

Ruffed Grouse Drumming Survey 2011

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Abstract

Statewide ruffed grouse population indices increased 38% between 2010 and 2011, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, and the statewide mean number of drums/stop was suggestive of an increase ($P= 0.06$) from 2010 to 2011. Drummer densities on the Sandhill Wildlife Area in Wood County decreased 17%. The Stone Lake Experimental Area in Oneida County decreased 10% from 2010 levels.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 84 transects throughout the state in 2011. Thirty-one statewide transects were considered to be zero and not run in 2011. 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 eighteenth 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 84 transects in 2011. Thirty-one transects were considered to be zero and not run in 2011. The total number of routes used in estimating a statewide ruffed grouse drumming index in 2011 was 115. This is two fewer than the number of transects used in the spring of 2010.

Statewide, ruffed grouse population indices increased between 2010 and 2011 (Table 1). This is the fifth increase in the ruffed grouse index in the last six years. Survey indices show an increase in drumming grouse in three of the four regions of the state (Fig. 1-6). Statewide, overall results were suggestive of an increase ($P= 0.06$) between 2010 and 2011. Transects completed in both 2010 and 2011 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 increased drumming outnumbered by 37 to 18 those that showed decreases, with 60 transects unchanged.

Brood production in the summer of 2010 was 3% lower than in 2009 and did not hint at the increase in breeding grouse in 2011. Wisconsin's primary grouse range, the Central and Northern Forest regions, showed increases in breeding grouse. Past grouse cycle highs in Wisconsin have usually occurred in a year ending in a 9 or 0, but it would appear that 2011 will be the exception to this trend. Good brood rearing conditions in the summer of 2011 could set the stage for good grouse numbers in the fall.

Survey conditions for 2011 were slightly better than those in 2010. Surveyors rated the overall survey conditions as "excellent" on 62% of transects run, while 58% rated the overall conditions as "excellent" in 2010. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 7% of the time in 2011 compared to 8% in 2010. 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 down in 2011 (Table 2). Sandhill Wildlife Area decreased 17% (44 vs. 53 birds in 2010) while the central region of the state showed an increase of 31% in drumming activity on the roadside survey. The unhunted portion of the wildlife area (1,300 acres) decreased by 4 birds in 2011 (12 vs. 16 in 2010). The hunted portion of the wildlife area (2,020 acres) had a decrease in breeding grouse, with 32 birds counted in 2011, down from 37 in 2010. The Stone Lake census area had sixty-five birds counted this spring; seventy-two birds were counted in the spring of 2010. This is a decrease of 10% on the Stone Lake area, while the northern region of the state showed a 43% increase 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 2010-2011, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2010 levels.

Region	Drums/Stop 2010 (routes run)	Drums/Stop 2011 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	1.01 (27)	1.32 (26)	31%	5	10	11
Northern	1.65 (43)	2.36 (42)	43%	11	22	9
Southeast	0.08 (30)	0.003 (30)	-96%	2	0	28
Southwest	0.22 (17)	0.48 (17)	118%	0	5	12
Statewide	0.89 (117)	1.23 (115)	38%	18	37	60

Table 2. Drummer densities on the DNR research census areas, 2010-2011.

Area	No. of Drummers (No./100A)	
	2010	2011
Sandhill Hunted (2,020 Acres)	37 (1.8)	32 (1.8)
Sandhill Unhunted (1,300 Acres)	16 (1.2)	12 (0.9)
Stone Lake Exp. Area (3,310 Acres)	72 (2.2)	65 (2.0)

