

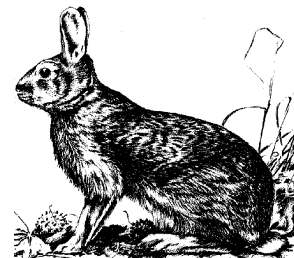
# **2009 IOWA AUGUST ROADSIDE SURVEY**

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September 2009

## 2009 IOWA UPLAND WILDLIFE POPULATIONS

This report is a summary of the 2009 Iowa August roadside survey. The survey is conducted each year by IDNR 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 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 2008 and 2009 are based on routes that are directly comparable between years (routes with no alterations and routes started with good dew). Long-term trends are based on all routes run.

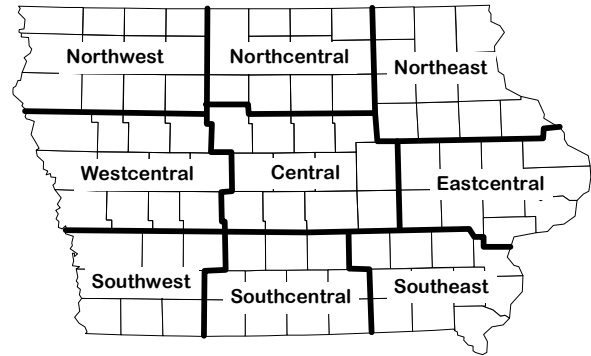


Figure 1. August Roadside Survey Regions

### UPLAND HABITAT TRENDS IN IOWA

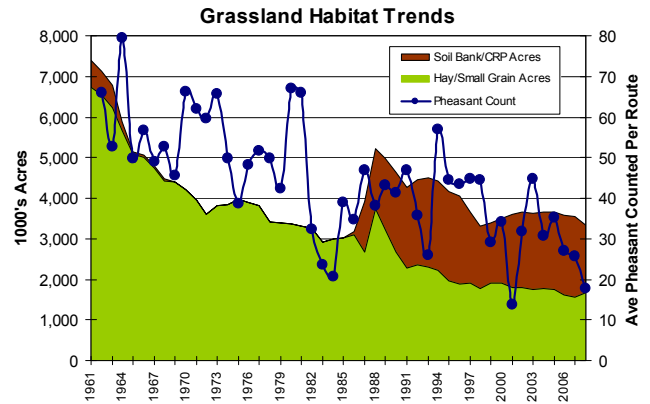
Two factors determine the abundance and distribution of upland game populations in Iowa - **weather** and **habitat**. Past versions of the August Roadside Survey have only included weather trends as they have the most impact on the upland game populations from year to year. Habitat trends are a more gradual change and the influence of habitat changes on upland populations are only evident after looking at years of surveys.

Information from USDA shows that between 1990 and 2005 Iowa has lost 2,496 mi<sup>2</sup> of pheasant habitat. To put this loss of habitat in perspective 2,496 mi<sup>2</sup> is a strip of habitat over **8 miles wide** that would stretch from **Omaha**

to **Davenport!** On September 30, 2009 contracts on approximately another 85,000 acres (~130 mi<sup>2</sup>) of Iowa CRP will expire. Most of these landowners will likely plow and farm this land since USDA has not offered a sign-up for these landowners to re-enroll.

### 2008-09 IOWA WEATHER SUMMARY

Iowa tends to see increases in pheasant numbers with mild winters and warm, dry springs and declines with snowy winters and cool, wet springs. Iowa saw “a bit” of a reprieve from the record setting snows and rainfall of 2008. Unfortunately the weather while better that last year was not such that pheasant numbers would change significantly from the previous year. The winter of 2008-09 started out as bad as previous winter. NOAA indicated snowfall in Iowa from Nov – Jan ranked as the 5<sup>th</sup> snowiest in state history, but then the last part of the winter ranked as very mild with little snow. Snowfall in the northern



Pheasants show great variation annually due to weather, but the trend through time is linked to habitat. Total habitat (hay+CRP) in 2007 (~3M acres) is very close to pre-CRP in 1985 (3M acres)!!

Figure 2. Iowa grassland habitat trends.

third of Iowa was the most significant running 23-55% above normal (Table 1). Values across southern Iowa were about normal with intermediate values in central regions.

**Table 1. Iowa 2008-09 weather summary.**

Weather Variables	Survey Regions									STATE
	NW	NC	NE	WC	C	EC	SW	SC	SE	
<b>Winter Weather*</b>										
Total Snowfall (")	34.6	35.6	45.4	26.2	32.4	38.2	20.4	23.2	25.7	31.8
Departure**	8.0	6.7	16.1	-0.9	7.2	13.9	-1.0	1.5	2.9	6.5
<b>Spring Weather</b>										
Total Rainfall (")	4.1	7.9	8.9	4.9	8.9	7.2	6.8	8.5	8.5	7.2
Departure	-1.9	1.1	1.8	-2.1	1.6	0.0	-0.6	0.9	0.9	0.1
Mean Temperature (F)	52.8	52.3	52.5	54.5	54.4	53.8	56.5	55.8	55.6	54.1
Departure	-0.8	-1.3	-0.9	-1.3	-0.4	-1.9	-0.8	-1.0	-1.8	-1.3

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

\*\* Departures calculated from 1961-1990 norm.

Spring weather conditions during the 2009 nesting period (April-May) also improved some over 2008, but were not conducive to good reproduction. Of the peak nesting period April thru July, only June showed about normal weather. The other months were cooler and wetter than normal. NOAA reported average July temperatures were the coolest ever recorded for the month in state history. To add insult to injury on July 24<sup>th</sup> and August 11<sup>th</sup> two large hail storms (2-3" diameter hail stones) hit NE and central Iowa respectively (Figure3). Counties hardest impacted by these storms include portions of Fayette, Howard, Winnishiek and Delaware counties in NE Iowa and Webster, Calhoun, Hamilton, Hardin and Grundy counties in central Iowa. Staff reported few birds on routes in these counties with the heaviest hail damage.



Figure 3. Hen with broken wing in shredded bean field following 3" hail storm in NE Iowa, July 24, 2009.

The DNR uses a model based on winter and spring weather to predict the pheasant trend before roadside counts are conducted in August. This year the model predicted no change or a decline in the counts.

