

## HUNTING HARVEST STATISTICS

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# 2010 SMALL GAME HUNTER MAIL SURVEY

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## INTRODUCTION

The Minnesota Department of Natural Resources, Division of Fish and Wildlife, Wildlife Research unit annually conducts a survey of small game hunters. Annual harvest estimates from survey data provide guidance for future hunting regulations and season structure.

## METHODS

The Wildlife Research unit requested a random sample be drawn from the Electronic License System database in late February, 2010 to ensure that each license holder had an equal chance of being in the survey sample. The sample consisted of 6,000 (approximately 2%) Small Game License holders, drawn proportionately from each of the nine Small Game license types available: Resident Senior Citizen, Resident Youth Small Game, Resident (Adult) Small Game, Resident Individual sports, Resident Combination Sports, Resident Lifetime Small Game, Resident Lifetime sports, Nonresident Youth, and Nonresident (Adult) Small Game.

Hunters that returned the survey questionnaire within three weeks were marked returned and eliminated from follow-up mailings. Follow-up mailings were sent to non-respondents at three week intervals. There were three follow-up mailings to non-respondents.

Completed and returned questionnaires were checked for completeness, consistency, and biological practicability. Cards were marked with numeric county codes corresponding to the hunter's written information. Data from each usable card was converted to an electronic database. Data were checked for errors, duplicate responses, and /or missing data. The following is a list of assumptions made in data coding:

- 1) If an individual checked the box indicating (s)he did not hunt, but harvest information was provided, it was assumed that the individual did hunt.
- 2) If a range was given for "number of days hunted" or "number of animals harvested", the median of the range, rounded to the nearest even integer was recorded.
- 3) If a hunter indicated spending time hunting for a species, but left "number bagged" blank, the # bagged was entered as missing data.
- 4) If a small game hunter indicated bagging a species, but left "number of days hunted" blank, then "number of days hunted" was recorded as missing data.
- 5) If more than one county was indicated for "county hunted in most", the first county listed was recorded. However, if the several counties listed were indicated to apply to all species hunted, then counties were recorded in sequential order in relation to species hunted.
- 6) If "county hunted in most" was left unanswered or not legible, the county was recorded as missing data.

Data from all usable cards were tabulated and statistically analyzed by the St. Paul staff, using SAS statistical analysis software programs.

## **RESULTS**

Estimated number of hunters continued to decrease for ducks, geese, and pheasants (Table 3). However the estimated take per hunter was up slightly for ducks and geese and held steady for pheasants (Table 4). Total estimated harvests (Table 6) increased for ducks, Canada geese, coots, ruffed grouse, sharp-tailed grouse, gray squirrel, fox squirrel, jack rabbits and raccoons. Estimated harvests declined for rails and gallinules, woodcock, mourning dove, spruce grouse, cottontail and red fox. Estimated harvest for pheasant, gray partridge and coyote stayed the same as for the previous year. Note that all estimates were based on a survey of approximately 2% of all small game license holders. Data in this report may change as a result of future verification and more comprehensive analysis.

Attached are survey results. All estimates were statewide unless otherwise indicated. Tables 1-7 are historic tables of small game harvest for the previous 10.

Table 1. Small game hunter response to mail surveys, 1979 - 80 through 2010 - 11.

Year	Number mailed	Number not delivered	Delivered questionnaires completed and returned	
			Number	Percent
1979 - 80	5,696	443	4,504	85.7
1980 - 81	6,434	385	4,963	82.0
1981 - 82	6,656	399	5,419	86.6
1982 - 83	5,963	266	4,792	84.1
1983 - 84	4,551	269	3,325	77.7
1984 - 85	4,096	127	3,280	82.6
1985 - 86	3,370	157	2,574	80.1
1986 - 87	4,668	208	3,623	81.2
1987 - 88	5,513	248	4,191	79.6
1988 - 89	15,388	857	11,431	78.7
1989 - 90 <sup>a</sup>	10,893	735	7,790	76.7
1990 - 91 <sup>a</sup>	5,000	394	3,467	75.3
1991 - 92 <sup>a</sup>	5,050	387	3,541	75.9
1992 - 93 <sup>a</sup>	5,000	288	3,625	76.9
1993 - 94 <sup>a</sup>	5,011	282	3,320	70.2
1994 - 95 <sup>a</sup>	5,000	387	3,353	72.7
1995 - 96 <sup>a</sup>	5,000	321	3,293	70.4
1996 - 97 <sup>a</sup>	5,000	170	3,334	69.0
1997 - 98 <sup>a</sup>	5,000	198	3,234	67.3
1998 - 99 <sup>a</sup>	5,000	200	3,153	65.7
1999 - 00 <sup>a</sup>	5,001	180	3,349	69.5
2000 - 01 <sup>a</sup>	5,000	184	3,001	62.3
2001 - 02 <sup>a</sup>	6,000	225	3,667	64.0
2002 - 03 <sup>a</sup>	6,000	363	3,862	68.5
2003 - 04 <sup>a</sup>	6,400	381	3,972	66.0
2004 - 05 <sup>a</sup>	6,000	356	3,823	68.0
2005 - 06 <sup>a</sup>	6,280	142	3,946	64.3
2006 - 07 <sup>a</sup>	6,000	151	3,810	65.1
2007 - 08 <sup>a</sup>	6,000	113	3,736	65.5
2008 - 09 <sup>a</sup>	5,996	183	3,551	61.1
2009 - 10 <sup>a</sup>	5,999	88	3,828	63.8
2010 - 11 <sup>a</sup>	6,000	100	3,777	63.0

<sup>a</sup> Includes resident and non-resident licenses, and excludes duplicate licenses.

Table 2. Use of small game hunter licenses, 2001-02 through 2010-2011.

		Returns from mail survey	Projections from license sales
2001-02	Hunted	2,849 ( 77.7%)	231,589
	Did not hunt	<u>610 ( 21.3%)</u>	<u>66,466</u>
		3,665 (100.0%)	298,055
2002-03	Hunted	2,962 ( 76.7%)	221,455
	Did not hunt	<u>900 ( 23.3%)</u>	<u>67,274</u>
		3,862 (100.0%)	288,729
2003-04	Hunted	3,085 ( 78.2%)	232,206
	Did not hunt	<u>862 ( 21.8%)</u>	<u>64,733</u>
		3,947 (100.0%)	296,939
2004-05	Hunted	2,934 ( 77.6%)	223,275
	Did not hunt	<u>847 ( 22.4%)</u>	<u>64,450</u>
		3,781 (100.0%)	287,725
2005-06	Hunted	3,035 ( 77.1%)	216,000
	Did not hunt	<u>900 ( 22.9%)</u>	<u>64,156</u>
		3,935 (100.0%)	280,156
2006-07	Hunted	2,994 ( 79.0%)	233,759
	Did not hunt	<u>795 ( 21.0%)</u>	<u>62,139</u>
		3,789 (100.0%)	295,898
2007-08	Hunted	2,894 ( 77.9%)	232,505
	Did not hunt	<u>822 ( 22.1%)</u>	<u>65,961</u>
		3,716 (100.0%)	298,467
2008-09	Hunted	2,678 ( 75.4%)	218,753
	Did not hunt	<u>873 ( 24.6%)</u>	<u>71,311</u>
		3,551 (100.0%)	290,064
2009-10	Hunted	2,850 ( 75.0%)	212,126
	Did not hunt	<u>952 ( 25.0%)</u>	<u>70,857</u>
		3,802 (100.0%)	282,983
2010-11	Hunted	2,824 ( 74.8%)	210,129
	Did not hunt	<u>953 ( 25.2%)</u>	<u>70,911</u>
		3,777 (100.0%)	281,040

Includes resident and non-resident information. Excludes duplicates and free licenses (youth under 16, active-duty military and disabled veterans).

### 2010 Small Game Hunter Report

1. Did you hunt small game, listed below, in Minnesota this year (March 2010 - Feb 2011)?  No  Yes (Please check box)
2. Indicate the **total number of days** spent hunting small game of all species listed below, in Minnesota. \_\_\_\_\_
3. For the species you hunted indicate **your harvest**, number of days hunted, and county in which you hunted most for each species, even if **None** were bagged. Report only game **you personally** bagged and retrieved in Minnesota. **Do not** include birds taken on shooting preserves or game farms.

	Number You bagged	Days Hunted	County
Ducks (all species)	01	_____	_____
Coots (mud hens)	50	_____	_____
Canada geese	40	_____	_____
Other geese	41	_____	_____
Snipe (jacksnipe)	51	_____	_____
Rails and gallinules	52	_____	_____
Crows	53	_____	_____
Woodcock	60	_____	_____
Mourning Dove	65	_____	_____
Pheasants	70	_____	_____
Ruffed grouse (Forest partridge)	71	_____	_____
Spruce grouse	72	_____	_____
Sharp-tailed grouse	73	_____	_____
Hungarian (Gray) partridge	74	_____	_____
Fox squirrel	89	_____	_____
Gray squirrel	90	_____	_____
Cottontail rabbit	91	_____	_____
Jackrabbit	92	_____	_____
Snowshoe hare	93	_____	_____
Badger	35	_____	_____
Coyote (brush wolf)	97	_____	_____
Gray fox	96	_____	_____
Raccoon	94	_____	_____
Red fox	95	_____	_____

Figure 1. Sample of Small Game Hunter survey card

Dear Small Game Hunter:

You have been selected at random from among Minnesota's small game hunting license buyers to assist us in evaluating the 2010-2011 small game hunting season (**March 2010-February 2011**). We need information to estimate the season's harvest and to help set future small game seasons. Answer only for your Minnesota 2010 hunting experience.

#### YOUR RESPONSE IS NEEDED EVEN IF YOU DID NOT HUNT OR HARVEST SMALL GAME

Please fill out the attached questionnaire and mail as soon as possible. A reminder will be sent to individuals not returning the questionnaire within three weeks. No envelope or stamp is necessary; just tear along the perforation and drop into a mailbox.

THANK YOU FOR YOUR COOPERATION

Ed Boggess, Director  
Division of Fish and Wildlife  
Department of Natural Resources

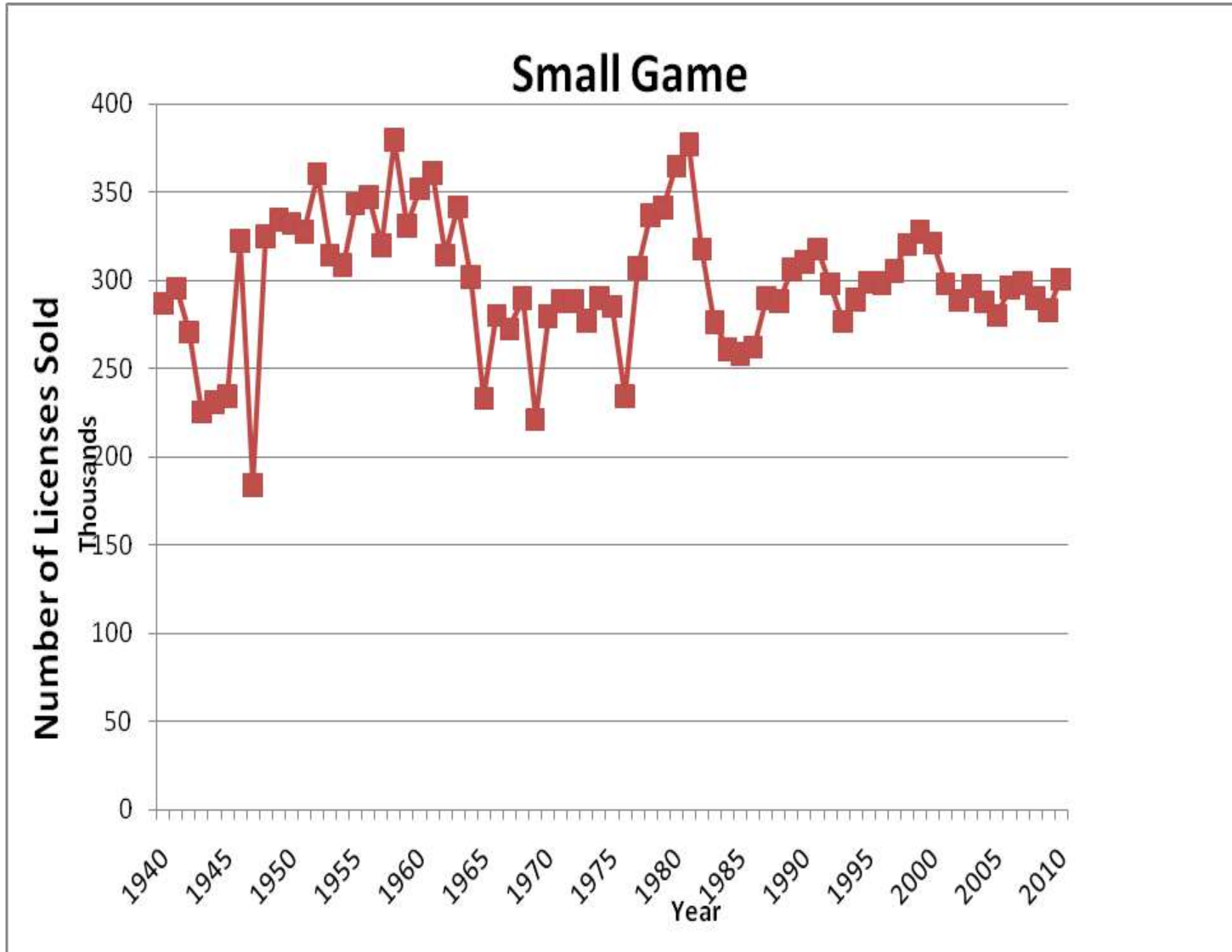


Figure 2. Number of Minnesota small game licenses sold, 1940–2010.



Table 3. Estimated number of hunters for various species, 1999-00 through 2010-11.

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Ducks	121,718	109,008	109,241	111,619	101,487	104,634	92,634	87,075	87,468	81,358	77,705	72,772
Canada goose	80,458	76,518	76,322	78,574	74,855	74,728	69,416	66,224	62,649	59,222	55,599	53,426
Other geese	5,403	6,834	6,502	5,981	7,373	5,327	4,628	4,529	3,695	4,411	3,275	3,647
American coot	6,189	3,809	3,901	4,411	3,912	5,099	4,129	4,529	3,454	4,166	4,094	4,614
Common snipe	1,768	2,241	1,382	2,243	1,429	1,902	1,210	2,187	1,928	1,797	1,340	1,340
Rails / gallinules	491	336	406	673	150	228	0	547	482	408	372	224
Crow *	13,557	14,004	11,542	12,859	12,263	12,404	11,890	10,777	8,514	10,047	10,643	9,376
American woodcock	19,353	15,909	11,542	11,962	12,789	12,023	11,035	13,510	10,843	12,171	11,834	10,790
Mourning dove <sup>‡</sup>						15,524	11,107	12,886	13,172	11,599	10,495	10,641
Ring-necked pheasant	92,836	100,045	84,694	91,284	105,023	104,406	110,852	118,703	118,311	106,763	99,811	89,142
Ruffed grouse	138,812	120,547	101,194	90,686	93,513	79,141	76,037	91,682	90,600	86,505	87,530	92,490
Spruce grouse	10,806	9,411	8,778	7,327	8,727	7,305	7,048	9,840	10,602	8,332	9,825	8,855
Sharp-tailed grouse	8,350	9,747	8,372	6,355	6,921	6,164	4,913	6,560	6,827	6,616	5,582	7,144
Gray partridge	9,922	7,842	6,828	6,579	7,975	5,327	6,265	6,013	6,667	4,411	4,243	3,721
Gray squirrel	30,749	26,664	26,010	25,494	29,190	23,438	24,563	25,459	25,863	22,382	22,255	23,737
Fox squirrel	20,139	16,693	15,281	14,878	19,936	15,372	15,094	15,619	14,779	13,233	13,174	15,626
Eastern cottontail	18,174	19,830	17,150	15,700	21,441	18,644	20,148	20,070	19,598	17,644	16,300	15,031
White-tailed jackrabbit	3,242	2,465	3,251	2,467	3,009	3,044	2,065	2,577	2,891	2,451	1,786	2,233
Snowshoe hare	6,680	5,154	6,502	5,682	5,567	4,338	3,346	5,545	4,257	4,574	3,498	3,795
Raccoon (Sept - Feb )	5,993	6,498	6,340	5,981	5,868	6,316	4,841	8,747	9,558	7,433	7,294	8,260
Raccoon <sup>‡</sup> (March -Aug)	2,554	4,593	4,145	3,589	4,589	3,348	2,705					
Red fox (Sept -Feb )	7,761	10,083	5,608	7,476	7,222	5,783	5,980	6,248	5,783	5,800	7,815	7,218
Red fox <sup>‡</sup> (March -Aug )	1,867	1,905	2,682	2,243	2,182	1,370	1,282					
Gray fox	1,965	1,344	1,544	1,271	1,505	1,674	997	2,030	1,928	1,879	1,786	1,637
Coyote	10,806	15,797	10,648	12,261	15,122	16,133	18,653	17,024	16,064	19,278	19,426	19,421
Badger	786	672	406	748	451	533	783	859	482	490	372	596

\* Crow season added in 1989.

<sup>‡</sup> Raccoon and red fox season continuous May 1994 thru March 15, 2006. <sup>‡</sup> Mourning dove season added 2004.

Table 4. Estimated take per hunter, for respondents reporting that they hunted a particular species, 1999-00 through 2010-11.

	Estimated take per hunter											
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Ducks	8.4	8.9	9.1	9.2	9.0	6.9	7.3	8.4	8.1	8.1	7.4	8.5
Canada geese	3.5	3.9	4.0	3.3	3.9	3.8	4.1	4.9	3.9	4.9	4.1	4.8
Other geese	1.2	2.2	1.2	1.9	1.7	1.5	1.9	1.5	2.1	3.2	1.9	1.1
American coot	4.0	2.7	4.5	4.6	2.8	4.0	3.9	5.6	4.6	5.7	3.6	5.7
Common snipe	1.6	1.3	1.3	1.5	1.8	1.1	4.4	1.9	2.0	1.2	1.1	1.4
Rails/gallinules	0.2	3.7	0.6	2.6	0.5	0.3	0	2.4	5.3	0.4	0.8	0.3
Crow *	4.4	6.9	7.7	5.6	6.7	5.8	7.8	6.4	6.4	5.2	5.3	6.1
American woodcock	2.8	2.8	2.3	2.4	2.4	3.5	2.5	3.2	2.6	2.4	3.0	2.8
Mourning dove <sup>γ</sup>						6.2	7	6.7	7.7	11.4	10.5	9.4
Ring-necked pheasant	3.7	3.7	3.2	3.9	4.9	4.0	5.3	4.9	5.5	4.9	4.0	4.0
Ruffed grouse	4.9	5.1	3.3	2.8	3.8	2.5	2.9	4.5	3.2	3.7	4.1	5.0
Spruce grouse	1.8	2.5	1.1	1.6	2.1	1.3	1.4	2.7	1.7	2.0	1.9	1.7
Sharp-tailed grouse	1.6	1.6	1.2	1.3	1.7	1.7	1.3	1.8	2.0	2.1	1.7	2.4
Gray partridge	1.9	2.1	1.5	1.7	2.8	2.4	2.6	1.9	1.6	2.2	1.9	2.5
Gray squirrel	4.3	5.3	5.6	5.2	6.0	5.7	5.0	5.5	5.2	5.4	4.9	5.9
Fox squirrel	3.5	3.9	4.1	4.5	4.2	4.1	4.1	4.2	3.2	3.9	4.1	3.9
Eastern cottontail	3.2	3.9	3.6	3.3	4.3	4.6	4.5	3.9	4.0	4.5	3.5	3.6
White-tailed jackrabbit	1.9	2.8	2.6	1.6	2.4	2.3	2.7	1.6	3.3	2.6	1.5	3.2
Snowshoe hare	3.1	5.2	3.3	1.9	2.2	1.8	3.1	3.0	1.4	2.5	1.5	1.8
Raccoon (Sept - Feb )	10.9	7.6	9.4	10.0	8.5	9.0	6.0	7.2	4.9	9.7	9.1	9.4
Raccoon <sup>‡</sup> (March -Aug )	6.4	7.8	4.4	5.4	4.7	6.1	2.7					
Red fox (Sept -Feb )	1.2	1.9	1.2	1.5	1.8	1.1	1.7	1.3	1.1	0.8	1.3	1.2
Red fox <sup>‡</sup> (March -Aug )	0.6	0.9	1.5	1.7	0.6	0.6	0.9					
Gray fox	0.9	0.7	0.4	0.4	0.4	1.1	0.9	1.8	0.3	1.3	1.0	1.5
Coyote	1.3	1.8	1.1	1.2	1.3	1.1	2.1	1.2	2.1	2.4	2.4	2.3
Badger	1.1	0.8	0.6	1.7	0.7	1.0	1.2	1.3	0.3	1.0	2.0	1.0

\* Crow season added in 1989. <sup>‡</sup> Raccoon and red fox season continuous May 1994 thru March 15, 2006. <sup>γ</sup> Mourning dove season added 2004.

Table 5. Mean harvest for successful hunters and hunter success rates (%), 2001-02 through 2010-11.

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Ducks	10.6 (85.6)	10.6 (86.7)	10.4 (86.7)	8.6 (81.1)	8.9 (82.5)	9.9 (84.4)	9.5 (85.4)	9.8 (82.8)	9.2(80.5)	10.3 (82.7)
Canada geese	5.3 (76.3)	4.6 (72.0)	5.1 (76.0)	5.2 (72.8)	5.5 (73.7)	6.3 (78.4)	5.5 (71.4)	6.4 (76.6)	5.6 (72.8)	6.1 (79.5)
Other geese	2.8 (43.8)	4.4 (42.5)	2.7 (65.3)	3.3 (45.7)	4.5 (43.1)	2.7 (55.2)	4.2 (50.0)	6.3 (50.0)	3.5 (54.5)	2.7 (40.8)
American coot	7.5 (60.4)	6.4 (71.2)	3.7 (76.9)	5.5 (73.1)	5.1 (75.9)	7.2 (77.6)	6.3 (74.4)	6.9 (82.4)	5.5 (65.5)	7.2 (79.0)
Common snipe	2.4 (52.9)	2.6 (60.0)	2.3 (78.9)	1.6 (68.0)	4.7 (94.1)	2.6 (75.0)	2.9 (70.8)	1.7 (72.7)	1.8 (61.1)	2.2 (66.7)
Rails / gallinules	1.5 (40.0)	3.8 (66.7)	1.0 (50.0)	1.0 (33.3)	0.0 (0.0) *	4.3 (57.1)	6.4 (83.3)	1.0 (40.0)	1.3 (60.0)	1.0 (33.3)
Crow	8.6 (89.4)	6.3 (89.0)	7.9 (85.3)	6.4 (90.8)	9.1 (85.6)	7.2 (89.1)	7.3 (87.7)	5.9 (87.8)	5.9 (89.5)	6.7 (91.3)
American woodcock	3.4 (68.3)	3.6 (65.6)	3.3 (71.8)	5.3 (64.6)	3.6 (70.3)	3.9 (82.7)	3.7 (68.9)	3.3 (73.8)	4.1 (72.3)	3.6 (75.9)
Mourning dove <sup>γ</sup>				7.9 (78.9)	8.7 (80.1)	8.2 (81.2)	9.8 (78.7)	13.2 (86.6)	11.4 (92.2)	11.1 (84.6)
Ring-necked pheasant	4.7 (66.4)	5.5 (71.7)	6.3 (77.2)	5.7 (70.0)	7.0 (75.9)	6.6 (75.3)	7.1 (78.1)	6.4 (76.7)	5.8 (68.7)	5.6 (71.5)
Ruffed grouse	4.8 (68.5)	4.3 (63.8)	5.1 (73.5)	3.9 (63.3)	4.4 (67.5)	5.9 (77.4)	4.7 (69.4)	5.0 (73.7)	5.5 (74.5)	6.6 (76.3)
Spruce grouse	2.3 (47.2)	3.4 (48.0)	3.3 (62.9)	2.3 (54.2)	2.4 (60.6)	3.8 (70.6)	3.1 (53.8)	3.0 (67.6)	3.1 (63.6)	2.4 (70.6)
Sharp-tailed grouse	2.4 (49.5)	3.5 (38.8)	3.3 (52.2)	3.1 (54.3)	2.4 (55.1)	3.3 (56.0)	4.4 (45.9)	3.2 (64.2)	3.0 (57.3)	3.5 (67.7)
Gray partridge	2.5 (58.3)	2.8 (59.1)	4.1 (68.9)	3.6 (65.7)	5.0 (52.3)	2.8 (68.8)	3.0 (55.4)	3.4 (64.8)	3.3 (57.9)	4.2 (58.0)
Gray squirrel	6.6 (84.4)	6.1 (86.2)	7.0 (85.3)	6.9 (82.5)	5.8 (86.1)	6.4 (87.1)	5.9 (87.6)	6.2 (87.6)	5.8 (85.6)	7.0 (84.0)
Fox squirrel	5.3 (77.7)	5.9 (76.4)	5.1 (82.6)	4.8 (85.1)	5.0 (82.5)	5.0 (84.5)	3.9 (82.6)	4.6 (83.3)	4.8 (84.7)	4.6 (85.7)
Eastern cottontail	4.7 (77.7)	4.7 (70.5)	5.2 (84.2)	5.8 (79.6)	5.4 (83.4)	4.6 (84.8)	4.8 (84.0)	5.3 (85.2)	4.3 (82.6)	4.4 (81.2)
White-tailed jackrabbit	5.2 (50.0)	2.7 (60.6)	3.3 (72.5)	3.0 (75.0)	3.2 (82.8)	2.5 (63.6)	4.5 (72.2)	3.8 (70.0)	2.1 (70.8)	4.6 (70.0)
Snowshoe hare	4.4 (75.0)	2.9 (67.1)	3.5 (60.8)	3.0 (61.4)	4.6 (68.1)	3.8 (80.3)	2.2 (62.3)	3.5 (71.4)	2.6 (59.6)	2.6 (68.6)
Raccoon (Sept -Feb )	10.0 (93.6)	11.6 (86.3)	9.6 (88.5)	9.9 (91.6)	6.5 (92.6)	7.7 (93.8)	5.4 (89.9)	10.6 (91.2)	9.6 (94.9)	10.0 (93.7)
Raccoon <sup>‡</sup> (March -Aug )	4.9 (90.2)	5.9 (91.7)	5.6 (85.2)	6.7 (90.9)	3.1 (86.8)					
Red fox (Sept -Feb )	2.7 (44.9)	3.1 (49.0)	3.5 (51.0)	2.8 (38.2)	3.7 (46.4)	2.1 (60.0)	2.3 (45.8)	1.5 (49.3)	2.4 (54.3)	2.3 (53.6)
Red fox <sup>‡</sup> (March -Aug )	2.8 (54.5)	3.6 (46.7)	1.1 (51.7)	1.4 (44.4)	1.6 (55.6)					
Gray fox	1.4 (26.3)	1.8 (23.5)	1.3 (30.0)	2.6 (40.9)	1.9 (50.0)	2.7 (65.4)	1.0 (29.2)	3.3 (39.1)	2.5 (41.7)	4.0 (36.4)
Coyote	2.4 (47.3)	3.2 (36.6)	2.7 (48.8)	2.5 (45.3)	4.11 (50.4)	2.4 (50.5)	4.4 (49.0)	4.4 (53.8)	4.6 (51.7)	4.0 (57.1)
Badger	1.0 (60.0)	2.8 (60.0)	1.0 (66.7)	1.2 (85.7)	1.2 (100.0)	1.6 (81.8)	1.0 (33.3)	1.2 (83.3)	2.5 (80.0)	1.0 (100.0)

<sup>‡</sup> Raccoon and red fox season continuous May 1994 thru March 15, 2006. <sup>γ</sup> Mourning dove season added 2004. \* No hunters surveyed reported Rails/Gallinules in bag.

Table 6. Statewide (resident and non-resident) small game hunting license sales and estimated hunter harvest, 1999-00 through 2010-11.

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Small game license sales <sup>a</sup>	327,431	320,862	298,055	288,729	296,939	287,725	280,156	295,898	298,467	290,064	282,983	300,624
State duck stamp sales	128,245	121,709	118,590	119,677	118,757	114,003	102,143	101,792	100,134	95,675	89,942	88,069
Pheasant stamp sales	106,945	114,440	97,665	102,097	121,456	114,653	117,301	129,546	129,315	123,270	110,456	104,286
Estimated harvest <sup>b</sup>												
Ducks	1,021,214	969,081	989,723	1,024,662	914,398	727,206	676,741	730,559	708,491	658,186	576,571	619,604
Canada geese	284,821	301,481	308,341	256,937	289,689	284,714	281,829	324,498	243,705	288,411	229,068	257,532
Other geese	5,781	14,761	7,867	11,125	12,755	8,150	9,025	6,658	7,723	13,895	6,255	3,945
American coot	24,880	10,437	17,554	20,114	10,993	20,345	15,938	24,909	16,061	23,871	14,820	26,345
Common snipe	2,758	2,801	1,783	3,432	2,558	2,130	5,336	4,221	3,933	2,210	1,487	1,936
Rails / gallinules	98	1,233	244	1,723	75	75	0	1,329	2,569	163	298	75
Crow	60,057	96,347	84,412	71,753	82,285	71,943	92,742	69,188	54,319	51,742	56,301	57,298
American woodcock	54,382	45,341	26,662	28,230	30,438	41,479	27,919	39,907	27,866	29,210	35,384	29,766
Mourning dove <sup>d</sup>						96,559	77,749	85,950	101,161	132,577	109,988	100,234
Ring-necked pheasant	339,780	375,169	266,786	357,833	511,462	419,712	585,299	587,580	655,443	522,071	400,242	359,396
Ruffed grouse	685,731	619,612	331,916	249,386	350,674	194,687	224,309	417,153	293,544	318,338	357,998	465,576
Spruce grouse	19,343	23,151	9,480	11,943	18,327	9,204	10,079	26,568	17,705	16,997	19,159	14,957
Sharp-tailed grouse	13,694	15,888	9,795	8,516	11,835	10,417	6,387	11,939	13,790	13,695	9,545	16,819
Gray partridge	19,050	16,782	10,174	10,921	22,250	12,572	16,289	11,545	11,000	9,660	8,019	9,154
Gray squirrel	132,221	140,253	145,916	133,589	174,848	132,659	122,078	140,788	133,194	121,534	109,717	138,925
Fox squirrel	71,091	65,103	62,958	67,100	84,529	62,410	62,187	66,068	47,736	51,079	54,013	61,686
Eastern cottontail	58,702	78,328	62,426	51,967	93,054	86,508	90,062	77,872	78,588	79,927	57,702	53,874
White-tailed jack rabbit	6,192	6,803	8,453	4,046	7,161	6,940	5,493	4,149	9,482	6,446	2,608	7,221
Snowshoe hare	20,842	26,904	21,717	10,909	11,969	7,895	10,406	16,801	5,789	11,343	5,352	6,772
Raccoon (Sept -Feb )	65,024	3,785	59,279	60,049	49,878	56,970	29,191	62,891	46,739	72,026	66,667	77,689
Raccoon <sup>c</sup> (Mar -Aug )	16,294	35,733	18,362	19,524	21,752	20,456	7,331					
Red fox (Sept -Feb )	9,546	19,460	6,842	11,438	13,000	6,072	10,166	7,872	6,188	4,408	10,238	8,781
Red fox <sup>c</sup> (Mar -Aug )	1,176	1,676	4,077	3,746	1,287	836	1,141					
Gray fox	1,768	900	571	521	602	1,758	927	3,593	559	2,443	1,857	2,382
Coyote	13,507	28,908	12,032	14,223	19,961	18,230	38,612	20,769	34,377	45,689	46,234	44,051
Badger	888	558	244	1,272	302	533	924	1,091	159	490	744	596

Harvest estimates in this table, and the number of hunters and mean take per hunter in Table 5, are calculated from different questions on the survey form. The sample used in calculations differs from one estimator to the next. This is because some respondents give specific answers to one question but not to a related one. A formula is used to calculate the total estimated take for each species that appear in this table. In most years the formula produces results rather close to those obtained by multiplying the average take per hunter times the number of hunters. However, in other years (e.g., 1985) results of the two methods are quite divergent, perhaps as a result of an unusual sample. This is being investigated further, and as a result, numbers may change somewhat in future reports. The most current report of survey findings will have the best data available at that time.

<sup>a</sup> Includes all types of Small game licenses. Duplicate licenses not included.

<sup>b</sup> Estimates based upon response of hunters to questionnaires.

<sup>c</sup> Raccoon and red fox seasons were year round from May, 1994 through March 16, 2006.

<sup>d</sup> Mourning dove season added 2004.

Table 7. Mail survey results of nonresident small game hunters, 1999-00 through 2010-11.

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
<b>Nonresident licenses issued<sup>a</sup></b>	7,572	7001	5,843	5,852	6,291	6,385	5,897	7,356	7,858	7,114	6,934	6,695
<b>Questionnaires:</b>												
Number mailed	199	98	124	130	123	182	210	185	185	226	196	163
Number not delivered	16	6	9	9	17	13	10	11	11	15	10	6
Number (percent) returned	136 (74)	56 ( 61)	77 (67)	75 (66)	68 (64)	114 (67)	134 (67)	115 (62)	101 (58)	89 (42)	105 (54)	107 (66)
<b>Estimated nonresidents and (percent) of all nonresidents hunting:</b>												
Ducks	2,505 (33)	2,375 (34)	2,727 (47)	2,263 (39)	2,498 (40)	2,394 (37)	2,040 (35)	2,344 (32)	2,256 (29)	2,293 (32)	1,849 (27)	2,003 (29.9)
Canada goose	1,225 (16)	1,500 (21)	1,169 (20)	1,092 (19)	1,388 (24)	1,368 (21)	1,818 (31)	2,083 (28)	934 (12)	1,587(22)	726 (10)	1,314 (19.6)
Ruffed grouse	3,508 (46)	3,000 (43)	1,169 (20)	2,029 (35)	2,313 (40)	1,824 (29)	1,774 (30)	1,953 (26)	1,867 (24)	1,940 (27)	1,915 (28)	2,503 (37.4)
Ring-necked pheasant	947 (13)	625 ( 9)	935 (16)	1,404 (24)	2,128 (36)	2,679 (42)	2,572 (44)	3,776 (51)	2,645 (34)	3,116 (44)	1,519 (22)	2,003 (29.9)
Raccoon	56 (1)	250 ( 4)	0 ( 0)	0 (0)	0 (0)	0 (0)	44 (0.7)	0 (0)	78 (1.0)	0 (0)	0 (0)	63 (0.9)
<b>Estimated nonresident take:</b>												
Ducks	26,391	18,253	42,225	17,556	17,855	19,269	12,149	12,173	22,718	15,463	11,755	17,055
Canada goose	6,960	5,001	13,400	5,852	5,736	6,214	3,946	3,580	3,501	5,762	3,698	6,334
Ruffed grouse	23,384	24,003	6,622	9,207	9,437	7,924	6,429	11,522	7,236	6,938	8,651	12,600
Ring-necked pheasant	4,844	4,001	3,740	7,647	9,344	11,174	13,656	16,079	17,661	10,642	6,274	8,076
Raccoon <sup>b</sup>	724	3,375	0	0	0	0	887	0	3,268	0	0	593

<sup>a</sup> Excludes duplicate licenses and nonresident shooting preserve licenses.

<sup>b</sup> In 2001, 2002, 2003, 2004, 2006, 2008, and 2009 no non-residents reported hunting/harvesting raccoons.

