

Wildlife Bureau Survey Note

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Major Caveat 2022-23 Survey - It appears there was a major glitch in the small game survey this year. Pheasant harvest declined by an estimated 113,000+, lowest estimate in last 5 years, while hunters declined by >11,000 - neither jive with reports from field staff or what was expected given roadside counts. Cottontail and squirrel harvest estimates also appeared way off compared to previous year.

Problem - all 233,000 licensed hunters in 2022 (deer, turkey, small game, waterfowl), must have a hunting license. We mailed out 8,500 survey cards to a stratified random sample, of which 2,100 were returned. Of the 2,100 returned cards only 11 said they hunted huns and only 85 said they hunted doves (Table 3). Even pheasant our most popular small game - only 538 responses. Of our 200,000+ license buyers about 75% don't hunt small game, so vast majority of our survey cards go to folks that don't hunt small game. Our entire estimates of hunters, harvest, and effort are based on these small sample sizes. Gray shaded values(*) denote logbook regression estimated numbers for pheasant/rabbit/squirrel or estimates that are highly suspect from the small game survey.

2022-23 Small Game Harvest Results

A random survey of licensed hunters was conducted following the 2022-23 small game season to determine the size and distribution of Iowa's small game harvest (Figure 1). Survey questionnaires were mailed to 8,184 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 2,165 usable questionnaires for a response rate of 27%. The DNR sold an estimated 235,854 unique hunting licenses in 2022-23, a 1% 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 27% of license holders (63,579*) hunted small game (pheasant, quail, partridge, cottontail, or squirrel). Small game hunter numbers declined -12.1%* from last year.

By residency, the number of resident small game hunters decreased -11.2%* from 57,403 in 2021, to 50,974* in 2022, while the number nonresident small game hunters decreased -15.4%* from 14,903 in 2021 to 12,605* in 2022. Pheasant were the most commonly reported species hunted by small game hunters (81%), while squirrels were the second most sought-after species with 22% of small game hunters indicating they hunted squirrels (Table 1).

Nonresident small game hunters from 37 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 7.7* days last fall.

Ring-necked Pheasant. - An estimated 63,263* pheasant hunters (25%* of licensed hunters, 81%* of small game hunters) took to Iowa's fields last fall and harvested 366,283* roosters (Table 1 and Table 2). The number of pheasant hunters increased 1%*, while total harvest declined 2%* compared to 2021 estimates. Broken down by resident and nonresident hunters, an estimated 49,565* resident hunters harvested 293,467* pheasants and 13,698* nonresident hunters harvested 72,816* pheasants in 2022. Iowa's peak year for nonresident pheasant hunters was 1997 with 50,349. Resident hunter numbers increased 3%*, while nonresident pheasant hunter numbers decreased -5%* compared to 2021 (Table 3).

Resident hunters hunted an average of 6.7* days last fall and harvested 5.9* birds during the season. Nonresident pheasant hunters averaged 4.7* days afield and harvested 5.3* birds for the season (Table 3). Hunter success (harvest/day) was highest through the first 9 days of the season (Table 4). Approximately 30% of the total pheasant harvest occurred in the first 9 days of the 2022 season (Table 4). Over half of pheasant hunters reported hunting 4 days or less during the 2022 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 30,000+ roosters reported harvested in each region (Table 5).

The 2022 roadside survey showed Iowa's pheasant population was similar to 2021 with good counts in the northern two-thirds of the state and it appears hunters took advantage of the abundant bird numbers.

Bobwhite Quail. - Approximately 10,108 quail hunters (5%* of licensed hunters, 16% of small game hunters) harvested an estimated 21,140 quail during the 2022 quail season a slight decline (-13%) over the 2021 estimate (Table 1 through Table 3). Hunter numbers increased 17% compared to 2021 the estimate. Quail hunters averaged 6.3 days a field and harvested 2 birds for the season (Table 3). Fifty-three percent of the quail harvest occurred in the first month of the 2022 season (Table 4). Over fifty percent of Iowa quail hunters hunted 4 days or less during the 2022 season. Resident quail hunters accounted for 76% of the total quail harvest.

The 2022 roadside counts showed quail numbers were 100% higher than in 2021, so the higher hunter numbers were expected, however harvest did not increase correspondingly. This could be an artifact of a small sample size in the previous year's small game survey (2021) as only 81 of 2300+ returned survey cards indicated they quail hunted.

Table 1. Estimated proportion of 2022 license buyers and small game hunters who hunted each species.

