2020
IOWA AUGUST
ROADSIDE SURVEY

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2020 IOWA UPLAND WILDLIFE POPULATIONS

This report is a summary of the 2020 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 218, 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 2019 and 2020 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 mild winter and a dry and cold spring in 2020. Iowa's weather model predicted pheasant numbers would increase. This prediction was confirmed by roadside counts which showed pheasant increased significantly (18%) compared to 2019. Dew conditions were very favorable in the eastern third of Iowa, and counts showed large increases in these regions. Much of the western two-thirds of Iowa was in drought, and counts were quite variable and somewhat suspect in these regions. Pheasant hunters (especially non-residents) reported very good success last year. The 2019-20 pheasant harvest the second highest seen in a decade (Figure 3) and harvest numbers were 28% above the 10-year average. Pheasant recruitment appeared more successful than quail this summer, and pheasant hunters should see good to excellent numbers this fall, while quail numbers will be similar to slightly better than last year. A derecho windstorm extensively damaged corn fields in the WC, C, and EC regions in August and this may cause significant delays in Iowa corn harvest this fall. Hunters could potentially see mostly <u>unharvested crop fields in these regions on Iowa's pheasant opener.</u>

2019-20 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 2019-20 weather summary.

Weather Variables	Survey Regions									
	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE
Winter Weather*										
Total Snowfall (inch)	21	27	21	18	18	20	10	17	14	**18.3**
*Departure***	*-5.7*	*-2.3*	*-8.2*	*-9.4*	*-7.4*	*-4.8*	*-11.8*	*-4.9*	*-8.5*	*-7.0*
Spring Weather										
Total Rainfall (inch)	4.9	6.1	6.4	4.4	6.3	6.5	6.7	7.1	6.8	**6.1**
Departure	*-1.1*	*-0.8*	*-0.7*	*-2.6*	*-1.0*	*-0.8*	*-0.7*	*-0.5*	*-0.7*	*-1.0*
Mean Temperature (F)	51	51	50	53	53	52	54	54	54	**52.4**
Departure	*-2.9*	*-2.8*	*-2.9*	*-3.3*	*-2.2*	*-3.2*	*-3.2*	*-2.8*	*-3.7*	*-3.0*

 * Winter weather period (1Dec.-31Mar.) and spring period (1April-31May).
 ** Departures calculated using thirty year NOAA average from 1961-1990.

The 2019–20 winter statewide snowfall was 18.3 inches, half a foot below the long term mean (Table 1). Snowfall was below normal in all regions (Table 1 and Figure 1). The winter was mostly uneventful with the exception of January. January saw snowfall about twice normal, about 11" while December, February, and March saw snowfall about half normal. Southern regions reported several ice events in January with about a week of subzero temperatures. These conditions may have impacted some quail overwinter survival. Overall, the winter was uneventful in most regions, and overwinter hen survival for pheasant was likely higher than average. Most regions should have had good reproductive potential coming into spring. The spring of 2020 started with a very dry April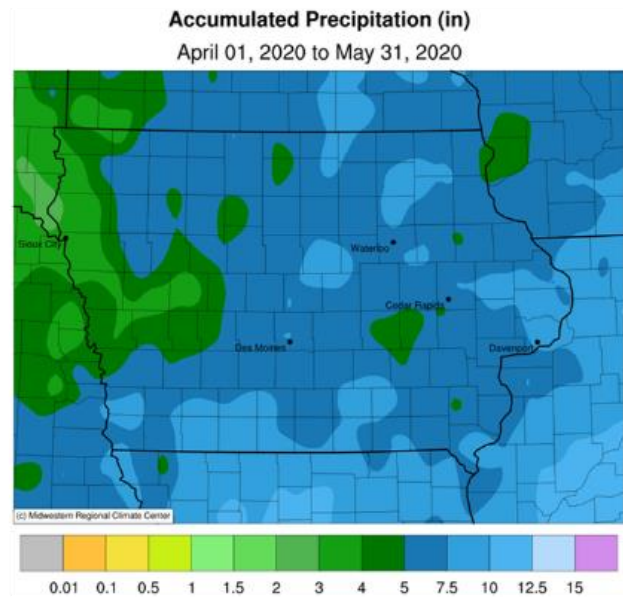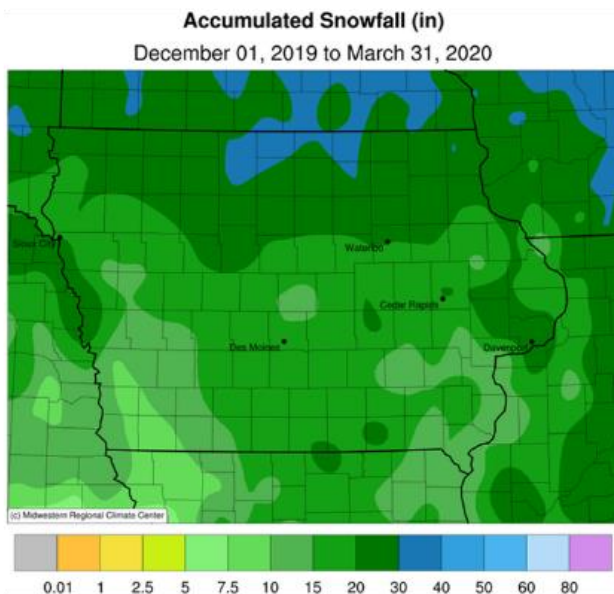, with statewide rainfall 1.5 inches below normal. Rains increased in May averaging about half an inch above normal, but totals for the nesting season were about an inch below normal. Every region reported below normal nesting season rainfall in 2020 (Table1). Temperatures for both months were cooler than normal. Overall, the spring was favorable for good reproduction, although a bit on the cool side (Table 1 and Figure 1).

