

2025 Minnesota August Roadside Survey

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2 September 2025

Highlights

- Survey-wide pheasant numbers are up nearly 50% from 2024, thanks to a mild winter and more favorable spring conditions.
- Pheasant indices increased in every region, and were greatest in the Southwest, South Central, West Central, and Central regions. Hunters will have good opportunities in these regions.
- Eastern cottontail rabbit numbers rose sharply in 2025—well above both the 10-year and long-term averages.
- Mourning dove numbers were similar to 2024 and the 10-year average. Indices were greatest in the Southwest and West Central regions.

Summary

The 2025 survey-wide pheasant index (75.2 birds/100 mi) was nearly 50% greater than in 2024 (51.2 birds/100 mi). A mild winter with little snow likely helped the overwinter survival of roosters and hens. Additionally, spring conditions across the state were drier and warmer, creating better conditions for nesting and early brood-rearing. Pheasant indices increased in every region. The biggest increase from 2024 was in the Southeast region (189%), followed by the Southwest (86%), East Central (82%), South Central (40%), Central (33%), and West Central (19%) regions. Indices for other species showed variability among regions. The survey-wide gray partridge index (2.2 birds/100 mi) was greater than in 2024 (1.8 birds/100 mi), but below the 10-year average (2.8 birds/100 mi). The survey-wide mourning dove index (136.7 doves/100 mi) for 2025 decreased by 4% compared to 2024 (142.1 doves/100 mi) and was 3% below the 10-year average (142.4 doves/100 mi). Survey-wide, eastern cottontail rabbit index (14.5 rabbits/100 mi) increased from 2024 (8.8 rabbits/100 mi) and is above the 10-year average (6.2 rabbits/100 mi) and the long-term average (6.1 rabbits/100 mi). The 2025 white-tailed deer survey-wide index (36.9 deer/100 mi) rose by 16% from 2024 (31.8 deer/100 mi) and was 27% greater than the 10-year average.

Introduction

This report summarizes the 2025 Minnesota August Roadside Survey (ARS). Since 1955, Minnesota Department of Natural Resources (MN DNR) wildlife and enforcement personnel have conducted the annual ARS during the first two weeks of August throughout Minnesota's farmland regions (Figure 1). There are 170 established routes, with 149 located within the pheasant range. The 2025 ARS consisted of 167 25-mile routes (1-4 routes/county), of which 146 were located in the ring-necked pheasant range. The 3 routes that were not completed were due to logistical constraints. Routes were surveyed from 31 July to 15 August 2025. Observers drove each route during the early morning (starting at or near sunrise) at 15-20 mi/hr and recorded the number of pheasants (*Phasianus colchicus*), gray (Hungarian) partridge (*Perdix perdix*), eastern cottontail rabbits (*Sylvilagus floridanus*), white-tailed jackrabbits (*Lepus townsendii*), white-tailed deer (*Odocoileus virginianus*), mourning doves (*Zenaida macroura*), sandhill cranes (*Grus canadensis*), and other wildlife they observed, including information on sex and age of these species whenever possible. Counts conducted on cool, clear, calm mornings with heavy dew yield the most consistent results because wildlife (especially pheasants, gray partridge, and rabbits) move to warm, dry areas (e.g., gravel roads) during early-morning hours. These data provide an **index of relative abundance** to monitor long-term trends in regional and survey-wide populations. Results are reported by agricultural region and survey-wide; however, population indices for species with a low number of observations (e.g., gray partridge, white-tailed jackrabbits) are imprecise and unreliable and should be interpreted with caution.

Habitat Conditions

Upland wildlife habitat on public and private lands statewide increased by 105,896 acres in 2025 compared to 2024. There was an almost 80,000-acre increase in lands enrolled in the Conservation Reserve Program (CRP) and a 14,000-acre increase in federally managed U. S. Fish and Wildlife Service (USFWS) Waterfowl Production Areas, wildlife refuges, and conservation easements compared to 2024. Private lands enrolled in Reinvest in Minnesota (RIM) and public Wildlife Management Areas managed by the DNR also increased by approximately 4,400 and 7,100 acres, respectively, from 2024. Private lands enrolled in the Conservation Reserve Enhancement Program (CREP) also increased by approximately 1,400 acres compared to 2024. Total protected lands account for 7.1% of lands within the pheasant range (Table 1), marginally greater than the value in 2024 (6.7%). The West Central and Southwest regions have the highest proportion of protected lands, 10.1% and 7.6%, respectively, and together account for 51% of all protected land in the pheasant range (Table 1).

Weather Summary

Following National Oceanic and Atmospheric Administration conventions, the 30-year period used to calculate normal temperatures now includes 1991–2020 (MRCC 2025). Statewide weather conditions for pheasants were warmer in 2024–2025, with a drier spring but wetter summer. The winter was characterized by mild temperatures and meager snow accumulation across the state, especially in the central and southern regions (Table 2). The average snow depth was less than an inch across the

southern part of the state and increased as you move north, with the Northwest region receiving the greatest amount at 5.2 inches (MNDNR 2025; Table 2). All regions were warmer than average during winter (MRCC 2025; Table 2). Spring was warmer and slightly drier than average across most regions (MRCC 2025; Table 2). Summer was also warmer across and wetter in most regions, except for the Northwest region, which was slightly drier (MRCC 2025; Table 2).

Survey Conditions

Weather conditions during surveys were good in 2025. Temperature, dew, wind, and sky cover conditions were all similar to 10-year averages. Thus, weather conditions in 2025 were unlikely to influence survey results substantially.

