

HUNTING HARVEST STATISTICS

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2016 SMALL GAME HUNTER MAIL SURVEY

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INTRODUCTION

The Minnesota Department of Natural Resources (DNR), Division of Fish and Wildlife, Wildlife Research unit annually conducts a mail survey of small game hunters. The small game mail survey was initiated in 1976 as a means to gather small game harvest information, which is used to inform our constituency and guide decisions about hunting regulations and season structure.

METHODS

A postcard survey (Fig. 1) was mailed in early March and respondents who returned it within three weeks were eliminated from follow-up mailings. The sampling frame consisted of individuals who purchased a small game hunting license (any type) for the 2016-17 small game hunting season (N=252,358). A stratified random sample (n=7,000, 2.8%), allocated proportionally by license type, was drawn from the Minnesota DNR electronic database. Small game license types included the following: Resident Senior Citizen, Resident Youth, Resident Adult, Resident Individual Sport, Resident Combination Sport, Resident Lifetime, Resident Lifetime Sport, Nonresident Youth, and Nonresident Adult. For analysis, license types were pooled into "Resident" (N=245,657) and "Nonresident" (N=6,701) (Fig. 2). A free youth license was added to the sampling frame for 2010-13 but that license has since been discontinued. Estimates for those years have been recalculated without the youth license so that harvest estimates and license sales are comparable among years. The percent of respondents who said they hunted or did not hunt is reported in Table 1. License sales and survey response rate are shown in Figure 2.

Recipients were asked if they hunted small game in 2016-17 and if not, they were instructed to return the survey. Respondents who hunted were asked: (1) total number of days they hunted small game, (2) number bagged by species, (3) number of days hunted by species and (4) the county in which they hunted most for each species listed. Returned surveys were checked for completeness, consistency, and biological practicability. Dual key-entry and quality control checks were used to minimize transcription errors. Data was tabulated using Viking Data Entry VDE+ software and analyzed using R programming language (ver. 3.3.3; R Development Core Team [RDCT] 2017).

RESULTS

Of the 7,000 mailed surveys, 123 surveys were undeliverable; 3,371 surveys were returned for an adjusted response rate of 49%. Harvest trends for the top four small game species (ducks-all species, Canada geese, pheasants, and ruffed grouse) harvested in Minnesota for the past 15 years are shown in Figure 3. License sales declined 2% from the previous year (Fig. 2, Table 5). Estimated number of hunters increased slightly for ruffed grouse, gray squirrel, and cottontail rabbits but declined for most other species (Table 2). Estimated harvest per active hunter (Table 3) declined for mourning doves but remained relatively stable for all other species. Mean harvest for successful hunters and hunter success rates also showed no statistically significant

changes (Table 4). License sales and estimated hunter harvest are presented in Table 5. Estimated ring-necked pheasant harvest declined from 243,176 roosters to 196,141, similar to 2011 levels. Ruffed grouse harvest increased slightly from 267,997 grouse in 2015 to 308,955 in 2016. There were fewer duck hunters in 2016 which lead to a decline in the duck harvest from 663,811 in 2015 to 606,458 but the take per active hunter was up slightly in 2016 (9.0 ducks/hunter compared to 8.7 ducks/hunter in 2015). Canada goose harvest edged up slightly to an estimated 204,825 geese harvested despite the decline in hunters from 45,938 in 2015 to 40,950 in 2016. Estimated take per hunter increased from 5.7 to 7.1 geese per successful hunters. Overall Nonresident license sales remained steady but participation increased for hunters of ducks, ruffed grouse, and pheasant (Table 6). Nonresident harvests for ducks increased slightly but decreased for grouse and pheasants.

This project was funded in part by the Wildlife Restoration Program.

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 2016-2017 small game hunting season (**March 2016-February 2017**). We need information to estimate the season's harvest and to help set future small game seasons. Answer only for your Minnesota 2016 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

Lou Cornicelli, Wildlife Research Program Manager
Division of Fish and Wildlife
Department of Natural Resources

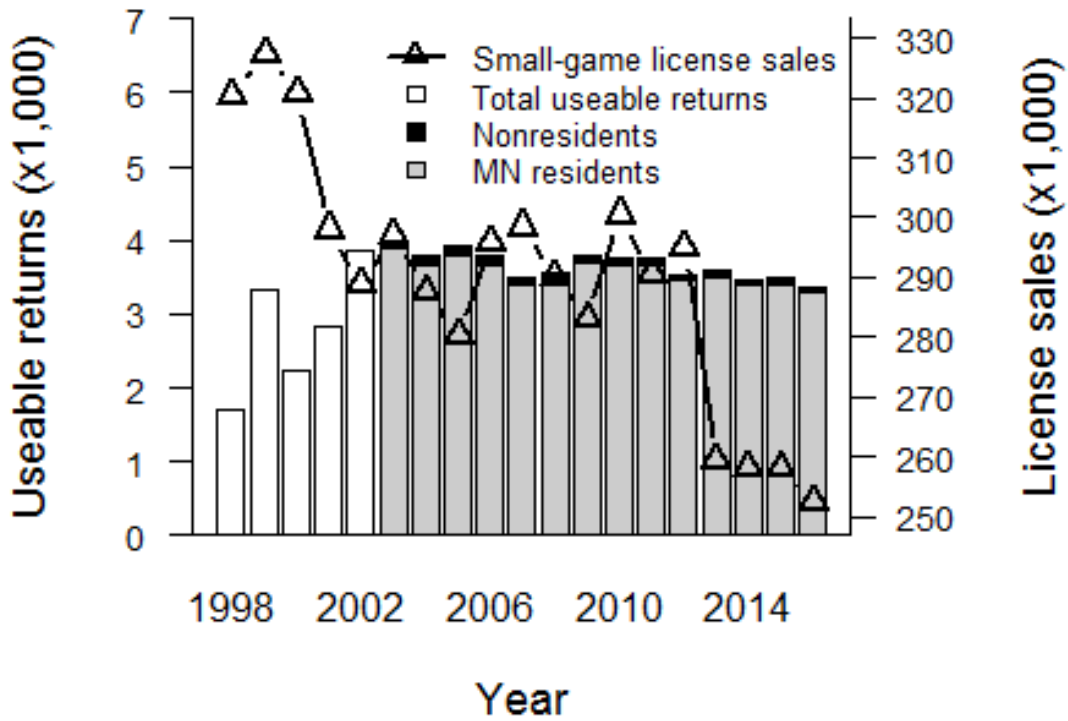
2016 Small Game Hunter Report

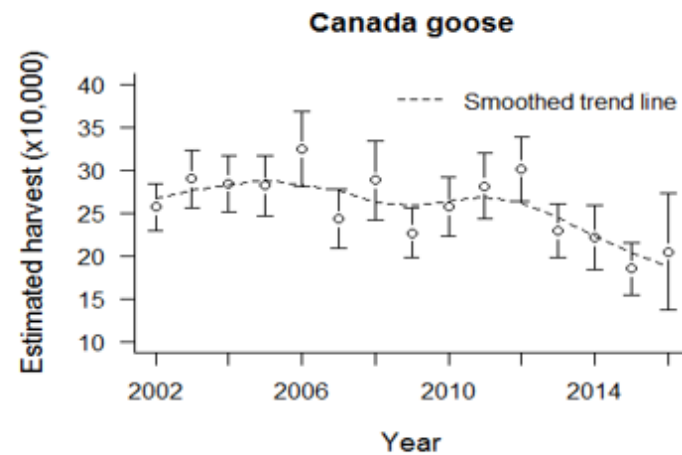
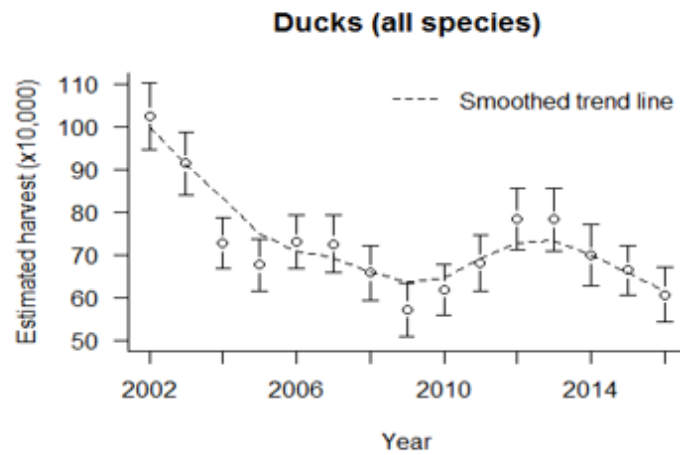
1. Did you hunt small game, listed below, in Minnesota this year (March 2016 - Feb 2017)? No Yes (Please check box)
2. Indicate the **total number of days** spent hunting small game of all species listed below, in Minnesota. _____
3. For the species you hunted indicate your harvest, number of days hunted, 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.

Figure 2. Number of Minnesota small game licenses sold and usable returned surveys, 1990-2016. Includes resident and non-resident licenses, and excludes duplicate and free licenses.





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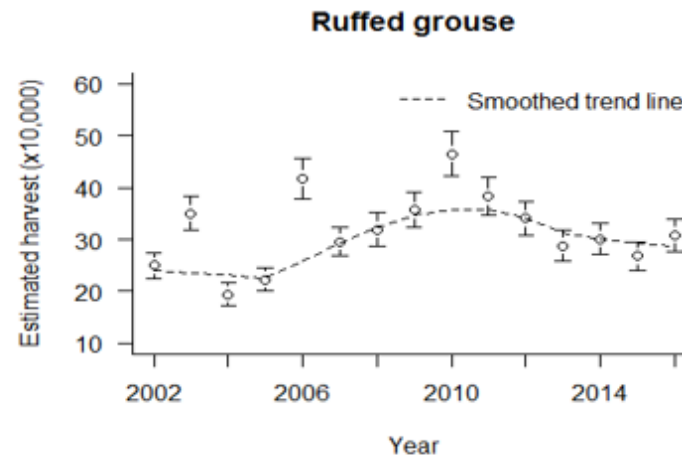
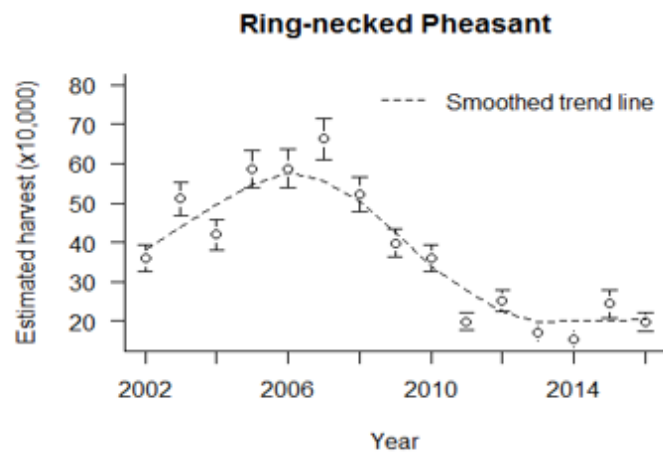


Figure 3. Harvest trends for top four small game species harvested in Minnesota, 2002-2016.

Table 1. Percent of respondents who hunted small game, 2005-06 through 2016-2017 ^a.

		Returns from mail survey	Projections from license sales
2005-06	Hunted	3,035 (77%)	216,000
	Did not hunt	<u>900 (23%)</u>	<u>64,156</u>
		3,935 (100.0%)	280,156
2006-07	Hunted	2,994 (79%)	233,759
	Did not hunt	<u>795 (21%)</u>	<u>62,139</u>
		3,789 (100.0%)	295,898
2007-08	Hunted	2,894 (78%)	232,505
	Did not hunt	<u>822 (22%)</u>	<u>65,961</u>
		3,716 (100.0%)	298,467
2008-09	Hunted	2,678 (75%)	218,753
	Did not hunt	<u>873 (25%)</u>	<u>71,311</u>
		3,551 (100.0%)	290,064
2009-10	Hunted	2,850 (75%)	212,126
	Did not hunt	<u>952 (25%)</u>	<u>70,857</u>
		3,802 (100.0%)	282,983
2010-11	Hunted	2,824 (75%)	210,129
	Did not hunt	<u>953 (25%)</u>	<u>70,911</u>
		3,777 (100.0%)	281,040
2011-12	Hunted	2,761 (74%)	214,137
	Did not hunt	<u>987 (26%)</u>	<u>76,549</u>
		3,748 (100.0%)	290,686
2012-13	Hunted	2,669 (76%)	223,808
	Did not hunt	<u>851 (24%)</u>	<u>71,360</u>
		3,520 (100%)	295,168
2013-14	Hunted	2,586 (72%)	186,317
	Did not hunt	<u>1,003 (28%)</u>	<u>72,264</u>
		3,589 (100%)	258,581
2014-15	Hunted	2,476 (72%)	185,186
	Did not hunt	<u>975 (28%)</u>	<u>72,923</u>
		3,451 (100%)	258,109
2015-16	Hunted	2,505 (72%)	185,604
	Did not hunt	<u>980 (28%)</u>	<u>72,612</u>
		3,485 (100%)	258,216
2016-17	Hunted	2,426 (72%)	181,614
	Did not hunt	<u>945 (28%)</u>	<u>70,744</u>
		3,371 (100%)	252,358

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

Table 2. Estimated number of statewide hunters by species, 2006-07 through 2016-17.

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 ^β	2012-13 ^β	2013-14	2014-15	2015-16	2016-17
Ducks	87,075	87,468	81,358	77,480	72,770	76,090	80,770	76,950	75,170	76,243	67,301
Canada goose	66,224	62,649	59,222	55,520	53,430	57,220	58,900	51,160	48,240	45,938	40,950
Other geese	4,529	3,695	4,411	3,280	3,650	2,710	3,830	2,810	2,770	2,520	2,321
American coot	4,529	3,454	4,166	4,090	4,610	3,480	3,990	3,820	4,410	3,261	3,519
Common snipe	2,187	1,928	1,797	1,340	1,340	1,160	1,160	1,370	820	667	899
Rails / gallinules	547	482	408	370	220	230	500	140	300	445	75
Crow *	10,777	8,514	10,047	10,640	9,380	10,360	11,480	8,570	7,400	7,410	7,412
American woodcock	13,510	10,843	12,171	11,760	10,790	9,430	13,310	12,030	9,650	12,596	12,877
Mourning dove ^γ	12,886	13,172	11,599	10,500	10,640	8,970	9,230	10,380	9,950	8,966	7,636
Ring-necked pheasant	118,703	118,311	106,763	99,440	89,140	72,840	76,950	62,110	57,590	63,350	59,965
Ruffed grouse	91,682	90,600	86,505	87,230	92,490	88,620	91,260	81,130	83,020	79,058	82,348
Spruce grouse	9,840	10,602	8,332	9,750	8,860	10,210	7,400	10,810	10,320	8,225	9,658
Sharp-tailed grouse	6,560	6,827	6,616	5,510	7,140	6,190	6,570	6,700	5,460	5,113	6,214
Gray partridge	6,013	6,667	4,411	4,240	3,720	2,400	3,080	2,450	2,540	2,075	2,097
Gray squirrel	25,459	25,863	22,382	22,260	23,740	23,280	24,710	21,690	21,240	22,303	23,806
Fox squirrel	15,619	14,779	13,233	13,180	15,630	12,060	14,220	12,030	12,790	13,411	13,625
Eastern cottontail	20,070	19,598	17,644	16,300	15,030	12,300	16,390	14,550	13,160	11,633	16,096
White-tailed jackrabbit	2,577	2,891	2,451	1,790	2,230	2,320	1,750	1,220	1,350	890	1,423
Snowshoe hare	5,545	4,257	4,574	3,500	3,800	3,250	4,820	3,750	4,560	4,076	3,369
Raccoon (Sept - Feb)	8,747	9,558	7,433	7,300	8,260	8,040	8,570	7,640	6,880	5,632	5,840
Raccoon [‡] (March -Aug)											
Red fox (Sept -Feb)	6,248	5,783	5,800	7,820	7,220	6,030	5,820	5,910	4,560	4,150	3,594
Red fox [‡] (March -Aug)											
Gray fox	2,030	1,928	1,879	1,790	1,640	1,390	1,580	1,730	1,050	1,186	899
Coyote	17,024	16,064	19,278	19,280	19,420	17,940	21,050	17,650	17,580	18,302	15,871
Badger	859	482	490	370	600	310	330	500	80	297	375

* Crow season added in 1989. ‡ Raccoon and red fox season continuous May 1994 thru March 15, 2006. ^γ Mourning dove season added 2004. ^β Estimates from these years were recomputed without license type 99- free youth license to be consistent with other years of data.

Table 3. Estimated harvest per active hunter by species, 2006-07 through 2016-17.

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 ^β	2012-13 ^β	2013-14	2014-15	2015-16	2016-17
Ducks	8.4	8.1	8.1	7.4	8.5	9.0	9.7	10.2	9.3	8.7	9.0
Canada geese	4.9	3.9	4.9	4.1	4.8	4.9	5.1	4.5	4.6	4.0	5.0
Other geese	1.5	2.1	3.2	1.9	1.1	1.8	2.3	2.5	2.4	1.8	3.1
American coot	5.6	4.6	5.7	3.6	5.7	3.0	4.2	4.0	3.9	4.9	6.1
Common snipe	1.9	2.0	1.2	1.1	1.4	1.2	1.2	1.7	0.6	0.3	2.2
Rails/gallinules	2.4	5.3	0.4	0.8	0.3	1.7	0.2	0.5	0.2	2.3	n.a.*
Crow*	6.4	6.4	5.2	5.3	6.1	7.9	7.9	7.9	7.6	7.8	6.6
American woodcock	3.2	2.6	2.4	3.0	2.8	2.6	2.3	2.7	2.7	3.0	3.6
Mourning dove ^γ	6.7	7.7	11.4	10.5	9.4	8.2	10.0	7.8	10.4	10.8	7.7
Ring-necked pheasant	4.9	5.5	4.9	4.0	4.0	2.7	3.3	2.7	2.7	3.8	3.3
Ruffed grouse	4.5	3.2	3.7	4.1	5.0	4.3	3.7	3.6	3.6	3.4	3.8
Spruce grouse	2.7	1.7	2.0	2.0	1.7	1.8	1.6	1.2	1.4	1.2	1.6
Sharp-tailed grouse	1.8	2.0	2.1	1.7	2.4	1.9	1.6	1.1	1.6	1.6	1.4
Gray partridge	1.9	1.6	2.2	1.9	2.5	1.6	1.7	1.0	1.4	1.5	1.8
Gray squirrel	5.5	5.2	5.4	4.9	5.9	5.0	5.1	3.9	4.3	4.3	4.0
Fox squirrel	4.2	3.2	3.9	4.1	3.9	4.0	3.5	2.8	3.2	3.5	2.9
Eastern cottontail	3.9	4.0	4.5	3.5	3.6	2.8	3.9	2.8	2.9	3.6	3.1
White-tailed jackrabbit	1.6	3.3	2.6	1.5	3.2	2.2	1.1	1.5	0.8	0.8	0.8
Snowshoe hare	3.0	1.4	2.5	1.5	1.8	2.6	3.5	1.7	1.7	1.6	1.8
Raccoon (Sept - Feb)	7.2	4.9	9.7	9.1	9.4	5.5	5.6	6.1	7.7	6.8	3.8
Raccoon [‡] (March -Aug)											
Red fox (Sept -Feb)	1.3	1.1	0.8	1.3	1.2	1.2	1.4	0.9	0.7	0.9	0.6
Red fox [‡] (March -Aug)											
Gray fox	1.8	0.3	1.3	1.0	1.5	0.8	0.2	0.2	0.6	0.7	0.2
Coyote	1.2	2.1	2.4	2.4	2.3	1.9	2.5	1.3	1.0	1.9	1.5
Badger	1.3	0.3	1.0	2.0	1.0	0.8	1.0	0.6	1.0	0.5	1.0

^γCrow season added in 1989. [‡] Raccoon and red fox season continuous May 1994 thru March 15, 2006. ^γ Mourning dove season added 2004. ^β Estimates from these years were recomputed without license type 99- free youth license to be consistent with other years of data. * Only 1 respondent indicated they hunted rails and they reported 0 bagged.

Table 4. Mean harvest for successful hunters and hunter success rates (%), 2006-07 through 2016-17.

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 ^β	2012-13 ^β	2013-14	2014-15	2015-16	2016-17
Ducks	9.9 (84)	9.5 (85)	9.8 (83)	9.2(80)	10.3 (83)	10.5 (85)	11.1 (87)	11.7 (87)	11.0 (85)	10.6 (82)	10.9 (83)
Canada geese	6.3 (78)	5.5 (71)	6.4 (77)	5.6 (73)	6.1 (80)	6.3 (78)	6.5 (78)	5.8 (77)	6.6 (69)	5.7 (71)	7.1 (70)
Other geese	2.7 (55)	4.2 (50)	6.3 (50)	3.5 (55)	2.6 (41)	3.4 (51)	4.4 (52)	5.5 (46)	4.3 (54)	4.0 (44)	8.0 (39)
American coot	7.2 (78)	6.3 (74)	6.9 (82)	5.5 (65)	7.2 (79)	4.4 (69)	5.2 (81)	5.2 (75)	5.0 (78)	6.7 (73)	7.6 (81)
Common snipe	2.6 (75)	2.9 (71)	1.7 (73)	1.8 (61)	2.2 (67)	1.6 (73)	2.1 (57)	2.1 (79)	1.4 (45)	1.0 (33)	3.2 (67)
Rails / gallinules	4.3 (57)	6.4 (83)	1.0 (40)	1.3 (60)	1.0 (33)	5.0 (33)	1.0 (17)	1.0 (50)	1.0 (25)	3.5 (67)	n.a.*
Crow	7.2 (89)	7.3 (88)	5.9 (88)	5.9 (90)	6.7 (91)	8.9 (88)	8.8 (90)	9.4 (84)	8.7 (87)	8.3 (94)	7.6 (86)
American woodcock	3.9 (83)	3.7 (69)	3.3 (74)	4.1 (73)	3.6 (76)	3.8 (70)	3.4 (68)	3.8 (70)	4.2 (64)	4.4 (67)	5.4 (67)
Mourning dove ^γ	8.2 (81)	9.8 (79)	13.2 (87)	11.4 (92)	11.1 (85)	10.5 (78)	12.5 (80)	9.2 (85)	12.5 (83)	13.3 (81)	10.3 (75)
Ring-necked pheasant	6.6 (75)	7.1 (78)	6.4 (77)	5.8 (69)	5.6 (72)	4.4 (63)	4.9 (67)	4.2 (64)	4.3 (61)	5.4 (71)	5.0 (65)
Ruffed grouse	5.9 (77)	4.7 (69)	5.0 (74)	5.5 (74)	6.6 (76)	5.9 (74)	5.2 (71)	5.2 (68)	5.1 (71)	4.9 (69)	5.3 (70)
Spruce grouse	3.8 (71)	3.1 (54)	3.0 (68)	3.1 (64)	2.4 (71)	3.0 (61)	2.8 (57)	2.4 (51)	2.5 (56)	2.4 (50)	2.7 (58)
Sharp-tailed grouse	3.3 (56)	4.4 (46)	3.2 (64)	3.0 (58)	3.5 (68)	3.1 (61)	3.4 (48)	3.2 (33)	3.8 (41)	3.1 (51)	2.9 (47)
Gray partridge	2.8 (69)	3.0 (55)	3.4 (65)	3.3 (58)	4.2 (58)	3.2 (52)	3.1 (54)	2.5 (38)	4.4 (32)	2.7 (57)	3.3 (54)
Gray squirrel	6.4 (87)	5.9 (88)	6.2 (88)	5.8 (86)	7.0 (84)	6.3 (78)	6.3 (80)	5.0 (77)	5.5 (78)	5.3 (81)	5.1 (79)
Fox squirrel	5.0 (85)	3.9 (83)	4.6 (83)	4.8 (85)	4.6 (86)	5.4 (74)	4.4 (80)	3.7 (75)	4.3 (75)	4.9 (71)	3.8 (76)
Eastern cottontail	4.6 (85)	4.8 (84)	5.3 (85)	4.3 (83)	4.4 (81)	4.1 (69)	5.5 (71)	3.5 (79)	4.1 (73)	5.0 (72)	4.0 (77)
White-tailed jackrabbit	2.5 (64)	4.5 (72)	3.8 (70)	2.1 (71)	4.6 (70)	3.5 (63)	2.3 (48)	5.2 (29)	1.8 (44)	2.0 (42)	1.9 (42)
Snowshoe hare	3.8 (80)	2.2 (62)	3.5 (71)	2.6 (60)	2.6 (69)	3.8 (69)	5.0 (69)	2.9 (58)	3.0 (57)	3.0 (53)	3.2 (56)
Raccoon (Sept -Feb)	7.7 (94)	5.4 (90)	10.6 (91)	9.6 (95)	10.0 (94)	6.1 (89)	6.1 (93)	6.9 (89)	8.5 (90)	7.7 (88)	4.1 (92)
Raccoon [‡] (March -Aug)											
Red fox (Sept -Feb)	2.1 (60)	2.3 (46)	1.5 (49)	2.4 (54)	2.3 (54)	2.4 (49)	2.7 (50)	2.0 (44)	1.7 (41)	1.6 (57)	1.4 (44)
Red fox [‡] (March -Aug)											
Gray fox	2.7 (65)	1.0 (29)	3.3 (39)	2.5 (42)	4.0 (36)	2.5 (33)	1.0 (16)	1.5 (17)	2.0 (29)	1.4 (50)	1.0 (25)
Coyote	2.4 (51)	4.4 (49)	4.4 (54)	4.6 (52)	4.0 (57)	4.0 (47)	5.1 (49)	2.7 (50)	2.4 (41)	3.4 (57)	3.1 (49)
Badger	1.6 (82)	1.0 (33)	1.2 (83)	2.5 (80)	1.0 (100)	1.5 (50)	1.0 (100)	1.0 (57)	1.0 (100)	1.0 (50)	1.2 (80)

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

^β Estimates from these years were recomputed without license type 99- free youth license to be consistent with other years of data.

* Only 1 respondent indicated they hunted rails and they reported 0 bagged.

Table 5. Statewide (resident and non-resident) small game hunting license sales and estimated hunter harvest, 2006-07 through 2016-17.

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 ^β	2012-13 ^β	2013-14	2014-15	2015-16	2016-17
Small game license sales ^a	295,898	298,467	290,064	282,983	282,227	271,768	264,063	258,581	258,109	258,208	252,358
State duck stamp sales	101,792	100,134	95,675	89,942	88,069	89,681	90,052	93,412	94,265	92,176	88,905
Pheasant stamp sales	129,546	129,315	123,270	110,456	104,286	86,868	90,541	77,597	74,295	77,750	76,920
Estimated harvest^b											
Ducks	730,559	708,491	658,186	572,220	619,600	681,550	784,360	782,810	699,620	663,811	606,458
Canada geese	324,498	243,705	288,411	227,160	257,530	281,630	301,550	229,120	221,620	185,012	204,825
Other geese	6,658	7,723	13,895	6,250	3,940	4,800	8,820	7,130	6,510	4,448	7,188
American coot	24,909	16,061	23,871	14,810	26,340	10,520	16,720	15,130	17,050	15,861	21,564
Common snipe	4,221	3,933	2,210	1,490	1,940	1,390	1,420	2,310	520	223	1,948
Rails / gallinules	1,329	2,569	163	300	80	390	80	70	80	1,039	n.a.*
Crow	69,188	54,319	51,742	56,350	57,300	81,500	90,260	67,440	56,020	57,576	48,590
American woodcock	39,907	27,866	29,210	35,430	29,770	24,980	30,360	31,920	25,810	37,270	46,867
Mourning dove ^d	85,950	101,161	132,577	109,940	100,230	74,000	92,760	80,480	103,370	96,552	58,618
Ring-necked pheasant	587,580	655,443	522,071	398,130	359,400	198,500	250,140	169,100	152,800	243,176	196,141
Ruffed grouse	417,153	293,544	318,338	357,420	465,580	383,150	341,320	288,410	301,190	267,997	308,955
Spruce grouse	26,568	17,705	16,997	19,130	14,960	18,640	11,980	13,110	14,590	9,856	15,348
Sharp-tailed grouse	11,939	13,790	13,695	9,530	16,820	11,600	10,650	7,130	8,530	7,929	8,610
Gray partridge	11,545	11,000	9,660	8,040	9,150	3,950	5,160	2,380	3,590	3,187	3,745
Gray squirrel	140,788	133,194	121,534	109,790	138,920	115,840	126,110	84,010	91,250	96,400	95,374
Fox squirrel	66,068	47,736	51,079	53,970	61,690	48,100	49,750	33,940	40,840	46,383	39,603
Eastern cottontail	77,872	78,588	79,927	57,760	53,870	34,640	64,140	40,710	38,820	41,716	49,187
White-tailed jack rabbit	4,149	9,482	6,446	2,610	7,220	5,180	1,910	1,870	1,050	742	1,124
Snowshoe hare	16,801	5,789	11,343	5,360	6,770	8,430	16,800	6,200	7,860	6,374	5,990
Raccoon (Sept -Feb)	62,891	46,739	72,026	66,700	77,690	44,080	48,340	46,690	52,800	38,387	22,312
Raccoon ^c (Mar –Aug)											
Red fox (Sept –Feb)	7,872	6,188	4,408	10,270	8,780	7,120	7,990	5,190	3,220	3,780	2,247
Red fox ^c (Mar –Aug)											
Gray fox	3,593	559	2,443	1,860	2,380	1,160	250	430	600	816	225
Coyote	20,769	34,377	45,689	46,070	44,050	33,410	51,990	23,630	17,430	35,123	24,481
Badger	1,091	159	490	750	600	230	330	290	80	149	375

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. A youth-free license was part of the sampling frame for the 2011-12 and 2012-13 seasons but was discontinued for 2013-14. The harvest statics for those years have been recomputed by removing the youth free license from both the sampling frame and the respondents' database. The estimates are now more comparable over time.

