

VERMONT



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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THE ROCKVILLE INSTITUTE, FOR
STATE FISH AND WILDLIFE AGENCIES

Vermont Fish & Wildlife Department Disclaimer: The hunter and angler estimates in this report are well below actual 2016 license sales. Actual resident and nonresident license sales for Vermont in 2016 were 119,576 for anglers and 66,920 for hunters.

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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 Vermont 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	69	100	1,647	100	1,125	100
All freshwater	67	97	1,499	91	997	89
Freshwater, except Great Lakes	67	97	1,402	85	906	81
Great Lakes	14	20	98	6	90	8
Saltwater	7	10	148	9	128	11
ALL HUNTING	33	100	794	100	578	100
Big game	29	88	660	83	379	65
Small game	14	43	153	19	147	25
Migratory birds	5	15	39	5	37	6
Other animals	3	9	24	3	16	3

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

Table 15 Vermont 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	455	100	88	19	100	69	15	100	33	7	100
RESIDENCE DENSITY											
Urban	203	45	34	17	39	30	15	43	11	5	33
Rural	252	55	54	21	61	39	16	57	22	9	67
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	333	73	60	18	68	49	15	70	20	6	61
1,000,000 or more	—	—	—	—	—	—	—	—	—	—	—
250,000 to 999,999	—	—	—	—	—	—	—	—	—	—	—
50,000 to 249,999	333	73	60	18	68	49	15	70	20	6	61
Outside MSA	122	27	28	23	32	21	17	30	13	10	39
SEX											
Male	215	47	63	29	71	47	22	68	26	12	78
Female	240	53	25	11	29	22	9	32	7	3	22
AGE											
16 to 17 years	13	3	4	30	4	4	30	6	—	—	—
18 to 24 years	20	4	4	22	5	3	17	5	1	7	4
25 to 34 years	60	13	15	26	17	12	20	17	5	9	17
35 to 44 years	102	22	19	19	22	17	16	24	11	10	32
45 to 54 years	61	13	16	26	18	12	20	17	5	9	17
55 to 64 years	77	17	13	17	15	9	12	13	4	6	13
65 years and older	122	27	16	13	18	12	10	18	5	5	17
65 to 74 years	71	16	11	15	13	7	10	10	5	7	15
75 and older	51	11	5	10	6	5	10	7	1	1	2
ETHNICITY											
Hispanic	31	7	3	11	4	3	10	5	1	4	4
Non-Hispanic	424	93	85	20	96	66	16	95	32	7	96
RACE											
White	412	91	78	19	88	59	14	85	27	7	82
African American	6	1	1	18	1	1	19	2	1	11	2
All Others	37	8	9	25	10	9	25	13	5	14	16

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Table 15 Vermont 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	21	5	2	8	2	1	5	1	1	3	2
\$20,000 to \$29,999	28	6	7	25	8	6	22	9	1	5	4
\$30,000 to \$39,999	27	6	4	14	4	3	13	5	2	6	5
\$40,000 to \$49,999	35	8	6	18	7	3	10	5	4	11	11
\$50,000 to \$74,999	72	16	15	21	17	10	14	15	5	8	17
\$75,000 to \$99,999	70	15	16	23	18	15	22	22	7	10	22
\$100,000 to \$149,999	64	14	9	13	10	5	8	8	4	7	13
\$150,000 or more	26	6	4	17	5	4	14	5	1	2	2
Not reported	113	25	25	22	29	21	18	30	8	7	24
EDUCATION											
8 years or less	17	4	2	10	2	2	10	2	0	1	1
9 to 12 years	150	33	41	28	47	29	19	42	16	11	48
1 to 3 years of college	82	18	19	24	22	15	19	22	7	9	22
4 years or more of college	207	45	26	12	29	23	11	34	10	5	30

