2015
IOWA AUGUST
ROADSIDE SURVEY

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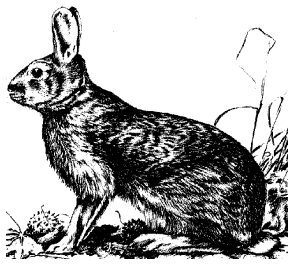

Iowa Department of Natural Resources
Chuck Gipp, Director
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2015 IOWA UPLAND WILDLIFE POPULATIONS

This report is a summary of the 2015 Iowa August roadside survey. The survey is conducted each year by Iowa DNR Enforcement and Wildlife Bureau personnel throughout the state of Iowa 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 215, 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 2014 and 2015 are based on routes that are directly comparable between years (routes with no alterations and routes started with good dew), however 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.**

2014-15 IOWA WEATHER SUMMARY

Iowa pheasant numbers increase with mild winters (less than 19 inches snowfall) and warm, dry springs (less than 6 inches rainfall) and decline with snowy winters (30+ inches snowfall) and cold, wet springs (8+ inches rainfall). Iowa experienced 5 consecutive severe winters with 30+ inches of snow from 2007 to 2011. In the 50 years of standardized roadside counts, Iowa has never seen five consecutive winters of this severity (Figure 3).

The winter of 2015 was generally mild with below normal snowfall reported in every survey region (Table 1). Overwinter survival of all upland game species was above normal. Landowners and staff reported an abundant of roosters crowing and bobwhite whistling this spring indicative of good overwinter survival. The good overwinter survival of hens primed the state for a good reproductive effort.

Table 1. Iowa 2014-15 weather summary.

	Survey Regions									
Weather Variables	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE
Winter Weather*										
Total Snowfall (inch)	21	25	27	17	23	26	14	17	21	**21.2**
*Departure***	*-5.9*	*-3.7*	*-2.0*	*-9.8*	*-2.7*	*1.2*	*-7.1*	*-4.7*	*-2.2*	*-4.1*
Spring Weather										
Total Rainfall (inch)	7.1	9.1	8.2	9.9	8.2	8.3	9.9	8.5	7.6	**8.6**
Departure	*1.1*	*2.3*	*1.0*	*3.0*	*0.9*	*1.0*	*2.4*	*0.9*	*0.0*	*1.4*
Mean Temperature (F)	54	54	54	55	55	56	56	57	58	**55.4**
Departure	*0.7*	*0.1*	*1.0*	*-1.0*	*0.5*	*0.6*	*-1.4*	*-0.2*	*1.0*	*0.1*

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

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

The spring of 2015 started very well with March snow free and normal April rainfall. May saw slightly above normal rainfall which pushed the April/May total slightly over the 8 inch threshold for a good nesting season, however temperatures were normal (Table 1). The wetter pattern that began in May continued right into August with all 4 months reporting above normal rainfall (Fig 1). Parts of the EC, SC and SE regions of Iowa in particular saw heavy rainfall, with areas in the SC region reporting double digit totals for June and July (Figure 1). This wet pattern likely reduced nest success in the SC region (Figure 2). The hatch date distribution from this year's survey suggests several renesting efforts, with renesting hatches in late June, early July, and mid-July,

thus it appears the persistent rainfall did impact nesting (Figure 2). The high survival of hens this past winter helped offset the wet nesting season. Nesting conditions tended to be much more favorable across the northern third of Iowa.