<b>Raccoon take per hunter</b>			
Year	Resident	Non-resident	Number of Non-resident raccoon licenses
2001 <sup>b</sup>	10	0	48
2002 <sup>b</sup>	11	0	46
2003 <sup>b</sup>	10	0	44
2004 <sup>b</sup>	8	0	46
2005	6	20	44
2006 <sup>b</sup>	8	0	53
2007	5	42	45
2008 <sup>b</sup>	10	0	40
2009 <sup>b</sup>	10	0	33
2010	9.4	9.4	42

The following information has been excerpted from: U.S. Fish and Wildlife Service. Migratory bird hunting activity and harvest during the 2009 and 2010 hunting seasons: preliminary estimates. U.S. Department of the Interior, Washington, D.C. U.S.A. The entire report is available on-line at <http://www.fws.gov/migratorybirds/reports/reports.html>

Table 1. Species composition of the Minnesota waterfowl harvest, 2009 and 2010. (from: Raftovich, R.V., K.A. Wilkins, S.S. Williams, H.L. Spriggs, and K.D. Richkus,. 2011. Migratory Bird Hunting activity and harvest during the 2009 and 2010 hunting seasons: Preliminary estimates. U.S. Fish and Wildlife Service, Laurel, Maryland. USA July 2011. 63 pp). **Note:** All hunter activity and harvest estimates are preliminary, pending final counts of the number of migratory bird hunters in each state and complete audits of all survey response data.

Species	Minnesota Harvest					Mississippi Flyway Harvest		
	2009	% of Harvest	2010	% of Harvest	Percent change in Harvest 09-10	2009	2010	Percent change Harvest 09-10
Mallard	101,280	25.82	138,167	26.37	+ 27	2,076,235	2,228,872	+ 7
Domestic mallard	0	0.00	0	0	0	1,990	1,482	- 34
American black duck	0	0.00	1,421	0.27	+100	30,373	27,073	- 12
Black x mallard	641	0.16	284	0.05	- 126	6,104	4,522	- 35
Gadwall	23,931	6.10	25,871	4.94	+ 7	713,277	1,098,694	+ 35
American wigeon	10,470	2.67	9,382	1.79	- 12	96,709	129,962	+ 26
Green-winged teal	49,999	12.74	36,674	7.00	- 36	755,233	1,052,784	+ 28
Blue-winged /cinnamon teal	34,828	8.87	36,958	7.05	+ 6	732,594	633,448	- 16
Northern shoveler	16,666	4.25	19,332	3.69	+ 14	283,039	475,080	+ 40
Northern pintail	3,632	0.93	11,087	2.12	+ 67	106,727	196,185	+ 46
Wood duck	53,204	13.56	77,897	14.87	+ 32	647,412	919,239	+ 30
Redhead	8,974	2.29	18,479	3.53	+ 51	59,860	109,003	+ 45
Canvasback	3,846	0.98	13,362	2.55	+ 71	27,831	72,703	+ 62
Greater scaup	1,496	0.38	1,421	0.27	- 5	24,567	23,692	- 4
Lesser scaup	10,043	2.56	14,783	2.82	+ 32	111,522	157,275	+ 29
Ring-necked duck	45,726	13.65	88,984	16.98	+ 49	186,243	268,411	+ 31
Goldeneye	7,051	1.79	7,051	0.92	- 46	30,017	33,578	+ 11
Bufflehead	12,607	3.21	12,607	3.26	+ 26	91,175	79,652	- 14
Ruddy duck	214	0.05	1,421	0.27	+ 85	12,243	8,196	- 49
Scoters	0	0.00	284	0.05	+100	3,599	3,136	- 15
Hooded merganser	7,478	1.91	6,254	1.19	- 20	41,645	45,988	+ 9
Other mergansers	214	0.05	0	0.00	0	7,534	5,256	- 43
Total Duck Harvest (retrieved kill)	392,300 ±14%		524,000 ±13%		+ 25	6,121,500 ± 6%	7,647,000 ±6%	+ 20

<sup>a</sup> Sum of all species does not equal total because of rounding error.

Table 2. Top 10 states in number of **adult duck hunters**, 2010, and number of hunter-days and retrieved duck kill, in each (from: Raftovich, R.V., K.A. Wilkins, S.S. Williams, H.L. Spriggs, and K.D. Richkus,. 2011. Migratory Bird Hunting activity and harvest during the 2009 and 2010 hunting seasons: Preliminary estimates. U.S. Fish and Wildlife Service, Laurel, Maryland. USA July 2011. 63 pp). **Note:** All hunter activity and harvest estimates are preliminary, pending final counts of the number of migratory bird hunters in each state and complete audits of all survey response data.

State	Number of active duck hunters	Duck hunter days afield	Total duck harvest	Seasonal duck harvest per hunter
Louisiana	89,300 ± 6%	821,700 ± 9%	2,736,300 ± 11%	30.6 ± 12%
Minnesota	69,600 ± 9%	396,600 ± 14%	524,000 ± 13%	7.5 ± 16%
Texas	67,000 ± 20%	355,100 ± 16%	986,000 ± 20%	14.7 ± 28%
Wisconsin	58,700 ± 11%	383,400 ± 14%	448,500 ± 14%	7.6 ± 18%
California	55,500 ± 10%	596,800 ± 18%	1,734,100 ± 22%	31.3 ± 24%
Arkansas	52,700 ± 9%	460,200 ± 15%	1,410,800 ± 18%	26.8 ± 20%
Michigan	37,100 ± 10%	203,000 ± 11%	288,000 ± 13%	7.8 ± 16%
Illinois	32,700 ± 11%	227,600 ± 15%	372,700 ± 18%	11.4 ± 21%
Missouri	30,200 ± 11%	225,400 ± 18%	520,200 ± 19%	17.2 ± 22%
Pennsylvania	25,200 ± 15%	118,200 ± 15%	125,900 ± 18%	5.0 ± 23%
Mississippi Flyway		3,404,200 ± 5%	7,647,000 ± 6%	
United States		6,590,800 ± 3%	14,867,000 ± 4%	



Table 3. Top 10 states in number of **adult goose hunters**, 2010, and number of hunter-days and retrieved goose kill, in each (from: Raftovich, R.V., K.A. Wilkins, S.S. Williams, H.L. Spriggs, and K.D. Richkus., 2011. Migratory Bird Hunting activity and harvest during the 2009 and 2010 hunting seasons: Preliminary estimates. U.S. Fish and Wildlife Service, Laurel, Maryland. USA July 2011. 63 pp). **Note:** All hunter activity and harvest estimates are preliminary, pending final counts of the number of migratory bird hunters in each state and complete audits of all survey response data.

State	Number of active goose hunters	Goose hunter days afield	Total goose harvest	Seasonal goose harvest per hunter
Minnesota	51,600 ± 11%	298,200 ± 19%	190,400 ± 21%	3.7 ± 24%
Texas	46,000 ± 20%	152,400 ± 30%	252,100 ± 32%	5.5 ± 38%
Wisconsin	44,100 ± 11%	269,600 ± 17%	92,300 ± 22%	2.1 ± 24%
California	38,600 ± 11%	279,100 ± 17%	206,800 ± 20%	5.4 ± 23%
Michigan	30,700 ± 11%	164,300 ± 13%	125,100 ± 16%	4.1 ± 20%
Pennsylvania	28,100 ± 13%	127,100 ± 16%	155,700 ± 22%	5.5 ± 25%
Illinois	27,900 ± 13%	209,000 ± 20%	138,200 ± 22%	5.0 ± 26%
Maryland	26,600 ± 8%	152,300 ± 11%	206,100 ± 13%	7.7 ± 16%
North Dakota	21,600 ± 8%	90,400 ± 10%	130,200 ± 15%	6.0 ± 17%
Virginia	16,400 ± 14%	77,100 ± 22%	74,300 ± 18%	4.4 ± 23%
Mississippi Flyway		1,579,900 ± 7%	1,131,400 ± 8%	
United States <sup>b</sup>		3,453,400 ± 4%	3,190,700 ± 5%	

<sup>b</sup>. Goose hunter statistics do not include brant hunter statistics for coastal states with brant seasons: Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, Virginia, California, Oregon, Washington, and Alaska.

# **HUNTER ACTIVITY AND GOOSE HARVEST DURING THE SEPTEMBER 2010 CANADA GOOSE HUNT IN MINNESOTA**

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The September Canada goose season in Minnesota was 4 - 22 September 2010 (19 days). Beginning in 2007 and continuing through 2009, a 7-day (16 - 22 Sep) experimental season addition was added in the Northwest Goose Zone (Figure 1). The U.S. Fish and Wildlife Service had approved the 7-day season extension in other goose zones in Minnesota after a 3-year experimental season from 1999-2001 (Maxson et al. 2003). In 2010, this season extension became operational statewide.

During the September season the daily bag limit was 5 Canada geese per day statewide. Shooting hours were 1/2 hour before sunrise to sunset. Taking of Canada geese was prohibited on or within 100 yards of all surface waters in the Northwest Goose Zone, in the Carlos Avery Wildlife Management Area and in the Swan Lake Area. Within the Twin Cities Metro Zone, and goose refuges open to goose hunting, hunting was not permitted from public road right-of-ways. Goose hunters were required to obtain a \$4.00 permit to participate in the September season. This report documents results of the 2010 September goose hunter mail questionnaire survey (Appendix A).

## **METHODS**

Permittees were randomly selected to receive a post-season hunter survey. Questionnaires were sent to 3,101 permit holders following the season. Questionnaires were individually numbered, and up to 3 questionnaires were mailed to individuals who had not responded. Completed questionnaires were double key-punched to reduce errors.

The questionnaire asked hunters the number of days they hunted, and, for the season as a whole, number of geese shot and retrieved, number of geese knocked down and not retrieved, and the county they hunted in the most. Hunters were asked to indicate the number of days during the September season that they hunted over water, and not over water, and the number of geese they shot under each scenario. Finally, the questionnaire asked hunters their support/opposition to 3 potential regulations for early Canada goose hunting: allow goose hunting in August; increase daily bag limit from 5 to 8; and allow goose hunting until 1/2 hour after sunset.

We used the R programming language (ver. 2.9.2; R Development Core Team [RDCT] 2009) to summarize responses to the questionnaire survey.

## **RESULTS AND DISCUSSION**

The DNR License Bureau reported that 35,817 Special Canada Goose Season permits were sold prior to 23 September, 2010. Response rate to the survey was 59.3%. Among those respondents, 75.0% indicated that they hunted during the September season. Active hunters were afield an average of 4.1 days and retrieved 4.0 geese. Overall, the success rate for active hunters was 71.1% (Table 1).

The survey estimates that 26,848 active hunters shot and retrieved 107,580 Canada geese during the 2010 September season (Table 2). Prior to the implementation of the Harvest Information Program, the U.S. Fish and Wildlife Service adjusted their mail survey statistics by a memory and prestige response bias factor of 0.848 for geese bagged in the Mississippi Flyway (Voelzer et al. 1982:56). Multiplying

September Canada goose harvest by the adjustment factor would indicate a 2010 retrieved harvest of 91,228.

We asked hunters how many days they hunted overwater and how many days they hunted away from water. A total of 40 % of hunters statewide hunted over water, and 31 % of all days spent hunting during the September season were overwater. The survey indicates that 7.2 % (CI 4.6 – 10.0%) of the geese harvested in the early season (7,769 total geese) were harvested by hunters overwater. Hunters harvested 0.2 geese per day while hunting overwater as opposed to 1.13 geese per day when hunting away from water.

We asked hunters how much they supported or opposed liberalizing September Canada goose regulations by 1) Hunting in August, 2) Increasing the daily bag limit from 5 to 8 Canada geese, and 3) Hunting ½ hour past sunset (regulations now allow hunting until sunset). Most ( $\geq 97\%$ ) respondents answered this question, and indicated they had sufficient knowledge or experience to provide an opinion (i.e., they did not answer “don’t know”). The majority ( $\geq 59\%$ ) of respondents that had an opinion supported liberalized regulations. Mean scores (where 1 = strongly oppose and 5 = strongly support) for Hunting in August, Increasing daily bag limits, and Hunting until ½ hour after sunset, were 3.6, 3.7, and 4.2, respectively. There were positive correlations ( $0.40 \leq \text{Spearman's } \rho \leq 0.49$ ) among scores for the 3 questions, indicating that respondents who supported hunting in August also tended to support increased bag limits and hunting past sunset (Figure 2).

Landowners and managers in the west central portion of Minnesota are still reporting numerous goose depredation issues. If these issues continue, there may be justification for a new September goose zone (Figure 3) to attempt to address these issues. To determine how many September goose hunters hunt in the area where the new zone would be located, we asked hunters which county they hunted in the most during the September Canada goose season (Appendix B). Sixteen percent of September goose hunters (4,317) hunted most within counties at least partially within the new zone, and those hunters harvested 15.4% (16,603) of the geese harvested during the 2010 September Canada goose season, although it is unknown how many of those geese were actually harvested within the new zone.

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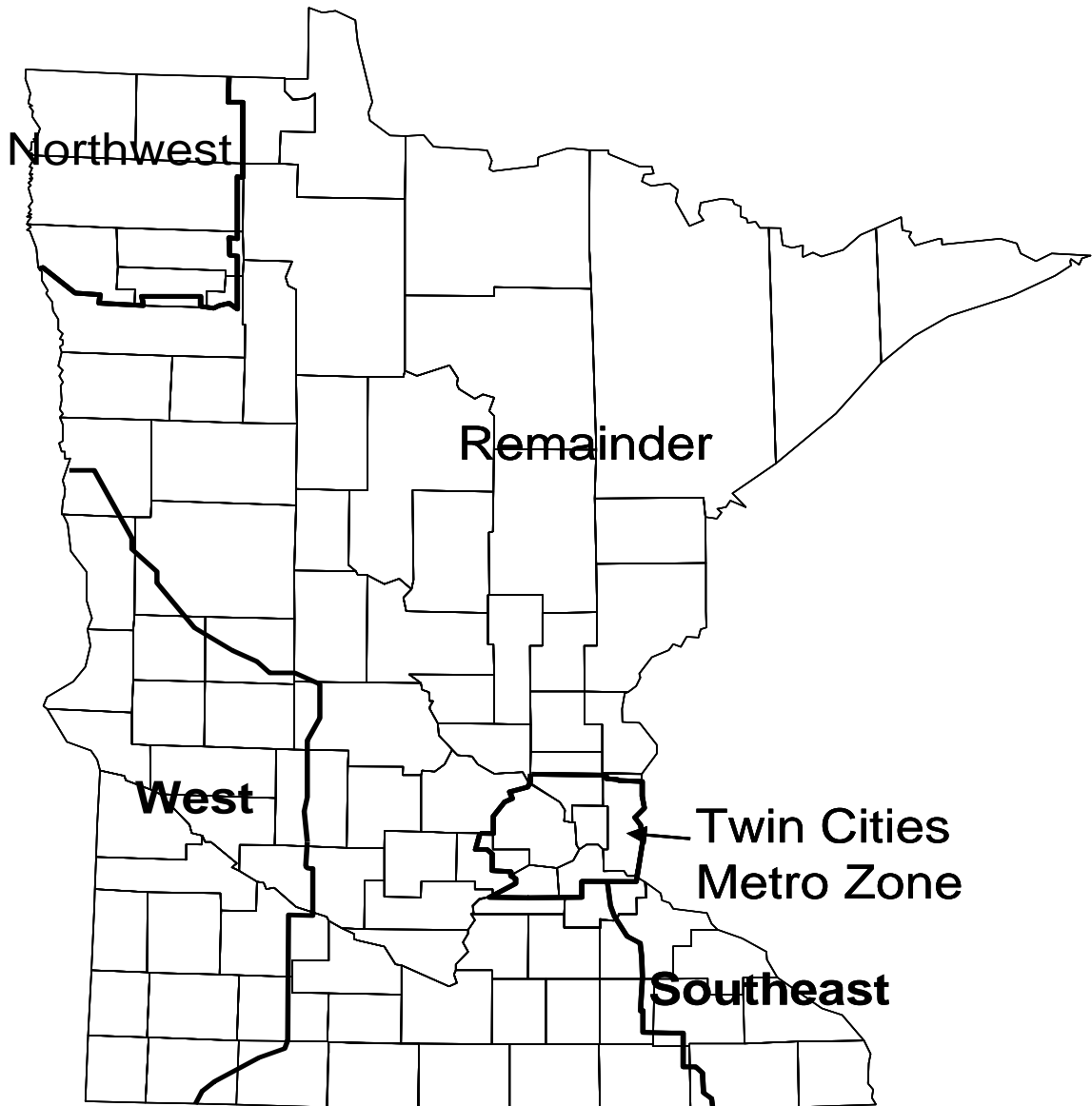


Figure 1. Traditional September season Goose Zones in Minnesota. The West, Twin Cities Metro and Southeast zones are now included in the Remainder zone during the September season.

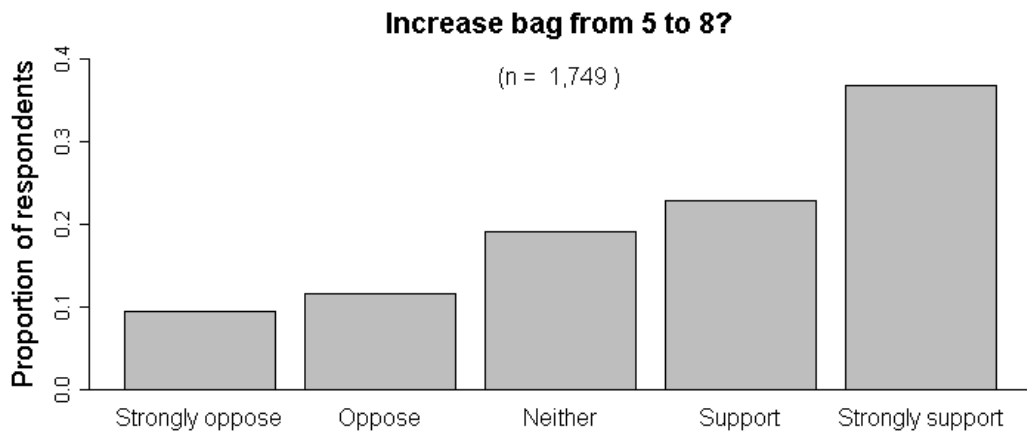
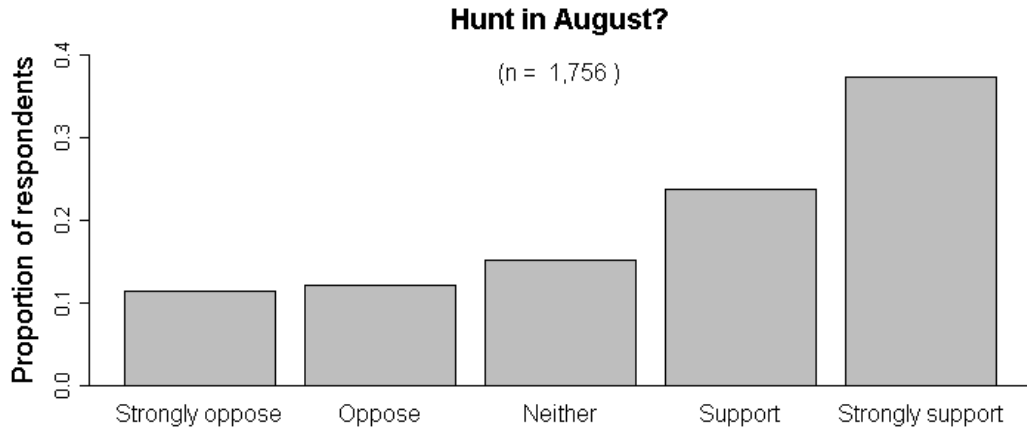


Figure 2. Proportion of respondents that supported or opposed (where 1 = strongly oppose and 5 = strongly support) 3 regulations changes during the September Canada goose hunt in Minnesota; Allow hunting in August, Increase the daily bag limit from 5 to 8 geese, and Allow hunting until ½ hour past sunset.

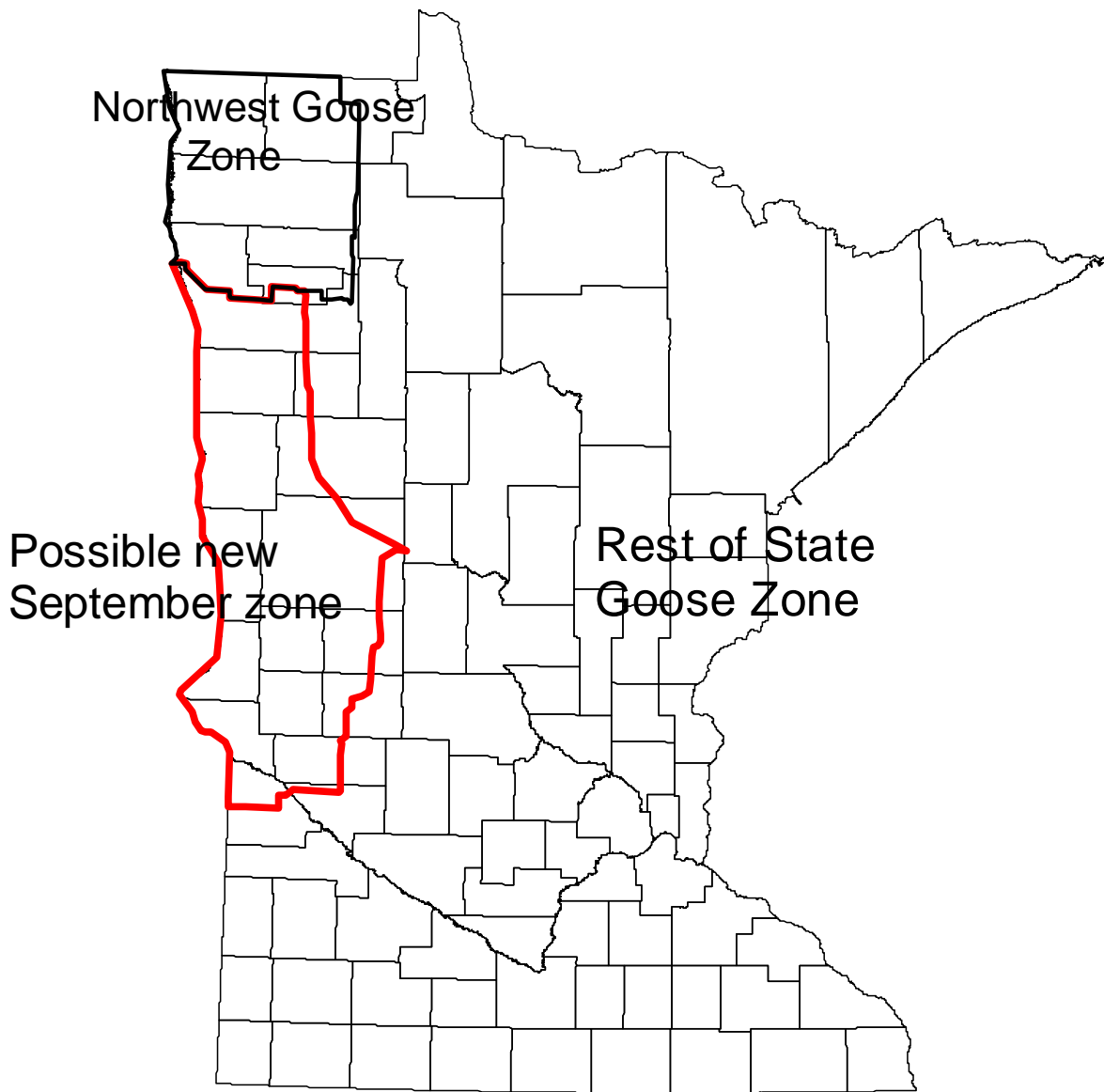


Figure 3. Location of a possible new September Canada goose zone in comparison to the current Northwest goose zone, and the Rest of State Goose zone.

Table 1. Permit sales, hunter activity, and harvest <sup>a</sup> during the September Canada Goose season (4 – 22 September) in Minnesota, 2010.

Parameter	Total
Total permits sold	35,817
Questionnaires delivered	3,101
Useable questionnaires returned	1,809
% responding	59.3
Active hunters	1,356
% active hunters	75.0
% hunters that were successful	71.1
Days hunted per active hunter	4.1
Geese shot and retrieved per active hunter	4.0
Unretrieved harvest per active hunter	0.37
% unretrieved harvest	0.083
<b>EXPANDED:</b>	
Active hunters	26,848
Hunter days	110,580
<b>Retrieved harvest</b>	<b>107,907</b>
Est. unretrieved harvest	9,954
Total harvest	119,637

<sup>a</sup>Harvest estimates not adjusted for memory/exaggeration bias.

Table 2. Retrieved harvest estimates by zone during the September Canada Goose season in Minnesota, 2000 – 2009. Total retrieved harvest estimates during the September Canada Goose season in Minnesota, 2010.

Year	Northwest	West	Southeast	Twin Cities Metro	Remainder	Total Geese Harvested	Number of Hunters	Geese/ Day/ Hunter	Total Geese/ Hunter
2000	2,750	18,909	1,183	15,594	51,685	<b>90,121</b>	33,202	0.63	2.71
2001	2,047	27,663	538	8,164	62,608	<b>101,021</b>	28,265	0.82	3.57
2002	1,568	22,075	848	8,504	50,769	<b>83,764</b>	26,089	0.68	3.20
2003	2,805	17,779	2,357	9,890	48,157	<b>80,988</b>	30,415	0.74	2.66
2004	4,326	16,843	1,197	11,090	56,480	<b>89,936</b>	29,657	0.80	3.03
2005	4,888	15,304	1,717	11,139	61,218	<b>94,266</b>	27,865	0.89	3.38
2006	6,826	17,987	1,461	11,844	53,321	<b>91,439</b>	28,405	0.86	3.22
2007	7,948	14,952	1,469	11,702	58,243	<b>94,314</b>	25,379	0.91	3.72
2008	5,530	16,168	2,580	13,656	62,827	<b>100,748</b>	27,392	0.98	3.73
2009	4,442	10,294	2,023	12,794	48,609	<b>78,151</b>	25,189	0.85	3.10
2010						<b>107,907</b>	26,848	0.98	4.00

**Appendix A.** Questions asked on the 2010 September Special Canada Goose Season Hunter Survey.

1. Did you hunt during the September 4-22, 2010 Special Canada Goose season?  
 \_\_\_ Yes \_\_\_ No (Please check one.)

If NO, proceed to Question 4. .

2. Please indicate the number of days you hunted, the total number of geese you **personally** shot and retrieved (do not include information from other members in your party), total geese personally knocked down but not retrieved and the County you hunted most.

\_\_\_\_\_ Number of days hunted  
 \_\_\_\_\_ Total geese personally shot and retrieved  
 \_\_\_\_\_ Total geese personally knocked down but not retrieved  
 \_\_\_\_\_ County hunted most

3. Please indicate the number of days hunted and number of geese you personally shot and retrieved when you hunted geese in September 2010:

a) Overwater, (e.g. with decoys floating in or along the shore of a wetland or pass shooting next to a wetland) \_\_\_\_\_ Days hunted  
 \_\_\_\_\_ Total geese personally shot and retrieved

b) Not overwater (e.g. field shooting) \_\_\_\_\_ Days hunted  
 \_\_\_\_\_ Total geese personally shot and retrieved

4. In the future, Minnesota may need to liberalize regulations in order to control resident Canada goose populations (geese that nest in Minnesota). How much do you support/oppose the following methods for controlling resident Canada geese in Minnesota during the early (currently September) Canada goose season only: (Please circle one for each.)

	Strongly oppose	Oppos e	Neither support nor oppose	Suppor t	Strongly support	Don't know
Allow goose hunting in August (season currently begins in early September)	1	2	3	4	5	9
Increase daily bag limit from 5 to 8	1	2	3	4	5	9
Allow goose hunting until ½ hour after sunset (currently closes at sunset)	1	2	3	4	5	9



**Appendix B.** Number and percent of September Canada Goose hunters in each county in Minnesota, 2010. Counties in bold are at least partially within a proposed new early season Canada goose zone.

County	Hunters		County	Hunters		County	Hunters	
	N	%		N	%		N	%
			LAKE OF THE					
AITKIN	396	1.5	WOODS	257	1.0	WABASHA	257	1.0
ANOKA	772	2.9	LE SUEUR	416	1.6	WADENA	119	0.5
BECKER	614	2.3	LINCOLN	139	0.5	WASECA	238	0.9
BELTRAMI	416	1.6	LYON	198	0.8	WASHINGTON	535	2.0
BENTON	257	1.0	MAHNOMEN	139	0.5	WATONWAN	139	0.5
<b>BIG STONE</b>	396	1.5	MARSHALL	178	0.7	<b>WILKIN</b>	59	0.2
BLUE EARTH	416	1.6	MARTIN	218	0.8	WINONA	119	0.5
BROWN	277	1.1	McLEOD	356	1.4	WRIGHT	1069	4.1
						YELLOW		
CARLTON	139	0.5	MEEKER	475	1.8	MEDICINE	79	0.3
CARVER	574	2.2	MILLE LACS	317	1.2			
CASS	436	1.7	MORRISON	277	1.1			
CHIPPEWA	79	0.3	MOWER	119	0.5			
CHISAGO	297	1.1	MURRAY	158	0.6			
<b>CLAY</b>	376	1.4	NICOLLET	277	1.1			
CLEARWATER	158	0.6	NOBLES	139	0.5			
COOK	20	0.1	OLMSTEAD	178	0.7			
COTTONWOOD	238	0.9	<b>OTTERTAIL</b>	1445	5.5			
CROW WING	317	1.2	PENNINGTON	178	0.7			
DAKOTA	515	2.0	PINE	416	1.6			
DODGE	40	0.2	POLK	455	1.7			
<b>DOUGLAS</b>	594	2.3	<b>POPE</b>	396	1.5			
FARIBAULT	158	0.6	RAMSEY	59	0.2			
FILLMORE	198	0.8	RED LAKE	20	0.1			
FREEBORN	238	0.9	REDWOOD	40	0.2			
GOODHUE	79	0.3	RENVILLE	119	0.5			
<b>GRANT</b>	218	0.8	RICE	535	2.0			
HENNEPIN	614	2.3	ROCK	99	0.4			
HOUSTON	20	0.1	ROSEAU	455	1.7			
HUBBARD	257	1.0	SCOTT	535	2.0			
ISANTI	317	1.2	SHERBURNE	554	2.1			
ITASCA	594	2.3	SIBLEY	218	0.8			
JACKSON	257	1.0	ST. LOUIS	574	2.2			
KANABEC	158	0.6	STEARNS	990	3.8			
KANDIYOHI	475	1.8	STEELE	317	1.2			
KITSON	178	0.7	<b>STEVENS</b>	198	0.8			
KOOCHICHING	59	0.2	<b>SWIFT</b>	198	0.8			
<b>LAC QUI PARLE</b>	238	0.9	TODD	574	2.2			
LAKE	20	0.1	<b>TRAVERSE</b>	119	0.5			

# **2011 LIGHT GOOSE CONSERVATION ORDER HARVEST IN MINNESOTA**

David Rave, Wetland Wildlife and Populations Research Group  
Margaret Dexter, Wildlife Populations and Research Unit

## **INTRODUCTION**

This report documents results of the 2011 Light Goose Conservation Order hunter mail questionnaire survey.

## **METHODS**

Minnesota held a light goose Conservation Order harvest from 1 March - 30 April 2011. Participants were required to obtain a \$3.50 permit. No other license, stamp or permit was required. Shooting hours were 1/2 hour before sunrise to 1/2 hour after sunset. There were no daily or possession limits. Use of electronic calls and unplugged shotguns was allowed.

All permit holders were sent a questionnaire after the season. Survey questions are listed in Figure 1. Second and third mailings were sent to non-respondents after one month had elapsed.

## **RESULTS AND DISCUSSION**

A total of 994 permits was issued and 659 responses (67 %) to the questionnaire were obtained (Table 1). In calculating harvest estimates, we assumed that the 335 non-respondents participated in the conservation action and took light geese in the same manner as respondents (i.e., tallies were expanded by 1.51). Light geese were present in Minnesota for more days during spring 2011 than spring 2010, which resulted in more geese harvested in 2011 than 2010. Harvest was again concentrated in the southwest portion of the state with some also being taken in west-central Minnesota. Four-hundred fifty five people attempted to take light geese during the 61-day conservation order period. Active participants pursued light geese for 1,830 days and 1,554 light geese were shot and retrieved. This was an average retrieved take of 3.4 geese per active participant. Another 145 light geese were reported wounded and not retrieved.

Unplugged shotguns were used by 201 (44.2%) individuals to take 742 (47.7%) geese, of which 311 (20.0%) were taken with the 4<sup>th</sup>, 5<sup>th</sup>, or 6<sup>th</sup> shell. Electronic calls were used by 97 (21.3%) participants to take 531 (34.2%) light geese. During the 1/2 hour after sunset period, 238 (15.3%) geese were harvested by 180 (39.5%) active hunters.

## **ACKNOWLEDGMENTS**

J. Giudice, MNDNR Biometrics Unit analyzed all data for this report.

**MINNESOTA 2011 LIGHT GOOSE HARVEST SURVEY**

For the Period of March 1 - April 30, 2011 ONLY

You are being asked to provide information to help us evaluate the harvest of light geese (snow, blue, and Ross' geese) in Minnesota during March 1 - April 30, 2011. Your cooperation is important. Please return this survey card even if you did not hunt light geese. Please answer the following questions to the best of your ability. **Answer only for your Minnesota 2011 hunting experience.**  
THANK YOU! Ed Boggess, Director, Division of Fish and Wildlife, MN DNR.

1. Did you hunt light geese in Minnesota during March 1 - April 30, 2011? Yes / No  
***If NO, please disregard all remaining questions and return this survey card.***
2. How many days did you hunt light geese in Minnesota during March 1 - April 30, 2011? \_\_\_\_\_
3. In what county did you hunt light geese most often during March 1 - April 30, 2011? \_\_\_\_\_
4. How many light geese did you personally shoot and retrieve in Minnesota? \_\_\_\_\_
5. How many light geese did you personally shoot, but were UNABLE to retrieve? \_\_\_\_\_
6. Did you hunt light geese in Minnesota with a gun(s) that was holding more than 3 shells? Yes / No
7. If yes, how many light geese did you shoot with a gun holding more than 3 shells? \_\_\_\_\_
8. How many light geese did you shoot and retrieve with the 4<sup>th</sup>, 5<sup>th</sup>, or 6<sup>th</sup> shell? \_\_\_\_\_
9. Did you hunt light geese in Minnesota with the aid of an electronic caller? Yes / No
10. If yes, how many light geese did you shoot and retrieve with the aid of an electronic caller? \_\_\_\_\_
11. Did you hunt light geese in Minnesota during the 1/2 hour after sunset period? Yes / No
12. If yes, how many light geese did you shoot and retrieve during the 1/2 hour after sunset period? \_\_\_\_\_
13. What method of hunting did you use most often? Check one  
 hunt over decoys     pass shoot     Sneak
14. What type of shotgun shells did you use most often?  
 Steel shot     Other (Hevi-shot, bismuth, tungsten-matrix, etc.)
15. What size shot did you use most often?     BBs or larger     1s or 2s     Smaller than 2s

Figure 1. Light Goose Conservation Order hunter questionnaire, 2011.

