.

Table 36

Sportspersons participating in wildlife watching

- Total number of sportspersons: ratio-type statistics derived using total number of anglers, percent anglers in sportspersons (not displayed).
- Total number of anglers or total number of hunters: product-type statistics derived using model predictions for percent participation in the population (columns denoted by % Pop. in Table 15), and total population based on adjusted 50-State Survey of FHWAR final weights (displayed in Table 15).
- Total number of sportspersons, anglers, or hunters who did not wildlife watch, wildlife watch, wildlife watch away from home, wildlife watch around the home: product-type statistics, derived using total number of sportspersons, anglers, or hunters, and percent wildlife watcher-specific category in the corresponding total participation (columns denoted by %).
- Percent wildlife watcher-specific category in the corresponding total participation (columns denoted by %): composite statistics constructed using 3-way composite factors to adjusted 50-State Survey of FHWAR final weights, using data from the fishing, hunting, and wildlife watching surveys.

Table 5 Kentucky Resident Anglers and Hunters, Days of Participation and Trips in the United States,
by Type of Fishing and Hunting: 2016
(Population 16 years and older. Numbers in thousands)

	PARTICIPANTS		DAYS OF PARTICIPATION		TRIPS	
	#	%	#	%	#	%
ALL FISHING	565	100	10,902	100	7,728	100
All freshwater	551	97	10,849	100	7,694	100
Freshwater, except Great Lakes	551	97	10,134	93	7,524	97
Great Lakes	43	8	715	7	170	2
Saltwater	20	4	53	0	34	0
ALL HUNTING	270	100	8,556	100	7,294	100
Big game	231	85	3,689	43	2,453	34
Small game	140	52	3,452	40	1,935	27
Migratory birds	45	17	415	5	435	6
Other animals	62	23	2,530	30	2,471	34

NOTE: Detail does not add to total because of multiple responses.

Table 15 Kentucky Resident Anglers and Hunters, by Selected Characteristics: 2016
(State population 16 years and older. Numbers in thousands)

	POPULATION		SPORTSPERSONS			ANGLERS			HUNTERS		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
TOTAL	3,041	100	682	22	100	565	19	100	270	9	100
RESIDENCE DENSITY											
Urban	1,880	62	358	19	53	325	17	58	122	6	45
Rural	1,161	38	324	28	47	240	21	42	148	13	55
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	2,258	74	457	20	67	397	18	70	181	8	67
1,000,000 or more	1,163	38	219	19	32	218	19	39	77	7	29
250,000 to 999,999	458	15	61	13	9	53	12	9	29	6	11
50,000 to 249,999	637	21	176	28	26	126	20	22	75	12	28
Outside MSA	783	26	225	29	33	168	22	30	89	11	33
SEX											
Male	1,563	51	452	29	66	364	23	64	186	12	69
Female	1,478	49	230	16	34	201	14	36	84	6	31
AGE											
16 to 17 years	139	5	59	42	9	59	43	10	19	14	7
18 to 24 years	295	10	74	25	11	56	19	10	37	12	14
25 to 34 years	444	15	121	27	18	96	22	17	50	11	19
35 to 44 years	482	16	104	22	15	80	17	14	38	8	14
45 to 54 years	499	16	104	21	15	88	18	16	38	8	14
55 to 64 years	593	19	125	21	18	105	18	19	46	8	17
65 years and older	589	19	94	16	14	81	14	14	41	7	15
65 to 74 years	388	13	66	17	10	55	14	10	25	6	9
75 and older	201	7	28	14	4	26	13	5	17	8	6
ETHNICITY											
Hispanic	161	5	15	9	2	15	10	3	—	—	—
Non-Hispanic	2,880	95	667	23	98	550	19	97	270	9	100
RACE											
White	2,864	94	650	23	95	535	19	95	266	9	98
African American	75	2	25	33	4	26	35	5	—	—	—
All Others	102	3	8	7	1	4	4	1	4	4	2

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Table 15 Kentucky Resident Anglers and Hunters, by Selected Characteristics: 2016 (continued)
(State population 16 years and older. Numbers in thousands)

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	POPULATION		SPORTSPERSONS			ANGLERS			HUNTERS		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
ANNUAL HOUSEHOLD INCOME											
Less than \$20,000	369	12	74	20	11	48	13	9	38	10	14
\$20,000 to \$29,999	190	6	33	17	5	31	16	6	16	8	6
\$30,000 to \$39,999	222	7	65	29	10	42	19	7	31	14	11
\$40,000 to \$49,999	138	5	42	31	6	35	25	6	17	12	6
\$50,000 to \$74,999	645	21	194	30	28	164	25	29	86	13	32
\$75,000 to \$99,999	409	13	81	20	12	71	17	13	24	6	9
\$100,000 to \$149,999	356	12	90	25	13	89	25	16	20	6	7
\$150,000 or more	181	6	18	10	3	7	4	1	10	5	4
Not reported	530	17	85	16	12	78	15	14	30	6	11
EDUCATION											
8 years or less	219	7	44	20	7	29	13	5	18	8	7
9 to 12 years	1,142	38	255	22	37	196	17	35	128	11	47
1 to 3 years of college	693	23	201	29	29	177	26	31	70	10	26
4 years or more of college	988	32	182	18	27	163	16	29	54	5	20

— No sample data

NOTE: Detail does not add to total because of multiple responses. Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population living in urban areas who fished, etc.). Columns labeled "% under Sportspeople, Anglers, and Hunters show the percentage of each column's participants who are described by the row heading (the percentage of anglers who lived in urban areas, etc.).

Table 22 Expenditures by Kentucky Residents for Fishing and Hunting Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER SPORTSPERSON (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)
FISHING AND HUNTING	2,017,400	2,958	3,002	672
Food and lodging	251,928	369	500	504
Transportation	172,476	253	390	443
Other trip costs ²	251,709	369	532	473
Equipment (fishing, hunting)	382,748	561	754	508
Auxiliary equipment ³	137,966	202	737	187
Special equipment ⁴	202,213	296	4,713	43
Magazines, books, and DVDs	4,802	7	73	66
Membership dues/contributions	12,716	19	140	91
Other ⁵	600,842	881	1,173	512
FISHING	827,756	1,465	1,498	552
Food and lodging	198,570	351	461	431
Transportation	131,023	232	333	393
Other trip costs ²	223,506	396	470	475
Fishing equipment	143,743	254	319	451
Auxiliary equipment ³	12,572	22	213	59
Special equipment ⁴	76,679	136	2,563	30
Magazines, books, and DVDs	919	2	31	30
Membership dues/contributions	3,336	6	70	48
Other ⁵	37,408	66	98	382
HUNTING	845,281	3,131	3,131	270
Food and lodging	48,593	180	266	182
Transportation	37,103	137	234	158
Other trip costs ²	28,985	107	312	93
Hunting equipment	196,887	729	986	200
Auxiliary equipment ³	22,138	82	245	90
Special equipment ⁴	49,447	183	2,599	19
Magazines, books, and DVDs	2,652	10	90	30
Membership dues/contributions	4,008	15	170	24
Other ⁵	455,468	1,687	1,735	263
UNSPECIFIED⁶	170,421	250	1,693	101

1 Average expenditures are annual estimates.

2 Includes boating costs, equipment rental, guide fees, access fees, heating and cooking fuel, and ice and bait (for fishing only).