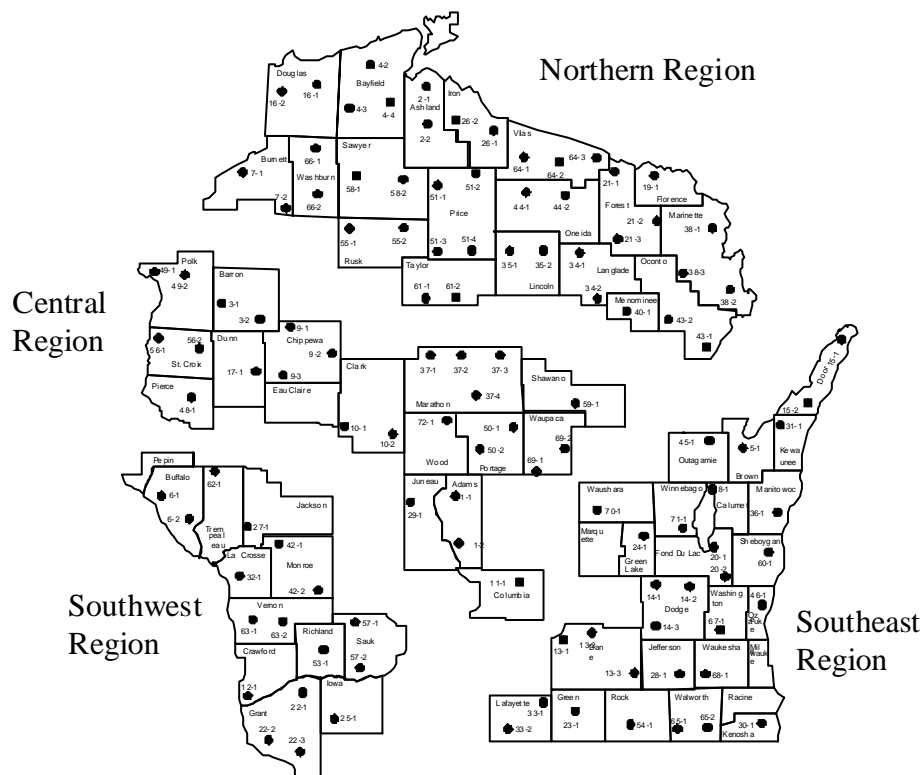


Figure 1. Ruffed grouse drumming regions with transect starting points.

Statewide -- Drums per Stop 1964-2011

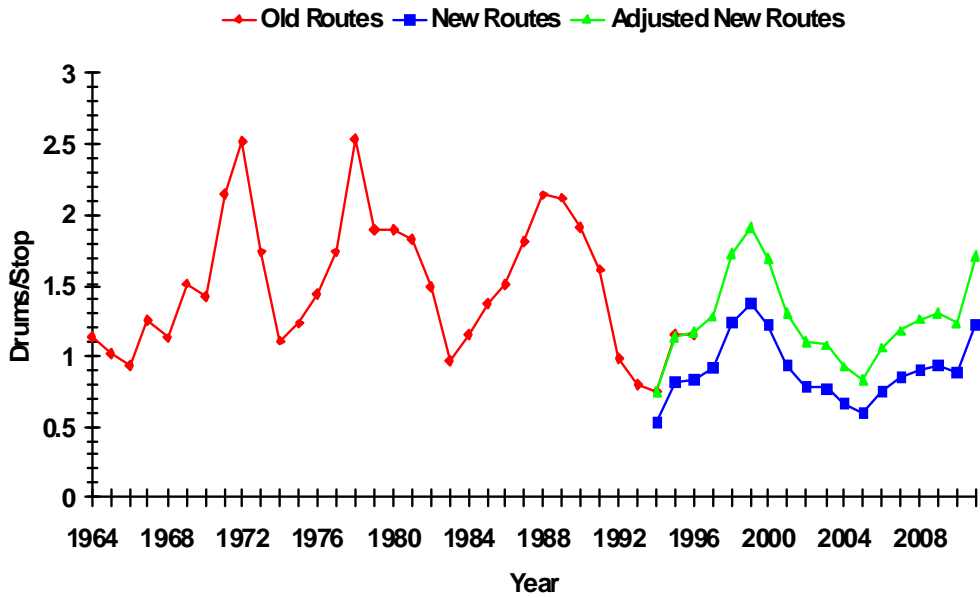


Figure 2. Statewide mean number of drums/stop on ruffed grouse drumming routes, 1964-2011.

Central Forest -- Drums per Stop 1964-2011

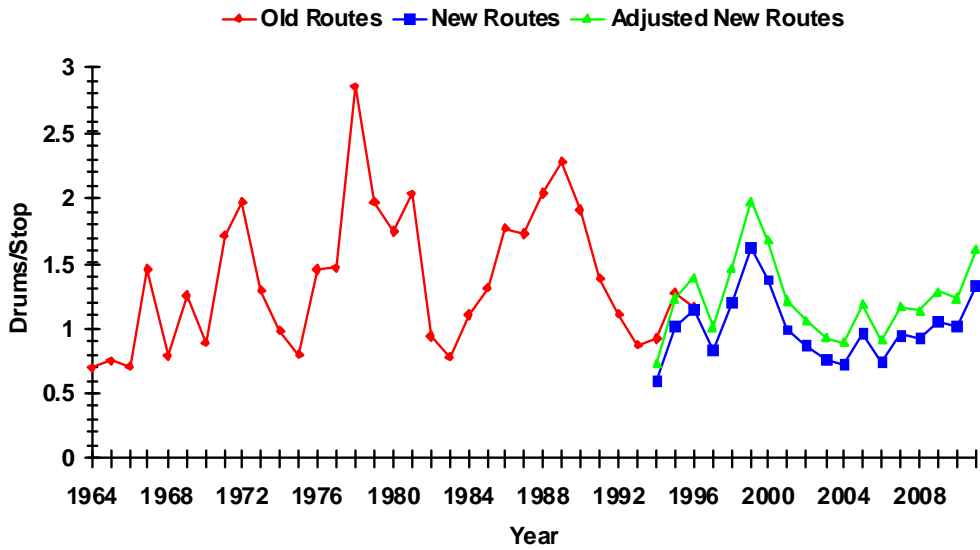


Figure 3. Central Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2011.