Table 1. Summary of Light Goose Conservation Order harvest in Minnesota, 2001 - 2011

Statistic	Year									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total permits sold	1,997	1,438	1,424	1,383	1,363	1,292	1,406	1,670	952	994
Useable returns	1,375	1,071	1,095	998	955	921	910	1,057	671	659
Response rate (%)	69.0	74.0	77.0	72.0	70.0	71.0	65.0	63.0	72.3	67.1
Active hunters (%)	60.5	38.5	48.5	44.7	37.3	39.8	54.9	66.0	40.8	45.7
Estimated total hunters	1,209	553	690	618	516	514	773	1,103	389	455
Estimated hunter days	5,517	2,600	3,372	2,643	2,665	2,302	3,404	4,647	1,475	1,830
Mean days/hunter	4.6	4.7	4.9	4.3	5.2	4.5	4.4	4.2	3.8	4.0
Estimated harvest (shot & retrieved)	3,516	2,005	2,735	1,395	1,360	1,786	2,409	4,366	559	1,554
Mean harvest/hunter	2.9	3.6	4.0	2.3	2.6	3.5	3.1	4.0	1.4	3.4
Estimated crippling losses	637	253	315	150	163	172	302	640	70	145
Percent using unplugged guns	46.4	50.6	48.2	44.0	42.3	43.6	46.7	46.8	44.9	44.2
Est. number hunters using unplugged guns	560	280	333	272	215	224	361	516	175	201
Est. number geese <b>shot</b> with unplugged guns	2,137	996	1,385	777	689	1,032	1,275	2,413	348	742
Est. harvest with shell 4-5-6	615	401	491	269	287	277	339	822	131	311
Percent using electronic calls	11.8	15.7	19.3	17.8	14.4	17.1	19.1	23.5	25.9	21.3
Est. number hunters using e-calls	142	87	133	110	73	88	148	260	101	97
Est. harvest while using e-calls	512	474	326	268	280	329	566	1,171	192	531
Percent hunting 1/2-hr after sunset	45.5	41.2	38.4	42.7	43.9	38.3	42.3	43.1	39.7	39.7
Est. number hunting after 1/2-hr sunset	550	228	265	264	223	197	326	475	154	180
Est. harvest 1/2-hr after sunset	841	267	311	242	246	209	511	713	87	238

# **2010 FALL WILD TURKEY HARVEST REPORT**

Eric Dunton, Farmland Wildlife Populations and Research Group

Minnesota's fall turkey hunting season is managed with a quota system similar to the spring turkey hunting season. Permits are allocated across 67 permit areas (PAs; Figure 1). In 2010, the fall season was expanded from 2, 5-day time periods to 1, 30-day time period in all PAs.

Three types of permits were available to hunters: (1) general lottery permits in which applicants or parties of up to 4 hunters applied for a specific PA, (2) landowner permits in which up to 20% of permits for each PA were reserved for landowners or tenants who lived on 40 acres or more of land within the PA, and (3) surplus permits which were offered in under-subscribed PAs. General lottery and landowner permits were made available based on a system of preference, which was determined by the number of years applicants submitted a valid, but unsuccessful application since last receiving a permit. Surplus permits could be purchased on a first-come, first-served basis. Permit holders were allowed to harvest 1 turkey of either sex during the fall season.

Fall turkey hunting opportunity has increased significantly since 2007 with the addition of 5,940 available permits (132% increase), 35 new permit areas, and the extension of the season from 2, 5-day time periods to 1, 30-day time period (October 2-31). In 2010, over 6,500 permits were issued, and hunters registered 1,353 turkeys, a 16% increase from the 2009 season (Table 1; Figure 2). Hunter success averaged 20%, below the 5-year average (23%), and success varied among PAs from 0% in PAs 183, 446, 451, and 458 to 63% in PA 431 (Table 2). The majority of permits issued were general lottery (69%), followed by surplus permits (28%), and landowner (3%; Table 3). Compared to 2009, the number of general lottery permits issued declined by 25% while the number of surplus permits issued increased by an equivalent amount, indicating that some hunters may be opting to purchase a surplus permit rather than apply for a permit through the general lottery system.

Overall weather conditions for the 2010 fall wild turkey season were favorable across much of the turkey range. After a record-setting wet September, much of October received little or no precipitation during the first 3 weeks (Minnesota Climatology Working Group 2010). Regional mean temperatures for October were generally 3 to 5° F above average (Minnesota Climatology Working Group 2010). Although favorable weather conditions contribute to increased harvest and participation, the continued increase in harvest can be partially attributed to the greater number of permits available (132% increase since 2007), 35 new PAs open to fall hunting since 2007, and the extension of the season from 2, 5-day time periods to 1, 30-day season. Favorable weather, more permits, and a longer season all combined to provide more opportunities for hunters to harvest turkeys.

## **LITERATURE CITED**

MINNESOTA CLIMATOLOGY WORKING GROUP. 2010. Climate journal. <http://climate.umn.edu/>  
Accessed 15 November 2010.

Table 1. Permits available and issued, applicants, registered harvest, and hunter success rates for fall wild turkey seasons 1990 – 2010, Minnesota.

Year	Permits available	Applicants	Permits issued	Registered harvest	Hunter success (%) <sup>a</sup>
1990	1,000	4,522	951	326	34
1991	2,200	2,990	2,020	552	27
1992	2,200	2,782	2,028	588	29
1993	2,400	3,186	2,094	605	29
1994	2,500	3,124	2,106	601	29
1995	2,500	3,685	2,125	648	30
1996	2,500	4,453	2,289	685	30
1997	2,580	4,574	2,378	698	29
1998	2,710	4,526	2,483	828	33
1999	2,890	5,354	2,644	865	33
2000	3,090	5,263	2,484	735	30
2001	2,870	4,501	2,262	629	28
2002	3,790	5,180	2,945	594	20
2003	3,870	5,264	2,977	889	30
2004	4,380	5,878	3,277	758	23
2005	4,410	4,542	2,978	681	23
2006	4,290	4,167	2,802	618	22
2007	4,490	4,464	2,837	695	24
2008	7,560	5,834	4,981	1,187	24
2009	9,330	7,738	5,019	1,163	23
2010	10,430	6,869	6,607	1,353	20

<sup>a</sup> Success rates not adjusted for non-participation.

Table 2. Permits available and issued, registered harvest, and current and historic success by permit area for the 2010 fall wild turkey season, Minnesota.

Permit area	Permits		2010		Historic mean <sup>b</sup>	
	Available	Issued	Registered harvest	Success (%) <sup>a</sup>	Success (%)	<i>n</i>
156	20	18	4	22	13	2
157	100	78	20	26	23	3
159	20	17	1	6	7	2
183	10	5	0	0	0	2
213	200	161	19	12	16	3
214	200	168	30	18	26	3
215	300	246	50	20	24	3
218	200	159	45	28	27	2
219	100	82	21	26	18	2
221	200	147	34	23	22	3
222	200	120	16	13	21	3
223	200	139	16	12	16	3
225	200	150	22	15	15	2
227	300	236	52	22	24	4
229	50	41	7	17	19	3
235	20	15	2	13	8	2
236	300	244	45	18	24	8
239	300	239	63	26	26	3
240	200	157	42	27	28	3
241	20	14	3	21	31	2
243	20	15	4	27	29	2
244	40	35	12	34	40	2
248	100	78	20	26	25	3
249	100	76	22	29	24	3
262	40	21	4	19	31	3
338	200	164	45	27	25	8
339	200	169	27	16	19	8
341	500	400	97	24	25	8
342	350	190	50	26	23	8
343	300	252	64	25	27	8
344	200	144	21	15	20	8
345	200	98	11	11	17	8
346	300	145	18	12	22	8
347	200	149	24	16	24	8

Table 2. Continued.

Permit area	Permits		2010		Historic mean <sup>b</sup>	
	Available	Issued	Registered harvest	Success (%) <sup>a</sup>	Success (%)	<i>n</i>
348	250	177	29	16	24	8
349	450	144	27	19	22	8
412	40	30	7	23	31	3
416	20	12	1	8	19	2
417	30	25	10	40	31	2
420	40	17	3	18	31	5
422	50	40	13	33	40	5
425	40	28	7	25	24	5
427	20	15	4	27	24	2
428	30	26	9	35	28	3
431	20	16	10	63	35	5
433	20	16	1	6	19	5
440	20	19	6	32	36	3
442	250	198	42	21	26	8
443	100	89	18	20	17	8
446	20	18	0	0	22	5
447	20	15	4	27	16	5
448	30	25	5	20	22	8
449	30	21	5	24	28	7
450	20	14	3	21	14	5
451	20	4	0	0	11	2
454	20	14	3	21	33	2
457	20	15	1	7	5	2
458	20	3	0	0	0	2
459	20	19	1	5	4	3
461	250	192	51	27	29	8
462	240	196	37	19	24	8
463	30	24	1	4	21	3
464	80	40	8	20	24	8
465	80	39	5	13	23	8
466	160	129	29	22	27	8
467	100	84	26	31	21	8
601	2,000	531	76	14	20	8
Total	10,430	6,607	1,353	20	-	-

<sup>a</sup> Success rates not adjusted for non-participation.

<sup>b</sup> Mean success rates (%) over all fall turkey seasons (*n*) between 2003 – 2010 or since a permit area opened for fall turkey hunting.



Table 3. Permits available and issued by type, registered harvest, and success by permit area for the 2010 fall wild turkey season, Minnesota.

Permit area	Permits available	Permits issued by type				Registered harvest	Success (%) <sup>a</sup>
		General	Landowner	Surplus	Total		
156	20	14	4	0	18	4	22
157	100	75	3	0	78	20	26
159	20	16	1	0	17	1	6
183	10	4	1	0	5	0	0
213	200	117	5	39	161	19	12
214	200	87	5	76	168	30	18
215	300	161	2	83	246	50	20
218	200	138	5	16	159	45	28
219	100	78	4	0	82	21	26
221	200	82	3	62	147	34	23
222	200	61	1	58	120	16	13
223	200	135	2	2	139	16	12
225	200	76	2	72	150	22	15
227	300	120	5	111	236	52	22
229	50	41	0	0	41	7	17
235	20	15	0	0	15	2	13
236	300	162	2	80	244	45	18
239	300	159	5	75	239	63	26
240	200	123	3	31	157	42	27
241	20	13	1	0	14	3	21
243	20	15	0	0	15	4	27
244	40	32	3	0	35	12	34
248	100	32	4	42	78	20	26
249	100	47	2	27	76	22	29
262	40	11	0	10	21	4	19
338	200	121	6	37	164	45	27
339	200	112	3	54	169	27	16
341	500	267	5	128	400	97	24
342	350	117	6	67	190	50	26
343	300	222	9	21	252	64	25
344	200	116	1	27	144	21	15
345	200	60	3	35	98	11	11
346	300	95	5	45	145	18	12
347	200	88	2	59	149	24	16

Table 3. Continued.

Permit area	Permits available	Permits issued by type				Registered harvest	Success (%) <sup>a</sup>
		General	Landowner	Surplus	Total		
348	250	124	3	50	177	29	16
349	450	105	0	39	144	27	19
412	40	27	3	0	30	7	23
416	20	12	0	0	12	1	8
417	30	24	1	0	25	10	40
420	40	3	3	11	17	3	18
422	50	27	0	13	40	13	33
425	40	26	2	0	28	7	25
427	20	14	1	0	15	4	27
428	30	23	3	0	26	9	35
431	20	15	1	0	16	10	63
433	20	16	0	0	16	1	6
440	20	15	4	0	19	6	32
442	250	188	10	0	198	42	21
443	100	65	1	23	89	18	20
446	20	7	0	11	18	0	0
447	20	11	1	3	15	4	27
448	30	17	5	3	25	5	20
449	30	17	1	3	21	5	24
450	20	5	0	9	14	3	21
451	20	3	0	1	4	0	0
454	20	14	0	0	14	3	21
457	20	10	1	4	15	1	7
458	20	2	0	1	3	0	0
459	20	12	1	6	19	1	5
461	250	183	9	0	192	51	27
462	240	146	6	44	196	37	19
463	30	22	2	0	24	1	4
464	80	26	0	14	40	8	20
465	80	24	0	15	39	5	13
466	160	82	1	46	129	29	22
467	100	62	7	15	84	26	31
601	2,000	251	0	280	531	76	14
Total	10,430	4,590	169	1,848	6,607	1,353	20

<sup>a</sup> Success rates not adjusted for non-participation

## 2010 Permit Areas (PAs) Open to Fall Turkey Hunting

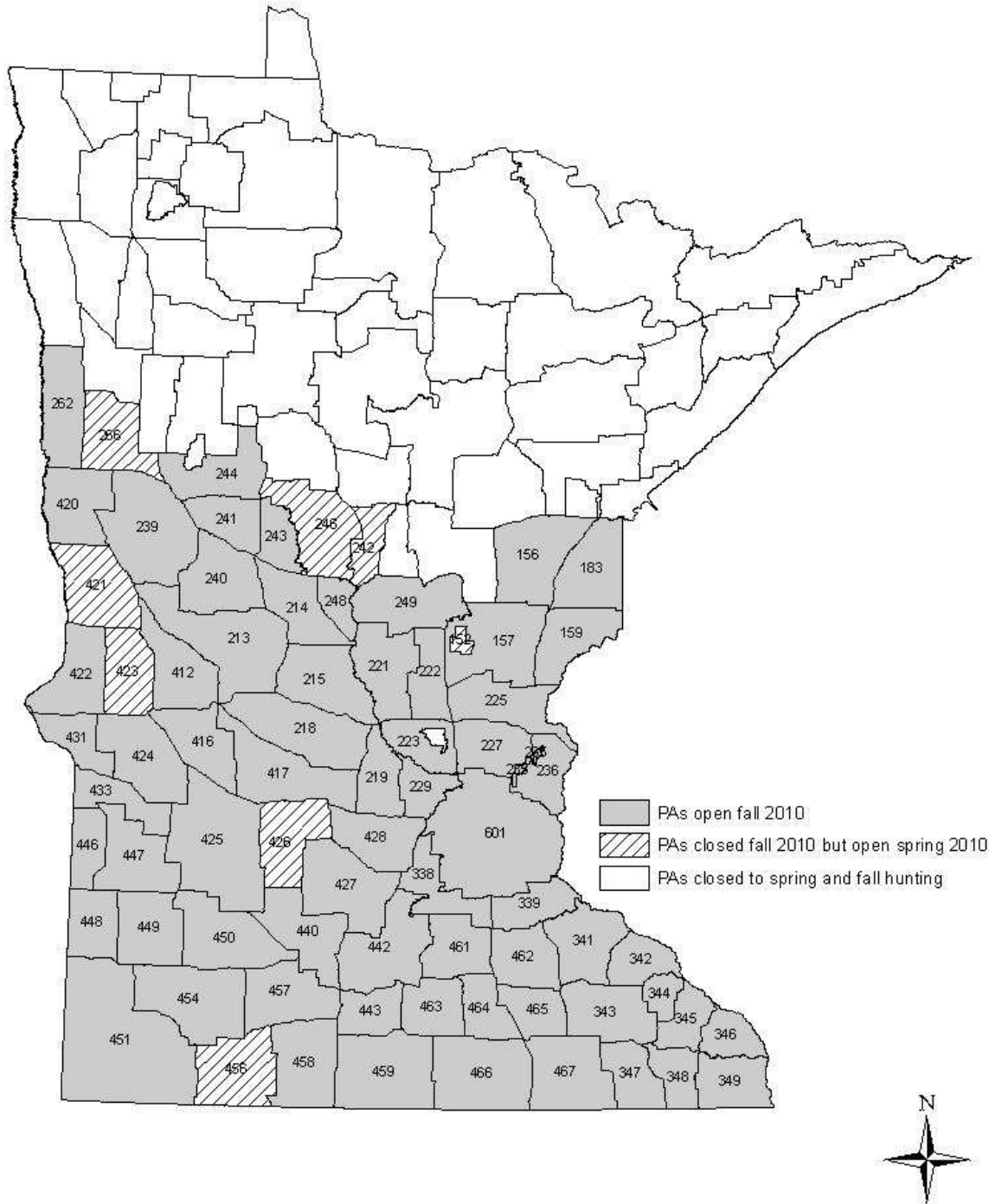


Figure 1. Permit areas (PAs) open for the 2010 fall wild turkey hunting season, Minnesota.

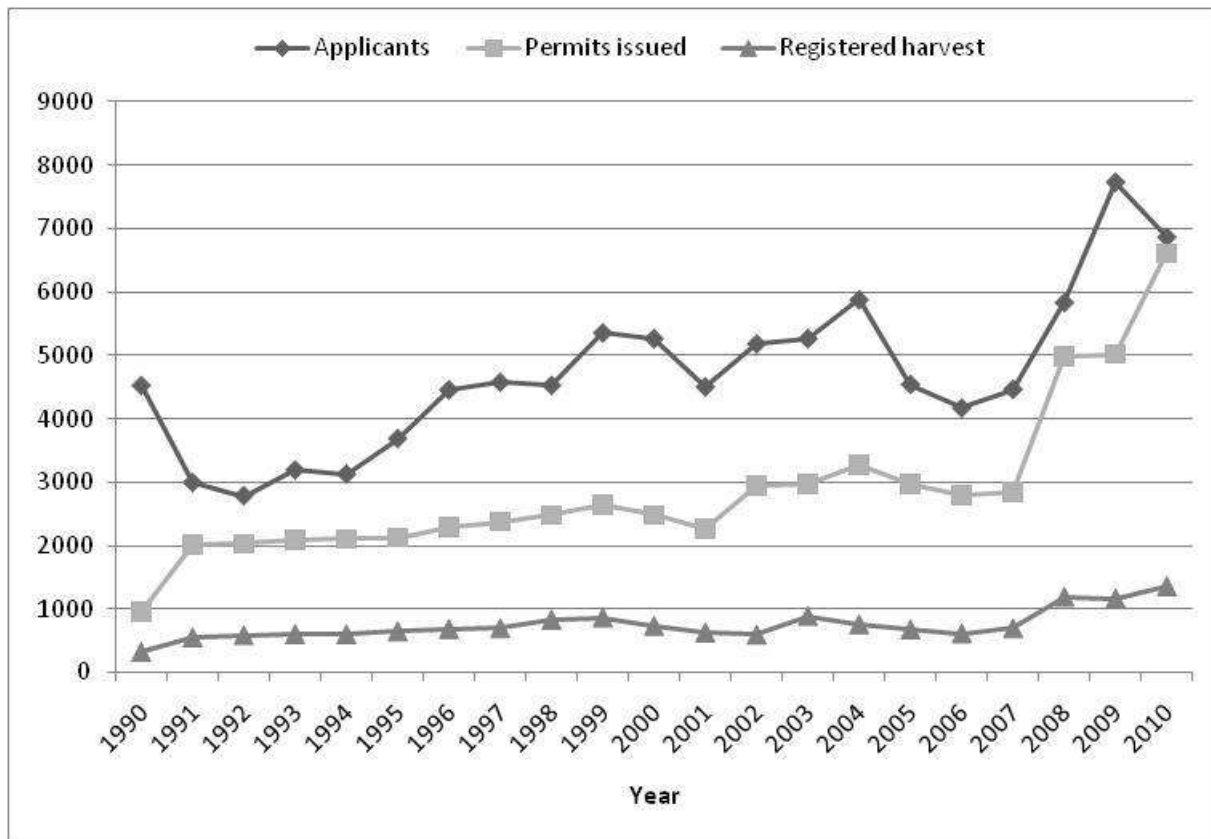


Figure 2. Applicants, permits issued, and registered harvest for fall wild turkey seasons 1990 – 2010, Minnesota.

# SPRING 2011 WILD TURKEY HARVEST REPORT

Kurt Haroldson, Farmland Wildlife Populations and Research Group

In Minnesota, the spring wild turkey hunting season is designed to regulate harvest and distribute hunting pressure by allocating permits across 81 permit areas (PAs, Figure 1) and 8 time periods using a quota system. Although youth hunters (age 17 or less on opening day of the turkey hunting season) could purchase a permit over the counter, adult hunters interested in pursuing wild turkeys were required to apply for a permit through a drawing based on a system of preference. Preference is determined by the number of years a valid but unsuccessful application has been submitted since last receiving a permit. Hunters may apply individually or in a group of up to 4 hunters. Successful applicants are notified through mail, and unsuccessful applicants are awarded a preference point. The goal of this system is to provide quality turkey hunting opportunities by minimizing hunter interference rates while allowing hunters to take the harvestable surplus of turkeys.

There was one notable regulation change for the 2011 spring hunting season: the number of permits available for the last 2 time periods (G and H) was unlimited. Permits for time periods G and H and all surplus licenses remaining after the drawing were offered over the counter in mid-March on a first-come, first-served basis.

Eight types of hunting licenses were available to resident turkey hunters: (1) general lottery permit in which an applicant or a group of up to 4 hunters applied for a specific PA and time period; (2) landowner permit in which up to 20% of permits for each PA and time period were reserved for landowners or tenants who lived on 40 acres or more of land within the PA; (3) youth permit; (4) archery permit which could be purchased for the last 2 time periods of any PA with 50 or more permits per period; (5) youth archery; (6) surplus permits; (7) youth surplus; and (8) military permit.

During 2011, 54,042 applicants were issued 43,521 permits (Table 1, Figure 2), including 21,754 general lottery permits, 1,629 landowner permits, 8,693 youth permits, and 11,324 surplus permits. An additional 2,462 permits were issued to archers, and 121 permits were issued for the Camp Ripley disabled veterans hunt. Hunters registered 10,055 turkeys, a decrease of 25% from 2010 (Table 1, Figure 2). Hunter success averaged 23% (Table 1), which is below the 5-year average of 32%. Hunter success by PA ranged from 15% (PA 459) to 58% (PA 256; Table 2). Hunter success varied by license type from 9% (archery) to 19% (youth), 25% (general lottery and landowner), and 20% (surplus). Similar to the 10-year average, hunter success rates were highest during the first 2 time periods (Table 3). The majority of general lottery (82%), landowner (94%), and youth (78%) permits were issued during time periods A – D, while the majority of surplus permits (97%) were issued during time periods E – H (Table 4). The 8,693 permits issued to resident and non-resident youth hunters (general lottery, surplus, archery, and mentored) in 2011 was a 73% increase over the 5,024 youth permits issued in 2009, when youth were required to compete for permits in the lottery. Approximately 18% (1,792) of harvested turkeys were registered using the phone registration system, 30% (3,008) through the internet, and 52% (5,255) at a registration station.

Annual changes in turkey harvest are influenced by turkey population size, hunter effort, and weather. As of 2010, Minnesota's wild turkey population appeared to be stable or growing modestly throughout most of the range, with more rapid growth in the northern PAs (Giudice et al. 2011). The effect of the severe winter of 2010-11 on turkey abundance is unknown, but survival rates may have been lower than average, leaving fewer birds in the spring 2011 population. Although hunting opportunity increased in 2011 with 4 new PAs open to hunting and unlimited permit availability for time periods G and H, hunter effort was reduced, with over 3,000 fewer permits issued in 2011 compared to the previous year despite an increase

in permit applications. Reduced hunter effort was likely a function of poor weather during the 2011 spring turkey hunting season. Weather conditions in April and May were relatively cool, wet, and windy across much of Minnesota, with below average temperatures and above average precipitation (Minnesota Climatology Working Group 2011). Thus, the reduced harvest in 2011 was likely the result of poor weather (as it affects hunter effort and turkey vulnerability to hunting), and possibly reduced turkey abundance. Spring turkey harvest in Wisconsin, Iowa, Illinois, and South Dakota also declined from 2010. The combination of severe winter weather and cool, wet spring weather has affected turkey numbers or behavior as well as hunter effort across the upper Midwest.

#### **LITERATURE CITED**

GIUDICE, J., M. TRANEL, and K. HAROLDSON. 2011. Fall Wild Turkey Population Survey, 2010. Minnesota Department of Natural Resources, St. Paul, MN, Agency Report.

MINNESOTA CLIMATOLOGY WORKING GROUP. 2011. Climate journal. <http://climate.umn.edu/> Accessed 22 June 2011.

Table 1. Spring applicants, permits available and issued, and registered harvest from 1978 – 2011 for all spring wild turkey hunting seasons, Minnesota.

Year	Applicants	Permits			Registered harvest	Success (%) <sup>a</sup>
		Available	Issued	Issued (%)		
1978	10,740	420	411	97.9	94	22.9
1979	11,116	840	827	98.5	116	14.0
1980	9,613	1,200	1,191	99.3	98	8.2
1981	8,398	1,500	1,437	95.8	113	7.9
1982	7,223	2,000	1,992	99.6	106	5.3
1983	8,153	2,100	2,079	99.0	116	5.6
1984	7,123	3,000	2,837	94.6	178	6.3
1985	5,662	2,750	2,449	89.1	323	13.2
1986	5,715	2,500	2,251	90.0	333	14.8
1987	6,361	2,700	2,520	93.3	520	20.6
1988	8,402	3,000	2,994	99.8	674	22.5
1989	13,007	4,000	3,821	95.5	930	24.3
1990	14,326	6,600	6,126	92.8	1,709	27.9
1991	15,918	9,170	8,607	93.9	1,724	20.0
1992	16,401	9,310	9,051	97.2	1,691	18.7
1993	17,800	9,625	9,265	96.3	2,082	22.5
1994	19,853	9,940	9,479	95.4	1,975	20.8
1995	21,345	9,975	9,550	95.7	2,339	24.5
1996	23,757	12,131	10,983	90.5	2,841	25.9
1997	25,958	12,530	11,610	92.7	3,302	28.4
1998	29,727	14,035	13,229	94.3	4,361	33.0
1999	39,957	18,360	16,387	89.3	5,132	31.3
2000	42,022	20,160	18,661	92.6	6,154	33.0
2001	41,048	22,936	21,404	93.3	6,383	29.8
2002	42,415	24,136	22,607	93.7	6,516	28.8
2003	44,415	25,016	22,770	91.0	7,666	33.7
2004	48,059	27,600	25,261	91.5	8,434	33.4
2005	49,181	31,748	27,638	87.1	7,800	28.2
2006	45,704	32,624	27,876	85.4	8,241	29.6
2007 <sup>b</sup>	52,566	33,976	28,320	83.4	9,412	33.2
2008 <sup>b</sup>	51,000	37,992	31,942	84.1	10,994	34.4
2009 <sup>b</sup>	57,692	42,328	36,193	85.5	12,210	33.7
2010 <sup>b</sup>	51,312	55,982	46,548 <sup>c</sup>	83.0	13,467	29.0
2011 <sup>b</sup>	54,042	unlimited	43,521 <sup>c</sup>		10,055	23.1

<sup>a</sup> Success rates not adjusted for non-participation

<sup>b</sup> Youth hunt data included

<sup>c</sup> 2,462 permits were issued to archery hunters and are not included in this figure.

Table 2. Permits issued, registered harvest, and hunter success during the 2011 spring wild turkey season and historic success rates by permit area for Minnesota.

Permit Area	2011			Historic mean <sup>d</sup>	
	Permits Issued <sup>a</sup>	Harvest <sup>b</sup>	Success (%) <sup>c</sup>	Success (%)	n
152	40	7	18	33	3
154 <sup>e</sup>	85	19	22		0
156	225	71	32	38	3
157	714	176	25	40	7
159	196	41	21	31	7
183	97	22	23	22	3
213	938	215	23	39	4
214	727	183	25	36	7
215	1,079	288	27	40	12
218	1,223	306	25	44	4
219	634	168	26	31	12
221	626	168	27	44	6
222	472	123	26	37	6
223	974	247	25	35	12
225	1,178	243	21	27	12
227	1,162	298	26	33	12
229	392	86	22	25	11
235	178	31	17	32	12
236	1,256	296	24	38	12
239	1,153	278	24	39	9
240	821	223	27	38	6
241	362	84	23	35	3
242	63	17	27	34	2
243	262	70	27	35	3
244	490	120	24	33	9
245 <sup>e</sup>	104	43	41		0
246	362	124	34	36	2
247	56	20	36	34	1
248	367	87	24	39	7
249	512	121	24	31	8
256 <sup>e</sup>	43	25	58		0
262	40	9	23	38	3
265 <sup>e</sup>	24	13	54		0
266	66	14	21	35	2
338	924	219	24	33	10
339	841	203	24	34	10
341	1,978	461	23	34	10
342	1,356	276	20	27	10



Table 2. Continued

Permit Area	2011			Historic mean <sup>d</sup>	
	Permits Issued <sup>a</sup>	Harvest <sup>b</sup>	Success (%) <sup>c</sup>	Success (%)	n
343	1,673	390	23	40	10
344	922	145	16	27	12
345	828	130	16	22	10
346	1,487	266	18	25	12
347	1,012	199	20	27	10
348	1,068	195	18	25	10
349	2,076	381	18	24	12
412	403	86	21	36	4
416	216	55	25	37	11
417	663	189	29	38	4
420	70	20	29	34	7
421	34	10	29	31	3
422	173	44	25	44	12
423	17	4	24	20	3
424	67	18	27	30	6
425	611	135	22	37	7
426	35	6	17	25	10
427	147	33	22	34	10
428	368	102	28	40	10
431	120	36	30	39	12
433	171	49	29	39	7
440	584	151	26	32	12
442	1,415	337	24	35	12
443	548	129	24	31	12
446	88	27	31	36	6
447	71	18	25	26	6
448	116	30	26	45	7
449	164	27	16	43	7
450	75	17	23	29	12
451	99	22	22	41	8
454	77	17	22	34	6
456	29	9	31	12	6
457	105	32	30	34	12
458	51	11	22	31	6
459	207	31	15	23	12
461	1,083	206	19	34	12
462	972	220	23	37	10
463	264	47	18	29	12
464	321	68	21	29	10

Table 2. Continued

Permit Area	2011			Historic mean <sup>d</sup>	
	Permits Issued <sup>a</sup>	Harvest <sup>b</sup>	Success (%) <sup>c</sup>	Success (%)	n
465	266	56	21	28	10
466	526	132	25	31	9
467	545	98	18	33	9
601	1,613	442	27	38	11

<sup>a</sup> 2,462 permits were issued to archery hunters and 121 permits were issued for the Camp Ripley disabled veterans hunt and are not included in these figures

<sup>b</sup> 40 turkeys were registered from the Camp Ripley disabled veterans hunt and are not included in these figures

<sup>c</sup> Success rates not adjusted for non-participation

<sup>d</sup> Mean success rate (%) over all spring turkey seasons (*n*) between 1999 – 2010 or since a permit area boundary change occurred.

<sup>e</sup> New permits area for the 2011 spring season

Table 3. Permits available and issued, registered harvest, and success (2011 and mean) by time period for the 2011 spring wild turkey season, Minnesota.

Time period <sup>a</sup>	Permits		2011		2001 – 2010 Mean success (%)
	Available	Issued	Registered harvest	Success (%) <sup>b</sup>	
A	5,705	7,177	2,128	30	43
B	5,705	5,402	1,500	28	39
C	5,705	7,217	1,514	21	31
D	5,705	6,485	1,254	19	28
E	5,705	5,159	1,070	21	32
F	5,705	4,255	865	20	28
G	unlimited	4,960	1,069	22	25
H	unlimited	2,489	522	21	23
Youth hunt <sup>c</sup>	273	256	93	36	
Camp Ripley <sup>d</sup>					
802A		21	3	14	
801B		39	14	36	
802B		3	1	33	
801C		41	17	41	
801D		17	5	29	

<sup>a</sup> A = April 13 – 17, B = April 18 – 22, C = April 23 – 27, D = April 28 – May 2, E = May 3 – 7, F = May 8 – 12, G = May 13 – 19, and H = May 20 – 26

<sup>b</sup> Success rates not adjusted for non-participation

<sup>c</sup> In 2011 all mentored youth hunts were in time period A except one, which was in time period C.

<sup>d</sup> Disabled veterans hunt

Table 4. Permits available and issued by license type (resident and non-resident) and time period for the spring 2011 wild turkey season, Minnesota.

Time period	Permits available	Permits issued			
		General lottery	Landowner	Surplus	Youth <sup>b</sup>
A	5,705	4,367	659	41	2,357
B	5,705	4,407	348	145	502
C	5,705	4,480	351	63	2,332
D	5,705	4,623	172	98	1,592
E	5,705	2,471	56	2,205	427
F	5,705	1,400	43	2,506	306
G	unlimited	3	0	4,231	726
H	unlimited	3	0	2,035	451
Total <sup>a</sup>	unlimited	21,754	1,629	11,324	8,693

<sup>a</sup>Total excludes 121 permits issued for the Camp Ripley disabled veterans hunt

<sup>b</sup>Total includes 247 permits issued for mentored youth hunts in Time Period A and 9 in Time Period C.

# 2011 Spring Wild Turkey Permit Areas

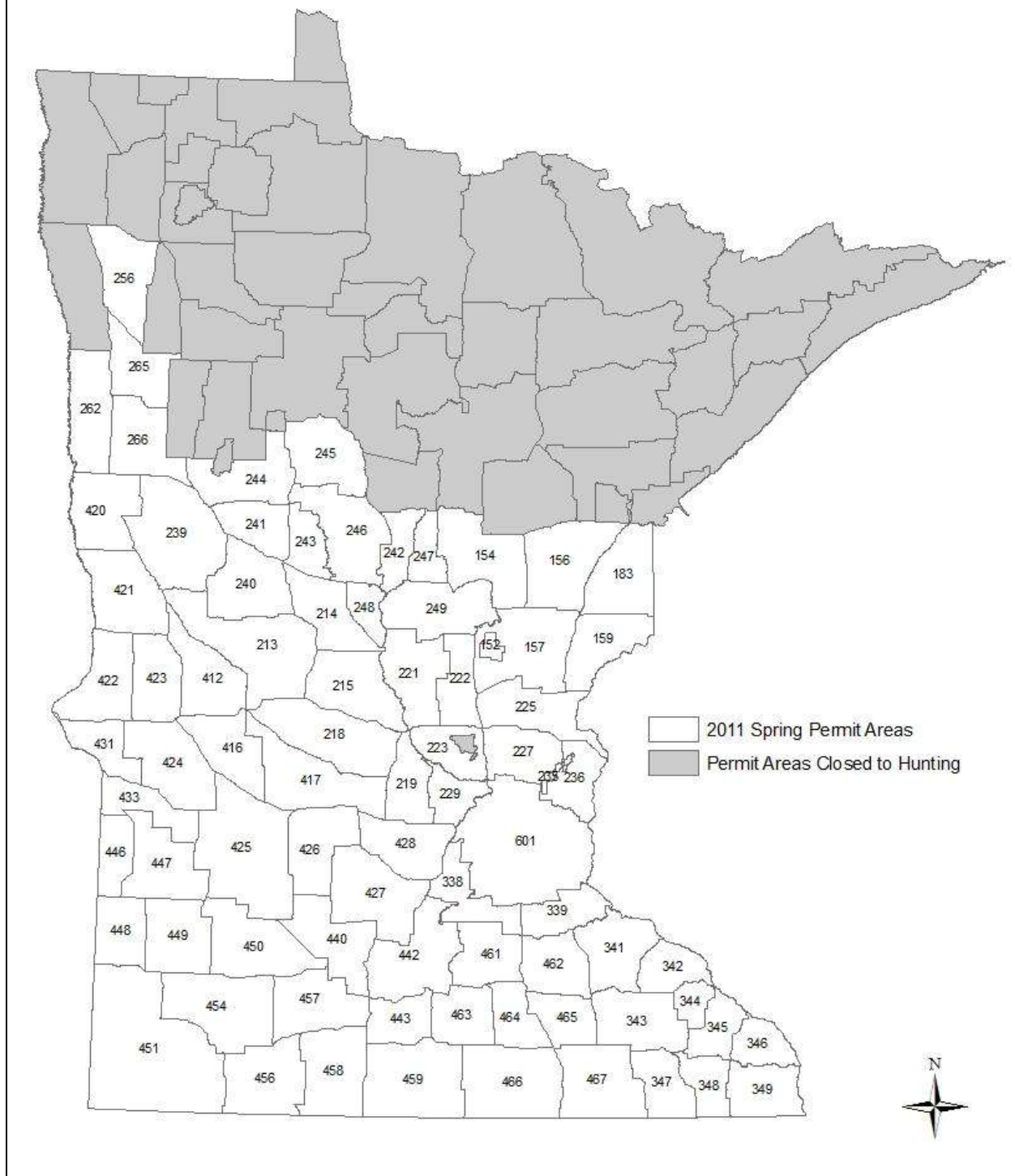


Figure 1. Permit areas open for hunting during the 2011 spring turkey hunting season, Minnesota.

