

**Hunting Estimates Report
2021-22 Hunter Harvest Survey
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	241,619	3,910	0.008	G	0.00%	3,701,216	138,639	0.019	G	205,346	10,139	0.025	G	0.00%	15.32	0.85	0.06	
All Squirrels	52,025	3,753	0.037	G	0.33%	327,468	31,928	0.050	G	350,999	43,245	0.063	G	0.32%	6.29	6.75	1.07	
Antlered Buck	241,619	3,910	0.008	G	0.00%	3,701,216	138,639	0.019	G	91,478	5,005	0.028	G	0.00%	15.32	0.38	0.02	
Antlered/Buttton Buck	241,619	3,910	0.008	G	0.00%	3,701,216	138,639	0.019	G	98,581	5,248	0.027	G	0.00%	15.32	0.41	0.03	
Bobcat	2,473	896	0.185	F	20.69%	10,535	4,080	0.198	F	1,590	806	0.259	P	32.18%	4.26	0.64	0.15	
Bobwhite Quail	5,629	1,345	0.122	G	1.52%	32,735	14,143	0.220	P	37,015	33,351	0.460	P	0.46%	5.82	6.58	1.13	
Button Buck	241,619	3,910	0.008	G	0.00%	3,701,216	138,639	0.019	G	7,767	1,689	0.111	G	0.00%	15.32	0.03	0.00	
Canada Geese	10,746	1,842	0.087	G	0.79%	55,378	10,762	0.099	G	27,299	6,794	0.127	G	0.31%	5.15	2.54	0.49	
Common Snipe	426	374	0.447	P	20.00%	1,194	968	0.413	P	682	679	0.508	P	50.00%	2.80	1.60	0.57	
Coyote	27,121	2,843	0.053	G	9.12%	240,547	40,661	0.086	G	45,374	9,402	0.106	G	8.83%	8.87	1.67	0.19	
Crow	7,591	1,557	0.105	G	2.25%	29,127	5,478	0.096	G	52,099	22,059	0.216	P	1.80%	3.84	6.86	1.79	
Doe	241,619	3,910	0.008	G	0.00%	3,701,216	138,639	0.019	G	90,383	6,903	0.039	G	0.00%	15.32	0.37	0.02	
Dove	66,524	4,117	0.032	G	0.00%	184,121	15,725	0.044	G	830,861	78,629	0.048	G	0.00%	2.77	12.49	4.51	
Ducks	45,799	3,565	0.040	G	0.19%	298,508	26,954	0.046	G	407,967	56,399	0.071	G	0.00%	6.52	8.91	1.37	
Feral Swine	6,482	1,441	0.113	G	3.95%	42,521	9,260	0.111	G	9,852	4,473	0.232	P	8.66%	6.56	1.52	0.23	
Fox	2,644	927	0.179	F	6.45%	15,316	7,654	0.255	P	3,613	1,327	0.187	F	7.08%	5.79	1.37	0.24	
Fox Squirrel	5,117	1,284	0.128	G	1.67%	26,951	10,336	0.196	F	5,544	1,724	0.159	F	1.54%	5.27	1.08	0.21	
Gray Squirrel	51,087	3,726	0.037	G	0.33%	323,209	31,778	0.050	G	345,458	42,555	0.063	G	0.32%	6.33	6.76	1.07	
Grouse	3,923	1,126	0.146	G	0.00%	24,136	8,182	0.173	F	1,395	1,125	0.411	P	0.00%	6.15	0.36	0.06	
Rabbit	30,789	3,008	0.050	G	0.28%	199,740	27,478	0.070	G	166,156	28,441	0.087	G	0.10%	6.49	5.40	0.83	
Raccoon	8,358	1,632	0.100	G	2.04%	88,062	23,138	0.134	G	35,261	11,317	0.164	F	0.97%	10.54	4.22	0.40	
Turkey	75,820	4,307	0.029	G	0.00%	423,387	25,933	0.031	G	27,408	3,061	0.057	G	0.00%	5.58	0.36	0.06	
Woodcock	2,473	896	0.185	F	0.00%	13,603	7,425	0.278	P	13,305	13,130	0.504	P	0.00%	5.50	5.38	0.98	

Total # of license holders	695,237
Deceased license holder rate	0.0142419
Adj Total # of license holders	685,335
Total # of surveys sent	28,999
Undeliverables	2,146
Deceased	413
Sample size	26,440
Sample rate	3.86%
Total Survey Returns	8,970
Refused	38
Total Survey Responses	8,932
Response rate	33.78%
Total Not Responding	17,508

