

2023 IOWA AUGUST ROADSIDE SURVEY

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2023 IOWA UPLAND WILDLIFE POPULATIONS

This report is a summary of the 2023 Iowa August roadside survey. Iowa DNR Enforcement and Wildlife Bureau personnel throughout the state conduct the survey each year during the first half of August. Individuals involved in this survey should be credited for their efforts to collect these data during the early-morning hours. This survey is partially funded by the Pittman-Robertson Act, Federal Aid in Wildlife Restoration Program, Project Number W-115-R.

The August roadside survey generates data from approximately 220, 30-mile routes on ring-necked pheasants, bobwhite quail, gray partridge, cottontail rabbits, and white-tailed jackrabbits. Counts conducted on cool mornings when the sun is shining, with heavy dew, and no wind yield the most consistent results. Comparisons between 2022 and 2023 are based on routes that are directly comparable between years (routes with no alterations and started with good dew). Long-term trends are based on all routes completed. The two factors that determine the abundance and distribution of upland game populations in Iowa are **weather** and **habitat**.

SUMMARY

Statewide, Iowa experienced a normal winter, followed by a dry spring. Iowa’s weather model predicted pheasant numbers should increase based on these weather data. This prediction was confirmed by roadside counts which showed statewide pheasant numbers increased significantly (15%) compared to 2022. Starting dew conditions were more favorable this year compared to 2022, however dry conditions the first week of the survey likely added variability to this year’s counts. Pheasant numbers showed increasing trends in 7 of the 9 survey regions, with counts similar to last year in other regions. Similar to pheasants, gray partridge numbers showed a significant statewide increase (43%), with northern and central regions showing the best counts. Bobwhite quail and cottontail numbers were similar to last year. Pheasant hunters should have good to excellent hunting in many regions this fall given the 2023 counts are similar to last year, and the success hunters reported last year. If dry conditions persist into the fall, Iowa’s corn and soybean harvest should be mostly complete by the season opener, which generally leads to good success on the opener.

2022-23 IOWA WEATHER SUMMARY

Iowa pheasant numbers increase with mild winters (less than 19 inches snowfall) followed by warm, dry springs (less than 6 inches rainfall). They decline with snowy winters (30 or more inches of snowfall) followed by cold, wet springs (8 or more inches of rainfall), and remain generally stable with average weather conditions, (winters with 20–30 inches of snow and springs with 6–8 inches of rainfall).

Table 1. Iowa 2022-23 weather summary.

Weather Variables	Survey Regions									STATE
	NW	NC	NE	WC	C	EC	SW	SC	SE	
Winter Weather*										
Total Snowfall (inch)	40	38	32	23	30	26	13	19	14	26.1
Departure**	13.3	9.0	2.6	-3.8	4.6	2.0	-8.2	-2.8	-8.7	0.9
Spring Weather										
Total Rainfall (inch)	4.3	5.8	4.8	4.6	5.0	4.1	4.8	4.2	3.5	4.6
Departure	-1.7	-1.0	-2.3	-2.4	-2.3	-3.1	-2.6	-3.4	-4.0	-2.5
Mean Temperature (F)	55	54	54	57	56	56	58	58	57	56.1
Departure	1.1	0.8	0.6	0.7	1.5	0.7	0.6	1.0	-0.1	0.8

* Winter weather period (1Dec.-31Mar.) and spring period (1April-31May).

** Departures calculated using thirty year NOAA average from 1961-1990.

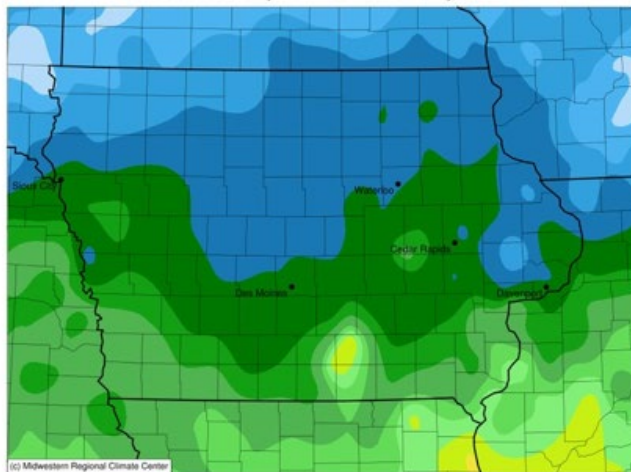
The 2022-23 winter statewide snowfall was about normal at 26 inches (Table 1). Snowfall was at or below normal in all regions, except the NW and NC regions (Table 1, Figure 1). Over half the winters total snowfall came in December and January, with very little snowfall in February or March. These conditions likely led to average to above average overwinter survival for all small game. However, several blizzards in the NW and NC regions around Christmas likely caused some winter losses. The spring of 2023 was drier than normal and slightly warmer than normal, the fourth consecutive year of below normal rainfall during Iowa's nesting season. Favorable spring weather likely helped offset some of the winter losses in the NW and NC regions (Table 1). In summary, the weather of 2022-23 was generally pretty favorable across Iowa for upland wildlife. A normal winter produced good to average over winter survival, especially in western and southern regions, while nesting conditions were favorable statewide, leading to a good reproductive effort. The Wildlife Bureau's weather model predicted an increase in the statewide pheasant population based on these weather patterns. The 2023 roadside counts confirmed a significant statewide increase in pheasant populations from last year.

Figure 1. Iowa 2022-23 snowfall and rainfall summary. Normal winter snowfall is 25 inches, while normal nesting season rainfall is 7 inches.

Winter 2022-23

Accumulated Snowfall (in)

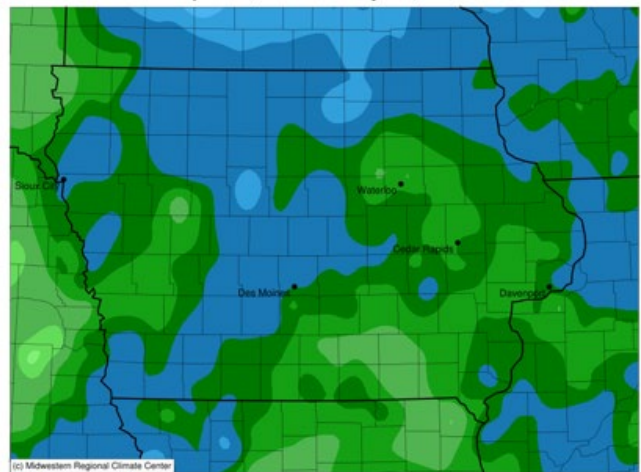
December 01, 2022 to March 31, 2023



Nesting 2023

Accumulated Precipitation (in)

April 01, 2023 to May 31, 2023



Arrows denote snowfall (30") and rainfall (8"). Values above these points trend toward decreased populations in Iowa.