^a Includes all types of Small game licenses. Duplicate and free licenses not included. ^b Estimates based upon response of hunters to questionnaires.

^c Raccoon and red fox seasons were year round from May, 1994 through March 16, 2006. ^d Mourning dove season added 2004.

* Only 1 respondent indicated they hunted rails and they reported 0 bagged.

Table 6. Mail survey results of nonresident small game hunters, 2006-07 through 2016-17.

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Nonresident licenses issued ^a	7,356	7,858	7,114	6,934	6,695	6,312	6,456	6,031	6,056	6,755	6,701
Questionnaires:											
Number mailed	185	185	226	196	163	169	166	162	165	169	190
Number not delivered	11	11	15	10	6	11	11	10	12	5	15
Number (percent) returned	115 (62)	101 (58)	89 (42)	105 (54)	107 (66)	91 (54)	71 (43)	81 (50)	70 (42)	73 (43)	78 (41)
Estimated nonresidents and (percent) of all licensed nonresidents hunting:											
Ducks	2,344 (32)	2,256 (29)	2,293 (32)	1,849 (27)	2,003 (29.9)	2,430 (38.5)	2,360 (36.6)	2,010 (33.3)	2,340 (38.6)	1,850 (27.4)	2,320 (34.6)
Canada goose	2,083 (28)	934 (12)	1,587(22)	726 (10)	1,314 (19.6)	1,620 (25.6)	1,360 (21.1)	1,270 (21.0)	1,300 (21.4)	650 (9.6)	770 (11.5)
Ruffed grouse	1,953 (26)	1,867 (24)	1,940 (27)	1,915 (28)	2,503 (37.4)	1,460 (23.1)	2,820 (43.7)	2,010 (33.3)	2,600 (42.9)	2,870 (42.5)	3,520 (52.6)
Ring-necked pheasant	3,776 (51)	2,645 (34)	3,116 (44)	1,519 (22)	2,003 (29.9)	1,780 (28.2)	1,910 (29.6)	1,420 (23.5)	1,380 (22.9)	1,480 (21.9)	1,550 (23.1)
Raccoon ^{b, c}	0 (0)	78 (1.0)	0 (0)	0 (0)	63 (0.9)	0 (0)	0 (0)	80 (1.2)	0 (0)	0 (0)	170 (2.6)
Estimated nonresident take:											
Ducks	12,173	22,718	15,463	11,755	17,055	13,840	20,380	20,410	13,060	16,863	17,701
Canada goose	3,580	3,501	5,762	3,698	6,334	4,050	2,270	3,650	2,680	1,484	1,462
Ruffed grouse	11,522	7,236	6,938	8,651	12,600	8,980	10,090	4,990	9,090	13,805	11,772
Ring-necked pheasant	16,079	17,661	10,642	6,274	8,076	4,860	6,820	3,430	3,720	6,581	4,040
Raccoon ^{b, c}	0	3,268	0	0	593	0	0	1,280	0	0	172

^a Excludes duplicate licenses and nonresident shooting preserve licenses.

^b In 2002, 2003, 2004, 2006, 2008, 2009, 2011, 2012, 2014, and 2015 no non-residents reported hunting/harvesting raccoons.

^c In 2013 only one non-resident reported hunting/harvesting raccoons. The extrapolated estimate is not reliable.

The following information has been excerpted from: U.S. Fish and Wildlife Service. Migratory bird hunting activity and harvest during the 2015 - 2016 and 2016-17 hunting seasons. U.S. Fish and Wildlife Service, Laurel, Maryland, U.S.A. The entire report is available on-line at <https://www.fws.gov/migratorybirds/pdf/surveys-and-data/HarvestSurveys/MBHActivityHarvest2015-16and2016-17.pdf>

Table 1. Species composition of the Minnesota waterfowl harvest, 2015 and 2016. (from: Raftovich, R.V., S.C. Chandler, and K.K. Fleming. 2017. Migratory bird hunting activity and harvest during the 2015-16 and 2016-17 hunting seasons. U.S. Fish and Wildlife Service, Laurel, Maryland. USA August 2017. 71 pp).

Species	Minnesota Harvest					Mississippi Flyway Harvest		
	2015	% of Harvest	2016	% of Harvest	Percent change in Harvest 15-16	2015	2016	Percent change Harvest 15-16
Mallard	136,645	23.83	136,016	26.11	0	1,695,598	1,826,117	7
Domestic mallard	0	0	0	0.00		1,087	1,185	8
American black duck	0	0	0	0.00		16,254	25,956	37
Black x mallard	343	0.06	0	0.00	-100	1,692	1,664	-2
Gadwall	17,510	3.05	8,198	1.57	-53	559,674	662,282	15
American wigeon	8,927	1.56	13,788	2.65	54	63,988	91,897	30
Green-winged teal	41,199	7.19	37,637	7.22	-9	529,417	627,605	16
Blue-winged /cinnamon teal	76,562	13.35	73,039	14.02	-5	506,316	255,598	-98
Northern shoveler	8,240	1.44	6,335	1.22	-23	155,309	193,823	20
Northern pintail	8,240	1.44	9,316	1.79	13	95,746	101,514	6
Wood duck	130,465	22.75	115,520	22.17	-11	557,838	582,231	4
Redhead	16,480	2.87	13,788	2.65	-16	86,213	60,324	-43
Canvasback	12,703	2.22	7,080	1.36	-44	30,696	45,348	32
Greater scaup	2,060	0.36	373	0.07	-82	25,053	34,574	28
Lesser scaup	13,046	2.28	7,080	1.36	-46	118,419	67,223	-76
Ring-necked duck	64,546	11.26	62,232	11.94	-4	183,485	188,185	2
Goldeneye	3,777	0.66	4,099	0.79	9	25,123	33,269	24
Bufflehead	23,690	4.13	17,887	3.43	-24	73,064	55,768	-31
Ruddy duck	1,030	0.18	0	0.00	-100	4,805	15,500	69
Scoters	0	0	0	0.00		3,100	6,160	50
Hooded merganser	7,210	1.26	8,571	1.65	19	37,751	50,167	25
Other mergansers	343	0.06	0	0.00	-100	24,008	12,614	-90
Total Duck Harvest ^a (retrieved kill)	573,400 ±13%		521,000 ±14%		-9	4,822,700 ±6%	4,962,600 ±6%	3

^a Sum of all species does not equal total because of rounding error.

Table 2. Top 10 states in number of **adult duck hunters**, 2016, and number of hunter-days and retrieved duck kill. (from: Raftovich, R.V., S.C. Chandler, and K.K. Fleming. 2017. Migratory Bird Hunting activity and harvest during the 2015-16 and 2016-17 hunting seasons. U.S. Fish and Wildlife Service, Laurel, Maryland. USA August 2017. 71 pp).

State	Number of active duck hunters	Duck hunter days afield	Total duck harvest	Seasonal duck harvest per hunter
Texas	79,900 ± 20%	385,800 ± 29%	1,162,400± 36%	14.5 ± 41%
Minnesota	60,600 ± 10%	336,600 ± 13%	521,000 ± 14%	8.6 ± 18%
Wisconsin	55,000 ± 14%	346,100 ± 14%	365,500 ± 12%	6.6 ± 18%
Arkansas	53,900 ± 10%	423,100 ± 12%	1,139,600 ± 13%	21.1 ± 17%
Louisiana	49,900 ± 12%	289,900 ± 17%	857,000 ± 20%	17.2 ± 24%
California	47,100 ± 13%	370,800 ± 12%	1,154,300 ± 14%	24.5 ± 19%
Michigan	38,200 ± 15%	248,800 ± 16%	361,300 ± 23%	9.5 ± 27%
North Dakota	33,500 ± 8%	159,500 ± 8%	437,300 ± 9%	13.1 ± 12%
North Carolina	31,500 ± 19%	242,100 ± 34%	472,600 ± 36%	15.0 ± 41%
Missouri	30,800 ± 13%	220,200 ± 22%	452,400 ± 32%	14.7 ± 35%
Mississippi Flyway		2,647,700 ± 5%	4,962,600 ± 6%	
United States		5,557,400 ± 4%	11,607,400 ± 5%	

Table 3. Top 10 states in number of **adult goose hunters**, 2016, and number of hunter-days and retrieved goose kill. (from: Raftovich, R.V., S.C. Chandler, and K.K. Fleming. 2017. Migratory Bird Hunting activity and harvest during the 2015-16 and 2016-17 hunting seasons. U.S. Fish and Wildlife Service, Laurel, Maryland. USA August 2017. 71 pp).

State	Number of active goose hunters	Goose hunter days afield	Total goose harvest	Seasonal goose harvest per hunter
Texas	45,700 ± 18%	143,500 ± 27%	197,300 ± 26%	4.3 ± 32%
Wisconsin	44,400 ± 12%	328,700 ± 20%	96,400 ± 20%	2.2 ± 23%
Minnesota	42,000 ± 11%	214,900 ± 15%	177,700 ± 25%	4.2 ± 27%
Michigan	39,700 ± 14%	263,400 ± 20%	167,800 ± 19%	4.2 ± 24%
California ^b	30,900 ± 12%	194,000 ± 14%	145,200 ± 20%	4.5 ± 24%
Maryland ^b	25,800 ± 6%	131,900 ± 10%	157,800 ± 13%	6.1 ± 14%
North Dakota	25,000 ± 7%	125,200 ± 12%	179,800 ± 15%	7.2 ± 17%
Pennsylvania	23,600 ± 17%	115,700 ± 23%	104,100 ± 23%	4.4 ± 28%
North Carolina	22,900 ± 24%	79,100 ± 31%	53,500 ± 31%	2.3 ± 39%
Illinois	22,600 ± 13%	161,300 ± 16%	113,400 ± 25%	5.0 ± 29%
Mississippi Flyway		1,734,700 ± 7%	1,178,200 ± 9%	
United States ^b		3,621,300 ± 4%	3,266,900 ± 5%	

^b. 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 HARVEST DURING THE SEPTEMBER 2016 EARLY GOOSE HUNT IN MINNESOTA

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Minnesota held its first September Canada goose season in the Twin Cities Metro area in 1987. Zones were added and seasons expanded in subsequent years until the September Canada goose season was held statewide beginning in 1999. In addition, the State provided an August Canada goose Conservation Action from 2013-2015, but did not continue that season in 2016. September seasons were specific to Canada geese from 1987-2015. However, the federal frameworks for goose hunting were changed in 2016 so that both dark and light geese were legal to take during the September portion of the goose season. Functionally, the September season still targets Canada geese because none of the other goose species are present in significant numbers in Minnesota that time of year.

In 1999, Minnesota began an experiment to extend the season one week (until 22 September) beyond the September 15 end date for early Canada goose seasons in the Mississippi Flyway (Maxson et al. 2002). The full extension was used from 1999-2015, except when the regular waterfowl season opened earlier than 23 September (2012 and 2013) and then the Minnesota Department of Natural Resources (DNR) closed the September goose season the day before the regular waterfowl season opener. In 2016, the DNR closed the season 6 days before the regular waterfowl opener (18 September).

September goose seasons in Minnesota were 3-18 September 2016 and the bag limit 5 dark geese (Canada, white-fronted, and brant) and 20 light (snow, blue, and Ross's) geese per day. Shooting hours were 1/2 hour before sunrise to sunset. Taking geese was prohibited on or within 100 yards of all surface waters in the Northwest Goose and Sandhill Crane Zone, in the Carlos Avery Wildlife Management Area (Anoka, Chisago County), the Swan Lake Area (Nicollet County), and Ocheda Lake Game Refuge (Nobles County). Goose hunters were required to obtain a \$4.00 permit to participate in the September portion of the season. This report documents results of the 2016 September goose hunter mail questionnaire.

METHODS

Permittees were randomly selected to receive a post-season hunter survey. Questionnaires were sent to 3,100 permit holders following the September 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 data-entry errors.

The questionnaire (Appendix A) asked permittees the number of days hunted, number of geese shot and retrieved, and number of geese knocked down and not retrieved during the September goose season. Hunters were asked to indicate the number of days they shot and retrieved a

limit of 5 geese, if they hunted the last weekend of the season, and which closing date they preferred. We also asked whether they participated in the August Canada Goose Conservation Action in 2015 and if they supported reinstating that hunt. Finally, we asked hunters questions to gauge their satisfaction with the goose hunting experience, harvest, regulations, and the number of geese seen.

While other species of geese were legal game for the first time during the 2016 September Goose Season in Minnesota, all responses were directed at Canada geese because essentially no other migrant geese were typically present in September.

We used the R programming language (ver. 2.9.2; R Development Core Team 2017) to summarize responses to the survey.

RESULTS

The DNR License Bureau reported that 26,096 Fall Special Goose Permits were sold through 18 September 2016. Response rate to the survey was 48%, slightly higher than the past two years (Table 1). A slightly higher percentage of respondents hunted in September 2016 (70.8%) than August and September 2015 (65.3%). In 2015, when the August conservation action was offered, 8.3% hunted only during August, 42.2% hunted only in September, 14.8% hunted both seasons, and 34.7% did not hunt. Results from the 2013-2015 August Conservation Actions (Cordts et al. 2017) are presented for comparison (Table 2).

We estimated 18,484 active hunters during the September portion of the season, similar to September 2014 but greater than in 2013 or 2015 (Table 1, Figure 1). However, the total number of early season hunters was less than 2 of the 3 years when the August and September seasons were held (18,570, 20,290 and 21,743 in 2013, 2014, and 2015, respectively). Hunters shot and retrieved an estimated 66,282 Canada geese in the September 2016 season, less than the combined August/September take in 2013-15 (Table 3). Geese/hunter was less than any year since 2009 (Table 3), although the August Conservation Action added to the individual hunter take from 2013-15.

We asked hunters how satisfied they were (1=very low to 7=very high) relative to overall hunting experience, number of geese bagged, number of geese seen, and regulations. Results in 2016 were similar to the September season two previous years: mean satisfaction with the overall experience was 5.1, 4.7, and 4.9 in 2014, 2015, and 2016, respectively; geese bagged was 4.2, 3.8, and 4.0; regulations was 5.0, 4.9, and 4.9; and number of geese seen was 4.4, 3.9, and 4.3. Mean satisfaction for each of these items was slightly lower in the August portion of the season in 2014 and 2015 (Cordts et al. 2015, 2017).

Hunters reported taking the full 5-bird bag limit on 17.6% of the days they hunted. Individual hunters reported getting 5 geese up to 8 days during the season, but most took 5 on 1 (10%) or 2 (5%) days.

Forty percent (40.8%) of active hunters reported hunting on the last weekend of the season, 17-18 September. The largest proportion (0.47) of respondents had no preference on the closing date of the season. Of the individuals with an opinion, 26% favored continuing the season until September 22 and 26% favored ending the season on September 18 (the 2016 option). Slightly more individuals who hunted the last weekend had an opinion, with 30% favoring 18 September, 34% favoring 22 September, and 36% having no opinion.

A quarter (24.4%) of the respondents reported hunting in the 2015 August Conservation Action; however, 10% of the individuals who did not hunt in September this year did not answer the question vs. <1% of the active September hunters. The majority (60.1%) of individuals who participated in the 2015 August Conservation Action favored reinstating the hunt, while 27.8%

did not support the hunt and 12.1% had no opinion. For hunters who did not participate in the 2015 Conservation Action, 30.4% supported reinstating the hunt, 34.6% opposed it, and 35.0% had no opinion.

DISCUSSION

Permit sales declined from 45,277 to 34,311 in the 13-year period from 2000 to 2012, then declined 6,533 between 2012 and 2013. 2013 was the first year of the August Goose Conservation Action, but we have no data to indicate that change influenced the decline. Permit sales in 2016 were the lowest over this period and were 1,072 less than the previous year. September hunter numbers followed a similar pattern, but even though permit sales went down this year, the number of active September hunters increased slightly (Figure 1). September harvest also increased this year (Figure 1), but was 11.5% less than the combined August/September harvest in 2015. Harvest in 2016 was still lower than most years since 2000.

In 2016, Mississippi Flyway goose season frameworks changed to: “States may select seasons for Canada geese not to exceed 107 days with a 5-bird daily bag limit September 1-30 (except in the Intensive Harvest Zone in Minnesota, which may have up to a 10-bird daily bag limit) and a 3-bird daily bag limit for the remainder of the season. Seasons may be held between September 1 and February 15 and may be split into 4 segments.” (81 Federal Register (FR) 17301, 03/28/2016). Thus, Minnesota could hold the early portion of the season anytime starting September 1 and continuing through September 30, or functionally until the opening of the regular waterfowl season in Minnesota, which was 24 September 2016. The previous year (2015) federal frameworks stated: “September Canada goose seasons could be 15 days from September 1-15 in most of the Mississippi Flyway, except Minnesota, where the season could be up to 22 days from September 1-22” (80 FR 51089, 08/21/2015). Minnesota was granted the longer season based upon a 3-year experiment we conducted (Maxson et al. 2002).

Under the September season frameworks in place through 2015, we likely would have closed the 2016 early season on Thursday, 22 September, and opened the regular waterfowl season on Saturday, 24 September. We did this in 2011 when we had similar options. However, given the continuous goose season framework available in 2016, it did not make sense to close the September portion of the season on Thursday, 22 September 2016 and have a 1-day split before the opening of the regular waterfowl season. The logical options were to close the September segment on Sunday, 18 September 2016, or continue the season until Friday, 23 September 2016, the day before the regular waterfowl season opener. In 2012 and 2013, the DNR chose to have continuous September and regular season when the regular season opened earlier than September 24. However, in 2016 the DNR made a different decision and chose to close the September goose season on Sunday, September 18 and have a 5-day split before the waterfowl season opener.

In the questionnaire, we asked respondents if they would have preferred the season closing on Sunday, 18 September (used in 2016) or Thursday, 22 September (used most previous years). Twenty-six percent of the respondents and 34% of those that hunted the last weekend of the season favored the later closing date (Thursday, 22 September). It is likely similar proportions would have favored continuing the season one-more day (close Friday, 23 September) rather than having a one-day split between the early Canada goose and regular waterfowl seasons. In 2011, we asked a sample of Minnesota waterfowl stamp purchasers (not just September goose season hunters) whether they would prefer the next year's (2012) early season continuing until the Friday before regular waterfowl season opened (close Friday, 21 September 2012) or close 5 days before the regular season (on Sunday, 16 September 2012). A slight majority (37.2%) had no preference, 33.6% favored the continuous season, and 29.4% favored the split between

seasons (Schroder et al. 2012). It is interesting that a larger proportion of fall goose permit purchasers had no opinion (47%) compared to regular waterfowl stamp purchasers (37%).

Since 2002, the opening framework date for the regular waterfowl season has been a week earlier (Saturday nearest September 24) than the Saturday nearest 1 October date that was in effect most years from 1979-2001. Minnesota selected the earlier opening date in 2003-2004 and 2011-2016. Opening dates for the regular waterfowl season will range from 21-27 September with the earlier framework date. If we continue to close the September season the Sunday before the regular waterfowl opener, closing dates for the early segment will range from 15-21 September.

Results from this survey provide a more detailed understanding of hunter activity, harvest, and preferences during the September portion of the goose season. There was no preference by hunters for either proposed closing date, so the DNR Section of Wildlife should consider other factors when developing recommendations for future September season closing dates.

Funding is provided by participants through the \$4 Fall Special Goose Permit and in part by the Wildlife Restoration (Pittman-Robertson) Program. We recommend continuing the survey.

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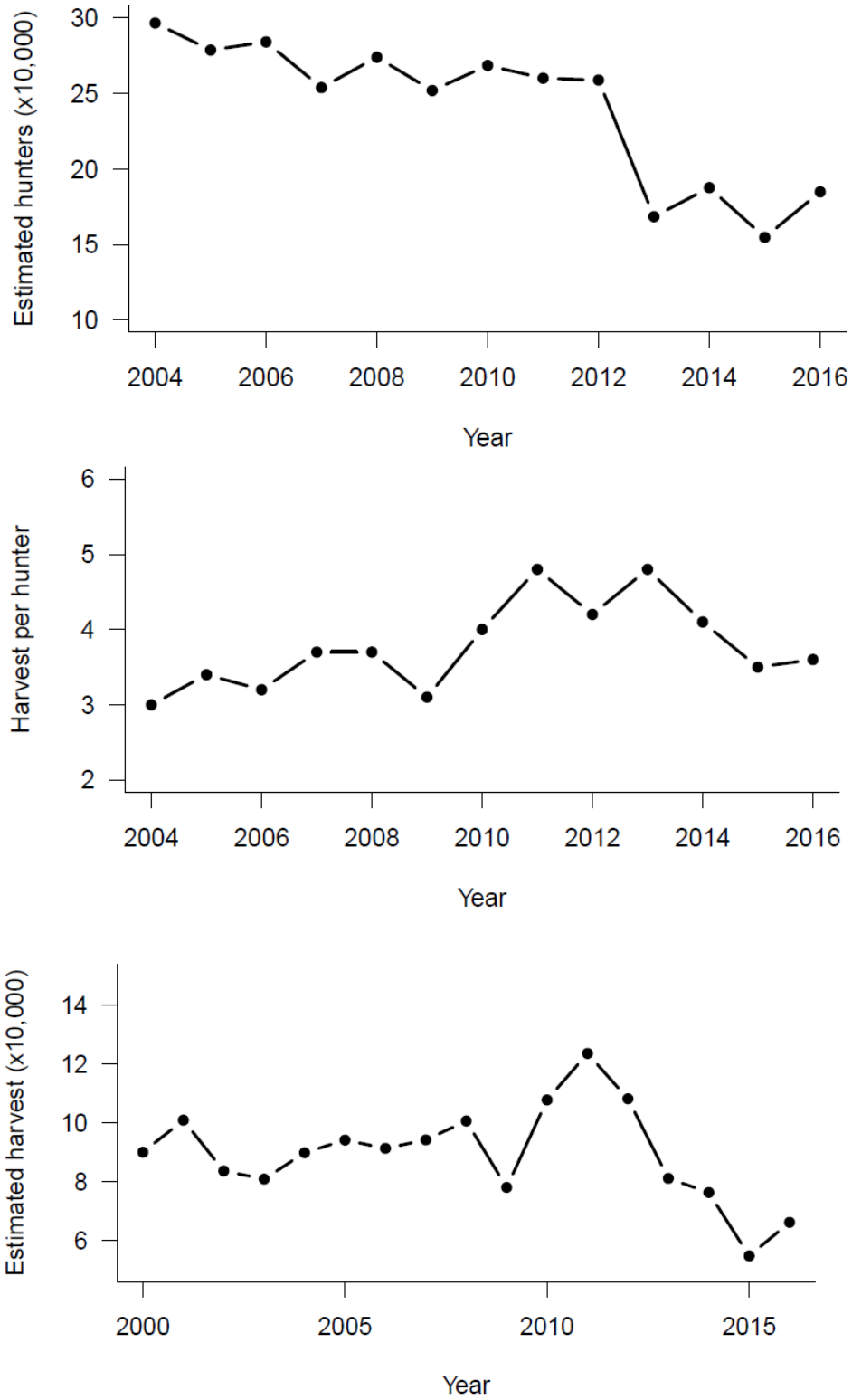


Figure 1. Hunter numbers and harvest/hunter, 2004-2016, and estimated harvest, 2000-2016, in Minnesota's September Canada goose seasons.

Table 1. Permit sales, hunter activity, and harvest during the September Goose season in Minnesota, 2013-2016.

Parameter	2013	2014	2015	2016
Total permits sold	27,778	29,603	27,168	26,096
Questionnaires delivered	3,100	3,039	3,036	3,035
Useable questionnaires returned	1,400	1,335	1,307	1,457
% responding	46.0	43.9	43.1	48.0
Days hunted per active hunter	3.9	3.3	3.6	3.3
Geese shot and retrieved per active hunter	4.8	4.1	3.5	3.6
Unretrieved harvest per active hunter	0.4	0.4	0.3	0.3
% unretrieved harvest	8.4	8.4	7.9	8.7
EXPANDED:				
Active hunters	16,840	18,760	15,465	18,484
Hunter days	64,970	61,620	56,414	60,746
Retrieved harvest	81,230	76,440	54,876	66,282
Est. unretrieved harvest	7,440	7,070	4,719	6,306
Total estimated take	88,670	83,510	59,595	72,588

Table 2. Permit sales, hunter activity, and harvest during the August Canada Goose Conservation Action in Minnesota, 2013-2015.

Parameter	2013	2014	2015
Total permits sold (through August season)	13,740	11,065	10,818
Questionnaires delivered	3,045	3,039	3,036
Useable questionnaires returned	1,400	1,335	1,307
% responding	46.0	43.9	43.1
Days hunted per active hunter	3.1	2.9	3.3
Geese shot and retrieved per active hunter	3.5	3.9	3.2
Unretrieved harvest per active hunter	0.5	1.0	0.4
% unretrieved harvest	12.8	20.4	11.1
EXPANDED:			
Active hunters	6,810	5,500	6,278
Hunter days	21,230	15,870	20,927
Retrieved harvest	23,570	21,280	20,010
Est. unretrieved harvest	3,490	1,430	2,507
Total estimated take	27,060	22,710	22,517

Table 3. Retrieved harvest estimates (by zone 2000-2009) during the September Canada Goose season in Minnesota, 2000-2012 and 2016. Total retrieved harvest during the August and September Canada Goose Seasons, combined, in Minnesota, 2013-15.

Year	NW	West	SE	Twin Cities Metro	Remainder	Total Geese Harvested	Number Active Hunters	Geese/Hunter day	Geese/Hunter	Permits Sold
2000	2,750	18,909	1,183	15,594	51,685	90,121	33,202	0.63	2.71	45,277
2001	2,047	27,663	538	8,164	62,608	101,021	28,265	0.82	3.57	40,127
2002	1,568	22,075	848	8,504	50,769	83,764	26,089	0.68	3.20	40,002
2003	2,805	17,779	2,357	9,890	48,157	80,988	30,415	0.74	2.66	42,009
2004	4,326	16,843	1,197	11,090	56,480	89,936	29,657	0.80	3.03	42,235
2005	4,888	15,304	1,717	11,139	61,218	94,266	27,865	0.89	3.38	38,051
2006	6,826	17,987	1,461	11,844	53,321	91,439	28,405	0.86	3.22	39,534
2007	7,948	14,952	1,469	11,702	58,243	94,314	25,379	0.91	3.72	37,050
2008	5,530	16,168	2,580	13,656	62,827	100,748	27,392	0.98	3.73	37,252
2009	4,442	10,294	2,023	12,794	48,609	78,151	25,189	0.85	3.10	35,418
2010						107,907	26,848	0.98	4.00	35,817
2011						123,700	26,000	1.21	4.80	34,271
2012						108,300	25,900	0.98	4.20	34,311
2013						104,800	18,570	1.25	5.64	27,778
2014						97,720	20,290	1.26	4.82	29,603
2015						74,886	17,731	0.97	4.22	27,168
2016						66,282	18,484	1.09	3.66	26,096

APPENDIX A.