Early roadside brood in central Iowa 2020.

In summary, the weather of 2019–20 was the best Iowa has seen, winter and spring combined, since about 2012. Winter snowfall was the lowest Iowa had seen since 2012, and spring rainfall was the lowest Iowa has seen in 20 years. Staff reported numerous early broods and expectations were favorable for this coming fall. The Bureau's weather model predicted an increase in the statewide pheasant population this year and roadside counts confirmed it.

Figure 1. Iowa 2019–20 snowfall and rainfall summary. Normal winter snowfall is 25 inches, while normal nesting season rainfall is 7 inches.

Winter 2019-20

Accumulated Snowfall (in)
December 01, 2019 to March 31, 2020

0.01 1 2.5 5 7.5 10 15 20 30 40 50 60 80

Nesting 2020

Accumulated Precipitation (in)
April 01, 2020 to May 31, 2020

0.01 0.1 0.5 1 1.5 2 3 4 5 7.5 10 12.5 15

8

Arrows denote snowfall and rainfall amounts critical for pheasant populations.
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 2018 Iowa lost 2,886 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, 2,886 mi^2 is a strip of habitat **10 miles wide,** that would stretch from Omaha to Davenport. 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 22.4 million acres enrolled in CRP, as of June 2019. The USDA's June report on CRP shows Iowa has 1,706,320 acres enrolled, with 327,930 acres expiring in September 2020. Opportunities to enroll additional land into CRP in Iowa seem very limited. The 2018 Farmbill changed rental payments so landowners do not receive fair market rent for their land, which has reduced interest in the program. USDA is expected to hold another general signup in the fall of 2020. The CRP is a federal USDA program, thus folks who value CRP for pheasant habitat should visit with their elected congressional representatives.

The DNR's walk-in hunting program, Iowa Habitat and Access Program (IHAP), is funded through the Farmbill. IHAP sites are typically CRP on private lands where the DNR has provided incentives to landowners to manage habitat for wildlife in exchange for public hunting access. Iowa DNR has over 20,000 acres in this program. For a list of IHAP sites or information about enrolling visit http://www.iowadnr.gov/ihap. In 2018, Iowa had 2.78 million acres of potential pheasant habitat (Table 2). This was the lowest recorded level of grassland habitat in Iowa since reliable record keeping began in 1901.

Table 2. Trends in Iowa habitat and total habitat loss from 1990 to 2018, 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
2018	940,000	39,000	1,800,061	2,779,061
Acres of Habitat Lost 1990 vs 2018				-1,847,000
Square Miles of Habitat Lost 1990 vs 2018**				-2,886

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 128 routes started with a heavy dew verses 147 routes in 2019, and only 82 routes finished with a heavy dew. The US Drought Monitor showed no drought in essentially the eastern third of the state this year, but the remainder of the state showed dry conditions with drought in much of western Iowa. The low soil moisture conditions in NW, NC, WC,

U.S. Drought Monitor
Iowa
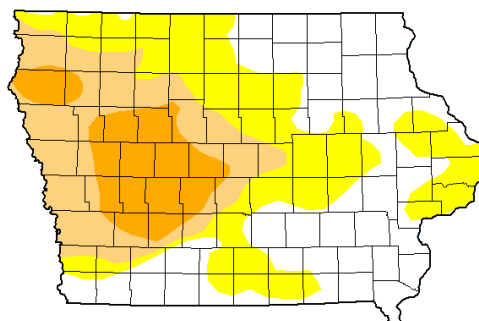
July 28, 2020
(Released Thursday, Jul. 30, 2020)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	37.16	62.84	32.58	12.82	0.00	0.00
Last Week 07-21-2020	45.94	54.06	29.59	7.62	0.00	0.00
3 Months Ago 04-28-2020	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 12-31-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 10-01-2019	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 07-30-2019	76.52	23.48	0.00	0.00	0.00	0.00

Intensity:
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

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C, SW, and SC regions likely impacted the accuracy of the counts in these regions, Staff reported very good dew conditions in NE, EC, and SE regions and counts reflect it. Counts in other drier regions were unimpressive even though staff reported good numbers of hens and broods prior to the survey.

RING-NECKED PHEASANT

Statewide: This year the statewide pheasant index of 20.2 birds/route is higher than the 2019 estimate of 17 birds/route (Table 3), and the change was statistically significant, meaning more routes showed increases (137) than decreases (68). This year's statewide pheasant population index is 32% above the 10-year trend, but remains below the long-term average (Table 4, Figure 3). Only pheasant counts in the NE and SE regions were statistically higher than 2019. All other regions reported numbers comparable to 2019 with counts up or down slightly, but none were statistically significant, meaning there was no consistent trend in the counts. Some routes increased, while others decreased in those regions.

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 (+22%) and chicks (+20%) counted on routes this year were significantly higher than 2019, suggesting good overwinter hen survival, nest success, or chick survival compared to 2019 (Table 3). Statewide data on chicks/brood (measure of chick survival) and age ratios (chicks per adult hen – measure of overall hen success), however, were statistically unchanged from last year (Table 3), suggesting, from a statewide perspective, that good winter hen survival and more total nests contributed to most of this year's increase.

