

## Wildlife Bureau Survey Note

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# 2020-21 Small Game Harvest Results

A random survey of licensed hunters was conducted following the 2020-21 small game season to determine the size and distribution of Iowa's small game harvest (Figure 1). Survey questionnaires were mailed to 8,510 license holders. Survey participants were asked which species they hunted, how many days they hunted, and how many of each species they harvested. Survey participants returned 2,355 usable questionnaires for a response rate of 28%. The DNR sold 224,876 unique hunting licenses in 2020-21, a 2% increase from the previous year. All resident and nonresident hunters (deer, turkey, waterfowl, and small game) are required to purchase a hunting license whether they intend to hunt small game or not. Based on survey responses an estimated 70,835 license holder's hunted small game (pheasant, quail, partridge, cottontail, or squirrel). Small game hunter numbers were up significantly (12.4%) from last year.

By residency, the number of resident small game hunters increased 13.2% from 52,290 in 2019, to 59,211 in 2020, while the number nonresident small game hunters increased 8.3% from 10,734 in 2019, to 11,624 in 2020. Pheasant were the most commonly reported species hunted by small game hunters (87%), while cottontails were the second most sought-after species with 23% of small game hunters indicating they hunted rabbits (Table 1).

Small game hunters from over 38 different states visited Iowa last fall to hunt. Four states comprised 50% of Iowa's nonresident hunters, Minnesota, Wisconsin, Illinois, and Michigan in that order. The average small game hunter reported hunting 8.4 days last fall.

Ring-necked Pheasant. - An estimated 61,931 pheasant hunters (28% of licensed hunters, 87% of small game hunters) took to Iowa's fields last fall and harvested 299,548 roosters (Tables 1 & 2). The number of pheasant hunters increased 19%, while total harvest increased 6% compared to 2019 estimates. Broken down by resident and non-resident hunters, an estimated 50,867 resident hunters harvested 238,798 pheasants and 11,064 nonresident hunters harvested 60,750 pheasants in 2020. Iowa's peak year for nonresident pheasant hunters was 1997 with 50,349. Resident hunter numbers increased 22%, while nonresident pheasant hunter numbers increased 9% compared to 2019 (Table 3).

Resident hunters hunted an average of 6.4 days last fall and harvested 5 birds during the season. Nonresident pheasant hunters averaged 4.1 days afield and harvested 6 birds for the season (Table 3). Hunter success (harvest/day) was highest through the first 9 days of the season (Table 4). Approximately 28% of the total pheasant harvest occurred in the first 9 days of the 2020 season (Table 4). This was expected given the early crop harvest for 2020 opener. Over half of pheasant hunters reported hunting 4 days or less during the 2020 season. Resident hunters accounted for 80% of the total pheasant harvest. Resident hunters in the NW, NE, WC, C, and EC regions reported good hunting success with over 20,000+ roosters reported harvested in each region (Table 5).

The 2020 roadside survey showed Iowa's pheasant population was 18% higher than 2019 thus an increased harvest was expected. Part of the increased harvest was also due to the increase in pheasant hunters, 10,000 more hunters compared to 2019 season (Table 3). The COVID pandemic seemingly contributed to increased small game hunters, as pheasant hunter numbers were the highest seen since 2009. The 2020 pheasant harvest was the second highest reported in more than a decade.

Bobwhite Quail. - Approximately 7,904 quail hunters (4% of licensed hunters, 11% of small game hunters) harvested 17,475 quail during the 2020 quail season (Table 1 & 2). Hunter numbers decreased -3% while harvest decreased -16% compared to 2019 estimates (Table 3). Quail hunters averaged 7.8 days a field and harvested 2 birds for the season (Table 3). Forty-five percent of the quail harvest occurred in the first month of the 2020 season (Table 4). Fifty percent of Iowa quail hunters hunted 3 days or less during the 2020 season. Resident quail hunters accounted for 92% of the total quail harvest. Hunter success was best in the SW and SC regions (Table 5).

