

Ruffed Grouse Drumming Survey 2007

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Abstract

Statewide ruffed grouse population indices increased 12% between 2006 and 2007, 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 ($P= 0.26$) from 2006 to 2007. Drummer densities on the Sandhill Wildlife Area in Wood County increased 33%. Stone Lake Experimental Area in Oneida County increased 17% from 2006 levels.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 93 transects throughout the state in 2007. Twenty-three statewide transects were considered to be zero and not run in 2007. 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 2007. This year marked the fourteenth 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 were to be run again to confirm that they indeed were still zero. Most of these "zero" routes were run again in 2000 and in 2004.

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 93 survey transects in 2007. Twenty-three transects were considered to be zero and not run in 2007. The total number of routes used in estimating a statewide ruffed grouse drumming index was 116. This is three more than the total number of transects (113) used in the spring of 2006.

Statewide, ruffed grouse population indices increased in Wisconsin between 2006 and 2007 (Table 1). This is the second increase in the ruffed grouse index in the last 2 years. Survey indices show an increase in drumming grouse in three of the four regions of the state (Fig. 1). Statewide, overall density increases were not significant ($P=0.26$) during 2006-2007. Transects completed in both 2006 and 2007 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 39 to 27 those that showed decreases, with 47 transects unchanged.

Brood production in the summer of 2006 was higher than in 2005 and set the stage for an increase in breeding grouse. With 3 of the 4 grouse regions of the state showing increases in breeding grouse, it would appear that Wisconsin is on the upswing of the current grouse cycle.

Survey conditions for 2007 were better than those in 2006. Surveyors rated the overall survey conditions as "excellent" on 49% of the transects run, while 37% rated the overall conditions as "excellent" in 2006. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 6% of the time in 2007 compared to 12% in 2006. The percent of observers rating the conditions as "excellent" was well below the highest level of 68% recorded in 1998. 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 2007 (Table 2). Sandhill Wildlife Area increased 33% (40 vs. 30 birds in 2006) while the central region of the state showed a increase of 28% in drumming activity. The unhunted portion of the wildlife area (1,300 acres) increased by 9 birds in 2007 (17 vs. 8 in 2006). The hunted portion of the wildlife area (2,020 acres) had a slight increase in breeding grouse, with 23 birds counted in 2007, up from 22 in 2006. The Stone Lake census area was again surveyed in 2006 and 2007. Seventy-six birds were counted this spring, 65 birds were counted this in the spring of 2006. This is an increase of 17%, the northern region of the state also showed a 17% 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 2006-2007, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2006 levels.

Region	Drums/Stop 2006 (routes run)	Drums/Stop 2007 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.74 (27)	0.95 (27)	+28%	7	12	8
Northern	1.26 (43)	1.48 (42)	+17%	13	22	7
Southeast	0.08 (26)	0.09 (30)	+13%	1	1	25
Southwest	0.55 (17)	0.46 (17)	-16%	6	4	7
Statewide	0.76 (113)	0.85 (116)	+12%	27	39	47

Table 2. Drummer densities on the DNR research census areas, 2006-2007.

Area	No. of Drummers (No./100A)	
	2006	2007
Sandhill Hunted (2,020 Acres)	22 (1.1)	23 (1.2)
Sandhill Unhunted (1,300 Acres)	8 (0.6)	17 (1.3)
Stone Lake Exp. Area (3,310 Acres)	65 (2.0)	76 (2.3)