UPLAND HABITAT TRENDS IN IOWA

The influence of habitat changes on upland populations are more gradual than the impacts of weather. The effects of habitat change are only evident after looking at several years of surveys. Information from the USDA shows that between 1990 and 2020 Iowa lost 2,637 square miles of potential pheasant habitat (Table 2). This habitat was a mix of small grains, hay, and Conservation Reserve Program (CRP) acres. To put this loss in perspective, 2,637 mi² is a strip of habitat 9 miles wide that would stretch from Omaha to Davenport. The CRP has become critical for Iowa pheasant populations with the loss of small grains and hay lands to corn and soybean production.

The 2018 Farm Bill increased the CRP program from a 24 million acre to a 25-million-acre program. Nationally, USDA reports 16.6 million acres enrolled in traditional CRP, as of June 2023, the lowest in program history. Iowa has 1.69 million acres enrolled, with 111,232 acres expiring in September 2023. Opportunities to enroll additional land into CRP in Iowa are improving with recent changes to the program by USDA, with increased CRP incentives. The 2018 Farmbill changed rental payments so landowners do not receive fair market rent for their land, which had reduced interest in the program. The CRP is a federal USDA program, thus folks who value CRP for pheasant habitat should visit with their elected congressional representatives. In 2020, Iowa had 2.94 million acres of potential pheasant habitat (Table 2). Grassland habitat acres within Iowa are near an all-time low, with reliable records dating back to 1901.

Table 2. Trends in Iowa habitat and total habitat loss from 1990 to 2020, data from USDA

Year	Hay Acres	Small Grains Acres	CRP Acres	Total All Habitat Acres
1990	2,000,000	675,000	1,951,061	4,626,061
1995	1,700,000	260,000	2,199,360	4,159,360
2000	1,700,000	198,000	1,598,662	3,496,662
2005	1,600,000	140,000	1,917,574	3,657,574
2010	1,200,000	80,000	1,637,130	2,917,130
2020	1,160,000	73,000	1,705,188	2,938,188
Acres of Habitat Lost 1990 vs 2020				-1,687,873
Square Miles of Habitat Lost 1990 vs 2020				-2,637

The DNR’s walk-in hunting program, Iowa Habitat and Access Program (IHAP), is funded through a combination of the USDA grants and DNR license dollars. Most IHAP sites are typically private CRP lands where the DNR has provided incentives to landowners to manage habitat for wildlife in exchange for public hunting access. Iowa DNR has over 30,000 acres in this program. For a list of IHAP sites or information about enrolling visit <http://www.iowadnr.gov/ihap>.

SURVEY CONDITIONS

The August roadside survey yields the most consistent results on mornings with heavy dew, no wind, and sunny skies. Research by Dr. Klonglan at Iowa State University in the 1950s showed the number of pheasants counted on mornings with medium dew averaged a third fewer birds than routes run on a morning with heavy dew. Heavy dew conditions require good soil moisture in late July and early August. During this year’s survey, staff reported 178 routes (82%) started with a heavy dew versus 138 routes (65) in 2021. The US Drought Monitor showed moderate to extreme drought across much of Iowa in early August. Conditions the first week of August were very dry, however several inches of rain across most of the state around August 8th dramatically improved counting conditions. This change in moisture conditions during the 2 weeks of the survey likely added variability to the counts (e.g., counts completed prior to the 8th likely had more variability than counts after the 8th).

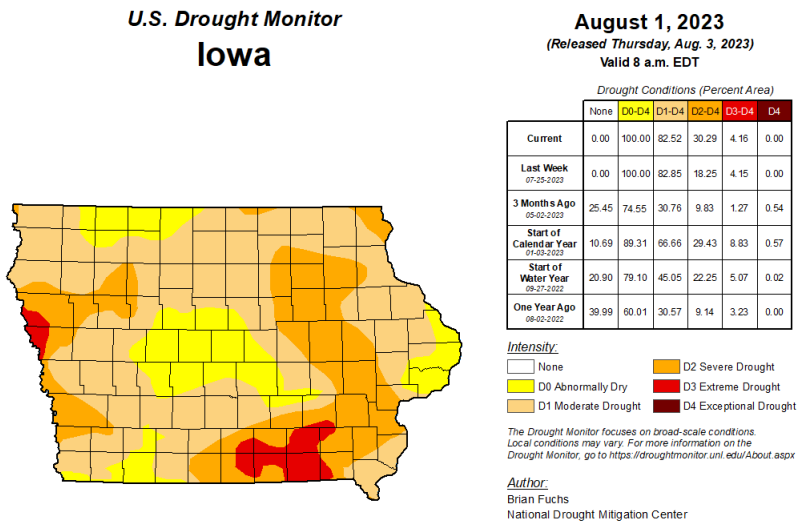


Figure 2. Early August drought map of Iowa.

RING-NECKED PHEASANT

Statewide: This year the statewide pheasant index of 22.5 birds/route represents a significant increase over last year’s estimate of 19.5 birds/route (Table 3). This year’s statewide pheasant population index is 17%

above the 10-year trend, and the highest index in the last 7 years (Table 4, Figure 3). Counts in the NE and SW regions were statistically higher than 2022. All other regions reported numbers comparable to 2022 with counts showing upward or downward trends, but none statistically significant - meaning there was no consistent trend in the counts within these regions; some routes increased while others decreased.

Iowa research indicates overwinter hen survival, brood survival, and nest success are the major factors influencing annual changes in pheasant numbers. Statewide, the total hens (10%) and chicks (19%) counted on routes this year were significantly higher than 2022 (Table 3). Statewide data on chicks/brood (measure of chick survival) and age ratios (chicks per adult hen – measure of overall hen success), were also statistically higher (4% and 17% respectively) than last year, suggesting from an overall statewide perspective that winter hen survival and nest season success were better than in 2022 (Table 3). From a regional perspective the numbers suggest status quo trends in the WC and EC regions, with positive trends in all other regions (Figure 5).