3 Includes sleeping bags, packs, duffel bags, tents, binoculars and field glasses, special fishing and hunting clothing, foul weather gear, boots and waders, maintenance and repair of equipment, processing and taxidermy costs, and electronic equipment such as a GPS device.

4 Includes big-ticket items bought primarily for hunting and fishing, including boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

5 Includes land leasing and ownership, licenses, stamps, tags, permits, and plantings (for hunting only).

6 Respondent could not specify whether expenditure was primarily for either fishing or hunting.

NOTE: Individual estimates do not add to total because of multiple responses, nonresponse, the independent bridging of fishing and hunting participation, and the bridging of sportspersons participation relative to fishing participation.

Table 28 Kentucky Resident Wildlife Watchers Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	PARTICIPANTS			DAYS OF PARTICIPATION		TRIPS	
	#	%	% Pop.	#	%	#	%
WILDLIFE WATCHERS	980	100	34	65,844	100	3,842	100
Away from home	370	38	13	9,733	15	3,842	100
Observe wildlife	342	35	12	6,453	10	x	x
Photograph wildlife	229	23	8	4,513	7	x	x
Feed wildlife	147	15	5	3,950	6	x	x
Around the home	973	99	34	56,111	85	x	x
Observe wildlife	636	65	22	45,069	68	x	x
Photograph wildlife	401	41	14	6,877	10	x	x
Feed wildlife	710	72	25	x	x	x	x
Visit parks or natural areas ¹	200	20	7	4,165	6	x	x
Maintain plantings or natural areas	180	18	6	x	x	x	x

x Not applicable

¹ Includes visits only to parks or natural areas within one mile of home.

NOTE: Detail does not add to total because of multiple responses. Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population who observed wildlife away from home, etc.). Columns labeled "%" show the percentage of each column's participants who are described by the row heading (the percentage of wildlife watchers who observed wildlife away from home, etc.).

Table 30 Kentucky Resident Wildlife Watchers, by Selected Characteristics: 2016
(State population 16 years and older. Numbers in thousands)

	POPULATION		TOTAL			AWAY FROM HOME			AROUND THE HOME		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
TOTAL	2,857	100	980	34	100	370	13	100	973	34	100
RESIDENCE DENSITY											
Urban	1,836	64	639	35	65	221	12	60	639	35	66
Rural	1,021	36	341	33	35	149	15	40	334	33	34
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	2,233	78	747	33	76	260	12	70	741	33	76
1,000,000 or more	964	34	330	34	34	131	14	35	327	34	34
250,000 to 999,999	869	30	299	34	31	83	10	22	299	34	31
50,000 to 249,999	400	14	118	30	12	46	12	12	115	29	12
Outside MSA	624	22	232	37	24	110	18	30	232	37	24
SEX											
Male	1,409	49	486	34	50	176	12	48	486	34	50
Female	1,448	51	493	34	50	194	13	52	487	34	50
AGE											
16 to 17 years	59	2	27	45	3	8	13	2	27	45	3
18 to 24 years	496	17	157	32	16	58	12	16	157	32	16
25 to 34 years	296	10	79	27	8	38	13	10	79	27	8
35 to 44 years	420	15	163	39	17	33	8	9	163	39	17
45 to 54 years	570	20	196	34	20	126	22	34	193	34	20
55 to 64 years	541	19	191	35	19	78	14	21	187	35	19
65 years and older	473	17	167	35	17	29	6	8	167	35	17
65 to 74 years	243	9	76	31	8	18	7	5	76	31	8
75 and older	230	8	91	39	9	11	5	3	91	39	9
ETHNICITY											
Hispanic	136	5	61	45	6	6	4	2	61	45	6
Non-Hispanic	2,721	95	919	34	94	364	13	98	912	34	94
RACE											
White	2,597	91	863	33	88	352	14	95	856	33	88
African American	48	2	22	45	2	7	15	2	22	45	2
All Others	212	7	95	45	10	11	5	3	95	45	10

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Table 30 Kentucky Resident Wildlife Watchers, by Selected Characteristics: 2016 (continued)
(State population 16 years and older. Numbers in thousands)

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	POPULATION		TOTAL			AWAY FROM HOME			AROUND THE HOME		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
ANNUAL HOUSEHOLD INCOME											
Less than \$20,000	424	15	184	43	19	117	28	32	184	43	19
\$20,000 to \$29,999	194	7	49	25	5	20	10	5	49	25	5
\$30,000 to \$39,999	260	9	108	41	11	20	8	5	108	41	11
\$40,000 to \$49,999	160	6	33	20	3	12	8	3	33	20	3
\$50,000 to \$74,999	605	21	227	37	23	120	20	32	223	37	23
\$75,000 to \$99,999	297	10	58	20	6	19	6	5	55	19	6
\$100,000 to \$149,999	268	9	89	33	9	12	5	3	89	33	9
\$150,000 or more	390	14	121	31	12	23	6	6	121	31	12
Not reported	259	9	111	43	11	27	10	7	111	43	11
EDUCATION											
8 years or less	99	3	41	42	4	—	—	—	41	42	4
9 to 12 years	798	28	298	37	30	127	16	34	291	36	30
1 to 3 years of college	776	27	256	33	26	97	13	26	256	33	26
4 years or more of college	1,183	41	384	32	39	146	12	39	384	32	39

— No sample data

NOTE: Detail does not add to total because of multiple responses and nonresponse. Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population living in urban areas who participated, etc.). Columns labeled "% under TOTAL, Away From Home, and Around the Home show the percentage of each column's participants who are described by the row heading (the percentage of those who lived in urban areas, etc.).