Overall pheasant hunters in the Hawkeye state should expect significantly better pheasant numbers in 2020. Six of the 9 survey regions reported pheasant averages of 20+ per route (Table3/Figure5). Iowa has not had 6 regions report 20+ pheasant averages since 2007. Regionally, 44 of the 68 routes that showed decreased counts came from the NW, NC, WC, and C regions, the same regions with likely the poorest dew conditions during the survey. Based on staff reports, pheasant populations in all these regions appear higher than last year even though the survey says numbers are essentially unchanged. It is highly likely the survey is not representative of actual numbers in all or part of these regions because of poor dew conditions during the survey. Given this year's statewide index of 20 birds per route Iowa, pheasant hunters should harvest approximately 250,000 to 350,000 roosters this fall (Figure 3). Pheasant hunting this fall could be some of the best the state has seen in a decade.

A major "derecho" (110-140 mph winds) windstorm struck Iowa on August 10th and extensively damaged more than 37M acres of corn in WC, C and EC survey regions. Many corn fields were completely flattened. It is expected that most producers will attempt to harvest what corn is salvageable, however, this could make for a slow crop harvest – meaning in these regions there may be a lot of unharvested corn on the Iowa pheasant opener. Opening week hunting may be more difficult in the WC, C, and EC regions this fall depending upon the harvest status of these damaged fields. Hunters are reminded that no private cropland can be hunted without first obtaining permission from the landowner.

Northern Regions: Counts in the northern regions all trended up from last year (Table 3, Figure 5). Counts in all three regions were above their 10-year averages, and all averaged more than 22 birds per route (Table 4). Counts in the NE region increased significantly and are the highest the region has seen since 2005. Hunting in the NE regions should be some of the best the region has seen in many years. Numbers for roosters, hens, and chicks in all three regions were higher than in 2019 (Table 3). The NW region averaged 28 birds per route, and tied the SE region for the highest bird counts in 2020 (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, Cherokee, Dickinson, Emmet, and Osceola counties. Butler, Floyd, Humboldt, and Kossuth counties reported better numbers in the NC region, while the NE region reported good counts in Bremer, Delaware, Fayette, and Howard counties (Figure 6).

Central Regions: The WC region reported the highest counts in the central third of Iowa with 25.3 birds/route; however, the C region was a close second at 20 birds/route (Figure 5). Counts in the WC and EC regions are 52% and 35% above their respective 10-year averages, while counts in the C region remain close to the 10-year mean (Table 4). Counts in the EC region were the highest the region has seen since 2016. All 3

regions should offer good to excellent hunting this fall where good quality pheasant habitat exists. The WC region reported better counts in Calhoun, Sac, and Woodbury counties. The Central region reported good bird numbers in Boone, Hamilton, Poweshiek, Story and Webster counties, while the EC region reported good numbers in Iowa, Johnson, and Jones counties (Figure 6).

Southern Regions: Counts in the SW and SC regions remained low and relatively stagnant compared to 2019, however counts in the SE increased significantly (Table 3 & Figure 5). The count in the SE region was the highest seen in over 21 years (Table 4). It was 1998 the last time counts in the SE were higher than the number reported this year. Counts in this region are 73% above the 10 year mean and are 13% above the long term mean, the only region with counts above its 50 year average (Table 4). Data on reproductive parameters in the SE region for hens with broods, hens, chicks, and young per adult were all statistically higher in 2020, suggesting excellent overwinter survival and nest success and chick survival in the region. Some of the better counts in the southern regions came from Adair, Adams, Louisa, Keokuk, Warren, Washington, and Van Buren counties (Figure 6).

BOBWHITE QUAIL

Iowa's statewide bobwhite quail index was 0.74 birds/route (Table 3, Figure 4) and essentially unchanged from last year. This year's statewide quail index is just below the 10-year average of 0.9 quail/route (Table 4). This decline was not unexpected given the 2 weeks of ice cover and subzero temperatures most of southern Iowa experienced in January. Above normal winter mortality was expected with these weather conditions. Only the SW region reported an increase in quail numbers, however, it was not statistically a significantly change – meaning as many routes were up as were down. The SW region reported the best overall quail numbers in 2020, followed by the SC region (Figure 5). Staff across the southern regions continue to see good numbers of quail. Spring whistle counts on select wildlife areas showed a small increase in numbers, thus reproductive potential looked promising this spring, but it is also known that quail do not reproduce well when significant drought conditions persist through the summer. Hunters harvested over 20,000 bobwhite last fall, and a similar harvest is expected this fall. Hunters should focus quail hunting were there is a good mix of shrubs, ag fields, and weedy cover (Figure 6).

GRAY PARTRIDGE

The 2020 gray partridge count was 2.0 birds per 30 miles and was statistically higher than last year's 1.4 birds/route (Table 3 & Figure 4). Counts showed upward trends in all regions except the WC, however, none of the regional numbers were statistically significant (Table 3), meaning a few routes increased in each region and others decreased. There was no consistent trend among routes. This year's statewide estimate is right at the 10-year mean and 47% below the long term mean (Table 4). Gray partridge prefer the wide-open agricultural lands of the northern two-thirds of the state. The NE, NC and C regions reported the best densities in 2020 (Figure 5). Typically, partridge numbers increase following mild winters and when spring/summer precipitation is below normal. Better counts in 2020 came from Bremer, Buchanan, Cerro Gordo, Chickasaw, Emmet, Fayette, Grundy, Story, and Webster counties (Figure 6).