### **2009 ROADSIDE SURVEY CONDITIONS**

The August Roadside Survey yields the most consistent results when surveys are completed on mornings with heavy dew, no wind, and sunny skies. Weather conditions during the 2009 survey were similar to last year. Staff reported 90% of routes were started with heavy dew in 2009, however most regions reported more overcast conditions compared to 2008. Temperatures at the start of routes were cool and similar to last year.

### **RING-NECKED PHEASANT**

Statewide. This year the statewide index is 15.6 birds/route and statistically represents no change from last year's estimate of 17.6 birds per route (Table 2, Figure 4). This year's index is 44% below Iowa's 10-year average and 64% below the historic average (Table 3). This statewide "status

*quo*” was predicted given the statewide weather conditions reported in Table 1. Regionally across Iowa the counts differed. The northern third of Iowa saw significant declines, while the southern two-thirds of Iowa saw higher or similar numbers of pheasants when compared to 2008. Lower numbers in northern Iowa match with the snowier winter and cooler summer reported by NOAA for this region of Iowa. Pheasant counts from MN, ND, and SD are down significantly 25-40%, thus the lower counts in northern Iowa correlate well with the trends to the north of Iowa. The stable to increasing trends seen in southern Iowa match with the “*more normal*” winter snowfall reported in this region. Relatively speaking Iowa did well this year maintaining a status quo population, compared to other states in the Midwest pheasant range. Unfortunately status quo from near the all time low number of last year will not provide the birds Iowa hunters like to see.

Iowa research indicates over winter survival, brood survival, and nest success are the major factors influencing annual changes in pheasant numbers. In the northern third of Iowa both total hens and age ratio’s (chicks per adult hen) on the survey were mostly significantly lower than 2008 (Table 2). The lower hen numbers suggests reduced over winter survival of adult hens, while few chicks per adult hen suggest poor nest success or chick survival because of the cool weather during nesting and brood rearing. In the southern two-thirds of Iowa total hens counted on the survey were similar or higher than in 2008 reflective of the milder winter in southern Iowa and likely higher hen winter survival. Age ratio’s in central and southern regions bounced around suggesting the cool weather did impact nesting and brood rearing in some regions, but this was offset somewhat by the higher hen survival (i.e., more hens were available for nesting in 2009 vs 2008).

Based on this year’s statewide index of 15.5 birds/route, Iowa pheasant hunters should harvest approximately 300,000-350,000 roosters this fall. If this harvest forecast holds true it will mark the first time in history Iowa has seen 6 consecutive harvests of less than 1 million roosters (Figure 4). While pheasant counts this year are well below what the wildlife bureau and most hunters would like to see in Iowa – rest assured as long as Iowa has well managed CRP habitat the populations will bounce back. Iowa had low counts in 1984 and 2001 (Table 3) and the population rebounded in 2-3yrs. The key was good weather and good habitat, unfortunately Iowa continues to lose CRP habitat (Figure 2). According to USDA numbers Iowa lost 228 mi<sup>2</sup> of CRP in October of 2007, another 209 mi<sup>2</sup> in October 2008 and will lose another ~130 mi<sup>2</sup> in October 2009. Combined this equals a strip of habitat almost 2 miles wide that would stretch across Iowa from Omaha to Davenport. Hunters need to let their US Congressman know how important CRP is to their sport, as demands for corn ethanol have put tremendous pressure on Congress to reduce the CRP.

Northern Regions. Routes in the NW region averaged 36 birds/route in 2009, significantly lower (-28%) than in 2008 (Table 2, Figure 6). Total hen numbers and age ratio information showed significantly lower values than in 2008 reflective of the snowy winter and cool temperatures during nesting. The NW region had the highest bird densities of any region in 2009. Excellent habitat and abundant public lands should offer some good hunting this fall. Staff reported good bird numbers in Clay, Dickinson, Sioux, Palo Alto, and O’Brien, counties (Figure 7).

Counts in the NC region were down significantly (-32%) compared to 2008 (Table 2, Figure 6). Similar to the NW region staff saw significantly fewer total hens and age ratio’s (chicks/hen) were also lower, suggesting lower overwinter survival and lower recruitment than in 2008 (Table 2). Staff reported better bird numbers in Hancock, Humboldt, Kossuth, and Winnebago counties (Figure 7).

In the NE region 2008-09 snowfall was 45” (Table 1). In 2007-08 the figure was ~60” of snowfall. These back to back events further depressed populations in the NE region. The cool weather during nesting only added more insult to injury as staff also reported few chicks per adult hen they did in 2008 (Table 2, Figure 6). This year’s count in NE Iowa at 2 birds per route is the lowest value ever recorded for any region in Iowa since counts were standardized in 1962.

Central Regions. Staff in the WC region reported an average of 23 birds/route in 2009. This represents a 6% increase over the 2008 count, however the change was not statistically significant as some counts were up in the region while others were down (Table 2, Figure 6). The WC region has the

second highest overall density this year. The total hens counted by staff showed an increasing trend, but age ratio data was similar to 2008 suggesting better hen survival with a milder winter, but cool weather did not improve recruitment over last years poor conditions (Table 2). Better bird numbers were reported in Calhoun, Carroll, Ida, and Monona counties (Figure 7).

Staff in the Central region of Iowa reported no change in bird numbers compared to 2008 with 20 birds per route on average across the region (Table 2, Figure 6). Total hens suggested winter survival rates were similar to 2008, but age ratio's suggest perhaps a little bit better recruitment in 2009 than in 2008. Better counts in 2009 came from Hamilton, Poweshiek, and Webster counties (Figure 7).

Staff reported an average of 9.4 birds per route in 2009 a 34% increase over the 2008 estimate of 7 birds per route. The change was not significant, meaning some routes were up but others were unchanged or down (Table 2, Figure 6). The count is 60 and 80 % below the 10-year and long-term averages, respectively (Table 3). Staff reported more hens on routes in 2009 indicative of the "milder" winter in this region as compared to 2008, however staff reported fewer chicks per adult hen suggesting lower nest success than last year (Tables 1 and 2). Staff reported a few birds in Cedar, and Johnson, counties.

Southern Regions. Counts in all 3 southern regions showed stable or increasing trends over the dismal counts reported in 2008 (Table 2, Figure 6). Data from staff on hen numbers showed much improvement over 2008, reflective of the more "normal" winter conditions and thus higher hen survival this winter as compared to last winter (Table 2). The SW and SE regions also reported better nest success and or chick survival over 2008 as age ratios were much improved over 2008 numbers. However, counts in all 3 regions remain some 60-90% below long term averages (Table 3). Staff did not report an abundance of birds anywhere in the southern region in 2008.