— 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 Vermont Residents for Fishing and Hunting Both In and Out of Vermont: 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	259,350	2,946	2,983	87
Food and lodging	28,426	323	552	51
Transportation	21,279	242	369	58
Other trip costs ²	29,448	334	502	59
Equipment (fishing, hunting)	40,253	457	657	61
Auxiliary equipment ³	8,201	93	271	30
Special equipment ⁴	84,789	963	3,565	24
Magazines, books, and DVDs	1,547	18	84	19
Membership dues/contributions	834	9	91	9
Other ⁵	44,573	506	735	61
FISHING	79,532	1,151	1,222	65
Food and lodging	16,922	245	408	41
Transportation	11,546	167	225	51
Other trip costs ²	23,613	342	396	60
Fishing equipment	11,120	161	228	49
Auxiliary equipment ³	2,462	36	289	9
Special equipment ⁴	12,162	176	559	22
Magazines, books, and DVDs	45	1	30	1
Membership dues/contributions	33	0	21	2
Other ⁵	1,629	24	41	39
HUNTING	101,179	3,076	3,098	33
Food and lodging	6,825	208	315	22
Transportation	6,067	184	311	20
Other trip costs ²	1,872	57	305	6
Hunting equipment	20,051	610	831	24
Auxiliary equipment ³	2,945	90	321	9
Special equipment ⁴	31,240	950	13,287	2
Magazines, books, and DVDs	243	7	55	4
Membership dues/contributions	401	12	115	3
Other ⁵	31,535	959	977	32
UNSPECIFIED ⁶	32,087	364	1,370	23

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

	PARTICIPANTS			DAYS OF PARTICIPATION		TRIPS	
	#	%	% Pop.	#	%	#	%
WILDLIFE WATCHERS	152	100	35	11,654	100	694	100
Away from home	61	40	14	1,514	13	694	100
Observe wildlife	60	40	14	1,017	9	x	x
Photograph wildlife	28	18	6	240	2	x	x
Feed wildlife	12	8	3	152	1	x	x
Around the home	150	98	34	10,140	87	x	x
Observe wildlife	128	84	29	8,601	74	x	x
Photograph wildlife	72	47	16	689	6	x	x
Feed wildlife	120	79	27	x	x	x	x
Visit parks or natural areas ¹	35	23	8	850	7	x	x
Maintain plantings or natural areas	28	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 Vermont 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	440	100	152	35	100	61	14	100	150	34	100
RESIDENCE DENSITY											
Urban	137	31	46	34	30	21	15	34	44	32	29
Rural	303	69	106	35	70	40	13	66	106	35	71
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	298	68	109	37	72	44	15	72	107	36	71
1,000,000 or more	—	—	—	—	—	—	—	—	—	—	—
250,000 to 999,999	—	—	—	—	—	—	—	—	—	—	—
50,000 to 249,999	298	68	109	37	72	44	15	72	107	36	71
Outside MSA	142	32	43	30	28	17	12	28	43	30	29
SEX											
Male	229	52	76	33	50	30	13	49	74	32	49
Female	211	48	76	36	50	31	15	51	76	36	51
AGE											
16 to 17 years	47	11	6	12	4	6	12	9	6	12	4
18 to 24 years	24	6	8	32	5	5	19	7	8	32	5
25 to 34 years	42	10	16	39	11	8	20	14	16	39	11
35 to 44 years	75	17	29	38	19	4	6	7	29	38	19
45 to 54 years	72	16	28	39	18	14	20	23	26	35	17
55 to 64 years	83	19	31	37	20	15	18	25	31	37	20
65 years and older	96	22	35	36	23	9	9	14	35	36	23
65 to 74 years	41	9	13	32	9	4	10	7	13	32	9
75 and older	55	13	22	40	14	5	8	8	22	40	15
ETHNICITY											
Hispanic	22	5	4	17	3	1	3	1	4	17	3
Non-Hispanic	418	95	148	35	97	60	14	99	146	35	97
RACE											
White	380	86	139	37	92	54	14	88	137	36	92
African American	15	3	7	48	5	7	48	12	7	48	5
All Others	45	10	5	12	4	—	—	—	5	12	4