Table 33A Expenditures by Kentucky Residents for All Wildlife Watching Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	1,573,664	1,606	2,255	698	71
TRIP-RELATED EXPENDITURES	666,138	680	2,077	321	33
Food and lodging	401,672	410	1,374	292	30
Food	184,102	188	630	292	30
Lodging	217,570	222	1,437	151	15
Transportation	161,385	165	521	310	32
Other trip costs ²	103,081	105	539	191	20
EQUIPMENT AND OTHER EXPENDITURES	907,526	926	1,365	665	68
Wildlife-watching equipment	277,048	283	473	586	60
Binoculars, spotting scopes	7,710	8	87	89	9
Film and photo processing	4,155	4	77	54	5
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	90,512	92	537	168	17
Day packs, carrying cases, and special clothing	67,997	69	269	253	26
Bird food	55,790	57	135	413	42
Food for other wildlife	31,043	32	128	242	25
Nest boxes, bird houses, bird feeders, and bird baths	17,683	18	61	291	30
Other equipment (including field guides)	2,157	2	26	83	9
Auxiliary equipment ³	178,842	183	722	248	25
Special equipment ⁴	105,018	107	3,485	30	3
Magazines, books, and DVDs	7,326	7	61	120	12
Membership dues and contributions	15,662	16	76	206	21
Land leasing and ownership	277,310	283	2,960	94	10
Plantings	46,321	47	319	145	15

1 Average expenditures are annual estimates.

2 Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.

3 Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.

4 Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

NOTE: Detail does not add to total because of multiple responses and nonresponse.

Table 33B

Expenditures by Kentucky Residents for Away-from-home Wildlife Watching Both In and Out of Kentucky: 2016

(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	638,922	1,727	2,051	312	84
TRIP-RELATED EXPENDITURES	591,811	1,600	1,900	312	84
Food and lodging	394,645	1,067	1,350	292	79
Food	163,753	443	560	292	79
Lodging	230,893	624	1,145	202	54
Transportation	150,717	407	484	312	84
Other trip costs ²	46,449	126	237	196	53
EQUIPMENT AND OTHER EXPENDITURES	47,111	127	410	115	31
Wildlife-watching equipment	4,344	12	38	115	31
Binoculars, spotting scopes	—	—	—	—	—
Film and photo processing	1,298	4	76	17	5
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	1,447	4	84	17	5
Day packs, carrying cases, and special clothing	664	2	64	10	3
Bird food	—	—	—	—	—
Food for other wildlife	—	—	—	—	—
Nest boxes, bird houses, bird feeders, and bird baths	—	—	—	—	—
Other equipment (including field guides)	936	3	10	96	26
Auxiliary equipment ³	38,876	105	535	73	20
Special equipment ⁴	—	—	—	—	—
Magazines, books, and DVDs	—	—	—	—	—
Membership dues and contributions	3,891	11	41	95	26
Land leasing and ownership	—	—	—	—	—
Plantings	—	—	—	—	—

— No sample data

¹ Average expenditures are annual estimates.² Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.³ Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.⁴ Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

NOTE: Detail does not add to total because of multiple responses and nonresponse.

Table 33C Expenditures by Kentucky Residents for Around-the-home Wildlife Watching Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	617,064	634	1,111	556	57
TRIP-RELATED EXPENDITURES	x	x	x	x	x
Food and lodging	x	x	x	x	x
Food	x	x	x	x	x
Lodging	x	x	x	x	x
Transportation	x	x	x	x	x
Other trip costs ²	x	x	x	x	x
EQUIPMENT AND OTHER EXPENDITURES	617,064	634	1,111	556	57
Wildlife-watching equipment	180,698	186	360	502	52
Binoculars, spotting scopes	3,947	4	56	71	7
Film and photo processing	135	0	19	7	1
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	26,907	28	242	111	11
Day packs, carrying cases, and special clothing	42,396	44	227	187	19
Bird food	59,003	61	156	379	39
Food for other wildlife	28,144	29	125	226	23
Nest boxes, bird houses, bird feeders, and bird baths	19,204	20	66	290	30
Other equipment (including field guides)	960	1	81	12	1
Auxiliary equipment ³	115,730	119	1,255	92	9
Special equipment ⁴	13,530	14	914	15	2
Magazines, books, and DVDs	6,476	7	87	74	8
Membership dues and contributions	10,785	11	106	102	10
Land leasing and ownership	241,806	249	3,107	78	8
Plantings	48,039	49	325	148	15

— No sample data x Not applicable

¹ Average expenditures are annual estimates.

² Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.

³ Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.

⁴ Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

NOTE: Detail does not add to total because of multiple responses and nonresponse.

Table 35 Kentucky Resident Wildlife Watchers Participating in Fishing or Hunting: 2016
(State population 16 years and older. Numbers in thousands)

	TOTAL		AWAY FROM HOME		AROUND THE HOME	
	#	%	#	%	#	%
ALL WILDLIFE WATCHERS	980	100	370	100	973	100
Did not fish or hunt	614	63	187	51	614	63
Fished or hunted	366	37	183	49	359	37
Fished	330	34	173	47	323	33
Hunted	145	15	85	23	145	15

NOTE: Detail does not add to total because of multiple responses and nonresponse.

Table 36 Kentucky Resident Sportspersons Participating in Wildlife Watching: 2016
(State population 16 years and older. Numbers in thousands)

	SPORTSPERSONS		ANGLERS		HUNTERS	
	#	%	#	%	#	%
ALL SPORTSPERSONS	682	100	565	100	270	100
Did not watch wildlife	181	27	145	26	50	19
Watched wildlife	501	73	420	74	220	81
Away from home	311	46	269	48	153	57
Around the home	487	71	406	72	215	80

NOTE: Detail does not add to total because of multiple responses and nonresponse.

APPENDIX B: STANDARD ERRORS

The tables in Appendix B depict the standard errors, subject to rounding error, corresponding to the calibrated point estimates reported in the tables in Appendix A. Summary statistics reported in these calibrated tables are described below, by table.

Table 5

Fishing and hunting, participation, days, and trips

- Standard errors of total fishing participation and total hunting participation: product-type statistics derived using model point estimates and standard errors of percent participation in the population and survey point estimates and standard errors of total population based on adjusted 50-State Survey of FHWAR weights.
- Standard errors of total freshwater, freshwater except Great Lakes, Great Lakes, and saltwater fishing participation, total big game, small game, migratory birds, and other animals hunting participation: product-type statistics derived using point estimates and standard errors of total fishing participation, point estimates and standard errors of total hunting participation, point estimates and standard errors of percent participation of freshwater, freshwater except Great Lakes, Great Lakes, and saltwater fishing in all fishing, and point estimates and standard errors of percent participation of big game, small game, migratory birds, and other animals hunting in all hunting (columns denoted by %).
- Standard errors of total fishing (all and subcategories) days/trips of participation and total hunting (all and subcategories) days/trips of participation: product-type statistics derived using point estimates and standard errors of total number of fishing (all and subcategories) participants, point estimates and standard errors of total number of hunting (all and subcategories) participants, and point estimates and standard errors of days/trips per participant (not displayed).

- Standard errors of percent participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the fishing or hunting survey for the fishing and hunting sections, respectively.

