

**Hunting Estimates Report
2017-18 Hunter Harvest
Region: Statewide**

Species	Total Hunters					Total Days					Total Harvest					Mean Days Per Hunter	Mean Harvest Per Hunter	Mean Harvest Per Day
	Total Hunters	Confidence Limits (+)	PSE	Credibility Rating	% of incidental hunters	Total Days	Confidence Limits (+)	PSE	Credibility Rating	Total Harvest	Confidence Limits (+)	PSE	Credibility Rating	% of harvest taken incidentally				
All Deer	234,703	3,382	0.007	G	0.05%	3,418,325	118,697	0.018	G	189,724	8,150	0.022	G	0.06%	14.56	0.81	0.06	
All Squirrels	44,544	2,568	0.029	G	0.43%	273,301	21,957	0.041	G	336,203	32,910	0.050	G	0.26%	6.14	7.55	1.23	
Antlered Buck	234,703	3,382	0.007	G	0.05%	3,418,325	118,697	0.018	G	93,179	4,566	0.025	G	0.00%	14.56	0.40	0.03	
Antlered/Button Buck	234,703	3,382	0.007	G	0.05%	3,418,325	118,697	0.018	G	95,555	4,486	0.024	G	0.00%	14.56	0.41	0.03	
Bear	20,970	2,139	0.052	G	0.29%	144,452	18,423	0.065	G	3,164	790	0.127	G	0.00%	6.89	0.15	0.02	
Bobcat	3,301	876	0.135	G	20.37%	25,649	20,141	0.401	P	1,993	648	0.166	F	39.87%	7.77	0.60	0.08	
Bobwhite Quail	5,563	1,132	0.104	G	1.10%	30,104	7,464	0.127	G	24,692	8,535	0.176	F	1.49%	5.41	4.44	0.82	
Button Buck	234,703	3,382	0.007	G	0.05%	3,418,325	118,697	0.018	G	11,159	1,632	0.075	G	0.00%	14.56	0.05	0.00	
Canada Geese	8,245	1,107	0.069	G	3.43%	42,718	7,311	0.087	G	32,568	8,558	0.134	G	1.61%	5.18	3.95	0.76	
Coyote	33,503	2,642	0.040	G	12.04%	288,375	64,529	0.114	G	48,573	10,726	0.113	G	12.59%	8.61	1.45	0.17	
Crow	9,782	1,490	0.078	G	6.88%	42,573	8,683	0.104	G	98,566	59,644	0.309	P	1.74%	4.35	10.08	2.32	
Doe	234,703	3,382	0.007	G	0.05%	3,418,325	118,697	0.018	G	101,358	6,376	0.032	G	0.12%	14.56	0.43	0.03	
Dove	68,656	3,519	0.026	G	0.00%	182,554	11,529	0.032	G	812,701	62,938	0.040	G	0.00%	2.66	11.84	4.45	
Ducks	45,975	3,020	0.034	G	0.13%	384,427	29,413	0.039	G	665,550	73,555	0.056	G	0.00%	8.36	14.48	1.73	
Feral Swine	8,559	1,397	0.083	G	3.57%	62,519	15,865	0.129	G	25,181	16,826	0.341	P	1.70%	7.30	2.94	0.40	
Fox	2,873	818	0.145	G	10.64%	42,857	23,478	0.280	P	2,937	1,321	0.229	P	22.90%	14.91	1.02	0.07	
Fox Squirrel	3,974	960	0.123	G	4.62%	19,564	7,573	0.197	F	6,905	3,125	0.231	P	7.97%	4.92	1.74	0.35	
Gray Squirrel	43,710	2,547	0.030	G	0.55%	267,954	21,768	0.041	G	330,257	31,565	0.049	G	0.36%	6.13	7.56	1.23	
Grouse	4,157	981	0.120	G	0.00%	32,452	9,114	0.143	G	3,790	2,103	0.283	P	0.00%	7.81	0.91	0.12	
Rabbit	35,765	2,718	0.039	G	0.68%	239,619	24,921	0.053	G	200,197	27,698	0.071	G	0.27%	6.70	5.60	0.84	
Raccoon	8,987	1,431	0.081	G	11.56%	181,124	73,479	0.207	P	59,955	22,988	0.196	F	3.37%	20.15	6.67	0.33	
Turkey	69,390	3,532	0.026	G	0.09%	388,031	20,922	0.028	G	27,356	2,625	0.049	G	0.00%	5.59	0.39	0.07	
Woodcock	2,568	773	0.154	F	9.52%	10,210	3,771	0.188	F	6,612	2,985	0.230	P	6.47%	3.98	2.58	0.65	

Total # of license holders	665,129
Deceased license holder rate	0.0178655
Adj Total # of license holders	653,246
Total # of surveys sent	30,002
Undeliverables	2,274
Deceased	536
Sample size	27,192
Sample rate	4.16%
Total Survey Returns	11,331
Refused	61
Total Survey Responses	11,270
Response rate	41.45%
Total Not Responding	15,922

<u>Active Hunter Estimate</u>	
# of Active Hunters from Respondents	4,844
Proportion of Responding Hunters	0.4298137
Estimated Proportion of Non-responding Hunters	0.47
SE	0.0046632
PSE	0.0108494
Total Active Licensed Hunters	296,145
Margin of Error @ 95% CL	6,297
Active Hunter Rate within All License Holders	45.33%

Hunter Harvest Survey Regional Credibility Measures

Although the Hunter Harvest Survey (HHS) database provides a huge amount of information about regional hunting activity for many species, there are a variety of possible problems with estimates derived from HHS data. Small sample sizes, low relative harvest or hunting effort rates, imprecise estimates, and missing data all can compromise HHS results. Often, users do not take these problems into account when viewing HHS results, and use the results inappropriately.