Species Reports

Ring-necked Pheasant

The 2025 survey-wide total pheasant index (75.2 birds/100 mi) was nearly 50% greater than in 2024 (51.2 birds/100 mi; Table 3, Figure 2A). Survey-wide indices of roosters, hens, and broods increased by 53%, 48%, and 50%, respectively, compared to 2024 (Table 3). The number of chicks per brood (4.0) was similar to 2024 (4.1); however, broods per 100 hens (80.6) increased from 2024 (76.9) (Table 3). The total number of pheasants, roosters, hens, and broods per 100 miles all exceeded their 10-year averages, but the index of broods per 100 hens and chicks per brood declined by 15% and 16%, respectively, from the 10-year averages (Table 3). The 2025 survey-wide indices for roosters, hens, and broods were above their long-term averages, but the index of chicks per brood was 30% less than the long-term average (5.5; Table 3). This suggests that nesting and brood-rearing in 2025 were not as successful compared to historic estimates.

Pheasant indices increased in every region. The pheasant index increased the most from 2024 in the Southeast region (189%), followed by the Southwest (86%), East Central (82%), South Central (40%), Central (33%), and West Central (19%) regions (Table 4). Pheasant indices are also above their 10-year averages in every region within the pheasant range. The Southwest (152.4 birds/100 mi), South Central (82.1 birds/100 mi), and West Central (76.3 birds/100 mi) regions had the highest indices, followed by the Central region (59.2 birds/100 mi). These regions should provide the best pheasant hunting opportunities in the state.

Gray Partridge

The point estimate for the 2025 survey-wide gray partridge index (2.2 birds/100 mi) was slightly greater than 2024 (1.8 birds/100 mi), but lower than the 10-year average (2.8 birds/100 mi). The partridge index remains 82% below the long-term average (12.1 birds/100 mi; Table 3, Figure 2B). Partridges are generally rare throughout the state but may be locally abundant. Intensified agricultural land use (e.g., corn and soybeans) has reduced the amount of suitable habitat for gray partridge in Minnesota. Additionally, gray partridge in their native range (southeastern Europe and northern Asia) are associated with arid climates, and their reproductive success in the Midwestern United States is limited except

during successive dry years. Thus, gray partridge are more adversely affected by excessive rainfall during the breeding season compared to pheasants. In 2025, the Southwest and Southeast regions had the greatest number of observations, 6.3 birds/100 mi and 6.2 birds/100 mi, respectively, and should provide the best opportunities for harvesting gray partridge (Table 4).

Cottontail Rabbit and White-tailed Jackrabbit

Survey-wide, the 2025 eastern cottontail rabbit index (14.5 rabbits/100 mi) increased from 2024 (8.8 rabbits/100 mi) and is above the 10-year average (6.2 rabbits/100 mi) and the long-term average (6.1 rabbits/100 mi; Table 3, Figure 3A). The East Central region had the highest cottontail index (42.0 rabbits/100 mi); however, the Southwest, South Central, and Southeast region indices were each greater than 17 rabbits/100 mi (Table 4) and should provide good hunting opportunities in addition to the East Central region.

White-tailed jackrabbits were observed on seven routes: Northwest (2 routes), West Central (2 routes), Southwest (1 route), South Central (1 route), and Southeast (1 route). Five routes reported a single jackrabbit, while two jackrabbits were observed along two routes. Jackrabbits are rarely detected, making annual or short-term trend comparisons difficult. Still, jackrabbit indices remain below the long-term averages (Table 3, Figure 3B). Minnesota's jackrabbit population peaked in the late 1950s, declined to low levels in the 1980s, and has remained at low levels since then. The long-term decline in jackrabbits can primarily be attributed to the loss of preferred habitats (e.g., pasture, hayfields, and small grains).

White-tailed Deer

The 2025 white-tailed deer survey-wide index (36.9 deer/100 mi) increased by 16% compared to 2024 (31.8 deer/100 mi) and was 27% above the 10-year average (Table 3, Figure 4A). The survey-wide index was 203% above the long-term average (11.9 deer/100 mi; Table 3, Figure 4A). Regional indices for deer were similar or increased (range: -10–123%) across all regions except for the Northwest, which declined slightly (-15%) (Table 4).

Mourning Dove

The 2025 survey-wide mourning dove index (136.7 doves/100 mi) decreased slightly compared to the 2024 index (142.1 doves/100 mi; -4%) and the 10-year average (142.4 doves/100 mi; 3%), and was 42% below the long-term average (235.0 doves/100 mi; Table 3, Figure 4B). The 2025 dove index remained similar in the East Central region (3% increase from 2024), declined across West Central, Central, Southwest, and South Central regions (range: 7–17%), and increased in the Northwest and Southeast regions (range: 28–34%; Table 4). Dove indices were highest in the Southwest (194.3 doves/100 mi) and West Central (197.6 doves/100 mi) regions, indicating the best opportunities for harvesting doves.

Sandhill Crane

The 2025 survey-wide index of sandhill cranes (14.9 total cranes/100 mi) was slightly lower than in 2024 (16.8 total cranes/100 mi) and similar to the 10-year average (14.5 total cranes/100 mi; Table 3). Annual

changes in regional indices varied widely. The West Central and Central Regions experienced increases of 63% and 56% in the total crane index, respectively, whereas the Northwest region index decreased by 71% (Table 4). The Northwest region index was 67% below its 10-year average. However, crane numbers increased in the West Central, Central, and East Central regions compared to their 10-year averages (Table 4). Crane observations during the ARS are less common in the West Central, South Central, and Southeast regions, and have yet to be reported in the Southwest region.