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Table 30 Vermont 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	19	4	9	46	6	4	18	6	9	46	6
\$20,000 to \$29,999	21	5	9	41	6	4	21	7	9	41	6
\$30,000 to \$39,999	33	8	12	35	8	6	20	11	12	35	8
\$40,000 to \$49,999	40	9	13	33	9	6	15	10	11	27	7
\$50,000 to \$74,999	77	18	27	35	18	12	15	19	27	35	18
\$75,000 to \$99,999	41	9	15	38	10	7	17	11	15	38	10
\$100,000 to \$149,999	81	18	18	22	12	11	14	18	18	22	12
\$150,000 or more	28	6	12	42	8	4	13	6	12	42	8
Not reported	100	23	38	38	25	7	7	12	38	38	25
EDUCATION											
8 years or less	18	4	3	19	2	1	5	1	3	19	2
9 to 12 years	184	42	53	29	35	16	9	27	51	28	34
1 to 3 years of college	104	24	41	39	27	14	13	23	41	39	27
4 years or more of college	134	30	55	41	36	30	22	49	55	41	36

— 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 Vermont Residents for All Wildlife Watching Both In and Out of Vermont: 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	93,420	614	775	121	79
TRIP-RELATED EXPENDITURES	34,968	230	826	42	28
Food and lodging	18,293	120	524	35	23
Food	9,282	61	272	34	22
Lodging	9,011	59	679	13	9
Transportation	10,540	69	320	33	22
Other trip costs ²	6,135	40	377	16	11
EQUIPMENT AND OTHER EXPENDITURES	58,452	384	526	111	73
Wildlife-watching equipment	22,450	148	209	107	71
Binoculars, spotting scopes	2,225	15	201	11	7
Film and photo processing	1,220	8	130	9	6
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	2,832	19	165	17	11
Day packs, carrying cases, and special clothing	1,701	11	113	15	10
Bird food	12,203	80	132	92	61
Food for other wildlife	321	2	31	10	7
Nest boxes, bird houses, bird feeders, and bird baths	1,697	11	46	37	24
Other equipment (including field guides)	250	2	26	10	6
Auxiliary equipment ³	3,064	20	220	14	9
Special equipment ⁴	22,942	151	2,165	11	7
Magazines, books, and DVDs	675	4	56	12	8
Membership dues and contributions	3,984	26	190	21	14
Land leasing and ownership	2,806	18	5,000	1	0
Plantings	2,531	17	248	10	7

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 Vermont Residents for Away-from-home Wildlife Watching Both In and Out of Vermont: 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	45,385	743	800	57	93
TRIP-RELATED EXPENDITURES	43,922	719	813	54	88
Food and lodging	25,727	421	528	49	80
Food	10,250	168	217	47	77
Lodging	15,477	254	669	23	38
Transportation	12,826	210	280	46	75
Other trip costs ²	5,369	88	220	24	40
EQUIPMENT AND OTHER EXPENDITURES	1,463	24	83	18	29
Wildlife-watching equipment	1,238	20	93	13	22
Binoculars, spotting scopes	429	7	229	2	3
Film and photo processing	—	—	—	—	—
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	—	—	—	—	—
Day packs, carrying cases, and special clothing	623	10	110	6	9
Bird food	61	1	38	2	3
Food for other wildlife	41	1	35	1	2
Nest boxes, bird houses, bird feeders, and bird baths	—	—	—	—	—
Other equipment (including field guides)	84	1	27	3	5
Auxiliary equipment ³	26	0	20	1	2
Special equipment ⁴	0	0	0	—	—
Magazines, books, and DVDs	56	1	13	4	7
Membership dues and contributions	143	2	100	1	2
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 Vermont Residents for Around-the-home Wildlife Watching Both In and Out of Vermont: 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	31,541	211	321	98	66
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	31,541	211	321	98	66
Wildlife-watching equipment	18,412	123	195	94	63
Binoculars, spotting scopes	1,020	7	83	12	8
Film and photo processing	1,438	10	590	2	2
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	1,801	12	220	8	5
Day packs, carrying cases, and special clothing	315	2	119	3	2
Bird food	11,888	79	136	88	58
Food for other wildlife	303	2	26	11	8
Nest boxes, bird houses, bird feeders, and bird baths	1,524	10	45	34	23
Other equipment (including field guides)	122	1	15	8	6
Auxiliary equipment ³	449	3	200	2	2
Special equipment ⁴	4,496	30	1,249	4	2
Magazines, books, and DVDs	72	0	31	2	2
Membership dues and contributions	2,228	15	186	12	8
Land leasing and ownership	4,097	27	5,000	1	1
Plantings	1,787	12	275	7	4