To provide some guidance into the interpretation of HHS data, we have implemented a series of checks for some minimum criteria that we view as cause for caution. We categorize HHS results into 3 credibility categories:

	Total Hunters	Total Days	Total Harvest
Poor	> 30% of counties have < 3 records within the selected region* < 20 individual hunter responses Total Hunter PSE > 20%	> 30% of counties have < 3 records within the selected region* < 20 individual hunter responses Total Days PSE > 20% <0.1 days per hunter	> 30% of counties have < 3 records within the selected region* < 20 individual hunter responses Total Harvest PSE > 20% <0.002 animals per hunter
Fair	>=20 and < 30 individual hunter responses 15% < Total Hunter PSE <= 20%	>=20 and < 30 individual hunter responses 15% < Total Days PSE <= 20% <1.0 days per hunter	>=20 and < 30 individual hunter responses 15% < Total Harvest PSE <= 20% <0.02 animals per hunter
Good	>= 30 individual hunter responses Total Hunter PSE < 15%	>= 30 individual hunter responses Total Days PSE < 15% >= 1.0 days per hunter	>= 30 individual hunter responses Total Harvest PSE < 15% >= 0.02 animals per hunter

*Does not apply to statewide summary

Frequency of Hunters with Various Numbers of Kills
2017-18 Hunter Harvest
Region: Statewide

All Deer

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	116,546	49.66%	116,546	49.66%
1	61,248	26.10%	177,794	75.75%
2	29,880	12.73%	207,674	88.48%
3	14,382	6.13%	222,056	94.61%
4	7,315	3.12%	229,371	97.73%
5	3,162	1.35%	232,533	99.08%
6+	2,170	0.92%	234,703	100.00%

All Squirrels

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	7,520	16.88%	7,520	16.88%
1	2,748	6.17%	10,268	23.05%
2	4,242	9.52%	14,510	32.58%
3	3,567	8.01%	18,077	40.58%
4	3,037	6.82%	21,114	47.40%
5	4,001	8.98%	25,115	56.39%
6+	19,428	43.61%	44,543	100.00%

Antlered Buck

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	151,385	64.50%	151,385	64.50%
1	60,567	25.81%	211,952	90.31%
2	18,474	7.87%	230,426	98.18%
3	2,914	1.24%	233,340	99.42%
4	1,364	0.58%	234,704	100.00%
5	0	0.00%	234,704	100.00%
6+	0	0.00%	234,704	100.00%

**Antlered/Button
Buck**

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	145,372	61.94%	145,372	61.94%
1	62,736	26.73%	208,108	88.67%
2	21,449	9.14%	229,557	97.81%
3	3,534	1.51%	233,091	99.31%
4	1,488	0.63%	234,579	99.95%
5	62	0.03%	234,641	99.97%
6+	62	0.03%	234,703	100.00%

Bear

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	17,631	84.82%	17,631	84.82%
1	3,155	15.18%	20,786	100.00%
2	0	0.00%	20,786	100.00%
3	0	0.00%	20,786	100.00%
4	0	0.00%	20,786	100.00%
5	0	0.00%	20,786	100.00%
6+	0	0.00%	20,786	100.00%

Bobcat

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,682	50.94%	1,682	50.94%
1	1,370	41.51%	3,052	92.45%
2	125	3.77%	3,177	96.23%
3	125	3.77%	3,302	100.00%
4	0	0.00%	3,302	100.00%
5	0	0.00%	3,302	100.00%
6+	0	0.00%	3,302	100.00%

Bobwhite Quail

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,688	48.86%	2,688	48.86%
1	313	5.68%	3,001	54.55%
2	313	5.68%	3,314	60.23%
3	250	4.55%	3,564	64.77%
4	375	6.82%	3,939	71.59%
5	188	3.41%	4,127	75.00%
6+	1,376	25.00%	5,503	100.00%

Button Buck

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	223,978	95.43%	223,978	95.43%
1	10,291	4.38%	234,269	99.82%
2	434	0.18%	234,703	100.00%
3	0	0.00%	234,703	100.00%
4	0	0.00%	234,703	100.00%
5	0	0.00%	234,703	100.00%
6+	0	0.00%	234,703	100.00%

Canada Geese

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,086	25.37%	2,086	25.37%
1	1,881	22.89%	3,967	48.26%
2	1,186	14.43%	5,153	62.69%
3	573	6.97%	5,726	69.65%
4	409	4.98%	6,135	74.63%
5	573	6.97%	6,708	81.59%
6+	1,513	18.41%	8,221	100.00%