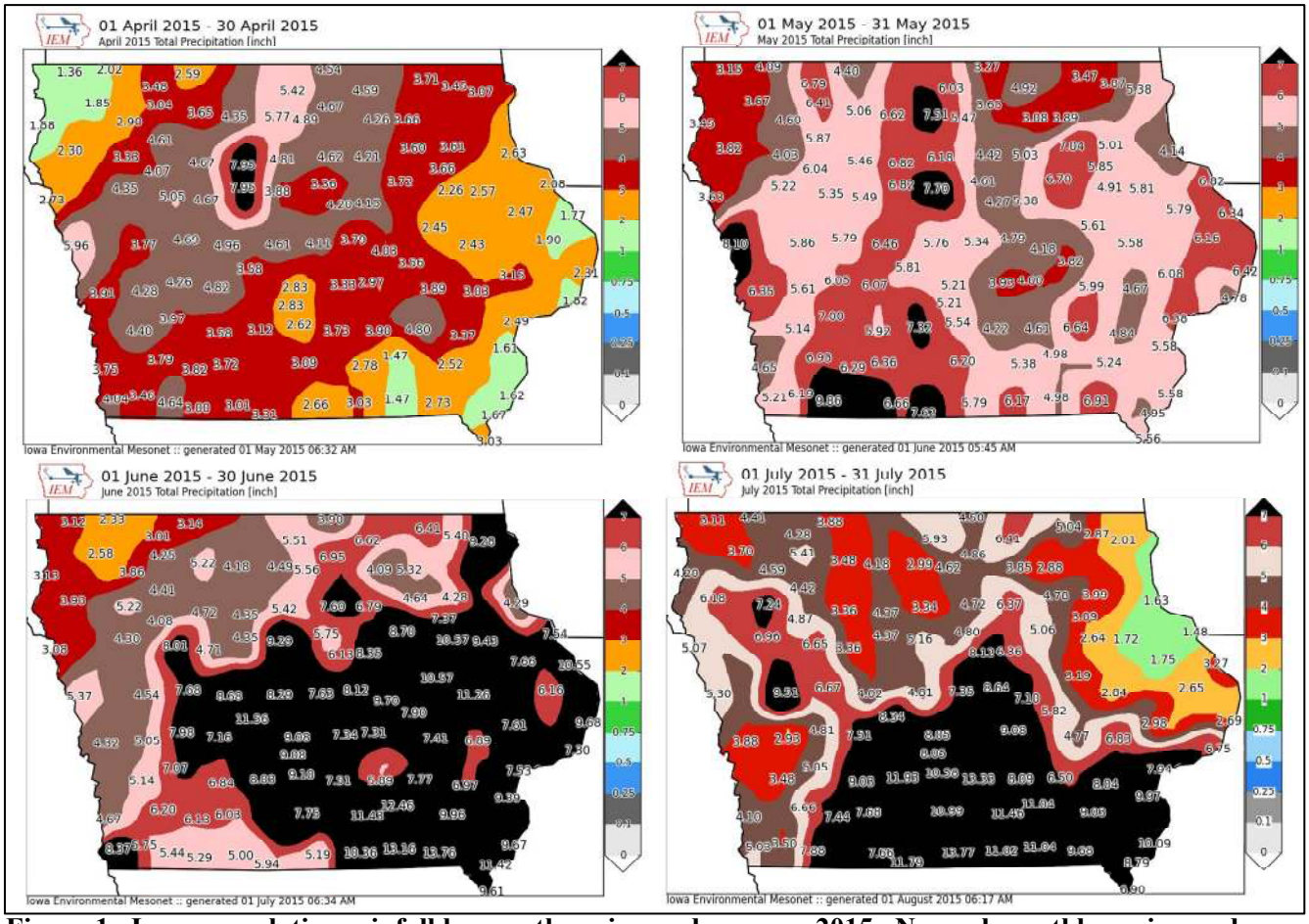


Figure 1. Iowa cumulative rainfall by month spring and summer 2015. Normal monthly spring and summer rainfall averages 3-4 inches per month.

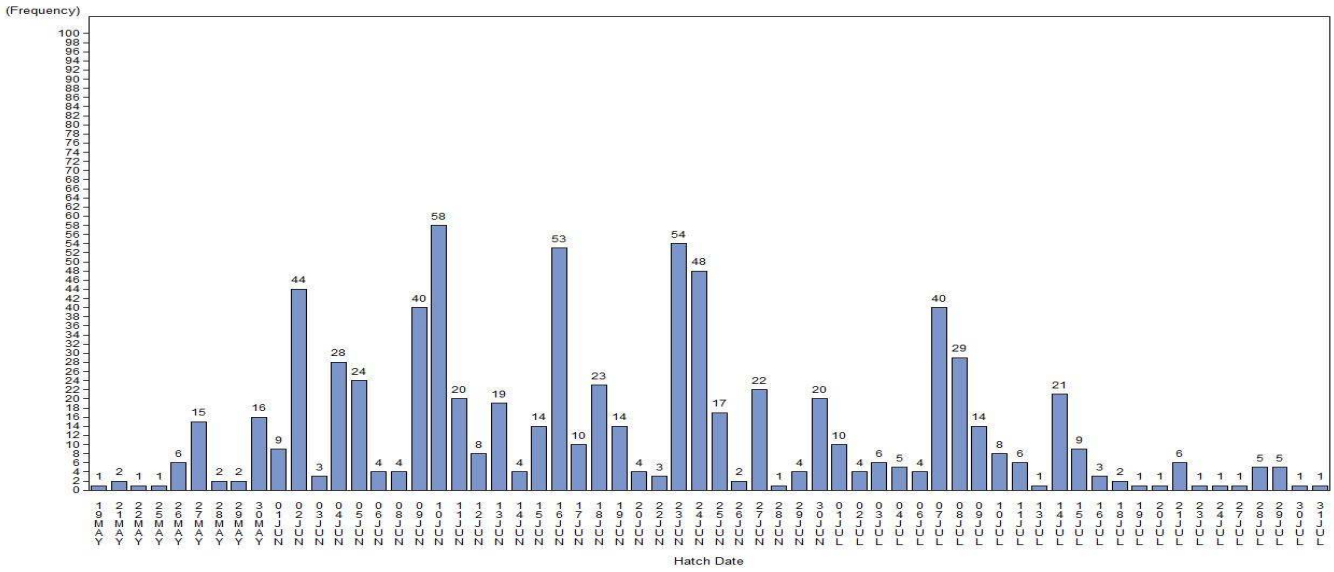


Figure 2. Statewide 2015 roadside survey brood hatch distribution.

UPLAND HABITAT TRENDS IN IOWA

Changes in habitat are more gradual and the influence of habitat changes on upland populations are only evident after looking at several years of surveys. Information from USDA shows that between 1990 and 2013 Iowa has lost 2,891 mi^2 of potential pheasant habitat (Table 2). This habitat was a mix of small grains, hay land, and Conservation Reserve Program (CRP) acres. To put this loss in perspective, 2,891 mi^2 is a strip of habitat **9+ miles wide** that would stretch from Omaha to Davenport. CRP has become critical for Iowa pheasant populations with the lost of small grains and hay lands to corn and soybean production.