Northern Forest -- Drums per Stop 1964-2011

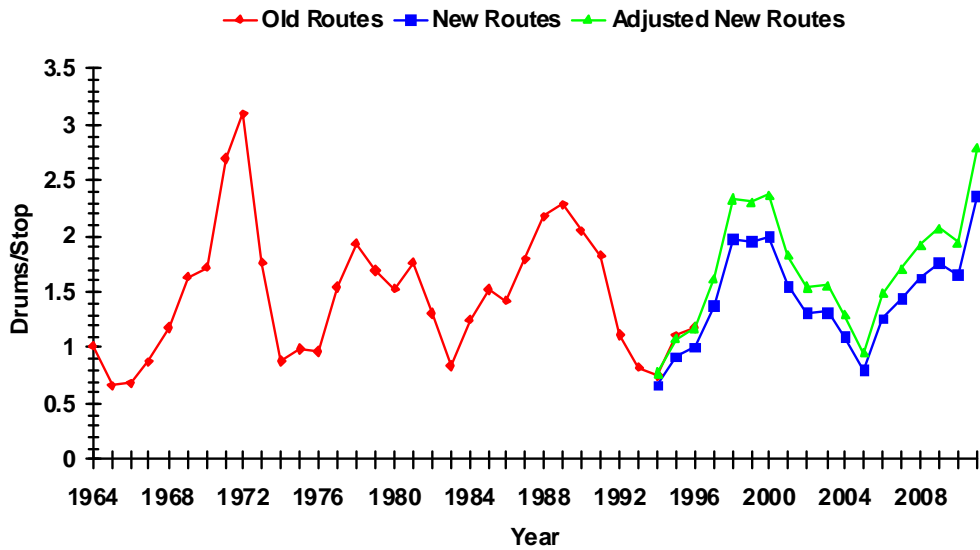


Figure 4. Northern Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2011.

Southeast -- Drums per Stop 1964-2011

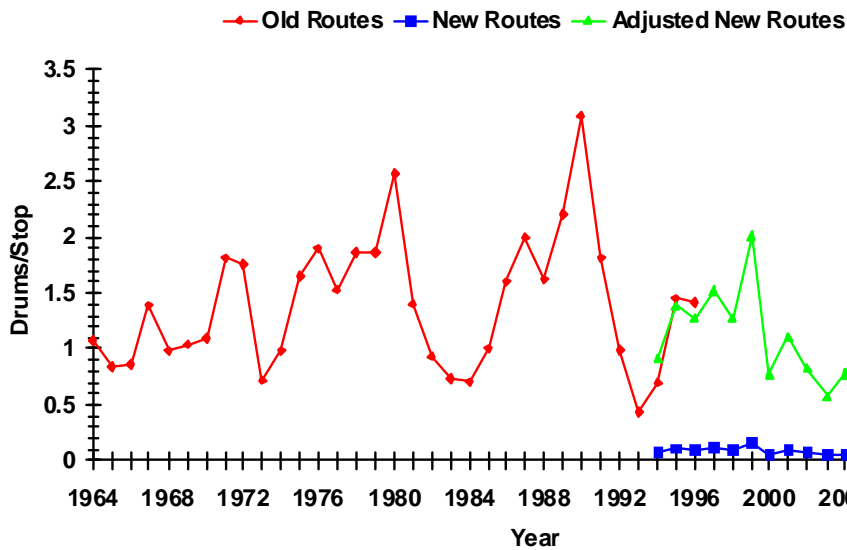


Figure 5. Southeast region mean number of drums/stop on ruffed grouse drumming routes, 1964-2011.

Southwest -- Drums per Stop 1964-2011

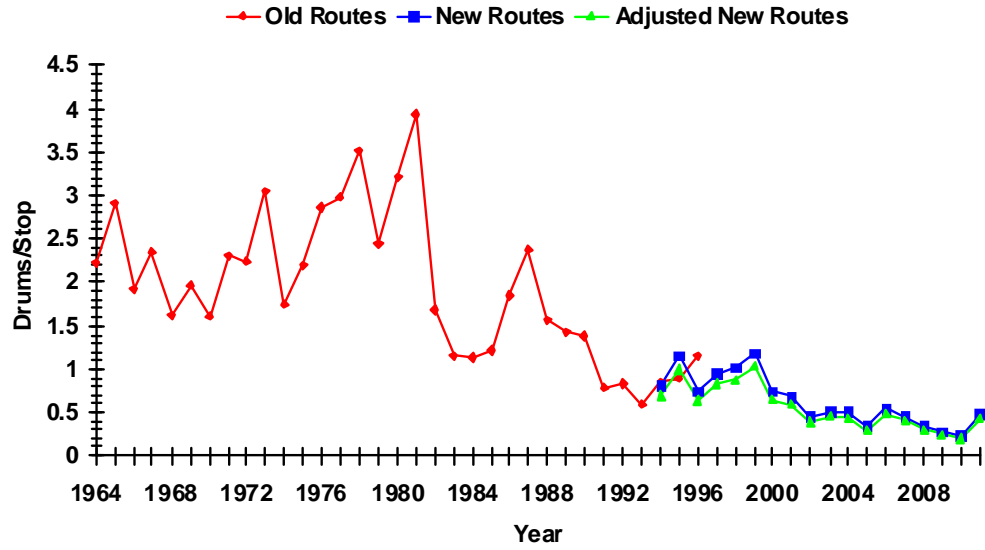


Figure 6. Southwest region mean number of drums/stop on ruffed grouse drumming routes, 1964-2011.