— 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 Vermont 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	152	100	61	100	150	100
Did not fish or hunt	94	62	33	55	94	63
Fished or hunted	58	38	28	45	55	37
Fished	46	30	23	37	44	29
Hunted	32	21	23	38	30	20

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

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

	SPORTSPERSONS		ANGLERS		HUNTERS	
	#	%	#	%	#	%
ALL SPORTSPERSONS	88	100	69	100	33	100
Did not watch wildlife	20	23	16	22	7	22
Watched wildlife	68	77	54	78	26	78
Away from home	34	38	27	40	15	46
Around the home	66	75	52	75	25	75

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 Vermont 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	15.11	0.00	451.52	0.00	350.70	0.00
All freshwater	14.69	1.85	416.37	5.42	327.88	7.92
Freshwater, except Great Lakes	14.69	1.85	413.13	6.57	302.09	9.25
Great Lakes	12.77	18.40	90.79	5.56	86.31	8.23
Saltwater	3.43	4.56	89.30	5.42	85.87	7.92
ALL HUNTING	8.22	0.00	218.72	0.00	166.94	0.00
Big game	7.35	4.54	196.57	5.89	118.53	10.20
Small game	4.62	9.22	56.05	6.26	55.93	6.95
Migratory birds	3.26	9.44	25.18	3.22	24.45	4.28
Other animals	1.24	3.21	12.34	1.32	9.14	1.34

Table 15 SE Standard Errors of Vermont 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	26.83	0.00	19.97	4.53	0.00	15.11	3.20	0.00	8.22	1.76	0.00
RESIDENCE DENSITY											
Urban	22.78	4.88	11.09	5.77	9.24	10.02	5.19	11.29	5.36	2.70	14.53
Rural	29.38	4.88	14.56	6.29	9.24	11.48	4.91	11.29	7.20	3.04	14.53
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	24.50	3.69	15.02	4.70	7.43	12.32	3.85	9.28	6.15	1.90	11.03
1,000,000 or more	—	—	—	—	—	—	—	—	—	—	—
250,000 to 999,999	—	—	—	—	—	—	—	—	—	—	—
50,000 to 249,999	24.50	3.69	15.02	4.70	7.43	12.32	3.85	9.28	6.15	1.90	11.03
Outside MSA	18.93	3.69	9.00	8.17	7.43	7.71	6.82	9.28	4.74	4.19	11.03
SEX											
Male	19.93	4.14	15.35	7.64	6.68	11.89	5.90	8.66	7.03	3.45	9.24
Female	26.31	4.14	8.10	3.56	6.68	7.54	3.29	8.66	3.47	1.48	9.24
AGE											
16 to 17 years	6.59	1.41	2.87	26.13	3.18	2.96	26.93	4.19	—	—	—
18 to 24 years	8.70	1.93	2.26	14.85	2.38	2.08	12.87	2.89	0.93	5.64	2.72
25 to 34 years	14.74	3.25	6.23	12.12	6.01	5.19	9.87	6.69	2.79	5.15	7.62
35 to 44 years	22.35	4.48	9.18	9.91	9.38	8.86	9.38	11.98	5.08	5.48	13.58
45 to 54 years	9.47	2.02	4.71	8.73	3.54	3.91	7.10	4.28	1.98	3.54	4.50
55 to 64 years	10.61	2.31	4.08	5.77	3.34	3.45	4.77	4.14	1.79	2.45	4.44
65 years and older	16.50	3.12	4.89	4.39	3.74	3.98	3.52	4.41	2.06	1.79	4.81
65 to 74 years	12.40	2.60	3.71	5.84	3.19	2.66	4.11	3.18	1.94	2.96	4.68
75 and older	13.17	2.74	2.30	5.28	2.31	2.33	5.25	3.06	0.34	0.72	0.96
ETHNICITY											
Hispanic	12.72	2.72	2.24	8.43	2.46	2.29	8.43	3.24	1.09	3.81	3.29
Non-Hispanic	26.39	2.72	19.33	4.72	2.46	14.59	3.57	3.24	8.00	1.94	3.29
RACE											
White	31.49	3.93	19.51	4.95	9.76	15.45	3.90	12.70	8.33	2.08	15.32
African American	4.43	0.97	1.22	23.88	1.40	1.27	24.66	1.84	0.72	14.04	2.20
All Others	17.56	3.86	8.63	26.38	9.77	8.84	26.83	12.76	5.10	15.44	15.49