Table 2. Trends in Iowa habitat and total habitat loss from 1990 to 2013, 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	1,638,546	2,918,546
2013	1,170,000	81,000	1,524,985	2,775,985
			Acres of Habitat Lost 1990 vs 2013	-1,850,076
			Square Miles of Habitat Lost 1990 vs 2013	-2,891

Congress finally passed a Farm Bill in early 2014 which was good news for conservation programs. Unfortunately, because of budget cuts, the CRP program will be reduced from a 32M acre program to a 24M acre program by 2017. USDA's June report on CRP shows Iowa has 1,486,925 acres enrolled, with 114,085 acres expiring this October. USDA announced it will hold a general CRP signup in December of 2015, which is good news for Iowa landowners with expiring CRP. Iowa was successful requesting more acres for 2 special continuous CRP practices, Iowa Pheasant Recovery and Gaining Ground, SAFE (CP38) practices. Between the 2 practices there is over 75,000 acres currently available www.iowadnr.gov/habitat first come first serve to interested Iowa landowners. The Iowa DNR was also awarded another $3M grant from USDA to expand the states walk in hunting program, Iowa Habitat and Access Program (IHAP). IHAP sites are typically CRP on private lands where the DNR has provided incentives to manage habitat for landowners in exchange for hunting access. For a list of IHAP sites or information on enrolling visit http://www.iowadnr.gov/ihap

SURVEY WEATHER CONDITIONS

The August Roadside Survey yields the most consistent results when surveys are completed on mornings with heavy dew, no wind, and sunny skies. Research at Iowa State University in the 1950s showed the number of pheasants counted on mornings with medium dew averaged 43% less than when the route was run on a morning with heavy dew. Heavy dew conditions require good soil moisture in late July and early August. With abundant rainfall in July and August this year, mornings with heavy dew were common during the survey period. Staff reports about 90% of routes were completed with heavy dew and sunny skies.

RING-NECKED PHEASANT

Statewide: This year the statewide index is 24.0 birds/route, a 37% increase from the 2014 estimate (Figure 5). This year's statewide count is the highest seen in over 8 years dating back to 2007 (Table 4). The pheasant population index has surged over +260% since the all-time low set in 2013 of 6.5 birds/route. All northern regions and the C and SE regions reported significant increases in pheasant counts, with other regions reporting stable to slightly increasing trends that were not significant (Table 3). This year's index is 52% above the 10 year average and -40% below the long term average (Table 4, Figure 3). 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 (+37%) and roosters (+49%) counted on routes this year were significantly higher than last year, suggesting excellent overwinter survival (Table 3). Statewide data on chicks/brood (measure of nest success) and age ratios (chicks per adult hen – measure of overall hen success) were similar to 2014. Although both the spring and summer were wetter (Figure 1) than optimal for nesting, as

noted by hatch distribution (Figure 2), the high winter survival of hens and strong renesting effort led to an increase in chick numbers (Table 3).

Based on this year's statewide index of 24 birds/route, Iowa pheasant hunters should harvest approximately 300,000-500,000 roosters this fall (Figure 3). Iowa currently has 2.77 M acres of potential pheasant habitat (Table 2). This level of habitat should support an 800,000 rooster harvest, ~80% of this harvest coming from CRP lands. Iowa finally has sufficient hen numbers in most regions to make a recovery from the catastrophic years of 2007 thru 2011, but needs 1 more good winter and spring to fully recover numbers to what habitat levels can support. It will be very hard to recover Iowa pheasant numbers if significant CRP habitat losses continue in Iowa (Table 2).

Northern Regions: Counts in the NW were the highest in the state at almost 44 birds/route, while the NE has the lowest densities in the state at 7.5 birds/rte (Table 3, Figure 5). Looking at data good overwinter survival of hens (hens) and thus more nests (chicks) led to increased bird numbers in all 3 northern regions (Table 3). While numbers in the NE remain low, this year's index is the highest the region has seen since 2008 (Table 4). Parts of NW and NC Iowa should offer excellent pheasant hunting, particularly around public and private lands with good winter habitat. Better counts in NW came from Clay, Dickinson, Emmet, Osceola, Palo Alto and Sioux counties, while Franklin, Hancock, Kossuth and Winnebago reported better numbers in the NC region (Figure 6).

Central Regions: The Central region had the second highest counts of any region in 2015 (Figure 5). High overwinter hen survival and increased adult hen numbers led to the increasing trend in the central region. Brood size and age ratio data in Central and EC regions suggest lower nest success and chick recruitment because of persistent rainfall, but this was offset with higher hen numbers (Table 3). The pheasant index in WC, and EC regions was the highest since 2007, while the Central region posted the highest index since 2005 (Table 4). The WC region reported better counts in Calhoun, Carroll, Greene, Guthrie and Sac. The Central region reported good to excellent bird numbers in Boone, Hamilton, Poweshiek, Story and Webster, while the EC region had fair counts in Benton, Cedar, Iowa and Johnson counties (Figure 6).

Southern Regions: Overall the trends in the southern regions were stable or upward, but only the SE region showed a statistically significant increase in bird numbers (Table 3). The SE region pheasant index is the highest the region has seen in 12 years dating back to 2003 (Table 4). Although counts in the SW and SC regions did not show as great an improvement, the counts in both regions are near 8 year highs. Some of the better counts in SW came from Adair, Adams and Montgomery counties, while SC reported fair numbers in Appanoose, Clarke, Lucas and Marion. The SW region reported good bird numbers in Henry, Keokuk, Louisa, Mahaska, and Washington counties (Figure 6).

BOBWHITE QUAIL

The last time Iowa's statewide bobwhite quail index was above this year's value of 1.41 birds/route was 1994 or 21years ago (Table 4, Figure 4). The index was 52% above last year's index of 0.86 birds/route (Table 3, Figure 5). Landowners and staff reported numerous calling males this spring, indicative of very good winter survival. This year's index is above both the 10 year (127%) and long term (6%) averages (Table 4, Figure 4). Iowa has 10,000+ acres of CP33 remaining, a CRP practice that provides needed quail habitat around crop fields in southern Iowa www.iowadnr.gov/habitat. The better quail counts in 2015 came from Adams, Fremont, Jefferson, Page, Union, Wapello, Washington, Wayne and Van Buren counties (Figure 6).