Coyote

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	15,943	47.67%	15,943	47.67%
1	9,902	29.61%	25,845	77.28%
2	3,612	10.80%	29,457	88.08%
3	1,619	4.84%	31,076	92.92%
4	374	1.12%	31,450	94.04%
5	436	1.30%	31,886	95.34%
6+	1,557	4.66%	33,443	100.00%

Crow

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,548	15.92%	1,548	15.92%
1	1,610	16.56%	3,158	32.48%
2	1,486	15.29%	4,644	47.77%
3	991	10.19%	5,635	57.96%
4	433	4.46%	6,068	62.42%
5	557	5.73%	6,625	68.15%
6+	3,096	31.85%	9,721	100.00%

Doe

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	171,347	73.01%	171,347	73.01%
1	38,621	16.46%	209,968	89.46%
2	16,304	6.95%	226,272	96.41%
3	5,269	2.25%	231,541	98.65%
4	2,170	0.92%	233,711	99.58%
5	620	0.26%	234,331	99.84%
6+	372	0.16%	234,703	100.00%

Dove

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	9,508	13.85%	9,508	13.85%
1	1,482	2.16%	10,990	16.01%
2	4,569	6.65%	15,559	22.66%
3	2,840	4.14%	18,399	26.80%
4	4,198	6.12%	22,597	32.91%
5	4,075	5.94%	26,672	38.85%
6+	41,984	61.15%	68,656	100.00%

Ducks

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	7,539	16.42%	7,539	16.42%
1	3,028	6.59%	10,567	23.01%
2	2,843	6.19%	13,410	29.21%
3	3,275	7.13%	16,685	36.34%
4	3,275	7.13%	19,960	43.47%
5	1,730	3.77%	21,690	47.24%
6+	24,224	52.76%	45,914	100.00%

Feral Swine

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	4,528	52.90%	4,528	52.90%
1	2,171	25.36%	6,699	78.26%
2	434	5.07%	7,133	83.33%
3	124	1.45%	7,257	84.78%
4	186	2.17%	7,443	86.96%
5	186	2.17%	7,629	89.13%
6+	930	10.87%	8,559	100.00%

Fox

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,405	48.89%	1,405	48.89%
1	1,022	35.56%	2,427	84.44%
2	128	4.44%	2,555	88.89%
3	0	0.00%	2,555	88.89%
4	128	4.44%	2,683	93.33%
5	64	2.22%	2,747	95.56%
6+	128	4.44%	2,875	100.00%

Fox Squirrel

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,215	55.74%	2,215	55.74%
1	456	11.48%	2,671	67.21%
2	456	11.48%	3,127	78.69%
3	195	4.92%	3,322	83.61%
4	195	4.92%	3,517	88.52%
5	0	0.00%	3,517	88.52%
6+	456	11.48%	3,973	100.00%

Gray Squirrel

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	7,261	16.61%	7,261	16.61%
1	2,597	5.94%	9,858	22.55%
2	4,135	9.46%	13,993	32.01%
3	3,510	8.03%	17,503	40.04%
4	3,077	7.04%	20,580	47.08%
5	4,039	9.24%	24,619	56.33%
6+	19,090	43.67%	43,709	100.00%

Grouse

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,629	67.19%	2,629	67.19%
1	550	14.06%	3,179	81.25%
2	306	7.81%	3,485	89.06%
3	61	1.56%	3,546	90.63%
4	183	4.69%	3,729	95.31%
5	0	0.00%	3,729	95.31%
6+	183	4.69%	3,912	100.00%

Rabbit

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	8,710	24.35%	8,710	24.35%
1	4,386	12.26%	13,096	36.61%
2	4,818	13.47%	17,914	50.09%
3	3,830	10.71%	21,744	60.79%
4	2,533	7.08%	24,277	67.88%
5	1,668	4.66%	25,945	72.54%
6+	9,821	27.46%	35,766	100.00%

Raccoon

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,956	21.92%	1,956	21.92%
1	1,834	20.55%	3,790	42.47%
2	1,651	18.49%	5,441	60.96%
3	367	4.11%	5,808	65.07%
4	550	6.16%	6,358	71.23%
5	183	2.05%	6,541	73.29%
6+	2,384	26.71%	8,925	100.00%

Turkey

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	48,364	69.95%	48,364	69.95%
1	14,353	20.76%	62,717	90.70%
2	6,303	9.12%	69,020	99.82%
3	125	0.18%	69,145	100.00%
4	0	0.00%	69,145	100.00%
5	0	0.00%	69,145	100.00%
6+	0	0.00%	69,145	100.00%

Woodcock

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	689	27.50%	689	27.50%
1	815	32.50%	1,504	60.00%
2	313	12.50%	1,817	72.50%
3	125	5.00%	1,942	77.50%
4	125	5.00%	2,067	82.50%
5	0	0.00%	2,067	82.50%
6+	439	17.50%	2,506	100.00%