2016 September Goose Season Hunter Survey

You are being asked to provide information to help us evaluate the harvest of geese in Minnesota during the September 3-18, 2016 season. Your cooperation is important. Please return this survey form even if you did not hunt geese. THANK YOU! Lou Comicelli, Wildlife Research Manager, Division of Fish and Wildlife, MN DNR.

1. Did you hunt in Minnesota during the **September** 3-18 Goose season?
 ___ Yes ___ No (Please check one.)
 If YES, please continue to question 2. If NO, proceed to question 6.
2. Indicate the number of days you hunted and the total number of Canada geese you **personally** shot and retrieved in Minnesota (do not include information from other members in your party).

Number of days hunted during September 3-18, 2016	Total Canada geese personally shot and retrieved	Total Canada geese personally knocked down but <u>not</u> retrieved

3. If you hunted geese during the 2016 Minnesota **September** Canada goose season, how satisfied or dissatisfied were you with the following? (Please circle *one* response for each.)

	Very dissatisfied	Moderately dissatisfied	Slightly Dissatisfied	Neither	Slightly Satisfied	Moderately satisfied	Very satisfied
Goose hunting experience	1	2	3	4	5	6	7
Goose hunting harvest	1	2	3	4	5	6	7
Goose hunting regulations	1	2	3	4	5	6	7
Number of geese seen	1	2	3	4	5	6	7

4. On the days you hunted during the September goose season (Sept. 3-18), how many days did you personally shoot and retrieve the daily limit of 5 geese: _____ day(s).
5. This year, the September goose season closed on Sunday, Sept. 18, instead of Sept. 22 as it has in most recent years. There were 5 closed days between the September goose season and the Sept. 24 duck/goose season opener.
 - a. Did you hunt geese during the last weekend (Sep 17-18) of the September goose season in Minnesota?
 ___ Yes ___ No
 - b. What closing date would you have preferred (Check one)?
 Sunday, September 18, 2016
 Thursday, September 22, 2016
 No preference
6. Minnesota did **not** offer the August Canada Goose Conservation Action (season) in the Intensive harvest zone this year (2016).
 - a. Did you hunt during the August 8-23 Canada goose season last year (2015) in Minnesota?
 ___ Yes ___ No
 - b. Do you support reinstating the August goose hunt?
 ___ Yes ___ No ___ Don't know

If you have general comments you may write them here (continue on back if necessary). If you have questions and desire a specific response, please contact your local DNR Wildlife Office or the DNR Information Center (Minnesota DNR, 500 Lafayette Road, St. Paul, MN 55155-4020, 1-888-646-6367). Thank you. **Comments:**



2017 LIGHT GOOSE CONSERVATION ORDER HARVEST IN MINNESOTA

Steve Cordts, Wildlife Populations and Regulations Unit

Margaret Dexter, Wildlife Populations and Research Unit

INTRODUCTION

This report documents results of the 2017 Light Goose Conservation Order hunter mail questionnaire survey.

METHODS

Minnesota held a light goose Conservation Order harvest from 1 March - 30 April 2017. 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.

RESULTS AND DISCUSSION

A total of 974 permits were issued and 393 responses (41 %) to the questionnaire were obtained (Table 1). In calculating harvest estimates, we assumed that the 581 non-respondents participated in the conservation action and took light geese in the same manner as respondents. Four hundred seventy one people attempted to take light geese during the 61-day conservation order period. Active participants pursued light geese for 1,966 days and 1,713 light geese were shot and retrieved. This was an average retrieved take of 4 geese per active participant. Another 298 light geese were estimated wounded and not retrieved.

ACKNOWLEDGMENTS

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

This project was funded in part by the Wildlife Restoration (Pittman-Robertson) Program.

Figure 1. Light Goose Conservation Order hunter mail questionnaire, 2017.

MINNESOTA 2017 LIGHT GOOSE HARVEST SURVEY
For the Period of March 1 - April 30, 2017 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, 2017. 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 2017 hunting experience.**
THANK YOU! Lou Cornicelli, Wildlife Research Program Manager, Division of Fish and Wildlife, MN DNR.

1. Did you hunt light geese in Minnesota during March 1 - April 30, 2017? 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, 2017? _____
3. How many light geese did you personally shoot and retrieve in Minnesota? _____
4. How many light geese did you personally shoot, but were UNABLE to retrieve? _____

Table 1. Summary of Light Goose Conservation Order harvest in Minnesota, 2006 – 2017.

Statistic	Year											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total permits sold	1,363	1,292	1,406	1,670	952	994	1,048	1,405	1,278	1,141	1,143	974
Useable returns	955	921	910	1,057	671	659	675	810	759	520	491	393
Response rate (%)	70.0	71.0	65.0	63.0	72.3	67.1	65.3	58.3	60.0	46	43	41
Active hunters (%)	37.3	39.8	54.9	66.0	40.8	45.7	56.9	54.9	44.0	50	47	48
Estimated total hunters	516	514	773	1,103	389	455	600	770	560	569	534	471
Estimated hunter days	2,665	2,302	3,404	4,647	1,475	1,830	2,270	3,070	2,580	2,434	2,605	1,966
Mean days/hunter	5.2	4.5	4.4	4.2	3.8	4.0	3.8	4.0	4.6	4	5	4
Estimated harvest (shot & retrieved)	1,360	1,786	2,409	4,366	559	1,554	2,620	2,430	2,880	3,266	2,121	1,713
Mean harvest/hunter	2.6	3.5	3.1	4.0	1.4	3.4	4.4	3.2	5.1	6	4	4
Estimated crippling losses	163	172	302	640	70	145	210	370	210	349	215	298
Percent using unplugged guns	42.3	43.6	46.7	46.8	44.9	44.2	43.0	49.4	48.8	NA	NA	NA
Est. number hunters using unplugged guns	215	224	361	516	175	201	260	380	270	NA	NA	NA
Est. number geese shot with unplugged guns	689	1,032	1,275	2,413	348	742	1,510	1,670	2,060	NA	NA	NA
Est. harvest with shell 4-5-6	287	277	339	822	131	311	460	620	770	NA	NA	NA
Percent using electronic calls	14.4	17.1	19.1	23.5	25.9	21.3	22.2	24.5	27.8	NA	NA	NA
Est. number hunters using e-calls	73	88	148	260	101	97	130	190	160	NA	NA	NA
Est. harvest while using e-calls	280	329	566	1,171	192	531	460	620	1,710	NA	NA	NA
Percent hunting 1/2-hr after sunset	43.9	38.3	42.3	43.1	39.7	39.7	42.4	33.4	36.2	NA	NA	NA
Est. number hunting after 1/2-hr sunset	223	197	326	475	154	180	250	260	200	NA	NA	NA
Est. harvest 1/2-hr after sunset	246	209	511	713	87	238	240	260	550	NA	NA	NA



MINNESOTA'S WILD TURKEY HARVEST – FALL 2016, SPRING 2017

Lindsey N. Messinger, Farmland Wildlife Populations and Research Group

SUMMARY OF SEASON STRUCTURE

This report summarizes the fall 2016 and spring 2017 Minnesota wild turkey harvest. The fall turkey season was 30 days in length (October 3- November 1) and allowed for an unlimited number of hunters to take one wild turkey of either sex in one of 12 pre-selected permit areas (501-512, Figure 1). Permits for archery and youth hunters were valid statewide (i.e., no restrictions on permit area).

Although significant changes were made to the spring turkey season structure in 2016, there were no major changes for the 2017 season. The spring turkey season was 49 days in length (12 April – 30 May) and allowed hunters to take one bearded wild turkey (tom, jake, or bearded hen). The spring turkey season was divided into six time periods with permits valid during a specified time period (A-F) and permit area (501-512; Figure 1). A restricted number of permits were available through a lottery system in each permit area during time periods A and B (A: April 12-18, and B: April 19-25). Permits not sold during the lottery process were available for over-the-counter surplus sales. Permits for the remaining time periods (C: April 26 – May 2, D: May 3-9, E: May 10-16, F: May 17-30) were available over-the-counter in unlimited quantities in each permit area. Hunters possessing a permit unfilled during time periods A-E were permitted to hunt during the final time period (F) in their respective permit area. Permits for archery and youth hunters were valid the entire season and statewide (i.e., no time period or permit area restrictions).

FALL 2016 SEASON

Permits Issued

Permits issued to hunters increased slightly from 8,210 permits in 2015 to 8,562 in 2016 (Table 1, Figure 2). Youth permit sales accounted for 23.4% of total license sales during the fall 2016 season which increased from 14.5% in fall 2015. This may reflect recent regulation changes which permit youth to hunt statewide (i.e., no permit area restrictions).

Harvest

There were 1,111 harvested turkeys registered during the fall 2016 season which was a 1% decrease from 2015 (Table 1). Hunter success rates declined slightly (-0.7%) to 13.0% in 2016 from 2015 and remained below the 5-year average (13.9%). The greatest number of permits were issued in permit areas 507 and 508 and this effort was reflected in harvest with these two permit areas also registering the highest harvest numbers (Table 2). Statewide, females represented 54.4% of the total harvest while juvenile males (jakes) and mature males (toms) represented 15.7% and 30.0% of the total harvest respectively (Table 2).

SPRING 2017 SEASON

Permits Issued

There were 49,919 permits issued during the spring 2017 season, including 10,324 general lottery and landowner permits, 11,355 youth permits, 11,249 archery permits, and 16,991 surplus over-the-counter permits (Table 3). The total number of permits purchased remained relatively steady (<1% decrease) in 2017 (Table 4). Youth permit sales composed 22.7% of total permit sales in 2017, a slight decrease (<1%) from 2016 (Table 4). Archery permits accounted for 22.5% of total permit sales (Table 3). Archery permits issued increased 8.8% in 2017 (Table 4); this follows a 105% increase in spring 2016 after regulation changes expanded opportunity, allowing archery hunters to hunt statewide during any time period. Purchase of lottery permits declined by 8.9% from 2016, continuing a declining trend whereas purchase of surplus gun permits remained steady in 2017.

Harvest

Hunters registered 11,854 turkeys (Tables 3, 4, 5, & 7), which was above the 5-year average (11,548 turkeys, Figure 3) and the best consecutive 5-year harvest average (11,610 turkeys during the 2008-2012 seasons). Although harvest remained the highest in the core turkey range in permit areas 507 (3,098 turkeys) and 501 (2,622 turkeys), harvest in permit area 508 (1,632 turkeys) surpassed 503 (1,373 turkeys) for the first time. Youth harvest (2,168 turkeys) declined 3.5% from 2016 whereas archery harvest (1,665 turkeys) increased 12% from 2016 (Table 3). The winter of 2016-2017 was again mild, and likely was not a significant factor beyond normal winter mortality for turkeys. Spring weather was variable, but generally warm and spring “green-up” was earlier than normal. Periods of rain during the A and B time periods may have impacted hunter participation and effort and could account for lower harvest rates during those periods in 2017.

Table 1. Permits available, number of applicants, permits issued, registered harvest, and hunter success rates for fall wild turkey seasons in Minnesota, 1990-2016.

Year	Permits available	Applicants	Permits issued	Registered harvest	Hunter success (%) ^a
1990	1,000	4,522	951	326	34.3
1991	2,200	2,990	2,020	552	27.3
1992	2,200	2,782	2,028	588	29.0
1993	2,400	3,186	2,094	605	28.9
1994	2,500	3,124	2,106	601	28.5
1995	2,500	3,685	2,125	648	30.5
1996	2,500	4,453	2,289	685	29.9
1997	2,580	4,574	2,378	698	29.4
1998	2,710	4,526	2,483	828	33.3
1999	2,890	5,354	2,644	865	32.7
2000	3,090	5,263	2,484	735	29.6
2001	2,870	4,501	2,262	629	27.8
2002	3,790	5,180	2,945	594	20.2
2003	3,870	5,264	2,977	889	29.9
2004	4,380	5,878	3,277	758	23.1
2005	4,410	4,542	2,978	681	22.9
2006	4,290	4,167	2,802	618	22.1
2007	4,490	4,464	2,837	695	24.5
2008	7,560	5,834	4,981	1,187	23.8
2009	9,330	7,738	5,019	1,163	23.2
2010	10,430	6,869	6,607	1,353	20.5
2011	10,430	3,538	5,382	953	17.7
2012	Unlimited	N/A	10,779	1,753	16.3
2013	Unlimited	N/A	8,193	1,078	13.2

Year	Permits available	Applicants	Permits issued	Registered harvest	Hunter success (%) ^a
2014	Unlimited	N/A	8,339	1,137	13.6
2015	Unlimited	N/A	8,210	1,124	13.7
2016	Unlimited	N/A	8,562	1,111	13.0

^a Success rates not adjusted for non-participation.

Table 2. Permits issued, registered harvest by sex, total registered harvest, regular gun harvest, and hunter success rates during the 2016 fall wild turkey season in Minnesota.

Permit Area	Regular permits issued ^a	Toms ^b	Jakes ^b	Hens ^b	Total registered harvest ^b	Regular gun harvest ^c	Regular gun success rates (%)
501	1,068	52	20	95	167	143	13.4
502	100	3	2	9	14	10	10.0
503	675	33	9	64	106	83	12.3
504	226	8	6	11	25	22	9.7
505	417	23	9	25	57	47	11.3
506	226	8	6	21	35	30	13.3
507	1,635	89	52	154	295	245	15.0
508	1,242	72	50	131	253	214	17.2
509	130	13	5	17	35	30	23.1
510	696	27	13	72	112	72	10.3
511	62	1	1	0	2	2	3.2
512	82	4	1	5	10	7	8.5
TOTAL	6,559	333	174	604	1,111	905	13.8

^a Archery and youth permits were not included (valid in all permit areas).

^b Total harvest for all license types.

^c All firearm harvest, excluding harvest from youth and archery license holders.

Table 3. Total permits sold, harvest, and success rate by type of permit during the spring 2017 wild turkey season in Minnesota.

	Total permits sold	Harvest	Success (%) ^a
Lottery	10,324	3,836 ^b	37.1
Surplus	16,991	4,185	24.6
Youth	11,355	2,168	19.1
Archery	11,249	1,665	14.8
Total	49,919	11,854	23.7

^a Success rates not adjusted for non-participation.

^b Includes military and military disabled veteran permit types.

Table 4. Permits available, permits issued, registered harvest, and relative success rates from 1978-2017 for all spring wild turkey hunting seasons in Minnesota.

Year	Permits		Harvest		
	Available	Issued	Issued (%)	Registered harvest	Success (%) ^a
1978	420	411	97.9	94	22.9
1979	840	827	98.5	116	14.0
1980	1,200	1,191	99.3	98	8.2
1981	1,500	1,437	95.8	113	7.9
1982	2,000	1,992	99.6	106	5.3
1983	2,100	2,079	99.0	116	5.6
1984	3,000	2,837	94.6	178	6.3
1985	2,750	2,449	89.1	323	13.2
1986	2,500	2,251	90.0	333	14.8
1987	2,700	2,520	93.3	520	20.6
1988	3,000	2,994	99.8	674	22.5
1989	4,000	3,821	95.5	930	24.3
1990	6,600	6,126	92.8	1,709	27.9
1991	9,170	8,607	93.9	1,724	20.0
1992	9,310	9,051	97.2	1,691	18.7
1993	9,625	9,265	96.3	2,082	22.5
1994	9,940	9,479	95.4	1,975	20.8
1995	9,975	9,550	95.7	2,339	24.5
1996	12,131	10,983	90.5	2,841	25.9
1997	12,530	11,610	92.7	3,302	28.4
1998	14,035	13,229	94.3	4,361	33.0
1999	18,360	16,387	89.3	5,132	31.3
2000	20,160	18,661	92.6	6,154	33.0
2001	22,936	21,404	93.3	6,383	29.8
2002	24,136	22,607	93.7	6,516	28.8
2003	25,016	22,770	91.0	7,666	33.7
2004	27,600	25,261	91.5	8,434	33.4
2005	31,748	27,638	87.1	7,800	28.2
2006	32,624	27,876	85.4	8,241	30.0
2007 ^b	33,976	28,320	83.4	9,412	33.2

Year	Available	Permits		Harvest	
		Issued	Issued (%)	Registered harvest	Success (%) ^a
2008 ^b	37,992	31,942	84.1	10,994	34.4
2009 ^b	42,328	36,193	85.5	12,210	33.7
2010 ^b	55,982	46,548 ^c	83.0	13,467	28.9
2011 ^b	Unlimited	43,521 ^c	N/A	10,055	23.1
2012 ^b	Unlimited	38,906 ^c	N/A	11,325	29.1
2013 ^b	Unlimited	34,281 ^c	N/A	10,390	30.3
2014 ^b	Unlimited	43,305 ^c	N/A	11,447	26.4
2015 ^b	Unlimited	41,623 ^c	N/A	11,734	28.2
2016 ^b	Unlimited	39,648 ^c	N/A	12,313	31.1
2017 ^b	Unlimited	38,670 ^c	N/A	11,854	30.7

^a Success rates not adjusted for non-participation.

^b Youth hunt data included.

^c Permits issued to archery hunters were not included. There were 2,462, 3,911, 4,550, 4,899, 5,052, 10,343, and 11,249 permits issued to archers in 2011, 2012, 2013, 2014, 2015, 2016, and 2017, respectively.

Table 5. Permits issued, registered harvest, and hunter success during the 2017 spring wild turkey season in Minnesota.

Permit area	Regular permits issued ^a	Total registered harvest ^b	Regular gun harvest ^c	Regular gun success rates (%)
501	6,667	2,622	2,037	30.6
502	620	177	131	21.1
503	3,235	1,373	964	29.8
504	725	311	181	25.0
505	2,217	904	671	30.3
506	1,033	426	267	25.8
507	6,586	3,098	2,002	30.4
508	3,770	1,632	1,044	27.7
509	332	204	106	31.9
510	1,922	1,014	577	30.0
511	103	53	20	19.4
512	105	40	21	20.0
TOTAL	27,315	11,854	8,021	29.4

^a Permits issued for the Camp Ripley disabled veterans hunt, archery, and youth permits were not included.

^b Total harvest for all license types.

^c All lottery, military, and surplus permit harvest, excluding youth and archery licenses.

Table 6. Permits available and issued by license type (resident and non-resident) and time period for the spring 2017 wild turkey season in Minnesota.

Time period	Permits available	General lottery ^a	Surplus	Youth	Archery
A: Apr. 12-18	7,010	5,802	358	Not applicable – Youth and archery permits were valid during all time periods.	
B: Apr. 19-25	7,010	4,504	1,873		
C: Apr. 26-May 2	Unlimited	5	7,215		
D: May 3-9	Unlimited	4	4,359		
E: May 10-16	Unlimited	5	2,012		
F: May 17-30	Unlimited	4	1,174 ^b		
Total^a	Unlimited	10,324	16,991	11,355	11,249

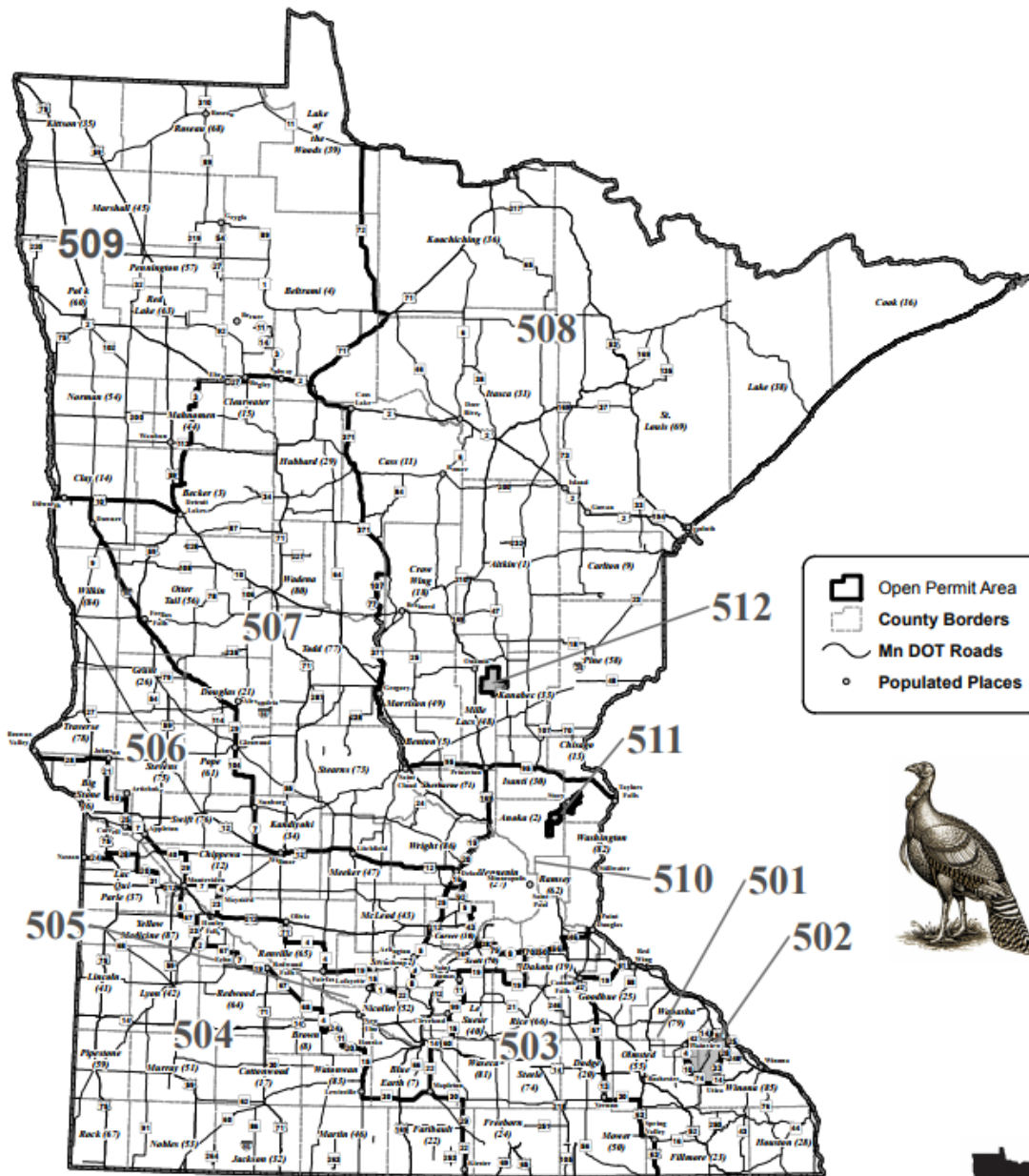
^a Includes landowner licenses.

^b Number of surplus licenses sold for this time period. Actual number of hunters in unknown because all unsuccessful hunters from previous time periods were permitted to hunt in the final (F) season.

Table 7. Total harvest by time period during the spring 2017 wild turkey season in Minnesota.

Time period	Total harvest	Harvest (%)
A	3,793	32.0
B	2,815	23.7
C	2,041	17.2
D	1,383	11.7
E	665	5.6
F	1,157	9.8
Total	11,854	100

Wild Turkey Permit Areas



DATE: 2016-12-02

Figure 1. Permit areas open for hunting, fall 2016 and spring 2017 wild turkey seasons in Minnesota.

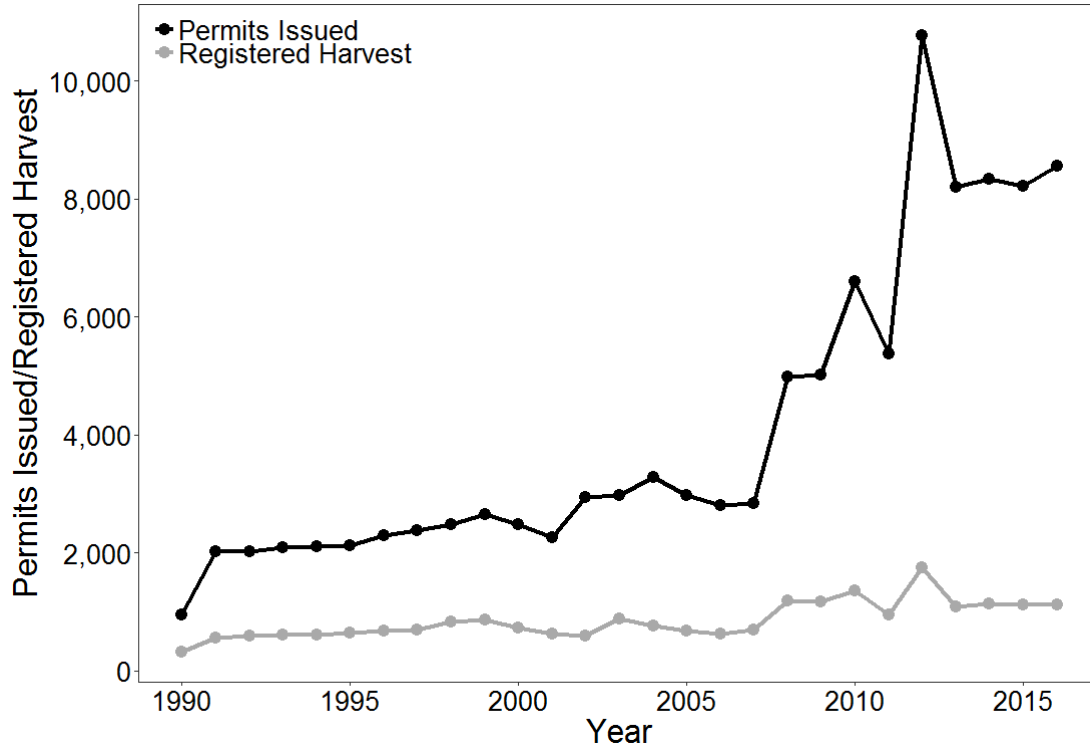


Figure 2. Permits issued and registered harvest for fall wild turkey seasons in Minnesota, 1990-2017.

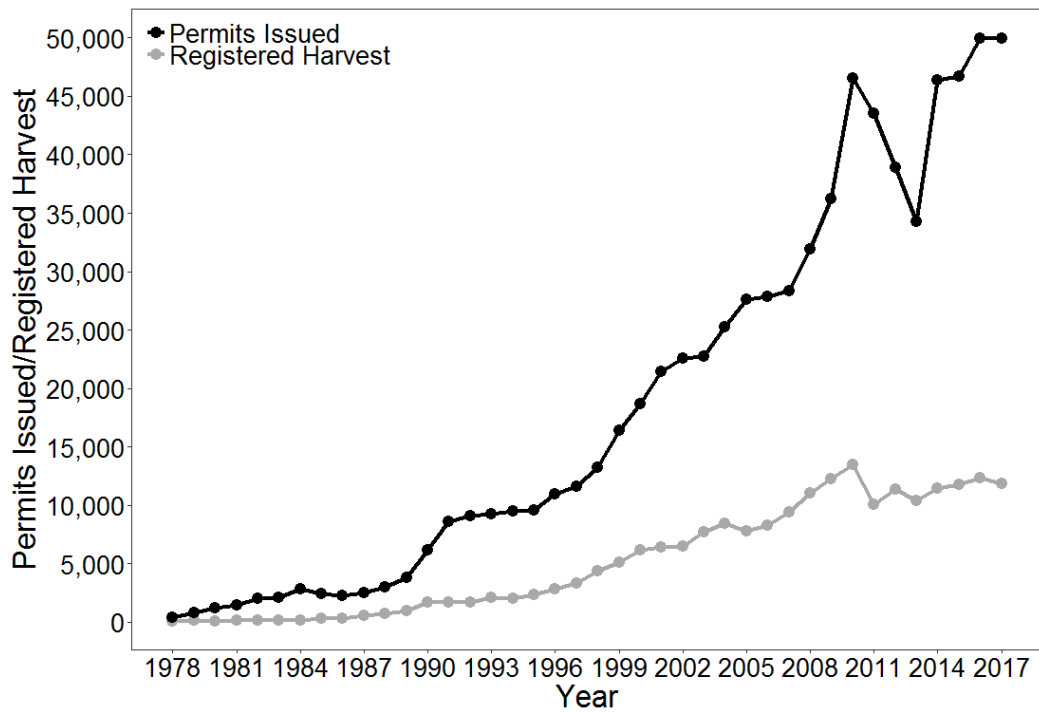


Figure 3. Permits issued and registered harvest for spring wild turkey seasons in Minnesota, 1978-2017.