Table 15

Fishing and hunting, demographics

- Standard errors of total population (all and subcategories): composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final and replicate weights, using data from both the fishing and the hunting surveys.
- Standard errors of total number of anglers and total number of hunters: product-type statistics derived using model point estimates and standard errors for percent participation in the population (columns denoted by % Pop.) and survey point estimates and standard errors of total population based on adjusted 50-State Survey of FHWAR final and replicate weights.
- Standard errors of total number of sportspersons: ratio-type statistics derived using point estimates and standard errors of total number of anglers and point estimates and standard errors of percent anglers in sportspersons (not displayed).
- Standard errors of total population, sportspersons, anglers, hunters, by demographics: product-type statistics, derived using point estimates and standard errors of total population, sportspersons, anglers, hunters participation, and point estimates and standard errors of percent demographic-specific participation in total participation (columns denoted by %).

- Standard errors of percent demographic-specific population, sportspersons, anglers, hunters participation in total participation (columns denoted by %): composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final and replicate weights, using data from the fishing and hunting surveys.
- Standard errors of percent demographic-specific anglers and hunters participation in the total demographic-specific population (columns denoted by % Pop.): ratio-type statistics, derived using point estimates and standard errors of total demographic-specific anglers and hunters participation and total demographic-specific population.
- Standard errors of percent total and demographic-specific sportspersons participation in the total and demographic-specific population (column denoted by % Pop.): ratio-type statistics, derived using point estimates and standard errors of total population and sportspersons participation.

Table 22

Fishing and hunting, spenders and expenses

- Standard errors of total fishing and hunting expenditure (all and subcategories) amount, total fishing expenditure (all and subcategories) amount, total hunting expenditure (all and subcategories) amount, and total unspecified expenditure amount: product-type statistics derived using point estimates and standard errors of expenditure amount per participant (columns denoted by Average Per Sportsperson), and point estimates and standard errors of total sportspersons participation (all and subcategories), point estimates and standard errors of total anglers participation (all and subcategories), point estimates and standard errors of total hunters participation (all and subcategories) and point estimates and standard errors of total sportspersons participation, respectively.
- Standard errors of expenditure amount per participant (columns denoted by Average Per Sportsperson) and expenditure amount per spender (columns denoted by Average Per Spender):
 - > Fishing section: statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the fishing survey only.

- > Hunting section: statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the hunting survey only.
- > Fishing and hunting, and unspecified sections: except for some expenses and spenders noted in the table footnotes, these are composite statistics constructed using 2-way composite factors to adjusted 50-State Survey of FHWAR final and replicate weights, using data from the fishing and hunting surveys.
- Standard errors of total fishing and hunting (all and subcategories) number of spenders, total fishing (all and subcategories) number of spenders, total hunting (all and subcategories) number of spenders, and total unspecified number of spenders: product-type statistics derived using the point estimates and standard errors of percent spenders in total participation (not displayed), and point estimates and standard errors of total sportspersons participation (all and subcategories), point estimates and standard errors of total anglers participation (all and subcategories), point estimates and standard errors of total hunters participation (all and subcategories) and point estimates and standard errors of total sportspersons participation, respectively.

Table 28

Wildlife watching, participation, days, and trips

- Standard errors of total wildlife watching participation: product-type statistics derived using model point estimates and standard errors of percent participation in the population, and survey point estimates and standard errors of total population based on adjusted 50-State Survey of FHWAR final and replicate weights.
- Standard errors of total away from home (all and subcategories) and around the home (all and subcategories) wildlife watching participation: product-type statistics derived using point estimates and standard errors of total wildlife watching participation, point estimates and standard errors of percent participation of away from home (all and subcategories) and point estimates and standard errors of around the home (all and subcategories) wildlife watching in all wildlife watching (columns denoted by %).

- Standard errors of total wildlife watching (all and sub-categories) days/trips of participation: product-type statistics derived using point estimates and standard errors of total number of wildlife watching (all and subcategories) participants and point estimates and standard errors of days/trips per participant (not displayed).
- Standard errors of percent participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey.
- Standard errors of percent participation in the total population (column denoted by % Pop.): ratio-type statistics, derived using point estimates and standard errors of total population from Table 30 and point estimates and standard errors of wildlife watching participation.

Table 30

Wildlife watching, demographics

- Standard errors of total population (all and subcategories): composite statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey. Note that the standard errors of total population estimates in Tables 15 and 30 differ due to demographic harmonization without state targets estimated from the National Survey of FHWAR (information not available); see Rockville Institute (2020) for more details about the demographic harmonization.
- Standard errors of total number of wildlife watchers: product-type statistics derived using model point estimates and standard errors of percent participation in the population (columns denoted by % Pop.) and survey standard error of total population based on adjusted 50-State Survey of FHWAR final and replicate weights.
- Standard errors of total number of away from home or around the home wildlife watchers: product-type statistics derived using point estimates and standard errors of total number of wildlife watchers and point estimates and standard errors of percent away from home or around the home wildlife watchers in all wildlife watchers (columns denoted by % Pop. in Table 35).

- Standard errors of total population, wildlife watchers, away from home, around the home, by demographics: product-type statistics, derived using point estimates and standard errors of total population, wildlife watchers, away from home, around the home participation and point estimates and standard errors of percent demographic-specific participation in total participation (columns denoted by %).
- Standard errors of percent demographic-specific population, wildlife watchers, away from home, around the home participation in total participation (columns denoted by %): composite statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey.
- Standard errors of percent demographic-specific wildlife watchers in the total demographic-specific population (column denoted by % Pop.): ratio-type statistics, derived using point estimates and standard errors of total demographic-specific wildlife watchers participation and point estimates and standard errors of total demographic-specific population.
- Standard errors of percent total and demographic-specific away from home and around the home participation in the total and demographic-specific population (columns denoted by % Pop.): ratio-type statistics, derived using point estimates and standard errors of total population and away from home and around the home participation, respectively.

Table 33

Wildlife watching, spenders and expenditures — three versions for all wildlife watchers, away from home wildlife watchers, and around the home wildlife watchers

- Standard errors of total wildlife watching expenditure (all and subcategories) amount: product-type statistics derived using point estimates and standard errors of total number of wildlife watching (all and subcategories) participants and point estimates and standard errors of expenditure amount per participant (columns denoted by Average Per Wildlife Watcher).

- Standard errors or expenditure amount per participant (columns denoted by Average Per Wildlife Watcher) and expenditure amount per spender (columns denoted by Average Per Spender): statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey only.
- Standard errors of total wildlife watching (all and subcategories) number of spenders: product-type statistics derived using point estimates and standard errors of total number of wildlife watching (all and subcategories) participants and point estimates and standard errors of the percent spenders in total participation (columns denoted by Percent of Wildlife Watchers).
- Standard errors of percent spenders in total participation (columns denoted by Percent of Wildlife Watchers): statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey only.