GRAY PARTRIDGE

The 2015 gray partridge count was 3.3 birds per 30 miles, an increase of 43% compared to the 2014 count (Table 3, Figure 4). This year's statewide estimate is 110% above the 10-year mean and -14% below the long-mean (Table 4). This is the highest statewide gray partridge index since 1998. Gray partridge prefer the wide open agricultural lands of the northern two-thirds of the state. The NC region reported the best densities in

2015, although improved numbers were also reported in the NW, NE, and C regions (Figure 5). Typically partridge recruitment is highest in Iowa when spring/summer precipitation is below normal. Better counts in 2015 came from Buchanan, Butler, Franklin, Grundy, Hancock, Hardin, Kossuth, Lyon, Mitchell, Webster and Wright counties.

COTTONTAIL RABBIT

Staff reported an average of 7.1 rabbits per route in 2015, statistically unchanged (-9%) from 2014 (Table 3, Figure 4). Although down slightly from last year, the index remains 45% above the 10-year mean and 19% above the long-term averages (Table 4). Cottontail populations are doing very well in Iowa. Regionally, rabbits showed increased numbers across the northern third of Iowa with stable to slightly decreasing numbers in the southern two-thirds of the state (Figure 5). Cottontails tend to reproduce well in years with good moisture during spring and summer, but persistent moisture in southern two-thirds may have lowered kit survival in 2015. Cottontail hunters can expect very good hunting across much of SC and SE regions with good numbers in EC counties as well (Figure 5 and 6).

Table 3. Mean numbers of wildlife observed per 30-mile route on the August roadside survey in 2014 and 2015. Only routes run under heavy to moderate dew conditions 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	CHICKS/ BROODS	AGE RATIO	TOTAL BIRDS	COVEYS	TOTAL BIRDS	COVEYS	EASTERN COTTONTAIL	WHITETAILED JACKRABBIT
Northwest	24														
2015		43.38	3.00	1.79	5.25	8.58	33.33	4.98	3.81			3.75	0.33	3.88	0.08
2014		29.75	2.58	0.79	4.04	5.63	22.33	4.42	3.91			1.67	0.08	2.13	0.04
% CHG		**46%**	16%	**127%**	30%	**52%**	**49%**	13%	-3%			**125%**	**313%**	**82%**	100%
Northcentral	24														
2015		23.88	2.17	0.88	2.79	4.71	18.04	4.58	3.73			13.08	1.63	3.88	
2014		17.54	1.29	0.75	1.92	4.08	13.58	4.39	3.83			8.33	0.71	2.75	0.04
% CHG		**36%**	68%	17%	**45%**	15%	**33%**	4%	-3%			57%	**130%**	**41%**	
Northeast	17														
2015		7.47	0.76	0.24	0.94	1.47	5.53	5.05	4.02			3.76	0.41	4.18	
2014		2.38	0.81	0.06	0.06	0.56	1.44	2.42	2.07			2.88	0.25	4.06	
% CHG		**214%**	-6%	**300%**	**1467%**	**163%**	**284%**	**109%**	94%			31%	64%	3%	
West Central	20														
2015		24.45	2.10	1.05	2.85	4.95	18.45	5.02	3.85	0.85	0.10	1.25	0.10	5.30	
2014		23.65	1.85	1.45	2.90	5.30	17.45	4.58	3.23			2.20	0.20	7.15	
% CHG		3%	14%	-28%	-2%	-7%	6%	10%	19%			-43%	-50%	-26%	
Central	30														
2015		38.10	3.10	1.37	4.73	8.17	28.90	3.99	3.24			4.30	0.40	7.13	0.07
2014		22.46	1.71	0.82	2.04	4.46	17.89	4.68	3.85	0.68	0.04	2.75	0.21	10.04	0.14
% CHG		**70%**	**81%**	**67%**	**132%**	**83%**	**62%**	-15%	-16%			56%	90%	**-29%**	-50%
Eastcentral	20														
2015		16.70	1.80	0.80	1.65	3.40	12.45	3.93	3.35	0.30		1.00	0.10	6.80	
2014		15.00	0.75	0.30	1.45	2.40	12.50	5.46	4.44			1.00	0.05	8.90	
% CHG		11%	**140%**	**167%**	14%	42%	0%	-28%	-25%			0%	100%	-24%	
Southwest	17														
2015		11.29	1.24	0.53	1.41	2.47	8.12	4.45	3.46	4.06	0.24			5.71	
2014		6.67	0.80	0.47	0.93	1.73	4.47	3.19	2.72	4.07	0.27			5.00	
% CHG		69%	55%	13%	52%	43%	82%	**39%**	27%	0%	-11%			14%	
Southcentral	21														
2015		8.86	0.86	0.19	1.00	1.86	6.81	3.99	3.54	3.86	0.24			15.00	
2014		9.30	0.80	0.35	0.80	2.20	7.35	3.74	3.12	3.05	0.20			18.90	
% CHG		-5%	7%	-46%	25%	-15%	-7%	7%	13%	27%	20%			-21%	
Southeast	23														
2015		26.48	3.00	1.00	2.96	5.70	19.52	4.64	3.52	4.78	0.26			11.83	
2014		20.68	1.63	0.79	2.79	4.16	15.47	4.50	3.28	1.84	0.05			11.32	
% CHG		**28%**	**84%**	27%	6%	**37%**	**26%**	3%	7%	**160%**	420%			5%	
Statewide	196														
2015		23.95	2.12	0.93	2.83	4.94	18.07	4.50	3.60	1.44	0.09	3.28	0.36	7.13	0.02
2014		17.49	1.42	0.67	1.99	3.60	13.40	4.34	3.54	0.95	0.05	2.30	0.18	7.81	0.03
% CHG		**37%**	**49%**	**39%**	**42%**	**37%**	**35%**	4%	2%	**52%**	80%	**43%**	**100%**	-9%	-33%

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].