(continued on next page)

Table 15 SE Standard Errors of Vermont 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	7.33	1.59	0.83	4.87	0.86	0.54	3.01	0.73	0.37	2.00	1.08
\$20,000 to \$29,999	7.98	1.77	3.60	14.78	3.78	3.55	14.25	4.88	0.78	3.18	2.14
\$30,000 to \$39,999	8.08	1.74	2.12	9.07	2.26	2.10	8.82	2.92	1.13	4.58	3.32
\$40,000 to \$49,999	11.51	2.45	3.13	10.82	3.26	2.03	6.65	2.81	1.93	6.57	5.36
\$50,000 to \$74,999	17.54	3.88	5.33	8.92	4.77	3.77	6.23	4.53	2.50	3.91	6.58
\$75,000 to \$99,999	18.42	4.05	8.67	13.85	9.15	8.57	13.59	11.69	5.01	7.69	14.65
\$100,000 to \$149,999	12.64	2.78	3.29	5.76	3.07	2.45	4.16	3.19	1.82	3.14	4.55
\$150,000 or more	7.52	1.67	2.22	9.98	2.34	2.14	9.34	2.95	0.40	1.70	1.15
Not reported	22.56	4.14	8.78	8.93	7.77	8.10	8.04	9.94	3.80	3.63	10.18
EDUCATION											
8 years or less	8.56	1.84	1.24	8.89	1.38	1.29	9.21	1.83	0.18	1.18	0.54
9 to 12 years	18.05	3.43	11.36	8.30	7.45	8.45	6.11	8.32	5.20	3.70	10.71
1 to 3 years of college	12.88	2.62	6.81	9.06	6.04	6.20	8.07	7.76	3.40	4.35	9.04
4 years or more of college	21.64	4.15	9.98	5.00	9.48	9.39	4.70	11.71	5.19	2.56	14.35

— 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 Vermont Residents for Fishing and Hunting Both In and Out of Vermont: 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	77,302.66	584.67	588.59	20.71
Food and lodging	11,186.20	106.60	180.66	13.85
Transportation	6,880.64	57.18	75.86	15.00
Other trip costs ²	14,183.31	145.92	213.98	15.22
Equipment (fishing, hunting)	13,842.85	121.33	178.24	15.38
Auxiliary equipment ³	2,655.10	22.09	92.93	9.73
Special equipment ⁴	31,214.23	286.69	1,664.40	9.65
Magazines, books, and DVDs	894.10	9.59	15.27	9.24
Membership dues/contributions	320.34	3.02	24.06	3.74
Other ⁵	25,782.45	276.61	410.33	15.31
FISHING	29,480.61	352.97	372.88	14.42
Food and lodging	8,731.30	117.27	217.11	11.99
Transportation	4,296.11	51.54	65.35	13.00
Other trip costs ²	11,703.19	155.74	179.71	13.59
Fishing equipment	3,911.05	45.42	70.96	12.31
Auxiliary equipment ³	1,599.71	22.34	76.28	4.62
Special equipment ⁴	7,582.90	105.31	123.60	11.71
Magazines, books, and DVDs	27.20	0.38	9.09	0.86
Membership dues/contributions	25.42	0.36	29.20	1.36
Other ⁵	609.77	7.34	8.93	11.53
HUNTING	36,909.96	844.14	858.01	8.17
Food and lodging	2,522.77	58.35	84.32	5.98
Transportation	2,244.99	51.98	73.01	5.57
Other trip costs ²	1,063.61	29.99	133.62	2.27
Hunting equipment	7,027.31	154.67	179.57	6.34
Auxiliary equipment ³	1,173.26	28.69	78.92	3.03
Special equipment ⁴	16,809.54	467.43	5,693.21	1.07
Magazines, books, and DVDs	132.89	3.71	13.73	2.01
Membership dues/contributions	180.29	4.71	28.96	1.56
Other ⁵	19,062.57	545.02	556.68	8.08
UNSPECIFIED ⁶	17,703.05	188.21	946.01	9.52