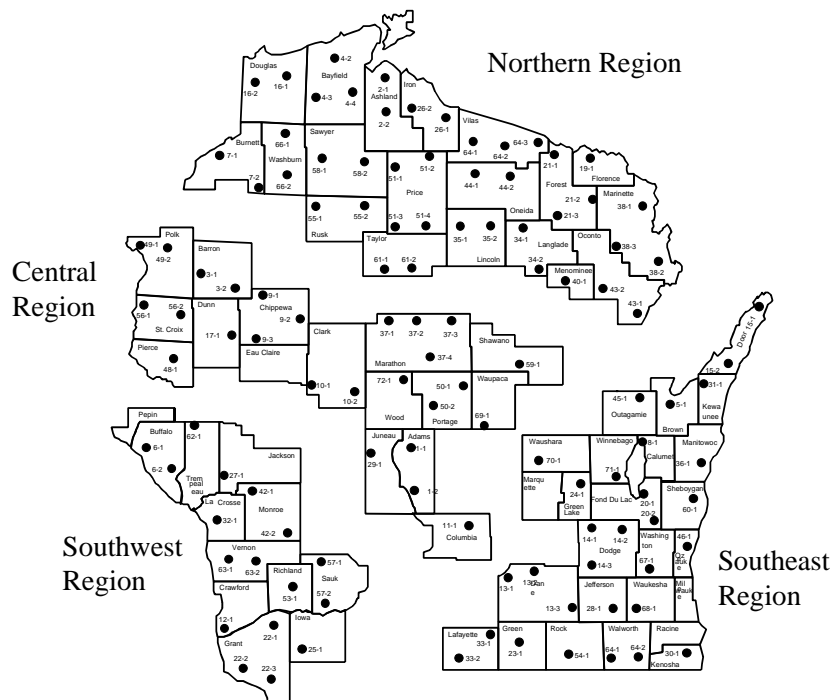


Figure 1. Ruffed grouse drumming regions with transect starting points.

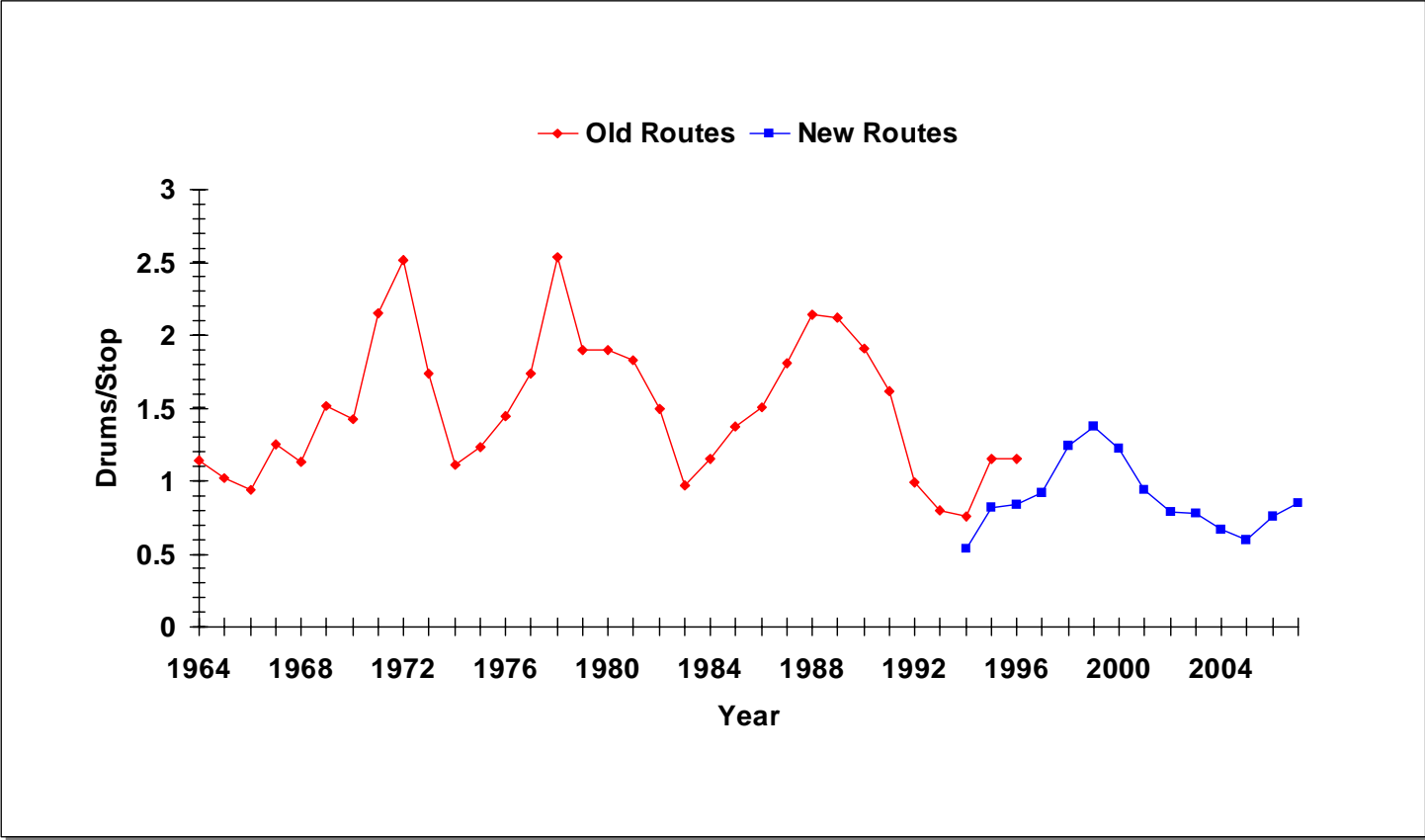


Figure 2. Mean number of drums/stop on ruffed grouse drumming routes, 1964-2007.