2016 MINNESOTA PRAIRIE-CHICKEN HARVEST SURVEY

Charlotte Roy, Forest Wildlife Populations and Research Group

SUMMARY OF FINDINGS

The Minnesota DNR conducts a postcard survey of Greater Prairie-chicken (*Tympanuchus cupido pinnatus*) hunters each year to estimate hunter numbers and harvest, and to evaluate hunter success and satisfaction. In 2016, 111 hunters were estimated to have gone afield and harvested 102 prairie-chickens and 35 sharp-tailed grouse (*Tympanuchus phasianellus*) during prairie-chicken hunts. Hunter success (0.58) and satisfaction (3.7 on a scale of 1-5) were similar to recent years and consistent with improvement following changes to the permit areas and season (i.e., longer length and earlier dates) in 2013.

INTRODUCTION

Prairie-chicken (*Tympanuchus cupido pinnatus*) hunting in Minnesota was closed in 1943 because of population declines resulting from habitat loss. However, hunting was reopened in 2003 because prairie-chicken populations were considered robust enough to allow a limited season. During 2003-2005, a limited-entry 5-day hunting season was opened in 7 permit areas in western Minnesota. Permits were awarded through a lottery system, with a bag and season limit of 2 prairie-chickens. In 2006, 4 new permit areas were added and the number of permits was increased in some areas. Surplus licenses were offered for sale after the lottery for the first time in 2011, and in 2013, the permit areas were revised again. These most recent changes eliminated 801A and 802A, modified 803A to include portions of the former 802A and 803A, and added 812A and 813A to expand hunting eastward (Figures 1 and 2). The number of available permits was also reduced in some permit areas to more closely reflect opportunities to harvest prairie-chickens in each permit area. The season was lengthened from 5 days to 9 days to provide hunting opportunity on >1 weekend and was moved from mid-October to open in late-September. The earlier season was an attempt to improve hunter success and satisfaction by providing hunting opportunities before pheasant season opened (to reduce hunter interference and flushing distance). These changes were based on hunter comments received by DNR Wildlife Managers during prior years and input received during a public input survey during March 2013. Responses of surveyed prairie-chicken hunters in 2015 provided additional evidence that the earlier season is preferred by most, although hunter preferences were clearly divided. In 2016, the prairie-chicken season opened 24 September and closed 2 October.

Prairie-chicken hunting in Minnesota is a privilege that is only available to residents.

Landowners or tenants of ≥ 40 acres of grassland within a permit area are eligible to apply for a landowner lottery that awards $\leq 20\%$ of the available permits in a permit area. Extra landowner permits are then included with the regular lottery. Any landowner not receiving a permit through the landowner lottery can participate in the regular lottery. The lottery gives preference to persons that have applied for a permit unsuccessfully for the most years. Upon selection, lottery winners must purchase a prairie-chicken hunting permit before hunting. Although sharp-tailed grouse (*Tympanuchus phasianellus*) hunting is closed south of U.S. Highway 2 (i.e., in permit areas 804A–813A), licensed prairie-chicken hunters may also take sharp-tailed grouse while hunting prairie-chickens. Harvest is documented each year in this annual report.

METHODS

Lottery applicants, winners, and permit purchasers were recorded by the Electronic Licensing System (ELS). Registration of harvested birds has not been mandatory except during 2003-2006, so I determined harvest through a postcard survey. I sent a postcard to each lottery winner the week before hunting season. Three weeks later I sent another postcard to people who had not yet responded. Postcards contained 6 questions: did you purchase a permit, did you hunt, and if so, for how many days, how many prairie-chickens did you harvest, how many sharp-tailed grouse did you harvest during prairie-chicken hunts, and how satisfied were you (on a scale of 1-5)?

Only responses from lottery winners who purchased a hunting permit were considered in the analysis. I compared responses from the first mailing to responses from the second mailing to examine possible nonresponse bias. Corrections were made to account for harvest of non-respondents, based on the answers of respondents. I estimated the number of hunters, birds harvested, birds per harvester, and hunter success for each permit area. Average hunter satisfaction was determined for both successful and unsuccessful hunters, as well as a combined mean. Responses received prior to 21 December were included in this report.

RESULTS & DISCUSSION

The combined quota for the 11 permit areas during 2016 was 126 permits, and 304 individuals applied in the lottery (Table 1). Of the 128 lottery winners, 110—including 7 landowners—later purchased a permit. Only 1 permit area (813A) had fewer applicants than permits available, and all 4 surplus permits were purchased by lottery applicants that did not win in other permit areas, for a total of 114 permit purchasers. The hunters who purchased surplus permits were not included in the survey sample.

Ninety-one permit purchasers (83%, $n = 110$) responded to the survey; 72 (65%) responded to the first mailing and 19 (17%) to the second mailing. This response rate is slightly lower than survey response rates during 2011 (90%) and 2012 (95%), but similar to 2010 (84%), 2013 (83%), and 2014 (87%). In contrast to 2013, we did not detect a strong response bias between the first and second mailings. Respondents to the first mailing were as likely as respondents to the second mailing to have hunted (96% vs. 100% of respondents), they hunted a similar number of days (2.8 vs. 2.3), reported harvesting prairie-chickens at similar rates (58% vs. 47%), reported harvesting a similar number of chickens (0.9 vs. 0.8 birds per hunter), but more sharp-tailed grouse (0.4 vs. 0.1 birds per hunter), and reported similar satisfaction (mean 3.8 vs. 3.6, median 4 vs. 4), with 84% and 79% of respondents reporting satisfaction scores ≥ 3 , respectively. Thus, I combined responses from both mailings this year for the analysis.

Eighty-seven respondents reported that they hunted prairie-chickens (Table 2). I estimated the total number of hunters to be 111 (i.e., purchasers who went afield) after accounting for hunting by non-respondents. Hunters reported harvesting 77 prairie-chickens and total harvest after accounting for non-respondents was estimated as 102 prairie-chickens. An estimated 64 hunters bagged ≥ 1 chicken. Survey respondents reported harvesting 32 sharp-tailed grouse while hunting prairie-chickens from permit areas 803A, 804A, 805A, and 807A (Figure 1). Although successful hunters reported higher average satisfaction (4.5) than respondents that were not successful (2.8), satisfaction of prairie-chicken hunters was high overall.

Prairie-chicken hunter success and satisfaction during 2016 was similar to 2013, 2014, and 2015 and was consistent with improvements following season changes (Table 3). Regulations were changed in 2013 in an attempt to improve hunter success and satisfaction, and survey responses indicated that this was achieved. Write-in comments about the longer (9-day) season with 2 weekends were favorable. Write-in comments about the timing of the season in

2014 included numerous comments indicating a preference for the former, later season (15% of respondents including non-purchasers), compared to 1% of respondents that commented that they preferred the earlier season. Although the 2013 Wildlife Public Input Survey asked specifically whether a season opening on the last Saturday in September was preferred to the opener on the Saturday nearest Oct. 20, and the majority of respondents indicated a preference for the earlier season (64% respondents who expressed an opinion supported the earlier season), preferences of prairie-chicken hunters might change over time. So in 2015, we again asked hunters about their preferences for the timing of the season. In reply, 56% of respondents indicated a preference for the earlier season, and 44% preferred a later season. Supporters of the early season indicated that the birds were less wary early in the season and pheasant hunting did not affect the hunt. Reasons provided in support of a later season included cooler weather for hunters and dogs, better plumage on birds, fewer standing crops, opportunity to harvest pheasants while hunting chickens, and no conflict with the waterfowl opener. Clearly, the survey indicates that prairie-chicken hunters are split in their preferences for season timing, but that the current season meets the timing preferences of the majority of responding prairie-chicken hunters.

ACKNOWLEDGMENTS

I would like to thank Laura Gilbert for preparing and mailing the postcards and entering data. I would also like to thank Mike Larson for commenting on the report. I would also like to thank the hunters that submitted samples for the genetics and pesticide studies.

Table 1. Prairie-chicken hunt lottery applicants, winners, and hunting permit purchasers in Minnesota during 2016.

Permit area	Permits available	No. of applicants	Lottery winners		Permit purchasers ^a		Surplus purchasers ^c
			No. ^b	Proportion	No.	Proportion	
803A	10	22	10	0.45	10	1.00	0
804A	12	17	12	0.71	9	0.75	0
805A	12	73	12	0.16	12	1.00	0
806A	12	24	14	0.58	8	0.57	0
807A	20	43	20	0.47	18	0.90	0
808A	15	29	17	0.59	15	0.88	0
809A	15	32	15	0.47	13	0.87	0
810A	15	27	17	0.63	15	0.88	0
811A	5	8	5	0.63	4	0.80	0
812A	5	28	5	0.18	5	1.00	0
813A	5	1	1	1.00	1	1.00	4
All	126	304	128	0.42	110	0.86	4

^a Lottery winners who purchased a hunting permit.

^b The number of permits may exceed the quota when the last applicant selected in the lottery belongs to a hunting party.

^c Number of people purchasing a surplus permit after the lottery because the permit quota was not met during the lottery.

Table 2. Prairie-chicken harvest in Minnesota during 2016.

Permit area	No. of hunters ^a		Birds harvested		Birds per harvester ^b	Success rate ^c
	Self-reported	Estimated	Self-reported	Estimate d		
803A	10	10	8	8	1.3	0.60
804A	6	7	7	8	1.3	0.86
805A	9	11	3	4	2.0	0.18
806A	5	8	8	13	2.2	0.75
807A	13	18	14	19	1.4	0.78
808A	11	15	13	18	1.6	0.73
809A	10	13	6	8	2.0	0.31
810A	14	15	12	13	1.9	0.47
811A	4	4	2	2	2.0	0.25
812A	4	5	3	4	2.0	0.40
813A	1	5	1	5	1.0	1.00
All	87	111 ^d	77	102 ^d	1.6 ^d	0.58 ^d

^a Permit purchasers who hunted.

^b Estimated number of birds harvested per successful hunter.

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

^d Assumed that non-respondents were represented by respondents.

Table 3. Summary of prairie-chicken hunting in Minnesota during 2003–2016.

Year	Permits available	Applicants	Hunters ^a	Birds harvested	Success rate ^b	Hunter satisfaction ^c
2003	100	853	92	130	0.75	4.4
2004	101	759	87	58	0.45	3.6
2005	110	500	86	94	0.63	4.0
2006	182	512	149	109	0.49	3.6
2007 ^d	187	519		122	0.53	
2008	186	535	137	133	0.58	3.9
2009	186	512	143	118	0.52	3.4
2010	186	421	136	78 ^e	0.32	3.0
2011	186	264	138	103	0.45	3.4
2012	186	298	158	86	0.39	3.4
2013	126	277	93 ^f	96 ^f	0.60 ^f	3.7 ^f
2014	126	305	102	95	0.54	3.7
2015	126	271	112	103	0.55	3.6
2016	126	304	111	102	0.58	3.7

^a Estimated number who went hunting, not permit purchasers.

^b Proportion of hunters harvesting ≥ 1 prairie-chicken.

^c Mean on a scale of 1–5.

^d A hunter survey was not conducted during 2007; results are from the Electronic Licensing System, which documented 150 permit purchasers.

^e One hunter reported harvesting 10 prairie-chickens in 2010.

^f Assumed that non-respondents were represented by respondents in the second mailing in 2013.

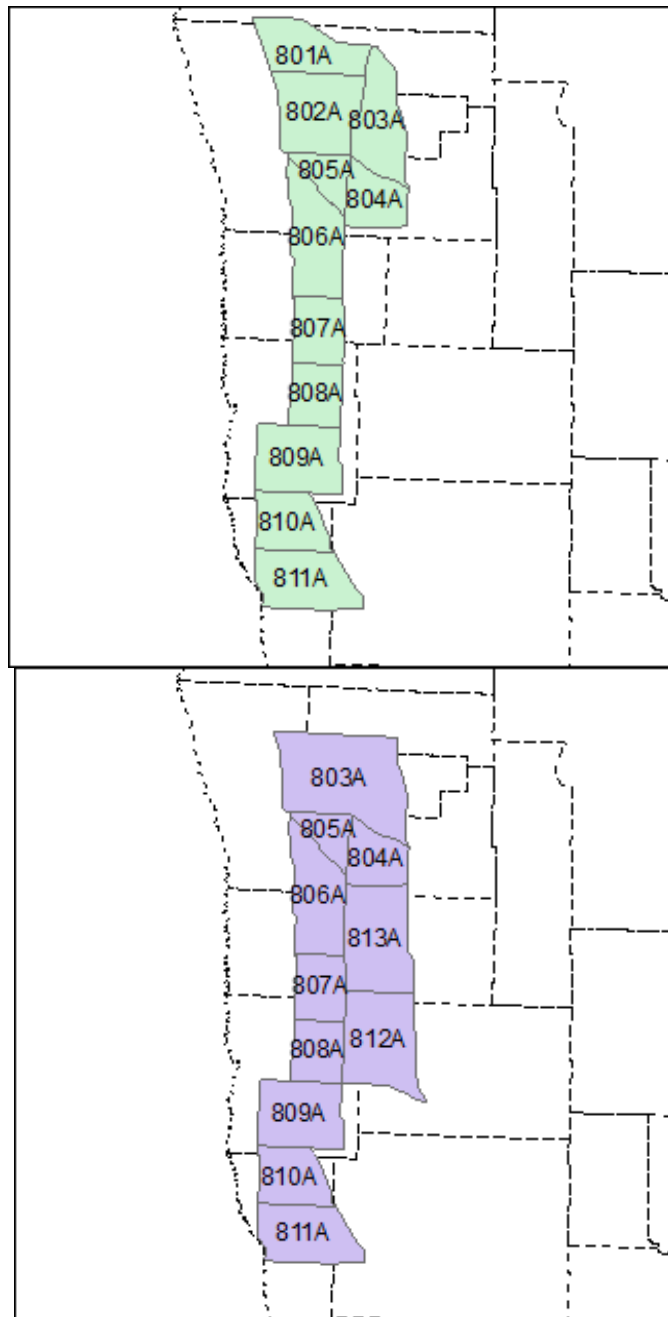


Figure 1. Prairie-chicken hunting permit area boundaries in northwestern Minnesota during 2013 - 2016 (top) compared to 2012 (bottom). County boundaries are indicated by dashed lines. Permit areas 812A and 813A were added, 801A was eliminated, and 802A and portions of 803A were combined into a revised permit area 803A.

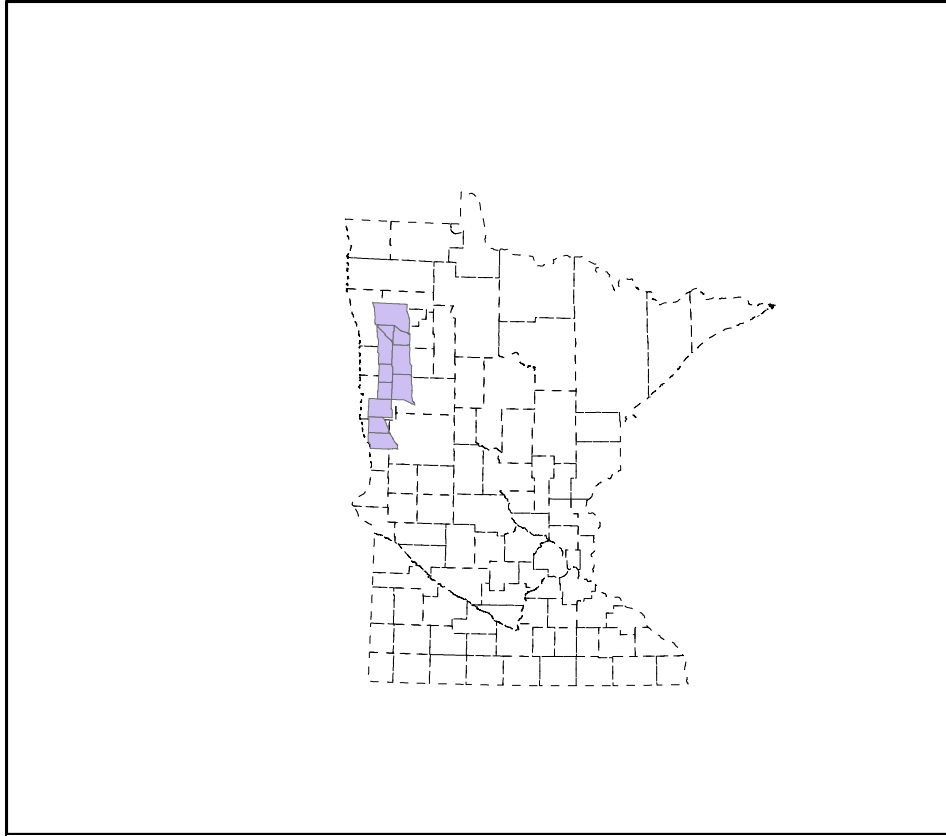


Figure 2. Northwestern location of prairie-chicken hunting permit areas within the state relative to county boundaries (dashed lines).



2016 STATUS OF MINNESOTA BLACK BEARS

Dave Garshelis and Andy Tri, Forest Wildlife Populations and Research Group

INTRODUCTION

The Minnesota bear range has historically been divided into 11 bear management units (BMU). Each has a separate quota on hunting licenses, and hunters must enter a lottery (based on preference points) to obtain a license. Outside the primary bear range, where bear depredation to crops is a primary concern, license sales are unlimited (no-quota area), and hunters can purchase licenses right up to and through the season, over the counter. 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 bear hunting and harvests.

METHODS

Successful hunters must register their bears, in person at designated registration stations or electronically by internet or phone. Stations are not staffed by DNR personnel. Harvest data are a simple tally of these registrations. Hunters also are required to submit a tooth from harvested bears, which is used to estimate age, and thus harvest age structure. Tooth envelopes must be acquired at registration stations.

RESULTS

Permits, licenses, harvest, and success rates

Permit applications for bear licenses increased to nearly 20,000 (Table 1), the highest in 14 years. Permit availability has remained fairly constant for the past 4 years. The low permit availability has driven up sales of no-quota licenses, which were the highest on record in 2016, comprising 46% of total licenses purchased. The higher number of hunters combined with an unusually high success rate resulted in the highest statewide harvest in 6 years. Hunting success is affected by numbers of hunters (i.e., competition) (Fig. 1), food supply (affecting bears' attraction to baits), and density of bears.

Quota zone permits and licenses

In 2016, Bear Management Unit (BMUs, see Fig. 2) 26 was divided into 27 and 28, and BMU 44 was split into 46 and 47 (BMUs 28 and 47 comprise the Leech Lake Reservation). The number of available quota zone permits remained the same or declined slightly for all BMUs except BMUs 45 and 51 (Table 2), which were increased in response to a perceived increasing trend in bear numbers. This was the 6th year of a system whereby licenses for the quota zone that were not purchased by permittees selected in the lottery could be purchased later as surplus. All surplus licenses were purchased (Table 3).

Quota zone lottery

The low permit availability over the past 4 years has made it more difficult to draw a permit in the lottery (Table 4). In 2011, some 1st-year applicants (preference level 1) were drawn in all but 3 BMUs. But since 2014, 1st-year applicants were drawn only in BMU 22 (BWCAW). In

2016, preference level 2 hunters were drawn only in BMUs 22, 13, and 25. Drawing a permit in BMUs 28, 46 and 45 required a preference level of 4 or higher.

Harvest by BMU

In 2016, most BMUs had higher harvests than in 2015 (Table 5). BMU 45 had an especially high harvest. A record high harvest occurred in the no-quota zone. The percent of the total statewide harvest contained within the no-quota zone has increased with reduction of quota zone permits (Fig. 3). 2015 was notable for a record high male-biased harvest sex ratio; in 2016, the sex ratio was more normal, except BMUs 25 and 26 (now 27/28), which had record high percent males, versus BMU 41, which had a female-dominated harvest.

Hunting success by BMU

Hunters in the quota zone had a record high (50%) success in 2016 (Table 6). All quota zone BMUs (except 22, where unattended baiting is not allowed) had record high or near record high success. Success rate was more normal in the no-quota zone. However, estimating success in the 3 no-quota BMUs (Fig. 2) remains difficult, as it is based on where hunters indicated they planned to hunt when they purchased their license, and many of these hunters (>100) chose places within the quota zone (but most likely did not hunt there, as only 9 killed a bear in the quota zone with a no-quota license).

Harvest by date

During years of normal fall food abundance, about 70% of the harvest occurs during the 1st week of the bear season, and ~83% occurs by the end of the 2nd week (Table 7). The distribution of the harvest by date followed this normal pattern in 2016, despite being a year with low abundance of fall foods (very unlike 2015, which also had low fall food abundance).

Predictions of harvest

The 2016 statewide harvest was close to what was expected, based on regression of harvest as a function of hunter numbers and the fall food productivity index (Fig 4). This regression is particularly strong (and has accurately predicted previous harvests) when only the past 15 years are considered.

Harvest sex ratios

Sex ratios of harvested bears reflect both the sex ratio of the living population (which varies with harvest pressure) as well as the relative vulnerability of the sexes to hunters (which varies with natural food conditions and hunter density). In general, harvest sex ratios favoring males (the more vulnerable sex, and hence the minority sex in the living population) provide more resilience to the population. Harvest sex ratios within BMUs varied considerably year-to-year over the past 2 decades (Fig. 5). Three BMUs have shown a generally increasing trend in percent males in the harvest: BMU 25, 26, and 51.

Harvest ages

Median age of harvested females increased in nearly all BMUs, and statewide, in 2016 (Fig. 6). A long-term declining trend in median age of harvested females continues to be evident in BMU 25 (Fig. 7). Statewide, the proportion of the female harvest composed of 1–2 year-olds declined and 4–10 year-olds increased (Fig. 8). Median ages of harvested males have been relatively stable for 2 decades.

Submission of bear teeth for aging

Ages of harvested bears are now used as the principal means of monitoring population trends. Although hunters are required to submit a tooth from their harvested bear, historically >25% did

not comply. "Violation notices" were sent to non-compliant hunters each year since 2014, which spurred a higher initial compliance in 2015 and 2016 (>80%), and a compliance after the reminder notice of ~90% (Fig. 9). Since 2013, hunters could register by phone or internet, and pick up a tooth submission envelope later: tooth submission compliance by these hunters is less than for hunters who register their bear in person and pick up a tooth envelope at that time. No-quota zone hunters (BMUs 11, 10, 52) have the poorest rate of tooth submission (Fig. 10).

Note: All data contained herein are subject to revision, due to updated information, improved analysis techniques, and/or regrouping of data for analysis.

Table 1. Bear permits, licenses, hunters, harvests, and success rates, 1996–2016.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Permit applications	30405	27353	30245	29384	29275	26824	21886	16431	16466	16153	15725	16345	17362 ^a	17571 ^a	18647 ^a	19184 ^a	18103 ^a	18107 ^a	18885 ^a	18422 ^a	19958 ^a
Permits available	12030	11370	18210	20840	20710	20710	20610	20110	16450	15950	14850	13200	11850	10000	9500	7050 ^b	6000	3750	3750	3700	3850
Licenses purchased (total)	12414	11440	16737	18355	19304	16510	14639	14409	13669	13199	13164	11936	10404	9892	9689	9555	8986	6589	6620	6962	7177
Quota zone ^c	10592	9655	14941	16563	17021	13632	12350	9833	10063	9340	9169	8905	7842	7342	7086	5684	4951	3188	3177	3257	3420
Quota surplus/military ^c						235	209	2554	1356	1591	1561	526	233	77	83	1385	1070	578	583	446	441
No-quota zone ^c	1822	1785	1796	1792	2283	2643	2080	2022	2238	2268	2434	2505	2329	2473	2520	2486	2965	2823	2860	3259	3316 ^h
% Licenses bought																					
Of permits available ^d	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	100	100	100	100	100	100
Of permits issued ^d			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	80.7	82.7	85.0	84.7	87.9	88.7
Estimated no. hunters ^e	11500	10300	14500	15900	16800	15500	13800	13600	12900	12500	12500	11300	9900	9400	9200	9100	8600	6300	6300	6600	6800
Harvest	1874	3212	4110	3620	3898	4936	1915	3598	3391	3340	3290	3172	2135	2801	2699	2131	2604	1866	1627	1971	2641
Harvest sex ratio (%M) ^f	62	55	55	53	58	56	61	58	57	59	58	57	62	59	59	61	59	62	62	66 ⁱ	61
Success rate (%)																					
Total harvest/hunters ^g	16	31	28	23	23	29	14	26	26	26	26	28	21	30	29	23	30	30	26	30	39
Quota harvest/licenses	15	29	25	20	20	28	14	25	26	25	25	28	21	30	30	24	33	37	33	39 ^j	50 ^j

^a Includes area 99, a designation to increase preference but not to obtain a license (2008 = 528, 2009 = 835; 2010 = 1194; 2011 = 1626; 2012 = 1907; 2013 = 2129; 2014=2377; 2015=2455; 2016=2641).

^b Permits reduced because of a new procedure in 2011 that ensures that all available licenses are purchased (see Table 2).

^c Quota zone established in 1982. No-quota zone 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. In 2011, surplus licenses offered for all lottery licenses not purchased by August 1. Free licenses for 10 and 11 year-olds were available beginning 2009.

^d Quota licenses bought (including surplus)/permits available, or licenses bought (prior to surplus)/permits issued. 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. In 2011–16, all unpurchased licenses were put up for sale and were bought.

^e 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%). The estimated no. of hunters in 2011–16 may be under-estimated because a large no. of people bought surplus licenses 1 month before the season, so they were more apt to hunt.

^f 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.

^g Success rates in 2001–2012 were calculated as number of successful hunters/total hunters, rather than bears killed/total hunters, because no-quota hunters could take 2 bears. After 2012, hunters could take 2 bears only if they bought 2 licenses (1 quota + 1 no-quota). In 2016, 5 hunters killed 2 bears.

^h Record high number of no-quota zone licenses purchased (46% of total licenses purchased).

ⁱ Record high % males in statewide harvest.

^j 2016: record high success rate. 2015: highest success rate since very poor food year of 1995.