Other Species

Notable incidental sightings by observers included a sharp-tailed grouse in Marshall County and a black-billed cuckoo in Mower County.

Acknowledgments

We thank our many cooperators for completing the routes required for this survey; without their efforts, this survey would not be possible. Dusty VanThuyne (Minnesota Board of Water and Soil Resources) provided enrollment data on cropland retirement programs in Minnesota, and Lisa Rairdin (U.S. Fish and Wildlife Service) provided federal land acquisition data. Kate Carlson (MNIT Services Regional GIS Support) assisted with updating spatial layers. Bram Verheijen, Nicole Davros, and Seth Gorham (MN DNR Wildlife Research) reviewed an earlier draft of this report. This work was funded in part through the Federal Aid in Wildlife Restoration Act.

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Table 1. Abundance (total acres) and density (acres/mi²) of undisturbed grassland habitat within Minnesota's pheasant range, 2025, by agricultural region (AGREG).

AGREG	Cropland Retirement (private lands) ^a					Public Lands		Total	% of landscape	Density ac/mi ²
	CRP ^b	CREP ^c	RIM ^d	RIM-WRP ^e	WRP ^f	USFWS ^g	MNDNR ^h			
WC	238,782	43,097	24,039	14,275	20,305	230,662	117,940	689,100	10.1%	64.9
SW	180,998	37,481	14,802	10,780	9,107	14,106	40,934	308,208	7.6%	48.8
C	122,214	37,541	22,435	2,553	766	30,293	70,857	286,659	7.6%	48.5
SC	122,641	21,765	53,289	7,026	3,190	100,186	56,742	364,839	6.0%	38.6
SE	77,057	4,073	7,390	1,070	1,577	37,345	59,613	188,125	5.1%	32.5
EC	2,545	0	2,174	0	4	5,851	100,010	110,584	3.4%	22.1
Total	744,237	143,957	124,129	35,704	34,949	418,443	446,096	1,947,515	7.1%	45.2

^a Unpublished data, BWSR, 4 August 2025.

^b Conservation Reserve Program (CRP).

^c Conservation Reserve Enhancement Program (CREP).

^d Reinvest in Minnesota (RIM).

^e Reinvest in Minnesota-Wetland Reserve Program (RIM-WRP).

^f Wetland Reserve Program (WRP).

^g Includes USFWS Waterfowl Production Areas (WPA), USFWS refuges, and USFWS conservation easements.

^h MN DNR Wildlife Management Areas (WMA). Comparisons to 2020 and earlier years are invalid due to data source changes.

Table 2. Average temperature, snow depth, and precipitation by season and agricultural region in Minnesota, December 2024 – July 2025.

	Agricultural Region							STATE
	NW	WC	C	EC	SW	SC	SE	
Winter (December 1 - March 31)								
Temperature (average °F)	15.2	19.4	20.8	19.1	22.8	23.3	23.4	20.6
Departure from normal (°F) ^a	1.2	1.4	1.7	0.8	1.7	1.8	1.6	1.4
Snow Depth (average inches)	5.2	1.7	1.3	1.9	0.5	0.9	0.9	1.3
Spring (April 1 - May 31)								
Temperature (average °F)	49.4	51.2	51.6	49.2	52.1	52.8	51.5	51.1
Departure from normal (°F) ^a	2.0	1.4	1.5	0.6	1.2	1.1	0.2	1.1
Precipitation (total inches)	2.2	2.9	2.9	2.4	2.4	3.2	3.7	2.8
Departure from normal (inches) ^a	0.0	0.2	-0.3	-0.7	-1.1	-0.7	-0.4	-0.4
Summer (June 1 - July 31)								
Temperature (average °F)	66.2	68.8	69.3	67.3	71.0	71.4	70.8	69.3
Departure from normal (°F)	0.0	0.2	0.5	0.5	1.4	1.5	1.7	0.8
Precipitation (total inches)	3.4	5.5	6.1	5.1	5.2	6.3	5.4	5.3
Departure from normal (inches) ^a	-0.5	1.4	1.8	0.6	1	1.6	0.5	0.9

^a Departures calculated using the 30-year NOAA average (1991-2020) over the respective time period.

Table 3. Survey-wide trends (% change) in wildlife observed per 100 miles driven, Minnesota August roadside survey, 1955-2025.

Species Subgroup	Change from 2024 ^a				Change from 10-year average ^b				Change from long-term average (LTA) ^c				
	<i>n</i>	2024	2025	%	95% CI	<i>n</i>	2015-2024	%	95% CI	<i>n</i>	LTA	%	95% CI
Ring-necked pheasant													
Total pheasants	148	51.2	75.2	47	±18	146	46.1	64	±21	146	88.5	-17	±12
Roosters	148	8.7	13.4	53	±31	146	6.7	101	±28	146	10.4	24	±19
Hens	148	9.9	14.7	48	±18	146	7.2	106	±27	146	13.0	11	±16
Broods	148	7.9	11.9	50	±22	146	7.0	74	±24	146	11.8	12	±16
Broods per 100 hens	439 ^d	76.9	80.6				96.8	-15			90.6	-8	
Chicks per brood	439 ^d	4.1	4.0				4.6	-16			5.5	-30	
Median hatch date	439 ^d	12-Jun	17-Jun				16-Jun				9-Jun		
Gray partridge	167	1.8	2.2	21	±110	165	2.8	-22	±70	165	12.1	-82	±16
Eastern cottontail	167	8.8	14.5	64	±22	165	6.2	118	±32	165	6.1	135	±32
White-tailed jackrabbit^e	167	0.3	0.2			165	0.1			165	1.4		
White-tailed deer	167	31.8	36.9	16	±6	165	28.6	27	±7	165	11.9	203	±17
Mourning dove	167	142.1	136.7	-4	±1	165	142.4	-3	±1	165	235.0	-42	±1
Sandhill crane^f													
Total cranes	167	16.8	14.9	-11	±12	165	14.5	-30	±14				
Juveniles	167	2.2	1.5	-31	±92	165	1.6	-26	±120				

^a Includes the Northwest region, except for pheasants. Estimates based on routes (*n*) surveyed in both years.