Overall, pheasant hunters in the Hawkeye state should expect pheasant numbers to be as good or better than in 2022 in most regions. The NW, NC, WC, and C regions show the best overall densities, however hunters in the EC and SE regions should see more birds compared to a year ago. Five (NW, NC, NE, WC, C) of the 9 survey regions reported pheasant averages of 25+ birds per route (Table 3/Figure 5) and should offer excellent hunting. Pheasant hunting last fall in the Hawkeye state was very good and this fall should be on par with last year. Given this year's statewide index of approximately 23 birds per route, Iowa pheasant hunters should harvest approximately 300,000 to 400,000 roosters this fall (Figure 3). As of early September, Iowa was still experiencing very dry conditions across most of the state. If this pattern continues into October, Iowa could see an early crop harvest, with most fields harvested and plowed by the pheasant opener. Hunter success is usually very good on openers where most crops have been harvested. Hawkeye pheasant hunters could have another very good fall!

Northern Regions: Counts in all northern regions exhibited upward trends compared to last year (Table 3, Figure 5). Counts in NE region showed a statistically significant increase and the 2023 count is the highest the region has seen since 1998!! (Table 4). Counts in all three regions are above their 10-year averages. The NW region averaged 39.3 birds per route which was the highest density of any region in 2023, while the NC region had the second highest average at 31 birds/route (Table 3). All 3 regions should offer good to excellent pheasant hunting, particularly around public and private lands with good winter habitat. Better counts in NW came from, Clay, O'Brien, and Osceola counties. Floyd, Kossuth, and Winnebago counties reported better numbers in the NC region, while the NE region reported the best counts in Bremer, Fayette, and Howard counties (Figure 6).

Central Regions: The WC region reported the highest counts in the central third of Iowa with 27.4 birds per route in 2023, with the C region just a bird behind at 26.4 birds/route (Figure 5). Counts in the EC region showed a non-significant downward trend, suggesting populations were unchanged from 2022 (Table 3). The EC region reported fewer hens and broods than in 2022, which led to the lower counts. All 3 regions should offer good to excellent hunting this fall where good quality pheasant habitat exists (Figure 6). The WC region reported better counts in Greene, Guthrie, Sac, and Woodbury counties. The Central region reported good bird numbers in Boone, Grundy, Hamilton, and Webster counties, while the EC region reported better numbers in Benton, Johnson, and Jones counties (Figure 6).

Southern Regions: Counts across the southern regions all showed increasing trends compared to 2022, however only the counts in the SW region were statistically higher than in 2023 (Table 3 & Figure 5). Counts in SW region increased 146% and are the highest counts that region has seen in over 15 years (Table 3 & 4). Counts in the SW and SC regions are above their 10-year means, while the SE remains below its 10-year mean (Table 4). Hunters should see better bird numbers in all 3 regions this fall. Some of the better counts in 2023 came from Adams, Cass, Jefferson, Keokuk, Louisa, Montgomery, Pottawattamie, Ringgold, Union, and Washington counties (Figure 6).

BOBWHITE QUAIL

Iowa's statewide bobwhite quail index was unchanged from last year with 0.8 quail/route in 2023 compared to 0.9 quail/route in 2022 (Table 3, Figure 4). This year's statewide quail index is -23% below the 10-year average and -42% below the long term mean (Table 4). Given the mild winter and lack of snowfall quail

numbers were expected to increase in 2023. Good winter survival is crucial for increasing populations in Iowa, as Iowa represents the northern fringe of the quail range in the United States. Why counts were not better is a mystery, as anecdotal reports across the region report good numbers of whistling males this spring. Counts showed no statistically significant trend in any Southern region this year (Table 3, Figure 5). Staff detected fewer broods in 2023 than in 2022, which contributed to no change in populations (Table 3). The SC region reported the best overall quail numbers in 2023, followed by the SW region (Figure 5). Better counts in 2023 came from Adams, Madison, Taylor, Union, and Wayne counties (Figure 6). Hunters should focus quail hunting where there is a good mix of shrubs, ag fields, and weedy habitat.

GRAY PARTRIDGE

The 2023 statewide gray partridge count increased significantly (+43%) when compared to 2022 (Table 3 & Figure 4). Partridge are only found in the northern and central regions of Iowa, and counts showed upward trends in all regions, except the NE region. None of the regional numbers were statistically significant, except for the increase in the WC region (Table 3), meaning there was no consistent trend in gains versus losses among routes within most regions. This year's statewide estimate is 13% above the 10-year mean and 32% below the long term mean (Table 4). Gray partridge prefer the wide-open and treeless agricultural lands of the northern two-thirds of the state. The NW, NC, and C regions reported the best densities in 2023 (Figure 5). Typically, partridge numbers increase following mild winters and when spring/summer precipitation is below normal. Better counts in 2023 came from Boone, Buena Vista, Cerro Gordo, Emmet, Franklin, Hamilton, Palo Alto, Pocahontas, Sac, and Wright counties (Figure 6).

COTTONTAIL RABBIT

Staff reported an average of 4.73 rabbits per 30-mile route in 2023, which represents no change from the 2022 estimate (Table 3, Figure 4). Cottontails remain very abundant in Iowa. The cottontail index is 18% below the 10-year average and 21% below the long-term average respectively (Table 4). Regionally, rabbit numbers showed no statistically significant change in any region (Table 3). Counts showed upward trends in the WC, EC, and SW regions, downward trends in NW and C regions, and no trend in the remaining regions (Table 3 and Figure 5). Cottontails typically increase following mild winters with good moisture during spring and summer, thus the drought of 2023 likely impacted reproduction in many regions. Cottontail hunters can expect good hunting across most of the state this fall. Staff reported the best cottontail numbers in the SC region with good numbers also reported in the WC, EC, SW, and SE regions (Figure 5 and 6).

Table 3. Mean numbers of wildlife observed per 30-mile route on the August roadside survey in 2022 and 2023. Only directly comparable routes are used for statistical comparisons.