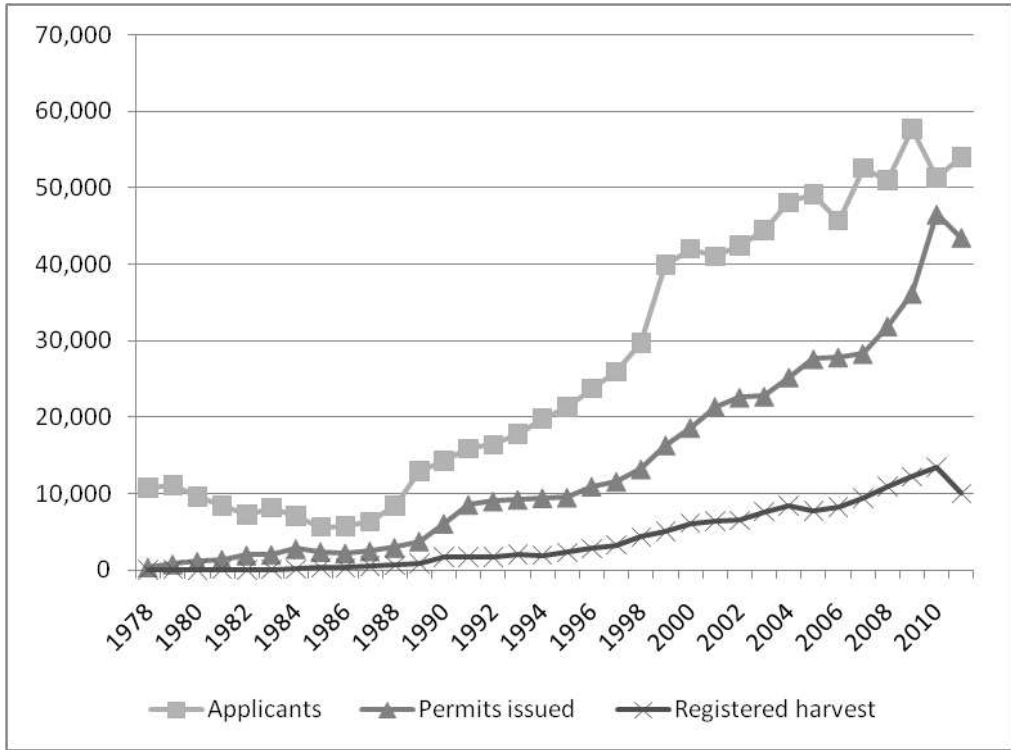


Figure 2. Applicants, permits issued, and registered harvest for the spring wild turkey seasons 1978-2011, Minnesota.

# PRAIRIE-CHICKEN HARVEST IN MINNESOTA DURING 2010

Michael A. Larson, Forest Wildlife Populations and Research Group

## 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 for prairie-chicken hunting seasons has been implemented annually since 2003. The only changes that have occurred were adding 4 new permit areas in 2006 (Figure 1) and increasing the quota of hunters in some permit areas.

Only residents of Minnesota are eligible for the prairie-chicken lottery. They may apply to the lottery as an owner or tenant of  $\geq 40$  acres of grassland within a permit area (i.e., landowner). Twenty percent of the available permits in a permit area are awarded in a lottery consisting of only landowner applicants. Any permits not awarded in the landowner lottery are then included with the other 80% of permits to be awarded in a subsequent lottery for regular applicants. Any landowners who are unsuccessful in the landowner lottery are also included in the subsequent lottery. The permits within each permit area are awarded first to people who have applied the greatest number of years since last winning a permit.

Lottery winners must purchase a prairie-chicken hunting permit (i.e., license) before they hunt prairie-chickens. 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 a regular bag limit of sharp-tailed grouse while hunting prairie-chickens.

The objective of the hunter survey described below is to document results of prairie-chicken hunting seasons.

## 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 during the week before the hunting season 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 AND DISCUSSION

One hundred eighty-six prairie-chicken hunting permits were available during 2010. There were 186 lottery winners (Table 1), and 14 of them were landowners. There were fewer applicants than there were permits available in permit area 801A. One hundred forty-seven lottery winners purchased a permit. Four lottery winners reported hunting but did not purchase a permit, so for the purposes of this summary I considered there to be 151 permit purchasers in 2010. The postcards of 3 purchasers were returned as undeliverable, so survey response rates were based on a sample size of 148. Ninety-nine permit purchasers (67%) responded to the first mailing of the survey, and 25 (17%) responded to the second mailing, so the response rate of purchasers was 84% (i.e., 124 of 148).

Fourteen purchasers who responded to the survey reported that they did not hunt (11%), and 110 respondents reported hunting, so there were an estimated 133 hunters (i.e., purchasers who went afield; Table 2). Hunters hunted an average of 2.0 days during the 5-day season (23–27 October 2010). Hunters reported harvesting 63 prairie-chickens, and the estimated total harvest was 87 prairie-chickens (Table 2). These totals for harvest included results from a hunter who reported harvesting 10 prairie-chickens, which may be questionable. Only 2 of the 730 responses to our survey since 2003 were from hunters who reported harvesting as many as 4 prairie-chickens during a single season. I estimated that 49 hunters bagged at least 1 prairie-chicken (37%, Table 2). The average rating for hunter satisfaction on a 1–5 scale was 3.0 (median = 3), and 68% of the 116 respondents to this question reported a satisfaction level of 3 or greater. Hunter satisfaction is highly correlated with hunter success (Spearman's  $r = 0.81$ ,  $n = 7$  years, Table 3).

The prairie-chicken harvest and hunter success rate during 2010 were lower than during most years since 2003 (Table 3). This may have been due to poor weather conditions during the hunting season, relatively low densities of birds during the fall, or a combination of both. Thirty-four (27%) of the 124 purchasers who responded to the survey mentioned experiencing poor weather, including high winds and rain. This percentage was not higher among the subset of purchasers who reported not hunting (4 of 14 = 29%) or lottery winners who did not purchase a permit (2 of 26 = 8%). During 2004 when the hunter success rate was equally low, 33% of hunters reported poor weather conditions.

Although the number of male prairie-chickens counted at booming grounds during spring surveys has declined from 17.2 (14.1–20.3) in 2004 to 9.6 (8.4–10.8) in 2010, the density of booming grounds has remained relatively constant at approximately  $0.13/\text{km}^2$  ( $0.08\text{--}0.19/\text{km}^2$ ). There is a moderate degree of correlation between the total number of males observed in survey blocks during spring and total harvest during the fall since 2006 (i.e., when >180 permits have been available; Kendall's  $\tau = 0.6$ ,  $n = 5$  years, Table 3). The correlation coefficient ( $\tau$ ) is on a 0–1 scale and is not closer to 1 because (1) survey counts are not a perfect reflection of spring bird densities, (2) reproductive success (i.e., the number of juvenile birds in the fall population per adult in the spring population) varies from year to year, and (3) factors other than bird density contribute to annual variation in hunter success (e.g., weather conditions during the hunting season).

Prairie-chicken hunters reported bagging 15 sharp-tailed grouse while hunting prairie-chickens, and the estimated harvest was 19 sharp-tailed grouse. These sharp-tailed grouse were harvested from permit areas 802A–805A and 809A–810A, and the greatest sharp-tailed grouse harvest was from permit area 805A (Figure 1).

## ACKNOWLEDGEMENTS

I appreciate the help of Laura Gilbert in preparing and mailing the survey and in data entry, and comments from Mark Lenarz and Wes Bailey helped me improve the clarity of the report.

Table 1. Results of the lottery for prairie-chicken hunting permits in Minnesota during 2010.

Permit area	Permits available	No. of applicants	Lottery winners		Permit purchasers	
			Number <sup>a</sup>	Proportion	Number	Proportion <sup>b</sup>
801A	10	9	9	1.00	4	0.44
802A	10	18	10	0.56	6	0.60
803A	10	10	10	1.00	10	1.00
804A	17	39	18	0.46	16	0.89
805A	20	62	20	0.32	19	0.95
806A	17	39	17	0.44	16	0.94
807A	25	61	25	0.41	21	0.84
808A	20	28	20	0.71	16	0.80
809A	20	44	20	0.45	16	0.80
810A	27	82	27	0.33	16	0.59
811A	10	29	10	0.34	7	0.70
All	186	421	186	0.44	147	0.79

<sup>a</sup> 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.

<sup>b</sup> Proportion of lottery winners who purchased a permit.

Table 2. Hunter harvest of prairie-chickens in Minnesota during 2010.

Permit area	No. of hunters <sup>a</sup>		Birds harvested		Birds per harvester <sup>b</sup>	Success rate <sup>c</sup>
	Self-reported	Estimated	Self-reported	Estimated		
801A	2	4	0	0		0.00
802A	6	7	2	2	1.0	0.29
803A	7	9	3	4	1.0	0.44
804A	14	14	10	11	1.6	0.50
805A	15	17	2	2	1.0	0.12
806A	12	15	6	8	1.1	0.47
807A	14	18	9	13	1.4	0.50
808A	10	15	11	18	2.3	0.53
809A	11	13	7	11	1.8	0.46
810A	13	15	13 <sup>d</sup>	18 <sup>d</sup>	4.5 <sup>d</sup>	0.27
811A	6	6	0	0		0.00
All	110	133	63 <sup>d</sup>	87 <sup>d</sup>	1.8	0.37

<sup>a</sup> Number of permit purchasers who actually went hunting.

<sup>b</sup> Estimated number of prairie-chickens harvested per successful hunter.

<sup>c</sup> Proportion of estimated hunters who harvested  $\geq 1$  prairie-chicken.

<sup>d</sup> One hunter reported harvesting 10 prairie-chickens, which may be questionable.



Table 3. Annual summary of prairie-chicken hunting results in Minnesota during 2003–2010.

Year	Permits available	Applicants	Hunters <sup>a</sup>	Birds harvested	Success rate <sup>b</sup>	Hunter satisfaction <sup>c</sup>
2003	100	853	92	115	0.68	4.4
2004	101	759	87	51	0.37	3.6
2005	110	500	86	90	0.58	4.0
2006	182	512	149	92	0.40	3.6
2007 <sup>d</sup>	187	519		122	0.53	
2008	186	535	137	141	0.62	3.9
2009	186	512	141	120	0.54	3.4
2010	186	421	133	87 <sup>e</sup>	0.37	3.0

<sup>a</sup> Estimated number of people who went hunting, not the number of permit purchasers.

<sup>b</sup> Proportion of hunters who harvested  $\geq 1$  prairie-chicken.

<sup>c</sup> Average on a 1–5 scale.

<sup>d</sup> No hunter survey was conducted for the 2007 season; results are from the Electronic Licensing System only.

<sup>e</sup> One hunter reported harvesting 10 prairie-chickens, which may be questionable.

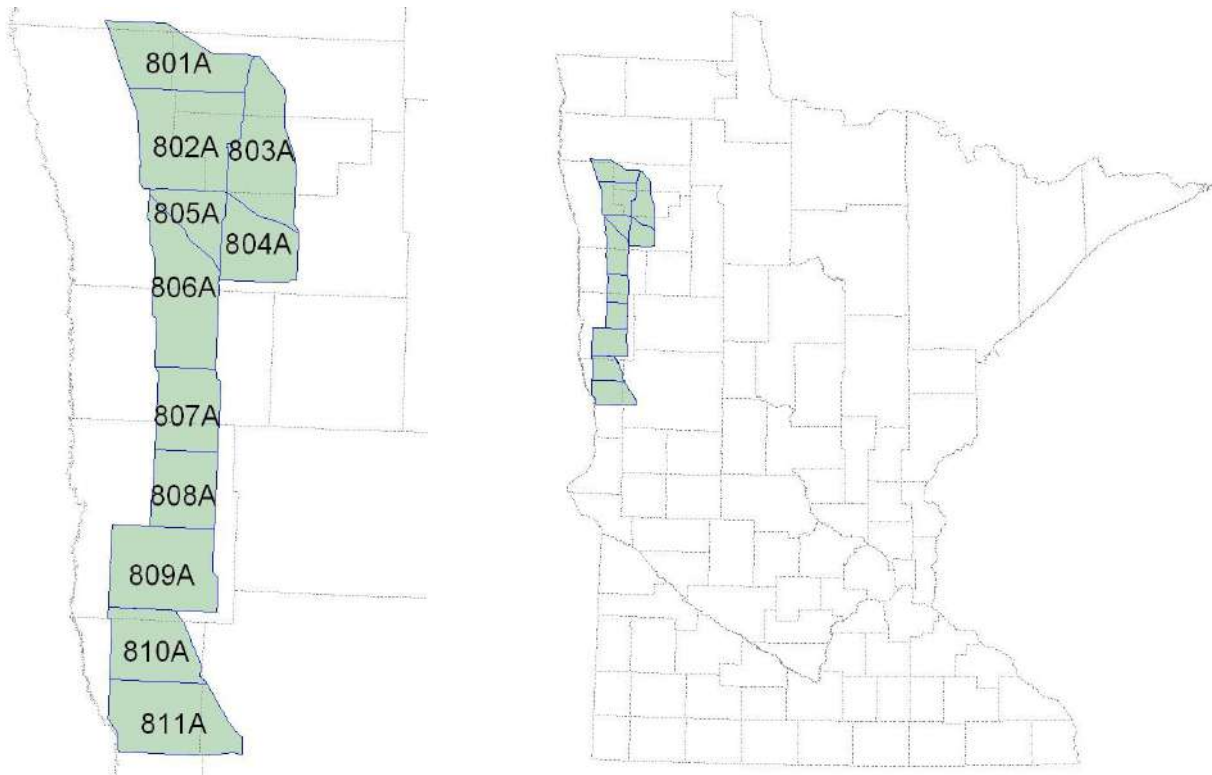


Figure 1. Map of permit areas for prairie-chicken hunting in Minnesota (top) and their location relative to counties within the state (bottom).

# 2010 MINNESOTA BEAR HARVEST REPORT

David Garshelis, Karen Noyce, Forest Wildlife and Populations Research Group

## INTRODUCTION

The Minnesota bear range is divided into 11 bear management units (BMUs; Figure 1). Each has a separate quota on hunting licenses. Outside the primary bear range, where bear depredation to crops is a primary concern, license sales are unlimited (no-quota area). Hunters in this area can harvest two bears, and beginning in 2005 hunters could purchase both a quota and no-quota license. In all areas the season runs from September 1 through mid-October. About 80% of hunters use bait. This report summarizes status and trends in harvests and population size and structure.

## METHODS

Successful hunters must register their bears at designated registration stations. Stations are not staffed by DNR personnel. Harvest data are a simple tally of these registrations, which for the most part are done electronically. Hunters also are required to submit a tooth from harvested bears (compliance  $\approx 70\%$ ), which is used to estimate age. Some years, including this year, they were also requested to submit a section of rib bone. Hunters receive a postage-paid tooth envelope when they register their bear, and extract and submit the tooth and rib samples themselves. Teeth samples are used to estimate harvest age structure. Rib samples are used to check for tetracycline, the biomarker that is used to obtain statewide mark-recapture population estimates. The most recent tetracycline-marking was done in the summer of 2008, and samples were collected that year to derive a preliminary population estimate. Tetracycline persists in bones for several years, so the collection in 2009 and 2010 helps to refine the 2008 estimate.

## RESULTS

Permit applications in 2010 increased to the highest level in 8 years (Table 1). This may have been in response to the diminished number of permits available, which was the lowest since 1994. The estimated number of hunters in the field (9,200) was equivalent to that of 1994. Total harvest (2,699) remained high, however, because success rate (29%) was high. The high success rate appears largely attributable to the reduced number of hunters. Success rates (and hunter effort to kill a bear) are inversely related both to abundance of natural foods and to hunter numbers (Figure 2).

Permits were reduced in 2010 in 5 of 11 BMUs in the Quota Zone (Figure 1), to reduce harvest pressure and increase hunting success (i.e., hunter satisfaction)(Table 2). Due to this reduction, no BMU was undersubscribed and thus no surplus licenses were offered (Table 3).

As permit allocations were significantly reduced in all BMUs over the past 5 years, the percentage of applicants drawn in the lottery diminished. In 2010, >50% of first-year applicants were selected in only 4 BMUs (13, 22, 25, 51); all second-year applicants were drawn, except in BMU 44 (Table 4).

Because of reduced permits and hunter numbers, 2010 harvests were equal to or below the 5-year mean in all quota-area BMUs (Table 5). However, BMU 45, which had shown a precipitous decline in 2009, increased in 2010. No-quota harvest equaled the 5-year mean. BMU 11 continued a pattern of high harvests in odd-numbered years, followed by a low harvest in even-numbered years. BMU 11b (no-quota zone between BMU 11 and 52; Figure 1) has few bears and few hunters, but harvests seem to be increasing.

Hunting success was above the 5-year mean for all BMUs except 12 and 41, and was especially high in BMUs 13 and 45 (Table 6). Permits had been cut most severely in BMU 45 (1/3 of the 2007 permit allocation) because of a perceived decline in bear numbers. Increased hunting success there in 2010 may indicate a population rebound and/or less competition among hunters (fall foods were average).

Chronology of the harvest in 2010 was typical, with 69% of bears harvested in the 1<sup>st</sup> week and 84% by the end of the 2<sup>nd</sup> week (Table 7).

A combination of two key factors, fall food abundance and number of hunters, accounts for 86% of the yearly variation in the harvest since 1984 (Figure 3). The regression based on these two variables predicted a higher harvest than actually occurred during 2002–2009, but the prediction was accurate for 2010, probably because of reduced hunter numbers. Above some threshold, increased hunter numbers (competition among hunters) disproportionately reduces hunting success. A tighter fit for this regression is exhibited by the subset of data since 2000, where variation in hunter numbers has been less extreme.

Statewide, ages of harvested females have steadily declined for about 2 decades (decline in median age and increase in proportion of 1-2 year olds; Figs. 4-5), reflecting increasingly higher harvest levels over this period. Conversely, the age of harvested males has remained fairly constant for >10 years. Sharp declines in female ages occurred in BMUs 24 and 25 in 2010.

A total of ~470 bears were marked with tetracycline baits in 2008; 4,023 rib and teeth samples from harvested bears were examined during 2008–2010, of which 113 (2.8%) were marked. A range of population estimates was obtained each year, depending on which recovery sample was used (Figure 6). The most reliable estimates indicate a population decline from 2002–2008.

## **DISCUSSION**

Harvests of bears remained consistently high during 2003–2007 (Table 1), masking an apparent decline in the population. These high harvests (>3000 bears) were due to consistently high hunting success. A reduction in permits, and thus number of hunters, reduced the harvest during the next few years, and likely enabled the population to grow; however, no data on population size or trend is available after 2008.

The population is being managed at a level that provides good hunting opportunities but also socially tolerable nuisance activity. There is no target population number, but rather a range that meets these criteria. In fact, the target population is likely to fluctuate. With a smaller population size during the 1980s, nuisance activity was often intolerable (during poor food years, at least). Since 2002, nuisance complaints have been consistently low, reflecting consistently good natural food supplies as well as a change in behavior of people (better at removing attractants, such as garbage and birdseed, and also less apt to complain about bears). Thus, it is possible that the population could grow to a higher level (e.g., 25,000) and still be publicly acceptable.

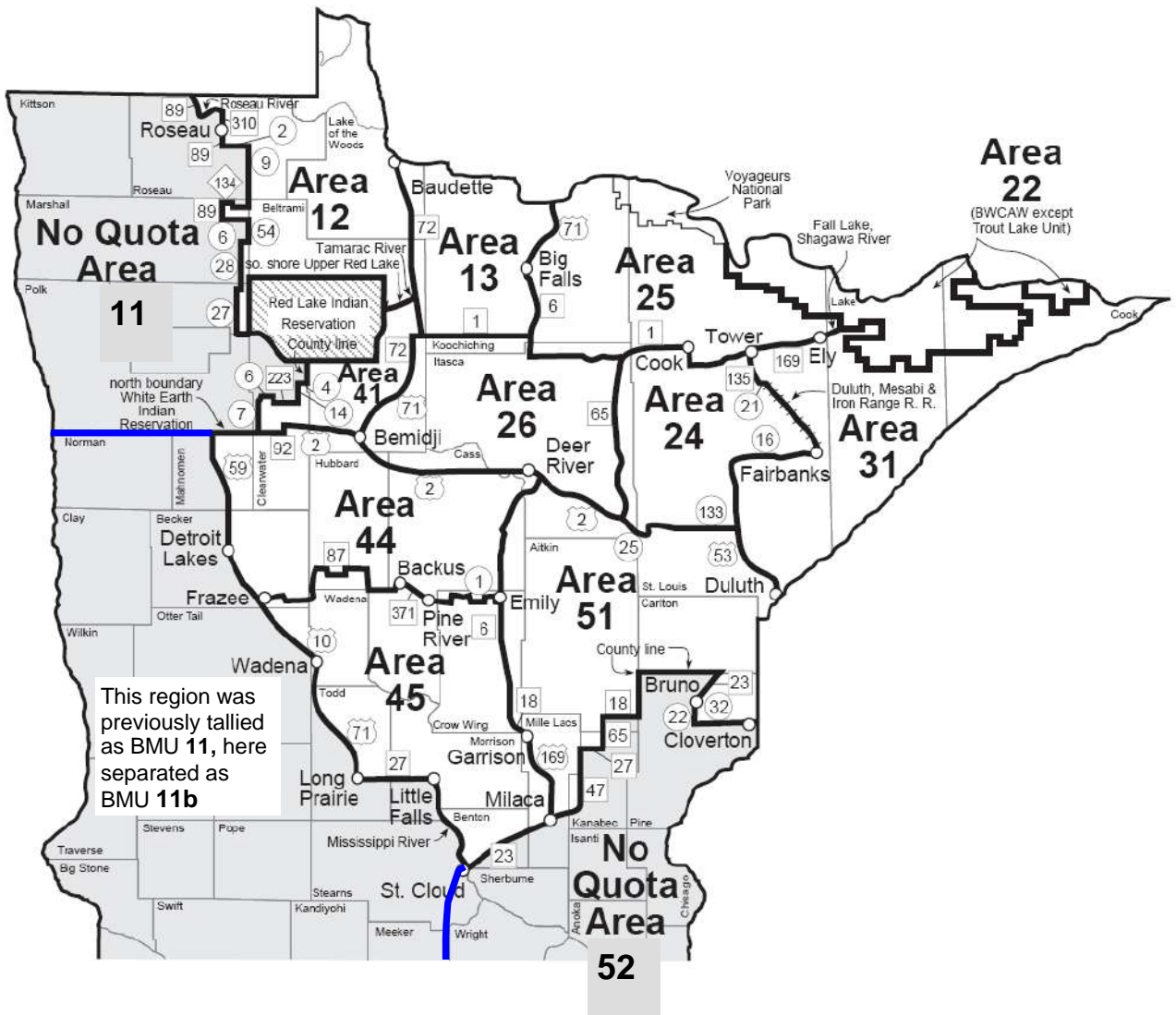


Figure 1. Bear management units (BMUs) within quota (white) and no-quota (gray) zones. Hunters in the quota zone are restricted to a single BMU, whereas no-quota hunters can hunt anywhere within that zone.

Table 1. Bear permits, licenses, hunters, harvests, and success rates, 1990–2010.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Permit applications	24861	25890	26428	27365	30127	29922	30405	27353	30245	29384	29275	26824	21886	16431	16466	16153	15725	16345	17362 <sup>a</sup>	17571 <sup>a</sup>	18647 <sup>a</sup>
Permits available	6370	7140	7920	8630	9400	11950	12030	11370	18210	20840	20710	20710	20610	20110	16450	15950	14850	13200	11850	10000	9500
Licenses purchased (total)	7094	7757	8485	9224	9826	12448	12414	11440	16737	18355	19304	16510	14639	14409	13669	13199	13164	11936	10404	9892	9689
Quota area <sup>b</sup>	5568	6257	6845	7528	8125	10304	10592	9655	14941	16563	17021	13632	12350	9833	10063	9340	9169	8905	7842	7342	7086
Quota surplus/military <sup>b</sup>												235	209	2554	1356	1591	1561	526	233	77 <sup>c</sup>	83 <sup>c</sup>
No-quota area <sup>b</sup>	1526	1500	1640	1696	1701	2144	1822	1785	1796	1792	2283	2643	2080	2022	2238	2268	2434	2505	2329	2473	2520
% Licenses bought <sup>d</sup>																					
Of permits available <sup>d</sup>	87.4	87.6	86.4	87.2	86.4	86.2	88.0	84.9	82.0	79.5	82.2	67.0	60.9	61.6	69.4	68.5	72.3	71.4	67.7	73.4	74.6
Of permits issued <sup>d</sup>									84.4	87.2	83.9	69.8	66.3	65.7	68.3	67.1	68.9	70.0	67.2	73.8	74.5
Estimated no. hunters <sup>e</sup>	6600	7200	7900	8600	9100	11600	11500	10300	14500	15900	16800	15500	13800	13600	12900	12500	12500	11300	9900	9400	9200
Harvest	2381	2143	3175	3003	2329	4956	1874	3212	4110	3620	3898	4936	1915	3598	3391	3340	3290	3172	2135	2801	2699
Harvest sex ratio (%M) <sup>f</sup>	52	59	50	56	62	47	62	55	55	53	58	56	61	58	57	59	58	57	62	59	59
Success rate (%) <sup>g</sup>																					
Total harvest/hunters	36	30	40	35	26	43	16	31	28	23	23	29	14	26	26	26	26	28	21	30	29
Quota harvest/licenses	35	30	41	34	26	42	15	29	25	20	20	28	14	25	26	25	25	28	21	30	30

<sup>a</sup> Includes area 99, a designation to increase preference but not to obtain a license (2008:  $n = 528$ , 2009  $n = 835$ ; 2010  $n = 1194$ ).

<sup>b</sup> Quota area established in 1982. No-quota area established in 1987. Surplus licenses from undersubscribed quota areas sold beginning in 2000; originally open only to unsuccessful permit applicants, but beginning in 2003, open to all. Total licenses = quota + quota surplus + no-quota + military (no permit needed) + youth.

<sup>c</sup> Free licenses for 10 and 11 year-olds were available beginning 2009 (2009:  $n = 45$ ; 2010:  $n = 86$ ), and included here with military licenses.

<sup>d</sup> Quota licenses bought (including surplus)/permits available, or licenses bought (prior to surplus)/permits issued (permits issued more relevant for years when some areas were undersubscribed; see Table 3). Beginning in 2008, some permits were issued for area 99; these are no-hunt permits, just to increase preference, and are not included in this calculation.

<sup>e</sup> Number of licensed hunters x percent of license-holders hunting. Percent hunting is based on data from bear hunter surveys conducted during 1981–91, 1998 (86.8%), 2001(93.9%) and 2009 (95.3%).

<sup>f</sup> Sex ratio as reported by hunters; hunters classify about 10% of female bears as males, so the actual harvest has a lower %M than shown here. In good food years, the harvest is more male-biased.

<sup>g</sup> Success rates in 2001–2010 were calculated as number of successful hunters/total hunters, rather than bears killed/total hunters, because hunters could take 2 bears. In 2010, 38 hunters took more than 1 bear (34 took 2 bears on NQ license, 4 took 1 quota and 1 NQ bear [on 2 separate licenses]); thus, the 2699 bears were taken by 2661 different hunters, so success =  $2661/9200 = 29\%$ .

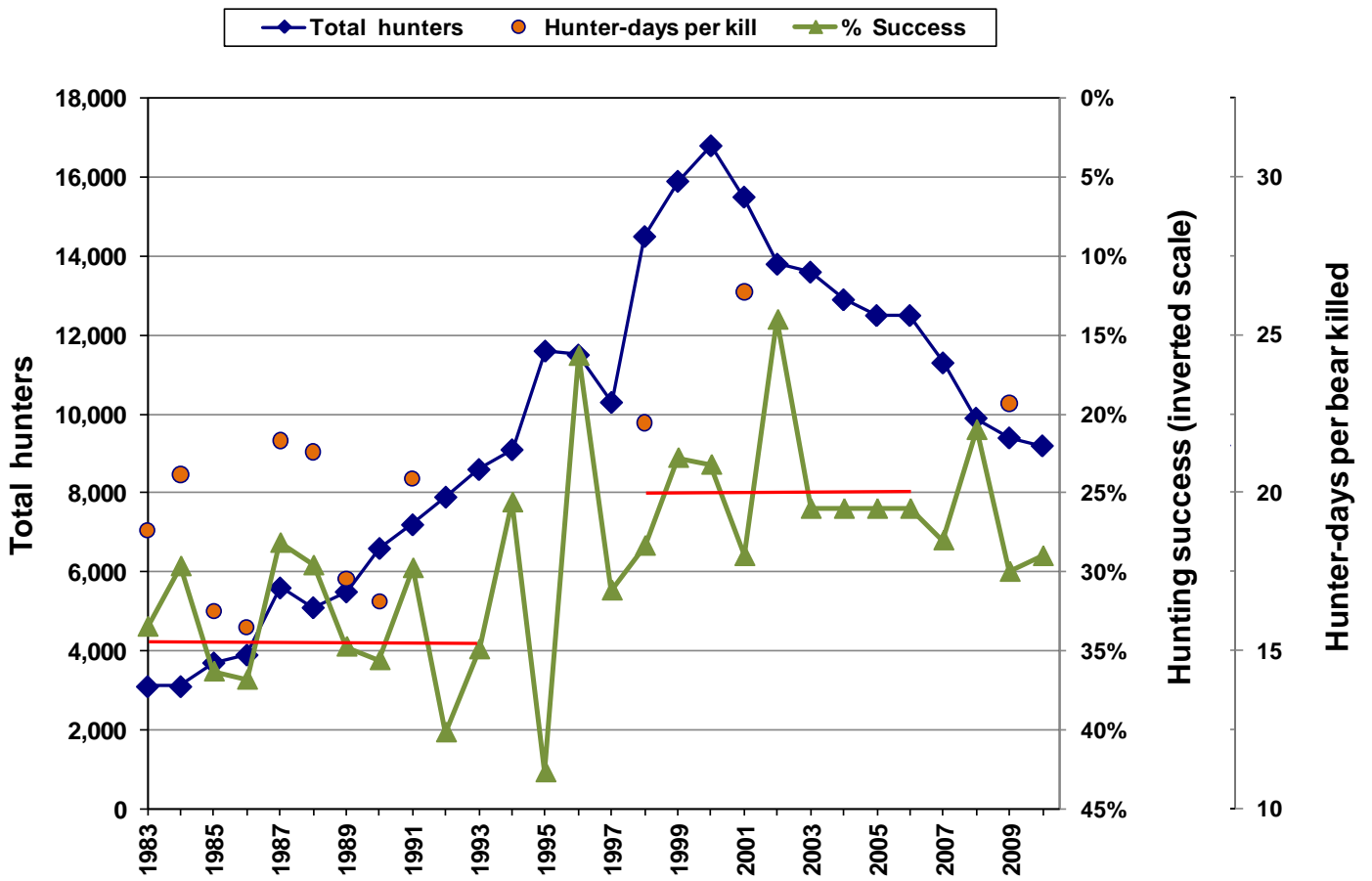


Figure 2. Relationship between hunting success (note inverted scale), hunter-days per bear killed, and hunter numbers, 1983–2010. Red horizontal lines show mean hunting success for periods with <9000 hunters vs >12,000 hunters. Other variation in hunting success is mainly attributable to food conditions.

Table 2. Number of bear hunting permits available per year, 2006–2010 (aligned with permit applications in Table 3 below; highlighted values show drop from previous year).

BMU	2010	2009	2008	2007	2006
12	450	450	450	500	550
13	600	600	650	700	800
22	100	150	150	150	150
24	550	650	750	900	1000
25	1200	1250	1550	1700	1900
26	900	1000	1150	1250	1500
31	1300	1300	1700	1900	2100
41	400	400	400	400	450
44	1100	1100	1350	1500	1700
45	400	600	1000	1200	1200
51	2500	2500	2700	3000	3500
<b>Total</b>	9500	1000 0	1185 0	1320 0	1485 0

Table 3. Number of bear hunting license applicants, and number and percent of available surplus licenses bought, 2006–2010<sup>a</sup>. Shaded values indicate undersubscribed areas (none in 2010).

BMU	2010		2009		2008		2007		2006	
	Apps	Surplus bought	Apps	Surplus bought	Apps	Surplus bought	Apps	Surplus bought	Apps	Surplus bought
12	903	5 <sup>c</sup>	876		857		811		1005	
13	753		700		709		745		680	120 100%
22	114		91	0 <sup>b</sup>	85	50 77%	87	51 81%	92	58 100%
24	971		843		825		742	159 100%	624	367 98%
25	1811	5 <sup>c</sup>	1694		1793	4 <sup>c</sup>	1799		1789	112 100%
26	1959		1874		1999	2 <sup>c</sup>	2028		1915	
31	2414		2423		2388	3 <sup>c</sup>	2383		2290	
41	718		685		656		577		683	
44	2923		2787		2821		2669		2838	
45	937		941		873	128 100%	936	266 100%	840	360 100%
51	3950	1 <sup>c</sup>	3822		3828		3568		2969	531 100%
<b>Total</b>	17453		16736		16834	178 92%	16345	476 98%	15725	1548 ~100%

<sup>a</sup> Surplus licenses available beginning in 2001. This was discontinued in 2009 and replaced by 2<sup>nd</sup> choice lottery applicants.

<sup>b</sup> No 2nd choice applicants bought a license for BMU 22, so it remained undersubscribed.

<sup>c</sup> Courtesy licenses issued by Commissioner, not actual surplus.

<sup>d</sup> Beginning in 2008, applicants could apply for area 99 in order to receive preference, but not buy a license; these are not included in this total.

Table 4. Percentage of lottery applicants with preference level 1 (1<sup>st</sup>-year applicant) that were drawn for a bear permit, 2006–2010. All preference level 2 applicants were drawn, except as indicated.

<b>BMU</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
<b>12</b>	23	29	37	46	43
<b>13</b>	77	84	92	94	100
<b>22</b>	88	100	100	100	100
<b>24</b>	49	75	91	100	100
<b>25</b>	60	72	86	94	100
<b>26</b>	15	32	43	53	72
<b>31</b>	35	43	68	79	92
<b>41</b>	31	37	47	59	56
<b>44</b>	0 <sup>a</sup>	3	26	38	44
<b>45</b>	24	61	100	100	100
<b>51</b>	52	58	67	84	100

<sup>a</sup> 90% of preference level 2 applicants selected.



Table 5. Minnesota bear harvest tally <sup>a</sup> for 2010 by Bear Management Unit (BMU) and sex compared to harvests during 2005–2009 and record high harvests.

BMU	2010					2009	2008	2007	2006	2005	5 year mean	Record high harvest (yr)
	M	(%M)	F	U	Total							
Quota												
12	72	(76)	23	0	95	140	101	124	70	165	120	263 (01)
13	89	(57)	66	0	155	149	129	163	151	205	159	258 (95)
22	5	(56)	4	0	9	7	7	15	15	8	10	41 (89)
24	68	(55)	56	0	124	151	100 <sup>b</sup>	134	194	144	145	288 (95)
25	197	(64)	110	0	307	344	298 <sup>b</sup>	369	421	404	367	584 (01)
26	128	(55)	104	0	232	228	137 <sup>b</sup>	315	314	285	256	513 (95)
31	217	(60)	146	0	363	384	248 <sup>b</sup>	398	482	445	391	697 (01)
41	36	(51)	35	0	71	104	77	104	40	104	86	201 (01)
44	122	(49)	126	0	248	255	196	333	192	273	250	643 (95)
45	30	(52)	28	0	58	42 <sup>c</sup>	72	113	118	107	90	178 (01)
51	294	(59)	207	0	501	416	344	557	721	505	509	895 (01)
Total	1258	(58)	905	0	2163	2220	1709	2625	2718	2759 <sup>d</sup>	2406	4288 (01)
No Quota <sup>e</sup>												
11	114	(64)	64	0	178	315	172	324 <sup>f</sup>	114	334	252	351 <sup>d</sup> (05)
11b <sup>g</sup>	8	(73)	3	0	11	9	3	4	6	1	5	
52	204	(59)	142	1	347	257	251	219	400	223	270	400 (06)
Total	326	(61)	209	1	536	581	426	547	520	581 <sup>d</sup>	531	678 (95)
State	1584	(59)	1114	1	<b>2699</b>	2801	2135	3172	3290 <sup>d</sup>	3340 <sup>d</sup>	2948	4956 (95)

<sup>a</sup> Hunters receive tooth envelopes at registration stations, but the sex recorded on tooth envelopes sometimes differs from the registered sex (2010: 1876 [96%] unchanged; 43 M<sub>(reg)</sub>→F<sub>(tooth)</sub>; 28 F→M). Sex shown on table is the registered sex because only ~70% of tooth envelopes are submitted (2010: 1981 of 2699 = 73%). Also, some tooth envelopes had no corresponding registration data. These were added to the harvest tally:

Year	Quota area	No-quota area
2005	179	31
2006	63	15
2007	27	9
2008	23	4
2009	19	14
2010	20	8

<sup>b</sup> Lowest harvest since 1996.