	PHEASANTS										BOBWHITE QUAIL	GRAY PARTRIDGE	EASTERN COTTONTAIL	WHITETAILED JACKRABBIT
YEAR	NW	NC	NE	WC	C	EC	SW	SC	SE	STATE	STATEWIDE	STATEWIDE	STATEWIDE	STATEWIDE
1962	84.7	95.5	85.3	85.0	74.6	32.3	44.4		12.8	65.9	0.62	1.13	5.2	0.45
1963		200.4	40.8		60.3		200.4		19.8	52.6	1.12	0.92	7.9	0.41
1964	99.9	138.0		101.6	54.4	53.9	92.6	26.3	18.3	79.4	1.39	0.85	7.9	0.53
1965	46.0	67.5	47.8	64.7	36.2	43.9	97.6	44.6	22.8	49.9	2.21	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	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	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	43.4	23.9	7.5	24.5	38.1	16.7	11.3	8.9	26.5	23.9	1.44	3.28	7.1	0.02
Statistics:														
10 Year Avg.	31.8	19.8	7.1	16.3	21.0	11.3	8.6	5.6	12.4	15.8	0.6	1.6	4.9	0.0
Long-term Avg.	38.8	45.1	38.4	45.0	43.5	41.9	53.0	33.1	25.8	40.0	1.36	3.80	6.0	0.14
Percent Change from:														
10 Year Avg.	36%	20%	5%	50%	81%	47%	32%	60%	113%	52%	127%	110%	45%	27%
Long-term Avg.	12%	-47%	-81%	-46%	-12%	-60%	-79%	-73%	3%	-40%	6%	-14%	19%	-86%

a Values do not match those in Table 1because historical data is based on ALL routes completed, whereas values in Table 1are calculated only between directly comparable routes.

Statewide Pheasant Trends

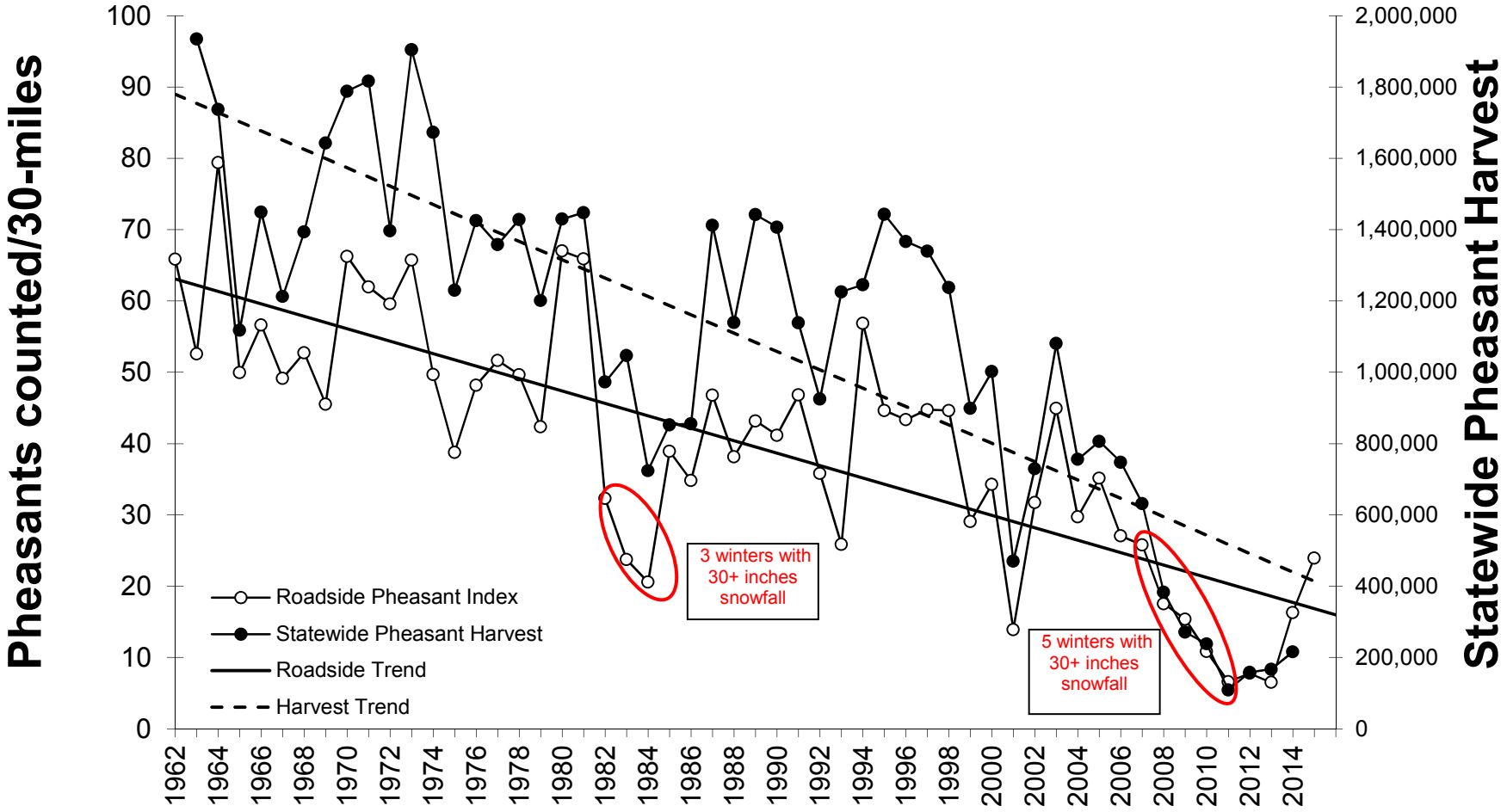


Figure 3. Mean number of pheasants counted on 30-mile August roadside survey routes, statewide, 1962-present compared to total statewide pheasant harvest.

