

Wildlife Bureau Survey Note

Todd Bogenschutz

Tyler Harms

Boone Wildlife Research Station

[515-979-0828]

2021-22 Small Game Harvest Results

A random survey of licensed hunters was conducted following the 2021-22 small game season to determine the size and distribution of Iowa's small game harvest (Figure 1). Survey questionnaires were mailed to 8,222 deliverable 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 2,161 usable questionnaires for a response rate of 26%. The DNR sold an estimated 233,944 unique hunting licenses in 2021-22, a 4% 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 72,306 license holders hunted small game (pheasant, quail, partridge, cottontail, or squirrel). Small game hunter numbers were up significantly (2.1%) from last year.

By residency, the number of resident small game hunters decreased -3.1% from 59,211 in 2020, to 57,403 in 2021, while the number nonresident small game hunters increased 28% from 11,624 in 2020 to 14,903 in 2021. Pheasant were the most commonly reported species hunted by small game hunters (87%), while squirrels were the second most sought-after species with 24% of small game hunters indicating they hunted squirrels (Table 1).

Nonresident small game hunters from 36 different states visited Iowa last fall to hunt. Four states comprised 50% of Iowa's nonresident hunters, Wisconsin, Minnesota, Michigan, and Illinois in that order. The average small game hunter reported hunting 8.4 days last fall.

Ring-necked Pheasant. - An estimated 62,732 pheasant hunters (26% of licensed hunters, 87% of small game hunters) took to Iowa's fields last fall and harvested 373,035 roosters (Tables 1 & 2). The number of pheasant hunters increased 1%, while total harvest increased 25% compared to 2020 estimates. Broken down by resident and non-resident hunters, an estimated 48,267 resident hunters harvested 307,081 pheasants and 14,465 nonresident hunters harvested 65,954 pheasants in 2021. Iowa's peak year for nonresident pheasant hunters was 1997 with 50,349. Resident hunter numbers decreased -5%, while nonresident pheasant hunter numbers increased 31% compared to 2020 (Table 3).

Resident hunters hunted an average of 6.9 days last fall and harvested 6.4 birds during the season. Nonresident pheasant hunters averaged 4.8 days afield and harvested 4.6 birds for the season (Table 3). Hunter success (harvest/day) was highest through the first 9 days of the season (Table 4). Approximately 32% of the total pheasant harvest occurred in the first 9 days of the 2021 season (Table 4). Over half of pheasant hunters reported hunting 4 days or less during the 2021 season. Resident hunters accounted for 82% of the total pheasant harvest. Resident hunters in the NW, NE, WC, C, and EC regions reported good hunting success with over 30,000+ roosters reported harvested in each region (Table 5).

The 2021 roadside survey showed Iowa's pheasant population was similar to 2020 with very good counts in the northern two-thirds of the state and it appears hunters took advantage of the abundant bird numbers. The higher harvest was not unexpected given the good bird densities reported last fall. The 2021 pheasant harvest was the highest in the last 13 years.

Bobwhite Quail. - Approximately 8,676 quail hunters (4% of licensed hunters, 12% of small game hunters) harvested an estimated 24,415 quail during the 2021 quail season a 40% increase over the 2020 estimate (Table 1 & 2). This number seems a bit suspect given the decline in roadside counts in 2021 and is likely an artifact of small sample sizes in the survey. The 95% confidence limits on the harvest estimate range from 9,000 to 40,000. Hunter numbers increased 10% compared to 2020 estimates (Table 3). Quail hunters averaged 6.2 days a field and harvested 3 birds for the season (Table 3). Forty-five percent of the quail harvest occurred in the first month of the 2021 season (Table 4). Fifty percent of Iowa quail hunters hunted 4 days or less during the 2021 season. Resident quail hunters accounted for 82% of the total quail harvest.

The 2021 roadside counts showed quail numbers were -50% lower than 2020 counts, so the higher hunter numbers and harvest in 2021 seem likely an artifact of a small sample size in the small game survey. Only 81 of 2300+ returned survey cards indicated they quail hunted.

Table 1. Estimated proportion of 2021 license buyers and small game hunters who hunted each species.

Species	Eligible Hunters ^a	Small Game Hunters ^b
Pheasants	26.8%	86.8%
Quail	3.7%	12.0%
Cottontail	7.3%	23.4%
Squirrels	7.5%	24.2%
Partridge	0.4%	1.2%
Mourning Dove	4.7%	14.4%

^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 28% of hunting license buyers hunted pheasants).

^b Of the licensed hunters who indicated they hunted small game an estimated 87% hunted pheasants).

Figure 1. Small game survey card.