		RINGNECKED PHEASANTS								BOBWHITE QUAIL		GRAY PARTRIDGE		RABBITS	
REGION	n	TOTAL PHEASANT	COCKS	HENS W/O BROODS	HENS W/ BROODS	HENS	CHICKS/ BROODS	AGE RATIO	TOTAL BIRDS	COVEYS	TOTAL BIRDS	COVEYS	EASTERN COTTONTAIL	WHITETAILED JACKRABBIT	
Northwest	27														
2023		39.26	4.11	2.04	5.07	8.11	28.04	4.44	3.29		5.30	0.48	2.07		
2022		31.24	3.80	2.12	3.36	6.56	21.96	4.92	3.53		2.88	0.20	2.88		
% CHG		26%	8%	-4%	51%	24%	28%	-10%	-7%		84%	140%	-28%		
Northcentral	24														
2023		30.63	3.21	0.88	3.63	5.75	22.92	4.41	3.94		6.38	0.54	2.17		
2022		27.91	3.22	1.30	3.57	5.96	19.83	4.2	2.81		4.78	0.48	2.43		
% CHG		10%	0%	-32%	2%	-4%	16%	5%	40%		33%	13%	-11%		
Northeast	20														
2023		26.90	2.20	0.45	3.10	4.50	21.15	5.03	4.58		1.75	0.20	4.35	0.05	
2022		16.74	2.26	0.79	1.53	3.68	12.16	3.81	3.01		3.16	0.32	4.58		
% CHG		61%	-3%	-43%	103%	22%	74%	32%	52%		-45%	-38%	-5%		
West Central	23														
2023		27.35	3.22	1.96	3.09	6.43	19.09	4.24	3.23	0.87		1.30	0.13	6.09	
2022		29.55	4.09	1.41	3.36	5.77	20.68	4.41	3.44	0.91	0.05	0.09		4.55	
% CHG		-7%	-21%	39%	-8%	11%	-8%	-4%	-6%			100%		34%	
Central	31														
2023		26.42	3.03	1.39	2.74	5.65	19.26	4.76	3.79	0.03		4.52	0.42	4.00	
2022		22.58	3.32	1.13	2.94	4.94	15.19	3.92	2.95	0.03		2.74	0.29	5.10	
% CHG		17%	-9%	23%	-7%	14%	27%	21%	28%	0%		65%	45%	-22%	
Eastcentral	23														
2023		10.13	1.43	0.39	0.91	2.00	7.39	4.07	3.50	1.30	0.13	0.65	0.09	6.22	
2022		14.19	1.52	0.71	1.81	3.38	10.14	3.95	2.93	0.14		0.57	0.05	5.38	
% CHG		-29%	-6%	-45%	-50%	-41%	-27%	3%	19%	100%		14%	80%	16%	
Southwest	18														
2023		12.72	1.94	0.61	1.61	2.89	8.56	3.68	2.93	2.17	0.06			5.11	
2022		5.18	1.29	0.24	0.47	1.00	3.18	4.28	3.09	4.65	0.35			3.65	
% CHG		146%	50%		243%	189%	169%	-14%	-5%	-53%	-83%			40%	
Southcentral	24														
2023		8.63	1.21	0.25	0.96	1.75	6.21	4.38	3.39	2.83	0.17			7.75	
2022		7.38	1.05	0.38	0.71	1.76	5.24	3.46	2.30	2.76	0.14			8.86	
% CHG		17%	15%	-34%	35%	-1%	19%	27%	47%	3%	21%			-13%	
Southeast	21														
2023		13.71	2.52	0.52	1.86	2.76	8.81	4.52	3.29	0.05				5.00	
2022		13.14	1.33	0.90	1.48	2.67	9.43	5.09	3.20	0.62	0.05			5.29	
% CHG		4%	89%	-42%	26%	3%	-7%	-11%	3%	-92%				-5%	
Statewide	211														
2023		22.45	2.61	1.00	2.63	4.59	16.23	4.43	3.56	0.76	0.04	2.45	0.23	4.67	
2022		19.54	2.55	1.05	2.26	4.16	13.69	4.25	3.05	0.87	0.06	1.71	0.16	4.73	
% CHG		15%	2%	-5%	16%	10%	19%	4%	17%	-13%	-33%	43%	44%	-1%	

BOLD numbers indicate a mathematically significant change from the previous year ($P < 0.10$, Wilcoxon Signed Rank Test).

Table 4. Historical upland wildlife numbers from the August Roadside Survey. Numbers represent the average number of animals counted on 30-mile routes^a.