The 2020 roadside counts showed quail numbers were -11% lower than 2019 counts, so the lower hunter numbers and harvest in 2020 was not unexpected. The winter of 2020-21 was also a tough one for quail in Iowa, with likely significant winter mortality. Prospects for this coming fall appear poor for bobwhite.

Table 1. Estimated proportion of 2020 license buyers and small game hunters who hunted each species.

Species	Eligible Hunters <sup>a</sup>	Small Game Hunters <sup>b</sup>
Pheasants	27.5%	87.4%
Quail	3.5%	11.2%
Cottontail	7.2%	23.3%
Squirrels	6.0%	19.1%
Partridge	0.8%	2.4%
Mourning Dove	3.8%	11.7%

<sup>a</sup> All Iowa resident and nonresident hunters (deer, turkey, waterfowl, and small game) are required to purchase a hunting license. All are eligible to hunt small game (e.g, an estimated 28% of license buyers hunted pheasants).

<sup>b</sup> Of the licensed hunters who indicated they hunted small game an estimated 87% hunted pheasants).

Figure 1. Small game survey card.

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### 2019-2020 Iowa Small Game Hunter Survey - 2nd Request

Please report only **YOUR SMALL GAME** hunting **IN IOWA**. If you did not hunt small game in Iowa, please answer "No" to the first question and return this card.

Please respond only in the spaces provided.

Did you hunt SMALL GAME in IOWA during 2019-20?  Yes  No

Total number of days hunted in IOWA (for small game only):

Please report season totals **AND** period totals for pheasants and quail:  
*NOTE: the period totals must add up to equal the season total.*

	Wild Pheasants (not game farm)				Wild Quail (not game farm)				
	SEASON TOTAL	Oct 26 to Nov 4	Nov 5-30	Dec 1 to Jan 10	SEASON TOTAL	Oct 26 to Nov 4	Nov 5-30	Dec 1 to Jan 10	Jan 11-31
Number YOU Harvested	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of Days Hunted	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please report season totals for each species below :

	Cottontail Rabbit	Squirrel	Hungarian Partridge	Mourning Dove
	Number YOU Harvested	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of Days Hunted	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Did you hunt during the 2019 Youth Pheasant Season?  Yes  No

**If YES**, how many youths hunted with you and how many pheasants were harvested?

Youths  Wild Pheasants Harvested

DO NOT make unnecessary marks on this form.

**Machine-scanned form, please print neatly using blue or black ballpoint pen.**

Table 2. Estimated small game hunters, harvest, effort by species and license type for the 2020-21 small game season.

License/Species	Hunters		Harvest		Days	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
<b>ALL LICENSE TYPES</b>						
Pheasant	61,931 ±	6,552	299,548 ±	65,640	371,712 ±	76,311
Quail	7,904 ±	2,711	17,475 ±	11,967	61,511 ±	50,229
Cottontail Rabbit	16,152 ±	3,903	75,247 ±	30,088	82,028 ±	29,768
Squirrel	13,553 ±	3,574	76,622 ±	33,042	70,159 ±	27,791
Hungarian Partridge	1,713 ±	1,370	1,538 ±	1,698	12,583 ±	15,106
Mourning Dove	8,585 ±	2,936	81,740 ±	43,492	35,710 ±	24,539
				Total Days*	597,993 ±	132,520
<b>RESIDENT HUNTERS</b>						
Pheasant	50,867 ±	6,363	238,798 ±	61,956	326,925 ±	75,572
Quail	6,876 ±	2,630	16,068 ±	11,926	56,936 ±	50,080
Cottontail Rabbit	15,261 ±	3,797	74,667 ±	30,080	79,926 ±	29,718
Squirrel	12,680 ±	3,459	66,716 ±	30,701	67,154 ±	27,581
Hungarian Partridge	1,365 ±	1,283	923 ±	1,405	10,696 ±	14,869
Mourning Dove	8,559 ±	2,936	81,740 ±	43,492	35,684 ±	24,539
				Total Days*	541,637 ±	131,888
<b>NONRESIDENT HUNTERS</b>						
Pheasant	11,064 ±	1,561	60,750 ±	21,685	44,787 ±	10,589
Quail	1,028 ±	657	1,407 ±	989	4,575 ±	3,853
Cottontail Rabbit	891 ±	901	580 ±	717	2,102 ±	1,732
Squirrel	873 ±	900	9,906 ±	12,212	3,005 ±	3,399
Hungarian Partridge	348 ±	480	615 ±	954	1,887 ±	2,667
Mourning Dove	26 ±	50	0 ±	0	26 ±	50
				Total Days*	56,356 ±	12,912

\* Total days does not include mourning dove days of hunting for historical comparisons.

