

Wildlife Bureau Survey Note

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2018-19 Small Game Harvest Results

A random survey of licensed hunters was conducted following the 2018-19 small game season to determine the size and distribution of Iowa's small game harvest (Figure 1). Survey questionnaires were mailed to 7,704 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 2,550 usable questionnaires for a response rate of 33%. The DNR sold 225,343 unique hunting licenses in 2018-19, a 5% 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 65,960 license holder's hunted small game (pheasant, quail, partridge, cottontail, or squirrel). Small game hunter numbers (-4.8%) were down slightly from last year.

By residency, the number of resident small game hunters decreased -7.7 from 59,423 in 2017, to 54,819 in 2018, while the number nonresident small game hunters increased 7.8% from 10,336 in 2017, to 11,141 in 2018. Pheasant were the most commonly reported species hunted by small game hunters (81%), while cottontails were the second most sought after species with 31% of small game hunters indicating they hunted rabbits (Table 1).

Small game hunters from 40 different states visited Iowa last fall to hunt. Four states comprised 50% of Iowa's nonresident hunters, Minnesota, Wisconsin, Michigan, and Illinois in that order. The average small game hunter reported hunting 8.6 days last fall.

Ring-necked Pheasant. - An estimated 53,266 pheasant hunters (24% of licensed hunters, 81% of small game hunters) took to Iowa's fields last fall and harvested 319,811 roosters (Tables 1 & 2). The number of pheasant hunters decreased -3%, while total harvest increased 45% compared to 2017 estimates. Broken down by resident and non-resident hunters, an estimated 43,070 resident hunters harvested 266,237 pheasants and 10,196 nonresident hunters harvested 53,574 pheasants in 2018. Iowa's peak year for nonresident pheasant hunters was 1997 with 50,349. Resident hunter numbers declined -4%, while nonresident pheasant hunter numbers increased 3% compared to 2017 (Table 3).

Resident hunters hunted an average of 6.7 days last fall and harvested 6 birds during the season. Nonresident pheasant hunters averaged 4.5 days afield and harvested 5 birds for the season (Table 3). Hunter success (harvest/day) was highest through the first 9 days of the season (Table 4). Approximately 26% of the total pheasant harvest occurred in the first 9 days of the 2018 season and was similar to 2017 (Table 4). This was expected given the late crop harvest for both 2017 and 2018 openers. Over half of pheasant hunters reported hunting 4 days or less during the 2018 season. Resident hunters accounted for 81% of the total pheasant harvest. Resident hunters in the NW, NC, WC, C, and EC regions reported good hunting success (Table 5).

The 2018 roadside survey showed Iowa's pheasant population was 39% higher than 2017 thus an improved harvest was expected. This was highest pheasant harvest Iowa in the last decade; it was 2008 the last time Iowa pheasant hunters reported harvesting this many roosters. Many

non-resident hunters reported good success in Iowa last fall. Given the 2018 roadside counts Iowa pheasant harvest could have topped half a million roosters if we'd had hunter numbers similar to 2008.

Bobwhite Quail. - Approximately 9,882 quail hunters (4% of licensed hunters, 15% of small game hunters) harvested 47,305 quail during the 2018 quail season (Table 1 & 2). Hunter numbers increased 31% while harvest increased 76% compared to 2017 estimates (Table 3). Quail hunters averaged 5.8 days a field and harvested 5 birds for the season (Table 3). Forty-three percent of the quail harvest occurred in the first month of the 2018 season (Table 4). Fifty percent of Iowa quail hunters hunted 4 days or less during the 2018 season. Resident quail hunters accounted for 90% of the total quail harvest. Hunter success was best in the WC and SC regions (Table 5).

The 2018 roadside counts showed quail numbers were 25% higher than 2017 counts, so the higher hunter numbers and harvest, in 2018, was expected. The 2018 roadside index was the 3rd highest index in the last 23 years, suggesting a very good quail season. This year's quail harvest was the highest seen in more than a decade. The last time Iowa quail hunters harvested this many quail was 2007. In 1995 Iowa had a quail roadside index identical to 2018 and that year 50,000 quail hunters shot almost a quarter million quail. Iowa could have potentially had a similar harvest in 2018, but lacked the quail hunters (50,000 in 1995 vs 10,000 in 2018) to do so.

Table 1. Estimated proportion of 2018 license buyers and small game hunters who hunted each species.

Species	Eligible Hunters ^a	Small Game Hunters ^b
Pheasants	23.6%	80.8%
Quail	4.4%	15.0%
Cottontail	9.1%	31.1%
Squirrels	7.4%	25.4%
Partridge	1.1%	3.6%
Mourning Dove	4.3%	14.5%

^a 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 24% of license buyers hunted pheasants).

^b Of the licensed hunters who indicated they hunted small game an estimated 81% hunted pheasants).

Figure 1. Small game survey card.

