

# Ruffed Grouse Drumming Survey 2015

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## **Abstract**

Statewide ruffed grouse population indices decreased 2.4% between 2014 and 2015, 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 not significant ( $P= 0.92$ ) from 2014 to 2015. Drummer densities on the Sandhill Wildlife Area in Wood County showed an increase of 33%, while the Oneida County Stone Lake area drummer density counts were discontinued in 2015.

## **Methods**

### **Statewide**

Counts of drumming grouse heard along roadsides were conducted on 88 transects throughout the state in 2015. Twenty-nine statewide transects were considered to be zero and not run in 2015 and no routes were not run due to weather conditions. 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 2015. This year marked the twenty-second 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 server 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. The Stone Lake Experimental Area was discontinued in 2015 due to budgetary and workload concerns.

## Results

### Statewide

Roadside survey responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 88 transects in 2015. Twenty-nine transects were considered to be zero and not run in 2015. Weather conditions were favorable during most of the survey period; only brief periods of rain should have affected survey conditions. The total number of routes used in estimating a statewide ruffed grouse drumming index in 2015 was 117. This is the maximum available and the same number of routes used in 2014.

Statewide, ruffed grouse population indices decreased between 2014 and 2015 (Table 1). This is the fourth decrease in the ruffed grouse indices since 2011. Survey indices show a decrease in drumming grouse in two of the four regions of the state (Fig. 1-6). Statewide, overall changes in results were not significant ( $P=0.92$ ) between 2014 and 2015. Transects completed in both 2014 and 2015 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 28 to 18 those that showed increases, with 71 transects unchanged.

Breeding grouse and grouse brood production were up during the spring and summer of 2014. Despite this increase in brood production in 2014, Wisconsin experienced a decline in breeding grouse numbers in 2015. Wisconsin’s primary grouse range, the Central and Northern Forest regions, showed mixed results. The Central Forest had an increase in breeding grouse of 38% this spring, while the Northern Forest had a small decrease of 2.4%. Wisconsin is well past the peak in the grouse cycle and appears to have settled into the bottom of the cycle; it is likely that declines in breeding grouse numbers will continue for a year or two more until we start to see numbers go up till the next grouse high.

Spring conditions were more normal in the spring of 2015 compared to 2013 and 2014. No major weather events should have affected surveyors during the survey period. Surveyors rated the overall survey conditions as “excellent” on 65% of transects runs, while 56% rated the overall conditions as “excellent” in 2014. Surveyors rated the conditions as “Fair”, the lowest available weather condition rating, 7% of the time in 2014 and 5% in 2015. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

### Research Census Areas

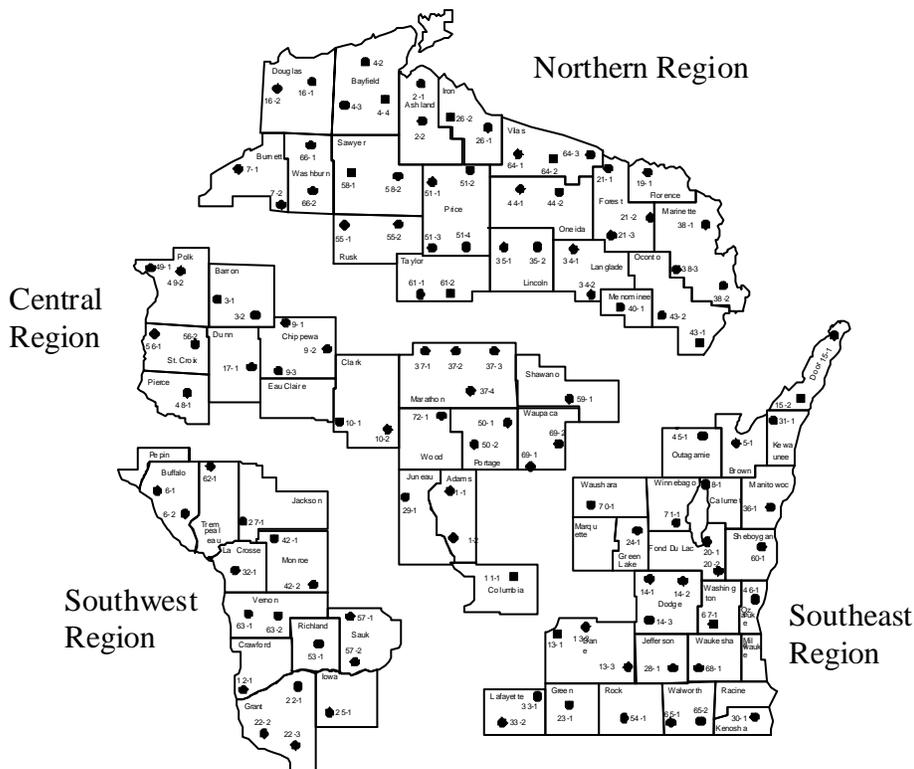
Grouse numbers on the Sandhill Wildlife Area were up in 2015 (Table 2). Sandhill Wildlife Area increased 33% (61 vs. 46 birds in 2014) while the central region of the state showed an increase of 38% in drumming activity on the roadside survey. The un hunted portion of the wildlife area (1,300 acres) increased by 7 birds in 2015 (20 vs. 13 in 2014). The hunted portion of the wildlife area (2,020 acres) had an increase in breeding grouse, with 41 birds counted in 2015, up from 33 in 2014. The Stone Lake census area was discontinued in 2015 due to budgetary and workloads concerns. 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 2014-2015, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2014 levels.