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

	PARTICIPANTS			DAYS OF PARTICIPATION		TRIPS	
	#	%	% Pop.	#	%	#	%
WILDLIFE WATCHERS	16.89	0.00	2.65	2,221.52	0.00	194.14	0.00
Away from home	11.55	6.19	2.85	400.98	2.48	213.08	0.00
Observe wildlife	11.49	6.18	2.84	300.26	1.86	x	x
Photograph wildlife	8.43	5.18	1.98	111.09	0.62	x	x
Feed wildlife	6.98	4.54	1.60	114.13	0.78	x	x
Around the home	16.81	1.60	4.70	1,984.90	2.48	x	x
Observe wildlife	15.75	4.50	4.28	1,708.00	3.29	x	x
Photograph wildlife	12.40	6.26	3.11	192.39	1.30	x	x
Feed wildlife	15.63	5.40	4.18	x	x	x	x
Visit parks or natural areas ¹	9.58	5.81	2.27	363.28	1.83	x	x
Maintain plantings or natural areas	7.39	4.44	1.76	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 Vermont 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	35.52	0.00	16.89	2.65	0.00	11.55	2.85	0.00	16.81	4.70	0.00
RESIDENCE DENSITY											
Urban	24.42	5.65	10.17	9.55	5.81	6.93	5.75	9.45	9.82	9.16	5.71
Rural	39.26	5.65	14.67	6.62	5.81	9.46	3.56	9.45	14.60	6.61	5.71
RESIDENCE SIZE											
Metropolitan Statistical Area (MSA)	36.03	6.57	14.54	6.60	5.29	10.62	3.99	11.09	14.41	6.51	5.36
1,000,000 or more	—	—	—	—	—	—	—	—	—	—	—
250,000 to 999,999	—	—	—	—	—	—	—	—	—	—	—
50,000 to 249,999	36.03	6.57	14.54	6.60	5.29	10.62	3.99	11.09	14.41	6.51	5.36
Outside MSA	32.30	6.57	9.30	9.43	5.29	7.41	5.88	11.09	9.31	9.43	5.36
SEX											
Male	31.87	6.26	11.33	6.77	5.01	7.80	3.86	8.98	11.28	6.66	5.16
Female	33.88	6.26	11.36	7.89	5.01	7.99	4.46	8.98	11.49	7.93	5.16
AGE											
16 to 17 years	26.83	5.97	6.15	15.00	4.05	6.13	14.96	10.06	6.15	15.00	4.11
18 to 24 years	14.23	3.21	4.78	26.77	3.12	3.56	18.11	5.75	4.79	26.78	3.16
25 to 34 years	17.97	3.92	6.87	23.16	4.39	5.51	15.49	8.80	6.88	23.17	4.45
35 to 44 years	23.28	4.96	10.27	18.12	6.46	2.80	4.13	4.47	10.24	18.08	6.53
45 to 54 years	15.94	3.72	7.41	13.31	4.46	5.50	8.74	8.01	6.74	12.14	4.10
55 to 64 years	15.98	3.50	6.87	10.84	3.96	4.88	6.83	6.56	6.91	10.87	4.03
65 years and older	21.83	4.48	9.40	12.81	5.66	3.78	4.44	5.68	9.36	12.78	5.71
65 to 74 years	11.64	2.54	3.81	12.99	2.33	2.30	6.30	3.61	3.81	13.00	2.37
75 and older	18.45	3.99	8.32	20.13	5.27	3.07	6.23	4.91	8.30	20.09	5.33
ETHNICITY											
Hispanic	12.25	2.74	2.54	14.84	1.66	0.65	3.25	1.06	2.55	14.85	1.68
Non-Hispanic	34.83	2.74	16.65	4.96	1.66	11.45	2.99	1.06	16.56	4.92	1.68
RACE											
White	45.46	7.59	16.96	6.25	4.58	11.86	3.55	10.11	16.87	6.18	4.64
African American	13.58	3.02	6.30	60.29	4.14	6.21	59.88	10.11	6.30	60.30	4.20
All Others	33.15	7.48	3.31	11.74	2.15	—	—	—	3.31	11.74	2.18