While this region of Iowa has an abundance of habitat in the form of CRP, most is located on private land and it has been enrolled in the program for 20+ yrs with little active management reducing its value for pheasants and quail. However, lack of management is only part of the problem in this region. Nesting season weather patterns also have shifted in the region. The table at the right shows the amount of April/May rainfall has increased significantly during the last 2 decades over the NOAA computed normal (1961-90) value (see right table).

Since pheasant reproduce best during dry – warm springs this trend toward wetter conditions is likely reducing the reproductive potential of the population. Good counts in all 3 regions in the 1980's reflect the drier weather pattern experienced during that decade and lower counts with wetter weather prevail in the 1990's thru 2009 (Table 3).

Nesting season rainfall (inches) by decade in southern Iowa roadside survey regions.

	SW	SC	SE
<i>Normal (1960-90)</i>	7.46	7.63	7.53
1940	7.18	7.18	7.66
1950	7.05	7.21	7.03
1960	7.34	7.73	7.54
1970	7.69	8.15	8.40
1980	7.40	7.00	6.82
1990	9.09	9.61	9.14
2000	9.15	8.57	8.39

### **BOBWHITE QUAIL**

Statewide bobwhite quail numbers increased 45% over 2008 counts (Table 2, Figure 6). However, the change was not statistically significant as not all regions reported increasing trends. The SW region reported no statistical change in quail numbers but the trend was downward. The generally increasing trend seen across the southern two-thirds of Iowa likely relates to better winter survival of quail from the more "normal" winter conditions this part of the state experienced (Tables 1 and 2). Overall, this year's count was at the 10-year average, but Iowa's quail population remains in a long-term decline (Table 3, Figure 5). Changing land-use, mainly intensified agriculture, loss of small grains, and forest succession are the leading factors in the decline. Unfortunately, this a trend that is likely to continue in the future, unless programs like CRP or CSP can be modified to provide for the habitat needs

of quail. Only pockets of quail will likely be found in the best coverts across the south eastern half of their primary range (Figure 7).

### **GRAY PARTRIDGE**

The 2009 gray partridge count was 1.2 birds per 30 miles, up significantly from 2008 counts (Table 2, Figure 5). This year's statewide estimate is -42% below the 10-year mean and -70% below the long-mean (Table 3, Figure 5). Gray partridge in Iowa prefer mostly the wide open agricultural lands of the northern two-thirds of the state. Only the WC and C regions reported significantly more partridge in 2009, while counts in the NW and NC regions showed stable or declining trends. Typically partridge recruitment is highest in Iowa when spring/summer precipitation is well below normal. Years with average to above average rainfall, like 2009, generally are not conducive to good partridge reproduction. The NW and C regions had the highest average partridge counts in 2009. Better counts came from Boone, Calhoun, Carroll, Dickinson, Sioux, and Webster counties (Figure 7).

### **COTTONTAIL RABBIT**

Cottontail rabbit numbers, 5.0 rabbits/route, declined significantly from last year's estimate of 6.3 rabbits/route (Table 2, Figure 5). This year's count is just below the 10-year and long-term averages for rabbit numbers in Iowa (Table 3). Regionally rabbit numbers decreased significantly in NW, NC, and SC regions and showed non significant trends in other regions (Table 2). As a general rule cottontails reproduce very well in years with abundant spring/summer rains, however this years counts would suggest that they don't reproduce well with cool spring/summer temperatures. Cottontail hunters should focus their efforts in counties along the Missouri border in southern Iowa (Figure 7).

### **WHITE-TAILED JACKRABBIT**

Only one jackrabbit was counted on this year's survey (Table 2). The jackrabbit trend (Table 3, Figure 5) reflects the continued loss of their preferred habitats (i.e., small grains, pasture, hayfields) in the NW, NC, WC and C regions.

Table 2. Mean numbers of wildlife observed per 30-mile route on the August roadside survey in 2008 and 2009. Only routes run under heavy to moderate dew conditions, in both years, are used for statistical comparisons.