Species	Eligible Hunters ^a (%)	Small Game Hunters ^b (%)
Pheasants	25.1	81.1
Quail	4.9	15.9
Cottontail	5.5	17.8
Squirrels	7.0	22.5
Partridge	0.7	2.4
Mourning Dove	No Data	No Data

^aAll 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 25% of hunting license buyers hunted pheasants).

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

Detach Here

Detach Here

2022-2023 Iowa Small Game Hunter Survey

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.

Did you hunt **SMALL GAME** in **IOWA** during 2022-23? ☐ 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)

SEASON TOTAL Oct 30 to Nov 7 Nov 8-30 Dec 1 to Jan 10

Number YOU Harvested
 Number of Days Hunted

Wild Quail (not game farm)

SEASON TOTAL Oct 30 to Nov 7 Nov 8-30 Dec 1 to Jan 10 Jan 11-31

Please report season totals for each species below:

Cottontail Rabbit Squirrel Hungarian Partridge Mourning Dove

Number YOU Harvested
 Number of Days Hunted

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

Please respond only in the spaces provided.

DO NOT make unnecessary marks on this form.

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

Figure 1. Small game survey card.

Table 2. Estimated small game hunters, harvest, effort by species and license type for the 2022-23 small game season.

License/ Species	Hunters		Harvest		Days	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
All License Types						
Pheasant	63,263	±	366,283	±	87,527	394,586 ± 74,390
Quail	10,108	±	21,140	±	9,290	63,261 ± 29,778
Cotton Tail Rabbit	17,410	±	95,673	±	57,501	90,151 ± 48,756
Squirrel	14,690	±	78,558	±	48,777	63,780 ± 37,006
Hungarian Partridge	1,501	±	1,207	±	1,801	11,665 ± 17,824
Mourning Dove	9,851	±	144,462	±	78,474	37,228 ± 16,740
					Total Days*	623,443 ± 136,338
Resident Hunters						
Pheasant	49,565	±		±	82,284	330,501 ± 73,047
Quail	7,358	±		±	8,618	47,785 ± 27,642
Cotton Tail Rabbit		±		±		±
Squirrel		±		±		±
Hungarian Partridge	1,041	±		±	1,780	10,691 ± 17,760
Mourning Dove	9,363	±		±	78,106	36,546 ± 16,721
					Total Days*	±

License/ Species	Hunters		Harvest		Days	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Nonresident Hunters						
Pheasant	13,698	±	±	25,482	64,085	± 16,819
Quail	2,750	±	±	3,471	15,476	± 11,072
Cotton Tail Rabbit		±	±			±
Squirrel		±	±			±
Hungarian Partridge	460	±	±	269	974	± 1,505
Mourning Dove	480	±	±	7,581	682	± 809
Total Days*						

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

Due to poor sample from small game survey, numbers estimated by regression, not derived from small game survey. No regression estimates by resident/nonresident for rabbit and squirrel, as data not historically tracked in logbook.

Estimated number of people who hunted small gam (pheasant, quail, partridge, cottontail, or squirrels): 63,579 ± 7,193.

Estimated number of people who hunted upland game birds only (pheasant, quail, partridge): 44,338 ± 6,382.

Estimated number of people who hunted small game mammals only (cottontail, squirrel): 11,855 ± 3,879

Youth Pheasant Season

2,607 ± 1,799 Adult Hunters

4,267 ± 3,210 Youth Hunters

1,683 ± 1,466 Harvested

Table 3. Estimated number of small game hunters, harvest, and days hunted, by license type, species, and year, in Iowa during the 2021-22 and 2022-23 small game seasons. N is the most recent years sample size.

Species	N	All License Types			N	Resident			N	Nonresident		
		2021	2022	%CHG		2021	2022	%CHG		2021	2022	%CHG
Ring-necked pheasant	538				443				95*			
Hunters		62,732	63,263	1		48,267	49,565	3		14,465	13,698	-5
Harvest		373,035	366,283	-2		307,081	293,467	-4		65,954	72,816	10
Days		402,291	394,586	-2		333,189	330,501	-1		69,102	64,085	-7
Harvest/Hunter		6.0	5.8	-3		6.4	5.9	-7		4.6	5.3	17
Days/Hunter		6.4	6.2	-3		6.9	6.7	-3		4.8	4.7	-2
Harvest/Day		0.9	0.9	0		0.9	0.9	-3		1.0	1.1	20
Bobwhite quail	100*				80*				20*			
Hunters		8,676	10,108	17		6,891	7,358	7		1,785	2,750	54
Harvest		24,415	21,140	-13		19,907	16,067	-19		4,508	5,073	13
Days		54,080	63,261	17		42,815	47,785	12		11,265	15,476	37
Harvest/Hunter		2.8	2.1	-26		2.9	2.2	-25		2.5	1.8	-27
Days/Hunter		6.2	6.3	0		6.2	6.5	5		6.3	5.6	-11
Harvest/Day		0.5	0.3	-27		0.5	0.3	-26		0.4	0.3	-18
Cottontail rabbit	141				136				5*			
Hunters		16,919	17,410	3		16,322				597		
Harvest		101,774	95,673	-6		100,074				1,700		
Days		90,500	90,151	0		88,200				2,300		
Harvest/Hunter		6.0	5.5	-9		6.1				2.9		
Days/Hunter		5.4	5.2	-3		5.4				3.9		