Statewide Upland Game Trends

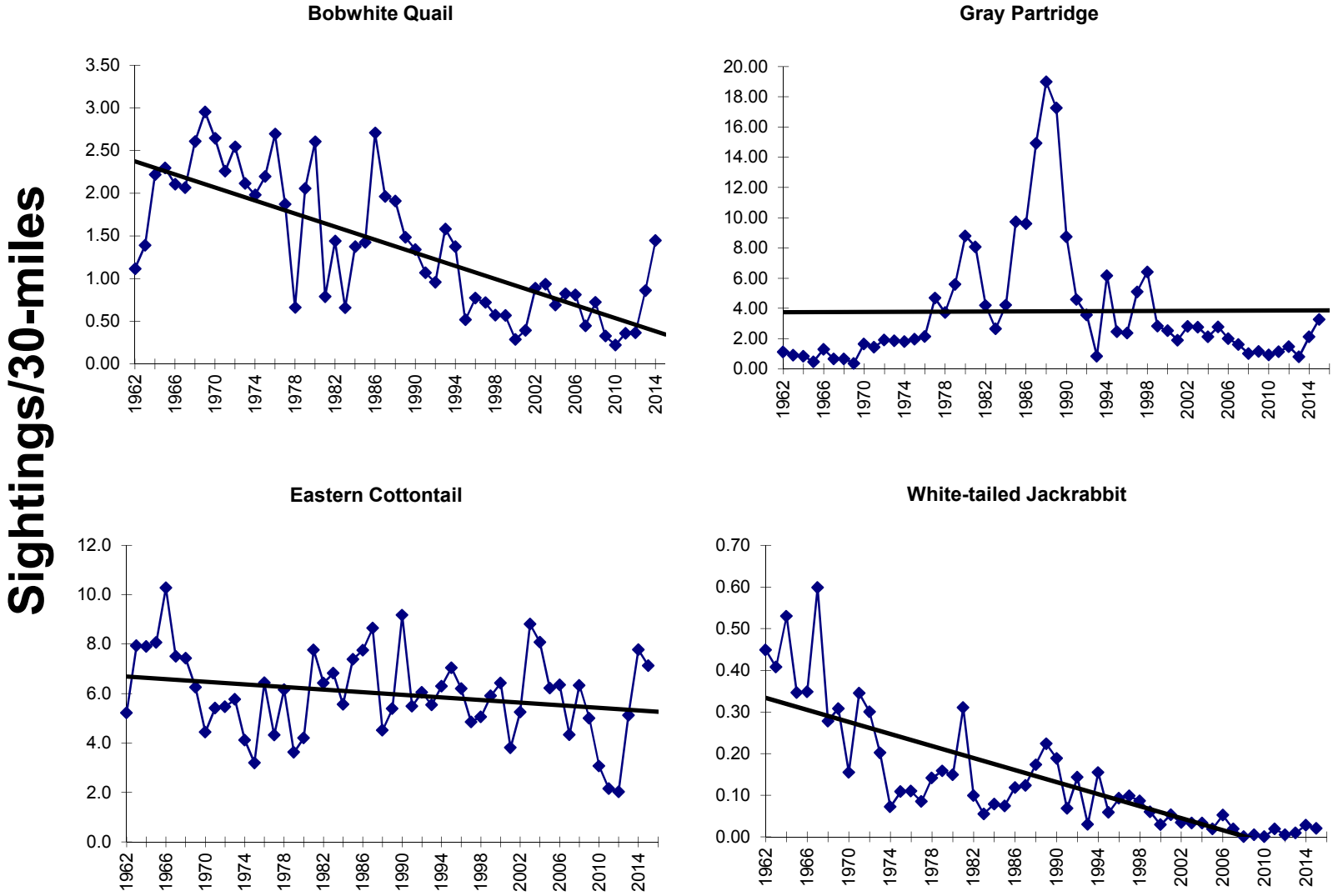
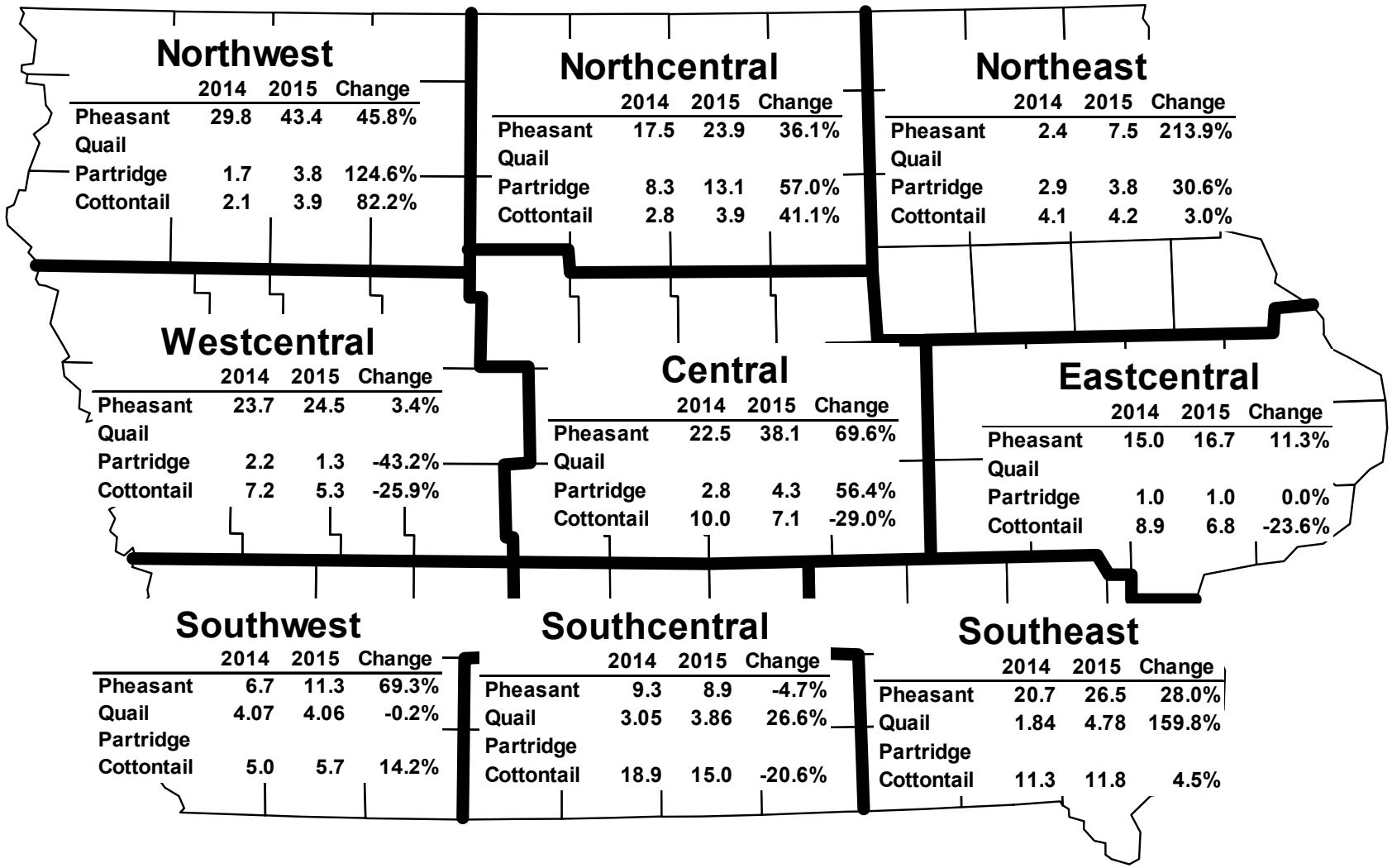