YEAR	PHEASANTS										BOBWHITE	GRAY	EASTERN	WHITETAILED
	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE	QUAIL	PARTRIDGE	COTTONTAIL	JACKRABBIT
											STATEWIDE	STATEWIDE	STATEWIDE	STATEWIDE
1962	84.2	104.6	98.0	81.7	70.6	32.3	52.4	12.0	7.4	61.1	0.70	0.89	6.0	0.38
1963	135.8	110.3	99.5	94.2	65.0	47.1	123.1	23.2	18.2	78.7	1.08	0.91	7.9	0.41
1964	96.4	137.8	109.9	92.9	54.5	53.9	92.6	26.3	18.2	75.4	1.33	0.79	7.6	0.52
1965	45.4	67.5	47.7	64.7	35.5	43.9	97.6	44.4	21.5	49.6	2.25	0.48	8.1	0.35
1966	43.5	75.3	57.5	58.4	49.3	63.9	144.1	40.7	17.1	56.6	2.29	1.30	10.3	0.35
1967	31.0	56.8	57.2	42.4	53.2	58.6	108.3	38.8	21.1	49.1	2.10	0.66	7.5	0.60
1968	38.0	56.0	56.6	53.5	52.2	64.3	127.4	38.7	19.7	52.7	2.06	0.68	7.4	0.28
1969	18.8	44.7	62.5	42.2	57.6	57.2	77.9	44.2	25.2	45.5	2.60	0.38	6.3	0.31
1970	39.2	53.0	59.6	56.1	87.8	91.7	129.1	63.8	40.5	66.2	2.95	1.66	4.4	0.15
1971	34.6	45.2	49.0	66.2	82.6	104.3	101.6	49.7	48.4	62.0	2.64	1.44	5.4	0.35
1972	37.9	44.6	61.0	61.4	73.2	88.6	112.3	54.3	25.8	59.6	2.26	1.92	5.5	0.30
1973	47.0	56.9	65.4	66.3	88.7	103.5	72.4	54.3	30.2	65.8	2.54	1.87	5.8	0.20
1974	46.6	53.2	52.5	60.5	40.0	55.9	90.1	49.6	16.8	49.7	2.11	1.82	4.1	0.07
1975	10.5	28.7	52.3	34.3	43.2	64.3	51.0	45.4	27.4	38.8	1.98	1.98	3.2	0.11
1976	14.8	42.2	68.1	44.8	54.9	61.7	49.2	28.7	48.2		2.19	2.14	6.4	0.11
1977	26.9	44.2	86.7	56.9	50.8	78.5	75.1	44.3	24.4	51.7	2.69	4.70	4.3	0.08
1978	36.3	26.1	68.8	67.8	50.5	63.2	76.7	45.5	30.5	49.7	1.87	3.73	6.2	0.14
1979	40.1	29.6	44.8	49.4	39.2	39.6	80.9	51.5	21.8	42.4	0.66	5.59	3.6	0.16
1980	51.2	61.7	81.2	98.7	72.2	63.5	82.1	68.9	37.2	67.0	2.05	8.81	4.2	0.15
1981	66.4	53.5	83.6	92.9	57.8	72.9	97.1	57.8	35.2	65.9	2.60	8.08	7.8	0.31
1982	26.7	27.9	38.9	55.5	23.1	20.9	41.6	47.7	19.3	32.3	0.79	4.21	6.4	0.10
1983	9.6	12.8	21.7	21.6	13.3	25.3	42.6	51.1	27.5	23.7	1.44	2.65	6.8	0.05
1984	8.8	11.1	19.2	22.1	14.4	24.5	23.8	38.5	26.4	20.6	0.66	4.22	5.6	0.08
1985	21.6	28.0	36.4	40.0	32.7	26.0	59.2	72.6	42.0	38.9	1.37	9.75	7.4	0.07
1986	27.5	20.4	48.2	31.2	24.8	29.0	49.7	65.2	27.2	34.8	1.42	9.62	7.7	0.12
1987	40.2	36.8	59.7	61.4	41.1	33.2	58.5	64.2	39.0	46.8	2.70	14.93	8.6	0.12
1988	33.6	35.0	45.1	60.8	29.6	26.0	45.7	49.8	29.8	38.1	1.96	19.00	4.5	0.17
1989	25.3	36.5	52.1	69.9	57.1	35.3	38.6	40.0	39.0	43.2	1.91	17.27	5.4	0.22
1990	34.3	49.4	63.9	57.9	44.3	24.7	44.5	31.7	27.3	41.2	1.48	8.75	9.2	0.19
1991	37.3	45.3	48.8	77.6	41.6	33.3	61.2	49.4	41.6	46.8	1.34	4.59	5.5	0.07
1992	24.4	50.5	30.5	44.0	42.1	37.8	29.4	23.6	34.2	35.8	1.07	3.58	6.0	0.14
1993	15.8	21.4	15.2	55.2	23.8	25.0	34.3	24.0	28.1	25.9	0.96	0.85	5.5	0.03
1994	45.0	74.1	33.3	83.3	55.6	67.8	47.3	46.0	56.7	56.9	1.58	6.17	6.3	0.15
1995	26.0	63.2	37.6	44.7	54.3	54.3	43.7	27.8	43.2	44.6	1.37	2.47	7.0	0.06
1996	54.7	61.8	29.5	45.2	49.8	59.4	29.8	19.5	28.2	43.4	0.51	2.37	6.2	0.09
1997	46.1	62.0	41.2	37.3	54.7	47.4	31.7	28.8	41.3	44.8	0.77	5.10	4.9	0.10
1998	74.2	56.7	43.1	33.9	49.6	53.9	18.1	15.7	41.7	44.6	0.72	6.42	5.1	0.09
1999	42.7	33.6	21.6	19.5	37.9	36.0	17.5	12.9	27.0	29.1	0.57	2.83	5.9	0.06
2000	60.6	33.3	14.9	29.0	50.3	37.0	25.5	19.3	22.0	34.3	0.57	2.53	6.4	0.03
2001	22.4	16.0	6.2	8.4	22.0	19.0	12.0	7.3	4.6	13.9	0.29	1.90	3.8	0.05
2002	47.0	42.9	13.6	32.0	49.9	32.0	15.7	11.7	22.6	31.7	0.39	2.82	5.3	0.03
2003	81.2	67.3	20.7	36.1	61.2	35.6	29.3	21.8	28.2	44.9	0.89	2.76	8.8	0.03
2004	54.4	34.4	19.0	21.5	35.6	24.4	24.9	19.6	24.4	29.7	0.93	2.12	8.1	0.03
2005	63.5	42.3	25.3	32.0	49.9	25.9	28.9	12.6	23.5	35.1	0.69	2.79	6.2	0.02
2006	48.3	36.1	18.4	23.7	36.8	20.4	20.3	9.0	20.0	27.0	0.82	2.01	6.4	0.05
2007	41.3	35.0	20.1	26.0	36.2	25.0	12.8	5.6	19.8	25.8	0.81	1.62	4.3	0.02
2008	49.4	25.4	9.1	21.2	18.6	7.4	5.7	4.4	5.3	17.5	0.45	1.03	6.3	0.00
2009	35.5	16.6	2.6	23.5	19.1	9.3	10.0	4.8	10.1	15.4	0.72	1.17	5.0	0.01
2010	29.6	16.2	4.7	8.8	11.7	5.3	6.1	1.8	6.6	10.8	0.33	0.93	3.1	0.00
2011	11.1	7.3	2.4	5.5	10.2	5.9	6.3	2.9	4.7	6.6	0.22	1.15	2.2	0.02
2012	16.3	10.9	1.3	3.5	12.3	6.3	4.4	4.0	5.4	7.8	0.36	1.47	2.0	0.01
2013	14.3	9.0	2.7	5.2	7.1	4.2	2.5	4.4	6.3	6.5	0.36	0.81	5.1	0.01
2014	29.3	18.1	2.6	20.8	19.9	13.0	6.5	9.8	19.8	16.3	0.86	2.13	7.8	0.03
2015	42.4	22.5	8.1	23.6	36.4	16.7	11.3	8.2	27.8	23.2	1.42	3.26	7.2	0.02
2016	33.0	24.1	11.2	20.5	30.9	15.4	8.7	7.8	22.2	20.4	1.65	2.76	5.2	0.01
2017	25.8	15.1	5.3	13.0	22.7	12.0	6.8	5.8	15.5	14.4	1.11	1.99	5.4	0.01
2018	25.9	18.1	13.1	22.7	37.4	12.2	8.7	12.3	22.2	20.2	1.37	2.09	6.8	0.02
2019	23.3	20.9	12.8	26.4	27.3	9.1	7.3	6.8	12.3	17.0	0.84	1.35	5.7	0.01
2020	28.5	22.9	24.4	25.4	20.9	13.6	7.3	6.4	28.2	20.0	0.72	1.90	5.2	0.01
2021	28.8	30.6	19.7	31.6	25.5	10.3	4.9	8.3	10.3	19.7	0.39	2.00	4.3	0.01
2022	31.5	26.7	16.0	29.2	22.4	13.3	4.9	6.6	12.6	18.9	0.82	1.71	4.5	0.00
2023	39.3	30.6	26.9	27.3	26.4	10.1	12.7	8.6	13.7	22.5	0.76	2.45	4.7	0.02
Statistics:														
10 Year Avg.	30.8	23.0	14.0	24.1	27.0	12.6	7.9	8.1	18.5	19.3	1.0	2.2	5.7	0.0
Long-term Avg.	39.0	41.0	37.9	43.0	41.3	38.2	46.0	29.4	24.6	37.5	1.31	3.57	5.9	0.12
Percent Change from:														
10 Year Avg.	28%	33%	92%	14%	-2%	-19%	61%	7%	-26%	17%	-23%	13%	-18%	73%
Long-term Avg.	1%	-25%	-29%	-36%	-36%	-73%	-72%	-71%	-44%	-40%	-42%	-32%	-21%	-85%

^a Values do not match those in Table 3/Figure 5 because historical data is based on ALL routes completed, whereas values in Table 3/Figure 5 are calculated between only directly comparable routes.