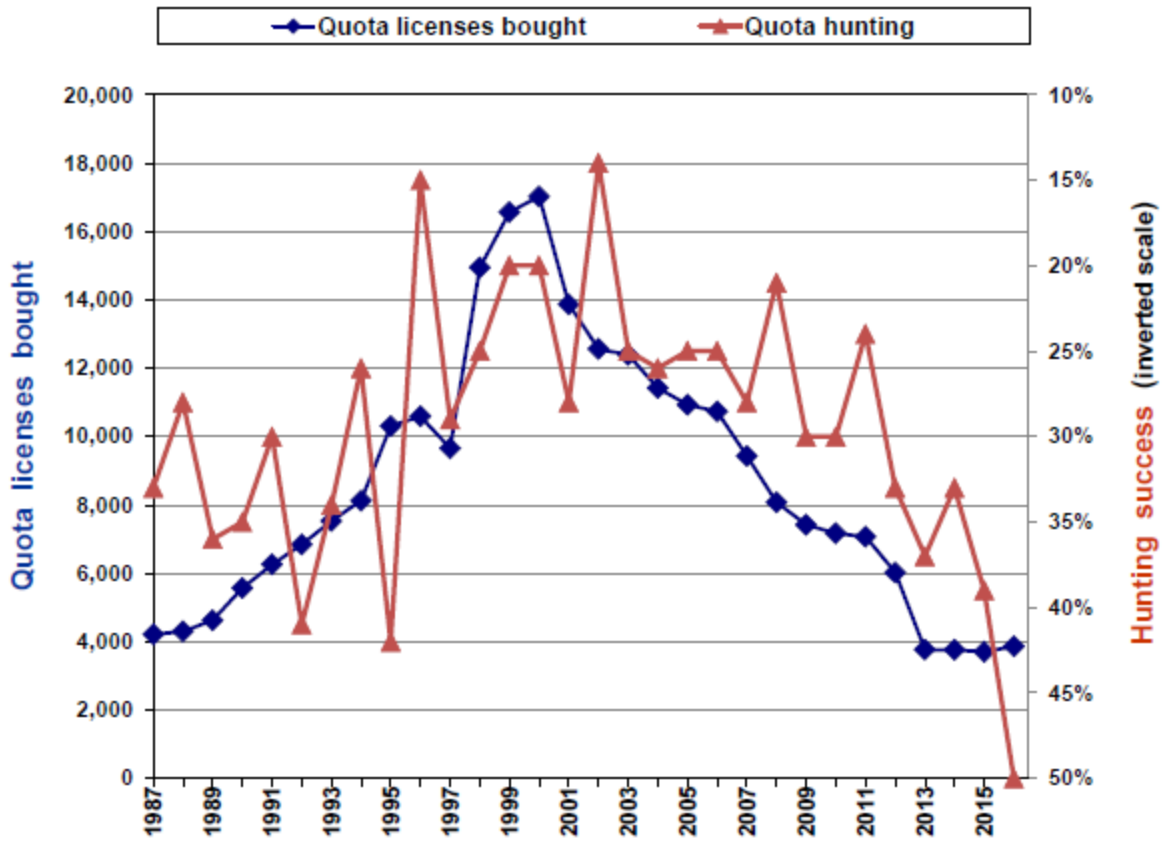


Figure 1. Relationship between licenses sold and hunting success (note inverted scale) in quota zone, 1987–2016 (no-quota zone first partitioned out in 1987). Number of licenses explains 42% of variation in hunting success during this period ($P = 0.0001$). Large variation in hunting success is also attributable to food conditions.

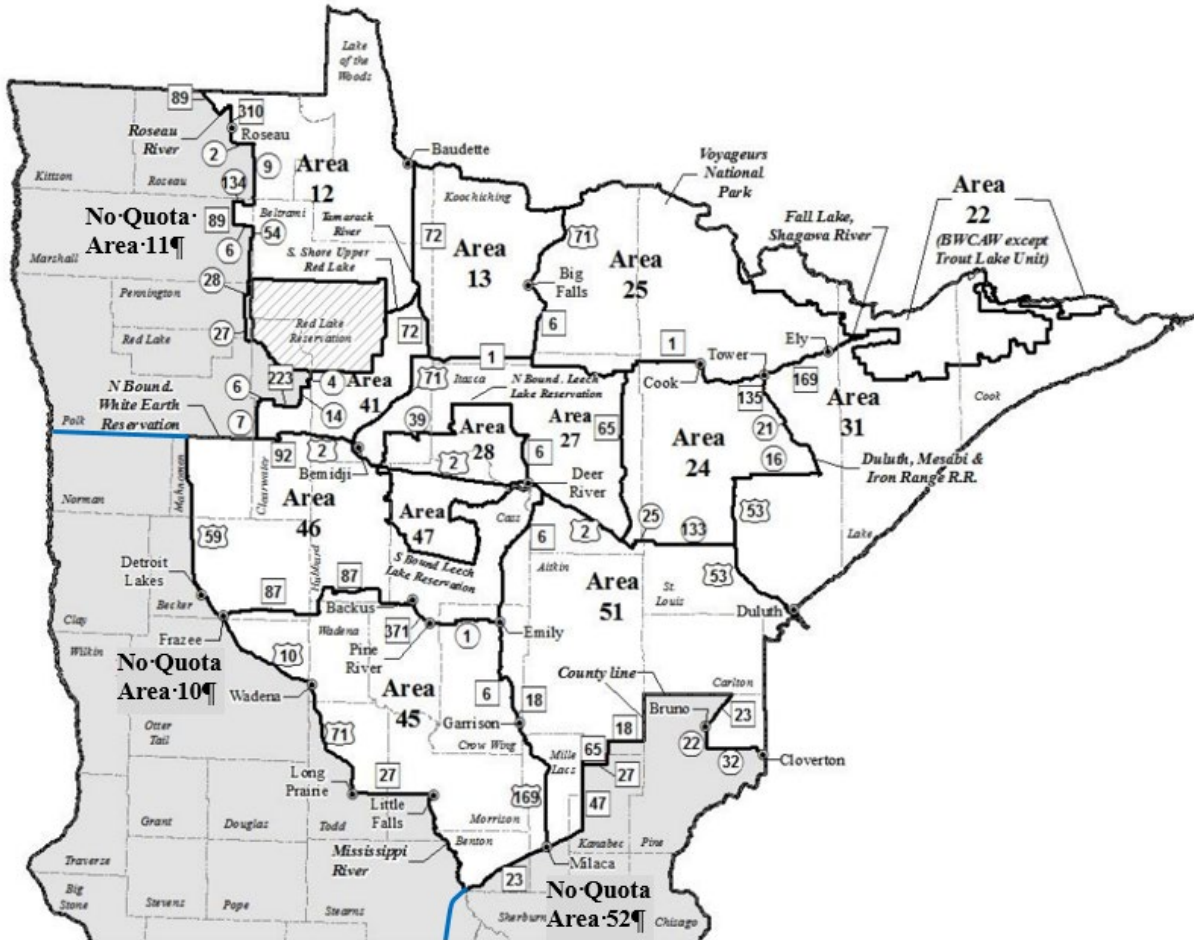


Figure. 2. Bear management units (BMUs) within quota (white) and no-quota (gray) zones. Hunters in the quota zone are restricted to a single BMU, whereas no-quota hunters can hunt anywhere within that zone. In 2016, BMU 26 was divided into 27 and 28, and BMU 44 was split into 46 and 47 (BMUs 28 and 47 comprise the Leech Lake Reservation).

Table 2. Number of bear hunting quota area permits available, 2011–2016. Highlighted values show a change from the previous year. BMUs 26 and 44 were divided into 27/28 and 46/47, respectively, in 2016.

BMU	2011		2012	2013	2014	2015	2016	
	Before reduction	After reduction ^a					Before BMU split ^b	After BMU split
12	450	350	300	200	200	150	150	150
13	600	450	400	250	250	250	250	250
22	125	100	100	50	50	50	50	50
24	500	350	300	200	200	200	200	200
25	1200	900	850	500	500	500	500	500
26	900	650	550	350	350	350	325	
27								250
28								75
31	1300	1000	900	550	550	550	550	550
41	400	300	250	150	150	150	125	125
44	1100	850	700	450	450	450	450	
46								400
47								50
45	400	250	200	150	150	150	250	250
51	2500	1850	1450	900	900	900	1000	1000
Total	9475	7050	6000	3750	3750	3700	3850	3850

^a Beginning in 2011, all licenses not purchased by permittees were sold (Table 3). In order not to increase the number of hunters, 2011 permit allocations were reduced by the mean percentage of licenses that were purchased in each BMU in 2009–2010. The table shows the permit allocation before and after this reduction. All subsequent allocations were based on the assumption that the quota would be filled (Table 3).

^b In 2016, the Leech Lake Reservation was split from BMUs 26 and 44 to form BMUs 28 (north) and 47 (south), with the remaining area of BMU 26 renamed BMU 28 and remaining area of BMU 44 renamed BMU 46. The column shows permit allocation before the split in order to compare with previous years.

Table 3. Number of quota BMU permit applicants (Apps), licenses bought (after permits drawn) and surplus licenses bought, 2011–2016^a. Shaded values indicate undersubscribed areas (applications < permits available).

BMU	2011			2012			2013			2014			2015			2016		
	Apps	Bought license	Surplus bought	Apps	Bought license	Surplus bought	Apps	Bought license	Surplus bought	Apps	Bought license	Surplus bought	Apps	Bought license	Surplus bought	Apps	Bought license	Surplus bought
12	834	267	84	813	244	60	707	160	44	661	164	36	612	130	20	624	133	17
13	751	366	84	719	325	76	664	213	37	703	218	32	692	210	40	716	221	29
22	90	71	31	83	56	43	55	36	14	65	33	17	48	36	9 ^b	52	37	13
24	918	294	56	888	253	47	763	170	30	875	174	26	771	171	29	884	173	27
25	1763	712	190	1625	713	137	1575	432	69	1533	424	76	1396	433	67	1443	440	60
26	1894	512	139	1666	458	92	1695	303	47	1696	298	52	1650	309	42			
27																1224	219	31
28																325	72	3
31	2505	826	174	2406	758	146	2261	478	72	2257	468	82	2021	488	62	2180	489	62
41	688	253	47	592	208	42	575	135	15	561	129	21	570	129	21	618	114	11
44	3010	697	154	2619	612	88	2682	386	65	2751	393	57	2626	402	48			
46																2690	370	30
47																194	45	5
45	1019	208	42	1135	170	30	1205	141	9	1403	127	23	1703	139	11	2046	227	23
51	4086	1478	372	3650	1154	296	3796	734	166	4003	748	152	3878	810	90	4321	880	121
Total ^c	17558	5684	1373	16196	4951	1057	15978	3188	568	16508	3176	574	15967	3257	439	17317	3420	432

^a Beginning in 2011, all licenses not purchased by permittees were sold as “surplus”. In all cases but one (see footnote b), all of the surplus licenses were purchased. Surplus = Permits available (Table 2) minus Bought license (± 4 to account for groups applying together).

^b Even after purchase of surplus licenses, this BMU remained undersubscribed.

^c Beginning in 2008, applicants could apply for area 99 in order to increase future preference, but not buy a license; these are not included in the total number of applications (unlike Table 1, where they are included).

Table 4. Percentage of quota BMU lottery applicants with preference level 1 (1st-year applicants), 2, 3, and 4 who were drawn for a bear permit, 2011–2016. Blank spaces signify 100% of applicants drawn. All preference level 2 applicants were drawn, except where 0 preference level 1 applicants were drawn. Likewise, all preference level 3 applicants were drawn, except where 0 preference level 2 applicants were drawn^a.

BMU	2011		2012		2013			2014			2015				2016				
	Pref 1	Pref 2	Pref 1	Pref 2	Pref 1	Pref 2	Pref 3	Pref 1	Pref 2	Pref 3	Pref 1	Pref 2	Pref 3	Pref 4	Pref 1	Pref 2	Pref 3	Pref 4	
12	2		0	80	0	49		0	40		0	17		0	0		98		
13	51		33		4			0	72		0	56		0	38		100		
22	100		100		89			72			100			98	100				
24	14		0	75	0	41		0	13		0	2		0	0		86		
25	35		28		0	81		0	57		0	44		0	42		100		
26 ^b	0	77	0	49	0	7		0	0	80	0	0	51						
27															0	0		30	
28															0	0		0	99
31	11		0	84	0	45		0	15		0	0	87	0	0		75		
41	6		0	86	0	43		0	19		0	0	99	0	0		77		
44 ^b	0	55	0	28	0	0	68	0	0	41	0	0	18						
46															0	0		0	85
47															0	0		10	
45	0	67	0	29	0	0	75	0	0	30	0	0	0	81	0	0		0	63
51	25		1		0	53		0	22		0	0	89		0	0		72	

^a As an example: In BMU 12: in 2011, 2% of preference level 1 applicants were drawn and 100% of preference 2 applicants were drawn for a permit; by 2016, no preference 1 or 2 applicants were drawn, 98% of preference 3 and 100% of preference 4 (and above) were drawn. In BMU 45: in 2016, no preference 1–3 applicants were drawn, 63% of preference 3 were drawn, and 100% of 4 (and above) were drawn.

^b BMU 26 was split into 27/28 and BMU 44 was split into 46/47 in 2016.

Table 5. Minnesota bear harvest tally for 2016 by Bear Management Unit (BMU)^a and sex^b compared to harvests during 2011–2015 and record high and low harvests (since establishment of each BMU).

BMU	2016			2015	2014	2013	2012	2011	5-year mean	Record low harvest (yr)	Record high harvest (yr)	
	M (%M)	F	Total									
Quota												
12	54 (69)	24	78	60	38 ^d	62	82	106	70	38 (14)	263 (01)	
13	94 (64)	53	147	72 ^e	91	95	112	119	98	71 (88)	258 (95)	
22	3 (60)	2	5	7	5	9	8	11	8	3 (03)	41 (89)	
24	64 (67)	32	96	97	50 ^f	76	108	122	91	50 (14)	288 (95)	
25	186 (65) ^m	101	287	227	168 ^g	197	254	317	233	149 (96)	584 (01)	
26	[127] (74) ^m	[44]	[171]	121	117 ^h	121	238	167	153	117 (14)	513 (95)	
27	98 (75)	33	131									
28	29 (73)	11	40									
31	201 (64)	111	312	307	221	197	363	358	289	157 (88)	697 (01)	
41	25 (44) ⁿ	32	57	35 ⁱ	36	40	70	54	47	35 (15)	201 (01)	
44	[114] (53)	[101]	[215]	158	170	181	188	130	165	130 (11)	643 (95)	
46	100 (53)	90	190									
47	14 (56)	11	25									
45	51 (50)	51	102 ^p	55	54	48	67	32	51	32 (11)	178 (01)	
51	268 (58)	194	463 ^c	302	291	349	471	288	340	247 (91)	895 (01)	
Total	1187 (61)	745	1933 ^c	1441	1241 ^j	1375	1961	1704	1544	1192 (88)	4288 (01)	
No-Quota^b												
11	196 (67)	95	291	195	77 ^k	136	224	219	170	38 (87)	351 (05)	
10	9 (60)	6	15 ^q	11	8	9	14	3	9		14 (12)	
52	231 (57)	171	402	324	301	346	405	205	316	105 (02)	405 (12)	
Total	436 (62)	272	708 ^q	530	386	491	643	427	495	198 (87)	678 (95)	
State	1623 (61)	1017	2641 ^c	1971	1627 ⁱ	1866	2604	2131	2040		4956 (95)	

^a Some tooth envelopes were received from hunters who did not register their bear. These were added to the harvest tally: 2011:13; 2012:7; 2013:6; 2014:3; 2015:6; 2016:7. Some hunters with no-quota licenses hunted in the quota zone, and their kills were assigned to the BMU where they apparently hunted: 2011:14; 2012:8; 2013:11; 2014:4; 2015:12; 2016:9. 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 (presuming most were misreported kill locations).

^b Sex recorded on tooth envelopes may differ from the registered sex. Sex shown on table is the registered sex because normally only ~70% of tooth envelopes are submitted.

^c Total includes 1 bear of unknown sex.

Notable harvests 2011–2015:

^d Record low harvest since this area was established in 1987.
^e Lowest harvest since 1988.
^f Record low harvest since this area was established in 1989.
^g Lowest harvest since 1996.
^h Record low harvest since this area was established in 1991. ⁱ Record low harvest since this area was established in 1990. ^j Lowest harvest since 1988 (quota—no-quota split in 1987). ^k Lowest harvest since 1999.

Notable harvests 2016:

^m Record (or tie record) high % males.
ⁿ Second lowest % males (42% in 2014).
^p Highest harvest since 2007.
^q Record high harvest.

Figure 3. Trends in statewide bear harvest and proportions of harvest in the no-quota zones, 1987–2016.

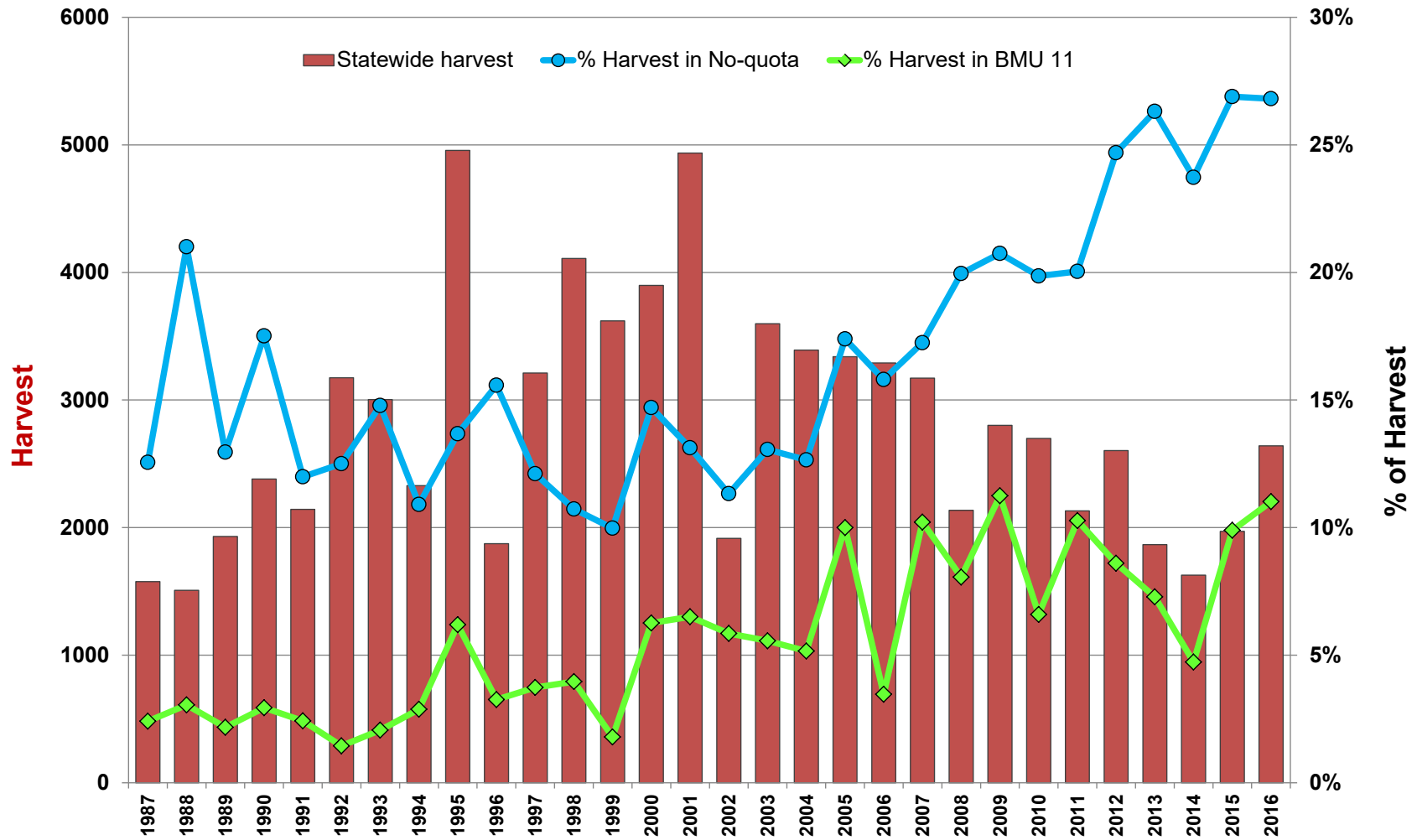


Table 6. Bear hunting success (%) by BMU, measured as the registered harvest divided by the number of licenses sold^a, 2011–2016.

BMU	Max success (yr) prior to 2016	Mean success 2011-2015	2016	2015	2014	2013	2012	2011
12	49 (95)	29	52 ^b	40	19 ^d	30	27	30
13	59 (95)	31	59 ^b	29	36	38 ^c	28	26
22	21 (92)	12	10	13	10	18 ^c	8	11
24	45 (92)	36	48 ^b	48 ^b	25	38	36	35
25	47 (92)	36	57 ^b	45	34	39	30	35
26	59 (95)	34	52 ^c	34	33	34	43	26
27			52					
28			53					
31	55 (92)	42	56 ^b	56 ^c	40	36	40	36
41	50 (95)	24	46 ^c	23	24	26	28	18
44	43 (95)	31	48 ^b	35	38	40	27	15 ^f
46			47					
47			50					
45	36 (14, 15)	30	40 ^b	36 ^c	36 ^c	32	33	13
51	39 (13)	31	46 ^b	33	32	39 ^c	32	16
Quota	42 (95)	33	50 ^b	39	33	37	33	24
11e			28	20	9	15		
10e			9	7	7	12		
52e			19	15	16	19		
No Quota	32 (95)	16	21	16	13	17	20	15 ^f
Statewide	40 (95)	26	37	28	25	28	28	22

^a Registered harvest/licenses instead of harvest/hunters because BMU-year-specific estimates for the proportion of license-holders that hunted are unreliable. Statewide estimates of harvest/hunters are presented in Table 1.

^b Record high (or tied record high) success.

^c Second highest success.

^d Tied record lowest success.

^e Since 2013, an attempt was made to differentiate the number of no-quota (NQ) hunters by BMU in order to estimate success rates. When no-quota hunters bought licenses, they recorded the deer block where they anticipated hunting. A significant number chose blocks in the quota zone; those who did not harvest a bear in the quota zone were divided up into NQ-BMUs in proportion to those who chose blocks in or adjacent to NQ-BMUs. A few chose BMU 60 (SE Minnesota) but so far none have killed a bear there. Table shows % indicating where they planned to hunt:

BMU	2013	2014	2015	2016
11	30.0	28.5	29.3	30.3
10	2.6	4.1	4.4	4.9
52	62.6	64.7	63.9	61.2
60 (n)	0.4 (10)	0.6 (17)	0.2 (8)	0.4 (12)
Quota zone (n)	4.5 (127)	2.1 (60)	3.1 (101)	3.2 (105)

Table 7. Cumulative bear harvest (% of total harvest) by date, 1996–2016.

Year	Day of week for opener	Aug 22/23 – Aug 31	Sept 1 – Sept 7	Sept 1 – Sept 14	Sept 1 – Sept 30
1996	Sun		56 ^a	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 ^a	69 ^a	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 ^a	71 ^a	92
2009	Tue		74	86	96
2010	Wed		69	84	96
2011	Thu		65	78	93
2012	Sat		68	83	96
2013	Sun		61	76	94
2014	Mon		60	75	92
2015	Tue		58 ^b	75	91
2016	Thu		68	83	95

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

^b The slow start the first week was likely due to especially warm weather.

Figure 4. Number of bears harvested vs. number predicted to be harvested based on fall food production and the number of hunters statewide: top: 1984–2016; bottom: 2002–2016.

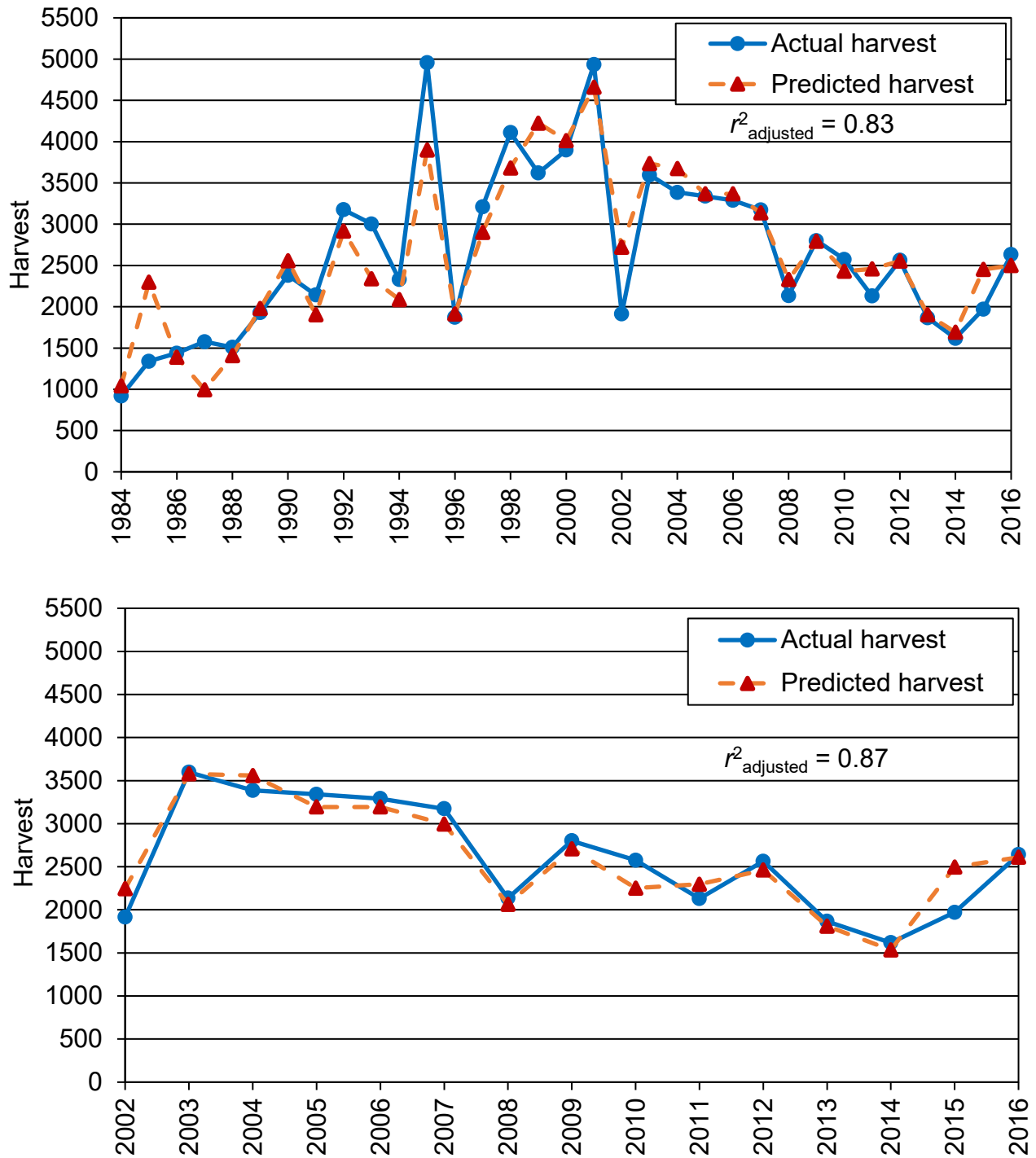
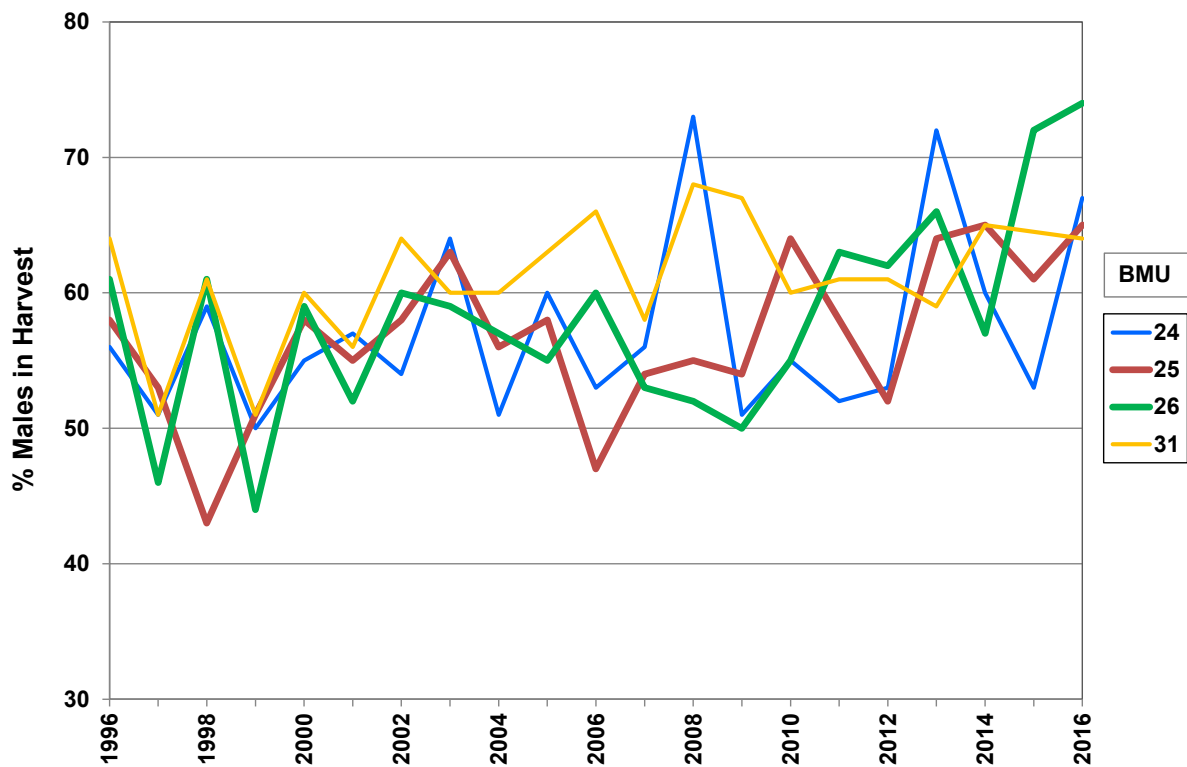
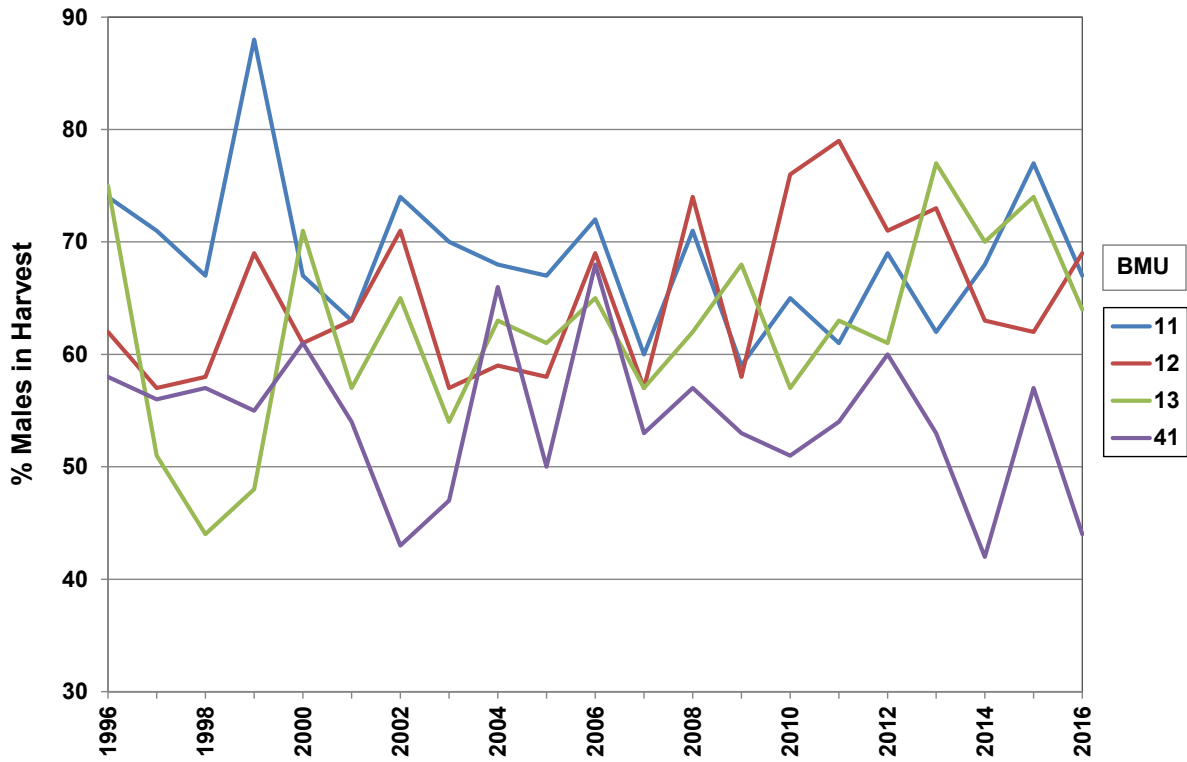


Figure 5. Sex ratios of harvested bears by BMU, 1996–2016.