COTTONTAIL RABBIT

Staff reported an average of 5.3 rabbits per 30-mile route in 2020, which represents no change from the 2019 estimate of 5.7 per route (Table 3, Figure 4). Cottontails remain very abundant in Iowa. The cottontail index is right at the 10-year average and 11% below the long-term average respectively (Table 4). Regionally, rabbit numbers showed decreases in the NC, C, SC, and WC regions, increases in the SE, SW, and EC regions, and no change in the NW and NE regions. Only the decline in the NC region was statistically significant (Table 3 and Figure 5). Cottontails increase following mild winters with good moisture during spring and summer, thus statewide 2020 was a good winter, but a dry spring is not as favorable for cottontails. Cottontail hunters can expect excellent hunting across most of the state this fall. Staff reported better cottontail densities in the EC, SW, SC, and SE regions (Figure 5 and 6).

Table 3. Mean numbers of wildlife observed per 30-mile route on the August roadside survey in 2019 and 2020. Only routes run under heavy to moderate dew conditions are used for statistical comparisons.

REGION	n	RINGNECKED PHEASANTS TOTAL PHEASANT	COCKS	HENS W/O BROODS	HENS W/ BROODS	HENS	CHICKS	CHICKS/ BROODS	AGE RATIO	BOBWHITE QUAIL TOTAL BIRDS	COVEYS	GRAY PARTRIDGE TOTAL BIRDS	COVEYS	RABBITS EASTERN COTTONTAIL	WHITETAILED JACKRABBIT
Northwest	24														
2020		28.50	3.29	1.58	3.58	6.33	20.04	4.21	3.24			1.58	0.17	1.58	
2019		24.50	3.73	1.27	2.77	5.27	16.73	4.18	3.08			1.23	0.14	1.68	
% CHG		16%	-12%	24%	29%	**20%**	20%	1%	5%			28%	21%	-6%	
Northcentral	27														
2020		22.89	2.81	1.15	2.78	4.70	16.15	4.73	3.75			3.33	0.30	1.89	
2019		21.42	2.35	0.85	2.19	4.08	16.04	5.26	3.82			2.88	0.23	3.27	
% CHG		7%	20%	35%	27%	15%	1%	-10%	-2%			16%	30%	**-42%**	
Northeast	19														
2020		24.53	2.05	1.74	2.74	5.74	18.00	4.90	3.61	0.95		5.32	0.53	5.47	
2019		11.39	1.72	0.28	1.67	2.11	7.72	4.12	3.88	0.00		2.67	0.22	6.00	
% CHG		**115%**	19%	**521%**	**64%**	**172%**	**133%**	**19%**	-7%			99%	141%	-9%	
West Central	22														
2020		25.32	2.86	1.64	2.41	5.86	18.41	4.22	2.84	0.18		0.41	0.05	3.77	
2019		27.56	3.56	1.17	3.06	5.67	19.78	4.4	3.55	0.61		1.00	0.17	5.39	
% CHG		-8%	-20%	40%	-21%	3%	-7%	-4%	-20%	-70%		-59%	-71%	-30%	
Central	29														
2020		20.38	3.24	1.52	2.34	5.17	13.28	3.71	2.83	0.00		4.14	0.41	4.76	0.03
2019		28.07	3.50	1.64	3.21	6.25	19.71	4.25	3.10	0.11		3.14	0.32	7.11	0.00
% CHG		-27%	-7%	-7%	-27%	-17%	**-33%**	-13%	-9%			32%	28%	-33%	
Eastcentral	21														
2020		14.86	1.67	0.48	1.57	2.52	11.14	5.08	4.15	0.14	0.05	2.00	0.19	7.81	
2019		9.57	1.62	0.71	0.86	2.00	6.38	4.99	3.25	1.38	0.05	0.00	0.00	4.86	
% CHG		55%	3%	**-32%**	83%	26%	**75%**	2%	28%					61%	
Southwest	18														
2020		7.33	1.89	0.44	0.72	1.44	4.28	4.61	2.92	3.28	0.17			6.50	
2019		6.36	1.57	0.36	0.64	1.43	3.79	4.06	3.61	2.21	0.07			5.14	
% CHG		15%	20%	22%	13%	1%	13%	14%	-19%	48%	143%			26%	
Southcentral	23														
2020		6.70	0.83	0.13	0.83	1.35	4.91	4.21	3.64	1.87	0.04			8.30	
2019		7.55	1.77	0.23	0.86	1.27	4.68	5.09	4.02	2.77	0.14			10.45	
% CHG		-11%	**-53%**	-43%	-3%	6%	5%	-17%	-9%	-32%	-71%			-21%	
Southeast	22														
2020		28.59	4.00	0.95	3.64	5.18	20.00	5.12	3.62	1.05	0.05			9.09	
2019		10.86	3.10	0.81	1.05	2.43	5.90	3.59	2.33	1.05	0.05			7.29	
% CHG		**163%**	29%	17%	**247%**	**113%**	**239%**	43%	**55%**	0%	0%			25%	
Statewide	205														
2020		20.21	2.57	1.09	2.34	4.35	14.21	4.48	3.37	0.74	0.03	1.95	0.19	5.30	
2019		17.19	2.61	0.86	1.90	3.57	11.82	4.48	3.36	0.83	0.03	1.35	0.13	5.70	
% CHG		**18%**	-2%	27%	**23%**	**22%**	**20%**	0%	0%	-11%	0%	**44%**	46%	-7%	