Statewide Pheasant Trends

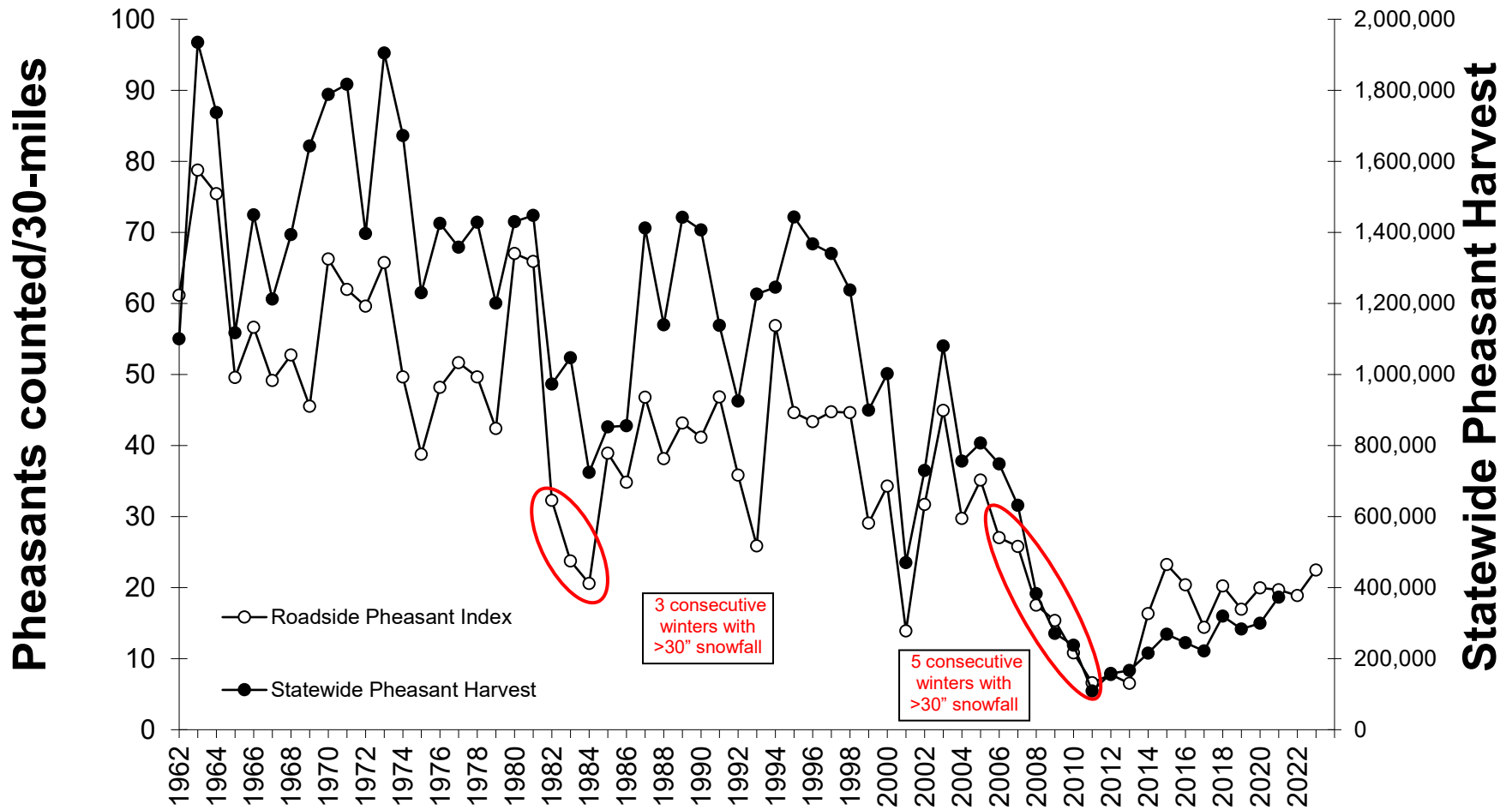
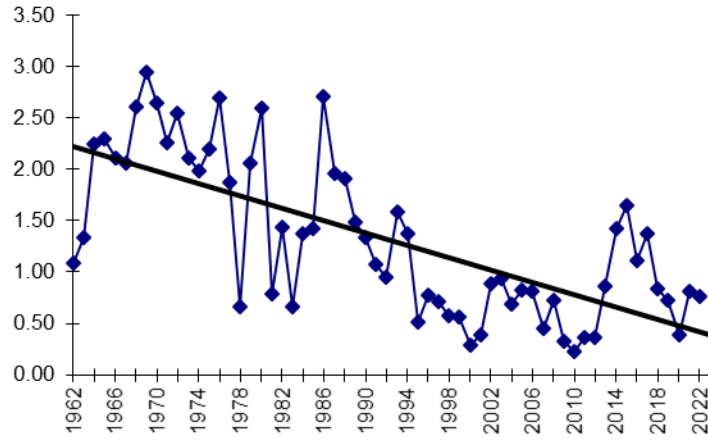


Figure 3. Mean number of pheasants counted on 30-mile August roadside survey routes, statewide, 1962-present compared to total statewide pheasant harvest.