REGION	n	RINGNECKED PHEASANTS										BOBWHITE QUAIL				GRAY PARTRIDGE			RABBITS				
		TOTAL		HENS W/O BROODS		HENS W/ BROODS		CHICKS		BROODS		AGE RATIO		TOTAL		BIRDS		COVEYS		TOTAL		EASTERN WHITETAILED COTTONTAIL JACKRABBIT	
		PHEASANT	COCKS	BROODS	BROODS	HENS	BROODS	HENS	BROODS	CHICKS	BROODS	RATIO	RATIO	BIRDS	COVEYS	BIRDS	COVEYS	BIRDS	COVEYS	EASTERN	WHITETAILED	COTTONTAIL	JACKRABBIT
<b>Northwest</b>	26																						
2009		35.54	5.00	3.12	4.15	8.69	23.27	5.54	2.70	0.04	0.00	0.00	0.27	2.92	0.27	2.23			1.40		2.23		
2008		49.38	5.73	2.65	5.69	10.54	38.27	7.73	3.58	0.00	0.00	0.00	0.12	2.38	0.12	4.04			2.88		4.04		
% CHG		<b>-28.0%</b>	-12.7%	17.7%	<b>-27.1%</b>	-17.6%	<b>-39.2%</b>	<b>-28.3%</b>	<b>-24.6%</b>				125.0%	22.7%		<b>-44.8%</b>			1.40		2.88		
<b>Northcentral</b>	25																						
2009		17.24	2.48	1.20	2.60	4.20	10.96	2.96	2.47					1.44	0.12	1.40			1.40		2.88		
2008		25.28	3.52	1.56	2.64	5.68	17.56	4.04	3.19					3.96	0.32	2.88			2.88		4.04		
% CHG		<b>-31.8%</b>	<b>-29.5%</b>	-23.1%	-1.5%	<b>-26.1%</b>	<b>-37.6%</b>	<b>-26.7%</b>	<b>-22.6%</b>					-63.6%	<b>-62.5%</b>	<b>-51.4%</b>			1.40		4.04		
<b>Northeast</b>	16																						
2009		1.88	0.50	0.06	0.19	0.56	1.13	0.50	1.64					2.44	0.19	3.00			3.00		2.38		
2008		9.00	0.81	0.63	0.88	2.13	6.69	1.50	2.51					0.00	0.00	2.38			2.38		2.38		
% CHG		<b>-79.1%</b>	-38.3%	<b>-90.5%</b>	<b>-78.4%</b>	<b>-73.7%</b>	<b>-83.1%</b>	<b>-66.7%</b>	<b>-34.7%</b>					0.00	0.00	26.1%			3.00		2.38		
<b>West Central</b>	21																						
2009		23.48	2.29	1.43	3.14	5.29	16.62	3.86	3.41	0.67	0.05	0.05	0.19	1.57	0.19	4.67			4.67		5.43		
2008		22.19	2.52	1.43	2.52	4.48	15.71	3.05	3.56	0.14	0.00	0.00	0.00	0.33	0.00	5.43			5.43		5.43		
% CHG		5.8%	-9.1%	0.0%	24.6%	18.1%	5.8%	26.6%	-4.2%	378.6%				<b>375.8%</b>		-14.0%			4.67		5.43		
<b>Central</b>	28																						
2009		19.93	2.50	0.82	2.36	3.75	14.25	2.82	3.54	1.96	0.14	0.14	0.14	1.96	0.14	4.21			4.21		5.11		
2008		18.36	2.39	1.14	1.82	3.86	13.00	2.64	3.00	0.36	0.00	0.00	0.00	0.36	0.00	5.11			5.11		5.11		
% CHG		8.6%	4.6%	-28.1%	29.7%	-2.8%	9.6%	6.8%	<b>18.0%</b>	<b>444.4%</b>				<b>444.4%</b>		-17.6%			4.21		5.11		
<b>Eastcentral</b>	20																						
2009		9.35	0.75	0.65	0.80	1.80	7.15	1.15	3.67	0.20	0.00	0.00	0.00	0.00	0.00	5.00			5.00		3.55		
2008		7.00	0.80	0.15	0.75	1.20	5.30	1.05	4.52	0.00	0.00	0.00	0.00	0.20	0.05	3.55			3.55		3.55		
% CHG		33.6%	-6.3%	<b>333.3%</b>	6.7%	50.0%	34.9%	9.5%	-18.8%	-100.0%				-100.0%	-100.0%	40.8%			5.00		3.55		
<b>Southwest</b>	17																						
2009		9.12	1.12	0.82	1.12	2.53	6.06	1.71	2.97	1.29	0.12	0.12	0.12	1.29	0.12	10.06			10.06		9.18		
2008		6.00	1.12	0.82	0.71	1.71	3.35	0.88	1.87	2.12	0.18	0.18	0.18	2.12	0.18	9.18			9.18		9.18		
% CHG		<b>52.0%</b>	0.0%	0.0%	<b>57.7%</b>	<b>48.0%</b>	<b>80.9%</b>	<b>94.3%</b>	<b>58.8%</b>	-39.2%				-39.2%	-33.3%	9.6%			10.06		9.18		
<b>Southcentral</b>	24																						
2009		4.42	0.63	0.42	0.42	1.21	2.96	0.75	2.35	2.33	0.21	0.21	0.21	0.00	0.00	9.46			9.46		17.35		
2008		4.74	0.61	0.09	0.48	0.83	3.57	0.74	4.10	1.13	0.09	0.09	0.00	0.13	0.00	17.35			17.35		17.35		
% CHG		-6.8%	3.3%	<b>366.7%</b>	-12.5%	<b>45.8%</b>	-17.1%	1.4%	<b>-42.7%</b>	<b>106.2%</b>				-100.0%	-100.0%	<b>-45.5%</b>			9.46		17.35		
<b>Southeast</b>	24																						
2009		10.08	1.17	0.33	1.00	2.54	7.58	2.17	2.69	1.67	0.13	0.13	0.04	0.21	0.04	6.08			6.08		6.75		
2008		5.50	1.25	0.54	0.54	1.33	3.17	0.75	2.16	1.21	0.13	0.13	0.00	0.00	0.00	6.75			6.75		6.75		
% CHG		<b>83.3%</b>	-6.4%	-38.9%	85.2%	<b>91.0%</b>	<b>139.1%</b>	<b>189.3%</b>	24.5%	38.0%				0.00	0.00	-9.9%			6.08		6.75		
<b>Statewide</b>	201																						
2009		15.55	1.97	1.04	1.88	3.61	10.67	2.53	2.94	0.68	0.05	0.05	0.11	1.21	0.11	4.98			4.98		6.30		
2008		17.62	2.25	1.06	1.92	3.78	12.78	2.68	3.21	0.47	0.04	0.04	0.06	0.93	0.06	6.30			6.30		6.30		
% CHG		-11.7%	-12.4%	-1.9%	-2.1%	-4.5%	-16.5%	-5.6%	-8.4%	44.7%				<b>30.1%</b>	<b>83.3%</b>	<b>-21.0%</b>			4.98		6.30		

**BOLD** numbers indicate a mathematically significant change from the previous year ( $P < 0.10$ , Wilcoxon Signed Rank Test). Changes in covey numbers are not tested.

Table 3. Historical upland wildlife numbers from the August Roadside Survey. Numbers represent the average number of animals counted on 30-mile routes<sup>a</sup>.