Table 35

Wildlife watchers participating in fishing and hunting

- Standard errors of total number of wildlife watchers: product-type statistics derived using model point estimates and standard errors of percent participation in the population (columns denoted by % Pop. in Table 30) and survey point estimates and standard errors of total population based on adjusted 50-State Survey of FHWAR final and replicate weights (displayed in Table 30).
- Standard errors of total number of away from home or around the home wildlife watchers: product-type statistics derived using point estimates and standard errors of total number of wildlife watchers and point estimates and standard errors of percent away from home or around the home wildlife watchers in all wildlife watchers (columns not displayed).
- Standard errors of total number of wildlife watchers, away from home, around the home who did not fish

or hunt, fished or hunted, fished, hunted: product-type statistics, derived using point estimates and standard errors of total number of wildlife watchers and point estimates and standard errors of percent sportsperson-specific category in the corresponding total participation (columns denoted by %).

- Standard errors or percent sportsperson-specific category in the corresponding total participation (columns denoted by %): statistics constructed using full adjusted 50-State Survey of FHWAR final and replicate weights, using data from the wildlife watching survey.

Table 36

Sportspersons participating in wildlife watching

- Standard errors of total number of sportspersons: ratio-type statistics derived using point estimates and standard errors of total number of anglers and point estimates and standard errors of percent anglers in sportspersons (not displayed).
- Standard errors of total number of anglers or total number of hunters: product-type statistics derived using model point estimates and standard errors of percent participation in the population (columns denoted by % Pop. in Table 15) and survey point estimates and standard errors of total population based on adjusted 50-State Survey of FHWAR weights (displayed in Table 15).
- Standard errors of total number of sportspersons, anglers, or hunters who did not wildlife watch, wildlife watch, wildlife watch away from home, wildlife watch around the home: product-type statistics, derived using point estimates and standard errors of total number of sportspersons, anglers, or hunters and point estimates and standard errors of percent wildlife watcher-specific category in the corresponding total participation (columns denoted by %).
- Standard errors of percent wildlife watcher-specific category in the corresponding total participation (columns denoted by %): composite statistics constructed using 3-way composite factors to adjusted 50-State Survey of FHWAR final and replicate weights, using data from the fishing, hunting, and wildlife watching surveys.

Table 5 SE Standard Errors of Kentucky Resident Anglers and Hunters, Days of Participation and Trips in the United States,
by Type of Fishing and Hunting: 2016
(Population 16 years and older. Numbers in thousands)

	PARTICIPANTS		DAYS OF PARTICIPATION		TRIPS	
	#	%	#	%	#	%
ALL FISHING	97.24	0.00	3,116.57	0.00	2,329.48	0.00
All freshwater	95.27	1.72	3,117.13	0.30	2,333.38	0.27
Freshwater, except Great Lakes	95.27	1.72	2,829.81	6.45	2,286.74	1.94
Great Lakes	37.43	6.59	681.55	6.54	149.70	1.97
Saltwater	11.60	1.99	31.27	0.30	21.70	0.27
ALL HUNTING	55.15	0.00	3,851.35	0.00	3,323.68	0.00
Big game	49.48	5.76	941.41	23.65	710.23	15.93
Small game	35.24	7.78	1,886.20	8.60	906.52	3.10
Migratory birds	21.26	7.24	298.89	4.24	329.95	5.32
Other animals	22.61	7.08	1,826.93	15.42	1,836.63	18.47

Table 15 SE Standard Errors of Kentucky Resident Anglers and Hunters, by Selected Characteristics: 2016
(State population 16 years and older. Numbers in thousands)

	POPULATION		SPORTSPERSONS			ANGLERS			HUNTERS		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
TOTAL	126.58	0.00	120.43	4.07	0.00	97.24	3.11	0.00	55.15	1.78	0.00
RESIDENCE DENSITY											
Urban	153.94	4.07	76.10	4.34	6.30	66.94	3.83	6.58	32.66	1.82	7.99
Rural	127.40	4.07	71.08	6.85	6.30	55.15	5.26	6.58	36.89	3.47	7.99
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	138.07	2.86	87.65	4.07	5.11	75.11	3.50	5.63	41.15	1.89	6.91
1,000,000 or more	128.22	3.65	52.36	4.96	5.26	49.98	4.77	5.94	26.08	2.36	7.87
250,000 to 999,999	93.73	2.98	20.51	5.25	2.59	19.73	4.91	3.15	12.64	3.04	4.23
50,000 to 249,999	88.84	2.90	47.54	8.40	5.35	38.15	6.60	5.64	22.19	3.85	6.10
Outside MSA	87.74	2.86	52.52	7.45	5.11	42.66	5.96	5.63	25.85	3.54	6.91
SEX											
Male	104.21	2.66	85.45	5.80	4.52	68.63	4.66	5.01	41.27	2.76	6.16
Female	101.05	2.66	50.63	3.59	4.52	44.37	3.14	5.01	23.71	1.65	6.16
AGE											
16 to 17 years	48.68	1.60	27.61	24.82	3.81	27.86	24.99	4.66	11.60	9.66	4.13
18 to 24 years	73.28	2.38	25.06	10.52	3.18	21.66	8.73	3.48	14.77	5.87	4.82
25 to 34 years	84.74	2.80	39.44	10.31	4.93	35.19	8.93	5.59	17.62	4.52	5.42
35 to 44 years	101.53	3.22	31.08	7.90	3.74	26.21	6.46	4.01	14.47	3.44	4.61
45 to 54 years	79.52	2.54	29.66	6.80	3.46	27.30	6.15	4.07	11.77	2.65	3.36
55 to 64 years	75.81	2.33	32.34	6.09	3.52	29.96	5.54	4.30	14.84	2.70	4.32
65 years and older	80.53	2.49	24.81	4.75	2.74	23.27	4.38	3.35	13.70	2.52	4.08
65 to 74 years	69.43	2.21	18.86	5.73	2.20	17.96	5.26	2.75	8.74	2.52	2.69
75 and older	46.77	1.51	12.59	7.08	1.72	12.31	6.87	2.05	9.19	4.97	3.23
ETHNICITY											
Hispanic	68.22	2.17	14.32	9.74	2.10	15.03	10.21	2.66	—	—	—
Non-Hispanic	115.80	2.17	118.67	4.22	2.10	95.73	3.41	2.66	55.15	1.95	0.00
RACE											
White	125.90	1.57	115.40	4.15	1.88	92.96	3.35	2.38	54.35	1.94	0.90
African American	25.14	0.83	12.82	20.43	1.79	13.44	21.40	2.28	—	—	—
All Others	41.01	1.33	4.03	4.94	0.57	3.34	3.70	0.58	2.53	2.96	0.90

(continued on next page)

Table 15 SE Standard Errors of Kentucky Resident Anglers and Hunters, by Selected Characteristics: 2016 (continued)
(State population 16 years and older. Numbers in thousands)

(continued from previous page)