<sup>c</sup> Second lowest harvest in this BMU, since it was established in 1994.

<sup>d</sup> The estimated registered harvest, including those in which registration data were lost and no tooth envelope was received. Value does not match column total because BMU data were uncorrected for lost registration data.

<sup>e</sup> Some hunters with no-quota licenses hunted in the quota area, and their kills were assigned to the BMU where they apparently hunted ( $n = 28$  in 2006, 27 in 2007, 14 in 2008, 3 in 2009, 14 in 2010). Some quota area hunters also apparently hunted in the wrong BMU, based on the block where they said they killed a bear, but these were recorded in the BMU where they were assigned, not the BMU of the indicated harvest block, presuming most were misreported kill locations.

<sup>f</sup> Second highest harvest for this area. Third highest was 321 bears in 2001.

<sup>g</sup> Subset of BMU 11 south of the main harvest area (Fig 1). Harvest trend increasing.

Table 6. Bear hunting success (%) by BMU, measured as the registered harvest (excluding second bear) divided by the number of licenses sold <sup>a</sup>, 2005–2010.

BMU	Mean success 2005-2009	2010		2009		2008		2007		2006		2005 <sup>b</sup>	
		% Success	% 2 bears <sup>c</sup>	% Success	% 2 bears <sup>c</sup>	% Success	% 2 bears <sup>c</sup>	% Success	% 2 bears <sup>c</sup>	% Success	% 2 bears <sup>c</sup>	% Success	% 2 bears <sup>c</sup>
<b>Quota</b>	<u>26</u>												
12	33	30		39		32		36		19		41	
13	29	34 <sup>d</sup>		32		28		31		24		32	
22	12	14		16 <sup>d</sup>		8		14		14		10	
24	23	29		31 <sup>e</sup>		20		20		25		20	
25	31	34		36		28 <sup>f</sup>		31		30		30	
26	30	34		31		17 <sup>f</sup>		36		30		34	
31	30	36		38 <sup>d</sup>		21 <sup>f</sup>		28		33		31	
41	28	25		34		27		35		13		31	
44	24	28		30		21		30		16		24	
45	12	21 <sup>e</sup>		11 <sup>f</sup>		11 <sup>f</sup>		14		14		13	
51	<u>23</u>	27		23		19		27		28		18	
No Quota	21		(7) <sup>g</sup>	22 <sup>h</sup>	(9)	17 <sup>f</sup>	(9)	19	(12)	22	(9)	23	(10)
Statewide	25	27		28 <sup>d</sup>		20		26		25		25	

<sup>a</sup> Harvest/licenses instead of harvest/hunters because BMU-year-specific estimates for the rate of hunting by licensed hunters are unreliable. Statewide estimates of harvest/hunters are presented in Table 1.

<sup>b</sup> For 2005, estimated registered harvest was used instead of known registered harvest due to a large loss of registration data.

<sup>c</sup> Percent of successful hunters that shot 2 bears; 2<sup>nd</sup> bear is not included in the calculation of hunting success. The taking of 2 bears was legal only in the no-quota area since 2002.

<sup>d</sup> Highest success since 1997

<sup>e</sup> Highest success since 1995.

<sup>f</sup> Lowest success since 2002.

<sup>g</sup> Of the no-quota hunters in 2010, 11 took 2 bears in BMU 11 and 23 took 2 bears in BMU 52.

<sup>h</sup> Success rates in different parts of the no-quota area (Figure 1) are not distinguishable from harvest records because the number of people that hunted in each BMU is unknown. However, a hunter survey conducted following the 2009 hunting season indicated the following success rates: BMU 11 – 42%; BMU 11b – 17%; BMU 52 – 19%. These values are not directly comparable to values tabulated here due to a non-response bias in the survey (non-successful hunters are less likely to respond; respondents indicated overall success rate of 31% vs 22% calculated from harvest/licenses); nevertheless, they reflect differences in success rates among these BMUs that year (notably a year when harvest was high in BMU 11).

Table 7. Cumulative bear harvest (% of total harvest) by date, 1990–2010.

Year	Day of week for opener	Aug 22/23 – Aug 31	Sep 1 – Sep 7	Sep 1 – Sep 14	Sep 1 – Sep 30
1990	Sat		69	82	96
1991	Sun		64	76	93
1992	Tue		72	86	96
1993	Wed		67	80	94
1994	Thu		67	78	92
1995	Fri		72	87	97
1996	Sun		56 <sup>a</sup>	70	87
1997	Mon		76	88	97
1998	Tue		76	87	96
1999	Wed		69	81	95
2000	Wed	57	72	82	96
2001	Wed	67	82	88	98
2002	Sun		57 <sup>a</sup>	69	90
2003	Mon		72	84	96
2004	Wed		68	82	95
2005	Thu		72	81	94
2006	Fri		69	83	96
2007	Sat		69	82	96
2008	Mon		58 <sup>a</sup>	71	92
2009	Tue		74	86	96
2010	Wed		69	84	96

<sup>a</sup> The low proportion of total harvest taken during the opening week (<60%) reflects a high abundance of natural foods.

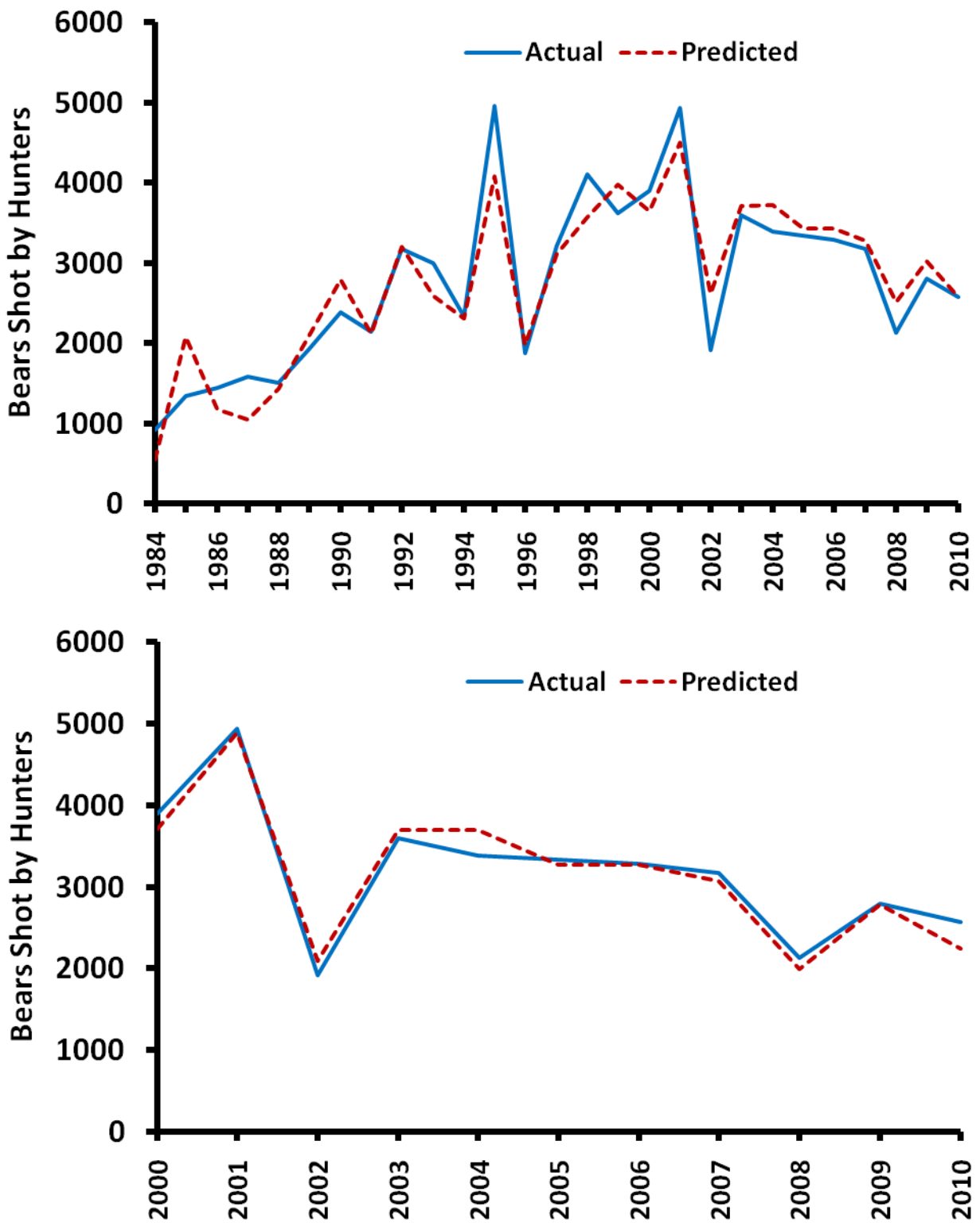


Figure 3. Number of bears harvested vs. number predicted based on fall food abundance and the number of hunters: (top graph) 1984–2010 ( $R^2=0.86$ ); (bottom graph) 2000–2010 ( $R^2=0.96$ ).

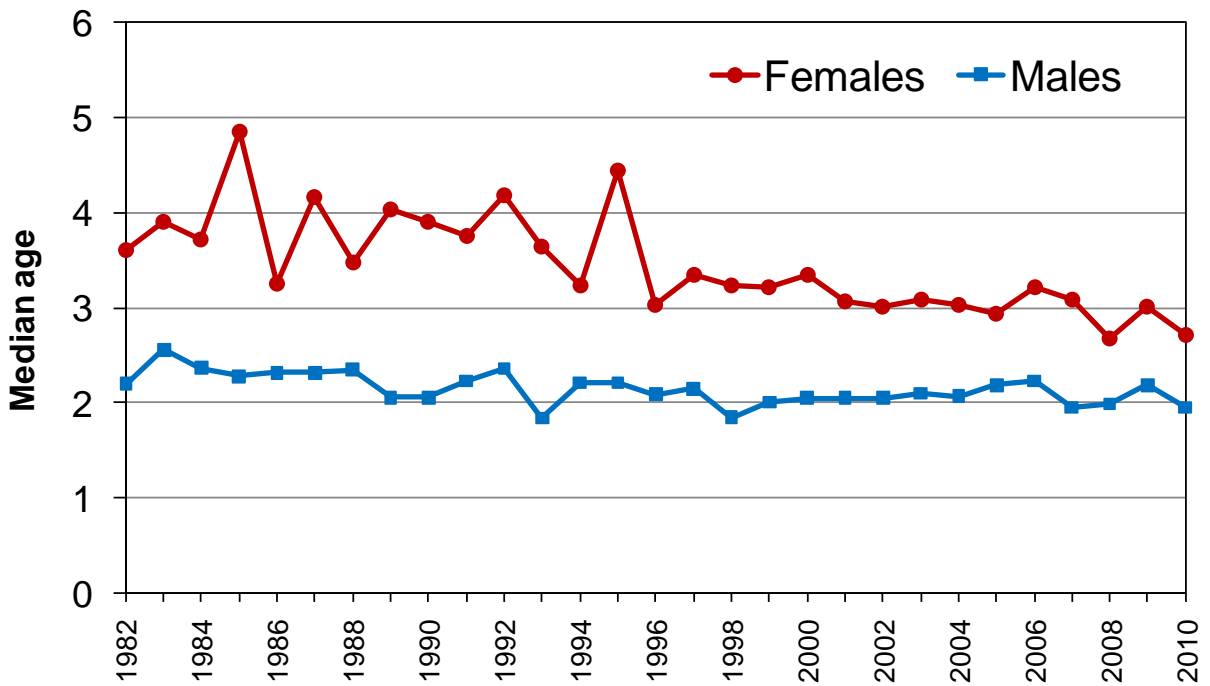


Figure 4. Statewide harvest structure: median ages (yrs) by sex, 1982–2010.

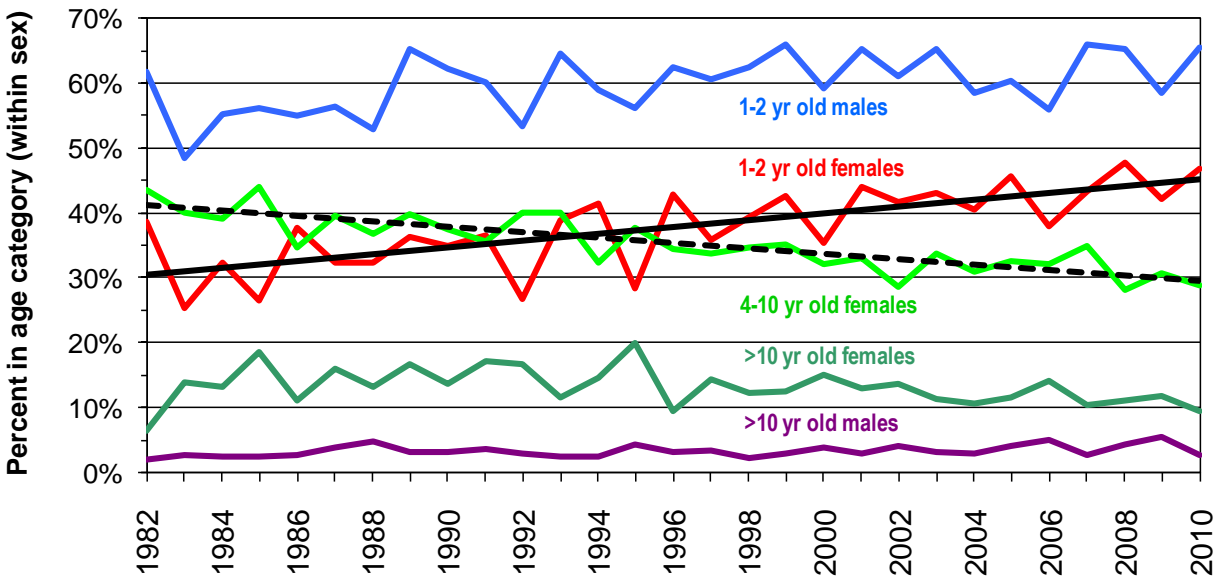


Figure 5. Statewide harvest structure: proportion of each sex in age category, 1982–2010. Trend lines are significant.

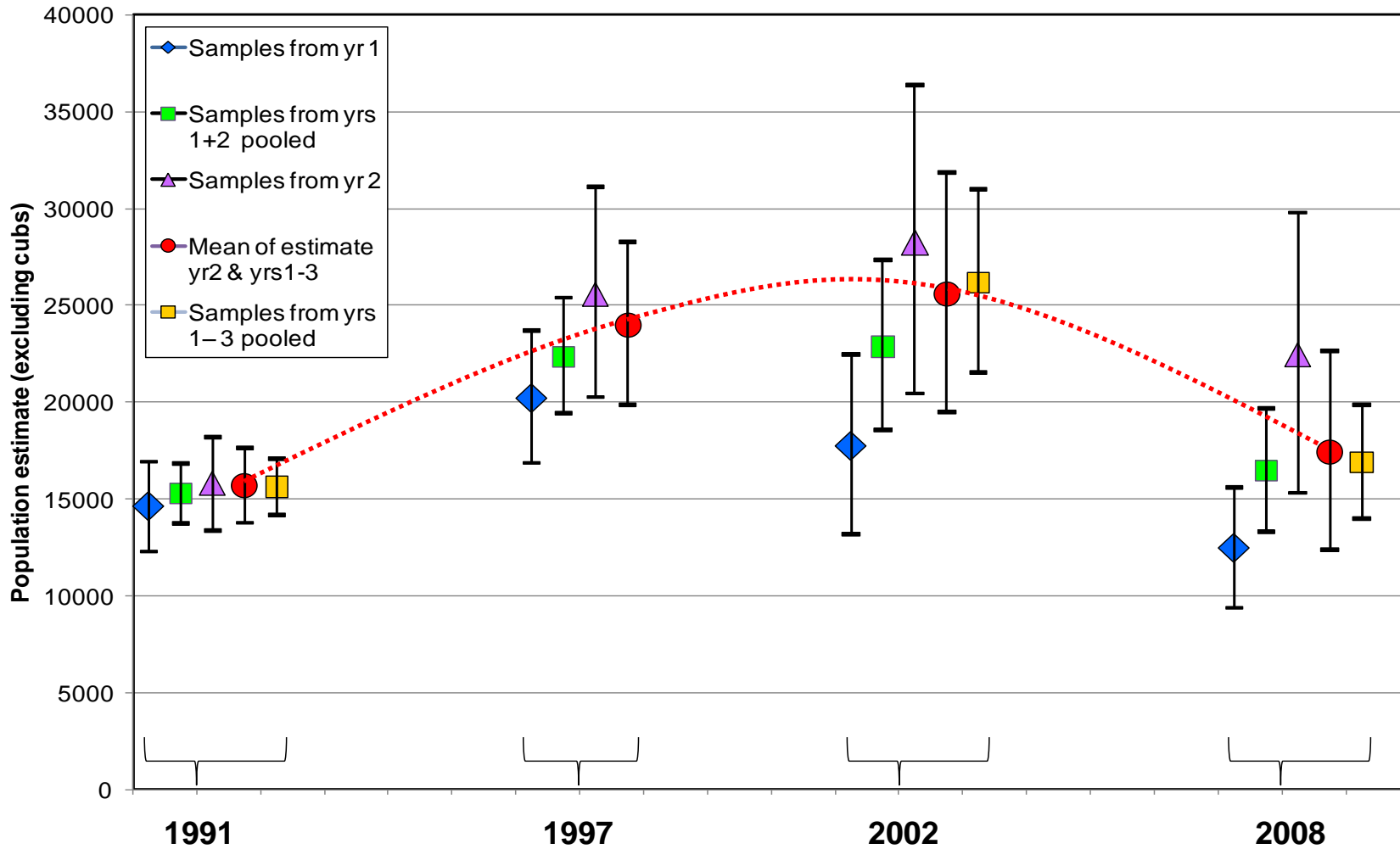


Figure 6. Statewide population estimates derived from tetracycline marking in 1991, 1997, 2002, and 2008. Each cluster of estimates pertains to the year of marking, with each point (and associated 95% CI) representing a different recapture sample (yr 1 = year of marking, yr 2 = year after marking). Simulation modeling suggested that estimates derived from samples pooled from multiple years (yellow squares), or the mean estimate from multiple years and yr 2 samples (red circles), are likely to be most accurate; a red trend line is drawn through the points presumed to be most accurate.

# **2010 MINNESOTA DEER HARVEST REPORT**

Lou Cornicelli, Big Game / Season Program Consultant, Division of Fish and Wildlife

## **INTRODUCTION**

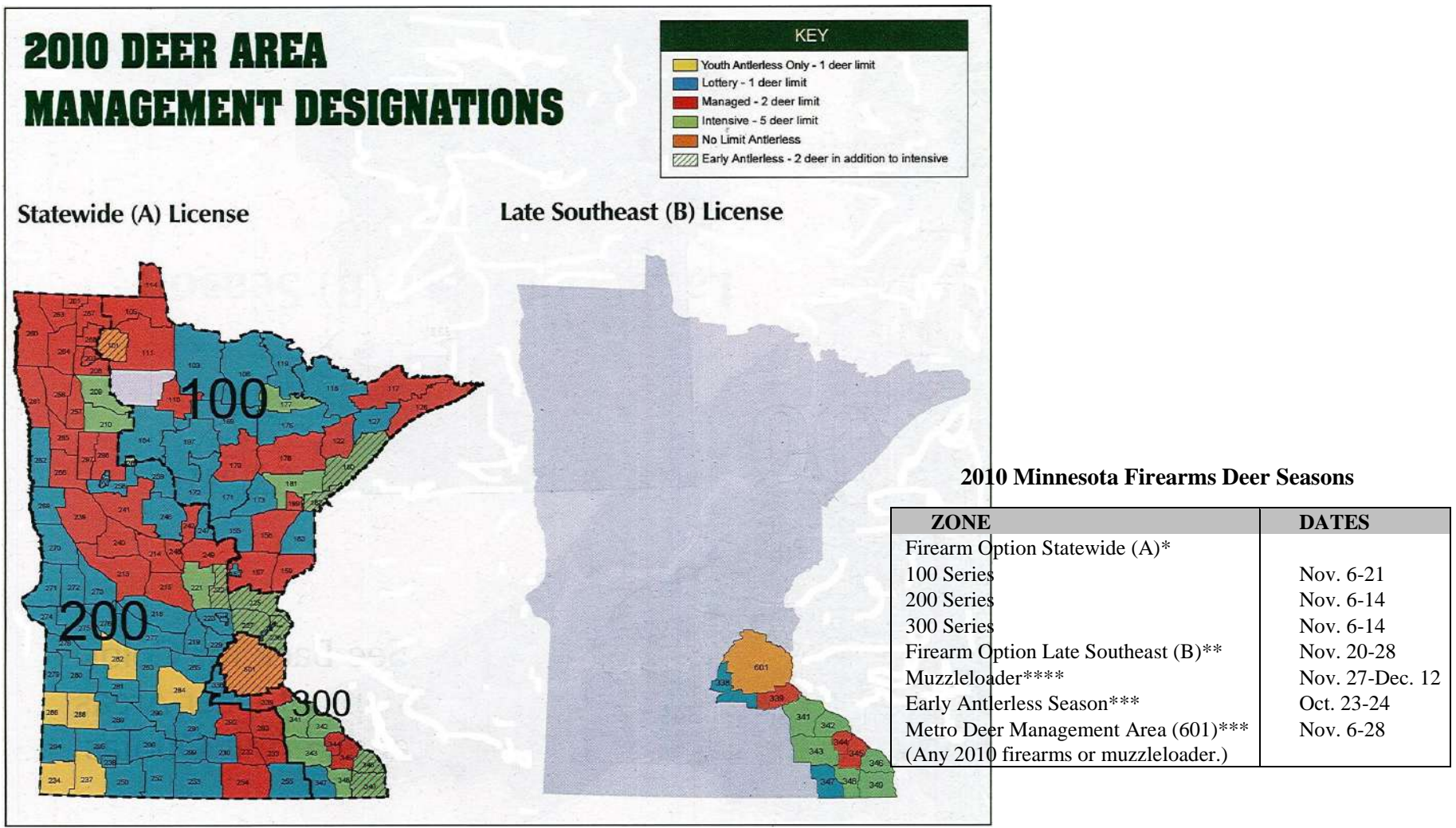
The white-tailed deer may be considered Minnesota's most popular wildlife species. Each year 500,000 hunters harvest over 190,000. In 2010, hunters registered 207,313 deer

## **METHODS**

Every deer taken by hunting in Minnesota must be registered within 24 hours of the close of the season under which the deer was taken. Deer may be registered at any of the 825 to nearly 900 "Big Game Registration" stations available throughout the state. Starting in 2010, deer could be registered using the internet and telephone. Implementation of electronic licensing (ELS) has improved the efficiency and accuracy of deer harvest estimates and provides a more timely release of harvest information. Registered deer are recorded as adult buck, fawn buck, adult doe, or fawn doe. Additional information gathered at time of registration includes date of kill, deer permit area, and season.

## **RESULTS**

Outcome of the 2010 deer harvest are presented in the following tables.



**Figure 1. 2010 Firearms and Archery Deer Seasons.**

**2010 Minnesota Archery Deer Season Dates:** September 18-December 31.

Antlerless deer and legal bucks may be taken by archery, except only legal bucks may be taken in permit areas that have no either-sex permits or have youth-only either-sex permits.



Table 1. Statewide Firearms, Archery, and Muzzleloader Harvest, License Sales, and Success Rates, 1999-2010.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>REGULAR FIREARMS</b>												
Resident License Sales	395,745	400,814	401,005	367,964	344,875	309,698	291,298	299,774	285,286	376,006	377,077	379,866
Non-Resident License Sales	9,970	10,595	10,972	10,835	11,334	12,036	12,523	12,520	12,520	11,883	11,759	11,908
Bonus Permit Sales	23,785	34,802	59,013	105,699	194,201	183,186	184,566	167,343	145,522	190,156	140,920	143,763
Multi-Zone Buck License Sales	43,903	42,669	41,921	35,658	32,929	32,359	28,233	15,984	15,051	N/A	N/A	N/A
Youth License Sales	2,038	3,215	4,011	2,884	34,463	51,347	50,501	49,599	49,242	50,397	56,678	59,726
All Season Deer License Sales		2,384	3,986	22,125	30,998	46,008	59,090	75,511	76,385	N/A	N/A	N/A
Total License Sales	475,441	495,289	519,601	545,165	648,800	634,634	626,211	620,731	584,006	628,442	586,434	595,263
Registered Buck Harvest <sup>1</sup>	92,584	102,961	98,894	101,333	110,440	116,612	95,594	95,695	97,528	85,646	83,820	88,027
Antlerless Permits Offered	177,380	232,595	286,540	365,667	31,625	30,760	28,830	18,925	18,830	32,325	60,100	60,083
Antlerless Permits Issued	135,852	180,490	196,603	192,907	25,386	24,111	25,656	18,925	18,830	32,325	60,100	60,083
Antlerless Permits App.	214,597	237,571	225,341	202,086	30,253	28,454	31,403	31,403	31,403	31,403	90,882	86,783
Registered AL Harvest <sup>1</sup>	71,681	88,492	98,169	102,280	147,420	123,278	119,363	135,981	118,860	98,147	78,525	78,525
Registered Total Harvest <sup>1</sup>	164,265	191,453	197,063	203,613	257,860	239,890	214,957	231,676	216,388	183,793	162,345	174,104
Registered % Successful <sup>2</sup>	34.8	38.6	37.9	37.3	39.7	37.8	34.3	37.3	37.1	35.1	32.1	35.6
	407,753	414,624	415,988	381,683	390,672	373,081	354,322	361,893	347,048	438,286	445,514	451,500
<b>ARCHERY</b>												
Resident License Sales	66,226	68,947	69,608	57,532	59,339	50,601	50,293	49,595	52,780	87,872	88,707	91,156
Non-Resident License Sales	1,073	1,271	1,288	1,275	1,428	1,144	1,207	1,286	1,509	1,509	1,610	1,638
Youth Archery Sales	N/A	N/A	N/A	N/A	3,748	7,261	7,489	7,688	7,663	9,005	9,157	9,577
Mgmt Permit License Sales	16,945	20,393	22,141	18,126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total License Sales	84,244	90,611	93,037	76,933	60,767	59,006	58,989	58,569	61,952	99,033	99,474	102,371
Total Harvest - All-Season License					2,356	3,489	4,563	8,284	6,900	N/A	N/A	N/A
Total Archery Harvest	13,376	15,776	15,884	14,744	21,691	20,726	23,538	25,360	24,161	22,632	20,629	22,057
Registered % Successful <sup>2</sup>	15.8	17.4	17.1	19.2	22.3	29.2	24.6	24.8	24.3	18.5	17.5	17.8
<b>MUZZLELOADER</b>												
Total Muzzleloader License Sales	--	11,972	13,043	11,764	9,142	10,512	9,226	10,781	9,867	64,673	63,282	55,640
Estimated All-Season Hunters	--	--	--	--	12,020	14,168	23,293	23,293	26,813	N/A	N/A	N/A
Total Muzzleloader Harvest	2,928	4,548	4,494	3,505	9,466	9,289	15,421	13,507	12,138	9,572	7,929	9,023
Registered % Successful <sup>2</sup>		38.0	34.5	29.8	44.7	37.6	47.4	39.6	28.2	13.4	11.3	14.3
Antlerless Permits Offered												1,212
Antlerless Permits App.												395
<b>TOTAL Registered Harvest</b>	<b>180,569</b>	<b>211,777</b>	<b>217,452</b>	<b>222,050</b>	<b>290,525</b>	<b>260,604</b>	<b>255,736</b>	<b>270,778</b>	<b>260,434</b>	<b>221,837</b>	<b>194,186</b>	<b>207,313</b>

<sup>1</sup> Does not include free landowner licenses

<sup>2</sup> Based on total license sales - does not include all-season deer

Table 2. Deer Harvest by License Type and Zone, 2010.

Firearms/Zone	Hunters	Harvest			Overall Success
		Bucks	Antlerless	Total	
1	152,998	36,850	30,120	66,970	39.7%
2	243,610	45,419	45,008	90,427	33.5%
3A	23,053	3,894	4,864	8,758	32.4%
3B	14,820	1,021	4,664	5,685	32.3%
Early Season	9,212	0	1,372	1,372	13.7%
Free Landowner <sup>1</sup>	3,631	0	1,330	1,330	36.6%
Muzzleloader <sup>2</sup>	63,282	3,038	5,985	9,023	14.3%
Archery <sup>3</sup>	102,371	7,485	14,572	22,057	17.8%
<b>TOTAL<sup>4</sup></b>	<b>494,249</b>	<b>98,834</b>	<b>108,479</b>	<b>207,313</b>	<b>37.4%</b>

<sup>1</sup> Includes deer taken during regular firearms, muzzleloader, and archery seasons.

<sup>2</sup> Total number of people who bought only a muzzleloader license was 7,056.

<sup>3</sup> Includes Camp Ripley. Total number of people who bought only an archery license was 31,874.

<sup>4</sup> Due to the fact that a hunter can buy multiple licenses, hunter numbers are calculated using unique MNDNR numbers.

Table 3. Firearms Harvest and Harvest per Square Mile by Permit Area, 2010. Includes all firearm licenses but does not include early antlerless harvest.

Permit Area	Zone	Adult Male	Fawn Male	Adult Female	Fawn Female	Total	Area Size (sq.mi.)	Bucks/Sq. Mile	Antlerless/Sq. Mile	Total/Sq. Mile
101	1A	318	77	218	64	677	496	0.64	0.72	1.36
103	1A	799	63	322	46	1,230	1,824	0.44	0.24	0.67
105	1A	785	163	607	133	1,688	932	0.84	0.97	1.81
108	1A	1127	35	120	26	1,308	1,701	0.66	0.11	0.77
110	1A	1110	205	782	186	2,283	530	2.09	2.21	4.30
111	1A	558	77	307	49	991	1,440	0.39	0.30	0.69
114	1A	43	4	27	6	80	412	0.10	0.09	0.19
117	1A	27	3	5	2	37	1,129	0.02	0.01	0.03
118	1A	760	23	69	17	869	1,445	0.53	0.08	0.60
119	1A	793	56	242	32	1,123	946	0.84	0.35	1.19
122	1A	562	66	262	58	948	622	0.90	0.62	1.52
126	1A	494	42	220	23	779	979	0.50	0.29	0.80
127	1A	115	7	27	7	156	587	0.20	0.07	0.27
152	1A	133	26	55	13	227	62	2.16	1.53	3.68
155	1A	1552	224	829	187	2,792	639	2.43	1.94	4.37
156	1A	1978	453	1468	352	4,251	834	2.37	2.72	5.09
157	1A	2800	692	1982	557	6,031	904	3.10	3.57	6.67
159	1A	1435	306	1100	201	3,042	575	2.49	2.79	5.29
169	1A	1562	239	749	140	2,690	1,202	1.30	0.94	2.24
171	1A	1157	125	384	93	1,759	729	1.59	0.83	2.41
172	1A	1684	146	568	118	2,516	786	2.14	1.06	3.20
173	1A	967	132	471	86	1,656	617	1.57	1.12	2.68
176	1A	1636	84	355	53	2,128	1,150	1.42	0.43	1.85
177	1A	1036	248	913	210	2,407	553	1.87	2.48	4.36
178	1A	2644	537	1752	392	5,325	1,325	2.00	2.02	4.02
179	1A	1925	480	1588	333	4,326	939	2.05	2.56	4.61
180	1A	1296	221	782	185	2,484	999	1.30	1.19	2.49
181	1A	1806	426	1434	353	4,019	746	2.42	2.97	5.39
182	1A	427	74	339	72	912	280	1.53	1.73	3.26
183	1A	1317	192	680	124	2,313	675	1.95	1.48	3.43
184	1A	2841	244	788	173	4,046	1,318	2.16	0.91	3.07
197	1A	1022	114	404	91	1,631	1,343	0.76	0.45	1.21
199	1A	141	15	75	15	246	152	0.93	0.69	1.62
201	2A	97	15	68	23	203	169	0.57	0.63	1.20
203	2A	81	10	35	4	130	132	0.62	0.37	0.99
208	2A	215	59	152	37	463	379	0.57	0.65	1.22
209	2A	559	177	428	119	1,283	641	0.87	1.13	2.00
210	2A	1013	245	786	256	2,300	635	1.59	2.03	3.62
213	2A	1891	567	1540	445	4,443	1,161	1.63	2.20	3.83
214	2A	1349	449	1099	384	3,281	566	2.38	3.41	5.80
215	2A	988	373	853	322	2,536	730	1.35	2.12	3.47
218	2A	850	171	524	143	1,688	912	0.93	0.92	1.85
219	2A	555	135	350	66	1,106	427	1.30	1.29	2.59
221	2A	1044	396	794	357	2,591	647	1.61	2.39	4.01
222	2A	869	298	630	214	2,011	413	2.11	2.77	4.87
223	2A	520	101	269	81	971	385	1.35	1.17	2.52
224	2A	117	24	71	7	219	49	2.39	2.08	4.47
225	2A	1358	416	1046	255	3,075	635	2.14	2.70	4.84
227	2A	826	223	576	202	1,827	491	1.68	2.04	3.72

Table 3. (Continued).

Permit Area	Zone	Adult Male	Fawn Male	Adult Female	Fawn Female	Total	Area Size (sq.mi.)	Bucks/Sq. Mile	Antlerless/Sq. Mile	Total/Sq. Mile
229	2A	234	54	115	25	428	313	0.75	0.62	1.37
230	2A	220	29	120	19	388	464	0.47	0.36	0.84
232	2A	239	66	187	55	547	380	0.63	0.81	1.44
233	2A	184	51	140	36	411	386	0.48	0.59	1.06
234	2A	214	1	9	3	227	637	0.34	0.02	0.36
235	2A	54	4	13	4	75	37	1.47	0.57	2.04
236	2A	618	170	445	108	1,341	404	1.53	1.79	3.32
237	2A	239	3	12	5	259	737	0.32	0.03	0.35
238	2A	80	2	11	4	97	98	0.82	0.17	0.99
239	2A	1467	405	1214	339	3,425	1,110	1.32	1.76	3.09
240	2A	1728	462	1298	390	3,878	694	2.49	3.10	5.59
241	2A	3038	886	2456	736	7,116	1,047	2.90	3.90	6.80
242	2A	620	184	534	146	1,484	307	2.02	2.81	4.83
246	2A	2227	371	1166	286	4,050	860	2.59	2.12	4.71
247	2A	746	78	244	31	1,099	263	2.83	1.34	4.17
248	2A	377	102	283	91	853	229	1.65	2.08	3.73
249	2A	1288	482	1089	319	3,178	729	1.77	2.59	4.36
250	2A	341	19	115	14	489	730	0.47	0.20	0.67
251	2A	81	10	43	14	148	68	1.19	0.98	2.17
252	2A	250	30	106	18	404	735	0.34	0.21	0.55
253	2A	333	20	127	19	499	987	0.34	0.17	0.51
254	2A	464	93	371	61	989	946	0.49	0.55	1.05
255	2A	390	33	160	21	604	774	0.50	0.28	0.78
256	2A	446	101	368	92	1,007	654	0.68	0.86	1.54
257	2A	388	67	252	64	771	426	0.91	0.90	1.81
258	2A	858	152	403	100	1,513	381	2.25	1.72	3.97
259	2A	1486	202	694	146	2,528	546	2.72	1.91	4.63
260	2A	442	74	342	58	916	1,252	0.35	0.38	0.73
261	2A	151	15	133	20	319	796	0.19	0.21	0.40
262	2A	232	28	85	10	355	677	0.34	0.18	0.52
263	2A	360	55	187	55	657	513	0.70	0.58	1.28
264	2A	585	139	470	102	1,296	672	0.87	1.06	1.93
265	2A	421	88	356	110	975	495	0.85	1.12	1.97
266	2A	427	88	336	88	939	625	0.68	0.82	1.50
267	2A	206	39	132	26	403	472	0.44	0.42	0.85
268	2A	276	41	180	42	539	239	1.15	1.10	2.25
269	2A	211	30	114	23	378	652	0.32	0.26	0.58
270	2A	209	16	65	11	301	758	0.28	0.12	0.40
271	2A	263	24	104	17	408	646	0.41	0.22	0.63
272	2A	232	16	97	13	358	544	0.43	0.23	0.66
273	2A	450	72	240	38	800	634	0.71	0.55	1.26
274	2A	251	14	45	8	318	381	0.66	0.18	0.84
275	2A	390	17	76	14	497	777	0.50	0.14	0.64
276	2A	539	34	175	32	780	575	0.94	0.42	1.36
277	2A	1200	142	512	95	1,949	876	1.37	0.86	2.22
278	2A	471	29	153	27	680	422	1.12	0.50	1.61
279	2A	233	13	93	11	350	346	0.67	0.34	1.01

Table 3. (Continued).

