

Ruffed Grouse Drumming Survey 2010

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Abstract

Statewide ruffed grouse population indices decreased 5% between 2009 and 2010, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, but the statewide mean number of drums/stop did not change significantly ($P= 0.89$) from 2009 to 2010. Drummer densities on the Sandhill Wildlife Area in Wood County increased 2%. The Stone Lake Experimental Area in Oneida County increased 6% from 2009 levels.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 87 transects throughout the state in 2010. Thirty statewide transects were considered to be zero and not run in 2010. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2010. This year marked the seventeenth year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they are to be run again every 3 years to confirm that they indeed are still zero.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR UNIX computer system and summarized using the Statistical Analysis System (SAS).

Research Census Areas

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake Area since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the un hunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat.

Results

Statewide

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 87 transects in 2010. Thirty transects were considered to be zero and not run in 2010. The total number of routes used in estimating a statewide ruffed grouse drumming index in 2010 was 117. This is the same number of transects used in the spring of 2009.

Statewide, ruffed grouse population indices showed a decrease in Wisconsin between 2009 and 2010 (Table 1). This is the first decrease in the ruffed grouse index in the last five years. Survey indices show a decrease in drumming grouse in three of the four regions of the state (Fig. 1). Statewide, overall density decreases were not significant ($P= 0.89$) during 2009-2010. Transects completed in both 2009 and 2010 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 32 to 23 those that showed increases, with 62 transects unchanged.

Brood production in the summer of 2009 was 17% lower than in 2008 and may have set the stage for the decrease in breeding grouse in 2010. Wisconsin's primary grouse range, the Central and Northern regions, showed slight decreases in breeding grouse, it would appear that Wisconsin is at the top of the current grouse cycle. Good brood rearing conditions in the summer of 2010 could set the stage for good numbers of grouse in the fall.

Survey conditions for 2010 were very similar to those in 2009. Surveyors rated the overall survey conditions as "excellent" on 58% of transects run, while 56% rated the overall conditions as "excellent" in 2009. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 8% of the time in 2010 compared to 5% in 2009. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

Research Census Areas

Grouse numbers on the Sandhill Wildlife Area were up in 2010 (Table 2). Sandhill Wildlife Area increased 2% (53 vs. 52 birds in 2009) while the central region of the state showed a decrease of 4% in drumming activity on the roadside survey. The unhunted portion of the wildlife area (1,300 acres) decreased by 1 bird in 2010 (16 vs. 17 in 2009). The hunted portion of the wildlife area (2,020 acres) had an increase in breeding grouse, with 37 birds counted in 2010, up from 35 in 2009. The Stone Lake census area had seventy-two birds counted this spring; sixty-eight birds were counted in the spring of 2009. This is an increase of 6% on the Stone Lake area, while the northern region of the state showed a 6% decrease on the road side survey. The survey technique used to measure grouse densities on these two areas is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously.

Table 1. Ruffed Grouse drumming results 2009-2010, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2009 levels.

Region	Drums/Stop 2009 (routes run)	Drums/Stop 2010 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	1.05 (27)	1.01 (27)	-4%	7	6	14
Northern	1.76 (43)	1.65 (43)	-6%	20	13	10
Southeast	0.05 (30)	0.08 (30)	+60%	2	2	26
Southwest	0.28 (17)	0.22 (17)	-21%	3	2	12
Statewide	0.94 (117)	0.89 (117)	-5%	32	23	62

Table 2. Drummer densities on the DNR research census areas, 2009-2010.

Area	No. of Drummers (No./100A)	
	2009	2010
Sandhill Hunted (2,020 Acres)	35 (1.7)	37 (1.8)
Sandhill Unhunted (1,300 Acres)	17 (1.3)	16 (1.2)
Stone Lake Exp. Area (3,310 Acres)	68 (2.1)	72 (2.2)