	POPULATION		SPORTSPERSONS			ANGLERS			HUNTERS		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
ANNUAL HOUSEHOLD INCOME											
Less than \$20,000	75.00	2.47	25.54	8.04	3.27	17.12	5.35	2.69	15.82	4.76	5.24
\$20,000 to \$29,999	58.49	1.95	12.55	8.51	1.66	12.51	8.31	2.03	6.94	4.47	2.32
\$30,000 to \$39,999	55.12	1.83	24.00	13.01	3.14	17.09	9.00	2.78	13.97	7.16	4.72
\$40,000 to \$49,999	38.40	1.26	17.37	15.26	2.34	16.48	13.93	2.76	6.80	5.98	2.23
\$50,000 to \$74,999	98.09	3.27	49.43	8.92	5.30	43.21	7.73	5.89	27.00	4.65	7.76
\$75,000 to \$99,999	86.48	2.82	26.68	7.75	3.36	24.17	6.96	3.75	10.84	2.93	3.66
\$100,000 to \$149,999	93.55	3.05	36.60	12.22	4.91	37.07	12.29	6.07	7.59	2.58	2.43
\$150,000 or more	59.25	1.91	9.85	6.34	1.39	3.94	2.50	0.68	7.17	4.31	2.61
Not reported	119.92	3.57	30.84	6.84	4.02	30.93	6.72	5.00	12.40	2.66	4.08
EDUCATION											
8 years or less	60.32	1.94	23.00	11.92	3.22	20.33	10.00	3.54	9.94	5.11	3.48
9 to 12 years	94.98	3.06	56.13	5.25	5.00	45.39	4.22	5.45	32.56	3.00	7.39
1 to 3 years of college	92.28	2.90	47.97	7.93	4.82	43.91	7.20	5.68	20.50	3.25	5.57
4 years or more of college	122.75	3.61	49.02	5.47	5.51	43.25	4.83	5.93	21.85	2.31	7.13

— No sample data

NOTE: Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population living in urban areas who fished, etc.). Columns labeled "%" under Sportspeople, Anglers, and Hunters show the percentage of each column's participants who are described by the row heading (the percentage of anglers who lived in urban areas, etc.).

Table 22 SE Standard Errors of Expenditures by Kentucky Residents for Fishing and Hunting Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER SPORTSPERSON (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)
FISHING AND HUNTING	569,382.53	661.64	658.29	128.89
Food and lodging	83,725.37	105.65	127.16	104.43
Transportation	61,929.53	80.32	105.00	92.10
Other trip costs ²	110,608.66	150.87	205.77	100.39
Equipment (fishing, hunting)	110,012.51	129.30	169.38	102.04
Auxiliary equipment ³	88,397.25	126.57	450.87	43.48
Special equipment ⁴	94,759.69	130.75	2,178.48	16.88
Magazines, books, and DVDs	2,209.74	3.04	18.43	23.47
Membership dues/contributions	5,833.31	8.02	42.18	28.30
Other ⁵	344,710.70	488.54	659.48	103.98
FISHING	267,566.47	406.93	415.07	95.54
Food and lodging	74,788.45	119.52	144.29	85.40
Transportation	55,917.53	91.93	117.84	78.77
Other trip costs ²	105,917.18	177.30	205.27	85.76
Fishing equipment	42,262.96	61.56	75.45	83.12
Auxiliary equipment ³	6,344.01	10.71	56.06	22.43
Special equipment ⁴	41,796.38	71.25	2,033.16	16.54
Magazines, books, and DVDs	461.65	0.78	9.17	13.70
Membership dues/contributions	2,032.39	3.50	36.44	20.47
Other ⁵	14,119.98	22.58	33.90	77.08
HUNTING	347,151.92	1,139.49	1,139.49	55.15
Food and lodging	15,515.95	45.12	61.65	42.15
Transportation	14,620.73	47.31	70.85	38.98
Other trip costs ²	13,795.38	47.14	122.38	29.19
Hunting equipment	68,784.28	211.13	288.08	44.48
Auxiliary equipment ³	7,393.69	22.13	38.20	26.22
Special equipment ⁴	38,601.98	140.96	2,114.85	11.20
Magazines, books, and DVDs	1,665.54	5.96	26.73	15.24
Membership dues/contributions	3,650.00	13.46	151.12	13.67
Other ⁵	283,634.32	1,013.75	1,040.62	53.97
UNSPECIFIED⁶	104,977.17	149.81	988.65	28.30

1 Average expenditures are annual estimates.

2 Includes boating costs, equipment rental, guide fees, access fees, heating and cooking fuel, and ice and bait (for fishing only).

3 Includes sleeping bags, packs, duffel bags, tents, binoculars and field glasses, special fishing and hunting clothing, foul weather gear, boots and waders, maintenance and repair of equipment, processing and taxidermy costs, and electronic equipment such as a GPS device.

4 Includes big-ticket items bought primarily for hunting and fishing, including boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

5 Includes land leasing and ownership, licenses, stamps, tags, permits, and plantings (for hunting only).

6 Respondent could not specify whether expenditure was primarily for either fishing or hunting.

Table 28 SE Standard Errors of Kentucky Resident Wildlife Watchers Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	PARTICIPANTS			DAYS OF PARTICIPATION		TRIPS	
	#	%	% Pop.	#	%	#	%
WILDLIFE WATCHERS	100.52	0.00	2.98	12,577.56	0.00	1,060.20	0.00
Away from home	70.81	6.13	2.58	3,108.03	4.08	1,155.65	0.00
Observe wildlife	68.54	6.04	2.49	1,814.53	2.40	x	x
Photograph wildlife	59.79	5.64	2.14	2,121.10	2.96	x	x
Feed wildlife	36.91	3.46	1.32	2,053.39	2.82	x	x
Around the home	99.97	0.52	3.97	11,270.88	4.08	x	x
Observe wildlife	96.15	7.24	3.58	10,150.15	6.83	x	x
Photograph wildlife	73.49	6.25	2.69	2,326.91	2.76	x	x
Feed wildlife	92.03	5.77	3.50	x	x	x	x
Visit parks or natural areas ¹	46.15	4.24	1.66	2,046.56	2.86	x	x
Maintain plantings or natural areas	57.28	5.56	2.03	x	x	x	x

x Not applicable

¹ Includes visits only to parks or natural areas within one mile of home.

NOTE: Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population who observed wildlife away from home, etc.). Columns labeled "%" show the percentage of each column's participants who are described by the row heading (the percentage of wildlife watchers who observed wildlife away from home, etc.).