Permit Area	Zone	Adult Male	Fawn Male	Adult Female	Fawn Female	Total	Area Size (sq.mi.)	Bucks/ Sq. Mile	Antlerless/ Sq. Mile	Total/ Sq. Mile
280	2A	257	30	111	12	410	676	0.38	0.23	0.61
281	2A	452	26	121	11	610	579	0.78	0.27	1.05
282	2A	151	3	6	1	161	780	0.19	0.01	0.21
283	2A	300	14	52	4	370	640	0.47	0.11	0.58
284	2A	345	3	18	2	368	853	0.40	0.03	0.43
285	2A	369	57	200	31	657	580	0.64	0.50	1.13
286	2A	290	7	17	2	316	458	0.63	0.06	0.69
287	2A	56	34	145	28	263	51	1.11	4.09	5.19
288	2A	337	7	16	6	366	630	0.54	0.05	0.58
289	2A	157	8	30	4	199	820	0.19	0.05	0.24
290	2A	450	27	179	34	690	666	0.68	0.36	1.04
291	2A	653	62	308	56	1,079	832	0.79	0.51	1.30
292	2A	405	117	343	88	953	517	0.78	1.06	1.84
293	2A	466	110	360	94	1,030	512	0.91	1.10	2.01
294	2A	311	17	53	8	389	689	0.45	0.11	0.56
295	2A	518	32	119	14	683	855	0.61	0.19	0.80
296	2A	287	19	143	15	464	675	0.43	0.26	0.69
297	2A	195	31	148	18	392	449	0.43	0.44	0.87
298	2A	687	151	534	127	1,499	677	1.02	1.20	2.21
299	2A	242	21	97	15	375	389	0.62	0.34	0.96
338	3A	110	11	35	9	165	472	0.23	0.12	0.35
338	3B	41	26	106	25	198	472	0.09	0.33	0.42
339	3A	139	40	105	32	316	406	0.34	0.44	0.78
339	3B	41	30	76	34	181	406	0.10	0.35	0.45
341	3A	425	142	439	119	1,125	626	0.68	1.12	1.80
341	3B	152	160	411	128	851	626	0.24	1.12	1.36
342	3A	378	87	355	99	919	374	1.01	1.45	2.46
342	3B	129	117	371	100	717	374	0.34	1.57	1.92
343	3A	399	139	358	111	1,007	664	0.60	0.92	1.52
343	3B	90	111	234	77	512	664	0.14	0.64	0.77
344	3A	268	60	361	85	774	190	1.41	2.67	4.08
344	3B	53	43	186	42	324	190	0.28	1.43	1.71
345	3A	260	48	170	53	531	335	0.78	0.81	1.58
345	3B	64	73	238	63	438	335	0.19	1.12	1.31
346	3A	550	105	354	72	1,081	328	1.68	1.62	3.30
346	3B	128	108	368	86	690	328	0.39	1.71	2.10
347	3A	300	26	72	12	410	434	0.69	0.25	0.95
347	3B	71	42	166	28	307	434	0.16	0.54	0.71
348	3A	361	86	442	88	977	332	1.09	1.85	2.94
348	3B	64	68	268	56	456	332	0.19	1.18	1.37
349	3A	704	118	511	120	1,453	499	1.41	1.50	2.91
349	3B	188	117	567	139	1,011	499	0.38	1.65	2.03

Table 3. (Continued).

Permit Area	Zone	Adult Male	Fawn Male	Adult Female	Fawn Female	Total	Area Size (sq.mi.)	Bucks/Sq. Mile	Antlerless /Sq. Mile	Total/Sq. Mile
601	Metro	628	154	521	105	1,408	1,756	0.36	0.44	0.80
900	Park	3	1	4	1	9				
901	Park	4	1	1	0	6				
902	Park	35	16	69	23	143				
903	Park	0	2	1	0	3				
904	Park	5	3	3	0	11				
905	Park	3	2	4	1	10				
906	Park	3	2	11	1	17				
907	Park	3	1	0	1	5				
908	Park	1	1	3	1	6				
909	Park	1	3	6	3	13				
910	Park	0	8	9	10	27				
911	Park	1	0	1	0	2				
913	Park	0	0	7	1	8				
914	Park	21	6	19	3	49				
915	Park	6	4	4	4	18				
916	Park	40	9	35	12	96				
918	Park	3	2	4	2	11				
919	Park	1	4	4	2	11				
920	Park	3	8	10	6	27				
921	Park	1	0	5	1	7				
922	Park	0	0	2	3	5				
923	Park	15	18	27	9	69				
924	Park	10	5	25	6	46				
925	Park	12	6	34	18	70				
926	Park	0	2	4	1	7				
927	Park	0	4	12	5	21				
928	Metro	10	4	5	1	20				
929	Metro	26	5	46	6	83				
930	Metro	8	5	30	13	56				
<b>TOTAL</b>		<b>88,027</b>	<b>17,318</b>	<b>55,114</b>	<b>13,645</b>	<b>174,104</b>	<b>83,282</b>	1.06	1.03	2.09

Table 4. Firearm Bonus Permit Harvest by Permit Area, 2010.  
Managed Permit Areas.

Permit Area	Zone	Fawn Male	Adult Female	Fawn Female	Total
105	1A	86	389	91	566
110	1A	118	459	107	684
111	1A	45	179	34	258
114	1A	0	16	3	19
117	1A	1	3	1	5
122	1A	30	136	31	197
126	1A	27	131	17	175
156	1A	238	785	209	1,232
157	1A	316	1,058	316	1,690
159	1A	136	578	114	828
178	1A	272	992	238	1,502
179	1A	286	914	204	1,404
199	1A	8	40	8	56
201	2A	8	41	17	66
203	2A	4	21	3	28
208	2A	33	90	19	142
213	2A	256	715	212	1,183
214	2A	240	550	204	994
215	2A	167	351	160	678
232	2A	27	88	29	144
233	2A	26	72	20	118
239	2A	197	616	200	1,013
240	2A	259	726	211	1,196

Permit Area	Zone	Fawn Male	Adult Female	Fawn Female	Total
241	2A	507	1,476	440	2,423
242	2A	92	280	78	450
248	2A	49	139	57	245
249	2A	207	513	153	873
254	2A	37	202	37	276
256	2A	57	213	55	325
257	2A	35	160	41	236
260	2A	41	209	30	280
261	2A	10	78	15	103
263	2A	28	106	27	161
264	2A	79	265	57	401
265	2A	56	204	60	320
266	2A	46	192	58	296
267	2A	24	84	16	124
268	2A	26	104	25	155
292	2A	49	140	42	231
293	2A	51	177	57	285
297	2A	13	79	9	101
298	2A	82	288	66	436
339	3A	26	57	21	104
339	3B	16	35	19	70
344	3A	36	238	54	328
344	3B	15	59	19	93
345	3A	27	107	32	166
345	3B	27	102	28	157
Total		4,416	14,457	3,944	22,817

Table 4. Firearm Bonus Permit Harvest by Permit Area, 2010.

Intensive Permit Areas

Permit Area	Zone	Fawn Male	Adult Female	Fawn Female	Total
101	1A	65	189	55	309
177	1A	172	591	154	917
180	1A	139	503	124	766
181	1A	297	922	256	1,475
182	1A	49	230	57	336
209	2A	129	331	104	564
210	2A	174	567	199	940
221	2A	234	489	239	962
222	2A	163	372	152	687
225	2A	241	653	161	1,055
227	2A	142	383	142	667
236	2A	95	295	80	470
287	2A	23	104	20	147
341	3A	96	316	87	499
341	3B	84	238	78	400
342	3A	62	264	78	404
342	3B	65	214	59	338
343	3A	78	261	84	423
343	3B	69	137	44	250
346	3A	70	256	60	386
346	3B	60	208	48	316
348	3A	57	325	66	448
348	3B	38	141	36	215
349	3A	93	358	95	546
349	3B	65	327	81	473
601	Metro	108	364	76	548
Total		2,868	9,038	2,635	14,541



Table 5. Early Antlerless Season Harvest by Permit Area, 2010.

<b>Permit Area</b>	<b>Fawn Male</b>	<b>Adult Female</b>	<b>Fawn Female</b>	<b>Total</b>
101	7	14	2	23
180	51	195	52	298
182	25	88	29	142
222	37	67	38	142
225	78	126	60	264
227	28	65	35	128
236	30	47	15	92
346	18	47	18	83
349	22	104	17	143
601	13	32	11	56
<b>Total</b>	<b>309</b>	<b>785</b>	<b>277</b>	<b>1,371</b>

Table 6. Summary of Firearms Special Hunts, 2010. Includes regular, youth, and bonus permits.

Area	Dates	Permits Issued	Harvest				Total
			Adult Male	Fawn Male	Adult Female	Fawn Female	
900 - Lake Vermilion State Park <sup>1</sup>	11/6-11/14	50	3	1	4	1	9
901 - Rice Lake Nat. Wildlife Refuge	11/6-11/21	40***	4	1	1	0	6
902 - St. Croix State Park <sup>1</sup>	11/12-11/21	450**	35	16	69	23	143
903 - Savanna Portage State Park	11/12-11/15	20***	0	2	1	0	3
904 - Gooseberry Falls State Park <sup>1</sup>	11/13-11/17	30*	5	3	3	0	11
905 - Split Rock Lighthouse State Park <sup>1</sup>	11/6-11/21	30*	3	2	4	1	10
906 - Tettegouche State Park <sup>1</sup>	11/6-11/21	125*	3	2	11	1	17
907 - Scenic State Park <sup>1</sup>	11/6-11/21	30*	3	1	0	1	5
908 - Hayes Lake State Park <sup>1</sup>	11/6-11/21	75*	1	1	3	1	6
909 - Lake Bemidji State Park <sup>1</sup>	11/6-11/21	30#	1	3	6	3	13
910 - Zippel Bay State Park <sup>1</sup>	11/6-11/9	55#	0	8	9	10	27
911 - Judge CR Magney SP <sup>1</sup>	11/6-11/21	N/A*	1	0	1	0	2
912 - Schoolcraft State Park <sup>1</sup>	11/16-11/21	N/A*	0	0	0	0	0
913 - Lake Carlos State Park <sup>1</sup>	11/6-11/9	20#	0	0	7	1	8
914 - William O'Brien State Park <sup>1</sup>	11/6-11/7	70*	21	6	19	3	49
915 - Lake Bronson State Park <sup>1</sup>	11/6-11/14	30**	6	4	4	4	18
916 - Maplewood State Park <sup>1</sup>	11/6-11/9	100*	40	9	35	13	97
917 - Rydell NWR	11/6-11/14	5	0	0	0	0	0
918 - Lake Alexander SNA <sup>1</sup>	11/6-11/14	40*	3	2	4	2	11
919 - Glacial Lakes State Park	11/6-11/7	30#	1	4	4	2	11
920 - Lake Louise State Park <sup>1</sup>	11/13-11/14	25**	3	8	10	6	27
921 - Beaver Creek Valley State Park <sup>1</sup>	11/6-11/7	20**	1	0	5	1	7
922 - Zumbro Falls SNA <sup>1</sup>	11/6-11/14	12#	0	0	2	3	5
923 - Forestville/Mystery Cave SP <sup>1</sup>	11/6-11/8	110**	15	18	27	9	69
924 - Frontenac State Park <sup>1</sup>	11/20-11/22	60**	10	5	25	6	46
925 - Whitewater State Park <sup>1</sup>	11/20-11/21	50**	12	6	34	18	70
926 - Zumbro Falls SNA <sup>1</sup>	11/20-11/28	12#	0	2	4	1	7
927 - Whitewater Refuge	11/20-11/28	60#	0	4	12	5	21
928 - Vermillion Highlands WMA <sup>1</sup>	11/6-11/19	25	10	4	5	1	20
929 - Elm Creek Park Reserve <sup>1</sup>	11/20-11/21	155*	26	46	5	6	83
930 -Lake Rebecca Park Reserve <sup>1</sup>	11/27-11/28	80*	8	30	5	13	56
<b>TOTAL</b>			215	188	319	135	857

<sup>1</sup> Bonus permits available

\*Either sex    \*\* Earn-A-Buck

\*\*\*Antler Point Restriction

#Antlerless Only

Table 7. Free Landowner Firearms Harvest by Permit Area, 2010.

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
105	2	9	1	12
110	2	20	5	27
111	2	4	0	6
114	0	0	1	1
156	4	11	2	17
157	11	29	13	53
159	0	3	0	3
177	2	6	2	10
178	2	9	1	12
179	2	9	0	11
180	2	2	0	4
181	1	2	0	3
182	0	1	0	1
201	1	1	0	2
208	1	8	3	12
209	2	9	4	15
210	8	16	1	25
213	14	42	12	68
214	18	68	24	110
215	9	25	12	46
221	8	19	10	37
222	6	9	2	17
225	5	21	5	31
227	1	3	0	4
232	0	1	0	1
233	2	2	0	4
236	1	7	1	9
239	4	24	9	37
240	10	38	9	57

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
241	21	53	10	84
242	2	1	1	4
248	5	1	3	9
249	15	28	14	57
254	1	3	1	5
256	1	6	4	11
257	4	15	4	23
260	2	11	1	14
261	1	6	1	8
263	0	2	2	4
264	3	18	6	27
265	4	15	3	22
266	1	10	2	13
267	2	2	1	5
268	1	9	2	12
292	4	10	4	18
293	0	1	1	2
297	0	4	0	4
298	3	7	1	11
339	1	1	0	2
341	6	27	5	38
342	5	15	6	26
343	5	10	7	22
344	2	12	0	14
345	5	27	1	33
346	3	24	4	31
348	1	15	4	20
349	4	38	7	49
601	0	1	0	1
<b>TOTAL</b>	<b>222</b>	<b>770</b>	<b>212</b>	<b>1,204</b>

Table 8. Archery Harvest by Permit Area, 2010.  
Includes Regular, Youth, All-Season, and Bonus Permits.

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
101	6	1	7	1	15
103	11	0	12	0	23
105	22	5	33	0	60
108	22	5	21	4	52
110	17	11	59	7	94
111	3	0	9	2	14
114	4	2	6	0	12
117	1	1	0	0	2
118	15	3	14	1	33
119	4	1	8	1	14
122	4	2	21	1	28
126	22	2	32	2	58
152	1	0	2	2	5
155	54	12	36	7	109
156	77	16	115	25	233
157	130	39	168	34	371
159	73	19	127	17	236
169	22	5	30	6	63
171	28	5	28	3	64
172	35	12	44	5	96
173	23	4	17	2	46
176	33	5	19	7	64
177	24	16	96	15	151
178	90	19	143	23	275
179	77	34	173	17	301
180	96	21	170	20	307
181	121	46	232	32	431
182	206	124	567	136	1,033
183	44	2	30	4	80
184	117	11	62	8	198
197	21	3	11	3	38
199	5	0	7	1	13
201	2	0	0	1	3
203	0	0	2	0	2
208	6	0	4	2	12
209	41	12	73	16	142
210	29	13	117	10	169
213	534	64	405	44	1,047
214	76	20	110	25	231
215	112	44	173	32	361
218	100	9	56	5	170
219	87	10	59	5	161
221	87	71	280	57	495
222	62	50	161	48	321
223	127	22	77	14	240
224	14	3	9	1	27
225	119	57	290	69	535

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
234	19	0	0	0	19
235	14	6	7	8	35
236	225	83	376	70	754
237	23	0	1	0	24
238	6	0	12	1	19
239	73	20	120	15	228
240	82	16	154	29	281
241	164	56	284	44	548
242	84	42	176	21	323
246	71	9	61	6	147
247	60	6	63	5	134
248	44	16	61	9	130
249	80	42	110	27	259
250	26	3	21	2	52
251	2	0	4	0	6
252	27	5	28	2	62
253	44	2	36	4	86
254	64	11	83	7	165
255	83	13	25	4	125
256	15	3	31	3	52
257	13	5	20	7	45
258	34	3	14	3	54
259	41	4	32	2	79
260	9	0	22	0	31
261	17	0	6	3	26
262	20	2	13	1	36
263	6	0	8	3	17
264	18	1	25	2	46
265	12	4	30	5	51
266	20	3	39	2	64
267	7	1	21	0	29
268	13	3	11	0	27
269	22	2	10	4	38
270	17	0	6	0	23
271	20	5	5	3	33
272	18	1	4	1	24
273	45	3	14	0	62
274	15	4	26	3	48
275	24	2	14	3	43
276	34	3	21	2	60
277	138	12	112	10	272
278	43	4	26	2	75
279	9	2	8	3	22
280	20	0	21	1	42
281	45	5	21	2	73
282	11	0	2	0	13
283	29	3	21	2	55

Table 8. (Continued).

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
227	187	87	413	72	759
229	41	8	37	5	91
230	20	4	15	4	43
232	25	5	32	4	66
233	49	15	79	9	152
289	19	5	19	0	43
290	56	9	65	13	143
291	127	18	103	12	260
292	49	15	99	11	174
293	71	15	98	14	198
294	24	2	16	3	45
295	42	3	51	5	101
296	26	3	21	2	52
297	7	0	8	0	15
298	12	4	22	1	39
299	36	4	41	4	85
338	38	6	31	1	76

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
284	43	0	1	0	44
285	62	5	39	5	111
286	26	0	3	0	29
287	4	1	4	0	9
288	30	1	1	0	32
339	48	6	73	17	144
341	118	65	270	56	509
342	77	35	188	51	351
343	193	73	446	68	780
344	48	18	57	14	137
345	38	20	64	12	134
346	115	41	201	52	409
347	71	1	20	4	96
348	80	26	163	42	311
349	139	22	237	28	426
601	671	276	1201	266	2,414
970 *	103	32	128	27	290
971**	80	22	102	13	217
<b>Total</b>	<b>7,485</b>	<b>2,053</b>	<b>10,668</b>	<b>1,851</b>	<b>22,057</b>

\*Camp Ripley First Hunt

\*\*Camp Ripley Second Hunt

Table 9. Archery Harvest using Bonus Permits by Permit Area, 2010.

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
101	0	2	0	2
105	4	24	0	28
110	10	44	6	60
111	0	8	1	9
114	1	1	0	2
117	1	2	0	3
122	2	18	0	20
126	0	16	2	18
156	8	83	18	109
157	25	112	26	163
159	11	100	12	123
177	14	83	10	107
178	12	102	19	133
179	21	121	14	156
180	15	135	20	170
181	41	195	29	265
182	107	529	128	764
199	0	3	1	4
201	0	0	1	1
208	0	4	1	5
209	8	60	11	79
210	9	105	7	121
213	23	178	16	217
214	14	90	19	123
215	31	146	23	200
221	63	240	53	356
222	39	147	42	228
225	49	261	59	369
227	75	356	70	501
232	3	26	3	32
233	12	66	9	87
236	73	337	65	475
239	14	100	10	124

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
240	12	130	20	162
241	43	231	33	307
242	35	130	16	181
248	8	45	7	60
249	32	79	16	127
254	9	63	4	76
256	1	21	1	23
257	1	11	4	16
260	0	12	0	12
261	0	5	3	8
263	0	3	1	4
264	1	20	2	23
265	2	24	5	31
266	1	32	2	35
267	1	14	0	15
268	1	8	0	9
287	1	4	0	5
292	8	80	11	99
293	11	83	10	104
297	0	4	0	4
298	3	19	0	22
339	5	58	15	78
341	61	248	52	361
342	34	178	47	259
343	67	408	61	536
344	17	46	14	77
345	11	51	9	71
346	39	189	50	278
348	24	150	40	214
349	21	221	27	269
601	237	1093	239	1569
<b>TOTAL</b>	<b>1,371</b>	<b>7,354</b>	<b>1,364</b>	<b>10,089</b>

Table 10. Summary of Archery Special Hunts, 2010 Includes Regular, Youth, and Bonus Permits.

Area	Dates	Permits Issued	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
970 - Camp Ripley	10/21 - 10/22	2,500	103	128	32	27	290
971 - Camp Ripley	10/30 - 10/31	2,500	80	102	22	13	217
972 - Crow-Hassan Park Reserve	11/12- 11/14	130	3	4	1	0	8
973 - Murphy-Hanrahan Park Reserve	11/12- 11/14	180	10	5	2	1	18
974 - Cleary Lake Regional Park	11/12- 11/14	55	1	1	0	0	2
975 - Vermillion Highlands WMA	9/18-10/31	60	1	2	0	0	3
976 - City of New Ulm	10/9 - 12/31	50	1	47	8	14	70
977 - City of Red Wing	9/18 - 12/31	Unl.	0	0	2	2	4
978 - City of Sandstone	9/18 - 12/31	Unl.	0	0	0	0	0
979 - City of St. Cloud	9/18 - 12/31	70	0	2	0	0	2
980 - City of Taylors Falls	9/18 - 12/31	Unl.	0	0	0	0	0
981 - City of Mankato	10/23 - 12/31	40	1	7	6	5	19
982 - City of Granite Falls	9/18 - 12/31	10	0	3	0	0	3
983 - City of Ortonville	9/18 - 12/31	30	2	18	0	0	20
984 - City of Canby	9/19 - 12/31	20	0	3	0	0	3
985 - City of Bemidji	9/18 - 12/31	40	0	7	3	0	10
986 - Kellog-Weaver Dunes SNA	9/18 - 12/31	10	0	0	0	0	0
987 - Hormel Nature Center	11/17 - 11/24	44	0	4	0	1	5
<b>Total</b>			202	333	76	63	674

\*In many cases, city archery harvest is under-reported because individuals do not use the applicable number when registering their deer.

Table 11. Free Landowner Archery Harvest by Permit Area, 2010.

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
110	0	1	0	1
157	0	1	0	1
213	0	2	0	2
214	0	2	1	3
215	0	1	0	1
221	1	3	0	4
236	0	1	0	1
239	0	1	0	1
240	1	3	0	4
241	1	2	0	3
248	0	1	1	2
249	1	2	0	3
292	0	1	0	1
293	0	1	0	1
342	0	0	1	1
343	0	1	0	1
346	0	1	0	1
348	0	2	0	2
<b>TOTAL</b>	4	26	3	33

Table 12. Muzzleloader Harvest by Permit Area, 2010.  
Includes Regular, Muzzleloader, Youth, All-Season, and Bonus permits.

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
101	8	5	13	3	29
103	10	1	7	2	20
105	11	5	28	5	49
108	7	0	2	1	10
110	12	5	27	3	47
111	7	4	14	1	26
114	2	0	0	0	2
117	0	0	2	0	2
118	22	0	2	0	24
119	9	2	4	1	16
122	4	1	9	0	14
126	13	8	40	10	71
127	0	1	0	0	1
152	0	2	0	0	2
155	9	4	11	4	28
156	29	13	51	7	100
157	30	27	83	26	166
159	16	9	32	6	63
169	28	2	14	2	46
171	8	0	9	1	18
172	18	2	5	3	28
173	14	1	4	0	19
176	6	3	5	0	14
177	13	10	43	12	78
178	31	13	62	15	121
179	23	16	61	22	122
180	30	19	53	15	117
181	28	10	44	6	88
182	10	3	21	4	38
183	21	3	17	5	46
184	54	8	16	3	81
197	12	4	10	4	30
199	4	0	4	1	9
201	1	1	4	3	9
203	5	1	11	2	19
208	12	1	8	3	24
209	37	8	37	10	92
210	35	16	71	12	134
213	72	32	155	25	284
214	38	18	79	19	154
215	53	41	103	20	217
218	58	5	39	7	109
219	46	9	32	11	98
221	37	20	91	23	171
222	22	14	72	19	127
275	26	1	4	4	35

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
223	32	8	16	7	63
225	58	28	110	27	223
227	59	24	118	38	239
229	11	2	19	7	39
230	7	3	11	0	21
232	13	7	33	8	61
233	23	9	30	7	69
234	21	0	0	0	21
235	3	0	1	1	5
236	40	27	92	28	187
237	31	1	0	0	32
238	7	0	2	0	9
239	47	23	96	19	185
240	42	17	101	15	175
241	76	38	209	40	363
242	27	14	46	11	98
246	28	5	21	4	58
247	19	2	11	1	33
248	34	5	24	5	68
249	36	23	67	29	155
250	36	3	13	0	52
251	3	0	0	1	4
252	29	3	13	2	47
253	43	3	21	0	67
254	39	17	66	14	136
255	28	3	11	3	45
256	16	4	22	3	45
257	15	3	22	2	42
258	23	2	7	2	34
259	29	13	32	4	78
260	23	5	36	4	68
261	8	0	17	2	27
262	24	1	10	0	35
263	20	0	17	2	39
264	36	3	32	6	77
265	17	6	26	5	54
266	29	6	43	5	83
267	9	2	13	2	26
268	11	2	11	1	25
269	31	2	18	1	52
270	13	5	2	2	22
271	22	0	9	2	33
272	9	0	4	1	14
273	28	2	14	0	44
274	28	0	2	2	32
292	32	12	60	14	118



Table 12. (Continued).

Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total	Permit Area	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
276	29	2	14	1	46	293	42	16	61	14	133
277	71	9	63	5	148	294	27	0	4	1	32
278	39	2	21	3	65	295	54	1	11	5	71
279	16	1	7	1	25	296	23	0	19	1	43
280	16	2	6	1	25	297	7	3	4	1	15
281	28	5	18	1	52	298	23	7	37	7	74
282	16	0	0	0	16	299	29	1	13	0	43
283	25	2	2	1	30	338	8	1	14	5	28
284	32	0	1	0	33	339	11	2	17	7	37
285	30	1	12	4	47	341	23	29	100	15	167
286	24	0	1	0	25	342	21	15	101	18	155
287	3	3	25	5	36	343	18	30	94	21	163
288	29	1	0	0	30	344	17	8	34	11	70
289	15	0	1	1	17	345	18	1	27	4	50
290	37	4	27	4	72	346	15	11	84	13	123
291	64	11	34	2	111	347	11	6	15	2	34
						348	22	16	84	27	149
						349	28	20	87	22	157
						601	21	17	48	12	98
						<b>TOTAL</b>	<b>3,038</b>	<b>908</b>	<b>4,013</b>	<b>862</b>	<b>8,821</b>

Table 13. Muzzleloader Harvest using Bonus Permits by Permit Area, 2010.

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
101	4	11	3	18
105	4	14	2	20
110	3	13	1	17
111	3	5	1	9
122	0	3	0	3
126	6	18	6	30
156	5	29	4	38
157	12	36	13	61
159	6	13	1	20
177	6	27	9	42
178	5	20	8	33
179	9	26	12	47
180	14	40	11	65
181	5	28	2	35
182	2	18	4	24
199	0	1	1	2
201	1	3	1	5
203	1	9	2	12
208	0	4	1	5
209	7	25	10	42
210	11	50	10	71
213	18	86	8	112
214	9	48	6	63
215	26	69	11	106
221	12	61	14	87
222	9	55	10	74
225	17	72	24	113
227	15	83	27	125
232	4	13	1	18
233	4	13	4	21
236	19	56	18	93
239	8	51	12	71
240	6	44	8	58
241	21	120	26	167
242	9	28	7	44
248	5	11	4	20
249	10	33	19	62
254	11	38	9	58
256	3	14	2	19
257	2	10	2	14
260	1	23	1	25
261	0	15	1	16
263	0	10	2	12
264	2	16	2	20
265	3	18	3	24
266	4	30	1	35
267	2	11	1	14
268	1	9	0	10
287	2	17	4	23
292	5	32	5	42
293	9	39	11	59
297	2	2	0	4
298	3	16	5	24
339	1	12	1	14
341	23	71	11	105
342	9	72	13	94
343	23	74	16	113
344	7	21	8	36
345	1	13	4	18
346	7	63	6	76
348	12	66	22	100
349	15	69	19	103
601	12	28	7	47
<b>TOTAL</b>	<b>456</b>	<b>2,025</b>	<b>457</b>	<b>2,938</b>

Table 14. Summary of Muzzleloader Special Hunts, 2010.  
Includes Regular, Youth, All-Season, and Bonus Permits.

Area	Dates	Permits Issued	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
935 - Jay Cooke SP <sup>1</sup>	12/4-12/8	120*	6	8	25	5	38
936 - Crow Wing SP <sup>1</sup>	12/3-12/5	45***	3	4	10	4	18
937 - Soudan SP <sup>1</sup>	11/27-12/12	20*	0	0	2	0	2
938 - City of Tower <sup>1</sup>	11/27-12/12	30*	1	1	4	0	5
939 - Lake Shetek SP <sup>1</sup>	12/4-12/5	15**	0	4	6	5	15
940 - Lake Maria SP <sup>1</sup>	12/4-12/6	25***	3	2	7	4	13
941 - Nerstrand Big Woods SP <sup>1</sup>	11/27-11/28	50***	7	7	22	8	37
942 - Sibley SP	12/4-12/5	40**	0	3	9	3	15
943 - Rice Lake SP	11/27-11/28	50**	0	9	23	5	37
944 - Vermilion Highlands WMA <sup>1</sup>	11/27-12/12	25*	4	2	3	0	5
945 - Big Stone SP <sup>1</sup>	12/4 - 12/5	10**	0	2	11	4	17
<b>TOTAL</b>			24	42	122	38	202

Bonus permits available \*Either Sex \*\*Antlerless Only \*\*\*Earn-A-Buck

Table 15. Free Landowner Muzzleloader Harvest by Permit Area, 2010.

Permit Area	Fawn Male	Adult Female	Fawn Female	Total
110	0	1	0	1
177	0	1	0	1
179	0	1	0	1
208	0	1	0	1
209	0	1	0	1
210	0	1	0	1
213	2	3	2	7
214	0	1	3	4
215	0	2	2	4
221	1	1	0	2
225	0	1	0	1
227	1	1	0	2
233	1	0	0	1
239	1	3	1	5
240	1	6	0	7
241	0	7	0	7
249	0	2	0	2
254	0	1	0	1
256	0	1	0	1
257	0	1	0	1
264	0	2	0	2
265	1	0	0	1
267	0	1	0	1
292	0	2	0	2
293	1	2	0	3
298	1	2	0	3
341	0	2	0	2
342	1	8	0	9
343	0	0	1	1
344	0	1	0	1
345	0	3	0	3
346	0	5	2	7
348	0	1	3	4
349	1	2	0	3
<b>Total</b>	<b>12</b>	<b>67</b>	<b>14</b>	<b>93</b>

Table 16. Summary of Youth Firearm Hunts and NW Youth Season, 2010.

Area	Dates	Permits Issued	Harvest				Total
			Adult Male	Adult Female	Fawn Male	Fawn Female	
950 - Camp Ripley Archery	10/8-10/10	150	2	5	0	0	7
951 - Arden Hills A	10/21-10/22	30	Hunt was Cancelled				0
952 - Arden Hills B	10/23-10/24	30	Hunt was Cancelled				0
954 - Lake Bemidji SP	10/16-10/17	20	0	2	0	0	2
955 - Lake Alexander TNC	10/8-10/10	20	0	0	0	0	0
956 - St. Croix SP	10/30-10/31	90	17	7	1	3	28
957 - Rydell NWR	10/23-10/24	20	3	4	1	0	8
958 - Savanna Portage SP	10/30-10/31	20	4	2	0	0	6
959 - Buffalo River SP	10/23-10/24	10	1	1	0	0	2
960 - Tettegouche SP	10/16-10/17	10	0	1	0	0	1
961 - Itasca SP	10/16-10/17	75	1	1	0	0	2
965 - Banning SP	10/30-10/31	6	3	1	0	0	4
967 - Father Hennepin SP A	10/30-10/31	3	0	2	0	0	2
968 - Father Hennepin SP B	12/4-12/5	3	0	0	0	0	0

Youth Deer Season - October 21 - 24, unlimited permits

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	6	15	0	0	21
105	26	22	8	2	58
111	4	13	2	4	23
201	3	1	0	0	4
203	3	1	1	1	6
208	7	10	4	1	22
209	8	19	6	3	36
256	12	11	3	2	28
257	8	7	5	3	23
260	11	24	5	5	45
263	9	16	1	2	28
264	20	22	9	4	55
267	4	9	3	0	16
268	10	7	1	1	19
338	4	4	3	1	12
339	8	2	2	0	12
341	15	16	9	6	46
342	11	5	5	2	23
343	11	17	7	1	36
344	5	5	2	1	13
345	7	6	2	3	18
346	9	9	7	3	28
347	8	10	1	3	22
348	6	5	4	0	15
349	13	16	10	5	44
601	9	15	3	4	31
Total	237	287	103	57	684

Table 17. Total Deer Harvest by Permit Area, 2010.  
Includes all license types, permits, and special hunts.

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	338	267	90	70	765
103	820	341	64	48	1,273
105	844	690	181	140	1,855
108	1156	143	40	31	1,370
110	1139	868	221	196	2,424
111	572	343	83	56	1,054
114	49	33	6	6	94
117	28	7	4	2	41
118	797	85	26	18	926
119	806	254	59	34	1,153
122	570	292	69	59	990
126	529	292	52	35	908
127	115	27	8	7	157
152	134	57	28	15	234
155	1616	876	240	198	2,930
156	2084	1634	482	384	4,584
157	2960	2233	758	617	6,568
159	1524	1259	334	224	3,341
169	1612	793	246	148	2,799
171	1193	421	130	97	1,841
172	1737	617	160	126	2,640
173	1004	492	137	88	1,721
176	1675	379	92	60	2,206
177	1073	1052	274	237	2,636
178	2765	1957	569	430	5,721
179	2025	1823	530	372	4,750
180	1422	1201	312	272	3,207
181	1955	1710	482	391	4,538
182	643	1015	226	241	2,125
183	1382	727	197	133	2,439
184	3012	866	263	184	4,325
197	1055	425	121	98	1,699
199	150	86	15	17	268
201	103	73	16	27	219
203	89	49	12	7	157
208	240	174	64	43	521
209	645	557	203	148	1,553
210	1077	974	274	278	2,603
213	2497	2101	663	514	5,775
214	1463	1288	487	428	3,666
215	1153	1129	458	374	3,114
218	1008	619	185	155	1,967
219	688	441	154	82	1,365
221	1168	1165	487	437	3,257
222	953	930	399	319	2,601
223	679	362	131	102	1,274
224	131	80	27	8	246
225	1535	1572	579	411	4,097
227	1072	1172	362	347	2,953

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
229	286	171	64	37	558
230	247	146	36	23	452
232	277	252	78	67	674
233	256	249	75	52	632
234	254	9	1	3	267
235	73	22	11	13	119
236	883	960	310	221	2,374
237	293	13	4	5	315
238	93	25	2	5	125
239	1587	1430	448	373	3,838
240	1852	1553	495	434	4,334
241	3278	2950	980	820	8,028
242	732	757	240	178	1,907
246	2327	1248	385	296	4,256
247	825	318	86	37	1,266
248	456	370	123	105	1,054
249	1404	1266	547	375	3,592
250	403	149	25	16	593
251	86	47	10	15	158
252	306	147	38	22	513
253	420	184	25	23	652
254	567	520	121	82	1,290
255	501	196	49	28	774
256	489	432	111	100	1,132
257	424	301	80	76	881
258	915	424	157	105	1,601
259	1556	758	219	152	2,685
260	485	424	84	67	1,060
261	176	156	15	25	372
262	276	108	31	11	426
263	395	228	56	62	741
264	659	549	152	114	1,474
265	450	412	98	120	1,080
266	476	418	97	95	1,086
267	226	175	45	28	474
268	310	209	47	44	610
269	264	142	34	28	468
270	239	73	21	13	346
271	305	118	29	22	474
272	259	105	17	15	396
273	523	268	77	38	906
274	294	73	18	13	398
275	440	94	20	21	575
276	602	210	39	35	886
277	1409	687	163	110	2,369
278	553	200	35	32	820
279	258	108	16	15	397
280	293	138	32	14	477
281	525	160	36	14	735

Table 17. (Continued).