BOLD numbers indicate a mathematically significant change from the previous year (P < 0.10, Wilcoxen 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 QUAIL STATEWIDE	GRAY PARTRIDGE STATEWIDE	EASTERN COTTONTAIL STATEWIDE	WHITETAILED JACKRABBIT STATEWIDE
	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE				
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	65.8	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	75.4	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	32.9	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	24.5	25.3	20.4	14.9	7.3	6.7	28.6	20.2	0.74	1.95	5.3	0.01

Statistics:

	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE	QUAIL	PARTRIDGE	COTTONTAIL	JACKRABBIT
10 Year Avg.	25.0	16.9	8.4	16.7	22.5	11.0	7.0	6.9	16.5	15.3	0.9	1.9	5.3	0.0
Long-term Avg.	39.3	41.6	38.7	43.6	42.1	39.5	48.0	30.5	25.2	38.4	1.35	3.65	6.0	0.13

Percent Change from:

10 Year Avg.	14%	36%	193%	52%	-9%	35%	5%	-2%	73%	32%	-17%	3%	1%	-58%
Long-term Avg.	-28%	-45%	-37%	-42%	-52%	-62%	-85%	-78%	13%	-47%	-45%	-47%	-11%	-96%

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/Figure5 are calculated between only directly comparable routes.