Detach Here **2021-2022 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 2021-22? 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 30 to Nov 7	Nov 8-30	Dec 1 to Jan 10	SEASON TOTAL	Oct 30 to Nov 7	Nov 8-30	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 2021 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 2021-22 small game season.

License/Species	Hunters		Harvest		Days	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
ALL LICENSE TYPES						
Pheasant	62,732 ±	7,375	373,035 ±	89,141	402,291 ±	75,842
Quail	8,676 ±	3,301	24,415 ±	15,357	54,080 ±	24,437
Cottontail Rabbit	16,919 ±	4,704	101,774 ±	61,168	90,500 ±	48,945
Squirrel	17,500 ±	4,694	102,926 ±	63,908	57,572 ±	33,404
Hungarian Partridge	861 ±	902	3,015 ±	3,963	1,655 ±	2,025
Mourning Dove	10,942 ±	3,732	162,092 ±	81,177	43,331 ±	22,366
				Total Days*	606,098 ±	132,545
RESIDENT HUNTERS						
Pheasant	48,267 ±	7,033	307,081 ±	86,101	333,189 ±	73,641
Quail	6,891 ±	3,035	19,907 ±	13,915	42,815 ±	21,848
Cottontail Rabbit	16,322 ±	4,665	100,074 ±	61,109	88,200 ±	48,857
Squirrel	16,194 ±	4,570	97,775 ±	63,567	52,979 ±	33,050
Hungarian Partridge	807 ±	899	2,988 ±	3,963	1,466 ±	2,008
Mourning Dove	10,451 ±	3,674	159,457 ±	81,115	36,909 ±	19,145
				Total Days*	518,649 ±	129,960
NONRESIDENT HUNTERS						
Pheasant	14,465 ±	2,219	65,954 ±	23,081	69,102 ±	18,135
Quail	1,785 ±	1,298	4,508 ±	6,496	11,265 ±	10,949
Cottontail Rabbit	597 ±	600	1,700 ±	2,709	2,300 ±	2,929
Squirrel	1,306 ±	1,070	5,151 ±	6,582	4,593 ±	4,854
Hungarian Partridge	54 ±	73	27 ±	52	189 ±	259
Mourning Dove	491 ±	654	2,635 ±	3,158	6,422 ±	11,563
				Total Days*	87,449 ±	26,052

* 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):
72,306 ± 7,717

Estimated number of people who hunted upland game birds only (pheasant, quail, partridge) :
49,388 ± 6,637

Estimated number of people who hunted small game mammals only (cottontail, squirrel):
9,490 ± 3,567

Youth Pheasant Season

3,924 ± 2,415 Adult Hunters
5,965 ± 4,283 Youths Hunted
2,518 ± 2,213 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 2020-21 and 2021-22 small game seasons. N is most recent years sample size.

SPECIES	LICENSE TYPE											
	N	ALL LICENSE TYPES			N	RESIDENT			N	NONRESIDENT		
		2020	2021	%CHG		2020	2021	%CHG		2020	2021	%CHG
Ring-necked pheasant	553				446				107 *			
Hunters		61,931	62,732	1%		50,867	48,267	-5%		11,064	14,465	31%
Harvest		299,548	373,035	25%		238,798	307,081	29%		60,750	65,954	9%
Days		371,712	402,291	8%		326,925	333,189	2%		44,787	69,102	54%
Harvest/hunter		4.8	6.0	23%		4.7	6.4	36%		5.5	4.6	-17%
Days/hunter		6.0	6.4	7%		6.4	6.9	7%		4.1	4.8	18%
Harvest/day		0.8	0.9	15%		0.7	0.9	26%		1.4	1.0	-30%
Bobwhite quail	81 *				65 *				16 *			
Hunters		7,904	8,676	10%		6,876	6,891	0%		1,028	1,785	74%
Harvest		17,475	24,415	40%		16,068	19,907	24%		1,407	4,508	220%
Days		61,511	54,080	-12%		56,936	42,815	-25%		4,575	11,265	146%
Harvest/hunter		2.2	2.8	27%		2.3	2.9	24%		1.4	2.5	85%
Days/hunter		7.8	6.2	-20%		8.3	6.2	-25%		4.5	6.3	42%
Harvest/day		0.3	0.5	61%		0.3	0.5	64%		0.3	0.4	29%
Cottontail rabbit	143				134				9 *			
Hunters		16,152	16,919	5%		15,261	16,322	7%		891	597	-33%
Harvest		75,247	101,774	35%		74,667	100,074	34%		580	1,700	193%
Days		82,028	90,500	10%		79,926	88,200	10%		2,102	2,300	9%
Harvest/hunter		4.7	6.0	29%		4.9	6.1	25%		0.7	2.9	338%
Days/hunter		5.1	5.4	5%		5.2	5.4	3%		2.4	3.9	63%
Harvest/day		0.9	1.1	22%		0.9	1.1	22%		0.3	0.7	164%
Squirrel	157				146				11 *			
Hunters		13,553	17,500	29%		12,680	16,194	28%		873	1,306	50%
Harvest		76,622	102,926	34%		66,716	97,775	47%		9,906	5,151	-48%
Days		70,159	57,572	-18%		67,154	52,979	-21%		3,005	4,593	53%
Harvest/hunter		5.7	5.9	4%		5.3	6.0	15%		11.4	3.9	-65%
Days/hunter		5.2	3.3	-36%		5.3	3.3	-38%		3.4	3.5	2%
Harvest/day		1.1	1.8	64%		1.0	1.9	87%		3.3	1.1	-66%
Hungarian partridge	15 *				14 *				1 *			
Hunters		1,713	861	-50%		1,365	807	-41%		348	54	-84%
Harvest		1,538	3,015	96%		923	2,988	224%		615	27	-96%
Days		12,583	1,655	-87%		10,696	1,466	-86%		1,887	189	-90%
Harvest/hunter		0.9	3.5	289%		0.7	3.7	444%		1.8	0.5	-72%
Days/hunter		7.4	1.9	-74%		7.8	1.8	-77%		5.4	3.5	-35%
Harvest/day		0.1	1.8			0.1	2.0			0.3	0.1	-58%
Mourning Dove	116 *				113 *				3 *			
Hunters		8,585	10,942	27%		8,559	10,451	22%		26	491	
Harvest		81,740	162,092	98%		81,740	159,457	95%		0	2,635	
Days		35,710	43,331	21%		35,684	36,909	3%		26	6,422	
Harvest/hunter		9.5	14.8	56%		9.6	15.3	60%		0.0	5.4	
Days/hunter		4.2	4.0	-5%		4.2	3.5	-15%		1.0	13.1	
Harvest/day		2.3	3.7	63%		2.3	4.3	89%		0.0	0.4	

