

# Ruffed Grouse Drumming Survey

## 2009

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### **Abstract**

Statewide ruffed grouse population indices increased 3% between 2008 and 2009, 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 ( $P= 0.77$ ) from 2008 to 2009. Drummer densities on the Sandhill Wildlife Area in Wood County increased 21%. Stone Lake Experimental Area in Oneida County decreased 8% from 2008 levels.

### **Methods**

#### **Statewide**

Counts of drumming grouse heard along roadsides were conducted on 90 transects throughout the state in 2009. Twenty-seven statewide transects were considered to be zero and not run in 2009. 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 2009. This year marked the sixteenth 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 90 transects in 2009. Twenty-seven transects were considered to be zero and not run in 2009. The total number of routes used in estimating a

statewide ruffed grouse drumming index in 2009 was 117. This is two more than the total number of transects (115) used in the spring of 2008.

Statewide, ruffed grouse population indices showed an increase in Wisconsin between 2008 and 2009 (Table 1). This is the fourth increase in the ruffed grouse index in the last four years. Survey indices show an increase in drumming grouse in two of the four regions of the state (Fig. 1). Statewide, overall density increases were not significant ( $P= 0.77$ ) during 2008-2009. Transects completed in both 2008 and 2009 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 26 to 23 those that showed decreases, with 66 transects unchanged.

Brood production in the summer of 2008 was 17% higher than in 2007 and may have set the stage for the increase in breeding grouse in 2009. Wisconsin's primary grouse range, the Northern region, showed an increase in breeding grouse, it would appear that Wisconsin is still on the upswing of the current grouse cycle.

Survey conditions for 2009 were very similar to those in 2008. Surveyors rated the overall survey conditions as "excellent" on 56% of the transects run, while 60% rated the overall conditions as "excellent" in 2008. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 5% of the time in 2009 compared to 3% in 2008. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

### Research Census Areas

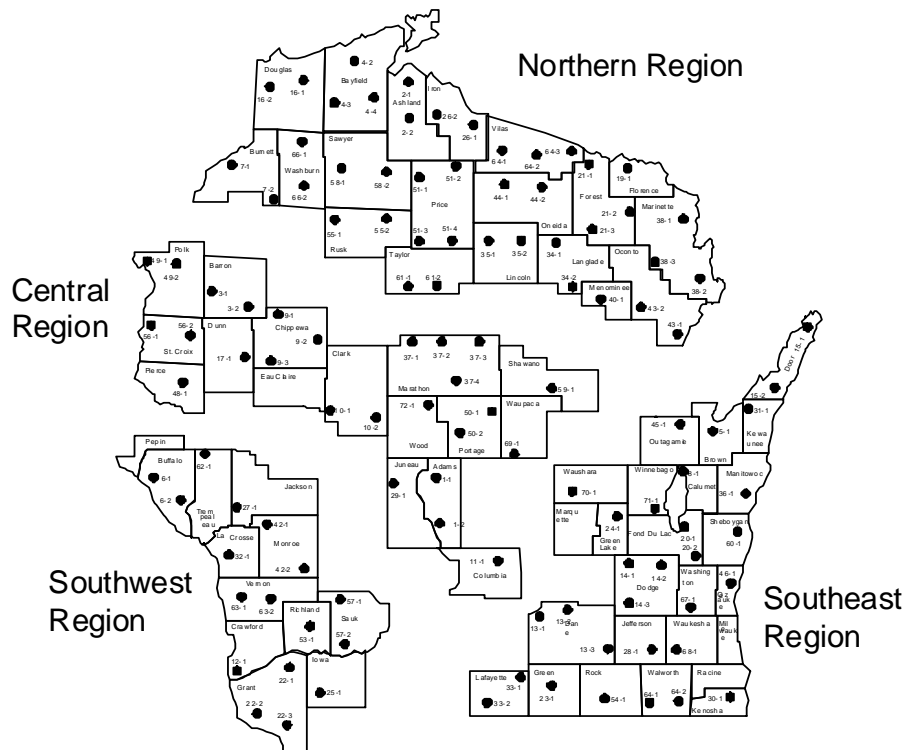
Grouse numbers on the Sandhill Wildlife Area were up in 2009 (Table 2). Sandhill Wildlife Area increased 21% (52 vs. 43 birds in 2008) while the central region of the state showed an increase of 14% in drumming activity on the roadside survey. The unhunted portion of the wildlife area (1,300 acres) decreased by 2 birds in 2009 (17 vs. 19 in 2008). The hunted portion of the wildlife area (2,020 acres) had an increase in breeding grouse, with 35 birds counted in 2009, up from 24 in 2008. The Stone Lake census area had sixty-eight birds counted this spring; seventy-four birds were counted in the spring of 2008. This is a decrease of 8% on the Stone Lake area, while the northern region of the state showed a 6% 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 2008-2009, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2008 levels.