Species	N	All License Types			N	Resident			N	Nonresident		
		2021	2022	%CHG		2021	2022	%CHG		2021	2022	%CHG
Harvest/Day		1.1	1.1	-5		1.1				0.7		
Squirrel	147				135				12*			
Hunters		17,500	14,690	-16		16,194				1,306		
Harvest		102,926	78,558	-24		97,775				5,151		
Days		57,572	63,780	11		52,979				4,593		
Harvest/Hunter		5.9	5.4	-9		6.0				3.9		
Days/Hunter		3.3	4.3	32		3.3				3.5		
Harvest/Day		1.8	1.2	-31		1.9				1.1		
Hungarian partridge	11*				7*				4*			
Hunters		861	1,501	74		807	1,041	29		54	460	752
Harvest		3,015	1,207	-60		2,988	1,067	-64		27	140	419
Days		1,655	11,665	605		1,466	10,691	629		189	974	415
Harvest/Hunter		3.5	0.8	-77		3.7	1.0	-72		0.5	0.3	-40
Days/Hunter		1.9	7.8	305		1.8	10.3	464		3.5	2.1	-39
Harvest/Day		1.8	0.1	-95		2.0	0.1	-95		0.1	0.1	0
Mourning dove	85*				80*				5*			
Hunters		10,942	9,851	-10		10,451	9,363	-10		491	488	-1
Harvest		162,092	144,462	-11		159,457	139,451	-13		2,635	5,011	90
Days		43,331	37,228	-14		36,909	36,546	-1		6,422	682	-89
Harvest/Hunter		14.8	14.7	-1		15.3	14.9	-2		5.4	10.3	91
Days/Hunter		4.0	3.8	-5		3.5	3.9	10		13.1	1.4	-89
Harvest/Day		3.7	3.9	4		4.3	3.8	-12		0.4	7.4	1693

*Very small sample size, view estimates accordingly.

Due to poor sample from small game survey, numbers estimated by regression, not derived from small game survey. No regression estimates by resident/nonresident for rabbit and squirrel, as data not historically tracked in logbook.

Table 4. Mean hunting effort and harvest by time period for pheasant and quail hunters during the 2022-23 small game season.

Species	Mean Days	Mean Harvest	Harvest/Day	Proportion of Effort (days) (%)	Proportion of the Harvest (%)
Ring-necked pheasants (N = 480)					
First 9 Days*	1.74	1.81	1.04	25	30
Day 10 - Nov 30	2.72	2.42	0.89	39	40
Dec 1 - Jan 10	2.47	1.79	0.73	36	30
Jan 11 - Jan 31	-	-	-	-	-
Bobwhite quail (N = 69)					
First 9 Days*	1.81	0.48	0.26	24	16
Day 10 - Nov 30	2.57	1.10	0.43	34	37
Dec 1 - Jan 10	2.81	0.91	0.32	37	30
Jan 11 - Jan 31	0.46	0.51	1.09	6	17

*First 2 weekends of season

Table 5. Harvest and proportion of harvests by August roadside survey region for the 2022-23 small game season*.

Region	Ring-necked Pheasant		Bobwhite Quail		Cottontail Rabbit		Squirrel		Hungarian Partridge		Mourning Dove	
	N	%	N	%	N	%	N	%	N	%	N	%
NW			300	1.4					0	0.0	1,971	1.4
NC			54	0.3					84	7.0	3,851	2.7
NE			933	4.4					983	81.4	13,866	9.6
WC			2,779	13.1					0	0.0	3,656	2.5
C			2,634	12.5					0	0.0	7,820	5.4
EC			140	0.7					0	0.0	15,722	10.9
SW			2,578	12.2					0	0.0	9,327	6.5
SC			5,771	27.3					0	0.0	49,514	34.3
SE			878	4.2					0	0.0	33,724	23.3
Nonresident			5,073	24.0					140	11.6	5,011	3.5
Total	0		21,140		0		0		1,207		144,462	

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

Due to poor sample from small game survey, no estimates possible.