^b Includes the Northwest region, except for pheasants. Estimates based on routes (*n*) surveyed for at least 9 of the 10 years.

^c LTA = long-term average during years 1955-2025, except for deer (1974-2025). Estimates for all species except deer are based on routes (*n*) surveyed >40 years; estimates for deer are based on routes surveyed ≥25 years. Thus, the Northwest region (8 counties in the Northwest were added to the survey in 1982) included only deer.

^d Sample size is the total number of broods observed across all surveys rather than the number of routes run in 2025.

^e White-tailed jackrabbits are too rare to make comparisons.

^f Sandhill cranes were added to the survey in 2009; thus, long-term averages are not calculated.

Table 4. Regional trends (% change) in number of wildlife observed per 100 miles driven, Minnesota August roadside survey, 1955-2025.

Region Species	Change from 2024 ^a				Change from 10-year average ^b				Change from long-term average (LTA) ^c				
	<i>n</i>	2024	2025	%	95% CI	<i>n</i>	2015-2024	%	95% CI	<i>n</i>	LTA	%	95% CI
Northwest^d													
Gray partridge ^e	19	1.3	0.0	-100	±166	19	3.0			19	3.1	-100	±67.5
Eastern cottontail ^e	19	1.3	1.9			19	1.2			19	0.9		
White-tailed jackrabbit ^e	19	0.8	0.6			19	0.2			19	0.5		
White-tailed deer	19	63.6	54.3	-15	±3	19	59.9	-9	±4	19	37.6	45	±5.6
Mourning dove	19	97.5	124.8	28	±2	19	100.7	24	±2	19	115.1	9	±1.8
Sandhill crane ^f	19	55.4	16.0	-71	±4	19	48.7	-67	±4				
West Central^e													
Ring-necked pheasant	38	64.1	76.3	19	±3	38	53.9	42	±4	36	90.8	-24	±2
Gray partridge ^e	38	0.3	0.5	67	±642	38	0.5			36	8.2	-93	±25
Eastern cottontail	38	7.1	7.6	8	±29	38	3.4	124	±60	36	3.9	75	±52
White-tailed jackrabbit ^e	38	0.5	0.2			38	0.2			36	1.9	-89	±105
White-tailed deer	38	39.2	45.6	16	±5	38	32.2	41	±6	36	11.0	290	±19
Mourning dove	38	213.1	197.6	-8	±1	38	185.8	6	±1	36	341.4	-43	±1
Sandhill crane ^f	38	7.6	12.3	63	±27	38	4.0	208	±51				
Central													
Ring-necked pheasant	29	44.6	59.2	33	±4	29	41.3	59	±5	29	66.6	-11	±3
Gray partridge ^e	29	0.7	0.6	-20	±297	29	1.9			29	8.0	-93	±6
Eastern cottontail	29	9.1	15.4	70	±23	29	6.7	15	±31	29	6.4	142	±32
White-tailed jackrabbit ^e	29	0.1	0.0			29	0.1			29	1.0		
White-tailed deer	29	29.2	30.1	3	±7	29	28.7	30	±7	29	8.1	273	±25
Mourning dove	29	106.2	98.9	-7	±2	29	121.7	99	±2	29	209.6	-53	±1
Sandhill crane ^f	29	18.9	29.5	56	±11	29	24.3	30	±8				
East Central													
Ring-necked pheasant	10	20.5	37.2	82	±6	8	26.7	22	±9	10	77.1	-52	±3
Gray partridge ^e	10	0.0	0.0			8	0.3			10	0.2		
Eastern cottontail	10	10.4	42.0	302	±22	8	11.7	157	±20	10	10.2	310	±22
White-tailed jackrabbit ^e	10	0.0	0.0			8	0.0			10	0.2	-100	
White-tailed deer	10	49.5	110.4	123	±5	8	38.3	214	±6	10	12.7	768	±18
Mourning dove	10	64.9	66.8	3	±4	8	61.7	27	±4	10	106.4	-37	±2
Sandhill crane ^f	10	63.8	70.8	11	±4	8	61.2	15	±4				

Table 4. Continued.