YEAR	PHEASANTS												BORWHITE				GRAY				EASTERN				WHITETAILED			
	NORTH		NORTH		WEST		CENTRAL		EAST		SOUTH		SOUTH		SOUTH		STATE		STATE		STATE		STATE		STATE		STATE	
	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST
1962	84.7	88.0	95.5	85.3	85.0	74.6	32.3	44.4	127.4	38.7	19.7	65.9	0.62	0.68	1.13	5.2	0.45											
1968	38.0	56.6	56.6	56.6	53.5	52.2	64.3	42.7	44.4	38.7	19.7	65.9	0.62	0.68	1.13	5.2	0.45											
1969	18.8	44.7	62.5	59.6	42.2	57.6	57.2	77.9	44.2	44.2	25.2	45.5	2.60	0.38	0.38	6.3	0.31											
1970	39.2	53.0	59.6	56.1	56.1	87.8	91.7	129.1	63.8	63.8	40.5	66.2	2.95	1.66	1.66	4.4	0.15											
1971	34.6	45.2	49.0	49.0	66.2	82.6	104.3	101.6	49.7	48.4	48.4	62.0	2.64	1.44	1.44	5.4	0.35											
1972	37.9	44.6	61.0	61.0	66.3	73.2	88.6	112.3	54.3	54.3	30.2	65.8	2.26	1.87	1.87	5.5	0.30											
1973	47.0	56.9	65.4	65.4	66.3	88.7	103.5	72.4	49.1	49.1	16.8	49.7	2.54	1.87	1.87	5.8	0.20											
1974	46.6	53.2	52.5	52.5	60.5	40.0	55.9	90.1	49.6	49.6	16.8	49.7	2.11	1.82	1.82	4.1	0.07											
1975	10.5	28.7	52.3	52.3	34.3	43.2	64.3	51.0	45.4	45.4	27.4	38.8	1.98	1.98	1.98	3.2	0.11											
1976	14.8	42.2	68.1	68.1	44.8	54.9	75.4	61.7	49.2	49.2	28.7	48.2	2.19	2.14	2.14	6.4	0.11											
1977	26.9	44.2	86.7	86.7	56.9	50.8	78.5	75.1	44.3	44.3	24.4	51.7	2.69	4.70	4.70	4.3	0.08											
1978	36.3	26.1	68.8	68.8	67.8	50.5	63.2	76.7	45.5	45.5	30.5	49.7	1.87	3.73	3.73	6.2	0.14											
1979	40.1	29.6	44.8	44.8	49.4	39.2	39.6	80.9	51.5	51.5	21.8	42.4	0.66	5.59	5.59	3.6	0.16											
1980	51.2	61.7	81.2	81.2	98.7	72.2	63.5	82.1	68.9	68.9	37.2	67.0	2.05	8.81	8.81	4.2	0.15											
1981	66.4	53.5	83.6	83.6	92.9	57.8	72.9	97.1	57.8	57.8	35.2	65.9	2.60	8.08	8.08	7.8	0.31											
1982	26.7	27.9	38.9	38.9	55.5	23.1	20.9	41.6	47.7	47.7	19.3	32.3	0.79	4.21	4.21	6.4	0.10											
1983	9.6	12.8	21.7	21.7	21.6	13.3	25.3	42.6	51.1	51.1	27.5	23.7	1.44	2.65	2.65	6.8	0.05											
1984	8.8	11.1	19.2	19.2	22.1	14.4	24.5	23.8	38.5	38.5	26.4	20.6	0.66	4.22	4.22	5.6	0.08											
1985	21.6	28.0	36.4	36.4	40.0	32.7	26.0	59.2	72.6	72.6	42.0	38.9	1.37	9.75	9.75	7.4	0.07											
1986	27.5	20.4	48.2	48.2	31.2	24.8	29.0	49.7	65.2	65.2	27.2	34.8	1.42	9.62	9.62	7.7	0.12											
1987	40.2	36.8	59.7	59.7	61.4	41.1	33.2	58.5	64.2	64.2	39.0	46.8	2.70	14.93	14.93	8.6	0.12											
1988	33.6	35.0	45.1	45.1	60.8	29.6	26.0	45.7	49.8	49.8	29.8	38.1	1.96	19.00	19.00	4.5	0.17											
1989	25.3	36.5	52.1	52.1	69.9	57.1	35.3	38.6	40.0	40.0	39.0	43.2	1.91	17.27	17.27	5.4	0.22											
1990	34.3	49.4	63.9	63.9	57.9	44.3	44.3	44.5	31.7	31.7	27.3	41.2	1.48	8.75	8.75	9.2	0.19											
1991	37.3	45.3	45.3	45.3	77.6	41.6	33.3	61.2	49.4	49.4	41.6	46.8	1.34	4.59	4.59	5.5	0.07											
1992	24.4	50.5	30.5	30.5	44.0	42.1	37.8	29.4	23.6	23.6	34.2	35.8	1.07	3.58	3.58	6.0	0.14											
1993	15.8	21.4	15.2	15.2	55.2	23.8	25.0	34.3	24.0	24.0	28.1	25.9	0.96	0.85	0.85	5.5	0.03											
1994	45.0	74.1	33.3	33.3	83.3	55.6	67.8	47.3	46.0	46.0	56.7	56.9	1.58	6.17	6.17	6.3	0.15											
1995	26.0	63.2	37.6	37.6	44.7	54.3	54.3	43.7	27.8	27.8	43.2	44.6	1.37	2.47	2.47	7.0	0.06											
1996	54.7	61.8	29.5	29.5	45.2	49.8	59.4	29.8	19.5	19.5	28.2	43.4	0.51	2.37	2.37	6.2	0.09											
1997	46.1	62.0	41.2	41.2	37.3	54.7	47.4	31.7	28.8	28.8	41.3	44.8	0.77	5.10	5.10	4.9	0.10											
1998	74.2	56.7	43.1	43.1	33.9	49.6	53.9	18.1	15.7	15.7	41.7	44.6	0.72	6.42	6.42	5.1	0.09											
1999	42.7	33.6	21.6	21.6	19.5	37.9	36.0	17.5	12.9	12.9	27.0	29.1	0.57	2.83	2.83	5.9	0.06											
2000	60.6	33.3	14.9	14.9	29.0	50.3	37.0	25.5	19.3	19.3	22.0	34.3	0.57	2.53	2.53	6.4	0.03											
2001	22.4	16.0	6.2	6.2	8.4	22.0	19.0	12.0	7.3	7.3	4.6	13.9	0.29	1.90	1.90	3.8	0.05											
2002	47.0	42.9	13.6	13.6	32.0	49.9	32.0	15.7	11.7	11.7	22.6	31.7	0.39	2.82	2.82	5.3	0.03											
2003	81.2	67.3	20.7	20.7	36.1	61.2	35.6	29.3	21.8	21.8	28.2	44.9	0.89	2.76	2.76	8.8	0.03											
2004	54.4	34.4	19.0	19.0	21.5	35.6	24.4	24.4	19.6	19.6	24.4	29.7	0.93	2.12	2.12	8.1	0.03											
2005	63.5	42.3	25.3	25.3	32.0	49.9	25.9	28.9	12.6	12.6	23.5	35.1	0.69	2.79	2.79	6.2	0.02											
2006	48.3	36.1	18.4	18.4	23.7	36.8	20.4	20.3	9.0	9.0	27.0	27.0	2.01	2.01	2.01	6.4	0.05											
2007	41.3	35.0	20.1	20.1	26.0	36.2	25.0	12.8	5.6	5.6	19.8	25.8	0.81	1.62	1.62	4.3	0.02											
2008	49.4	25.4	9.1	9.1	21.2	18.6	7.4	5.7	4.4	4.4	5.3	17.5	0.45	1.03	1.03	6.3	0.00											
2009	35.5	17.2	1.9	1.9	23.5	19.9	9.4	9.1	4.4	4.4	10.1	15.6	0.68	1.21	1.21	5.0	0.00											

**Statistics:**  
 10 Year Avg. 50.4  
 Long-term Avg. 40.7

**Percent Change from:**  
 10 Year Avg. -29.4%  
 Long-term Avg. -12.6%

<sup>a</sup> Values do not match those in Table 1 because historical data is based on ALL routes completed, whereas values in Table 1 are calculated only between directly comparable routes.  
<sup>b</sup> All data is used to compute long-term averages, but first 5 years of historical data is not show in table because of limited space.