Estimated number of people who hunted small game (pheasant, quail, partridge, cottontail, or squirrels):  
70,835 ± 6,780

Estimated number of people who hunted upland game birds only (pheasant, quail, partridge) :  
49,178 ± 6,125

Estimated number of people who hunted small game mammals only (cottontail, squirrel):  
8,823 ± 2,881

Youth Pheasant Season

3,531 ± 1,982 Adult Hunters  
5,561 ± 3,497 Youths Hunted  
4,103 ± 2,862 Harvest

Table 3. Estimated number of small game hunters, harvest, and days hunted, by license type, species, and year, in Iowa during in Iowa during the 2019-20 and 2020-21 small game seasons. N is most recent years sample size.

SPECIES	LICENSE TYPE											
	N	ALL LICENSE TYPES			N	RESIDENT			N	NONRESIDENT		
		2019	2020	%CHG		2019	2020	%CHG		2019	2020	%CHG
<b>Ring-necked pheasant</b>	600				509				91			
Hunters		51,891	61,931	19%		41,708	50,867	22%		10,183	11,064	9%
Harvest		283,684	299,548	6%		217,102	238,798	10%		66,582	60,750	-9%
Days		328,444	371,712	13%		275,903	326,925	18%		52,541	44,787	-15%
Harvest/hunter		5.5	4.8	-12%		5.2	4.7	-10%		6.5	5.5	-16%
Days/hunter		6.3	6.0	-5%		6.6	6.4	-3%		5.2	4.1	-22%
Harvest/day		0.9	0.8	-6%		0.8	0.7	-8%		1.3	1.4	7%
<b>Bobwhite quail</b>	105				88				17 *			
Hunters		8,131	7,904	-3%		6,264	6,876	10%		1,867	1,028	-45%
Harvest		20,710	17,475	-16%		16,111	16,068	0%		4,599	1,407	-69%
Days		48,334	61,511	27%		40,071	56,936	42%		8,263	4,575	-45%
Harvest/hunter		2.6	2.2	-13%		2.6	2.3	-9%		2.5	1.4	-44%
Days/hunter		5.9	7.8	31%		6.4	8.3	29%		4.4	4.5	0%
Harvest/day		0.4	0.3	-35%		0.4	0.3	-30%		0.6	0.3	-45%
<b>Cottontail rabbit</b>	211				205				6 *			
Hunters		15,173	16,152	6%		14,310	15,261	7%		863	891	3%
Harvest		54,285	75,247	39%		52,538	74,667	42%		1,747	580	-67%
Days		69,686	82,028	18%		65,450	79,926	22%		4,236	2,102	-50%
Harvest/hunter		3.6	4.7	30%		3.7	4.9	33%		2.0	0.7	-68%
Days/hunter		4.6	5.1	11%		4.6	5.2	15%		4.9	2.4	-52%
Harvest/day		0.8	0.9	18%		0.8	0.9	16%		0.4	0.3	-32%
<b>Squirrel</b>	172				166				6 *			
Hunters		16,018	13,553	-15%		15,167	12,680	-16%		851	873	3%
Harvest		88,642	76,622	-14%		84,557	66,716	-21%		4,085	9,906	142%
Days		92,464	70,159	-24%		88,932	67,154	-24%		3,532	3,005	-15%
Harvest/hunter		5.5	5.7	2%		5.6	5.3	-6%		4.8	11.4	136%
Days/hunter		5.8	5.2	-10%		5.9	5.3	-10%		4.2	3.4	-17%
Harvest/day		1.0	1.1	14%		1.0	1.0	4%		1.2	3.3	184%
<b>Hungarian partridge</b>	16 *				12 *				4 *			
Hunters		1,561	1,713	10%		1,312	1,365	4%		249	348	40%
Harvest		853	1,538	80%		703	923	31%		150	615	310%
Days		5,734	12,583	119%		4,439	10,696	141%		1,295	1,887	46%
Harvest/hunter		0.6	0.9	64%		0.5	0.7	26%		0.6	1.8	195%
Days/hunter		3.7	7.4	100%		3.4	7.8	132%		5.2	5.4	4%
Harvest/day		0.2	0.1	-20%		0.2	0.1	-44%		0.1	0.3	175%
<b>Mourning Dove</b>	104				103				1 *			
Hunters		9,000	8,585	-5%		8,724	8,559	-2%		276	26	-91%
Harvest		84,827	81,740	-4%		83,685	81,740	-2%		1,142	0	-100%
Days		34,607	35,710	3%		32,958	35,684	8%		1,649	26	-98%
Harvest/hunter		9.4	9.5	1%		9.6	9.6	0%		4.1	0.0	-100%
Days/hunter		3.9	4.2	8%		3.8	4.2	10%		6.0	1.0	-83%
Harvest/day		2.5	2.3	-7%		2.5	2.3	-10%		0.7	0.0	-100%