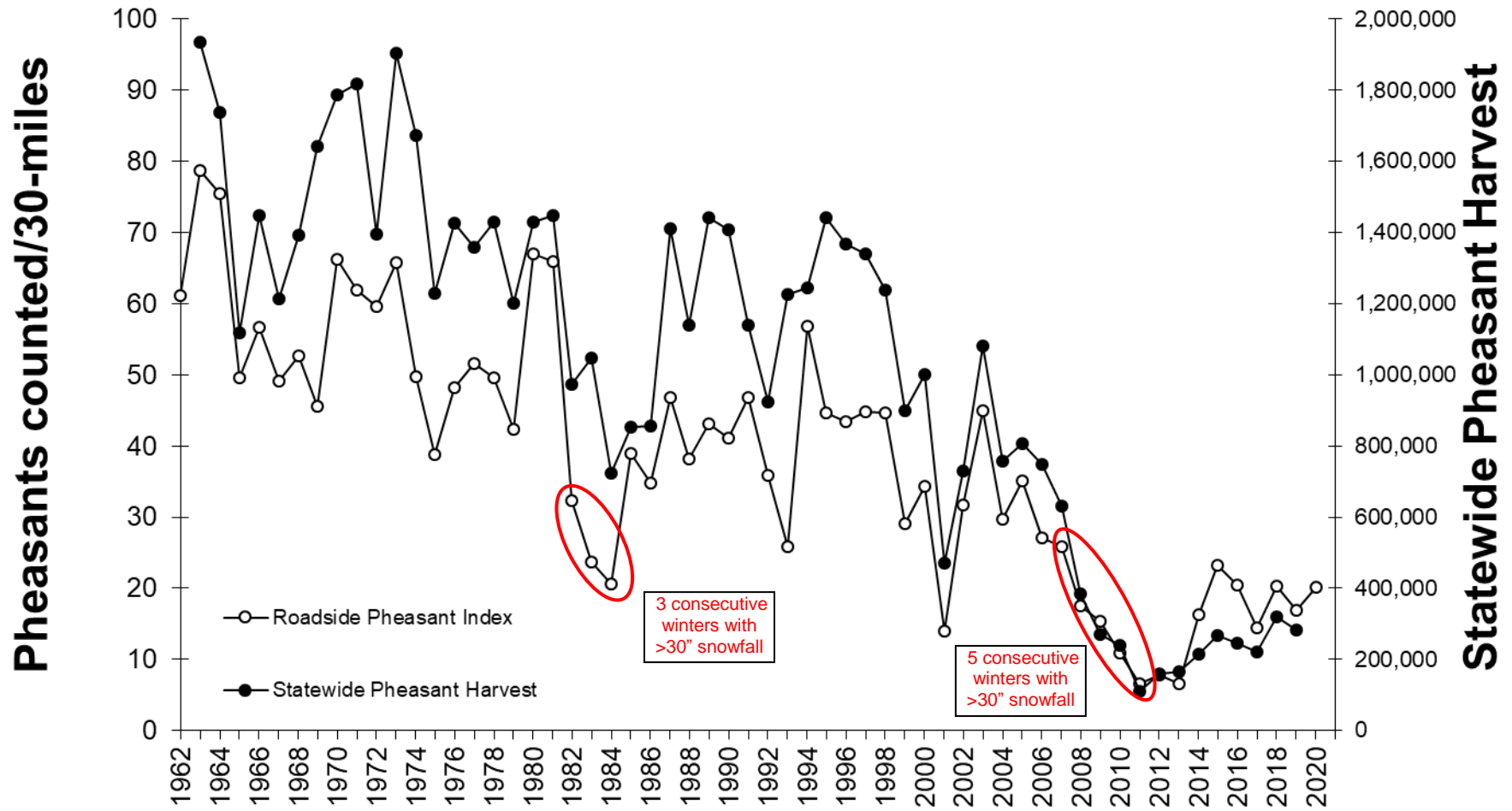
Figure 3. Mean number of pheasants counted on 30-mile August roadside survey routes, statewide, 1962-present compared to total statewide pheasant harvest.
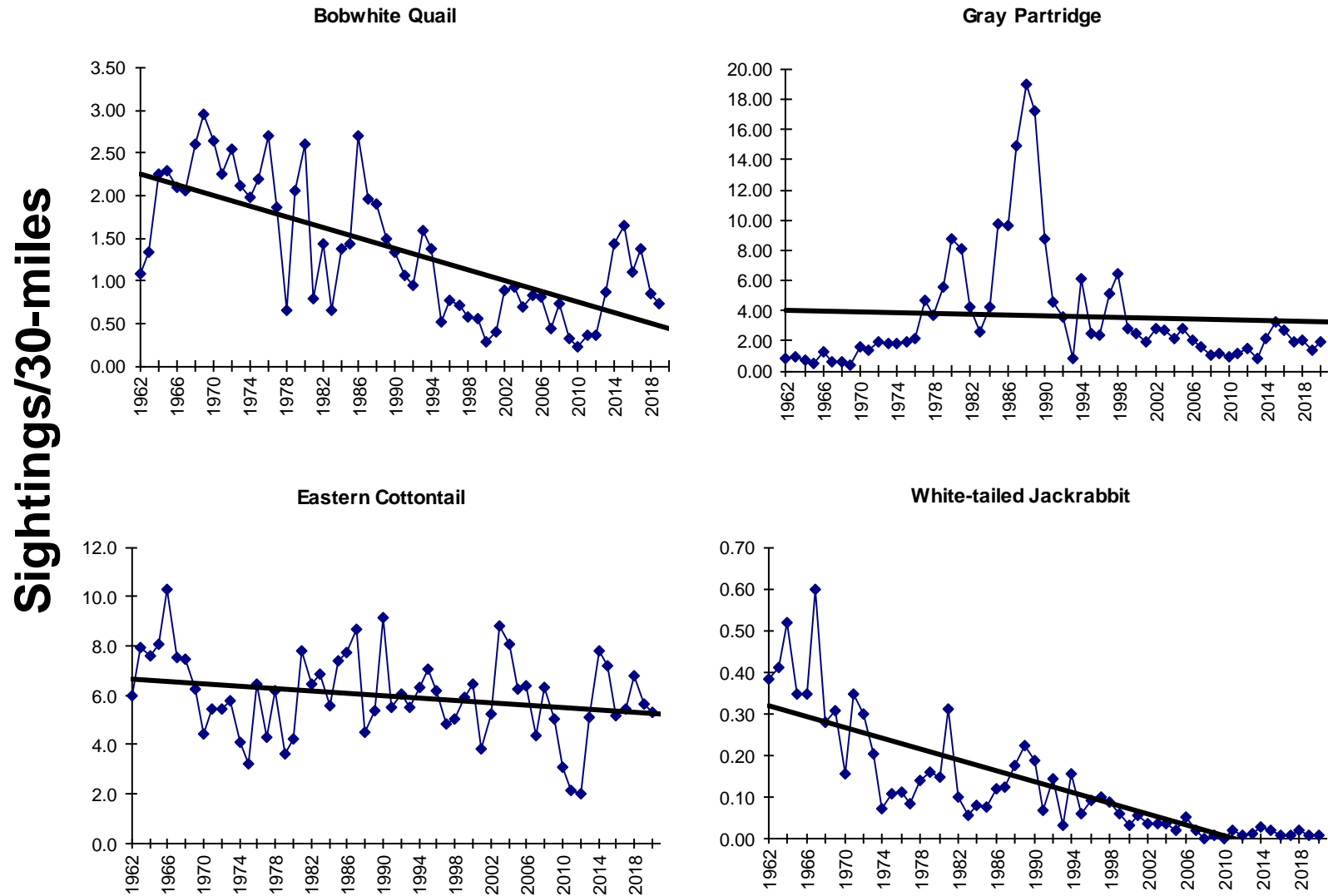
Statewide Upland Game Trends

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.

2020 August Roadside Survey

Statewide

	2019	2020	Change
Pheasant	17.2	20.2	18%
Quail	0.83	0.74	-11%
Partridge	1.4	2.0	44%
Cottontail	5.7	5.3	-7%

Northwest

	2019	2020	Change
Pheasant	24.5	28.5	16%
Quail			
Partridge	1.2	1.6	28%
Cottontail	1.7	1.6	-6%

Northcentral

	2019	2020	Change
Pheasant	21.4	22.9	7%
Quail			
Partridge	2.9	3.3	16%
Cottontail	3.3	1.9	-42%

Northeast

	2019	2020	Change
Pheasant	11.4	24.5	115%
Quail			
Partridge	2.7	5.3	99%
Cottontail	6.0	5.5	-9%

Westcentral

	2019	2020	Change
Pheasant	27.6	25.3	-8%
Quail	0.61	0.18	-70%
Partridge	1.0	0.4	-59%
Cottontail	5.4	3.8	-30%

Central

	2019	2020	Change
Pheasant	28.1	20.4	-27%
Quail	0.00	0.11	
Partridge	3.1	4.1	32%
Cottontail	7.1	4.8	-33%

Eastcentral

	2019	2020	Change
Pheasant	9.6	14.9	55%
Quail	1.38	0.14	-90%
Partridge	0.1	2.0	
Cottontail	4.9	7.8	61%