Region Species	Change from 2024 ^a				Change from 10-year average ^b				Change from long-term average (LTA) ^c				
	<i>n</i>	2024	2025	%	95% CI	<i>n</i>	2015-2024	%	95% CI	<i>n</i>	LTA	%	95% CI
Southwest													
Ring-necked pheasant	19	81.8	152.4	86	±1	19	72.3	111	±3	19	108.9	40	±2
Gray partridge	19	11.4	6.3	-44	±19	19	5.7	10	±37	19	34.4	-82	±6
Eastern cottontail	19	9.7	17.7	83	±22	19	6.5	170	±32	19	7.9	124	±27
White-tailed jackrabbit ^e	19	0.2	0.2			19	0.3			19	3.1	-93	±67
White-tailed deer	19	20.0	18.1	-10	±11	19	20.8	-13	±10	19	8.8	107	±24
Mourning dove	19	214.8	194.3	-10	±1	19	186.3	4	±1	19	290.8	-33	±1
Sandhill crane ^{e,f}	19	0.0	0.0			19	0.0						
South Central													
Ring-necked pheasant	32	58.6	82.1	40	±3	32	49.2	67	±4	32	114.0	-28	±2
Gray partridge	32	0.8	2.6	250	±272	32	4.4	-41	±46	32	16.0	-84	±13
Eastern cottontail	32	12.9	17.2	34	±16	32	7.6	127	±27	32	7.7	123	±26
White-tailed jackrabbit ^e	32	0.0	0.1			32	0.0			32	1.4		
White-tailed deer	32	11.2	13.9	23	±18	32	10.8	29	±19	32	4.0	251	±52
Mourning dove	32	139.2	115.1	-17	±2	32	160.3	-28	±1	32	240.9	-52	±1
Sandhill crane ^f	32	5.5	3.6	-34	±37	32	3.2	15	±65				
Southeast													
Ring-necked pheasant	20	10.8	31.2	189	±7	20	16.4	31	±90	20	61.5	-49	±3
Gray partridge	20	0.2	6.2	3000	±1047	20	4.1	6	±51	20	11.9	-48	±18
Eastern cottontail	20	10.8	17.0	57	±19	20	11.2	17	±52	20	8.4	103	±25
White-tailed jackrabbit ^e	20	0.0	0.4			20	0.0			20	0.5		
White-tailed deer	20	26.6	31.8	20	±8	20	24.3	32	±31	20	10.4	205	±20
Mourning dove	20	76.1	102.0	34	±3	20	91.1	102	±12	20	195.9	-48	±1
Sandhill crane ^{e,f}	20	5.0	1.4			20	1.3						

^a Based on routes (*n*) surveyed in both years.

^b Based on routes (*n*) surveyed at least 9 of 10 years.

^c LTA = long-term average during years 1955-2025, except for Northwest region (1982-2025) and white-tailed deer (1974-2025). Estimates based on routes (*n*) surveyed ≥40 years (1955-2025), except for Northwest (≥20 years) and white-tailed deer (≥25 years).

^d Eight Northwestern counties (19 routes) were added to the August roadside survey in 1982.

^e Species may be too infrequently observed to calculate some trends.

^f Sandhill cranes were added to the survey in 2009; thus, long-term averages are not calculated.

^g Two routes were added to the West Central region in 2014.