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
282	178	8	3	1	190
283	354	75	19	7	455
284	420	20	3	2	445
285	462	252	63	40	817
286	340	21	7	2	370
287	63	174	38	33	308
288	396	17	9	6	428
289	191	50	13	5	259
290	543	271	40	51	905
291	844	445	91	70	1,450
292	486	502	144	113	1,245
293	579	519	141	122	1,361
294	362	73	19	12	466
295	614	181	36	24	855
296	336	183	22	18	559
297	209	160	34	19	422
298	722	593	162	135	1,612
299	307	151	26	19	503
338	201	190	47	41	479
339	247	273	80	90	690
341	733	1236	405	324	2,698
342	616	1020	259	270	2,165
343	711	1149	360	278	2,498
344	391	643	131	153	1,318
345	387	505	144	135	1,171
346	817	1063	290	244	2,414
347	461	283	76	49	869
348	533	962	200	213	1,908
349	1072	1522	309	331	3,234
601	1329	1817	463	398	4,007
900	3	4	1	1	9
901	4	1	1	0	6
902	35	69	16	23	143
903	0	1	2	0	3
904	5	3	3	0	11
905	3	4	2	1	10
906	3	11	2	1	17
907	3	0	1	1	5
908	1	3	1	1	6
909	1	6	3	3	13
910	0	9	8	10	27
911	1	1	0	0	2
913	0	7	0	1	8

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
914	21	19	6	3	49
915	6	4	4	4	18
916	40	35	9	13	97
918	3	4	2	2	11
919	1	4	4	2	11
920	3	10	8	6	27
921	1	5	0	1	7
922	0	2	0	3	5
923	15	27	18	9	69
924	10	25	5	6	46
925	12	34	6	18	70
928	0	6	1	1	8
926	0	4	2	1	7
927	0	12	4	5	21
928	10	5	4	1	20
929	11	19	1	3	34
930	7	14	4	4	29
935	6	25	8	5	44
936	3	10	4	4	21
937	0	2	0	0	2
938	1	4	1	0	6
939	0	6	4	5	15
940	3	7	2	4	16
941	7	22	7	8	44
942	0	9	3	3	15
943	0	23	9	5	37
944	4	3	2	0	9
945	0	11	2	4	17
950	2	5	0	0	7
954	0	2	0	0	2
956	17	7	1	3	28
957	3	4	1	0	8
958	4	2	0	0	6
959	1	1	0	0	2
960	0	1	0	0	1
961	1	1	0	0	2
965	3	1	0	0	4
967	0	2	0	0	2
969	0	0	2	0	2
970	103	128	32	27	290
971	80	102	22	13	217
975	1	2	0	0	3
976	0	6	2	1	9
977	0	0	2	2	4
979	0	2	0	0	2
981	0	0	1	0	1
984	0	2	0	0	2
985	0	7	3	0	10
987	0	4	0	1	5
<b>TOTAL</b>	<b>98,834</b>	<b>71,010</b>	<b>20,742</b>	<b>16,727</b>	<b>207,313</b>

Table 18. Estimated firearm hunter numbers, density, and harvest by Permit Area, 2010.

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile <sup>2</sup>	Harvest/mile <sup>2</sup>
101	1,696	496	3.4	1.4
103	3,411	1,824	1.9	0.7
105	3,727	932	4.0	1.8
108	4,871	1,701	2.9	0.8
110	4,182	530	7.9	4.3
111	2,909	1,440	2.0	0.7
114	185	412	0.4	0.2
117	158	1,129	0.1	0.03
118	3,722	1,445	2.6	0.6
119	3,939	946	4.2	1.2
122	2,107	622	3.4	1.5
126	1,984	979	2.0	0.8
127	583	587	1.0	0.3
152	936	62	15.2	3.7
155	7,080	639	11.1	4.4
156	8,941	834	10.7	5.1
157	12,538	904	13.9	6.7
159	6,934	575	12.1	5.3
169	9,470	1,202	7.9	2.2
171	6,297	729	8.6	2.4
172	10,444	786	13.3	3.2
173	4,537	617	7.4	2.7
176	6,922	1,150	6.0	1.9
177	4,002	553	7.2	4.4
178	9,830	1,325	7.4	4.0
179	9,157	939	9.8	4.6
180	6,156	999	6.2	2.5
181	6,800	746	9.1	5.4
182	1,956	280	7.0	3.3
183	7,524	675	11.2	3.4
184	13,087	1,318	9.9	3.1
197	5,388	1,343	4.0	1.2
199	534	152	3.5	1.6
201	409	169	2.4	1.2
203	302	132	2.3	1.0
208	1,108	379	2.9	1.2
209	2,456	641	3.8	2.0
210	4,265	635	6.7	3.6
213	8,870	1,161	7.6	3.8
214	6,390	566	11.3	5.8
215	5,843	730	8.0	3.5
218	5,101	912	5.6	1.9
219	3,120	427	7.3	2.6
221	4,783	647	7.4	4.0
222	4,525	413	11.0	4.9
223	2,920	385	7.6	2.5
224	640	49	13.1	4.5
225	6,570	635	10.3	4.8
227	4,361	491	8.9	3.7
229	1,481	313	4.7	1.4
230	1,383	464	3.0	0.8
232	1,275	380	3.4	1.4
233	991	386	2.6	1.1
234	680	637	1.1	0.4
235	349	37	9.5	2.0
236	3,233	404	8.0	3.3
237	918	737	1.2	0.4
238	281	98	2.9	1.0
239	7,205	1,110	6.5	3.1
240	7,265	694	10.5	5.6
241	12,629	1,047	12.1	6.8
242	2,722	307	8.9	4.8
246	11,283	860	13.1	4.7
247	3,457	263	13.1	4.2
248	1,841	229	8.1	3.7
249	5,585	729	7.7	4.4
250	1,563	730	2.1	0.7
251	518	68	7.6	2.2
252	1,293	735	1.8	0.5
253	1,930	987	2.0	0.5
254	2,553	946	2.7	1.0
255	1,712	774	2.2	0.8
256	2,339	654	3.6	1.5
257	1,831	426	4.3	1.8
258	4,098	381	10.8	4.0
259	7,257	546	13.3	4.6
260	2,162	1,252	1.7	0.7
261	826	796	1.0	0.4
262	983	677	1.5	0.5
263	1,852	513	3.6	1.3
264	3,213	672	4.8	1.9
265	1,961	495	4.0	2.0
266	2,173	625	3.5	1.5
267	1,067	472	2.3	0.9
268	1,320	239	5.5	2.3
269	1,157	652	1.8	0.6

Table 18. (Continued).

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile <sup>2</sup>	Harvest/mile <sup>2</sup>
270	985	758	1.3	0.4
271	945	646	1.5	0.6
272	1,121	544	2.1	0.7
273	2,423	634	3.8	1.3
274	883	381	2.3	0.8
275	1,861	777	2.4	0.6
276	2,953	575	5.1	1.4
277	5,779	876	6.6	2.2
278	2,108	422	5.0	1.6
279	1,170	346	3.4	1.0
280	1,480	676	2.2	0.6
281	2,420	579	4.2	1.1
282	663	780	0.8	0.2
283	1,304	640	2.0	0.6
284	1,204	853	1.4	0.4
285	2,299	580	4.0	1.1
286	1,012	458	2.2	0.7
287	604	51	11.9	5.2
288	1,511	630	2.4	0.6
289	841	820	1.0	0.2
290	2,379	666	3.6	1.0
291	3,541	832	4.3	1.3
292	2,650	517	5.1	1.8
293	2,440	512	4.8	2.0
294	1,078	689	1.6	0.6
295	2,135	855	2.5	0.8
296	1,644	675	2.4	0.7
297	1,292	449	2.9	0.9
298	3,768	677	5.6	2.2
299	1,410	389	3.6	1.0
338	1,809	472	3.8	0.8
339	1,705	406	4.2	1.2
341	4,846	626	7.7	3.2
342	3,635	374	9.7	4.4
343	4,195	664	6.3	2.3
344	2,980	190	15.7	5.8
345	2,591	335	7.7	2.9
346	3,938	328	12.0	5.4
347	2,744	434	6.3	1.7
348	3,754	332	11.3	4.3
349	5,676	499	11.4	4.9
601	2,647	1,756	1.5	0.8



Table 19. Deer harvest per square mile by season, 2010.

Permit Area	Area Size (sq mi)	Archery Harvest/mi <sup>2</sup>	Firearm Harvest/mi <sup>2</sup>	Muzz. Harvest/mi <sup>2</sup>	EA Harvest/mi <sup>2</sup>	Total Harvest/mi <sup>2</sup>
101	496	0.03	1.36	0.06	0.05	1.50
103	1,824	0.01	0.67	0.01		0.70
105	932	0.06	1.81	0.05	0.00	1.93
108	1,701	0.03	0.77	0.01		0.81
110	530	0.18	4.30	0.09		4.57
111	1,440	0.01	0.69	0.02	0.00	0.72
114	412	0.03	0.19	0.00		0.23
117	1,129	0.00	0.03	0.00		0.04
118	1,445	0.02	0.60	0.02		0.64
119	946	0.01	1.19	0.02		1.22
122	622	0.05	1.52	0.02		1.59
126	979	0.06	0.80	0.07		0.93
127	587	0.00	0.27	0.00		0.27
152	62	0.08	3.68	0.03		3.80
155	639	0.17	4.37	0.04		4.58
156	834	0.28	5.09	0.12		5.49
157	904	0.41	6.67	0.18		7.27
159	575	0.41	5.29	0.11		5.81
169	1,202	0.05	2.24	0.04		2.33
171	729	0.09	2.41	0.02		2.52
172	786	0.12	3.20	0.04		3.36
173	617	0.07	2.68	0.03		2.79
176	1,150	0.06	1.85	0.01		1.92
177	553	0.27	4.36	0.14		4.77
178	1,325	0.21	4.02	0.09		4.32
179	939	0.32	4.61	0.13		5.06
180	999	0.31	2.49	0.12	0.30	3.21
181	746	0.58	5.39	0.12		6.08
182	280	3.69	3.26	0.14	0.51	7.59
183	675	0.12	3.43	0.07		3.61
184	1,318	0.15	3.07	0.06		3.28
197	1,343	0.03	0.00	0.02		0.05
199	152	0.09	0.00	0.06		0.14
201	169	0.02	1.20	0.05		1.27
203	132	0.02	0.99	0.14		1.15
208	379	0.03	1.22	0.06		1.32
209	641	0.22	2.00	0.14		2.37
210	635	0.27	3.62	0.21		4.10
213	1,161	0.90	3.83	0.24		4.97
214	566	0.41	5.80	0.27		6.48
215	730	0.49	3.47	0.30		4.26
218	912	0.19	1.85	0.12		2.16
219	427	0.38	2.59	0.23		3.20
221	647	0.77	4.01	0.26		5.03
222	413	0.78	4.87	0.31	0.34	6.30
223	385	0.62	2.52	0.16		3.31
224	49	0.55	4.47	0.00		5.02
225	635	0.84	4.84	0.35	0.42	6.45

Table 19. (Continued).

Permit Area	Area Size (sq mi)	Archery Harvest/mi <sup>2</sup>	Firearm Harvest/mi <sup>2</sup>	Muzz. Harvest/mi <sup>2</sup>	EA Harvest/mi <sup>2</sup>	Total Harvest/mi <sup>2</sup>
227	491	1.54	3.72	0.49	0.26	6.01
229	313	0.29	1.37	0.12		1.78
230	464	0.09	0.84	0.05		0.97
232	380	0.17	1.44	0.16		1.77
233	386	0.39	1.06	0.18		1.64
234	637	0.03	0.36	0.03		0.42
235	37	0.95	2.04	0.14		3.13
236	404	1.87	3.32	0.46	0.23	5.88
237	737	0.03	0.35	0.04		0.43
238	98	0.19	0.99	0.09		1.28
239	1,110	0.21	3.09	0.17		3.46
240	694	0.40	5.59	0.25		6.24
241	1,047	0.52	6.80	0.35		7.67
242	307	1.05	4.83	0.32		6.20
246	860	0.17	4.71	0.07		4.95
247	263	0.51	4.17	0.13		4.81
248	229	0.57	3.73	0.30		4.60
249	729	0.36	4.36	0.21		4.92
250	730	0.07	0.67	0.07		0.81
251	68	0.09	2.17	0.06		2.32
252	735	0.08	0.55	0.06		0.70
253	987	0.09	0.51	0.07		0.66
254	946	0.17	1.05	0.14		1.36
255	774	0.16	0.78	0.06		1.00
256	654	0.08	1.54	0.07		1.69
257	426	0.11	1.81	0.10		2.01
258	381	0.14	3.97	0.09		4.20
259	546	0.14	4.63	0.14		4.92
260	1,252	0.02	0.73	0.05		0.81
261	796	0.03	0.40	0.03		0.47
262	677	0.05	0.52	0.05		0.63
263	513	0.03	1.28	0.08		1.39
264	672	0.07	1.93	0.11		2.11
265	495	0.10	1.97	0.11		2.18
266	625	0.10	1.50	0.13		1.74
267	472	0.06	0.85	0.06		0.97
268	239	0.11	2.25	0.10		2.47
269	652	0.06	0.58	0.08		0.72
270	758	0.03	0.40	0.03		0.46
271	646	0.05	0.63	0.05		0.73
272	544	0.04	0.66	0.03		0.73
273	634	0.10	1.26	0.07		1.43
274	381	0.13	0.84	0.08		1.05
275	777	0.06	0.64	0.05		0.74
276	575	0.10	1.36	0.08		1.54

Table 19. (Continued).

Permit Area	Area Size (sq mi)	Archery Harvest/mi <sup>2</sup>	Firearm Harvest/mi <sup>2</sup>	Muzz. Harvest/mi <sup>2</sup>	EA Harvest/mi <sup>2</sup>	Total Harvest/mi <sup>2</sup>
277	876	0.31	2.22	0.17		2.70
278	422	0.18	1.61	0.15		1.94
279	346	0.06	1.01	0.07		1.15
280	676	0.06	0.61	0.04		0.71
281	579	0.13	1.05	0.09		1.27
282	780	0.02	0.21	0.02		0.24
283	640	0.09	0.58	0.05		0.71
284	853	0.05	0.43	0.04		0.52
285	580	0.19	1.13	0.08		1.40
286	458	0.06	0.69	0.05		0.81
287	51	0.18	5.19	0.71		6.08
288	630	0.05	0.58	0.05		0.68
289	820	0.05	0.24	0.02		0.32
290	666	0.21	1.04	0.11		1.36
291	832	0.31	1.30	0.13		1.74
292	517	0.34	1.84	0.23		2.41
293	512	0.39	2.01	0.26		2.66
294	689	0.07	0.56	0.05		0.68
295	855	0.12	0.80	0.08		1.00
296	675	0.08	0.69	0.06		0.83
297	449	0.03	0.87	0.03		0.94
298	677	0.06	2.21	0.11		2.38
299	389	0.22	0.00	0.11		0.33
338	472	0.16	0.77	0.06		0.99
339	406	0.35	1.23	0.09		1.67
341	626	0.81	3.16	0.27		4.23
342	374	0.94	4.37	0.41		5.73
343	664	1.18	2.29	0.25		3.71
344	190	0.72	5.78	0.37		6.88
345	335	0.40	2.89	0.15		3.44
346	328	1.25	5.40	0.38	0.25	7.28
347	434	0.22	1.65	0.08		1.95
348	332	0.94	4.31	0.45		5.69
349	499	0.85	4.94	0.31	0.29	6.39
601	1,756	1.38	0.80	0.06	0.03	2.26
Total	83,282	0.03	2.08	0.11	0.02	2.23

Table 20. 2010 Antlerless Lottery Distribution Report.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
103	1	1,158	1	0	1,158	1,909	17.1%
	2	421	3	0	421		
	3	3	0	0	3		
		<b>1,582</b>	<b>4</b>	<b>0</b>	<b>1,582</b>		
108	1	796	7	796	0	98	0.0%
	2	1,099	5	1,007	92		
	3	5	0	0	5		
	4	1	0	0	1		
		<b>1,901</b>	<b>12</b>	<b>1,803</b>	<b>98</b>		
118	1	866	3	866	0	95	0.0%
	2	453	0	364	89		
	3	5	0	0	5		
	4	1	0	0	1		
		<b>1,325</b>	<b>3</b>	<b>1,230</b>	<b>95</b>		
119	1	1,235	5	1,042	193	934	0.0%
	2	734	4	0	734		
	3	7	0	0	7		
		<b>1,976</b>	<b>9</b>	<b>1,042</b>	<b>934</b>		
127	1	151	0	21	130	145	0.0%
	2	15	0	0	15		
		<b>166</b>	<b>0</b>	<b>21</b>	<b>145</b>		
152	1	297	0	0	297	450	27.1%
	2	26	0	0	26		
	3	4	0	0	4		
	5	1	0	0	1		
		<b>328</b>	<b>0</b>	<b>0</b>	<b>328</b>		
155	1	2,224	6	457	1,767	3,364	0.0%
	2	1,588	6	0	1,588		
	3	8	5	0	8		
	4	1	0	0	1		
		<b>3,821</b>	<b>17</b>	<b>457</b>	<b>3,364</b>		
169	1	4,338	26	616	3,722	4,335	0.0%
	2	564	6	0	564		
	3	39	0	0	39		
	4	6	0	0	6		
	5	2	0	0	2		
	6	1	0	0	1		
	7	1	0	0	1		
		<b>4,951</b>	<b>32</b>	<b>616</b>	<b>4,335</b>		
171	1	2,565	13	1,928	637	1,441	0.0%
	2	784	8	0	784		
	3	20	0	0	20		
		<b>3,369</b>	<b>21</b>	<b>1,928</b>	<b>1,441</b>		
172	1	5,132	47	3,518	1,614	1,919	0.0%
	2	262	0	0	262		
	3	34	0	0	34		
	4	7	0	0	7		
	5	2	0	0	2		
	<b>5,437</b>	<b>47</b>	<b>3,518</b>	<b>1,919</b>			
173	1	1,670	9	306	1,364	1,932	0.0%
	2	560	10	0	560		
	3	8	1	0	8		
		<b>2,238</b>	<b>20</b>	<b>306</b>	<b>1,932</b>		

Table 20. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
176	1	2,027	8	2,027	0	965	0.0%
	2	1,139	8	183	956		
	3	9	0	0	9		
		<b>3,175</b>	<b>16</b>	<b>2,210</b>	<b>965</b>		
183	1	2,764	12	0	2,764	4,286	21.4%
	2	589	11	0	589		
	3	17	0	0	17		
	4	1	0	0	1		
		<b>3,371</b>	<b>23</b>	<b>0</b>	<b>3,370</b>		
184	1	6,055	41	2,698	3,357	3,606	0.0%
	2	212	0	0	212		
	3	37	0	0	37		
		<b>6,304</b>	<b>41</b>	<b>2,698</b>	<b>3,606</b>		
197	1	2,240	8	37	2,203	2,395	0.0%
	2	161	0	0	161		
	3	27	0	0	27		
	4	3	0	0	3		
	5	1	0	0	1		
		<b>2,432</b>	<b>8</b>	<b>37</b>	<b>2,394</b>		
218	1	2,429	4	662	1,767	2,224	0.0%
	2	429	6	0	429		
	3	22	3	0	22		
	4	6	3	0	6		
		<b>2,880</b>	<b>16</b>	<b>662</b>	<b>2,224</b>		
219	1	1,363	4	0	1,363	2,095	32.9%
	2	38	4	0	38		
	3	5	1	0	5		
	4	1	1	0	1		
		<b>1,407</b>	<b>10</b>	<b>0</b>	<b>1,406</b>		
223	1	1,186	1	0	1,186	2,195	44.7%
	2	27	2	0	27		
	3	1	0	0	1		
	4	1	0	0	1		
		<b>1,215</b>	<b>3</b>	<b>0</b>	<b>1,214</b>		
224	1	277	2	0	277	349	17.2%
	2	12	1	0	12		
		<b>289</b>	<b>3</b>	<b>0</b>	<b>289</b>		
229	1	515	2	0	515	1,229	56.3%
	2	18	0	0	18		
	3	4	0	0	4		
		<b>533</b>	<b>2</b>	<b>0</b>	<b>537</b>		
230	1	483	0	274	209	425	0.0%
	2	209	0	0	209		
	3	5	0	0	5		
	4	2	0	0	2		
	6	0	1	0	0		
		<b>699</b>	<b>1</b>	<b>274</b>	<b>425</b>		
234	1	27	0	0	27	45	28.9%
	2	5	0	0	5		
	3	0	1	0	0		
		<b>32</b>	<b>1</b>	<b>0</b>	<b>32</b>		
235	1	66	2	66	0	20	0.0%
	2	41	0	21	20		
		<b>107</b>	<b>2</b>	<b>87</b>	<b>20</b>		

Table 20. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
237	1	63	2	26	37	50	0.0%
	2	13	0	0	13		
		76	2	26	50		
238	1	50	0	50	0	23	0.0%
	2	47	1	47	0		
	3	21	0	0	21		
	4	2	0	0	2		
		120	1	97	23		
246	1	5,095	7	1,629	3,466	5,189	6.4%
	2	1,359	13	0	1,359		
	3	27	5	0	27		
	4	3	0	0	3		
		6,484	25	1,629	4,855		
247	1	1,720	1	1,361	359	463	0.0%
	2	99	4	0	99		
	3	5	5	0	5		
		1,824	10	1,361	463		
250	1	232	2	232	0	340	0.0%
	2	359	4	49	310		
	3	29	0	0	29		
	4	1	1	0	1		
		621	7	281	340		
251	1	216	12	0	216	274	11.7%
	2	25	0	0	25		
	3	1	0	0	1		
		242	12	0	242		
252	1	200	1	200	0	215	0.0%
	2	190	0	126	64		
	3	149	0	0	149		
	4	1	1	0	1		
	5	1	0	0	1		
		541	2	326	215		
253	1	368	1	368	0	239	0.0%
	2	335	0	211	124		
	3	107	1	0	107		
	4	2	0	0	2		
	5	3	0	0	3		
	6	3	0	0	3		
		818	2	579	239		
255	1	614	2	8	606	627	0.0%
	2	19	1	0	19		
	3	1	1	0	1		
	4	1	0	0	1		
		635	4	8	627		
258	1	1,855	4	0	1,426	1,882	0.0%
	2	454	12	0	454		
	3	1	0	0	1		
	4	1	0	0	1		
		2,311	16	0	1,882		
259	1	3,576	11	1,498	2,078	2,753	0.0%
	2	657	12	0	657		
	3	18	0	0	18		
		4,251	23	1,498	2,753		

Table 20. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
262	1	217	1	116	101	254	0.0%
	2	152	0	0	152		
	3	1	0	0	1		
		<b>370</b>	<b>1</b>	<b>116</b>	<b>254</b>		
269	1	307	1	13	294	517	0.0%
	2	216	0	0	216		
	3	5	1	0	5		
	4	2	1	0	2		
		<b>530</b>	<b>3</b>	<b>13</b>	<b>517</b>		
270	1	153	0	2	151	345	0.0%
	2	108	0	0	108		
	3	83	0	0	83		
	4	3	0	0	3		
		<b>347</b>	<b>0</b>	<b>2</b>	<b>345</b>		
271	1	125	1	0	125	349	1.7%
	2	95	0	0	95		
	3	83	0	0	83		
	4	39	1	0	39		
	5	1	0	0	1		
	<b>343</b>	<b>2</b>	<b>0</b>	<b>343</b>			
272	1	191	0	157	34	299	0.0%
	2	120	0	0	120		
	3	100	1	0	100		
	4	43	0	0	43		
	6	2	0	0	2		
		<b>456</b>	<b>1</b>	<b>157</b>	<b>299</b>		
273	1	1,112	2	4	1,108	1,182	0.0%
	2	63	1	0	63		
	3	10	0	0	10		
	4	1	0	0	1		
		<b>1,186</b>	<b>3</b>	<b>4</b>	<b>1,182</b>		
274	1	103	0	103	0	65	0.0%
	2	82	0	82	0		
	3	91	0	72	19		
	4	42	0	0	42		
	5	4	0	0	4		
	<b>322</b>	<b>0</b>	<b>257</b>	<b>65</b>			
275	1	187	2	187	0	86	0.0%
	2	154	4	154	0		
	3	171	0	171	0		
	4	89	0	16	73		
	5	13	0	0	13		
	<b>614</b>	<b>6</b>	<b>528</b>	<b>86</b>			
276	1	547	2	547	0	521	0.0%
	2	503	2	415	88		
	3	429	0	0	429		
	4	4	0	0	4		
	<b>1,483</b>	<b>4</b>	<b>962</b>	<b>521</b>			
277	1	1,342	3	1,342	0	1,546	0.0%
	2	1,101	3	205	896		
	3	637	1	0	637		
	4	9	0	0	9		
	5	2	0	0	2		
	6	1	0	0	1		
	7	1	0	0	1		
	<b>3,093</b>	<b>7</b>	<b>1,547</b>	<b>1,546</b>			

Table 20. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
278	1	320	2	320	0	402	0.0%
	2	379	2	379	0		
	3	365	0	7	358		
	4	42	1	0	42		
	5	1	0	0	1		
	6	1	0	0	1		
		<b>1,108</b>	<b>5</b>	<b>706</b>	<b>402</b>		
279	1	156	0	156	0	219	0.0%
	2	203	1	152	51		
	3	162	1	0	162		
	4	4	0	0	4		
	5	1	0	0	1		
	6	1	0	0	1		
		<b>527</b>	<b>2</b>	<b>308</b>	<b>219</b>		
280	1	171	1	171	0	217	0.0%
	2	189	1	189	0		
	3	154	0	19	135		
	4	80	0	0	80		
	5	2	0	0	2		
		<b>596</b>	<b>2</b>	<b>379</b>	<b>217</b>		
281	1	379	0	379	0	334	0.0%
	2	243	2	243	0		
	3	245	0	20	225		
	4	107	0	0	107		
	6	2	1	0	2		
		<b>976</b>	<b>3</b>	<b>642</b>	<b>334</b>		
282	1	41	0	3	38	50	0.0%
	2	12	0	0	12		
		<b>53</b>	<b>0</b>	<b>3</b>	<b>50</b>		
283	1	144	2	144	0	44	0.0%
	2	134	1	134	0		
	3	109	0	104	5		
	4	37	0	0	37		
	5	2	0	0	2		
		<b>426</b>	<b>3</b>	<b>382</b>	<b>44</b>		
284	1	52	0	52	0	49	0.0%
	2	48	0	4	44		
	3	2	0	0	2		
	4	3	0	0	3		
		<b>105</b>	<b>0</b>	<b>56</b>	<b>49</b>		
285	1	596	1	504	92	653	0.0%
	2	506	3	0	506		
	3	41	0	0	41		
	4	7	0	0	7		
	5	5	1	0	5		
	6	2	0	0	2		
		<b>1,157</b>	<b>5</b>	<b>504</b>	<b>653</b>		
286	1	85	1	14	71	97	0.0%
	2	24	0	0	24		
	3	1	2	0	1		
	4	1	1	0	1		
		<b>111</b>	<b>4</b>	<b>14</b>	<b>97</b>		
288	1	67	1	27	40	92	0.0%
	2	51	1	0	51		
	3	1	1	0	1		
	4	0	3	0	0		
		<b>119</b>	<b>6</b>	<b>27</b>	<b>92</b>		



Table 20. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
289	1	81	2	81	0	22	0.0%
	2	83	2	83	0		
	3	66	0	66	0		
	4	23	0	8	15		
	5	7	0	0	7		
		<b>260</b>	<b>4</b>	<b>238</b>	<b>22</b>		
290	1	414	5	414	0	376	0.0%
	2	335	7	335	0		
	3	353	1	50	303		
	4	71	0	0	71		
	6	2	0	0	2		
		<b>1,175</b>	<b>13</b>	<b>799</b>	<b>376</b>		
291	1	755	3	755	0	697	0.0%
	2	686	1	356	330		
	3	350	0	0	350		
	4	13	0	0	13		
	5	3	0	0	3		
	7	1	0	0	1		
		<b>1,808</b>	<b>4</b>	<b>1,111</b>	<b>697</b>		
294	1	134	4	134	0	44	0.0%
	2	119	0	119	0		
	3	71	0	37	34		
	4	10	0	0	10		
		<b>334</b>	<b>4</b>	<b>290</b>	<b>44</b>		
295	1	266	1	266	0	244	0.0%
	2	337	3	337	0		
	3	331	0	103	228		
	4	12	0	0	12		
	5	1	0	0	1		
	6	3	0	0	3		
		<b>950</b>	<b>4</b>	<b>706</b>	<b>244</b>		
296	1	188	0	188	0	261	0.0%
	2	242	1	242	0		
	3	249	1	55	194		
	4	64	0	0	64		
	7	3	0	0	3		
		<b>746</b>	<b>2</b>	<b>485</b>	<b>261</b>		
299	1	288	2	288	0	207	0.0%
	2	281	0	210	71		
	3	135	0	0	135		
	6	1	0	0	1		
		<b>705</b>	<b>2</b>	<b>498</b>	<b>207</b>		
338A	1	278	0	266	12	150	0.0%
	2	129	0	0	129		
	3	8	0	0	8		
	4	1	0	0	1		
		<b>416</b>	<b>0</b>	<b>266</b>	<b>150</b>		
338B	1	257	2	0	257	626	50.8%
	2	49	1	0	49		
	3	2	0	0	2		
		<b>308</b>	<b>3</b>	<b>0</b>	<b>308</b>		
347A	1	341	2	0	341	500	29.2%
	2	12	1	0	12		
	3	1	0	0	1		
		<b>354</b>	<b>3</b>	<b>0</b>	<b>354</b>		
347B	1	405	3	0	405	1,124	63.1%
	2	10	0	0	10		
		<b>415</b>	<b>3</b>	<b>0</b>	<b>415</b>		
<b>TOTAL</b>		<b>86,783</b>	<b>489</b>	<b>31,979</b>	<b>54,381</b>	<b>60,083</b>	

Table 21. 2010 Muzzleloader Lottery Distribution Report.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
103	1	62	0	0	62	91	20.9%
	2	10	0	0	10		
		72	0	0	72		
108	1	26	0	26	0	2	0.0%
	2	11	0	9	2		
		37	0	35	2		
118	1	49	0	49	0	5	0.0%
	2	14	0	9	5		
		63	0	58	5		
119	1	101	0	65	36	66	0.0%
	2	29	0	0	29		
	3	1	0	0	1		
		131	0	65	66		
127	1	5	0	0	5	5	0.0%
		5	0	0	5		
152	1	32	0	0	32	50	34.0%
	2	1	0	0	1		
		33	0	0	33		
155	1	128	0	12	116	136	0.0%
	2	20	0	0	20		
		148	0	12	136		
169	1	176	0	17	159	165	0.0%
	2	4	0	0	4		
	3	2	0	0	2		
		182	0	17	165		
171	1	125	1	74	51	59	0.0%
	2	8	0	0	8		
		133	1	74	59		
172	1	215	0	140	75	81	0.0%
	2	6	0	0	6		
		221	0	140	81		
173	1	68	0	8	60	68	0.0%
	2	8	0	0	8		
		76	0	8	68		
176	1	97	0	75	22	35	0.0%
	2	13	0	0	13		
		110	0	75	35		
183	1	144	0	0	144	214	25.2%
	2	15	0	0	15		
	3	1	0	0	1		
		160	0	0	160		
184	1	235	0	98	137	144	0.0%
	2	6	0	0	6		
	3	1	0	0	1		
		242	0	98	144		
197	1	98	0	0	98	105	2.9%
	2	3	0	0	3		
	3	1	0	0	1		
		102	0	0	102		
218	1	303	1	43	260	276	0.0%
	2	15	0	0	15		
	3	1	0	0	1		
		319	1	43	276		
219	1	225	0	0	225	405	43.7%
	2	3	0	0	3		
		228	0	0	228		

Table 21. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
223	1	145	0	0	145	305	51.5%
	2	3	0	0	3		
	<b>148</b>	<b>0</b>	<b>0</b>	<b>148</b>			
224	1	1	0	0	1	1	0.0%
		1	0	0	1		
229	1	94	1	0	94	271	64.2%
	2	3	0	0	3		
	<b>97</b>	<b>1</b>	<b>0</b>	<b>97</b>			
230	1	92	0	30	62	75	0.0%
	2	13	0	0	13		
	<b>105</b>	<b>0</b>	<b>30</b>	<b>75</b>			
234	1	3	0	0	3	5	40.0%
		3	0	0	3		
235	1	15	0	15	0	5	0.0%
	2	6	0	2	4		
	3	1	0	0	1		
	<b>22</b>	<b>0</b>	<b>17</b>	<b>5</b>			
238	1	10	0	9	1	2	0.0%
	2	1	1	0	1		
	<b>11</b>	<b>1</b>	<b>9</b>	<b>2</b>			
246	1	339	1	56	283	311	0.0%
	2	27	0	0	27		
	3	1	0	0	1		
	<b>367</b>	<b>1</b>	<b>56</b>	<b>311</b>			
247	1	131	0	98	33	37	0.0%
	2	4	0	0	4		
	<b>135</b>	<b>0</b>	<b>98</b>	<b>37</b>			
250	1	65	0	33	32	60	0.0%
	2	22	0	0	22		
	3	6	0	0	6		
	<b>93</b>	<b>0</b>	<b>33</b>	<b>60</b>			
251	1	21	0	0	21	26	19.2%
		21	0	0	21		
252	1	45	0	40	5	35	0.0%
	2	29	0	0	29		
	3	1	0	0	1		
	<b>75</b>	<b>0</b>	<b>40</b>	<b>35</b>			
253	1	118	0	105	13	61	0.0%
	2	45	0	0	45		
	3	3	0	0	3		
	<b>166</b>	<b>0</b>	<b>105</b>	<b>61</b>			
255	1	135	0	0	135	173	20.8%
	2	1	0	0	1		
	3	1	0	0	1		
	<b>137</b>	<b>0</b>	<b>0</b>	<b>137</b>			
258	1	126	0	18	108	118	0.0%
	2	10	0	0	10		
	<b>136</b>	<b>0</b>	<b>18</b>	<b>118</b>			
259	1	326	0	103	223	247	0.0%
	2	22	0	0	22		
	3	2	0	0	2		
	<b>350</b>	<b>0</b>	<b>103</b>	<b>247</b>			
262	1	49	0	11	38	46	0.0%
	2	8	0	0	8		
	<b>57</b>	<b>0</b>	<b>11</b>	<b>46</b>			
269	1	82	0	0	82	108	14.8%
	2	9	0	0	9		
	3	1	1	0	1		
	<b>92</b>	<b>1</b>	<b>0</b>	<b>92</b>			

Table 21. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
270	1	41	0	0	41	55	12.7%
	2	3	0	0	3		
	3	3	0	0	3		
	4	1	0	0	1		
		48	0	0	48		
271	1	28	0	0	28	51	13.7%
	2	13	0	0	13		
	3	2	0	0	2		
	4	1	1	0	1		
		44	1	0	44		
272	1	50	0	15	35	51	0.0%
	2	10	0	0	10		
	3	4	0	0	4		
	4	2	0	0	2		
		66	0	15	51		
273	1	143	0	0	143	168	11.9%
	2	5	0	0	5		
		148	0	0	148		
274	1	30	0	30	0	10	0.0%
	2	9	0	2	7		
	3	3	0	0	3		
		42	0	32	10		
275	1	77	0	72	5	14	0.0%
	2	7	0	0	7		
	3	2	0	0	2		
		86	0	72	14		
276	1	139	0	116	23	79	0.0%
	2	40	0	0	40		
	3	16	0	0	16		
		195	0	116	79		
277	1	312	0	183	129	254	0.0%
	2	103	0	0	103		
	3	22	0	0	22		
		437	0	183	254		
278	1	135	0	119	16	98	0.0%
	2	68	0	0	68		
	3	13	0	0	13		
	4	1	0	0	1		
		217	0	119	98		
279	1	46	0	35	11	31	0.0%
	2	15	0	0	15		
	3	5	0	0	5		
		66	0	35	31		
280	1	44	0	44	0	33	0.0%
	2	23	0	1	22		
	3	11	0	0	11		
		78	0	45	33		
281	1	113	0	96	17	66	0.0%
	2	40	0	0	40		
	3	8	0	0	8		
	6	1	0	0	1		
		162	0	96	66		
283	1	45	0	45	0	6	0.0%
	2	6	0	2	4		
	3	1	0	0	1		
	4	1	0	0	1		
		53	0	47	6		
284	1	2	0	2	0	1	0.0%
	2	1	0	0	1		
		3	0	2	1		

Table 21. (Continued).