# Statewide Pheasant Trends

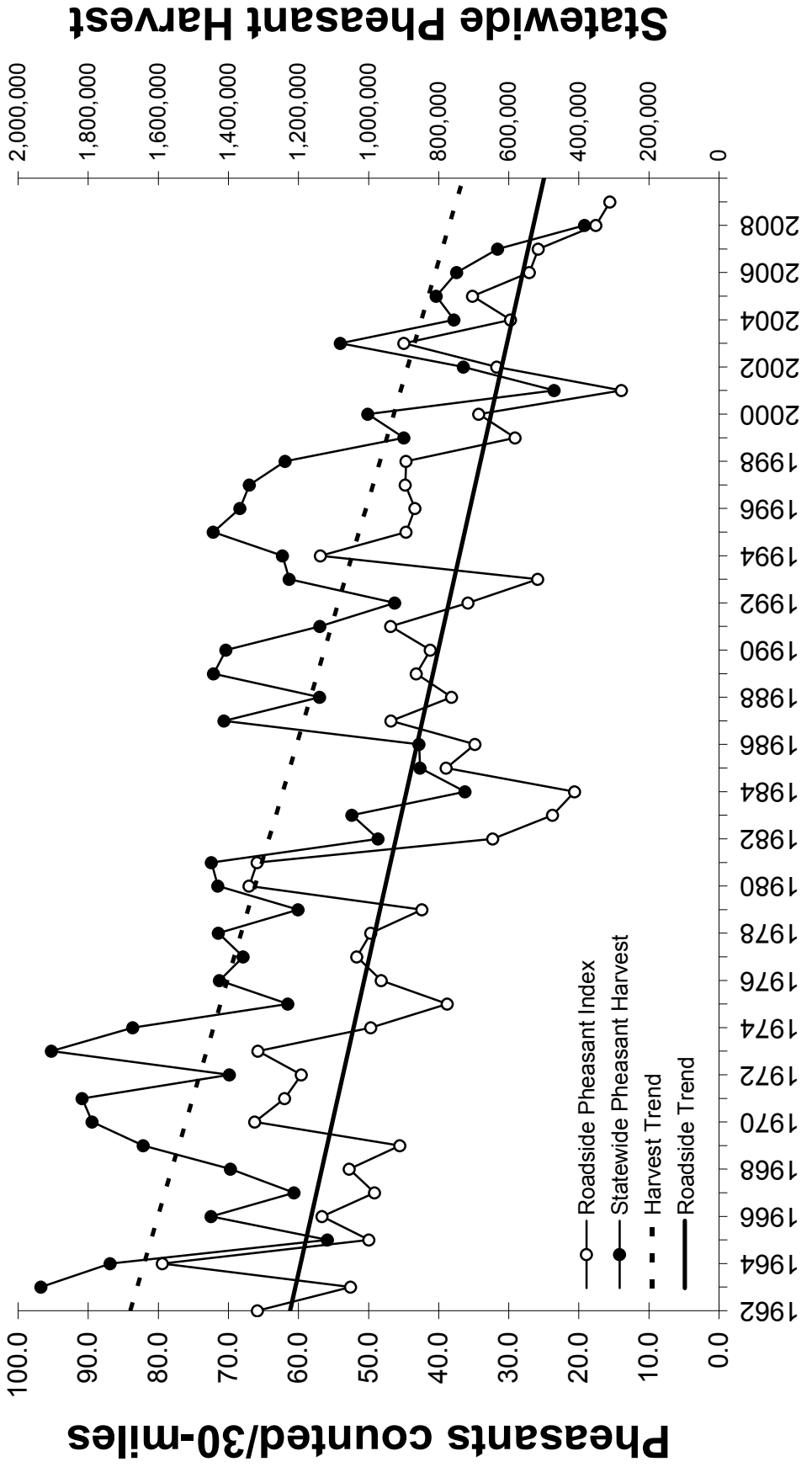


Figure 4. Mean number of pheasants counted on 30-mile August roadside survey routes, statewide, 1962-present compared to total statewide pheasant harvest.