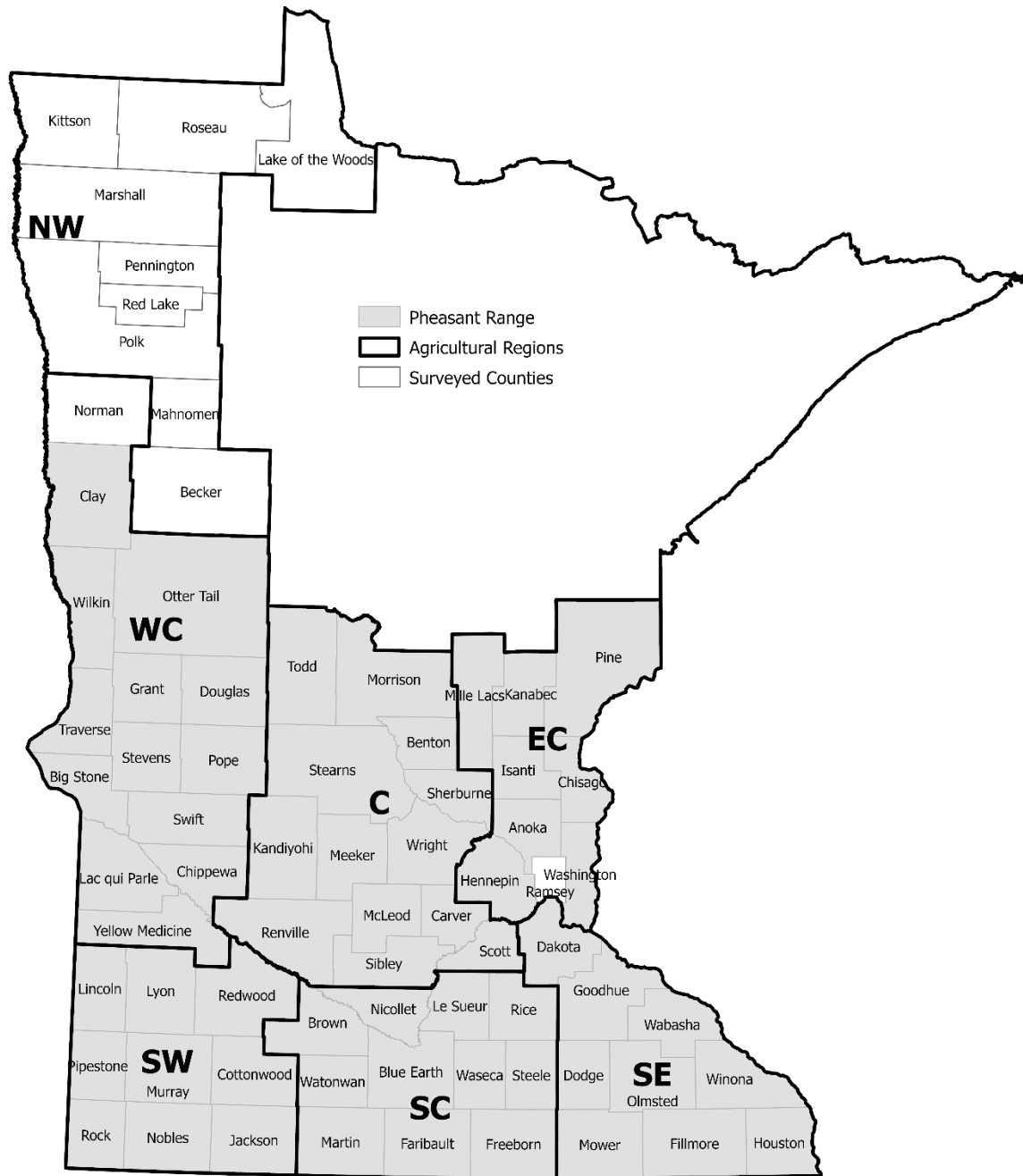


Figure 1. Survey regions and ring-necked pheasant range delineation for Minnesota's August roadside survey, 2025.

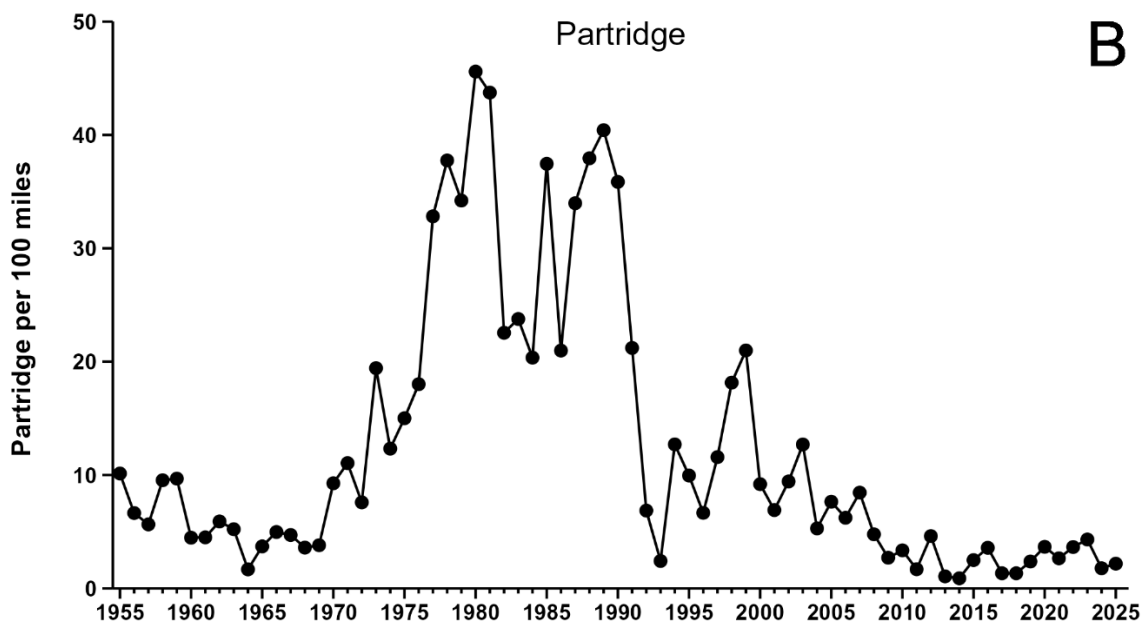
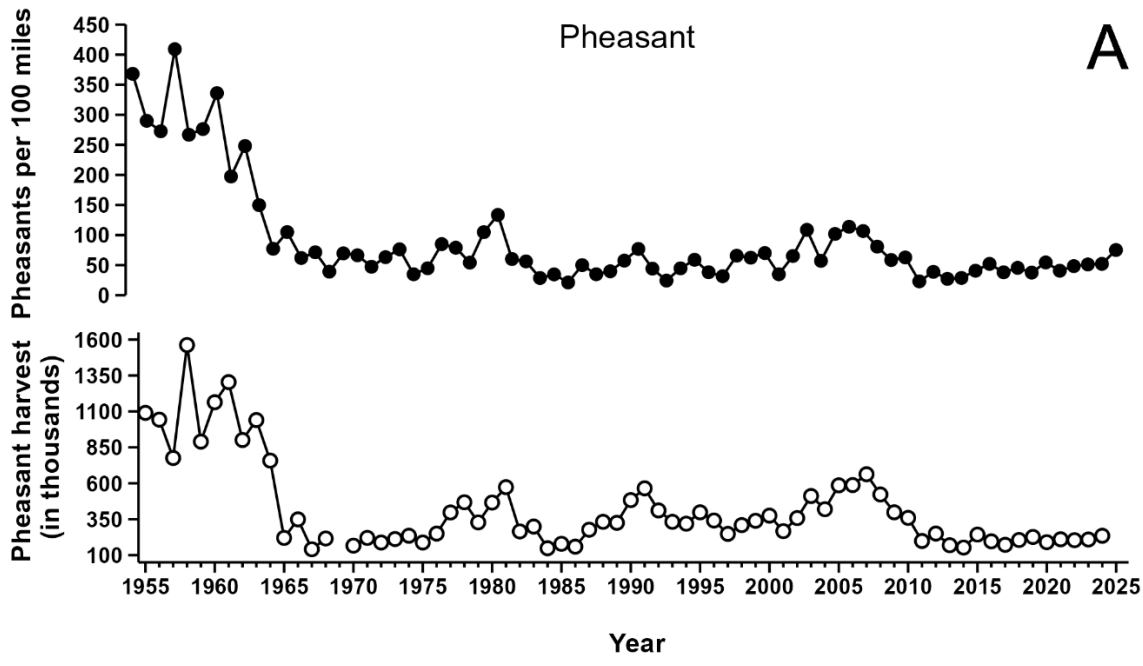


Figure 2. Survey-wide index of ring-necked pheasants (A) and gray partridge (B) seen per 100 miles driven during August roadside surveys in Minnesota, 1955-2025. Based on all survey routes completed.

