

Prairie-chicken harvest in Minnesota during 2009

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INTRODUCTION

Hunting seasons for prairie-chickens (*Tympanuchus cupido pinnatus*) in Minnesota were closed from 1943 through 2002. During October 2003 a limited-entry, 5-day hunting season for prairie-chickens was held within 7 contiguous permit areas in western Minnesota. Opportunities to purchase a hunting permit were awarded through a lottery system, and each licensed hunter could harvest a maximum of 2 prairie-chickens. The same format was implemented for prairie-chicken hunting seasons during 2004 and 2005. The number of permit areas was increased to 11 in 2006 and have remained the same since then (Figure 1). Permit areas 804A–811A (i.e., those south of U.S. Highway 2) are in an area that is closed to the hunting of sharp-tailed grouse (*Tympanuchus phasianellus*). Licensed prairie-chicken hunters in those permit areas, however, are allowed to take up to a regular bag limit of sharp-tailed grouse while hunting prairie-chickens. The objective of this report is to document results of the 2009 prairie-chicken hunting season.

METHODS

The Electronic Licensing System (ELS) automatically recorded all lottery applications, lottery results, and purchases of permits. Prairie-chicken hunters are not required to register their harvested birds in the ELS, so I sent a postcard survey by mail to all people who were successful in the lottery. Approximately 3 weeks later I sent the postcard survey a second time to people who had not responded to the first mailing. The survey consisted of the following 5 questions: did you hunt, how many days did you hunt, how many prairie-chickens did you bag, how many sharp-tailed grouse did you bag while hunting for prairie-chickens, and how satisfied were you with the hunt?

To summarize hunting results for this report I used only responses from lottery winners who purchased a hunting permit. I checked to ensure that responses from people who replied to the first mailing were similar to responses from people who replied to the second mailing. Then, to estimate the numbers of hunters and birds harvested, I assumed that nonrespondents would have had the same average response as all those who responded to either mailing of the survey.

RESULTS & DISCUSSION

One hundred eighty-six prairie-chicken hunting permits were available during 2009. There were 179 lottery winners, and 14 of them were landowners (Table 1). There were fewer applicants than available permits in 2 of the permit areas. One hundred forty-six lottery winners purchased a permit. Two lottery winners who did not purchase a permit reported hunting, so I considered there to be 148 permit purchasers in 2009. One hundred eight permit purchasers (73%) responded to the first mailing of the survey, and 21 (14%) responded to the second mailing, so the response rate of purchasers was 87% (i.e., 129 of 148).

Seven purchasers who responded to the survey reported that they did not hunt (5%), and 122 respondents reported hunting, so there were an estimated 141 hunters (Table 2). Hunters hunted an average of 2.1 days during the October 17th–21st season. Hunters reported harvesting 102 prairie-chickens, and the estimated total harvest was 120 prairie-chickens (Table 2). I estimated that 76 hunters bagged at least 1 prairie-chicken (54%). The average rating for hunter satisfaction on a 1–5 scale was 3.4 (median = 4), and 75% of the 122 respondents to this question reported a satisfaction level of 3 or greater.

The hunter success rate and harvest and during 2009 were very similar to the averages for the previous 3 years when similar numbers of permits were offered (Table 3). The number of applicants has been similar during the last 5 years; hunter success rates and total harvest have been more variable. Hunter satisfaction is highly correlated with hunter success ($r = 0.74$, $n = 6$, Table 3).

Prairie-chicken hunters reported bagging 15 sharp-tailed grouse while hunting prairie-chickens, and the estimated harvest was 16 sharp-tailed grouse. These sharp-tailed grouse were harvested from permit areas 801A–807A, and half of them were harvested from permit area 805A (Figure 1).

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Table 1. Results of the lottery for prairie-chicken hunting permits in Minnesota during 2009.

Permit area	Permits available	No. of applicants	Lottery winners	
			Number ^a	Proportion
801A	10	3	3	1.00
802A	10	7	7	1.00
803A	10	13	10	0.77
804A	17	40	17	0.43
805A	20	84	22	0.26
806A	17	72	18	0.25
807A	25	63	25	0.40
808A	20	29	20	0.69
809A	20	65	20	0.31
810A	27	101	27	0.27
811A	10	35	10	0.29
All	186	512	179	0.35

^a Extra permits may be awarded in a permit area when the last applicant selected in the lottery applied as a member of a hunting party.

Table 2. Hunter harvest of prairie-chickens in Minnesota during 2009.