# Statewide Upland Game Trends

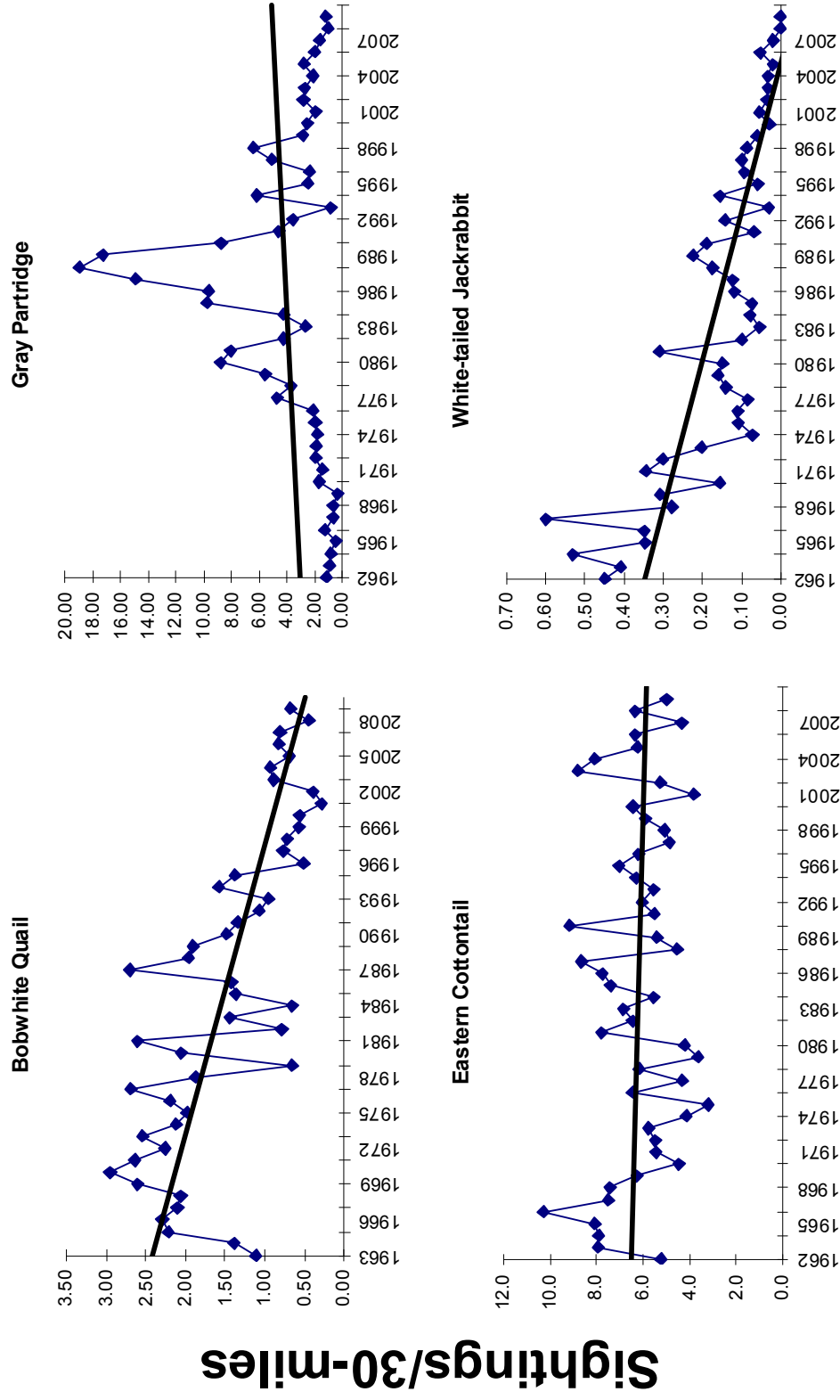


Figure 5. Mean number of quail, partridge, cottontails, and jackrabbits sighted per 30 mile route on the August roadside survey, statewide, 1962 to the present.

# 2009 August Roadside Survey

## Statewide

	2008	2009	Change
Pheasant	17.6	15.6	-11.7%
Quail	0.47	0.75	59.6%
Partridge	0.9	1.2	30.1%
Cottontail	6.3	5.0	-21.0%

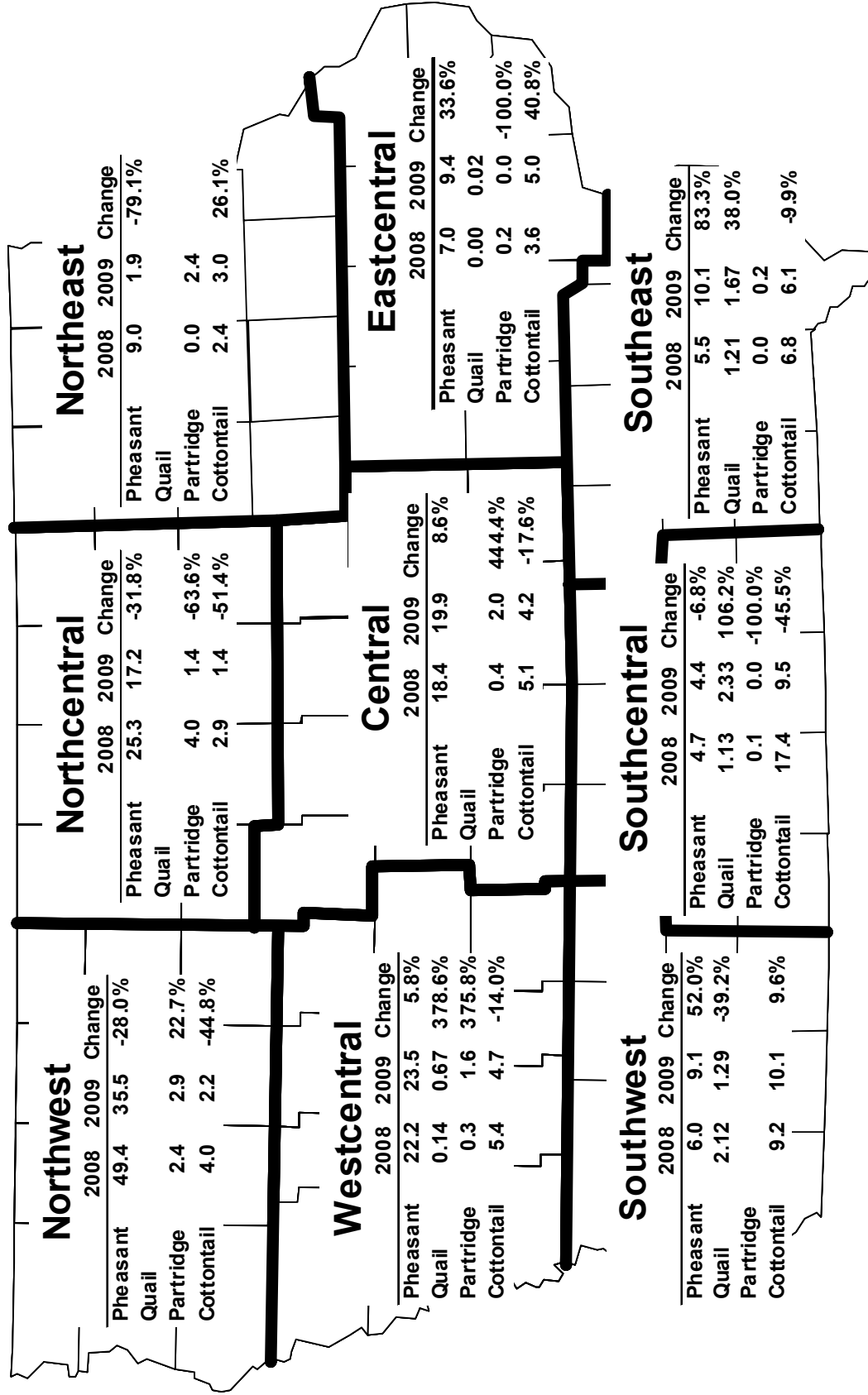
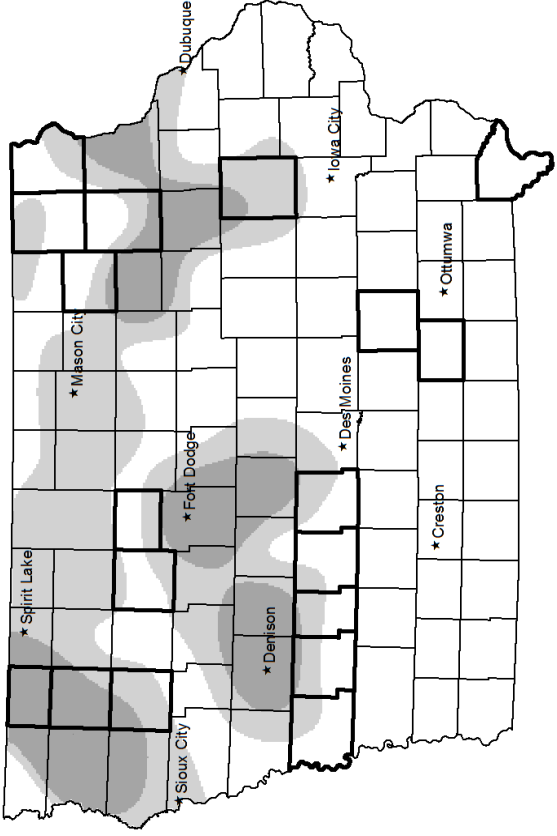
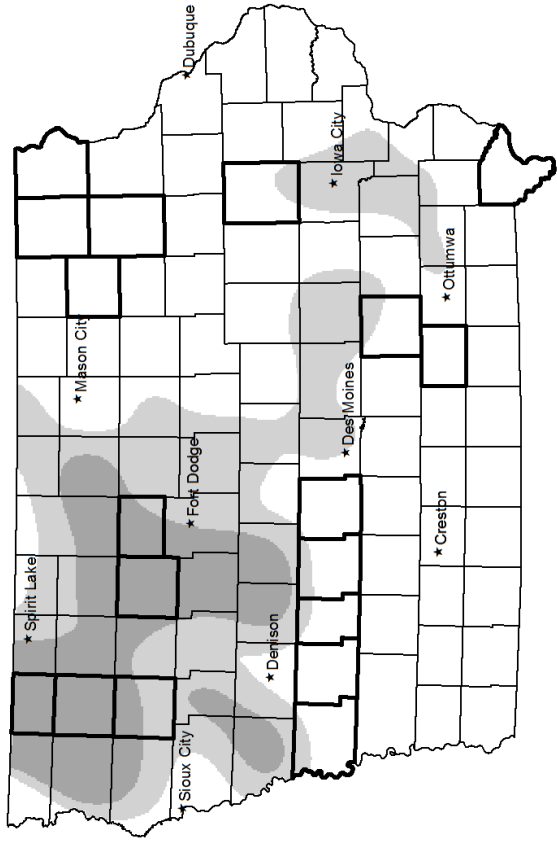