<u>Active Hunter Estimate</u>	
# of Active Hunters from Respondents	3,511
Proportion of Responding Hunters	0.3930811
Estimated Proportion of Non-responding Hunters	0.4593
SE	0.0051681
PSE	0.0131477
Total Active Licensed Hunters	299,443
Margin of Error @ 95% CL	7,717
Active Hunter Rate within All License Holders	43.69%

Frequency of Hunters with Various Numbers of Kills
2021-22 Hunter Harvest Survey
Region: Statewide

All Deer

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	123,669	51.18%	123,669	51.18%
1	65,120	26.95%	188,789	78.13%
2	31,067	12.86%	219,856	90.99%
3	13,400	5.55%	233,256	96.54%
4	5,292	2.19%	238,548	98.73%
5	2,134	0.88%	240,682	99.61%
6+	939	0.39%	241,621	100.00%

All Squirrels

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	10,696	20.56%	10,696	20.56%
1	3,679	7.07%	14,375	27.63%
2	5,647	10.86%	20,022	38.49%
3	3,594	6.91%	23,616	45.39%
4	4,450	8.55%	28,066	53.95%
5	3,594	6.91%	31,660	60.86%
6+	20,365	39.14%	52,025	100.00%

Antlered Buck

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	156,271	64.68%	156,271	64.68%
1	64,267	26.60%	220,538	91.28%
2	20,398	8.44%	240,936	99.72%
3	597	0.25%	241,533	99.96%
4	85	0.04%	241,618	100.00%
5	0	0.00%	241,618	100.00%
6+	0	0.00%	241,618	100.00%

**Antlered/Button
Buck**

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	152,004	62.91%	152,004	62.91%
1	65,888	27.27%	217,892	90.18%
2	22,190	9.18%	240,082	99.36%
3	1,451	0.60%	241,533	99.96%
4	85	0.04%	241,618	100.00%
5	0	0.00%	241,618	100.00%
6+	0	0.00%	241,618	100.00%

Bobcat

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,238	51.85%	1,238	51.85%
1	884	37.04%	2,122	88.89%
2	177	7.41%	2,299	96.30%
3	0	0.00%	2,299	96.30%
4	88	3.70%	2,387	100.00%
5	0	0.00%	2,387	100.00%
6+	0	0.00%	2,387	100.00%

Bobwhite Quail

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,303	41.54%	2,303	41.54%
1	256	4.62%	2,559	46.15%
2	768	13.85%	3,327	60.00%
3	256	4.62%	3,583	64.62%
4	597	10.77%	4,180	75.38%
5	341	6.15%	4,521	81.54%
6+	1,024	18.46%	5,545	100.00%

Button Buck

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	234,450	97.03%	234,450	97.03%
1	6,572	2.72%	241,022	99.75%
2	597	0.25%	241,619	100.00%
3	0	0.00%	241,619	100.00%
4	0	0.00%	241,619	100.00%
5	0	0.00%	241,619	100.00%
6+	0	0.00%	241,619	100.00%

Canada Geese

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	3,727	34.96%	3,727	34.96%
1	2,167	20.33%	5,894	55.28%
2	867	8.13%	6,761	63.41%
3	1,300	12.20%	8,061	75.61%
4	433	4.07%	8,494	79.67%
5	520	4.88%	9,014	84.55%
6+	1,647	15.45%	10,661	100.00%

Common Snipe

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	170	40.00%	170	40.00%
1	85	20.00%	255	60.00%
2	0	0.00%	255	60.00%
3	85	20.00%	340	80.00%
4	85	20.00%	425	100.00%
5	0	0.00%	425	100.00%
6+	0	0.00%	425	100.00%

Coyote

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	11,968	44.27%	11,968	44.27%
1	7,060	26.11%	19,028	70.38%
2	3,444	12.74%	22,472	83.12%
3	1,378	5.10%	23,850	88.22%
4	517	1.91%	24,367	90.13%
5	603	2.23%	24,970	92.36%
6+	2,066	7.64%	27,036	100.00%

Crow

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,553	20.45%	1,553	20.45%
1	1,380	18.18%	2,933	38.64%
2	863	11.36%	3,796	50.00%
3	690	9.09%	4,486	59.09%
4	259	3.41%	4,745	62.50%
5	690	9.09%	5,435	71.59%
6+	2,157	28.41%	7,592	100.00%

Doe

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	183,071	75.77%	183,071	75.77%
1	36,187	14.98%	219,258	90.75%
2	15,107	6.25%	234,365	97.00%
3	5,462	2.26%	239,827	99.26%
4	1,622	0.67%	241,449	99.93%
5	85	0.04%	241,534	99.96%
6+	85	0.04%	241,619	100.00%