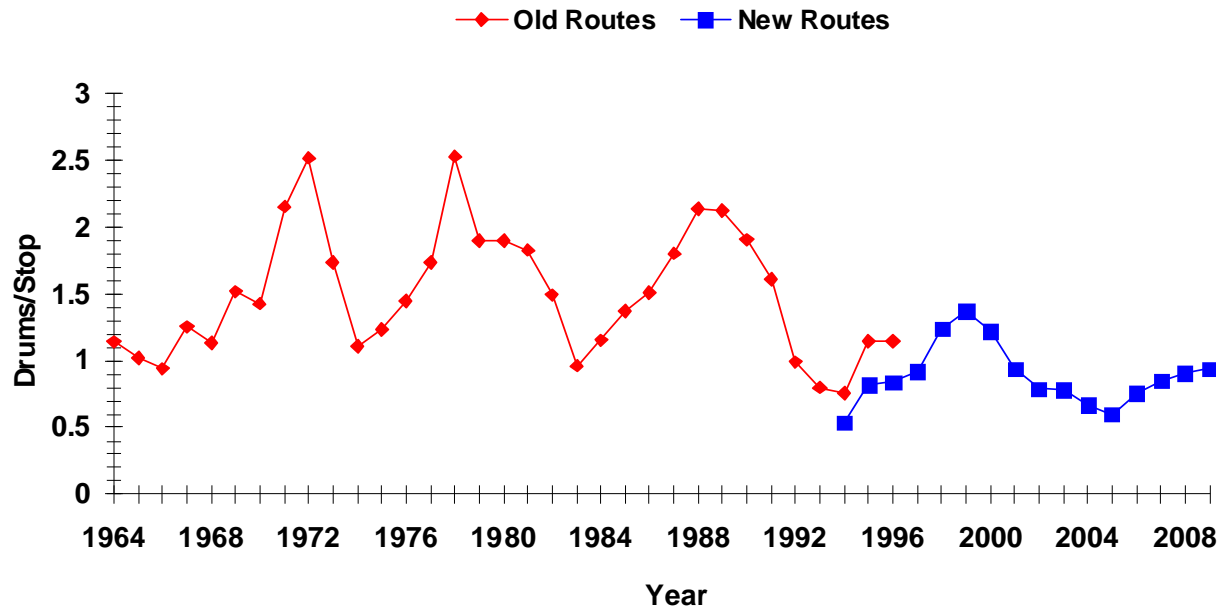
Region	Drums/Stop 2008 (routes run)	Drums/Stop 2009 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.92 (27)	1.05 (27)	+14%	5	8	14
Northern	1.66 (42)	1.76 (43)	+6%	14	16	12
Southeast	0.12 (30)	0.05 (30)	-58%	2	1	27
Southwest	0.37 (16)	0.28 (17)	-24%	2	1	13
<b>Statewide</b>	<b>0.91 (115)</b>	<b>0.94 (117)</b>	<b>+3%</b>	<b>23</b>	<b>26</b>	<b>66</b>

**Table 2.** Drummer densities on the DNR research census areas, 2008-2009.

Area	No. of Drummers (No./100A)	
	2008	2009
Sandhill Hunted (2,020 Acres)	24 (1.2)	35 (1.7)
Sandhill Unhunted (1,300 Acres)	19 (1.5)	17 (1.3)
Stone Lake Exp. Area (3,310 Acres)	74 (2.2)	68 (2.1)



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



**Figure 2.** Mean number of drums/stop on ruffed grouse drumming routes, 1964-2009.