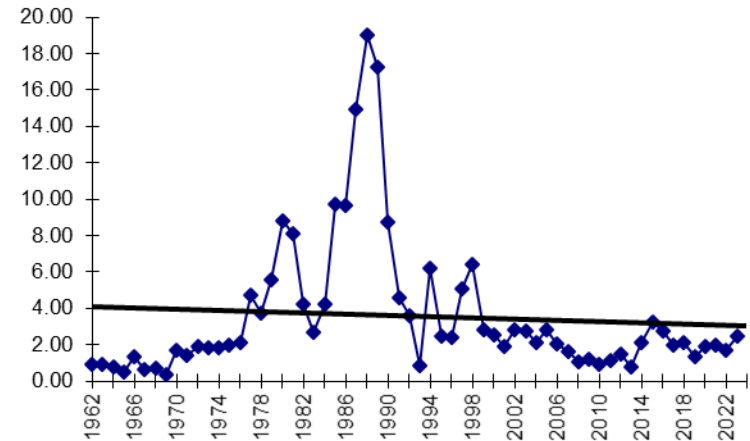
Statewide Upland Game Trends

Sightings/30-miles

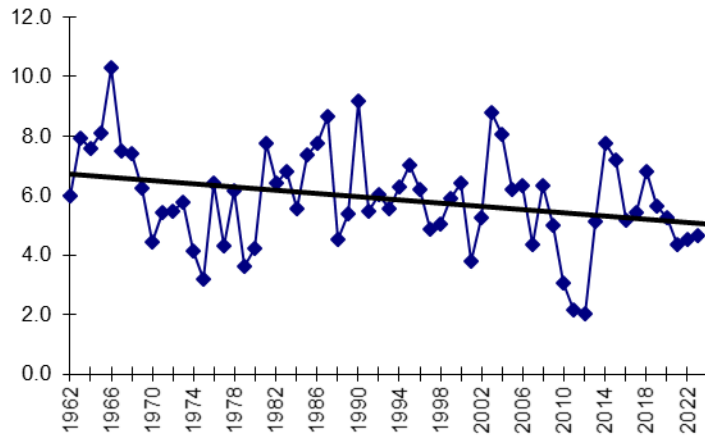
Bobwhite Quail



Gray Partridge



Eastern Cottontail



White-tailed Jackrabbit

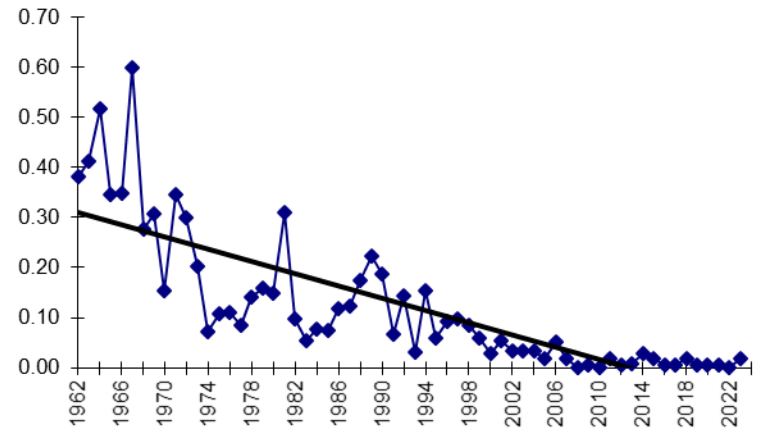


Figure 4. Mean number of quail, partridge, cottontails, and jackrabbits sighted per 30 mile route on the August roadside survey, statewide, 1962 to the present.

2023 August Roadside Survey

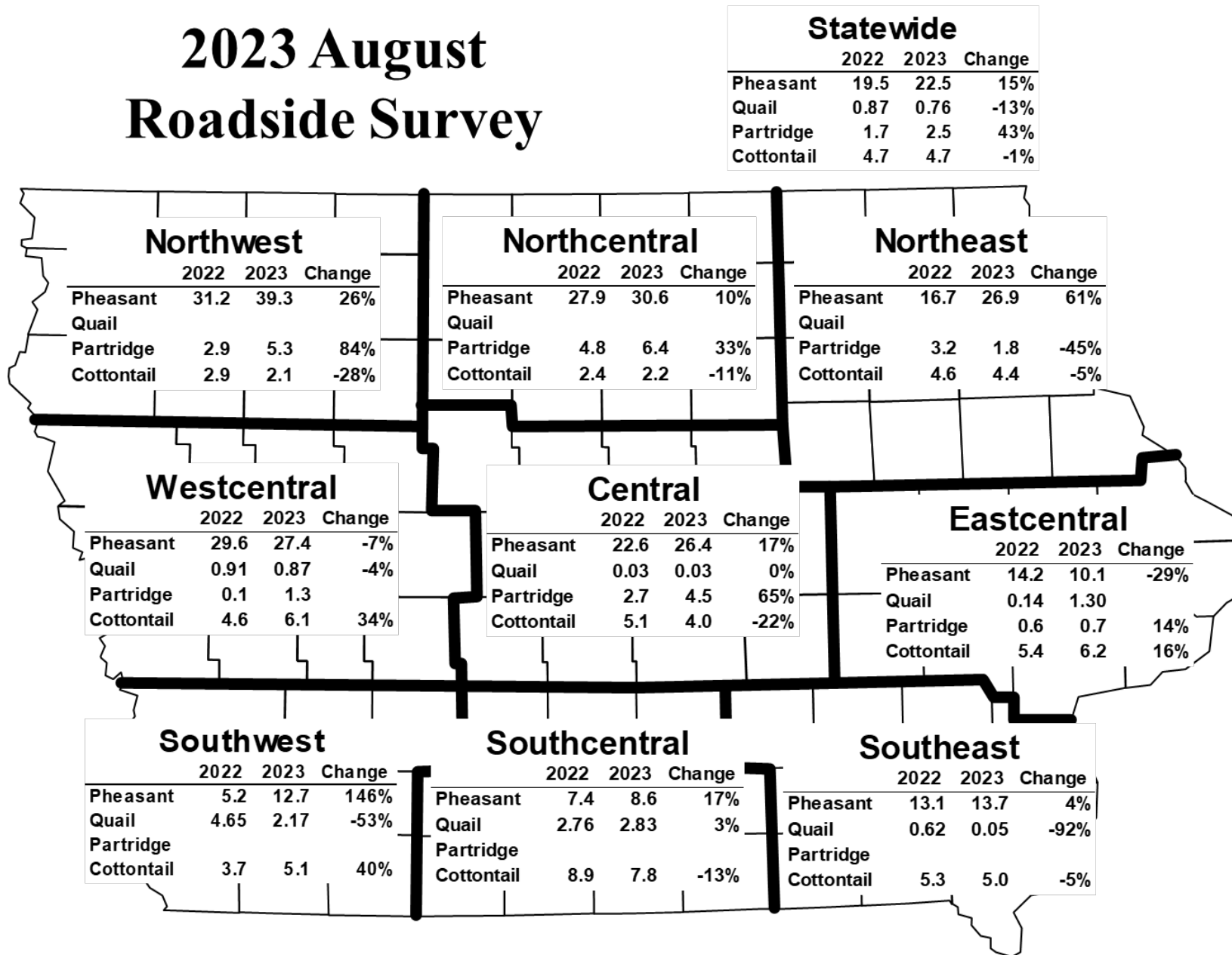
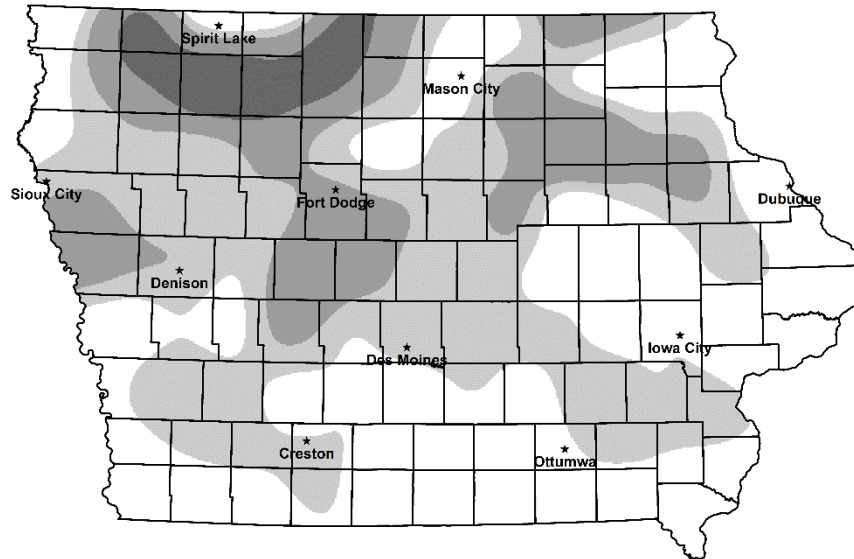