Thick lines show increasing trends.



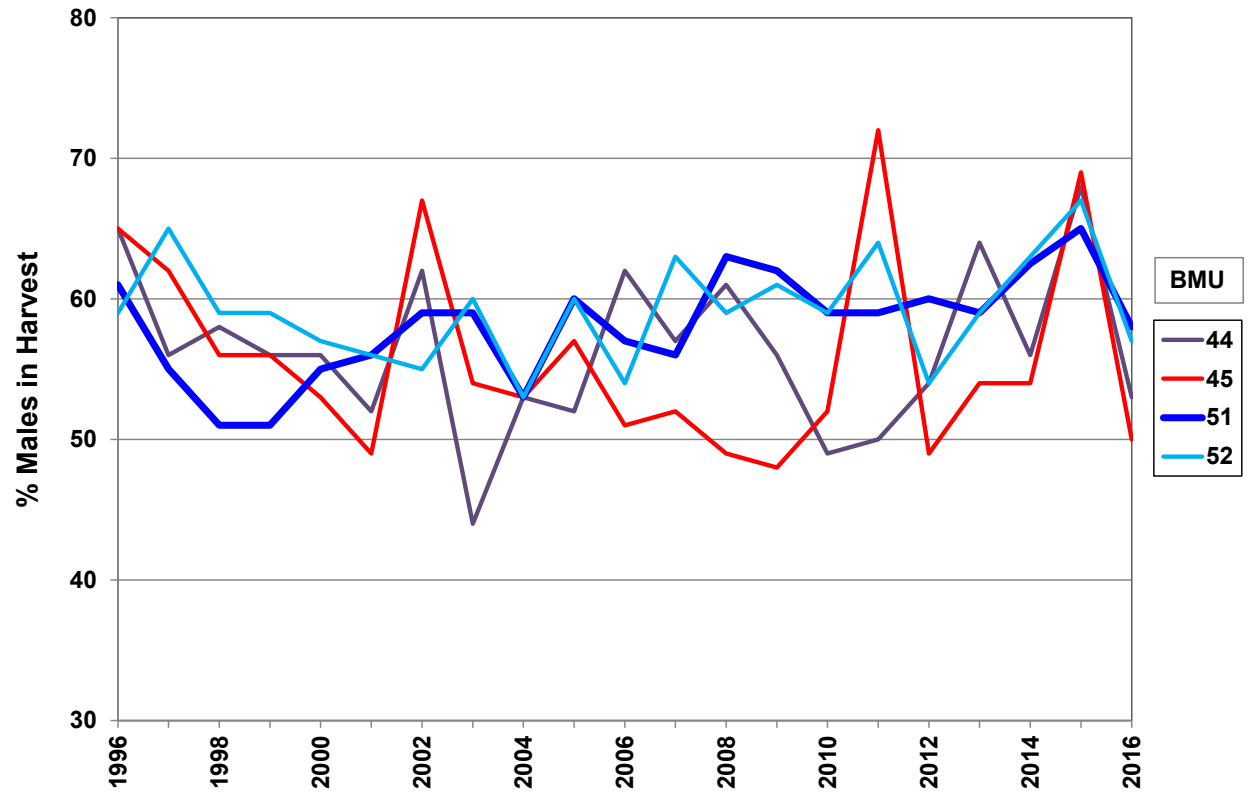
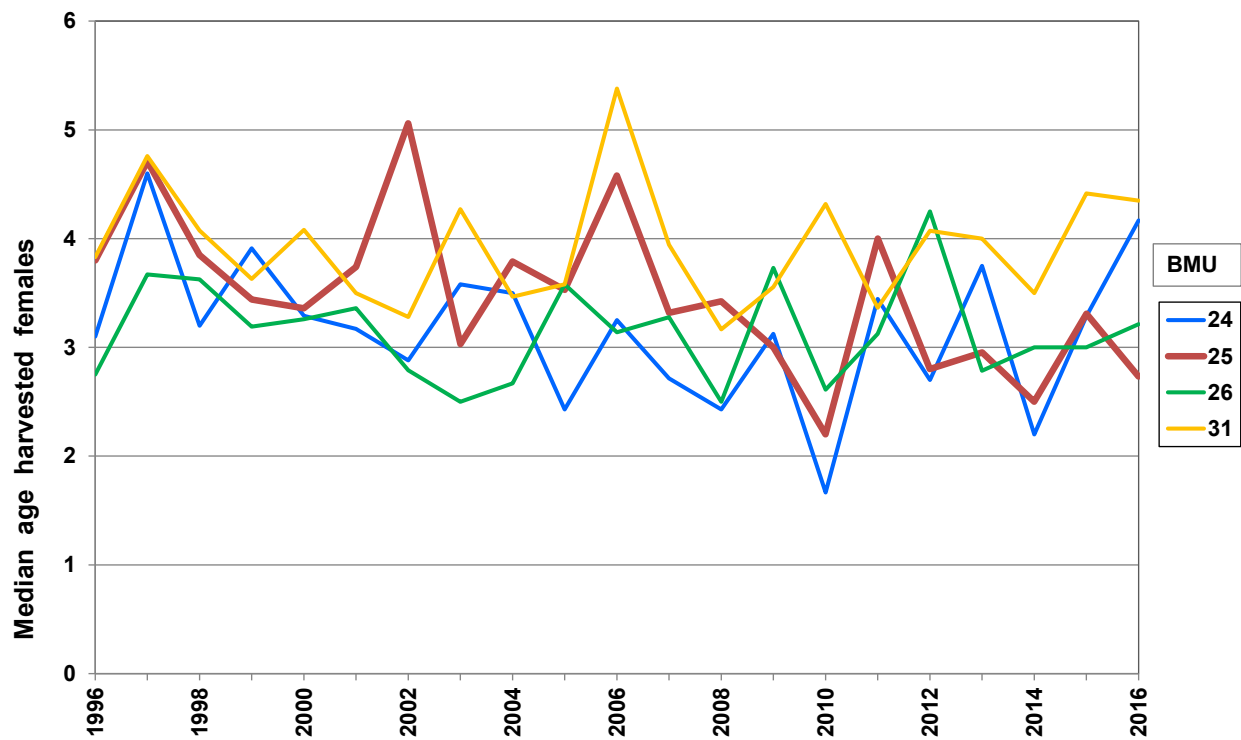
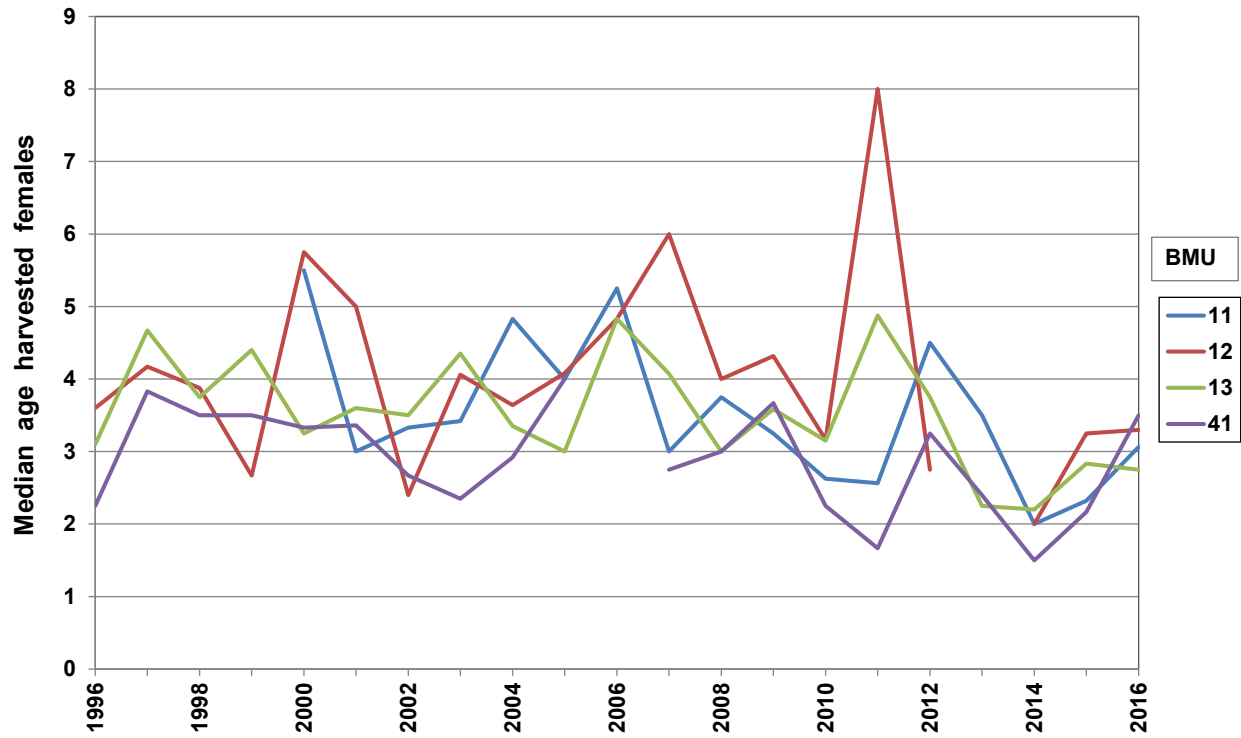


Figure 6. Median ages of harvested female bears by BMU, 1996–2016.

Thick lines show declining trends.



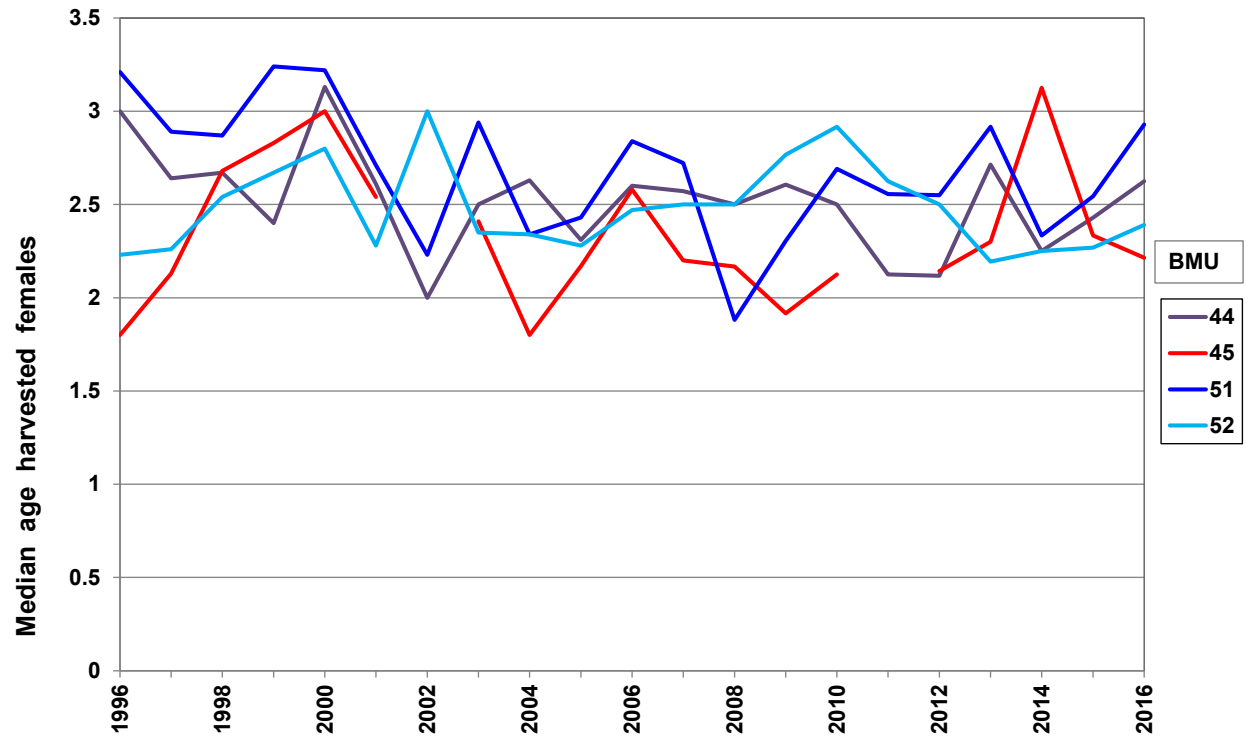


Figure 7. Statewide median ages (yrs) of harvested bears by sex, 1982–2016.

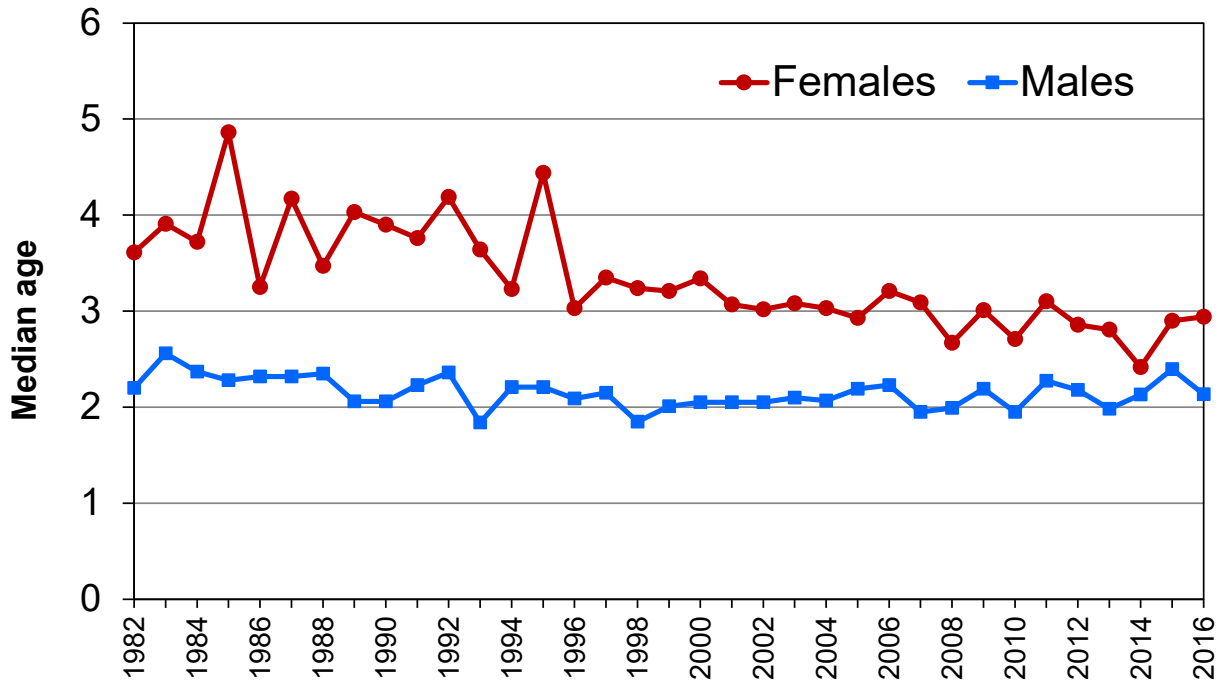


Figure 8. Statewide harvest structure: proportion of each sex in age category, 1982–2016.

Trend lines are significant.

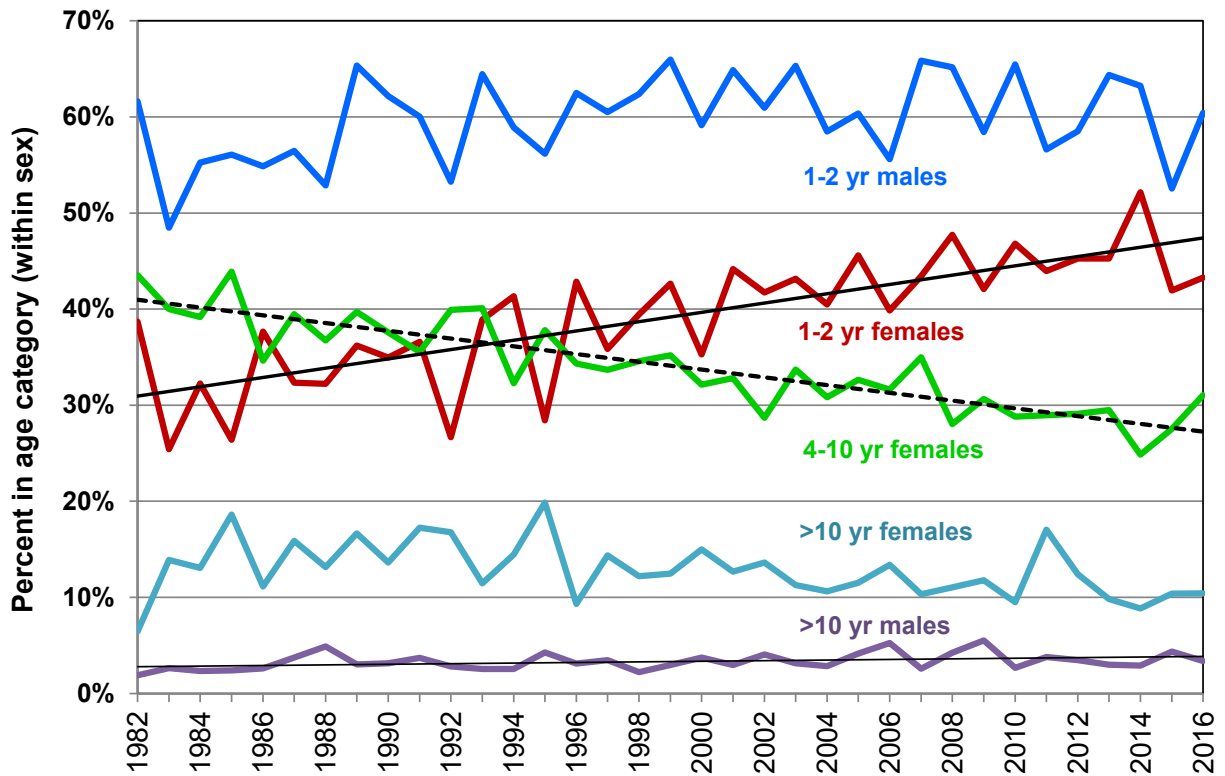


Figure 9. Percent of hunters submitting useable bear teeth for aging (now vital for population monitoring,). Cooperation levels exceeded 80% when registration stations were paid to extract teeth (this practice ended in 1993) and ~90% when non-compliant hunters were sent a reminder letter in December or January (2015 and 2016).

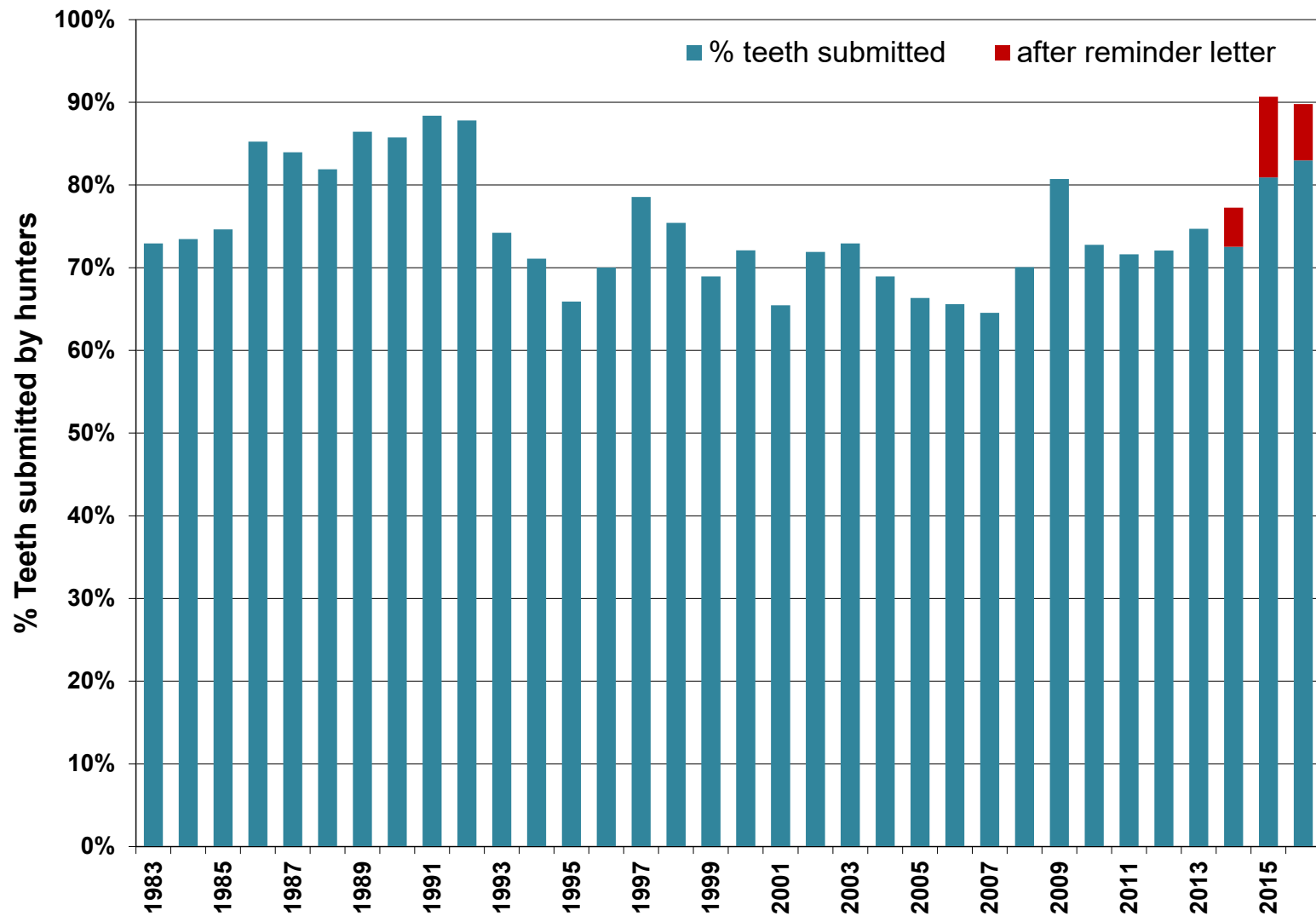
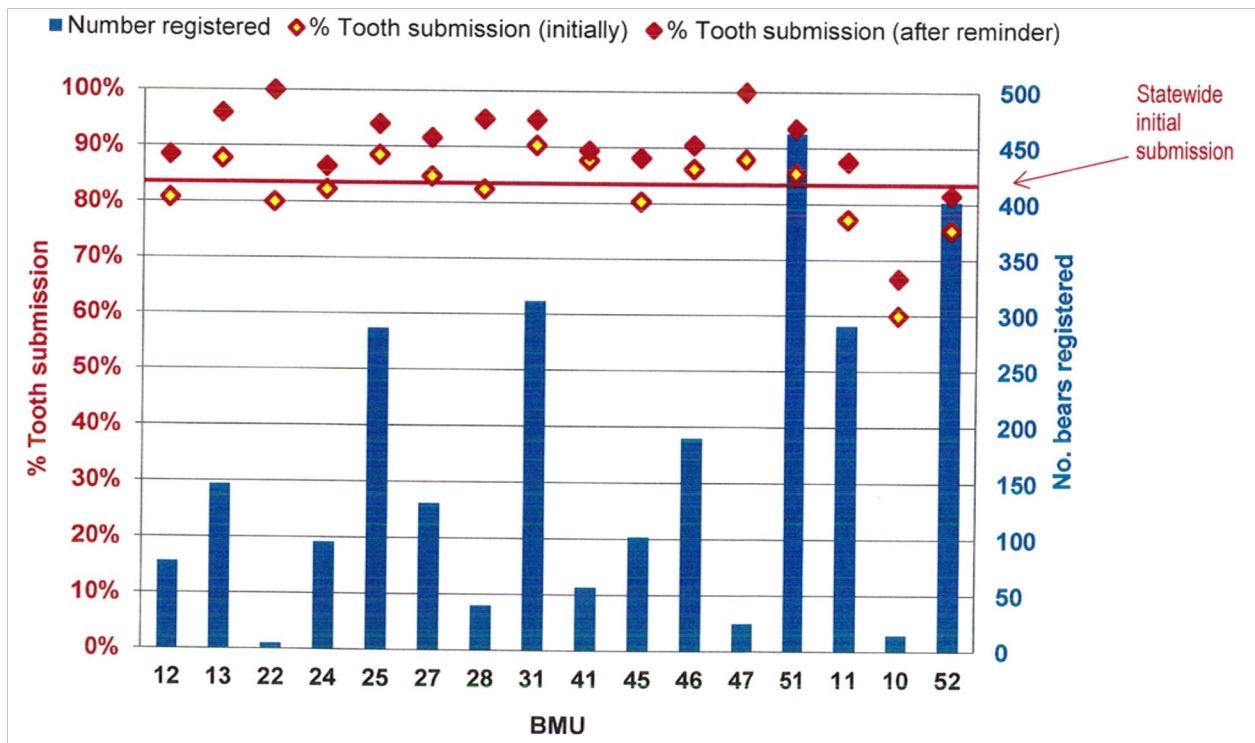
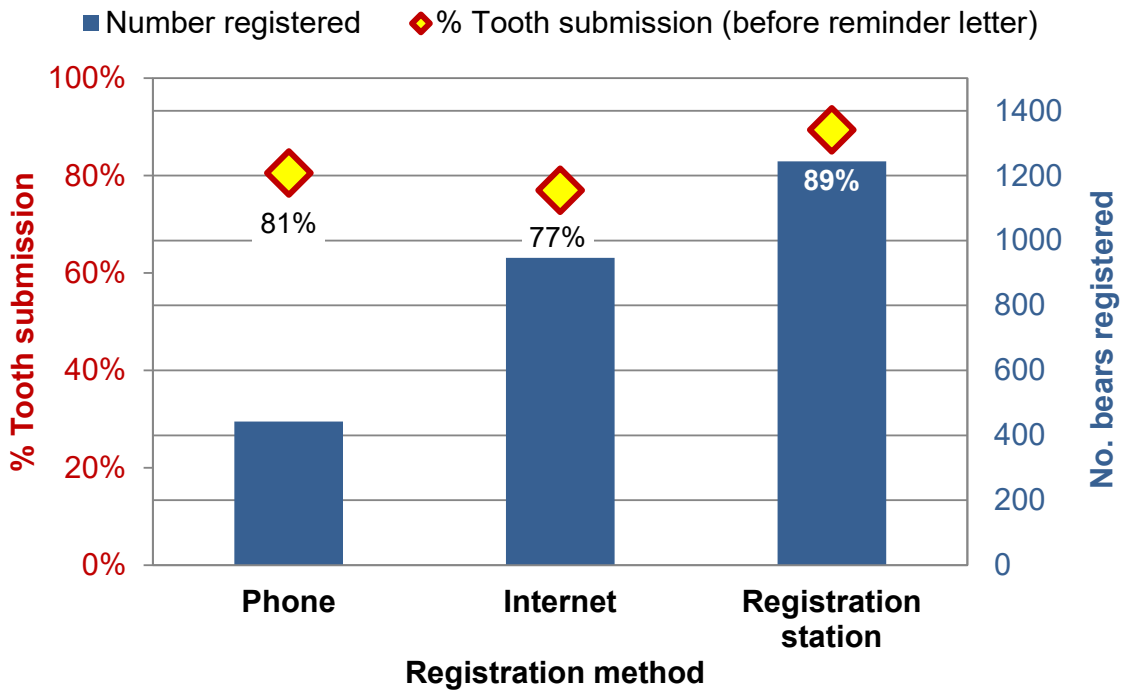


Figure 10. Percent of hunters who submitted a bear tooth in 2016 by method of registration (top panel) and by BMU (bottom panel; before and after reminder letter). Beginning in 2013, hunters could register their bear by phone or internet.