Region	Drums/Stop 2014 (routes run)	Drums/Stop 2015 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.65 (27)	0.90 (27)	38%	6	7	14
Northern	1.76 (43)	1.53 (43)	-13%	21	9	13
Southeast	0.02 (30)	0.01 (30)	-50%	0	0	30
Southwest	0.19 (17)	0.27 (17)	42%	1	2	14
<b>Statewide</b>	<b>0.83 (117)</b>	<b>0.81 (117)</b>	<b>-2.4%</b>	<b>28</b>	<b>18</b>	<b>71</b>

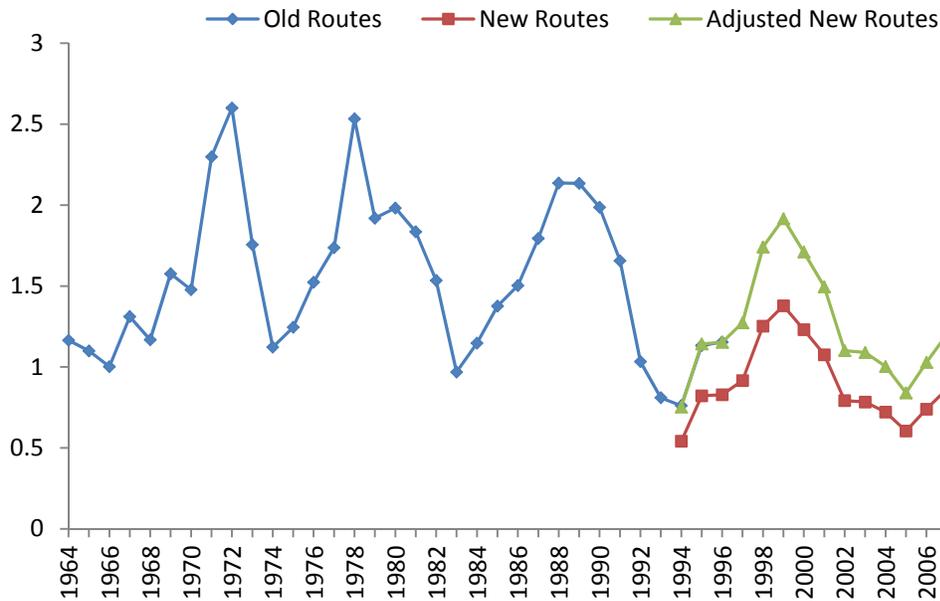
**Table 2.** Drummer densities on the DNR research census areas, 2014-2015.