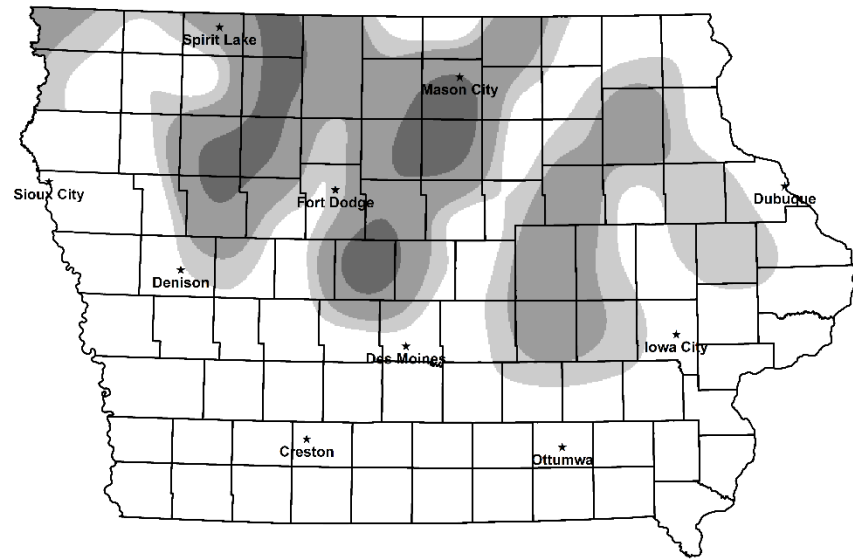
Figure 5. Numbers indicate the average number of animals counted on 30-mile routes in each region (e.g., the northwest region counted an average of 39.3 pheasants on 30-mile survey routes in 2023). Data from 211 of 220 comparable returned surveys.

2023 GAME DISTRIBUTION

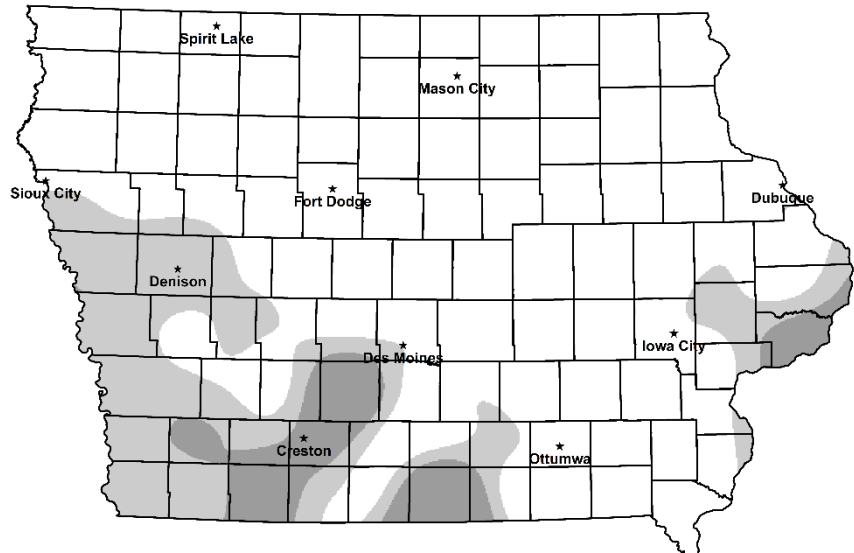
PHEASANT



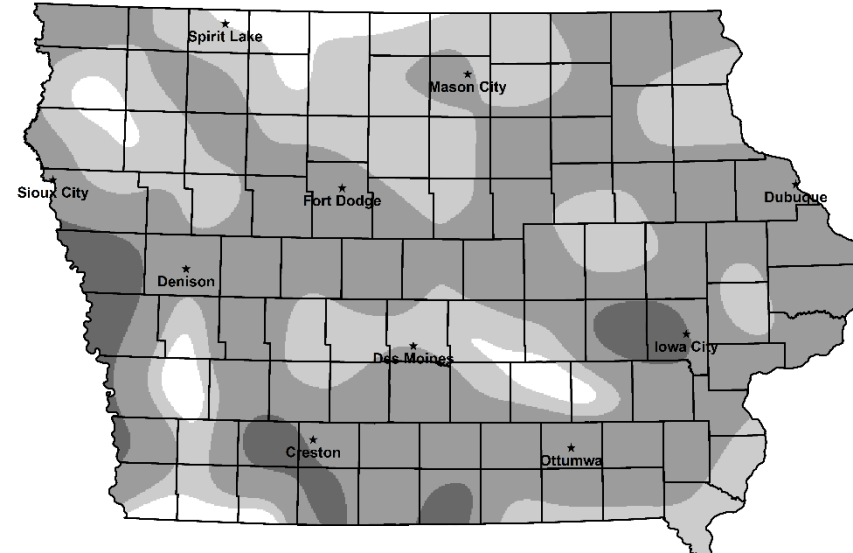
GRAY PARTRIDGE



QUAIL



COTTONTAIL



■ EXCELLENT ■ GOOD ■ FAIR □ POOR

Figure 6. Iowa small game distribution maps represent generalized game abundance. There can be areas of low game abundance in regions with "high" counts and vice versa.