Detach Here **2018-2019 Iowa Small Game Hunter Survey** Detach Here

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 2018-19? 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 27 to Nov 4	Nov 5-30	Dec 1 to Jan 10	SEASON TOTAL	Oct 27 to Nov 4	Nov 5-30	Dec 1 to Jan 10	Jan 11-31
Number YOU Harvested	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>
Number of Days Hunted	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>

Please report season totals for each species below:

	Cottontail Rabbit	Squirrel	Hungarian Partridge	Mourning Dove
Number YOU Harvested	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>
Number of Days Hunted	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>

Did you hunt during the 2018 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 2018-19 small game season.

License/Species	Hunters		Harvest		Days	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
ALL LICENSE TYPES						
Pheasant	53,266 ±	5,347	319,811 ±	68,502	335,348 ±	59,913
Quail	9,882 ±	2,640	47,305 ±	27,828	56,916 ±	24,514
Cottontail Rabbit	20,523 ±	3,824	123,309 ±	39,727	102,596 ±	33,583
Squirrel	16,749 ±	3,367	80,843 ±	25,958	60,737 ±	18,181
Hungarian Partridge	2,379 ±	1,403	6,220 ±	6,274	10,295 ±	10,954
Mourning Dove	9,767 ±	2,705	118,855 ±	46,554	32,594 ±	12,389
				Total Days*	565,892 ±	92,145
RESIDENT HUNTERS						
Pheasant	43,070 ±	5,108	266,237 ±	65,041	289,762 ±	58,675
Quail	7,811 ±	2,389	42,791 ±	27,481	50,648 ±	24,224
Cottontail Rabbit	19,017 ±	3,712	116,298 ±	38,639	97,001 ±	33,095
Squirrel	15,657 ±	3,263	79,865 ±	25,941	59,125 ±	18,146
Hungarian Partridge	1,675 ±	1,190	3,068 ±	4,780	4,916 ±	5,286
Mourning Dove	9,161 ±	2,632	117,050 ±	46,530	29,155 ±	11,166
				Total Days*	501,452 ±	89,121
NONRESIDENT HUNTERS						
Pheasant	10,196 ±	1,580	53,574 ±	21,503	45,586 ±	12,123
Quail	2,071 ±	1,125	4,514 ±	4,377	6,268 ±	3,757
Cottontail Rabbit	1,506 ±	919	7,011 ±	9,234	5,595 ±	5,702
Squirrel	1,092 ±	829	978 ±	958	1,612 ±	1,151
Hungarian Partridge	704 ±	745	3,152 ±	4,061	5,379 ±	9,596
Mourning Dove	606 ±	619	1,805 ±	1,466	3,439 ±	5,365
				Total Days*	64,440 ±	21,297

* 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):
65,960 ± 5,735

Estimated number of people who hunted upland game birds only (pheasant, quail, partridge) :
39,488 ± 4,694

Estimated number of people who hunted small game mammals only (cottontail, squirrel):
12,294 ± 2,952

Youth Pheasant Season

2,872 ± 1,562 Adult Hunters
5,036 ± 3,446 Youths Hunted
3,209 ± 2,401 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 2017-18 and 2018-19 small game seasons. N is most recent years sample size.