Permit area	No. of hunters ^a		Birds harvested		Birds per harvester ^b	Success rate ^c
	Self-reported	Estimated	Self-reported	Estimated		
801A	2	2	0	0		0.00
802A	6	6	8	8	2.0	0.67
803A	7	8	2	2	1.0	0.25
804A	13	15	13	15	1.7	0.60
805A	15	17	18	20	1.7	0.71
806A	13	15	8	10	1.4	0.47
807A	18	20	20	23	1.5	0.75
808A	11	14	14	19	1.7	0.79
809A	16	16	7	8	1.3	0.38
810A	15	20	11	14	1.6	0.45
811A	6	8	1	1	1.0	0.13
All	122	141	102	120	1.6	0.54

^a Number of permit purchasers who actually went hunting.

^b Estimated number of prairie-chickens harvested per successful hunter.

^c Proportion of estimated hunters who harvested ≥ 1 prairie-chicken.

Table 3. Annual summary of prairie-chicken hunting results in Minnesota during 2003–2009.

Year	Permits available	Applicants	Birds harvested	Success rate ^a	Hunter satisfaction ^b
2003	100	853	115	0.68	4.4
2004	101	759	51	0.37	3.6
2005	110	500	90	0.58	4.0
2006	182	512	92	0.40	3.6
2007	187	519	122	0.53	
2008	186	535	141	0.62	3.9
2009	186	512	120	0.54	3.4

^a Proportion of hunters who harvested ≥ 1 prairie-chicken.

^b Average on a 1–5 scale.

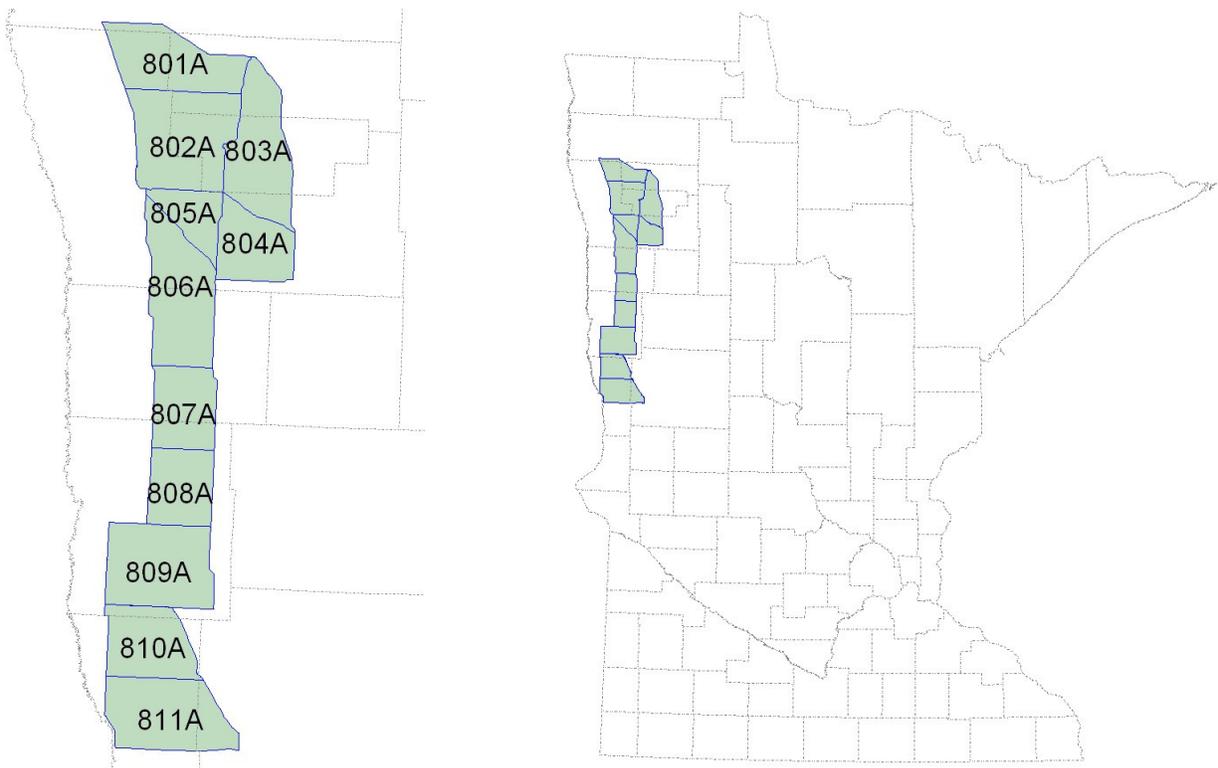


Figure 1. Map of permit areas for prairie-chicken hunting in Minnesota (left) and their location relative to counties within the state (right).