Figure 4. Mean number of quail, partridge, cottontails, and jackrabbits sighted per 30 mile route on the August roadside survey, statewide, 1962 to the present.

2015 August Roadside Survey



Statewide

	2014	2015	Change
Pheasant	17.5	24.0	37%
Quail	0.95	1.44	52%
Partridge	2.3	3.3	43%
Cottontail	7.8	7.1	-9%

Northwest

	2014	2015	Change
Pheasant	29.8	43.4	45.8%
Quail			
Partridge	1.7	3.8	124.6%
Cottontail	2.1	3.9	82.2%

Northcentral

	2014	2015	Change
Pheasant	17.5	23.9	36.1%
Quail			
Partridge	8.3	13.1	57.0%
Cottontail	2.8	3.9	41.1%

Northeast

	2014	2015	Change
Pheasant	2.4	7.5	213.9%
Quail			
Partridge	2.9	3.8	30.6%
Cottontail	4.1	4.2	3.0%

Westcentral

	2014	2015	Change
Pheasant	23.7	24.5	3.4%
Quail			
Partridge	2.2	1.3	-43.2%
Cottontail	7.2	5.3	-25.9%

Central

	2014	2015	Change
Pheasant	22.5	38.1	69.6%
Quail			
Partridge	2.8	4.3	56.4%
Cottontail	10.0	7.1	-29.0%

Eastcentral

	2014	2015	Change
Pheasant	15.0	16.7	11.3%
Quail			
Partridge	1.0	1.0	0.0%
Cottontail	8.9	6.8	-23.6%

Southwest

	2014	2015	Change
Pheasant	6.7	11.3	69.3%
Quail	4.07	4.06	-0.2%
Partridge			
Cottontail	5.0	5.7	14.2%

Southcentral

	2014	2015	Change
Pheasant	9.3	8.9	-4.7%
Quail	3.05	3.86	26.6%
Partridge			
Cottontail	18.9	15.0	-20.6%

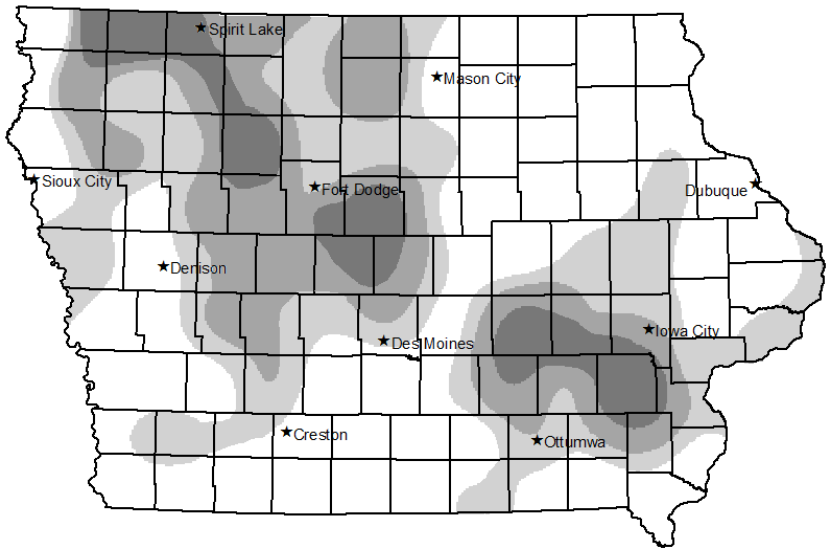
Southeast

	2014	2015	Change
Pheasant	20.7	26.5	28.0%
Quail	1.84	4.78	159.8%
Partridge			
Cottontail	11.3	11.8	4.5%