Dove

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	7,928	11.93%	7,928	11.93%
1	1,982	2.98%	9,910	14.92%
2	3,447	5.19%	13,357	20.10%
3	3,533	5.32%	16,890	25.42%
4	3,705	5.58%	20,595	31.00%
5	3,619	5.45%	24,214	36.45%
6+	42,225	63.55%	66,439	100.00%

Ducks

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	10,331	22.68%	10,331	22.68%
1	3,013	6.62%	13,344	29.30%
2	5,079	11.15%	18,423	40.45%
3	2,755	6.05%	21,178	46.50%
4	3,530	7.75%	24,708	54.25%
5	1,377	3.02%	26,085	57.28%
6+	19,457	42.72%	45,542	100.00%

Feral Swine

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	3,457	53.33%	3,457	53.33%
1	778	12.00%	4,235	65.33%
2	951	14.67%	5,186	80.00%
3	778	12.00%	5,964	92.00%
4	173	2.67%	6,137	94.67%
5	86	1.33%	6,223	96.00%
6+	259	4.00%	6,482	100.00%

Fox

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	529	20.69%	529	20.69%
1	1,324	51.72%	1,853	72.41%
2	353	13.79%	2,206	86.21%
3	88	3.45%	2,294	89.66%
4	88	3.45%	2,382	93.10%
5	88	3.45%	2,470	96.55%
6+	88	3.45%	2,558	100.00%

Fox Squirrel

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	2,217	43.33%	2,217	43.33%
1	1,535	30.00%	3,752	73.33%
2	597	11.67%	4,349	85.00%
3	426	8.33%	4,775	93.33%
4	256	5.00%	5,031	98.33%
5	0	0.00%	5,031	98.33%
6+	85	1.67%	5,116	100.00%

Gray Squirrel

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	10,269	20.10%	10,269	20.10%
1	3,594	7.04%	13,863	27.14%
2	5,477	10.72%	19,340	37.86%
3	3,594	7.04%	22,934	44.89%
4	4,364	8.54%	27,298	53.43%
5	3,594	7.04%	30,892	60.47%
6+	20,195	39.53%	51,087	100.00%

Grouse

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	3,138	80.00%	3,138	80.00%
1	523	13.33%	3,661	93.33%
2	174	4.44%	3,835	97.78%
3	0	0.00%	3,835	97.78%
4	0	0.00%	3,835	97.78%
5	0	0.00%	3,835	97.78%
6+	87	2.22%	3,922	100.00%

Rabbit

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	8,514	27.65%	8,514	27.65%
1	4,128	13.41%	12,642	41.06%
2	3,612	11.73%	16,254	52.79%
3	2,408	7.82%	18,662	60.61%
4	1,978	6.42%	20,640	67.04%
5	1,290	4.19%	21,930	71.23%
6+	8,858	28.77%	30,788	100.00%

Raccoon

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,393	16.84%	1,393	16.84%
1	1,655	20.00%	3,048	36.84%
2	1,655	20.00%	4,703	56.84%
3	958	11.58%	5,661	68.42%
4	435	5.26%	6,096	73.68%
5	610	7.37%	6,706	81.05%
6+	1,568	18.95%	8,274	100.00%

Turkey

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	53,451	70.98%	53,451	70.98%
1	16,308	21.66%	69,759	92.63%
2	5,550	7.37%	75,309	100.00%
3	0	0.00%	75,309	100.00%
4	0	0.00%	75,309	100.00%
5	0	0.00%	75,309	100.00%
6+	0	0.00%	75,309	100.00%

Woodcock

Number Killed	Number of Hunters	Percent of Hunters	Cumulative Frequency	Cumulative Percent
0	1,194	50.00%	1,194	50.00%
1	597	25.00%	1,791	75.00%
2	85	3.57%	1,876	78.57%
3	0	0.00%	1,876	78.57%
4	0	0.00%	1,876	78.57%
5	0	0.00%	1,876	78.57%
6+	512	21.43%	2,388	100.00%

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 hunter 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 Harvest PSE <= 20% <10.0 days per hunter	>=20 and <30 individual hunter responses <0.02 animals per hunter
Good	>= 30 individual hunter responses Total Hunter PSE < 15%	>= 30 individual hunter responses Total Harvest PSE < 15% >= 10.0 days per hunter	>= 30 individual hunter responses >= 0.02 animals per hunter

*Does not apply to statewide summary