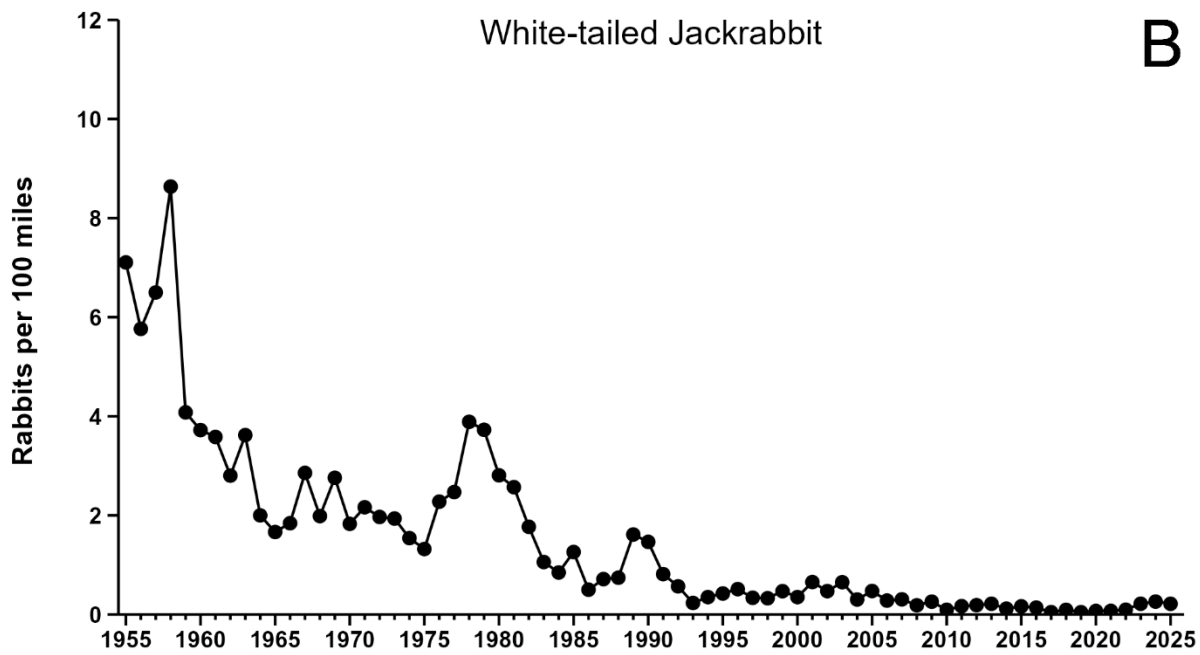
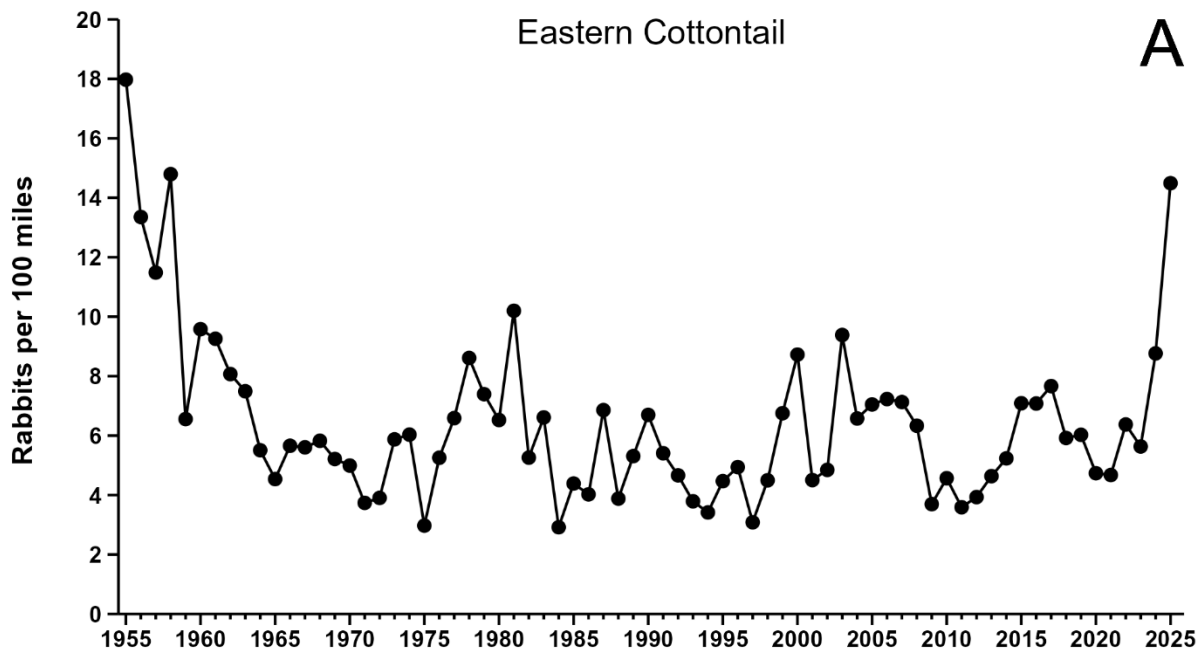


Figure 3. Survey-wide index of eastern cottontail (A) and white-tailed jackrabbits (B) seen per 100 miles driven during August roadside surveys in Minnesota, 1955-2025. Based on all survey routes completed.