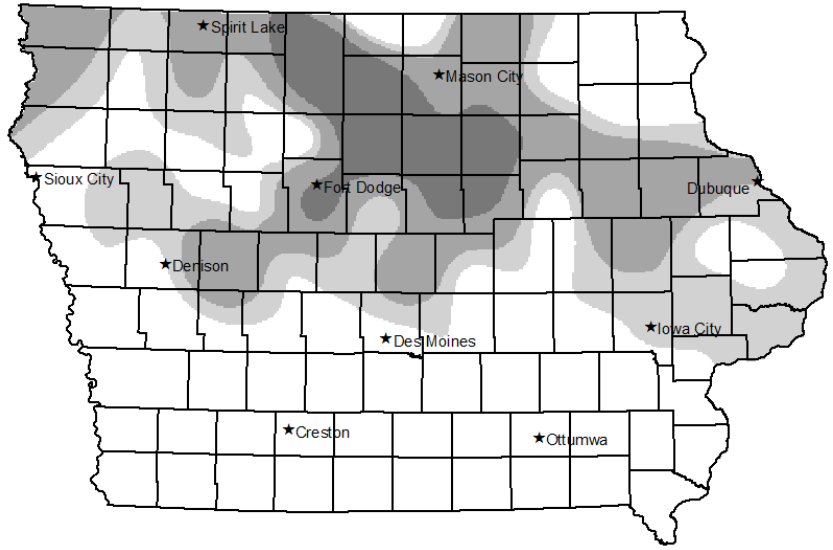
Figure 5. Numbers indicate the average number of animals counted on 30 mile routes in each region (e.g., the northwest region counted an average of 43.4 pheasants on 30-mile survey routes in 2015). Data from 196 of 206 returned routes.

2015 GAME DISTRIBUTION

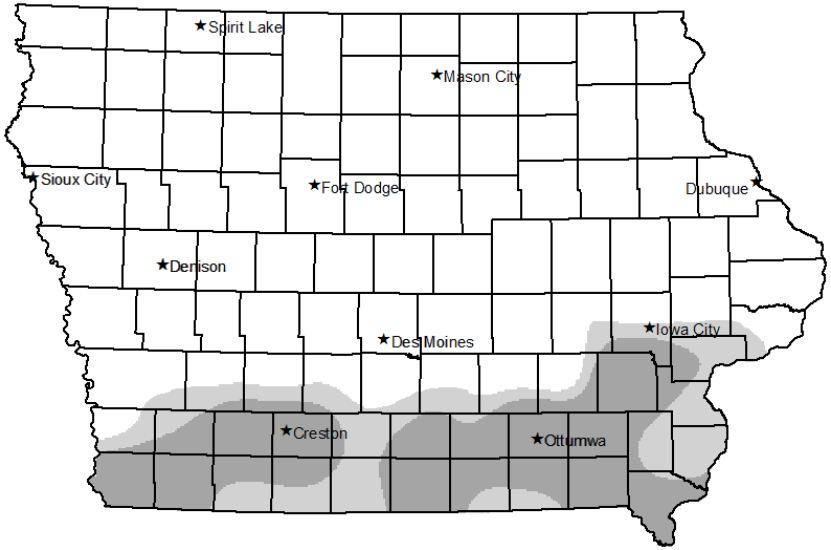
PHEASANT



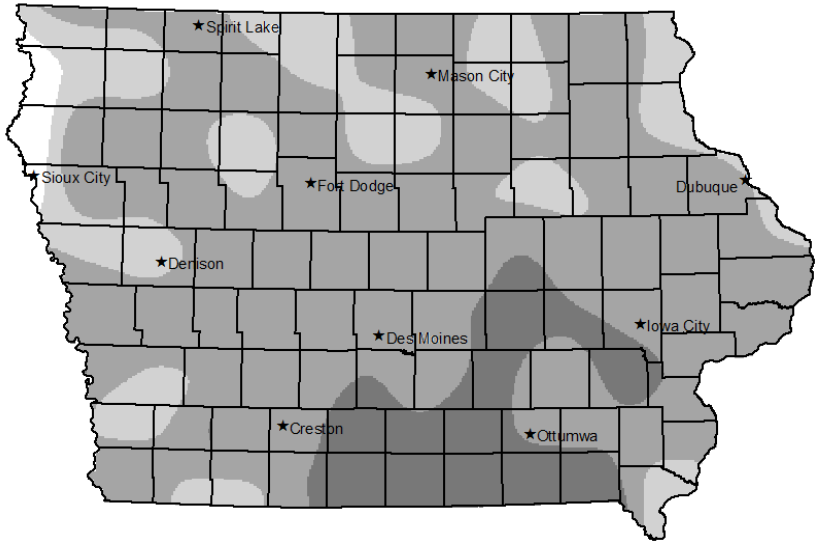
GRAY PARTRIDGE



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.