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	% Under-Subscribed
		Total	Rejected				
285	1	120	0	53	67	97	0.0%
	2	30	0	0	30		
		150	0	53	97		
286	1	1	0	0	1	3	0.0%
	2	2	0	0	2		
		3	0	0	3		
288	1	8	0	2	6	8	0.0%
	2	2	0	0	2		
		10	0	2	8		
289	1	28	0	28	0	3	0.0%
	2	4	0	2	2		
	3	1	0	0	1		
		33	0	30	3		
290	1	123	0	120	3	74	0.0%
	2	49	0	0	49		
	3	22	0	0	22		
		194	0	120	74		
291	1	224	0	173	51	153	0.0%
	2	96	0	0	96		
	3	5	0	0	5		
	7	1	0	0	1		
		326	0	173	153		
294	1	34	0	34	0	6	0.0%
	2	4	0	0	4		
	3	2	0	0	2		
		40	0	34	6		
295	1	113	0	113	0	56	0.0%
	2	49	0	8	41		
	3	15	0	0	15		
		177	0	121	56		
296	1	67	0	58	9	39	0.0%
	2	19	0	0	19		
	3	9	0	0	9		
	4	2	0	0	2		
		97	0	58	39		
299	1	91	0	79	12	43	0.0%
	2	31	0	0	31		
		122	0	79	43		
338ML	1	72	0	0	72	224	63.8%
	2	9	0	0	9		
		81	0	0	81		
347ML	1	100	0	0	100	376	72.3%
	2	2	0	0	2		
	3	2	0	0	2		
		104	0	0	104		
<b>TOTAL</b>		<b>7,260</b>	<b>7</b>	<b>2,577</b>	<b>4,683</b>	<b>5,792</b>	

Table 22. 2010 Special Permit Areas for Firearms Hunters.

Special Hunt	Preference Level	Applications		Unsuccessful	Winners	Permits Available	Bonus Permits
		Total	Rejected				
900 - Lake Vermilion State Park	1	15	0	0	15	50	No
	2	3	0	0	3		
	4	1	0	0	1		
		<b>19</b>	<b>0</b>	<b>0</b>	<b>19</b>		
901 - Rice Lake Nat. Wildlife Refuge	1	52	0	39	13	40	Yes
	2	27	0	0	27		
		<b>79</b>	<b>0</b>	<b>39</b>	<b>40</b>		
902 - St. Croix State Park	1	699	1	433	266	450	Yes
	2	176	0	0	176		
	3	8	0	0	8		
		<b>883</b>	<b>1</b>	<b>433</b>	<b>450</b>		
903 - Savanna Portage State Park	1	14	0	1	13	20	Yes
	2	6	0	0	6		
	3	1	0	0	1		
		<b>21</b>	<b>0</b>	<b>1</b>	<b>20</b>		
904 - Gooseberry Falls State Park	1	43	0	16	27	30	Yes
	2	5	0	0	5		
		<b>48</b>	<b>0</b>	<b>16</b>	<b>32</b>		
905 - Split Rock Lighthouse State Park	1	17	0	0	17	30	Yes
		<b>17</b>	<b>0</b>	<b>0</b>	<b>17</b>		
906 - Tettegouche State Park	1	80	0	0	80	125	Yes
	2	3	0	0	3		
		<b>83</b>	<b>0</b>	<b>0</b>	<b>83</b>		
907 - Scenic State Park	1	32	0	0	32	30	Yes
	2	1	0	0	1		
		<b>33</b>	<b>0</b>	<b>0</b>	<b>33</b>		
908 - Hayes Lake State Park	1	23	0	0	23	75	Yes
		<b>23</b>	<b>0</b>	<b>0</b>	<b>23</b>		
909 - Lake Bemidji State Park	1	32	0	0	32	30	Yes
		<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>		
910 - Zippel Bay State Park	1	54	0	0	54	55	Yes
	2	1	0	0	1		
		<b>55</b>	<b>0</b>	<b>0</b>	<b>55</b>		
913 - Lake Carlos State Park	1	43	0	30	13	20	Yes
	2	10	0	0	10		
		<b>53</b>	<b>0</b>	<b>30</b>	<b>23</b>		
914 - William O'Brien State Park	1	127	0	108	19	70	Yes
	2	51	0	0	51		
		<b>178</b>	<b>0</b>	<b>108</b>	<b>70</b>		
915 - Lake Bronson State Park	1	56	0	29	27	30	Yes
	2	3	0	0	3		
		<b>59</b>	<b>0</b>	<b>29</b>	<b>30</b>		
916 - Maplewood State Park	1	179	0	179	0	100	Yes
	2	152	0	152	0		
	3	124	0	39	85		
	4	17	0	0	17		
	<b>472</b>	<b>0</b>	<b>370</b>	<b>102</b>			
917 - Rydell NWR	1	3	0	0	3	5	Yes
		<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>		
918 - Lake Alexander SNA	1	64	0	37	27	40	Yes
	2	12	0	0	12		
	3	1	0	0	1		
	<b>77</b>	<b>0</b>	<b>37</b>	<b>40</b>			
919 - Glacial Lakes State Park	1	44	0	14	30	30	Yes
		<b>44</b>	<b>0</b>	<b>14</b>	<b>30</b>		

Table 22. (Continued).

Special Hunt	Preference Level	Applications		Unsuccessful	Winners	Permits Available	Bonus Permits
		Total	Rejected				
920 - Lake Louise State Park	1	42	0	37	5	25	Yes
	2	18	0	0	18		
	3	3	0	0	3		
		<b>63</b>	<b>0</b>	<b>37</b>	<b>26</b>		
921 - Beaver Creek Valley State Park1	1	61	0	61	0	20	Yes
	2	17	0	0	17		
	3	3	0	0	3		
		<b>81</b>	<b>0</b>	<b>61</b>	<b>20</b>		
922 - Zumbro Falls SNA	1	11	0	1	10	12	Yes
	2	2	0	0	2		
		<b>13</b>	<b>0</b>	<b>1</b>	<b>12</b>		
923 - Forestville/Mystery Cave SP	1	134	0	64	70	110	Yes
	2	40	0	0	40		
		<b>174</b>	<b>0</b>	<b>64</b>	<b>110</b>		
924 - Frontenac State Park	1	92	0	57	35	60	Yes
	2	24	0	0	24		
	3	1	0	0	1		
		<b>117</b>	<b>0</b>	<b>57</b>	<b>60</b>		
925 - Whitewater State Park	1	92	0	90	2	50	Yes
	2	45	0	0	45		
	3	3	0	0	3		
		<b>140</b>	<b>0</b>	<b>90</b>	<b>50</b>		
926 - Zumbro Falls SNA	1	20	0	10	10	12	Yes
	2	2	0	0	2		
		<b>22</b>	<b>0</b>	<b>10</b>	<b>12</b>		
927 - Whitewater Refuge	1	66	0	16	50	60	Yes
	2	13	0	0	13		
		<b>79</b>	<b>0</b>	<b>16</b>	<b>63</b>		
928 - Vermillion Highlands WMA	1	55	0	54	1	25	Yes
	2	34	0	11	23		
	3	1	0	0	1		
		<b>90</b>	<b>0</b>	<b>65</b>	<b>25</b>		
929 - Elm Creek Park Reserve	1	278	0	256	22	155	Yes
	2	128	0	0	128		
	3	5	0	0	5		
		<b>411</b>	<b>0</b>	<b>256</b>	<b>155</b>		
930 -Lake Rebecca Park Reserve	1	142	0	106	36	80	No
	2	44	0	0	44		
	3	1	0	0	1		
		<b>187</b>	<b>0</b>	<b>106</b>	<b>81</b>		
		<b>3,556</b>	<b>1</b>	<b>1,840</b>	<b>1,716</b>	<b>1,839</b>	

Table 23. 2010 Special Permit Areas for Muzzleloader Hunters.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available	Bonus Permits
		Total	Rejected				
935 - Jay Cooke SP	1	208	0	208	0	120	Yes (4)
	2	110	0	6	104		
	3	15	0	0	15		
	4	1	0	0	1		
		<b>334</b>	<b>0</b>	<b>214</b>	<b>120</b>		
936 - Crow Wing SP	1	99	0	99	0	40	Yes (4)
	2	67	0	67	0		
	3	45	0	6	39		
	4	2	0	0	2		
		<b>213</b>	<b>0</b>	<b>172</b>	<b>41</b>		
937 - Soudan SP	1	19	0	6	13	20	Yes (1)
	2	7	0	0	7		
		<b>26</b>	<b>0</b>	<b>6</b>	<b>20</b>		
938 - City of Tower	1	13	0	0	13	20	No
	2	1	0	0	1		
		<b>14</b>	<b>0</b>	<b>0</b>	<b>14</b>		
939 - Lake Shetek SP	1	17	0	17	0	15	Yes (4)
	2	17	0	17	0		
	3	17	0	0	17		
		<b>51</b>	<b>0</b>	<b>34</b>	<b>17</b>		
940 - Lake Maria SP	1	90	0	90	0	25	Yes (4)
	2	48	0	24	24		
	3	1	0	0	1		
		<b>139</b>	<b>0</b>	<b>114</b>	<b>25</b>		
941 - Nerstrand Big Woods SP	1	100	0	100	0	50	Yes (1)
	2	53	0	36	17		
	3	32	0	0	32		
	4	2	0	0	2		
		<b>187</b>	<b>0</b>	<b>136</b>	<b>51</b>		
942 - Sibley SP	1	73	0	56	17	50	Yes (1)
	2	35	0	0	35		
		<b>108</b>	<b>0</b>	<b>56</b>	<b>52</b>		
943 - Rice Lake SP	1	88	0	88	0	20	Yes (1)
	2	10	0	0	10		
	3	10	0	0	10		
		<b>108</b>	<b>0</b>	<b>88</b>	<b>20</b>		
944 - Vermilion Highlands WMA	1	73	0	58	15	25	Yes (1)
	2	10	0	0	10		
		<b>83</b>	<b>0</b>	<b>58</b>	<b>25</b>		
945 - Big Stone SP	1	29	0	22	7	10	Yes (1)
	2	3	0	0	3		
		<b>32</b>	<b>0</b>	<b>22</b>	<b>10</b>		
<b>TOTAL</b>		<b>1,212</b>	<b>0</b>	<b>842</b>	<b>370</b>	<b>395</b>	
<b>GRAND TOTAL</b>		<b>98,811</b>	<b>497</b>	<b>37,238</b>	<b>61,150</b>	<b>68,109</b>	



## 2010 MINNESOTA ELK HARVEST REPORT

Lou Cornicelli, Big Game Program Coordinator  
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### INTRODUCTION

A limited number of licenses are offered to Minnesota residents to hunt elk. Currently, there are 2 established zones; 1) Kittson County, and 2) near Grygla, Minnesota (Figures 1 and 2). Within those 2 zones, there were 2 hunts each. The early hunt is structured so that it falls within the breeding season when bull elk are most vulnerable. The late season is used as a mechanism to harvest antlerless elk because patterns are more predictable and elk are in larger groups.

### METHODS

All elk hunters are required to attend a mandatory orientation and if successful, they must register their animal through the local DNR office. Kill locations are mapped and various data are collected, including age/sex as well as biological samples for disease testing and other monitoring projects.

### RESULTS

A total of 11 licenses were available and 871 individuals applied for the opportunity to hunt elk (Table 1). As the number of either-sex licenses is limited, DNR receives an application for the area only. After winners are selected, the time period and license type is distributed through a second random drawing. In 2010, a total of 8 elk were harvested in the both zones (Table 2). Long-term elk harvest for the 2 zones is depicted in Table 3.

Table 1. License allocation and applications numbers for 2 Minnesota elk hunting zones, 2010.

Zone	Either-Sex	Antlerless	Total	Total Applicants
10 – Grygla	2	5	7	644
20 – Kittson	1	3	4	227
<b>Total</b>	<b>3</b>	<b>8</b>	<b>11</b>	<b>871</b>

Table 2. Distribution of the 2010 Minnesota elk harvest. License allocation totals represent the actual number sold, not the number authorized through rule.

Grygla Hunt Zone					
Season	Either-Sex Licenses	Antlerless Licenses	Bulls taken	Antlerless taken	Total elk taken
September 18 - 26	2	0	1 (6x7)	N/A	1
December 4 - 12	0	5	N/A	3	3
<b>Total</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>4</b>

Kittson Hunt Zone					
Season	Either-Sex Licenses	Antlerless Licenses	Bulls taken	Antlerless taken	Total elk taken
September 18 - 26	1	1	1 (6x6)	1	2
December 4 - 12	0	2	N/A	2	2
<b>Total</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>4</b>

Table 3. Grygla and Kittson County elk harvests, 1987-2010.

Year	Grygla			
	Bulls (or Either-Sex)		Antlerless	
	Permits	Harvest	Permits	Harvest
1987	2	1	2	1
1996	2	2	7 (1 alternate)	6
1997	5 (2 alternate)	1	5 (2 alternate)	2
1998	4 (2 alternate)	2	0	0
2004	1	1	4	2
2005	1	0	4	0
2006	2	2	6	2
2007	0	0	6	6
2008	2	2	10	6
2009	2	3*	12	11
2010	2	1	5	3
<b>Total</b>	<b>23</b>	<b>15</b>	<b>61</b>	<b>39</b>

\*One bull was a sub-legal spike and was legally tagged as an antlerless animal.

Year	Kittson County (Combined)			
	Bulls (or Either-Sex)		Antlerless	
	Permits	Harvest	Permits	Harvest
2008	1	1	10	10
2009	12	9*	4	5
2010	1	1	3	3
<b>Total</b>	<b>14</b>	<b>11*</b>	<b>17</b>	<b>18</b>

\*One additional bull (6x7) was wounded but not retrieved in 2009. It was found dead later and is counted in the total.

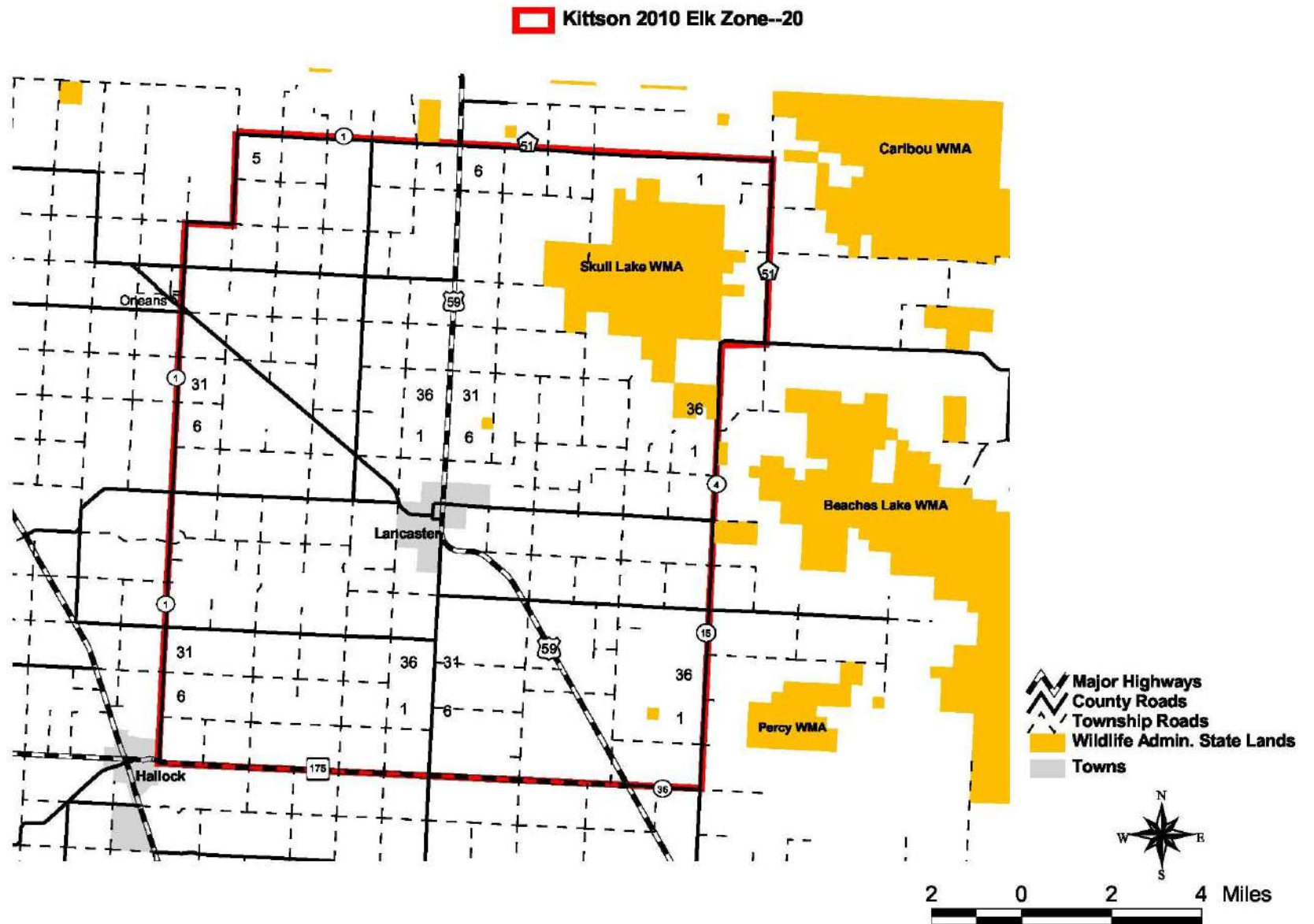


Figure 1. Kittson Hunt Zone.

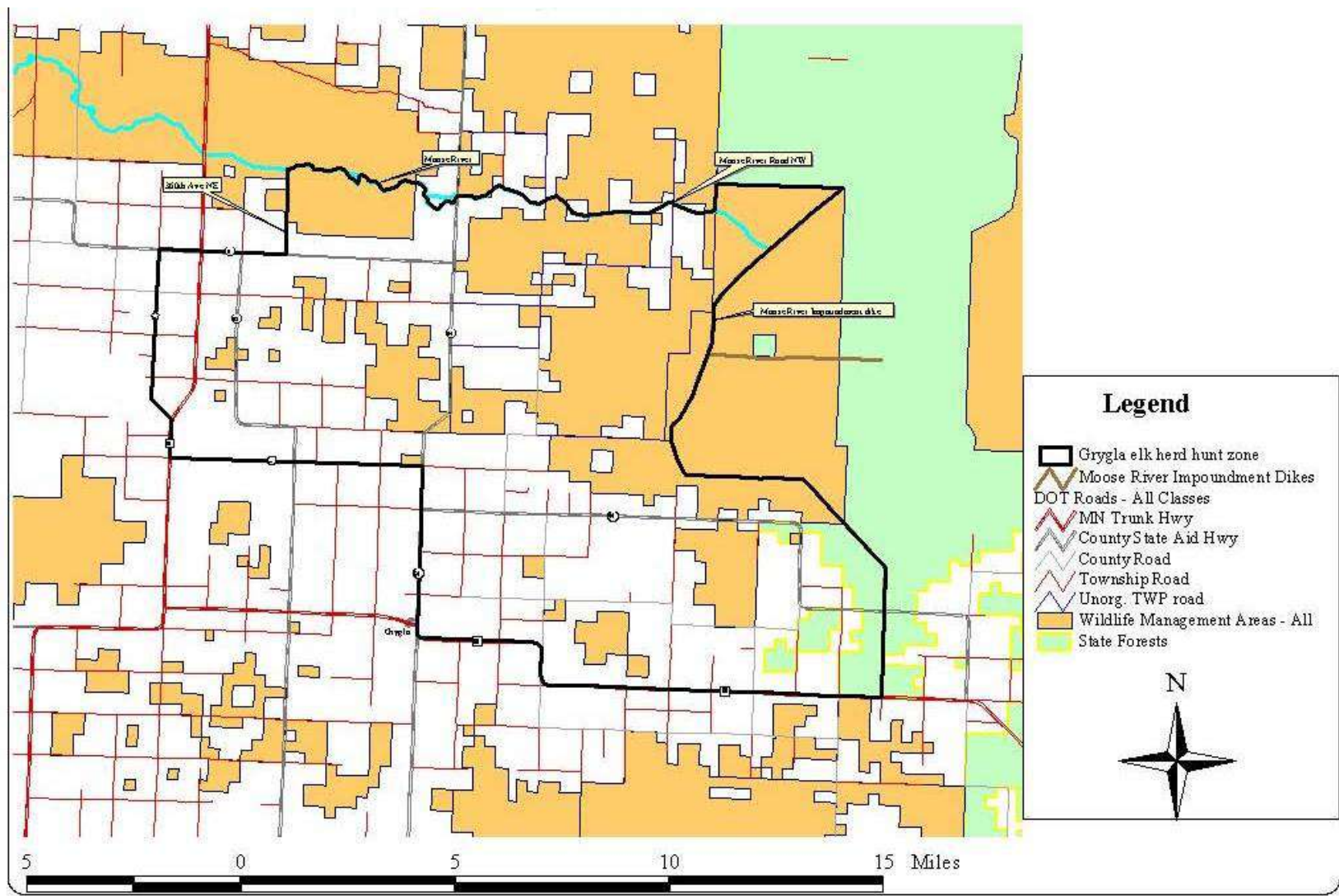


Figure 2. Grygla Hunt Zone.

# **2010 MINNESOTA MOOSE HARVEST**

Mark S. Lenarz, Forest Wildlife Populations and Research Group

## **INTRODUCTION**

Each year, a limited number of permits are issued that allow Minnesota residents to hunt moose. The following report is intended to document the number of hunters applying for permits, the number of permits issued, a hunting party's chance of receiving a permit, hunter success rate, and a breakdown of the harvest by hunting zone. Permit areas for state hunters are presented in Figure 1. Information on permit numbers and moose harvested by members of the 1854 Treaty Authority or Fond du Lac band of Lake Superior Chippewa within the 1854 Ceded Territory is also provided.

## **METHODS**

All successful State hunters are required to register their moose at one of 9 registration stations and provide information on the location where they killed their moose, date of kill, and sex of moose harvested.

## **RESULTS**

In 2010, State hunters harvested 109 moose in northeastern Minnesota. No season was held in northwestern Minnesota. Of the 2,415 parties that applied for this year's moose hunt, 213 (9%) were drawn, and 212 purchased licenses (Table 1). Hunters were restricted to harvesting bulls in this year's hunt. Table 1 also lists the number of permits offered by hunting zone, chance of being selected for a permit, and hunter success. The 1854 Treaty Authority issued 58 permits and band members killed 12 moose (8 bulls and 4 cows). The Fond du Lac band issued 65 permits and the preliminary harvest (as of 10/26/2010) was 21 moose (18 bulls and 3 cows). The Fond du Lac season closes 12/31/2010.

## **DISCUSSION**

The success rate of State hunters in 2010 was 51%, an increase of 5% over 2009 (Tables 1 and 2). This was the fourth year of hunting for bulls only. The success rate for members of the 1854 Treaty Authority was 21%, down 8% from last year. The preliminary success rate for the Fond du Lac band was 32%, as of 10/26/2010, down 6%.

Table 1. Moose harvested, licenses offered and sold, application rate, and party success, in 2010 moose hunt by State hunters in northeastern Minnesota

Zone	Bulls	Cows	Total	Licenses Offered	Licenses Sold	Party Applications*	Chances for Permit	% Success
20	0	0	0	11	11	57	19%	0%
21	3	0	3	6	6	109	6%	50%
22	3	0	3	5	5	26	19%	60%
23	0	0	0	2	2	14	14%	0%
24	6	0	6	8	8	158	5%	75%
25	5	0	5	10	10	237	4%	50%
26	1	0	1	4	4	19	21%	25%
27	1	0	1	5	5	42	12%	20%
28	2	0	2	9	8	61	15%	25%
29	4	0	4	6	6	87	7%	67%
30	3	0	3	7	7	120	6%	43%
31	10	0	10	18	18	319	6%	56%
32	3	0	3	3	3	21	14%	100%
33	2	0	2	6	6	86	7%	33%
34	0	0	0	2	2	38	5%	0%
36	3	0	3	10	10	34	29%	30%
37	2	0	2	3	3	15	20%	67%
60	1	0	1	4	4	25	16%	25%
61	6	0	6	10	10	55	18%	60%
62	10	0	10	19	19	166	11%	53%
63	1	0	1	4	4	23	17%	25%
64	4	0	4	8	8	49	16%	50%
70	7	0	7	7	7	123	6%	100%
72	8	0	8	10	10	144	7%	80%
73	3	0	3	6	6	62	10%	50%
74	4	0	4	4	4	57	7%	100%
76	4	0	4	6	6	79	8%	67%
77	4	0	4	10	10	87	11%	40%
79	5	0	5	5	5	25	20%	100%
80	4	0	4	5	5	77	6%	80%
Total	109	0	109	213	212	2415	9%	51%

\*Number of 2, 3, or 4 person parties - rejected applications

Table 2. Applicants, permit numbers, moose harvested, and success rates of state moose hunters since 1993.

Year	Northwest				Northeast				
	Party Applicants	Permits	Moose Harvested	Party Success	Party Applicants	Permits	Licenses Purchased	Moose Harvested	Party Success
1993	6,558	446	422	95%	2,934	315	315	264	84%
1994	8,208	262	244	93%	3,022	189	189	155	82%
1995	7,622	191	171	90%	3,181	188	188	156	83%
1996	2,476	39	38	97%	3,830	207	207	156	75%
1997		No Season			3,958	198	198	152	77%
1998		No Season			4,157	182	182	125	69%
1999		No Season			3,919	189	189	136	72%
2000		No Season					No Season		
2001		No Season			3,164	182	176	125	71%
2002		No Season			2,580	208	202	141	70%
2003		No Season			2,328	224	217	144	66%
2004		No Season			3,062	246	240	151	63%
2005		No Season			3,060	284	276	164	59%
2006		No Season			2,952	279	269	161	60%
2007		No Season			2,566	233	229	115	50%
2008		No Season			2,706	247	245	110	45%
2009		No Season			2,746	225	223	103	46%
2010		No Season			2,415	213	212	109	51%

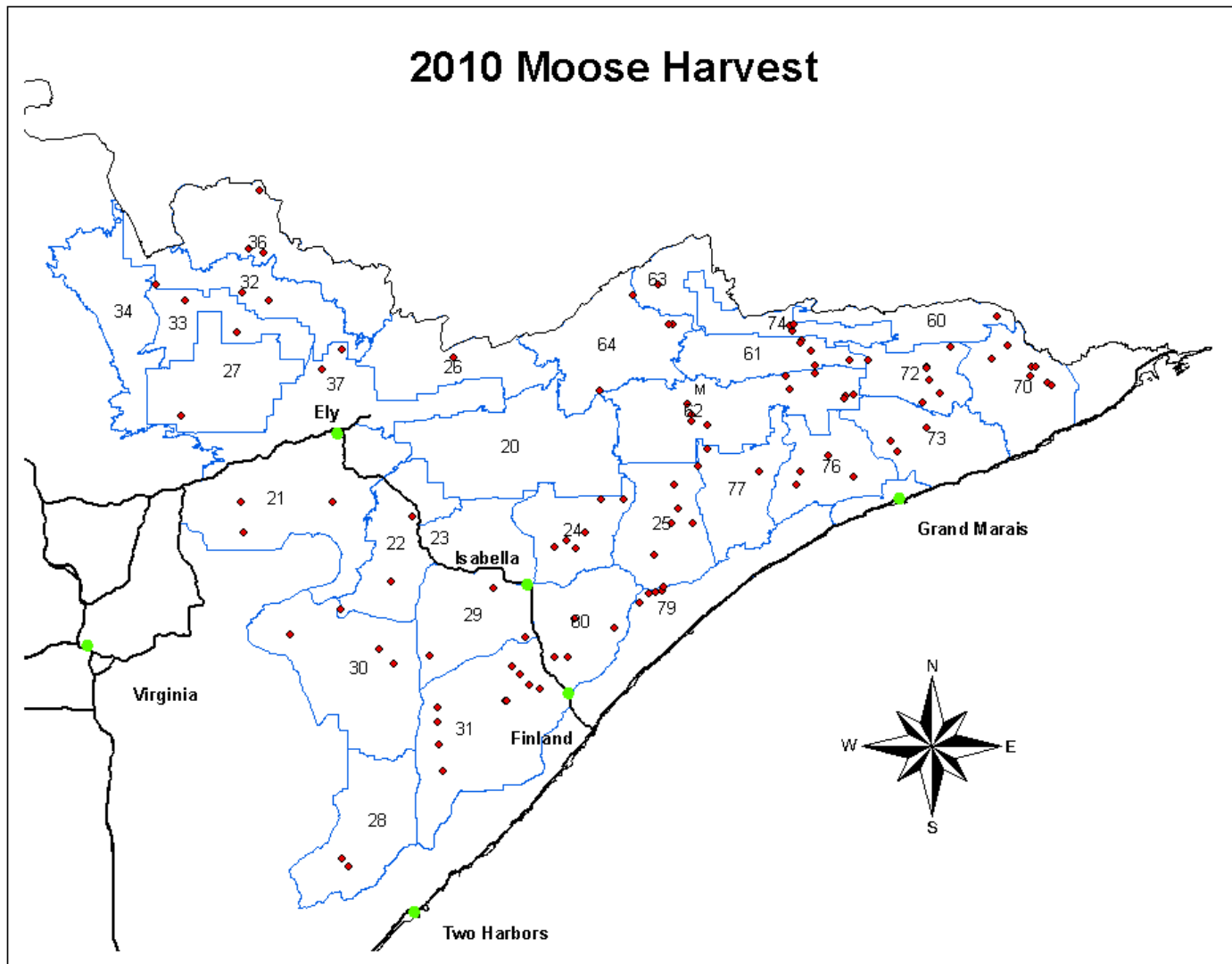


Figure 1. Permit areas for state moose hunters, 2010.



# MINNESOTA SANDHILL CRANE HARVEST REPORT, 2010

Margaret Dexter, Wildlife Research Unit

Two distinct populations of sandhill cranes (*Grus Canadensis*) occur in Minnesota. Sandhill cranes in NW Minnesota are part of the mid-continent population; sandhill cranes in the remainder of the state are part of the Eastern population. Sandhill cranes that breed and stage during fall in NW Minnesota are part of the midcontinent population. This population is managed via a cooperative management plan with the U.S. Fish and Wildlife Service, Mississippi, Central, and Pacific Flyway Councils.

A limited season for mid-continent sandhill cranes was opened in Minnesota for the fall of 2010. The season was open from the first Saturday in September through October 10. The area open for hunting was limited to the Northwest Goose Zone (Figure 1). Hunters were required to purchase a sandhill crane permit, available over the counter for \$3.00, and be HIP certified. A limit was set at 2 per day and 4 in possession. Sandhill crane permit holders were selected to receive a harvest survey from the U.S. Fish and Wildlife Service after the season. This survey was used to monitor harvest levels and hunting activity.

A total of 1,962 sandhill crane hunting permits (\$3.00) were issued during fall 2010. Names and addresses from all permit holders were submitted to the USFWS Harvest Surveys Section and 50% of purchasers were mailed a sandhill crane harvest survey. Results from this survey indicated 964 active crane hunters, 3,331 crane hunter-days, and a harvest of 830 cranes in Minnesota.

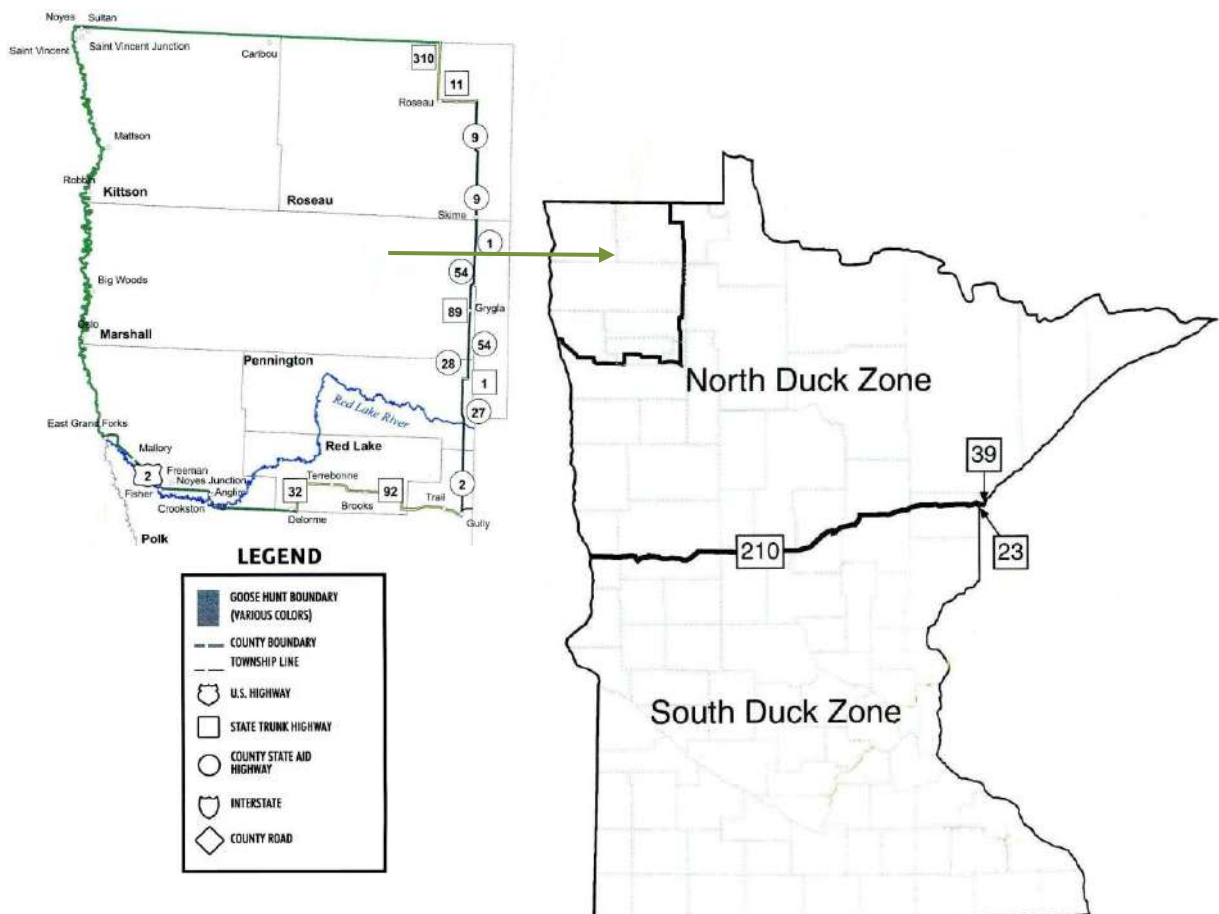


Figure 1. Sandhill crane hunting zone, 2010.