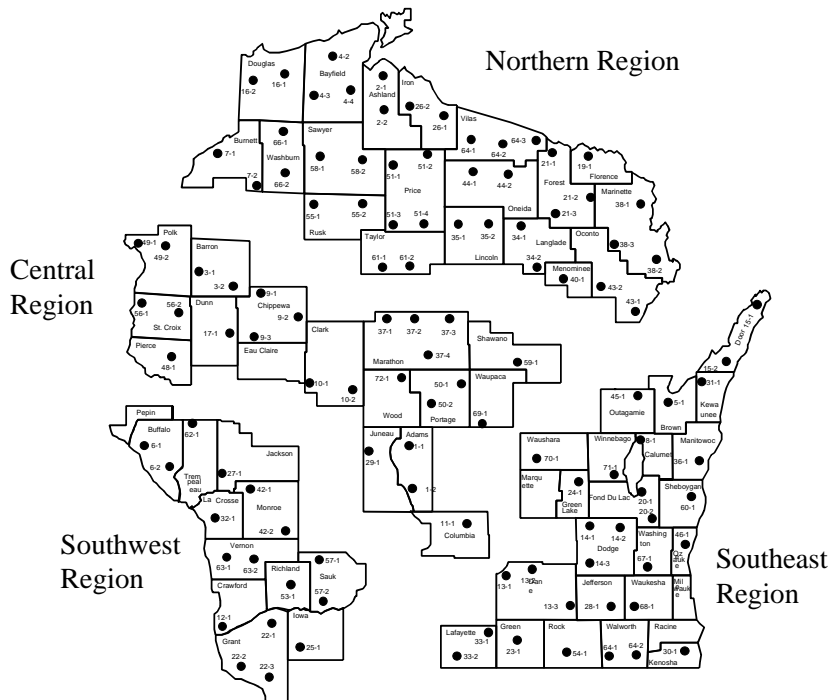


Figure 1. Ruffed grouse drumming regions with transect starting points.

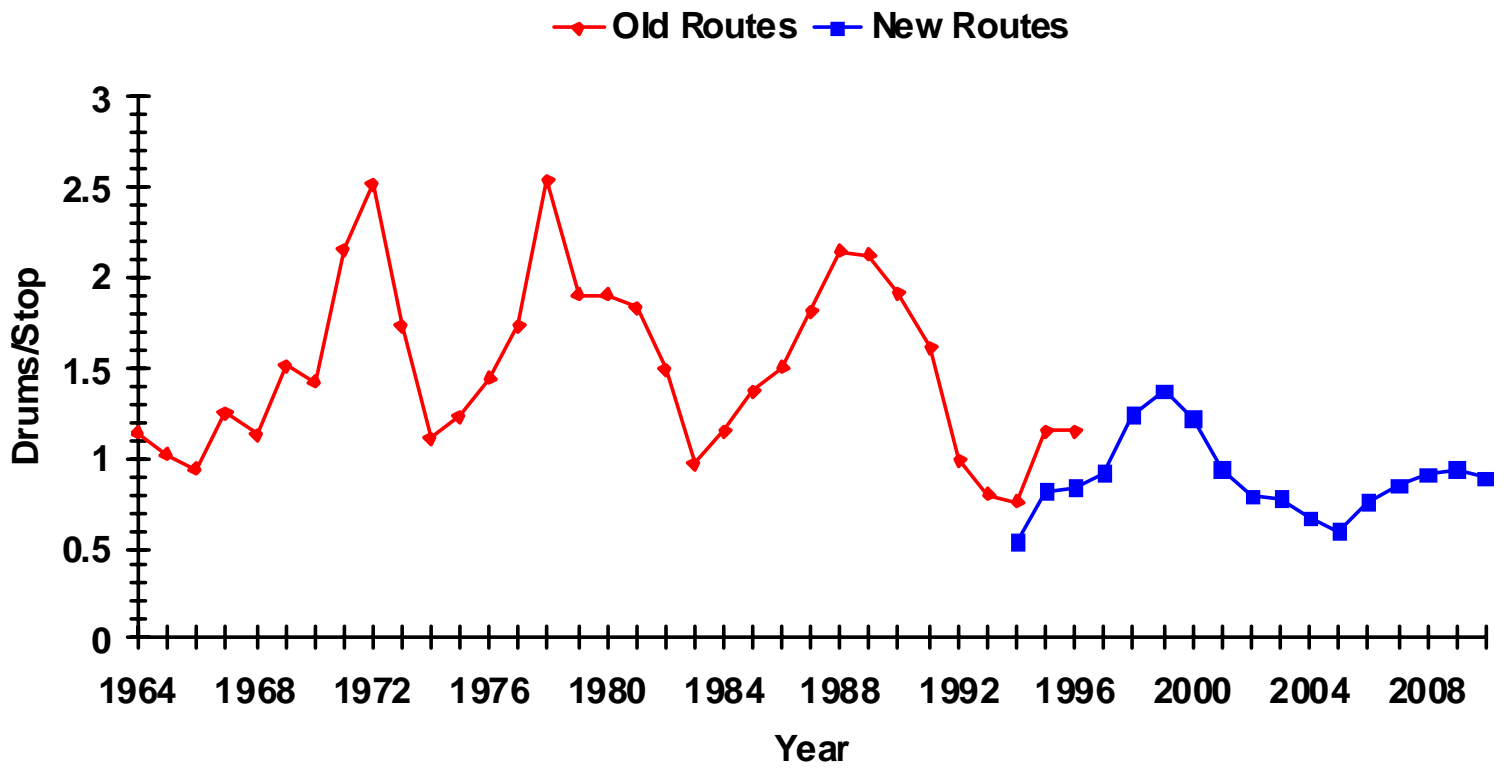


Figure 2. Mean number of drums/stop on ruffed grouse drumming routes, 1964-2010.