(continued on next page)

Table 30 SE Standard Errors of Vermont 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	10.33	2.30	4.70	34.23	3.04	1.83	13.47	2.85	4.70	34.24	3.09
\$20,000 to \$29,999	6.46	1.44	3.01	19.13	1.89	2.27	12.51	3.54	3.04	19.22	1.93
\$30,000 to \$39,999	12.00	2.63	4.68	19.01	2.98	3.94	13.89	6.24	4.67	19.01	3.02
\$40,000 to \$49,999	14.26	3.26	5.06	17.41	3.20	3.79	10.96	6.02	4.30	14.59	2.77
\$50,000 to \$74,999	19.30	4.25	7.47	13.05	4.52	4.55	6.98	6.63	7.50	13.08	4.60
\$75,000 to \$99,999	16.30	3.67	6.48	22.09	4.14	5.02	14.11	8.10	6.48	22.09	4.20
\$100,000 to \$149,999	33.92	7.55	6.99	12.43	4.44	6.44	9.76	10.14	6.99	12.43	4.50
\$150,000 or more	9.27	2.12	4.20	20.66	2.64	2.25	9.18	3.57	4.21	20.68	2.69
Not reported	27.12	5.41	11.10	15.17	6.80	4.21	4.68	6.62	11.03	15.12	6.85
EDUCATION											
8 years or less	8.77	1.97	2.05	14.92	1.33	0.96	5.97	1.57	2.06	14.98	1.36
9 to 12 years	33.77	6.28	11.15	8.06	6.26	6.97	4.13	10.42	11.18	7.92	6.46
1 to 3 years of college	22.60	4.85	9.01	12.08	5.15	4.72	5.35	6.56	9.04	12.10	5.23
4 years or more of college	20.46	4.49	10.53	10.02	5.70	8.75	7.36	11.14	10.59	10.05	5.80

— 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 Vermont Residents for All Wildlife Watching Both In and Out of Vermont: 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	22,198.40	129.85	155.59	15.76	5.50
TRIP-RELATED EXPENDITURES	11,795.23	73.70	270.20	9.79	5.68
Food and lodging	5,686.75	35.15	173.09	9.14	5.48
Food	3,258.06	20.45	96.33	9.04	5.43
Lodging	2,992.99	18.66	133.30	3.97	2.44
Transportation	3,124.89	19.17	69.13	7.58	4.39
Other trip costs ²	4,743.35	31.06	279.51	5.25	3.26
EQUIPMENT AND OTHER EXPENDITURES	16,782.79	102.41	134.88	15.33	6.00
Wildlife-watching equipment	4,381.96	23.84	30.34	14.97	6.00
Binoculars, spotting scopes	1,151.94	7.44	124.86	4.56	2.91
Film and photo processing	1,103.03	7.24	227.82	6.62	4.33
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	1,179.24	7.52	84.95	7.08	4.51
Day packs, carrying cases, and special clothing	694.71	4.42	61.83	6.98	4.48
Bird food	2,590.49	14.61	20.14	13.96	6.26
Food for other wildlife	171.14	1.11	3.26	5.58	3.61
Nest boxes, bird houses, bird feeders, and bird baths	378.11	2.17	3.89	7.91	4.46
Other equipment (including field guides)	103.37	0.66	13.28	4.29	2.75
Auxiliary equipment ³	1,290.44	8.24	73.06	6.58	4.23
Special equipment ⁴	14,582.69	95.01	1,938.70	5.73	3.71
Magazines, books, and DVDs	453.44	2.96	23.68	5.69	3.66
Membership dues and contributions	1,462.24	9.22	54.80	5.15	3.04
Land leasing and ownership	2,879.69	18.94	0.00	0.58	0.38
Plantings	1,028.91	6.55	69.06	3.11	1.92