* Very small sample size, view estimates accordingly.

Table 4. Mean hunting effort and harvest by time period for pheasant and quail hunters during the 2021-22 small game season.

SPECIES	Mean days	Mean harvest	Harvest/day	Proportion of effort (days)	Proportion of the harvest
Ring-necked pheasants (N=502)					
First 9 Days*	1.75	1.89	1.08	25%	32%
Day 10 - Nov. 30	2.77	2.19	0.79	40%	37%
Dec. 1 - Jan. 10	2.42	1.83	0.76	35%	31%
Jan. 11 - Jan 31	-	-	-	-	-
Bobwhite quail (N=63)					
First 9 Days	1.70	0.43	0.25	19%	19%
Day 10 - Nov. 30	3.35	0.60	0.18	38%	26%
Dec. 1 - Jan. 10	3.06	0.73	0.24	34%	32%
Jan. 11 - Jan 31	0.78	0.54	0.69	9%	23%

* First 2 weekends of season.

Table 5. Harvest and proportion of harvest by August roadside survey region for the 2021-22 small game season*.

REGION	Ring-necked Pheasant		Bobwhite Quail		Cottontail Rabbit		Squirrel		Hungarian Partridge		Mourning Dove	
	N	%	N	%	N	%	N	%	N	%	N	%
NW	57,413	15.4%	27	0.1%	1,799	1.8%	2,210	2.1%	27	0.9%	11,866	7.3%
NC	18,473	5.0%	308	1.3%	15,309	15.0%	10,095	9.8%	0	0.0%	14,522	9.0%
NE	30,562	8.2%	27	0.1%	20,285	19.9%	14,959	14.5%	449	14.9%	13,447	8.3%
WC	46,157	12.4%	3,023	12.4%	13,846	13.6%	3,306	3.2%	27	0.9%	30,275	18.7%
C	86,304	23.1%	5,795	23.7%	9,760	9.6%	6,786	6.6%	217	7.2%	23,830	14.7%
EC	49,681	13.3%	3,366	13.8%	31,461	30.9%	33,008	32.1%	0	0.0%	44,364	27.4%
SW	9,723	2.6%	2,310	9.5%	1,467	1.4%	831	0.8%	56	1.9%	15,687	9.7%
SC	5,212	1.4%	4,442	18.2%	829	0.8%	3,180	3.1%	1,988	65.9%	4,023	2.5%
SE	3,059	0.8%	112	0.5%	5,234	5.1%	23,400	22.7%	224	7.4%	1,443	0.9%
Nonresident	66,451	17.8%	5,005	20.5%	1,784	1.8%	5,151	5.0%	27	0.9%	2,635	1.6%
Total	373,035		24,415		101,774		102,926		3,015		162,092	

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