\* Small sample size, view estimates accordingly.

Table 4. Mean hunting effort and harvest by time period for pheasant and quail hunters during the 2020-21 small game season.

SPECIES	Mean days	Mean harvest	Harvest/day	Proportion of effort (days)	Proportion of the harvest
<b>Ring-necked pheasants (N=542)</b>					
First 9 Days*	1.60	1.57	0.98	25%	28%
Day 10 - Nov. 30	2.40	2.02	0.84	38%	36%
Dec. 1 - Jan. 10	2.36	1.96	0.83	37%	35%
Jan. 11 - Jan 31	-	-	-	-	-
<b>Bobwhite quail (N=82)</b>					
First 9 Days	1.23	0.35	0.29	19%	12%
Day 10 - Nov. 30	2.32	0.99	0.43	36%	33%
Dec. 1 - Jan. 10	2.50	1.17	0.47	38%	39%
Jan. 11 - Jan 31	0.46	0.52	1.13	7%	17%

\* First 2 weekends of season.

Table 5. Harvest and proportion of harvest by August roadside survey region for the 2020-21 small game season\*.

REGION	Ring-necked Pheasant		Bobwhite Quail		Cottontail Rabbit		Squirrel		Hungarian Partridge		Mourning Dove	
	N	%	N	%	N	%	N	%	N	%	N	%
NW	45,972	15.3%	0	0.0%	2,382	3.2%	108	0.1%	26	1.7%	3,814	4.7%
NC	18,024	6.0%	54	0.3%	14,401	19.1%	6,982	9.1%	712	46.3%	3,336	4.1%
NE	28,990	9.7%	728	4.2%	15,829	21.0%	23,139	30.2%	133	8.6%	1,146	1.4%
WC	27,261	9.1%	428	2.4%	592	0.8%	1,079	1.4%	0	0.0%	15,321	18.7%
C	59,354	19.8%	9,010	51.6%	8,060	10.7%	6,369	8.3%	26	1.7%	30,598	37.4%
EC	27,861	9.3%	421	2.4%	8,279	11.0%	11,423	14.9%	0	0.0%	14,303	17.5%
SW	11,655	3.9%	3,341	19.1%	1,065	1.4%	495	0.6%	26	1.7%	1,299	1.6%
SC	12,900	4.3%	1,696	9.7%	17,323	23.0%	7,571	9.9%	0	0.0%	7,838	9.6%
SE	5,575	1.9%	390	2.2%	6,736	9.0%	9,836	12.8%	0	0.0%	4,085	5.0%
Nonresident	61,956	20.7%	1,407	8.1%	580	0.8%	9,620	12.6%	615	40.0%	0	0.0%
Total	299,548		17,475		75,247		76,622		1,538		81,740	

\* County of residence is used to assign harvest location, which may not be location where game was harvested.