Table 30 SE Standard Errors of Kentucky Resident Wildlife Watchers, by Selected Characteristics: 2016
(State population 16 years and older. Numbers in thousands)

	POPULATION		TOTAL			AWAY FROM HOME			AROUND THE HOME		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
TOTAL	157.06	0.00	100.52	2.98	0.00	70.81	2.58	0.00	99.97	3.97	0.00
RESIDENCE DENSITY											
Urban	197.56	5.64	90.32	6.18	6.38	55.31	3.28	9.83	90.21	6.18	6.39
Rural	165.59	5.64	71.28	8.84	6.38	45.71	5.07	9.83	70.75	8.73	6.39
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	171.10	3.65	88.17	4.71	4.46	58.15	2.75	8.27	87.71	4.68	4.50
1,000,000 or more	165.68	5.28	69.60	9.31	6.24	43.64	5.09	9.83	69.49	9.26	6.29
250,000 to 999,999	155.03	5.20	69.62	10.10	6.42	34.10	4.28	8.31	69.62	10.10	6.46
50,000 to 249,999	93.42	3.19	36.16	11.37	3.50	23.30	6.41	5.94	35.94	11.22	3.51
Outside MSA	105.48	3.65	49.59	10.14	4.46	36.67	6.59	8.27	49.69	10.16	4.50
SEX											
Male	136.79	3.69	68.25	5.89	4.78	47.94	3.61	9.40	68.08	5.88	4.78
Female	125.42	3.69	68.80	5.59	4.78	50.43	3.67	9.40	68.13	5.53	4.78
AGE											
16 to 17 years	48.65	1.70	22.04	52.47	2.24	8.44	17.83	2.29	22.05	52.48	2.26
18 to 24 years	178.10	5.88	71.53	18.35	7.15	40.68	9.22	10.77	71.59	18.36	7.21
25 to 34 years	93.44	3.38	36.81	15.02	3.68	25.58	9.52	6.76	36.83	15.02	3.71
35 to 44 years	149.02	5.20	65.08	20.70	6.45	22.50	6.04	5.94	65.04	20.69	6.49
45 to 54 years	96.96	3.33	42.74	9.50	3.87	39.52	7.88	8.61	42.50	9.42	3.88
55 to 64 years	93.81	3.12	41.71	9.84	3.78	24.65	5.19	5.41	41.37	9.72	3.78
65 years and older	87.56	2.94	38.24	10.37	3.51	12.66	2.90	3.13	38.18	10.36	3.53
65 to 74 years	57.90	2.02	22.94	12.01	2.21	9.89	4.43	2.55	22.94	12.01	2.23
75 and older	71.17	2.43	30.38	17.95	2.97	6.78	3.29	1.78	30.34	17.94	2.98
ETHNICITY											
Hispanic	101.24	3.50	45.13	47.11	4.59	6.14	5.55	1.66	45.14	47.11	4.62
Non-Hispanic	158.18	3.50	104.32	4.31	4.59	69.95	2.69	1.66	103.82	4.28	4.62
RACE											
White	172.09	4.29	103.70	4.56	5.54	68.67	2.79	3.74	103.20	4.54	5.58
African American	35.66	1.24	15.97	47.00	1.62	7.36	18.76	1.99	15.97	47.00	1.63
All Others	119.72	4.13	53.12	35.59	5.36	11.73	6.28	3.18	53.11	35.59	5.39

(continued on next page)

Table 30 SE Standard Errors of Kentucky Resident Wildlife Watchers, by Selected Characteristics: 2016 (continued)
(State population 16 years and older. Numbers in thousands)

(continued from previous page)

	POPULATION		TOTAL			AWAY FROM HOME			AROUND THE HOME		
	Total	%	Total	% Pop.	%	Total	% Pop.	%	Total	% Pop.	%
ANNUAL HOUSEHOLD INCOME											
Less than \$20,000	137.43	4.76	61.92	20.30	6.05	45.38	13.97	10.86	61.95	20.31	6.10
\$20,000 to \$29,999	66.39	2.33	16.38	12.13	1.60	12.12	7.18	3.17	16.38	12.13	1.61
\$30,000 to \$39,999	89.63	3.15	40.00	20.97	3.94	13.40	5.77	3.54	39.97	20.96	3.97
\$40,000 to \$49,999	60.09	2.16	16.45	12.83	1.65	9.45	6.54	2.52	16.45	12.83	1.66
\$50,000 to \$74,999	125.28	4.13	55.08	11.95	5.12	40.82	7.89	9.30	54.80	11.84	5.14
\$75,000 to \$99,999	100.36	3.49	19.64	9.37	1.92	11.66	4.50	3.05	19.19	9.03	1.89
\$100,000 to \$149,999	103.33	3.61	40.82	19.84	4.08	9.66	4.02	2.58	40.83	19.84	4.11
\$150,000 or more	141.50	4.76	55.15	18.03	5.52	13.63	4.09	3.56	55.14	18.03	5.55
Not reported	93.87	3.17	42.74	22.74	4.23	13.72	6.49	3.50	42.78	22.75	4.26
EDUCATION											
8 years or less	65.02	2.25	29.07	40.08	2.95	—	—	—	29.07	40.07	2.97
9 to 12 years	123.40	4.09	57.95	9.27	5.05	41.48	5.75	9.25	57.23	9.12	5.04
1 to 3 years of college	130.66	4.11	51.30	8.63	4.52	34.47	4.92	7.99	51.31	8.63	4.55
4 years or more of college	144.00	4.84	68.91	7.04	5.80	49.07	4.41	11.12	68.82	7.03	5.82

— No sample data

NOTE: Percent population (% Pop.) columns show the percentage of each row's population who participated in the activity named by the column (the percentage of the population living in urban areas who participated, etc.). Columns labeled "% under TOTAL, Away From Home, and Around the Home show the percentage of each column's participants who are described by the row heading (the percentage of those who lived in urban areas, etc.).

Table 33A SE Standard Errors of Expenditures by Kentucky Residents for All Wildlife Watching Both In and Out of Kentucky: 2016
(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	392,498.18	367.13	466.13	91.72	5.88
TRIP-RELATED EXPENDITURES	210,730.65	204.57	595.08	66.14	5.89
Food and lodging	149,106.65	147.06	484.24	64.29	5.84
Food	59,656.65	58.07	184.08	64.29	5.84
Lodging	92,561.01	92.19	550.08	40.85	3.88
Transportation	46,866.17	44.99	112.16	64.95	5.81
Other trip costs ²	54,793.99	55.17	296.84	55.53	5.33
EQUIPMENT AND OTHER EXPENDITURES	279,296.60	270.22	365.01	88.72	5.82
Wildlife-watching equipment	87,313.50	84.72	127.28	85.21	6.20
Binoculars, spotting scopes	3,254.97	3.24	37.10	45.16	4.54
Film and photo processing	2,181.15	2.20	34.00	21.82	2.17
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	46,546.25	46.81	141.76	61.71	6.08
Day packs, carrying cases, and special clothing	24,953.67	24.59	80.22	63.61	5.96
Bird food	14,023.12	13.14	22.91	80.71	7.05
Food for other wildlife	10,728.32	10.51	28.11	61.03	5.72
Nest boxes, bird houses, bird feeders, and bird baths	4,914.50	4.69	13.19	71.59	6.68
Other equipment (including field guides)	1,086.76	1.09	8.11	43.71	4.40
Auxiliary equipment ³	94,363.48	94.99	327.36	64.15	6.04
Special equipment ⁴	82,142.63	83.57	2,196.88	15.27	1.54
Magazines, books, and DVDs	4,878.00	4.95	20.47	61.58	6.19
Membership dues and contributions	5,151.94	5.02	16.79	62.74	6.06
Land leasing and ownership	183,716.93	186.26	1,130.38	46.53	4.67
Plantings	24,024.70	24.17	150.01	56.20	5.56

¹ Average expenditures are annual estimates.

² Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.

³ Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.

⁴ Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

Table 33B SE Standard Errors of Expenditures by Kentucky Residents for Away-from-home Wildlife Watching
Both In and Out of Kentucky: 2016

(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	201,031.75	439.38	520.01	66.79	8.29
TRIP-RELATED EXPENDITURES	209,409.78	485.01	595.90	66.79	8.29
Food and lodging	164,069.31	401.07	542.27	65.42	9.33
Food	65,188.95	157.40	209.46	65.42	9.33
Lodging	101,485.93	251.57	317.33	74.05	17.40
Transportation	39,298.14	73.49	77.10	66.79	8.29
Other trip costs ²	25,603.92	66.12	161.73	70.73	16.52
EQUIPMENT AND OTHER EXPENDITURES	42,250.56	113.66	283.43	71.92	18.86
Wildlife-watching equipment	2,484.99	6.45	51.68	71.92	18.86
Binoculars, spotting scopes	—	—	—	—	—
Film and photo processing	1,086.49	2.91	53.32	13.32	3.55
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	1,332.38	3.59	88.86	13.32	3.55
Day packs, carrying cases, and special clothing	701.07	1.90	0.00	10.87	2.94
Bird food	—	—	—	—	—
Food for other wildlife	—	—	—	—	—
Nest boxes, bird houses, bird feeders, and bird baths	—	—	—	—	—
Other equipment (including field guides)	740.48	1.98	1.35	73.83	19.69
Auxiliary equipment ³	40,501.81	109.63	0.00	75.70	20.49
Special equipment ⁴	—	—	—	—	—
Magazines, books, and DVDs	—	—	—	—	—
Membership dues and contributions	2,226.09	5.78	51.57	73.46	19.59
Land leasing and ownership	—	—	—	—	—
Plantings	—	—	—	—	—

— No sample data

¹ Average expenditures are annual estimates.

² Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.

³ Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.

⁴ Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

Table 33C SE Standard Errors of Expenditures by Kentucky Residents for Around-the-home Wildlife Watching
Both In and Out of Kentucky: 2016

(State population 16 years and older. Numbers in thousands)

	AMOUNT (thousands of \$)	AVERAGE PER WILDLIFE WATCHER (\$) ¹	AVERAGE PER SPENDER (\$) ¹	NUMBER OF SPENDERS (thousands)	PERCENT OF WILDLIFE WATCHERS
ALL EXPENDITURES	305,013.23	308.28	483.36	94.26	7.75
TRIP-RELATED EXPENDITURES	x	x	x	x	x
Food and lodging	x	x	x	x	x
Food	x	x	x	x	x
Lodging	x	x	x	x	x
Transportation	x	x	x	x	x
Other trip costs ²	x	x	x	x	x
EQUIPMENT AND OTHER EXPENDITURES	305,013.23	308.28	483.36	94.26	7.75
Wildlife-watching equipment	77,388.56	77.63	132.60	91.23	7.78
Binoculars, spotting scopes	3,326.56	3.41	42.95	65.79	6.76
Film and photo processing	96.91	0.10	32.31	5.86	0.60
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	19,867.86	20.33	74.76	67.59	6.88
Day packs, carrying cases, and special clothing	32,157.49	32.92	164.72	80.68	8.10
Bird food	18,635.18	18.21	36.93	88.60	8.22
Food for other wildlife	12,927.64	13.02	32.55	78.68	7.77
Nest boxes, bird houses, bird feeders, and bird baths	6,644.99	6.56	18.37	83.88	8.10
Other equipment (including field guides)	966.27	0.99	62.29	10.12	1.04
Auxiliary equipment ³	117,937.05	121.24	1,147.78	65.87	6.74
Special equipment ⁴	11,508.45	11.80	745.59	9.66	0.99
Magazines, books, and DVDs	6,561.43	6.74	65.08	65.88	6.76
Membership dues and contributions	7,110.20	7.26	25.80	67.15	6.85
Land leasing and ownership	252,586.98	259.73	2,996.47	65.08	6.67
Plantings	31,595.08	32.25	191.55	67.39	6.78

— No sample data x Not applicable

¹ Average expenditures are annual estimates.

² Includes equipment rental and fees for guides, pack trips, public land use and private land use, boat fuel, other boating costs, and heating and cooking fuel.

³ Includes tents, tarps, frame packs and other backpacking equipment, other camping equipment, and other auxiliary equipment.

⁴ Includes boats, campers, cabins, trail bikes, dune buggies, 4 x 4 vehicles, ATVs, 4-wheelers, snowmobiles, pickups, vans, travel and tent trailers, motor homes, house trailers, recreational vehicles (RVs) and other special equipment.

Table 35 SE Standard Errors of Kentucky Resident Wildlife Watchers Participating in Fishing or Hunting: 2016
(State population 16 years and older. Numbers in thousands)

	TOTAL		AWAY FROM HOME		AROUND THE HOME	
	#	%	#	%	#	%
ALL WILDLIFE WATCHERS	100.52	0.00	70.81	0.00	99.97	0.00
Did not fish or hunt	89.53	6.53	50.95	9.98	89.56	6.57
Fished or hunted	73.86	6.53	50.37	9.98	73.51	6.57
Fished	70.79	6.38	48.92	9.92	70.46	6.42
Hunted	38.04	3.59	30.69	7.16	38.05	3.62

Table 36 SE Standard Errors of Kentucky Resident Sportspersons Participating in Wildlife Watching: 2016
(State population 16 years and older. Numbers in thousands)

	SPORTSPERSONS		ANGLERS		HUNTERS	
	#	%	#	%	#	%
ALL SPORTSPERSONS	120.43	0.00	97.24	0.00	55.15	0.00
Did not watch wildlife	41.04	3.84	34.52	4.29	15.71	4.50
Watched wildlife	92.15	3.84	76.15	4.29	46.45	4.50
Away from home	63.65	4.82	56.50	5.84	35.38	6.31
Around the home	89.95	3.95	74.01	4.40	45.56	4.57