Southwest

	2019	2020	Change
Pheasant	6.4	7.3	15%
Quail	2.21	3.28	48%
Partridge			
Cottontail	5.1	6.5	26%

Southcentral

	2019	2020	Change
Pheasant	7.6	6.7	-11%
Quail	2.77	1.87	-32%
Partridge			
Cottontail	10.5	8.3	-21%

Southeast

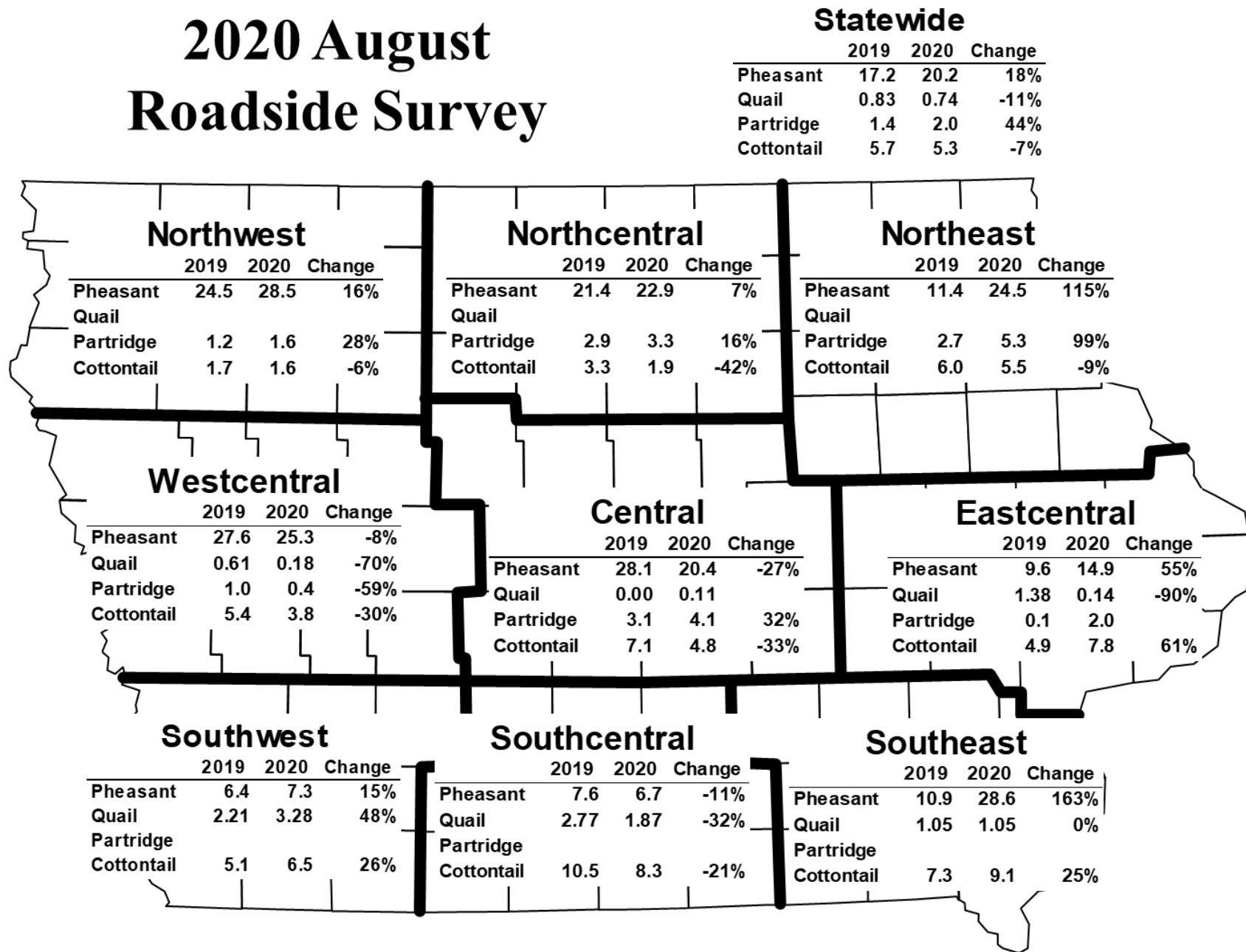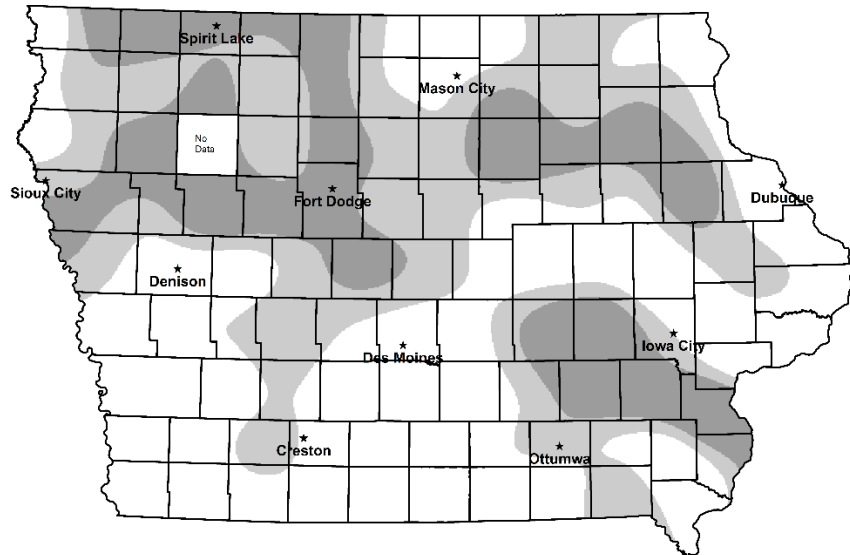|	2019	2020	Change
Pheasant	10.9	28.6	163%
Quail	1.05	1.05	0%
Partridge			
Cottontail	7.3	9.1	25%