Area	No. of Drummers (No./100A)	
	2014	2015
Sandhill Hunted (2,020 Acres)	33 (1.6)	41 (2.0)
Sandhill Unhunted (1,300 Acres)	13 (1.0)	20 (1.5)
Stone Lake Exp. Area (3,310 Acres)	50 (1.5)	N/A



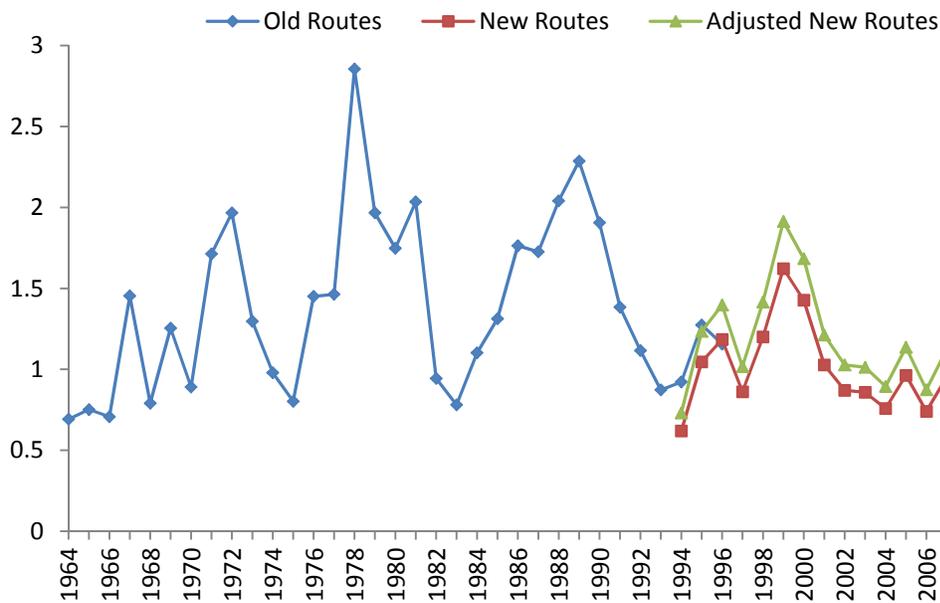
**Figure 1.** Ruffed grouse drumming regions with transect starting points.

## Statewide -- Drums per stop 1964-2015



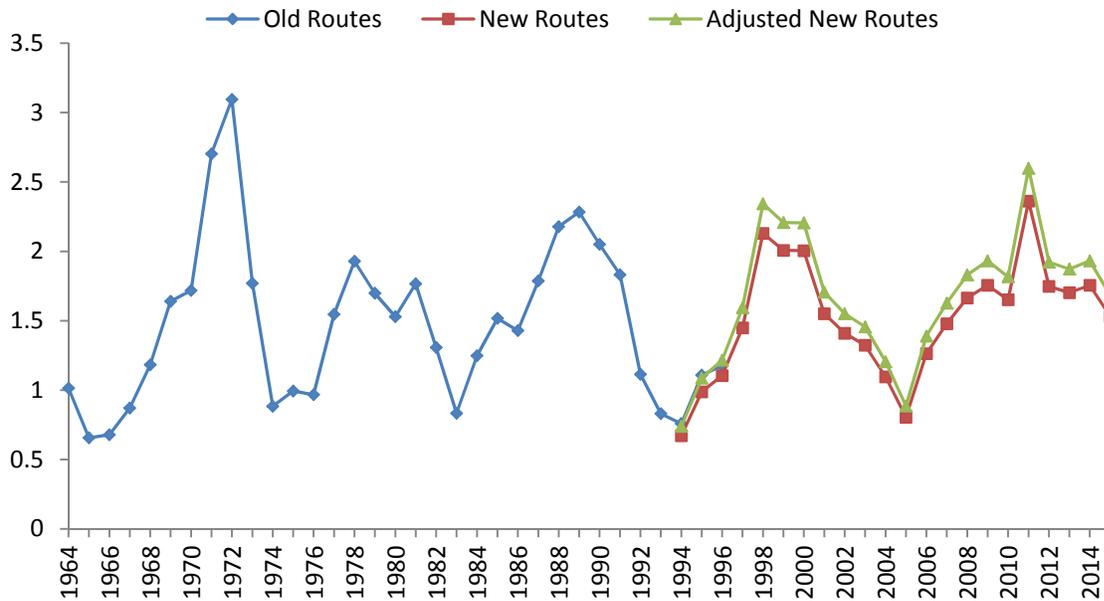
**Figure 2.** Statewide mean number of drums/stop on ruffed grouse drumming routes, 1964-2015.