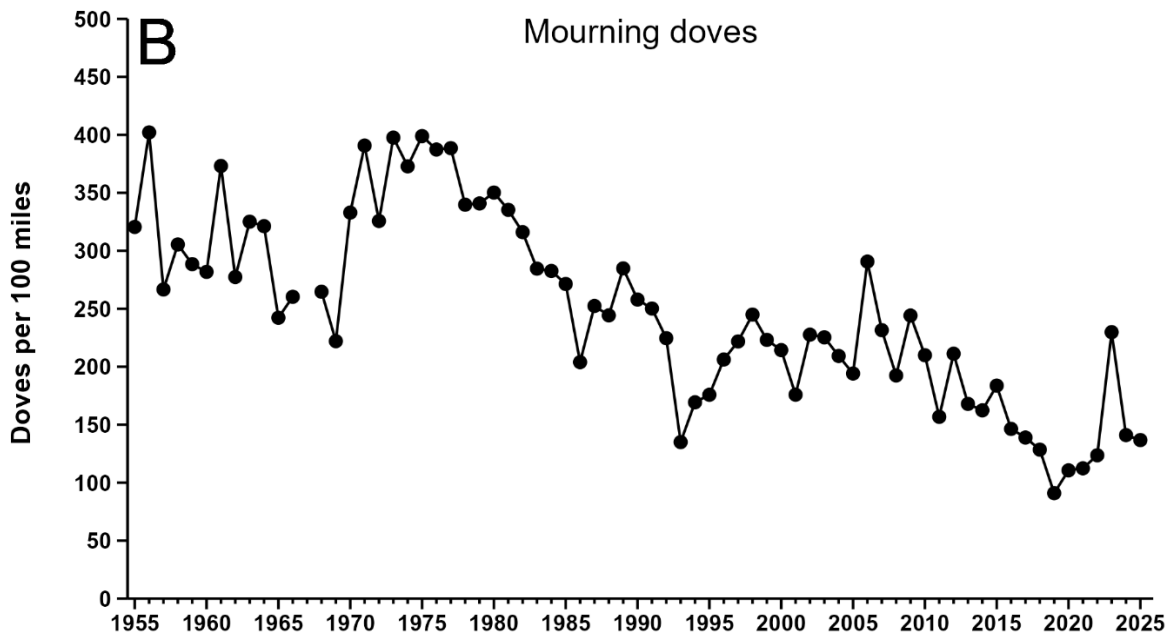
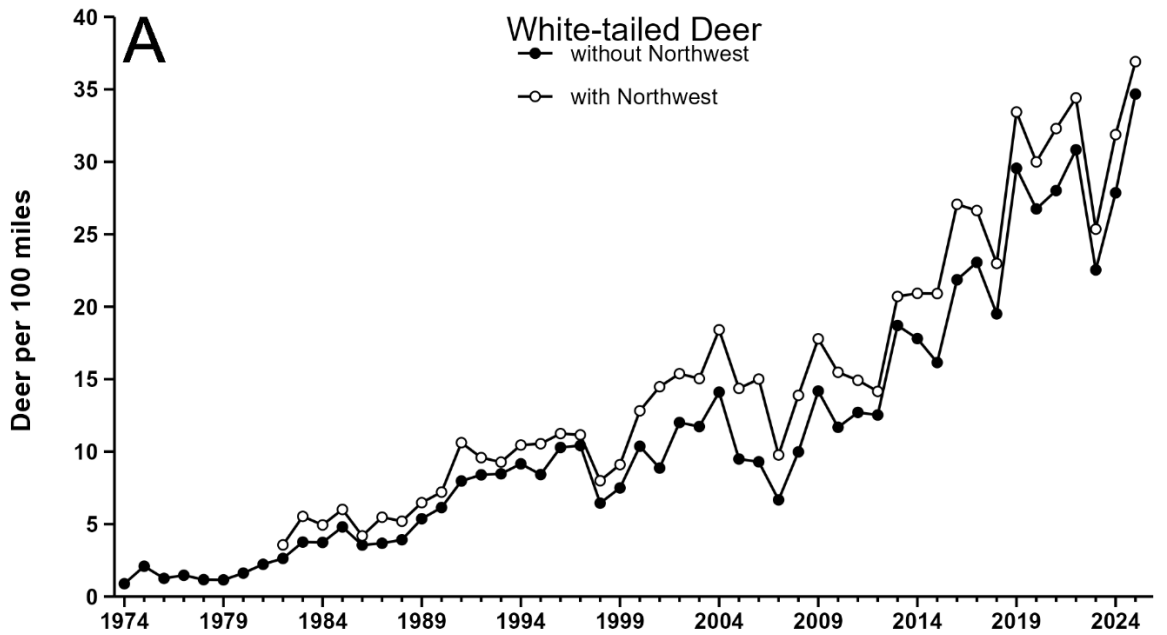


Figure 4. Survey-wide index of (A) white-tailed deer seen per 100 miles driven in Minnesota, 1974-2025, with and without the Northwest region included; and (B) mourning doves seen per 100 miles driven in Minnesota, 1955-2025. Based on all survey routes completed during August roadside surveys.