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 Vermont Residents for Away-from-home Wildlife Watching
Both In and Out of Vermont: 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	14,178.78	188.22	201.37	11.03	4.22
TRIP-RELATED EXPENDITURES	13,835.09	184.52	206.42	10.88	6.21
Food and lodging	8,973.23	125.75	158.08	10.79	9.36
Food	3,347.31	45.51	58.15	10.62	9.57
Lodging	5,968.68	86.76	164.75	7.74	10.66
Transportation	3,990.48	52.85	64.40	10.84	10.83
Other trip costs ²	3,267.50	51.80	115.21	8.41	11.74
EQUIPMENT AND OTHER EXPENDITURES	723.17	11.14	32.20	6.58	9.48
Wildlife-watching equipment	671.44	10.50	35.89	5.37	7.91
Binoculars, spotting scopes	411.04	6.72	478.07	1.54	2.49
Film and photo processing	—	—	—	—	—
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	—	—	—	—	—
Day packs, carrying cases, and special clothing	474.82	7.67	47.60	3.60	5.74
Bird food	49.43	0.80	17.76	1.23	1.99
Food for other wildlife	43.20	0.71	0.00	1.23	2.02
Nest boxes, bird houses, bird feeders, and bird baths	—	—	—	—	—
Other equipment (including field guides)	75.76	1.24	30.15	2.25	3.62
Auxiliary equipment ³	27.83	0.46	0.00	1.39	2.28
Special equipment ⁴	—	—	—	—	—
Magazines, books, and DVDs	42.65	0.69	12.12	3.60	5.85
Membership dues and contributions	149.83	2.46	0.00	1.50	2.46
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 Vermont Residents for Around-the-home Wildlife Watching
Both In and Out of Vermont: 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	8,850.48	54.52	76.34	15.72	7.52
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	8,850.48	54.52	76.34	15.72	7.52
Wildlife-watching equipment	4,534.33	27.12	36.38	15.33	7.44
Binoculars, spotting scopes	521.91	3.42	59.87	6.42	4.21
Film and photo processing	1,488.85	9.95	0.00	2.52	1.69
Cameras, special lenses, video cameras, and other photographic equipment, including memory cards	847.81	5.53	49.59	3.68	2.39
Day packs, carrying cases, and special clothing	259.67	1.73	74.32	1.79	1.18
Bird food	3,219.10	19.69	27.68	14.96	7.58
Food for other wildlife	236.00	1.57	7.48	7.89	5.23
Nest boxes, bird houses, bird feeders, and bird baths	428.16	2.64	5.81	8.86	5.37
Other equipment (including field guides)	75.69	0.50	11.96	5.87	3.90
Auxiliary equipment ³	302.35	2.00	141.35	1.43	0.94
Special equipment ⁴	3,970.71	26.47	1,562.02	2.72	1.81
Magazines, books, and DVDs	50.68	0.34	4.13	1.55	1.03
Membership dues and contributions	1,116.57	7.31	80.64	4.26	2.72
Land leasing and ownership	4,224.63	28.22	0.00	0.84	0.56
Plantings	1,199.89	7.95	134.29	3.26	2.13

— 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 Vermont 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	16.89	0.00	11.55	0.00	16.81	0.00
Did not fish or hunt	14.56	6.69	8.89	10.41	14.73	6.88
Fished or hunted	11.98	6.69	8.14	10.41	11.98	6.88
Fished	11.70	6.96	7.82	10.93	11.66	7.11
Hunted	9.95	6.14	7.89	10.99	9.79	6.18

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

	SPORTSPERSONS		ANGLERS		HUNTERS	
	#	%	#	%	#	%
ALL SPORTSPERSONS	19.97	0.00	15.11	0.00	8.22	0.00
Did not watch wildlife	6.07	4.67	5.03	5.51	2.61	5.97
Watched wildlife	15.92	4.67	12.29	5.51	6.71	5.97
Away from home	9.63	6.84	8.25	8.41	4.83	9.32
Around the home	15.57	4.99	12.02	5.88	6.52	6.48