2016 MINNESOTA DEER HARVEST REPORT

Adam Murkowski, Big Game Program Leader, Division of Fish and Wildlife

INTRODUCTION

The white-tailed deer may be considered Minnesota's most popular wildlife species. In 2016, nearly 450,000 hunters participated in the season. 2016 was a conservative season designed to rebuild deer numbers across much of the state. During the archery, firearms and muzzleloader seasons, hunters registered 173,213 deer.

METHODS

Every deer taken by hunting in Minnesota must be registered. In 2016, carcass import restrictions were instituted to help prevent the spread of Chronic Wasting Disease (CWD). Deer may be registered at any of the 825 to nearly 900 "Big Game Registration" stations available throughout the state. Starting in 2011, deer could also be registered using the internet and telephone except in areas under Disease Management tag restrictions. 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

Outcomes of the 2016 deer harvest are presented in the following tables.

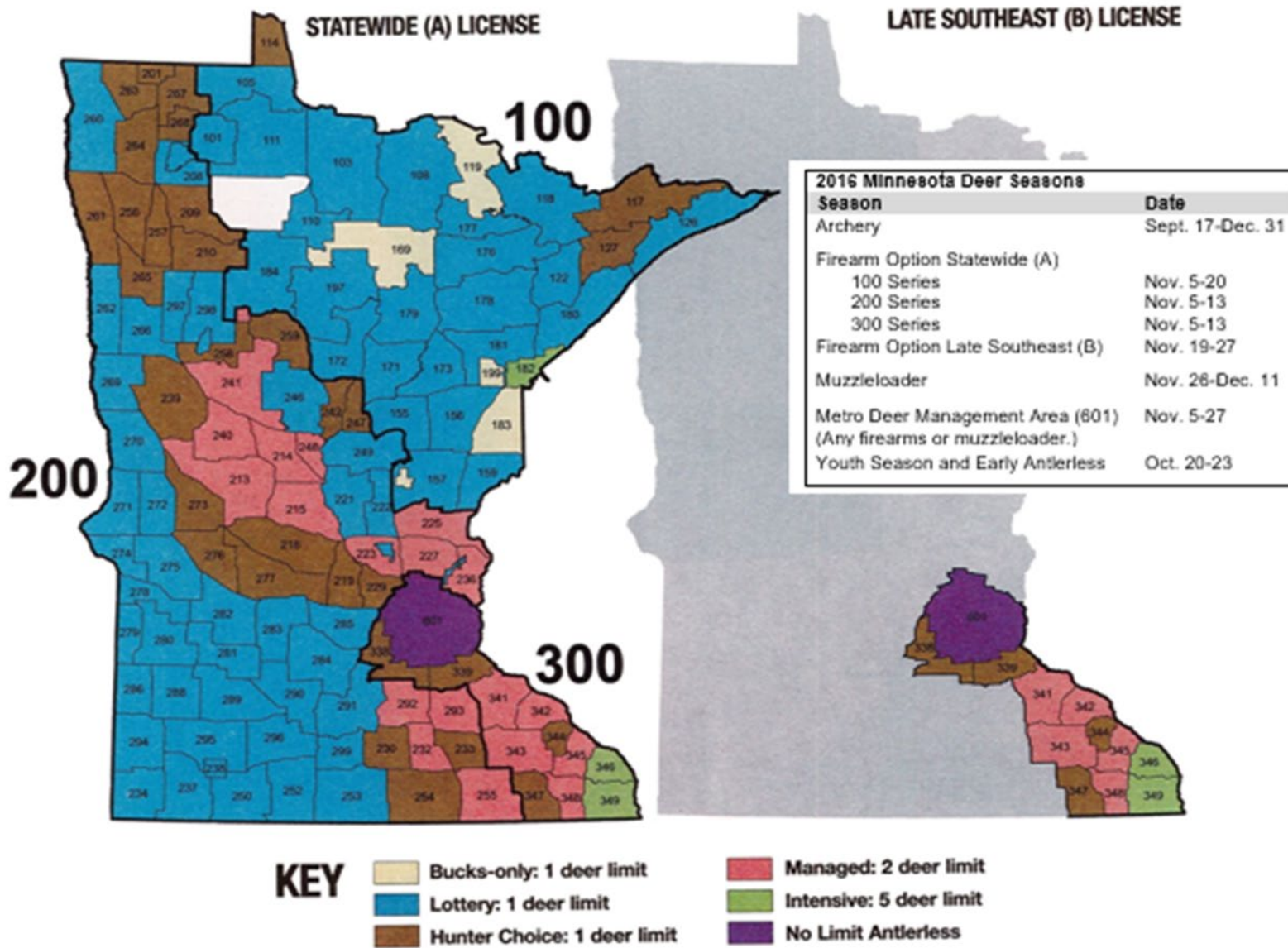


Figure 1. 2016 Firearms and Archery Deer Seasons.

Table 1. Statewide Firearms, Archery, and Muzzleloader Harvest, License Sales, and Success Rates, 2005-2016.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
REGULAR FIREARMS												
Resident License Sales	291,298	299,774	285,286	376,006	377,077	379,866	382,668	391,822	391,967	374,314	371,612	372,645
Non-Resident License Sales	12,523	12,520	12,520	11,883	11,759	11,908	11,955	12,483	12,496	11,674	13,501	12,540
Bonus Permit Sales	184,566	167,343	145,522	190,156	140,920	143,763	142,049	89,750	97,402	29,642	31,065	44,365
Multi-Zone Buck License Sales	28,233	15,984	15,051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Youth License Sales	50,501	49,599	49,242	50,397	56,678	59,726	60,943	62,949	64,748	62,488	62,333	61,138
All Season Deer License Sales	59,090	75,511	76,385	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total License Sales	626,211	620,731	584,006	628,442	586,434	595,263	597,615	557,004	566,613	478,118	448,007	446,323
Registered Buck Harvest ¹	95,594	95,695	97,528	85,646	83,820	88,027	76,003	84,729	70,627	70,627	83,939	87,855
Antlerless Permits Offered	28,830	18,925	18,830	32,325	60,100	60,083	15,525	32,854	36,816	26,332	31,065	39,646
Antlerless Permits Issued	25,656	18,925	18,830	32,325	60,100	60,083	15,525	32,854	36,816	26,332	31,065	39,646
Antlerless Permits App.	31,403	31,403	31,403	31,403	90,882	86,783	21,071	67,308	68,811	96,580	95,656	97,056
Registered AL Harvest ¹	119,363	135,981	118,860	98,147	78,525	86,077	88,197	71,140	67,885	46,030	48,758	52,338
Registered Total Harvest ¹	214,957	231,676	216,388	183,793	162,345	174,104	164,200	155,869	145,449	116,657	132,697	144,470
Registered % Successful ²	34.3	37.3	41.7	34.8	33.8	35.9	32.9	32.0	29.7	25.3	29.6	32.4
ARCHERY												
Resident License Sales	50,293	49,595	52,780	87,872	88,707	91,156	90,252	95,259	92,717	92,301	93,462	92,076
Non-Resident License Sales	1,207	1,286	1,509	1,509	1,610	1,638	1,718	1,814	1,952	1,946	2,032	2,062
Youth Archery Sales	7,489	7,688	7,663	9,005	9,157	9,577	10,306	11,276	12,212	11,965	11,905	10,846
Mgmt Permit License Sales	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total License Sales	58,989	58,569	61,952	99,033	99,474	102,371	102,276	108,349	106,881	106,212	107,399	104,984
Total Harvest - All-Season License	4,563	8,284	6,900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Archery Harvest	23,538	25,360	24,161	22,632	20,629	22,057	20,444	21,605	19,388	17,119	20,074	20,360
Registered % Successful ²	24.6	24.8	24.3	18.5	17.5	17.8	17.0	18.8	14.5	15.3	18.7	19.4
MUZZLELOADER												
Total Muzzleloader License Sales	9,226	10,781	9,867	64,673	63,282	55,640	59,384	58,363	51,092	43,946	50,176	53,097
Estimated All-Season Hunters	23,293	23,293	26,813	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Muzzleloader Harvest	15,421	13,507	12,138	9,572	7,929	9,023	7,416	7,779	7,045	5,814	6,572	8,383
Registered % Successful ²	47.4	39.6	28.2	13.4	11.3	14.4	11.6	12.4	12.7	12.7	7.6	6.3
Antlerless Permits Offered						5,792	1,997	1,626	2,144	1,593	1,434	1,352
Antlerless Permits App.						7,260	2,615	3,743	3,544	4,588	3,393	2,930
TOTAL Registered Harvest	255,736	270,778	260,434	221,837	194,186	207,313	192,331	186,634	172,781	139,442	159,343	173,213

¹ Does not include free landowner licenses

² Based on total license sales - does not include all-season deer

Table 2. Deer Harvest by License Type and Zone, 2016.

Season	Hunters	Harvest			Overall Success
		Bucks	Antlerless	Total	
1A	160,998	32,192	10,075	42,267	26.3%
2A	243,010	48,995	34,578	83,573	34.4%
3A	29,621	4,975	4,077	9,052	30.6%
3B	12,694	1,062	3,032	4,094	32.3%
Metro Firearm	N/A	631	576	1,207	N/A
Youth	N/A	671	546	1,217	N/A
Depredation ¹	N/A	0	11	11	N/A
Early Antlerless ¹	N/A		483	483	N/A
Free Landowner ¹	N/A		1,310	1,310	N/A
900 Series ¹	4,995	394	1,195	1,589	31.8%
Muzzleloader	53,097	3,092	5,001	8,093	15.2%
Archery	104,984	8,741	10,708	19,449	18.5%
CWD	N/A	168	700	868	
Total²	609,399	100,921	72,292	173,213	

¹ Includes deer taken during regular firearms, muzzleloader, and archery seasons.

Table 3. Firearms Harvest and Harvest per Square Mile by Permit Area, 2016. Includes all firearm licenses.

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	487	54	13	10	564	496	0.98	0.16	1.14
103	1A	798	128	23	6	955	1,824	0.44	0.09	0.52
105	1A	975	187	32	19	1,213	932	1.05	0.26	1.30
108	1A	1171	133	31	17	1,352	1,701	0.69	0.11	0.79
110	1A	1057	202	38	23	1,320	530	1.99	0.50	2.49
111	1A	557	48	12	10	627	1,440	0.39	0.05	0.44
114	1A	38	6	2	1	47	412	0.09	0.02	0.11
117	1A	20	4	1	1	26	1,129	0.02	0.01	0.02
118	1A	629	59	9	5	702	1,445	0.44	0.05	0.49
119	1A	450	5	2	1	458	946	0.48	0.01	0.48
122	1A	232	79	21	5	337	622	0.37	0.17	0.54
126	1A	301	72	12	4	389	979	0.31	0.09	0.40
127	1A	55	29	2	6	92	587	0.09	0.06	0.16
152	1A	85	9	1	1	96	62	1.38	0.18	1.56
155	1A	1304	571	142	102	2,119	639	2.04	1.28	3.32
156	1A	1568	254	55	51	1,928	834	1.88	0.43	2.31
157	1A	2495	698	220	128	3,541	904	2.76	1.16	3.92
159	1A	1272	254	75	48	1,649	575	2.21	0.66	2.87
169	1A	1594	15	6	3	1,618	1,202	1.33	0.02	1.35
171	1A	1169	457	128	78	1,832	729	1.60	0.91	2.51
172	1A	1882	612	164	113	2,771	786	2.39	1.13	3.52
173	1A	781	157	44	30	1,012	617	1.27	0.37	1.64
176	1A	1440	226	52	26	1,744	1,150	1.25	0.26	1.52
177	1A	700	224	49	27	1,000	553	1.27	0.54	1.81
178	1A	1713	270	66	37	2,086	1,325	1.29	0.28	1.57
179	1A	1717	512	121	85	2,435	939	1.83	0.76	2.59
180	1A	752	222	44	22	1,040	999	0.75	0.29	1.04
181	1A	1038	176	27	24	1,265	746	1.39	0.30	1.70
182	1A	397	244	82	46	769	280	1.42	1.33	2.75
183	1A	1323	13	4	3	1,343	675	1.96	0.03	1.99
184	1A	2939	1017	286	207	4,449	1,318	2.23	1.15	3.37
197	1A	1140	166	41	31	1,378	1,343	0.85	0.18	1.03
199	1A	113	1	0	0	114	152	0.74	0.01	0.75
201	2A	124	63	10	6	203	169	0.73	0.47	1.20
203	2A	60	6	3	1	70	132	0.46	0.08	0.53
208	2A	257	66	7	3	333	379	0.68	0.20	0.88
209	2A	549	214	55	51	869	641	0.86	0.50	1.36
210	2A	860	353	92	60	1,365	635	1.35	0.79	2.15
213	2A	2320	1355	476	343	4,494	1,161	2.00	1.87	3.87
214	2A	1617	1121	436	341	3,515	566	2.86	3.35	6.21
215	2A	1363	893	347	277	2,880	730	1.87	2.08	3.94
218	2A	1060	516	213	152	1,941	912	1.16	0.97	2.13
219	2A	580	298	99	63	1,040	427	1.36	1.08	2.44
221	2A	1337	413	165	112	2,027	647	2.07	1.07	3.13
222	2A	916	311	136	78	1,441	413	2.22	1.27	3.49
223	2A	642	403	157	110	1,312	385	1.67	1.74	3.41
224	2A	111	47	13	11	182	49	2.26	1.45	3.71
225	2A	1460	849	298	206	2,813	635	2.30	2.13	4.43

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
227	2A	940	461	181	108	1,690	491	1.91	1.53	3.44
229	2A	239	108	31	23	401	313	0.76	0.52	1.28
230	2A	228	135	38	32	433	464	0.49	0.44	0.93
232	2A	264	153	43	25	485	380	0.69	0.58	1.28
233	2A	241	64	17	11	333	386	0.62	0.24	0.86
234	2A	171	38	11	6	226	637	0.27	0.09	0.35
235	2A	53	19	5	4	81	37	1.44	0.76	2.20
236	2A	603	303	113	51	1,070	404	1.49	1.16	2.65
237	2A	246	40	21	5	312	737	0.33	0.09	0.42
238	2A	84	18	2	3	107	98	0.86	0.24	1.10
239	2A	1523	726	247	183	2,679	1,110	1.37	1.04	2.41
240	2A	1797	1160	330	313	3,600	694	2.59	2.60	5.19
241	2A	3431	2360	742	561	7,094	1,047	3.28	3.50	6.78
242	2A	641	354	102	74	1,171	307	2.09	1.73	3.81
246	2A	2283	879	271	201	3,634	860	2.66	1.57	4.23
247	2A	730	457	160	89	1,436	263	2.77	2.68	5.45
248	2A	374	257	89	64	784	229	1.64	1.79	3.43
249	2A	1206	489	163	89	1,947	729	1.65	1.02	2.67
250	2A	320	88	12	8	428	730	0.44	0.15	0.59
251	2A	80	31	7	8	126	68	1.17	0.68	1.85
252	2A	256	95	14	14	379	735	0.35	0.17	0.52
253	2A	390	83	21	13	507	987	0.40	0.12	0.51
254	2A	506	208	54	35	803	946	0.53	0.31	0.85
255	2A	497	262	74	49	882	774	0.64	0.50	1.14
256	2A	584	216	74	42	916	654	0.89	0.51	1.40
257	2A	439	185	57	38	719	426	1.03	0.66	1.69
258	2A	872	455	200	115	1,642	381	2.29	2.02	4.31
259	2A	1437	846	286	203	2,772	546	2.63	2.45	5.08
260	2A	409	132	21	17	579	1,252	0.33	0.14	0.46
261	2A	223	92	12	8	335	796	0.28	0.14	0.42
262	2A	221	48	9	7	285	677	0.33	0.09	0.42
263	2A	453	146	39	25	663	513	0.88	0.41	1.29
264	2A	732	308	85	44	1,169	672	1.09	0.65	1.74
265	2A	500	252	72	38	862	495	1.01	0.73	1.74
266	2A	394	128	25	24	571	625	0.63	0.28	0.91
267	2A	269	93	35	11	408	472	0.57	0.29	0.86
268	2A	353	146	24	22	545	239	1.48	0.80	2.28
269	2A	269	43	11	11	334	652	0.41	0.10	0.51
270	2A	244	33	14	6	297	758	0.32	0.07	0.39
271	2A	245	65	17	8	335	646	0.38	0.14	0.52
272	2A	223	38	2	8	271	544	0.41	0.09	0.50
273	2A	498	234	54	31	817	634	0.79	0.50	1.29
274	2A	217	95	23	13	348	381	0.57	0.34	0.91
275	2A	355	96	25	9	485	777	0.46	0.17	0.62
276	2A	571	275	73	50	969	575	0.99	0.69	1.68
277	2A	1432	703	176	127	2,438	876	1.63	1.15	2.78
278	2A	318	75	16	11	420	422	0.75	0.24	1.00
279	2A	134	114	19	13	280	346	0.39	0.42	0.81
280	2A	191	87	16	7	301	676	0.28	0.16	0.45

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
281	2A	491	164	38	21	714	579	0.85	0.39	1.23
282	2A	147	19	5	4	175	780	0.19	0.04	0.22
283	2A	268	68	11	5	352	640	0.42	0.13	0.55
284	2A	308	119	14	12	453	853	0.36	0.17	0.53
285	2A	371	86	17	11	485	580	0.64	0.20	0.84
286	2A	267	72	21	9	369	458	0.58	0.22	0.81
287	2A	102	66	29	10	207	51	2.01	2.07	4.09
288	2A	308	179	29	24	540	630	0.49	0.37	0.86
289	2A	214	88	13	8	323	820	0.26	0.13	0.39
290	2A	455	152	33	17	657	666	0.68	0.30	0.99
291	2A	718	218	50	33	1,019	832	0.86	0.36	1.23
292	2A	542	310	110	55	1,017	517	1.05	0.92	1.97
293	2A	624	297	119	72	1,112	512	1.22	0.95	2.17
294	2A	308	159	41	20	528	689	0.45	0.32	0.77
295	2A	453	116	19	12	600	855	0.53	0.17	0.70
296	2A	275	102	15	9	401	675	0.41	0.19	0.59
297	2A	197	23	9	3	232	449	0.44	0.08	0.52
298	2A	714	135	44	28	921	677	1.05	0.31	1.36
299	2A	280	104	23	17	424	389	0.72	0.37	1.09
338	3A	208	116	31	15	370	472	0.44	0.34	0.78
338	3B	31	50	13	8	102	472	0.07	0.15	0.22
339	3A	159	81	31	18	289	406	0.39	0.32	0.71
339	3B	23	52	11	8	94	406	0.06	0.18	0.23
341	3A	614	337	108	79	1,138	626	0.98	0.84	1.82
341	3B	136	257	92	56	541	626	0.22	0.65	0.86
342	3A	516	289	59	52	916	374	1.38	1.07	2.45
342	3B	103	218	70	44	435	374	0.28	0.89	1.16
343	3A	466	297	93	51	907	664	0.70	0.66	1.37
343	3B	84	152	56	50	342	664	0.13	0.39	0.52
344	3A	248	168	43	30	489	190	1.31	1.27	2.58
344	3B	40	99	24	21	184	190	0.21	0.76	0.97
345	3A	345	197	54	40	636	335	1.03	0.87	1.90
345	3B	82	154	44	29	309	335	0.24	0.68	0.92
346	3A	655	428	132	81	1,296	328	2.00	1.96	3.95
346	3B	176	313	95	96	680	328	0.54	1.54	2.07
347	3A	353	105	28	20	506	434	0.81	0.35	1.17
347	3B	77	114	43	18	252	434	0.18	0.40	0.58
348	3A	510	330	70	66	976	332	1.53	1.40	2.94
348	3B	85	167	59	32	343	332	0.26	0.78	1.03
349	3A	901	523	114	92	1,630	499	1.81	1.46	3.27
349	3B	225	485	106	132	948	499	0.45	1.45	1.90
601	Metro	631	381	116	82	1,210	1,756	0.36	0.33	0.69
TOTAL		87,844	35,495	10,577	7,331	141,247	83,586	1.05	0.64	1.69

Area size = Total land area (not water) within the DPA, area estimates were recalculated in 2014.

Table 4. Firearm Harvest using Bonus Permits, 2016.

Managed Permit Areas.

Permit Area	Zone	Adult Female	Fawn Male	Fawn Female	Total
213	2A	643	184	166	993
214	2A	574	188	160	922
215	2A	418	158	144	720
223	2A	195	67	55	317
225	2A	384	134	93	611
227	2A	257	90	56	403
232	2A	76	13	14	103
236	2A	167	57	28	252
240	2A	577	155	164	896
241	2A	1,275	354	295	1,924
248	2A	118	38	27	183
255	2A	132	43	22	197
287	2A	41	17	8	66
292	2A	128	46	19	193
293	2A	159	57	34	250
341A	3A	217	58	43	318
341B	3B	133	41	25	199
342A	3A	189	26	33	248
342B	3B	105	25	25	155
343A	3A	200	60	35	295
343B	3B	65	33	26	124
345A	3A	107	25	21	153
345B	3B	69	20	13	102
348A	3A	197	37	33	267
348B	3B	72	24	17	113
Total		6,498	1,950	1,556	10,004

Intensive Permit Areas

Permit Area	Zone	Adult Female	Fawn Male	Fawn Female	Total
346	3A	334	107	68	509
346	3B	191	67	57	315
349	3A	385	76	70	531
349	3B	307	55	81	443
Total		1,217	305	276	1,798

Table 5. Early Antlerless Season Harvest by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total
346	120	44	46	210
349	125	41	42	208
Total	245	85	88	418

Table 6. Summary of Firearms Special Hunts, 2016. Includes regular, youth, and bonus permits.

Area	Dates	Permits Issued	Harvest				Total
			Adult Male	Adult Female	Fawn Male	Fawn Female	
900 Cascade River State Park	11/5-11/20	100*	0	11	0	0	11
901 -Rice Lake NWR	11/12-11/20	40*	4	5	1	3	13
902 -Saint Croix State Park	11/17-11/20	350*	37	43	11	9	100
903 -Lake Louise State Park	11/5-11/6	25***	6	13	3	5	27
904 -Gooseberry Falls State Park	11/5-11/20	30*	4	6	3	2	15
905 -Split Rock Lighthouse State Park	11/5-11/20	30*	5	3	0	0	8
906 -Tettegouche State Park	11/5-11/20	125*	4	7	1	1	13
907 -Scenic State Park	11/5-11/20	30*	1	2	1	0	4
908 -Hayes Lake State Park	11/5-11/20	50***	3	4	5	3	15
909 -Lake Bemidji State Park	11/5-11/8	30***	0	5	0	2	7
910 -Zippel Bay State Park	11/5-11/20	55***	6	16	6	4	32
911 -Judge CR Magney State Park	11/5-11/20	75*	3	3	1	1	8
912 -Schoolcraft State Park	11/5-11/20	NA†*	1	4	0	1	6
913 -Lake Carlos State Park	11/5-11/6	18**	0	5	1	4	10
914 -William O'Brien State Park	11/5-11/16	50*	11	11	4	3	29
915 -Lake Bronson State Park	11/5-11/13	30***	6	14	6	2	28
916 -Maplewood State Park	11/5-11/8	100*	31	12	5	4	52
919 -Glacial Lakes State Park	11/10-11/13	30**	1	5	3	3	12
920 -Zumbro Falls SNA	11/5-11/13	12**	0	3	2	3	8
921 -Minneopa SP	12/3-12/4, 12/10-12/11	10**	0	6	0	1	7
923 -Zumbro Falls SNA	11/19-11/27	12**	0	4	5	3	12
925A -Vermillion Highlands Research (A or B)	11/5-11/18	20*	2	4	1	0	7
927 -Whitewater State Park	11/12-11/13	140*	24	30	5	10	69
928 -Wild River SP	11/12-11/13	75*	13	20	4	1	38
929 -Frontenac State Park	11/19-11/20	55*	5	19	6	4	34
931 -City of Grand Rapids	11/5-11/20	NA†*	15	11	11	6	43
934 -Whitewater State Game Refuge	11/19-11/27	75**	0	14	2	3	19
962-Great Rivers Bluff SP	11/19-11/20	50*	1	2	0	0	3
Total			183	282	87	78	630

†Unlimited permits

*Either sex

**Antlerless Only

*** Earn-A-Buck

Table 7. Free Landowner Firearms Harvest by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total	Permit Area	Adult Female	Fawn Male	Fawn Female	Total
201	2	0	1	3	267	9	0	0	9
209	15	4	4	23	268	5	1	0	6
210	14	4	3	21	273	1	0	0	1
213	62	17	9	88	276	3	0	0	3
214	71	21	20	112	277	6	1	1	8
215	35	15	19	69	287	0	0	0	0
218	10	2	2	14	292	7	2	0	9
219	3	1	1	5	293	4	1	1	6
223	4	1	0	5	338	1	0	1	2
225	11	4	8	23	338	0	0	0	0
227	6	1	0	7	339	5	1	1	7
229	1	0	0	1	339	1	0	0	1
230	3	0	1	4	341A	6	1	3	10
232	3	1	1	5	341B	13	4	5	22
233	3	0	1	4	342A	3	3	1	7
236	2	1	0	3	342B	19	4	3	26
239	27	6	13	46	343A	5	0	2	7
240	53	16	8	77	343B	8	1	2	11
241	84	27	19	130	344A	1	2	0	3
242	0	0	1	1	344B	9	2	2	13
247	4	0	1	5	345A	3	0	2	5
248	7	1	0	8	345B	5	5	0	10
254	1	0	0	1	346A	10	3	3	16
255	10	2	0	12	346B	7	4	4	15
256	8	8	6	22	347A	7	0	1	8
257	14	9	1	24	347B	3	1	0	4
258	4	2	2	8	348A	7	5	1	13
259	11	1	0	12	348B	14	1	0	15
261	3	1	0	4	349A	15	6	2	23
263	2	2	2	6	349B	13	4	2	19
264	17	5	2	24	601	2	1	0	3
265	13	2	1	16	Total	665	200	160	1,025

Table 8. Archery Harvest by Permit Area, 2016. Includes Regular, Youth, and Bonus Permits. Does not include most 900-series hunts.