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 28.5 pheasants on 30-mile survey routes in 2020). Data from 205 of 215 usable returned routes.
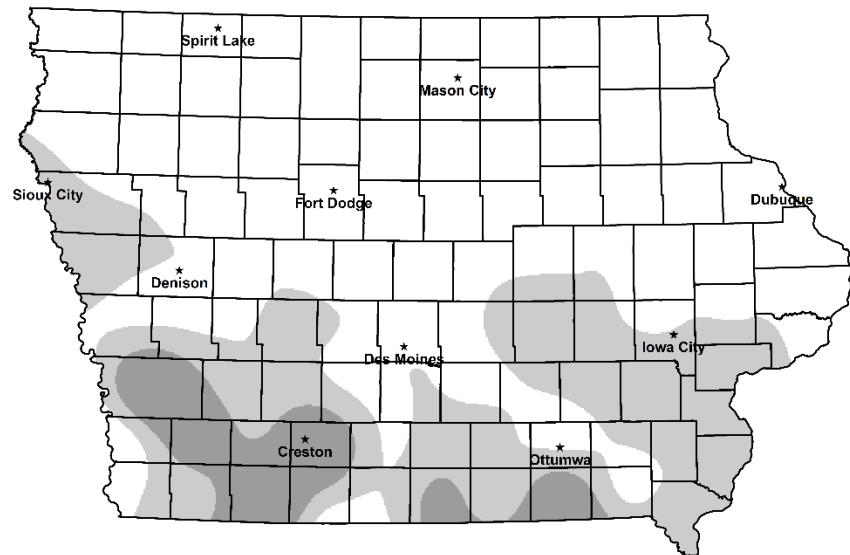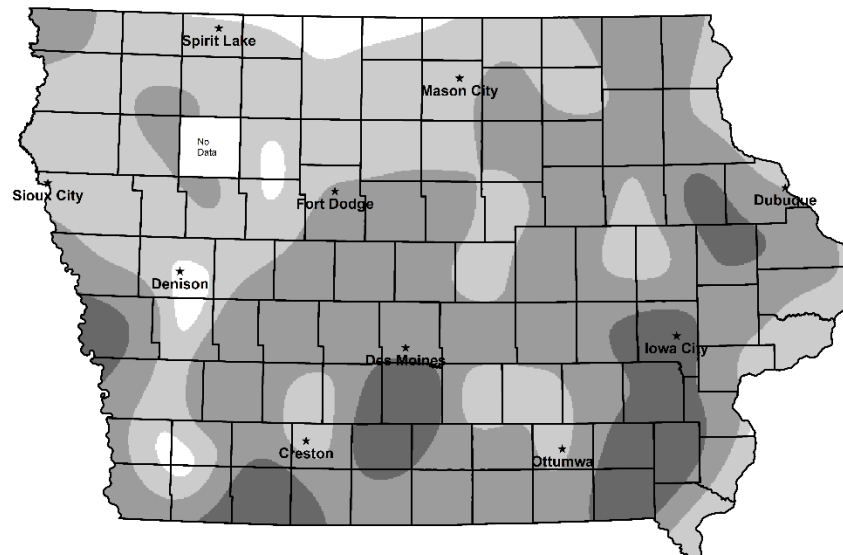
2020 GAME DISTRIBUTION

PHEASANT

GRAY PARTRIDGE
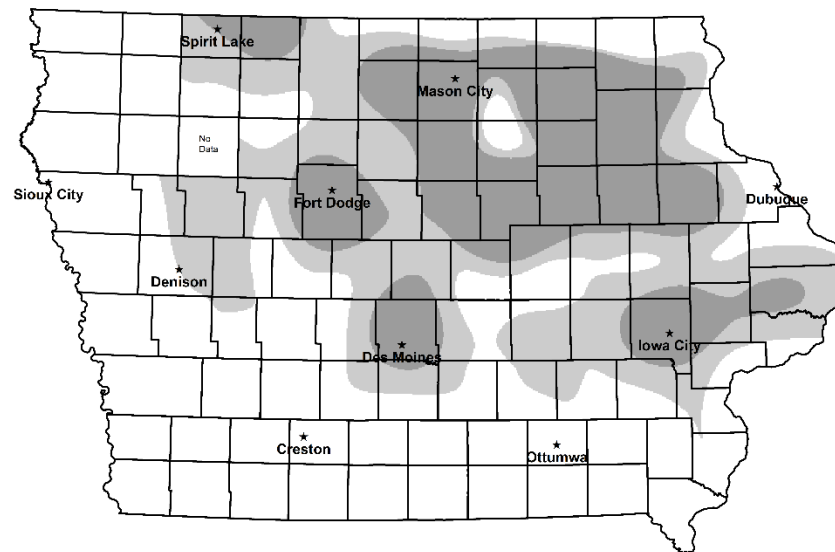
QUAIL

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.