Figure 6. Numbers indicate the average number of animals counted on 30 mile routes in each region (e.g., the northwest region counted an average of 35.5 pheasants on 30-mile survey routes in 2009). Data from 201 of 218 total routes.

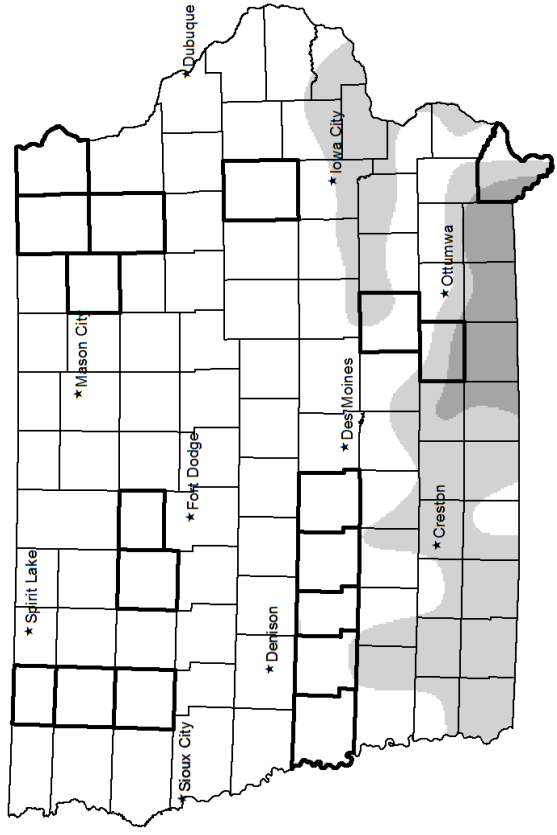
# 2009 GAME DISTRIBUTION

## GRAY PARTRIDGE

### PHEASANT



### QUAIL



### COTTONTAIL

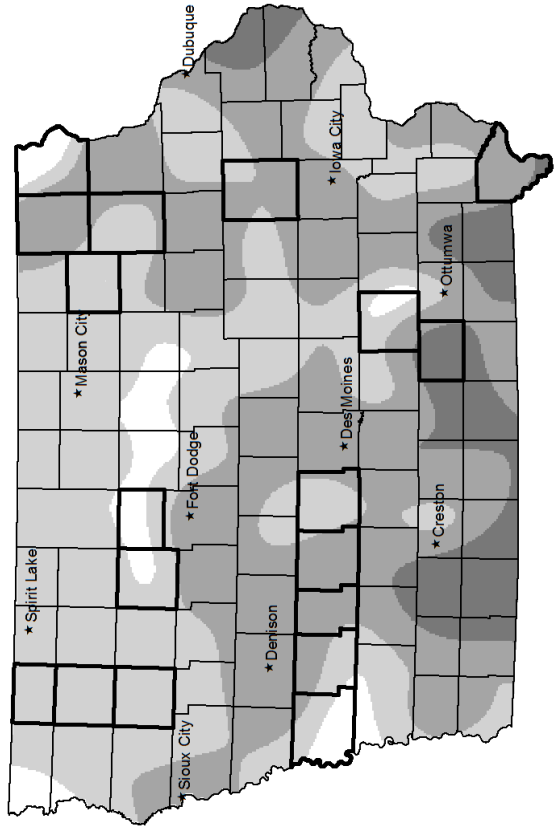


Figure 7. Iowa 2009 small game distribution maps represent generalized game abundance. There can be areas of low game abundance in regions with "high" counts and vice versa. **Bold outlined** counties denote areas of limited or no data due mostly to staff vacancies or cuts.