SPECIES	LICENSE TYPE											
	N	ALL LICENSE TYPES			N	RESIDENT			N	NONRESIDENT		
		2017	2018	%CHG		2017	2018	%CHG		2017	2018	%CHG
Ring-necked pheasant	651				499				152			
Hunters		54,915	53,266	-3%		45,007	43,070	-4%		9,908	10,196	3%
Harvest		221,291	319,811	45%		177,762	266,237	50%		43,529	53,574	23%
Days		344,725	335,348	-3%		295,820	289,762	-2%		48,905	45,586	-7%
Harvest/hunter		4.0	6.0	49%		4.0	6.2	56%		4.4	5.3	20%
Days/hunter		6.3	6.3	0%		6.6	6.7	2%		4.9	4.5	-10%
Harvest/day		0.6	1.0	48%		0.6	0.9	53%		0.9	1.2	33%
Bobwhite quail	129				99				30*			
Hunters		7,519	9,882	31%		6,581	7,811	19%		938	2,071	121%
Harvest		26,880	47,305	76%		25,373	42,791	69%		1,507	4,514	200%
Days		36,376	56,916	56%		32,853	50,648	54%		3,523	6,268	78%
Harvest/hunter		3.6	4.8	34%		3.9	5.5	42%		1.6	2.2	35%
Days/hunter		4.8	5.8	19%		5.0	6.5	30%		3.8	3.0	-19%
Harvest/day		0.7	0.8	12%		0.8	0.8	9%		0.4	0.7	67%
Cottontail rabbit	230				209				21*			
Hunters		23,299	20,523	-12%		22,622	19,017	-16%		677	1,506	122%
Harvest		117,024	123,309	5%		113,294	116,298	3%		3,730	7,011	88%
Days		107,313	102,596	-4%		104,985	97,001	-8%		2,328	5,595	140%
Harvest/hunter		5.0	6.0	20%		5.0	6.1	22%		5.5	4.7	-15%
Days/hunter		4.6	5.0	8%		4.6	5.1	10%		3.4	3.7	8%
Harvest/day		1.1	1.2	10%		1.1	1.2	11%		1.6	1.3	-22%
Squirrel	222				208				14*			
Hunters		18,301	16,749	-8%		18,050	15,657	-13%		251	1,092	335%
Harvest		125,794	80,843	-36%		125,119	79,865	-36%		675	978	45%
Days		124,149	60,737	-51%		123,173	59,125	-52%		976	1,612	65%
Harvest/hunter		6.9	4.8	-30%		6.9	5.1	-26%		2.7	0.9	-67%
Days/hunter		6.8	3.6	-46%		6.8	3.8	-45%		3.9	1.5	-62%
Harvest/day		1.0	1.3	32%		1.0	1.4	32%		0.7	0.6	-12%
Hungarian partridge	25*				17*				8*			
Hunters		2,013	2,379	18%		1,552	1,675	8%		461	704	53%
Harvest		1,754	6,220	255%		1,578	3,068	94%		176	3,152	1691%
Days		5,421	10,295	90%		4,422	4,916	11%		999	5,379	438%
Harvest/hunter		0.9	2.6	200%		1.0	1.8	79%		0.4	4.5	1079%
Days/hunter		2.7	4.3	61%		2.9	2.9	3%		2.2	7.6	252%
Harvest/day		0.3	0.6	88%		0.4	0.6	72%		0.2	0.6	228%
Mourning Dove	118				109				9*			
Hunters		9,568	9,767	2%		9,239	9,161	-1%		329	606	84%
Harvest		76,474	118,855	55%		72,518	117,050	61%		3,956	1,805	-54%
Days		35,089	32,594	-7%		34,332	29,155	-15%		757	3,439	354%
Harvest/hunter		8.0	12.2	52%		7.9	12.8	63%		12.0	3.0	-75%
Days/hunter		3.7	3.3	-9%		3.7	3.2	-15%		2.3	5.7	147%
Harvest/day		2.2	3.7	67%		2.1	4.0	90%		5.2	0.5	-90%

* Very small sample size, view estimates accordingly.

Table 4. Mean hunting effort and harvest by time period for pheasant and quail hunters during the 2018-19 small game season.

SPECIES	Mean days	Mean harvest	Harvest/day	Proportion of effort (days)	Proportion of the harvest
Ring-necked pheasants (N=525)					
First 9 Days*	1.52	1.56	1.03	21%	26%
Day 10 - Nov. 30	3.08	2.60	0.84	43%	43%
Dec. 1 - Jan. 10	2.51	1.95	0.78	35%	32%
Jan. 11 - Jan 31	-	-	-	-	-
Bobwhite quail (N=87)					
First 9 Days	0.87	0.44	0.50	18%	11%
Day 10 - Nov. 30	1.63	1.31	0.80	34%	32%
Dec. 1 - Jan. 10	1.93	1.79	0.93	40%	44%
Jan. 11 - Jan 31	0.38	0.58	1.52	8%	14%

* First 2 weekends of season.

Table 5. Harvest and proportion of harvest by August roadside survey region for the 2018-19 small game season*.

REGION	Ring-necked Pheasant		Bobwhite Quail		Cottontail Rabbit		Squirrel		Hungarian Partridge		Mourning Dove	
	N	%	N	%	N	%	N	%	N	%	N	%
NW	37,761	11.8%	0	0.0%	22,202	18.0%	3,757	4.6%	0	0.0%	14,019	11.8%
NC	37,084	11.6%	594	1.3%	1,090	0.9%	728	0.9%	0	0.0%	1,462	1.2%
NE	10,410	3.3%	54	0.1%	20,494	16.6%	34,368	42.5%	0	0.0%	9,024	7.6%
WC	44,348	13.9%	10,830	22.9%	8,496	6.9%	3,243	4.0%	0	0.0%	3,893	3.3%
C	61,125	19.1%	2,251	4.8%	6,493	5.3%	6,832	8.5%	243	3.9%	20,449	17.2%
EC	43,098	13.5%	5,925	12.5%	21,763	17.6%	15,160	18.8%	54	0.9%	18,883	15.9%
SW	16,169	5.1%	6,726	14.2%	7,239	5.9%	3,887	4.8%	81	1.3%	14,723	12.4%
SC	9,439	3.0%	12,157	25.7%	8,403	6.8%	2,327	2.9%	2,421	38.9%	11,199	9.4%
SE	7,430	2.3%	4,254	9.0%	20,118	16.3%	9,563	11.8%	269	4.3%	23,398	19.7%
Nonresident	52,947	16.6%	4,514	9.5%	7,011	5.7%	978	1.2%	3,152	50.7%	1,805	1.5%
Total	319,811		47,305		123,309		80,843		6,220		118,855	

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