## Central Forest -- Drums per stop 1964-2015



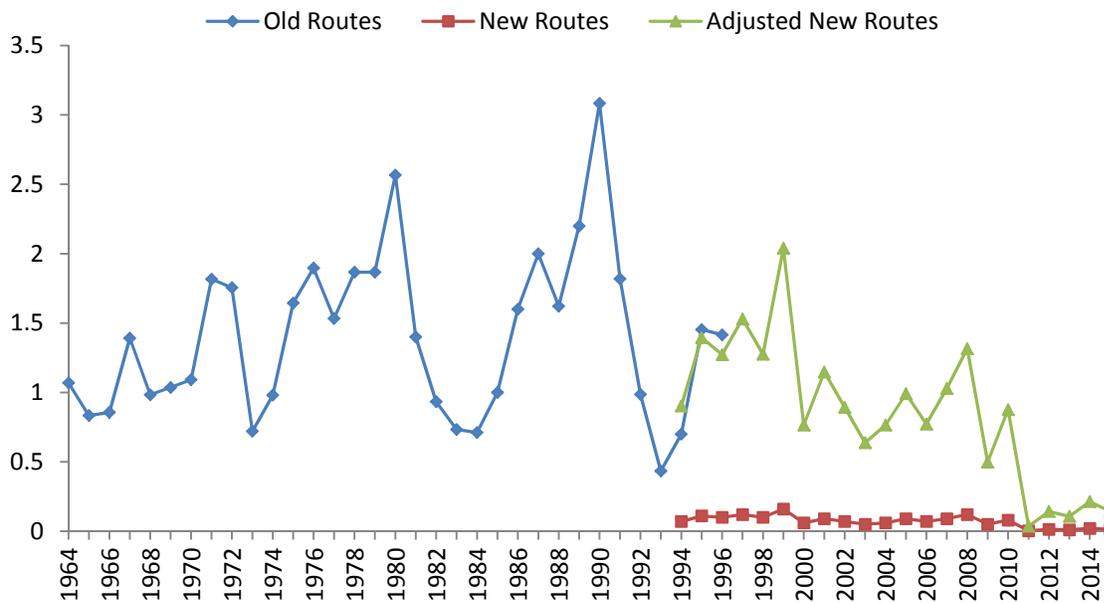
**Figure 3.** Central Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2015.

## Northern Forest -- Drums per stop 1964-2015



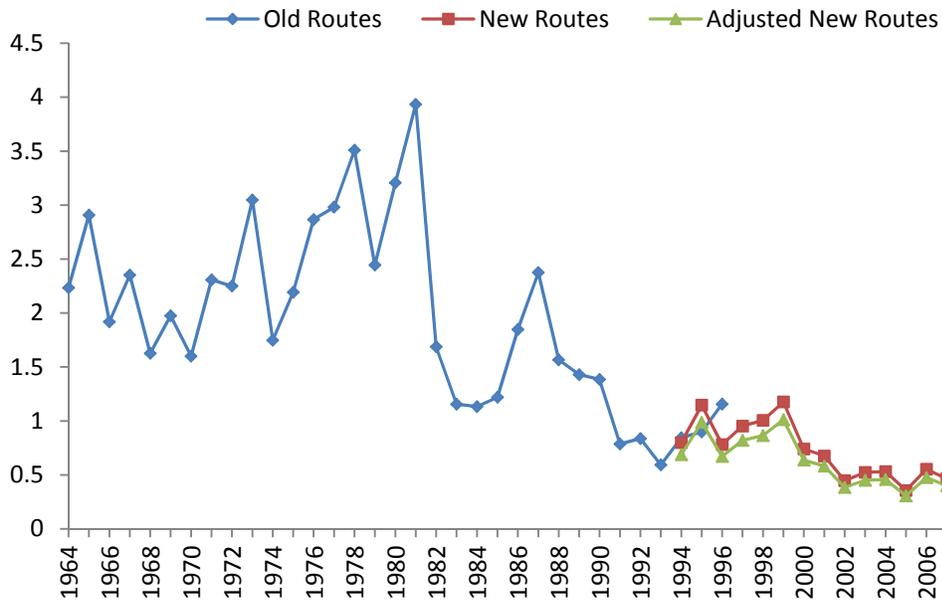
**Figure 4.** Northern Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2015.

## Southeast -- Drums per stop 1964-2015



**Figure 5.** Southeast region mean number of drums/stop on ruffed grouse drumming routes, 1964-2015.

## Southwest -- Drums per stop 1964-2015



**Figure 6.** Southwest region mean number of drums/stop on ruffed grouse drumming routes, 1964-2015.