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	7	3	0	0	10
103	10	9	1	0	20
105	18	25	3	0	46
108	21	36	4	0	61
110	29	16	1	7	53
111	6	3	0	0	9
114	3	4	0	0	7
117	0	0	0	0	0
118	17	27	0	0	44
119	2	2	0	0	4
122	4	6	1	0	11
126	6	16	0	0	22
127	0	1	1	0	2
152	4	2	0	0	6
155	57	40	8	2	107
156	70	57	10	4	141
157	124	97	15	16	252
159	61	48	9	9	127
169	41	1	0	1	43
171	31	44	7	4	86
172	103	90	11	15	219
173	26	28	5	2	61
176	45	37	5	1	88
177	17	21	1	2	41
178	58	59	9	4	130
179	99	96	15	6	216
180	43	36	3	2	84
181	48	33	6	2	89
182	97	188	36	31	352
183	44	1	1	2	48
184	144	89	24	13	270
197	26	25	3	2	56
199	6	0	0	0	6
201	6	2	0	0	8
203	1	1	0	0	2
208	8	4	1	1	14
209	34	15	5	3	57
210	26	13	5	3	47
213	169	270	44	35	518
250	38	27	2	0	67
251	4	5	3	0	12
252	37	28	4	1	70
253	64	47	5	3	119
254	76	37	10	4	127
255	101	121	19	7	248
256	21	14	1	4	40
257	12	11	0	2	25
258	44	30	2	12	88
259	54	41	6	2	103
260	13	11	0	0	24
261	26	11	1	0	38
262	27	23	3	0	53
263	11	6	0	1	18
264	30	16	1	2	49
265	32	23	1	6	62
266	18	12	2	2	34
267	7	5	1	2	15
268	13	7	1	0	21
269	42	11	0	2	55
270	21	16	0	2	39
271	37	11	0	2	50
272	26	1	0	1	28
273	67	35	4	3	109
274	30	16	3	4	53
275	29	36	3	1	69
276	74	38	6	3	121
277	210	173	28	13	424
278	41	31	6	3	81
279	16	12	0	2	30
280	20	14	1	1	36
281	70	53	4	1	128
282	23	9	3	1	36
283	53	32	1	2	88
284	47	16	2	3	68
285	85	47	1	4	137
286	16	27	3	0	46
287	7	2	3	0	12
288	67	61	8	3	139

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
214	138	205	31	29	403
215	238	319	45	49	651
218	161	104	25	21	311
219	118	59	14	11	202
221	122	77	15	14	228
222	69	36	8	4	117
223	175	235	47	30	487
224	23	21	5	0	49
225	171	210	51	24	456
227	237	261	54	42	594
229	79	34	3	7	123
230	46	20	2	3	71
232	49	35	5	4	93
233	55	18	6	5	84
234	37	18	1	2	58
235	11	7	2	0	20
236	194	207	42	19	462
237	18	17	0	1	36
238	8	9	0	0	17
239	105	54	10	13	182
240	124	168	32	15	339
241	251	387	55	60	753
242	89	79	12	7	187
246	102	71	13	13	199
247	72	77	16	6	171
248	37	68	8	8	121
249	73	59	17	12	161

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
289	34	22	2	2	60
290	61	26	5	5	97
291	164	71	13	7	255
292	77	90	9	14	190
293	122	112	19	21	274
294	27	22	9	1	59
295	53	35	5	13	106
296	41	24	5	4	74
297	13	3	0	0	16
298	15	9	1	1	26
299	57	56	7	3	123
338	64	30	7	3	104
339	70	42	6	4	122
341	187	202	36	18	443
342	126	119	27	17	289
343	257	325	55	28	665
344	54	16	2	3	75
345	82	72	14	9	177
346	163	234	39	39	475
347	95	32	2	3	132
348	117	121	14	16	268
349	204	265	41	45	555
601	736	950	219	154	2,059
970	27	8	1	0	36
971	60	11	1	6	78
Total	8,828	8,313	1,430	1,081	19,652

970 = Camp Ripley First Hunt

971 = Camp Ripley Second Hunt

Table 9. Archery Harvest using Bonus Permits by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total
182	157	32	22	211
213	202	30	30	262
214	152	23	23	198
215	261	33	33	327
223	164	28	28	220
225	152	31	31	214
227	194	37	38	269
232	21	1	1	23
236	146	29	29	204
240	119	19	17	155
241	286	34	33	353
248	46	7	7	60
255	92	13	13	118
287	0	0	0	0
292	58	8	8	74
293	89	13	13	115
341	163	20	20	203
342	85	22	22	129
343	261	40	39	340
345	62	10	10	82
346	214	30	27	271
348	110	8	8	126
349	240	34	33	307
601	831	186	185	1202
Total	4,105	688	670	5,463

Table 10. Summary of Archery Special Hunts, 2016. Includes Regular, Youth, and Bonus Permits.

Area	Permits Issued	Dates	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
970 - Camp Ripley 1	2000*	10/20-10/21	27	8	1	0	36
971 - Camp Ripley 2	2000*	10/29-10/30	60	11	1	6	78
972 - Carleton Game Refuge	40***	11/24-12/31	2	5	0	2	9
975 - Vermillion Highlands WMA	60*	9/17-10/28, 12/12-12/31	0	6	1	0	7
976 - City of New Ulm	56***	10/15-12/31	3	39	14	11	67
977 - City of Red Wing	NA†**	9/17-12/31	6	32	4	5	47
978 - City of Redwood Falls	20*	9/17-12/31	0	12	1	0	13
979 - City of Fergus Falls	15*	9/17-12/31	0	4	0	0	4
980 - City of Duluth	400***	9/17-12/31	48	144	38	46	276
981 - City of Mankato	40***	9/17-12/31	2	4	1	0	7
982 - City of Granite Falls	10**	9/17-12/31	0	2	0	0	2
983 - City of Ortonville	30***	9/17-12/31	2	16	2	2	22
984 - City of Canby	20*	9/17-12/31	0	3	1	0	4
985 - City of Bemidji (NE)	45*	9/17-12/32	3	14	2	4	23
986 - City of Bemidji (Airport)	25*	9/17-12/33	5	9	1	1	16
988 - City of Tower & Lake Vermillion - Soudan Underground State Park	10**	11/26-12/31	1	1	0	0	2
989 - City of Hoyt Lakes	25*	9/17-12/31	3	30	2	3	38
990 - City of Owatonna	28***	11/1-12/20	2	4	5	5	16
991 - East Minnesota River Refuge	NA†**	9/17-12/31	10	16	0	2	28
992 - City of Minneota	10**	9/17-12/31	0	2	0	0	2
993 - City of Cook	25*	9/17-12/31	1	12	3	3	19

Area	Permits Issued	Dates	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
995- City of Grand Rapids	NA†*	9/17-12/32	5	37	10	5	57
997 - River Bend Nature Center	30***	11/1-11/14	8	23	6	7	44
998 - City of Red Lake Falls	10**	9/17-10/31	0	2	0	0	2
Total			188	436	93	102	819

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

NA† Unlimited Permits *Either sex ** Antlerless only *** Earn-A-Buck

Table 11. Free Landowner Archery Harvest by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total
155	1	0	0	1
209	0	0	1	1
213	6	0	4	10
214	1	0	1	2
215	5	2	0	7
218	2	0	0	2
230	0	0	1	1
240	5	0	0	5
241	9	2	0	11
248	1	0	0	1
255	1	0	0	1
256	1	0	0	1
264	1	0	0	1
267	0	1	0	1
277	3	1	0	4
292	3	0	0	3
293	2	1	0	3
338	0	1	0	1
339	1	0	2	3
341	3	0	0	3
342	1	0	0	1
343	2	1	0	3
345	3	0	0	3
346	1	2	0	3
347	5	0	1	6
348	0	0	1	1
349	6	0	0	6
Total	63	11	11	85

Table 12. Muzzleloader Harvest by Permit Area, 2016.

Includes Regular, Muzzleloader, Youth, and Bonus permits. Does not include Park hunts.

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	15	3	0	0	18
103	7	0	0	0	7
105	16	9	1	1	27
108	14	2	0	0	16
110	11	1	0	0	12
111	3	0	0	0	3
114	0	1	0	0	1
117	0	0	0	0	0
118	10	7	0	1	18
119	6	0	0	0	6
122	1	1	0	0	2
126	3	0	0	0	3
127	0	1	0	1	2
152	2	0	0	0	2
155	11	14	3	3	31
156	14	6	2	0	22
157	27	16	4	2	49
159	7	5	1	0	13
169	18	1	0	0	19
171	11	13	0	1	25
172	24	22	6	5	57
173	6	3	0	0	9
176	18	3	0	0	21
177	13	3	0	0	16
178	12	3	2	1	18
179	24	15	5	2	46
180	8	7	3	0	18
181	14	4	0	0	18
182	12	21	3	1	37
183	5	0	0	0	5
184	43	29	3	3	78
197	12	3	3	0	18
199	1	0	0	0	1
201	9	9	1	1	20
249	26	28	10	5	69
250	23	20	1	1	45
251	2	2	0	0	4
252	22	13	1	0	36
253	42	19	5	2	68
254	36	53	10	6	105
255	24	52	11	5	92
256	25	10	2	3	40
257	19	15	3	2	39
258	18	32	3	10	63
259	37	57	11	8	113
260	26	4	0	0	30
261	22	17	2	0	41
262	15	3	1	0	19
263	23	17	0	1	41
264	31	32	10	2	75
265	23	44	5	1	73
266	19	10	3	3	35
267	20	14	1	0	35
268	13	16	3	0	32
269	30	7	1	0	38
270	19	1	0	0	20
271	29	6	1	0	36
272	11	3	0	0	14
273	31	35	2	3	71
274	24	23	3	3	53
275	32	10	0	1	43
276	61	67	8	6	142
277	113	159	20	14	306
278	45	17	3	2	67
279	26	29	2	2	59
280	25	11	0	0	36
281	26	24	3	4	57
282	15	6	0	0	21

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
203	1	0	0	0	1
208	14	3	0	3	20
209	34	17	3	4	58
210	32	22	2	4	60
213	120	215	46	41	422
214	48	131	40	38	257
215	73	147	45	36	301
218	64	104	23	18	209
219	33	78	12	13	136
221	29	31	11	6	77
222	21	27	5	3	56
223	44	83	16	13	156
224	1	1	0	0	2
225	30	83	19	23	155
227	39	76	20	18	153
229	14	23	3	1	41
230	10	14	7	4	35
232	17	33	12	4	66
233	14	23	4	3	44
234	14	5	0	0	19
235	5	1	0	1	7
236	24	42	9	6	81
237	19	5	0	0	24
238	2	0	0	1	3
239	58	68	14	6	146
240	59	130	28	29	246
241	97	239	43	47	426
242	16	24	6	4	50
246	50	28	7	7	92
247	21	40	6	8	75
248	31	42	8	5	86

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
283	19	10	0	1	30
284	26	13	3	2	44
285	11	4	3	0	18
286	25	9	4	0	38
287	4	7	2	1	14
288	32	32	3	0	67
289	26	14	3	2	45
290	38	18	11	4	71
291	44	25	6	3	78
292	25	53	15	9	102
293	29	49	11	7	96
294	34	25	2	1	62
295	67	16	3	2	88
296	35	18	4	3	60
297	6	0	0	0	6
298	10	4	0	1	15
299	16	8	1	2	27
338	14	19	7	5	45
339	12	11	2	2	27
341	23	81	17	10	131
342	25	72	19	19	135
343	29	71	13	10	123
344	12	29	3	4	48
345	24	58	9	5	96
346	37	107	26	22	192
347	19	23	6	4	52
348	14	54	10	11	89
349	54	126	27	25	232
601	18	24	5	2	49
TOTAL	3,092	3,773	766	609	8,240

Table 13. Muzzleloader Harvest using Bonus Permits by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total
182	11	0	0	11
213	128	22	19	169
214	74	17	20	111
215	74	28	24	126
223	36	7	5	48
225	38	7	10	55
227	52	7	8	67
232	16	8	2	26
236	23	5	4	32
240	70	17	12	99
241	119	21	28	168
248	26	6	5	37
255	32	7	2	41
287	3	2	0	5
292	23	9	1	33
293	29	3	3	35
341	49	10	6	65
342	45	5	13	63
343	47	9	8	64
344	2	0	0	2
345	35	5	4	44
346	79	16	15	110
347	0	0	0	0
348	34	5	7	46
349	90	23	16	129
601	16	4	2	22
TOTAL	1,151	243	214	1,608

Table 14. Summary of Muzzleloader Special Hunts, 2016. Includes Regular, Youth, and Bonus Permits.

Area	Dates	Permits Issued	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
921 - Minneopa SP	12/3-12/4, 12/10-12/11	10**	0	6	0	1	7
935 - Jay Cook SP ¹	12/3-12/7	75*	7	10	0	1	18
936 - Crow Wing SP	12/3-12/4	25*	4	7	1	1	13
937 - Soudan Mine and Lake Vermilion SP ¹	11/26-12/11	20*	0	4	1	0	5
938 - City of Tower	11/26-12/11	20*	1	8	1	0	10
941 - Nerstrand Big Woods SP ¹	12/3-12/4	50***	1	7	2	2	12
942 - Sibley State Park ¹	11/26 - 11/27	60**	0	11	2	3	16
943 - Rice Lake State Park ¹	12/3 - 12/4	20**	0	15	3	1	19
944 - Vermillion Highlands WMA ¹	11/26-12/11	20†*	0	2	0	0	2
946 -City of Grand Rapids ¹	11/26-12/11	NA*	2	1	0	1	4
947 -Lake Bemidji State Park ¹	12/2-12/4	30*	4	4	2	1	11
948 - Savanna Portage SP	12/3-12/4	30**	0	1	0	1	2
949 - St. Croix SP	12/1-12/4	100*	2	12	3	1	18
992 - Sakatah Lake SP	12/3-12/4	15**	0	2	0	0	2
Total			21	90	15	13	139

¹ Bonus permits available

**Antlerless Only

NA† Unlimited Permits

*Either Sex

***Earn-A-Buck

Table 15. Free Landowner Muzzleloader Harvest by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total	Permit Area	Adult Female	Fawn Male	Fawn Female	Total
114	0	0	0	0	264	1	3	1	5
117	0	0	0	0	265	3	0	0	0
127	0	0	0	0	267	0	0	0	0
182	0	0	0	0	268	0	0	0	0
201	0	0	0	0	273	0	0	0	0
209	1	0	1	2	276	1	0	0	3
210	1	0	0	1	277	3	1	1	0
213	11	1	1	13	287	0	0	0	0
214	4	2	1	7	292	2	0	1	0
215	6	4	1	11	293	1	1	0	1
218	5	1	0	6	338A	1	0	0	5
219	2	1	0	3	338B	1	0	0	0
223	0	0	0	0	339A	1	0	0	3
225	2	0	2	4	339B	1	0	0	2
227	0	0	0	0	341A	8	1	1	1
229	2	0	0	2	341B	8	1	1	1
230	0	0	0	0	342A	0	1	0	1
232	0	0	0	0	342B	0	1	0	1
233	0	0	0	0	343A	1	0	0	10
236	0	0	0	0	343B	1	0	0	10
239	1	0	1	2	344A	2	0	0	1
240	6	0	1	7	344B	2	0	0	1
241	17	2	4	23	345A	4	0	0	1
242	0	0	0	0	345B	4	0	0	1
247	0	0	1	1	346A	3	0	2	2
248	0	0	0	0	346B	3	0	2	2
254	0	0	0	0	347A	2	0	0	4
255	0	0	0	0	347B	2	0	0	4
256	0	0	0	0	348A	3	1	1	5
257	1	0	0	1	348B	3	1	1	5
258	1	0	0	1	349A	9	0	3	2
259	0	0	0	0	349B	9	0	3	2
261	0	0	0	0	601	0	0	0	5
263	0	0	0	0	Total	139	22	30	162

Table 16. Summary of mentored* and youth seasons, 2016.

Permit Area	Dates	Permits Issued	Harvest				Total
			Adult Male	Adult Female	Fawn Male	Fawn Female	
950 - Camp Ripley Archery (Youth)	10/8-10/9	175	2	0	0	0	2
951 - Afton SP	11/5-11/6	25	7	5	0	4	16
952 - Sibley State Park	10/29 - 10/30	10	6	1	0	0	7
953 - Zipple Bay SP	10/22-10/23	20	2	1	1	0	4
954 - Lake Bemidji SP	10/21-10/23	20	1	4	2	2	9
955 - Lake Alexander Preserve	10/8 - 10/9	20	0	1	0	0	1
956 - St. Croix SP (Youth)	10/29-10/30	90	5	0	3	0	8
957 - Rydell NWR	10/22-10/23	15	0	0	0	0	0
958 - Savanna Portage SP	10/29-10/30	25	2	3	0	1	6
959 - Buffalo River SP	11/5-11/6	14	0	0	0	0	0
960 - Tettegouche SP	10/29-10/30	10	1	0	0	0	1
961 - Itasca SP	10/15-10/16	75	0	0	1	0	1
963 - Kilen Woods State Park	10/22 - 10/23	6	1	2	0	1	4
965 - Banning SP	10/29-10/30	6	1	0	0	0	1
966 - Blue Mounds SP	11/19-11/20	10	2	1	0	1	4
967 - Camden SP	10/29-10/30	15	2	6	0	1	9
968 - Lake Shetek SP	11/19-11/20	12	2	5	1	1	9
159 - St Croix SP Adult	10/31-11/1	13	1	0	0	0	1
Total		561	35	29	8	11	83

* Includes special youth and adult mentored hunts

Youth Deer Season - October 20 - 23, unlimited permits.

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	13	10	2	2	27
105	61	48	6	6	121
111	12	15	1	1	29
114	0	0	0	0	0
201	9	2	2	0	13
203	1	2	0	1	4
208	18	13	0	2	33
209	20	17	4	2	43
256	25	11	2	5	43
257	24	9	4	2	39
260	23	23	4	4	54
263	25	18	4	1	48
264	57	29	8	4	98
267	21	13	4	0	38
268	14	19	4	2	39
338	5	4	1	0	10
339	9	5	3	1	18
341	40	14	9	4	67
342	34	12	7	6	59
343	40	9	2	4	55
344	25	2	6	9	42
345	27	12	5	3	47
346	40	7	4	5	56
347	29	10	2	3	44
348	15	12	6	4	37
349	37	9	1	1	48
601	12	5	2	1	20
Total	636	330	93	73	1132

Table 17. Total Deer Harvest by Permit Area, 2016. Includes all license types, permits, and special hunts.

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
101	522	70	15	12	619
103	816	137	24	6	983
105	1,072	270	42	26	1,410
108	1,206	171	35	17	1,429
110	1,097	219	39	30	1,385
111	578	66	13	11	668
114	41	11	2	1	55
117	20	4	1	1	26
118	656	93	9	6	764
119	458	7	2	1	468
122	238	86	22	5	351
126	310	88	12	4	414
127	55	31	3	7	96
152	91	11	1	1	104
155	1,372	625	153	107	2,257
156	1,652	325	70	55	2,102
157	2,646	811	239	146	3,842
159	1,341	307	85	57	1,790
169	1,654	17	6	4	1,681
171	1,212	514	135	83	1,944
172	2,009	724	182	133	3,048
173	813	188	49	32	1,082
176	1,504	266	57	27	1,854
177	730	248	50	30	1,058
178	1,783	332	77	43	2,235
179	1,840	623	141	93	2,697
180	803	265	50	24	1,142
181	1,100	213	33	26	1,372
182	506	453	121	78	1,158
183	1,372	14	5	5	1,396
184	3,130	1,137	314	224	4,805
197	1,178	195	47	33	1,453
199	120	1	0	0	121
289	274	124	18	12	428
290	554	196	49	26	825
291	926	314	69	43	1,352
292	644	453	134	78	1,309
293	775	458	149	100	1,482
294	369	206	52	22	649
295	573	167	27	27	794
296	351	144	24	16	535
297	216	26	9	3	254
298	739	148	45	30	962
299	353	168	31	22	574
338	322	219	60	31	632
339	273	192	53	34	552
341	1,000	901	263	167	2,331
342	804	724	184	139	1,851
343	876	864	222	146	2,108
344	379	315	78	67	839
345	560	497	127	87	1,271
346	1,071	1,209	340	289	2,909
347	573	285	81	48	987
348	741	691	162	129	1,723
349	1,421	1,533	330	337	3,621
601	1,397	1,360	342	239	3,338
603	168	429	144	127	868
900	0	11	0	0	11
901	4	5	1	3	13
902	37	43	11	9	100
903	6	13	3	5	27
904	4	6	3	2	15
905	5	3	0	0	8
906	4	7	1	1	13
907	1	2	1	0	4
908	3	4	5	3	15

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
201	148	76	13	7	244
203	63	9	3	2	77
208	297	86	8	9	400
209	637	263	67	60	1,027
210	919	388	99	68	1,474
213	2,609	1,840	566	419	5,434
214	1,803	1,457	507	408	4,175
215	1,674	1,359	437	362	3,832
218	1,285	724	261	191	2,461
219	731	435	125	87	1,378
221	1,488	521	191	132	2,332
222	1,006	374	149	85	1,614
223	861	721	220	153	1,955
224	135	69	18	11	233
225	1,661	1,142	368	253	3,424
227	1,216	798	255	168	2,437
229	332	165	37	31	565
230	284	169	47	39	539
232	330	221	60	33	644
233	310	105	27	19	461
234	222	61	12	8	303
235	69	27	7	5	108
236	821	552	164	76	1,613
237	283	62	21	6	372
238	94	27	2	4	127
239	1,686	848	271	202	3,007
240	1,980	1,458	390	357	4,185
241	3,779	2,986	840	668	8,273
242	746	457	120	85	1,408
246	2,435	978	291	221	3,925
247	823	574	182	103	1,682
248	442	367	105	77	991
249	1,305	576	190	106	2,177
250	381	135	15	9	540
251	86	38	10	8	142

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
909	0	5	0	2	7
910	6	16	6	4	32
911	3	3	1	1	8
912	1	4	0	1	6
913	0	5	1	4	10
914	11	11	4	3	29
915	6	14	6	2	28
916	31	12	5	4	52
919	1	5	3	3	12
920	0	3	2	3	8
921	0	6	0	1	7
923	0	4	5	3	12
925	2	4	1	0	7
927	24	30	5	10	69
928	13	20	4	1	38
929	5	19	6	4	34
931	15	11	11	6	43
934	0	14	2	3	19
935	7	10	0	1	18
936	4	7	1	1	13
937	0	4	1	0	5
938	1	8	1	0	10
939	0	3	2	1	6
941	1	7	2	2	12
942	0	11	2	3	16
943	0	15	3	1	19
944	0	2	0	0	2
946	2	1	0	1	4
947	4	4	2	1	11
948	0	1	0	1	2
949	2	12	3	1	18
950	2	0	0	0	2
951	7	5	0	4	16
952	6	1	0	0	7
953	2	1	1	0	4

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
252	315	136	19	15	485
253	496	149	31	18	694
254	618	298	74	45	1,035
255	622	435	104	61	1,222
256	655	251	79	54	1,039
257	494	220	64	44	822
258	934	517	205	137	1,793
259	1,528	944	303	213	2,988
260	471	170	25	21	687
261	271	120	15	8	414
262	263	74	13	7	357
263	512	187	43	28	770
264	850	385	104	52	1,391
265	555	319	78	45	997
266	431	150	30	29	640
267	317	125	41	13	496
268	393	188	32	24	637
269	341	61	12	13	427
270	284	50	14	8	356
271	311	82	18	10	421
272	260	42	2	9	313
273	596	304	60	37	997
274	271	134	29	20	454
275	416	142	28	11	597
276	706	380	87	59	1,232
277	1,755	1,035	224	154	3,168
278	404	123	25	16	568
279	176	155	21	17	369
280	236	112	17	8	373
281	587	241	45	26	899
282	185	34	8	5	232
283	340	110	12	8	470
284	381	148	19	17	565
285	467	137	21	15	640
286	308	108	28	9	453

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
954	1	4	2	2	9
955	0	1	0	0	1
956	5	0	3	0	8
957	0	0	0	0	0
958	2	3	0	1	6
959	0	0	0	0	0
960	1	0	0	0	1
961	0	0	1	0	1
962	1	2	0	0	3
963	1	2	0	1	4
965	1	0	0	0	1
966	2	1	0	1	4
967	2	6	0	1	9
968	2	5	1	1	9
970	27	8	1	0	36
971	60	11	1	6	78
972	2	5	0	2	9
975	0	6	1	0	7
976	3	39	14	11	67
977	6	32	4	5	47
978	0	12	1	0	13
979	0	4	0	0	4
980	48	144	38	46	276
981	2	4	1	0	7
982	0	2	0	0	2
983	2	16	2	2	22
984	0	3	1	0	4
985	3	14	2	4	23
986	5	9	1	1	16
987	0	0	0	0	0
988	1	1	0	0	2
989	3	30	2	3	38
990	2	4	5	5	16
991	10	16	0	2	28
992	0	2	0	0	2

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
287	113	75	34	11	233
288	407	272	40	27	746

Permit Area	Adult Male	Adult Female	Fawn Male	Fawn Female	Total
993	1	12	3	3	19
995	5	37	10	5	57
997	8	23	6	7	44
998	0	2	0	0	2
999	0	2	1	1	4
TOTAL	100,920	49,460	13,315	9,518	173,213

Table 18. Estimated firearm hunter numbers, density, and harvest by Permit Area, 2016.

Excludes data from all 900-series hunts.

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile ²	Harvest/mile ²
101	2,075	496	4.2	1.2
103	2,926	1,820	1.6	0.5
105	3,980	740	5.4	1.9
108	4,524	1,651	2.7	0.9
110	4,050	528	7.7	2.6
111	2,348	1,438	1.6	0.5
114	178	116	1.5	0.5
117	132	927	0.1	0.0
118	2,945	1,220	2.4	0.6
119	2,334	770	3.0	0.6
122	1,986	603	3.3	0.6
126	1,625	941	1.7	0.4
127	518	564	0.9	0.2
152	601	61	9.8	1.7
155	7,690	593	13.0	3.8
156	8,478	825	10.3	2.5
157	12,480	673	18.6	5.7
159	7,022	571	12.3	3.1
169	6,351	1,124	5.6	1.5
171	6,493	701	9.3	2.8
172	10,442	687	15.2	4.4
173	4,677	584	8.0	1.9
176	7,092	1,113	6.4	1.7
177	3,699	480	7.7	2.2
178	8,696	1,280	6.8	1.7
179	9,537	862	11.1	3.1
180	4,592	977	4.7	1.2
181	5,523	708	7.8	1.9
182	2,555	267	9.6	4.3
183	5,889	663	8.9	2.1
184	13,507	1,229	11.0	3.9
197	5,607	954	5.9	1.5
199	446	148	3.0	0.8
201	550	161	3.4	1.5

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile ²	Harvest/mile ²
221	5,749	642	0.3	3.6
222	4,890	413	11.8	3.9
223	3,538	375	9.4	5.2
224	819	47	17.3	4.9
225	7,514	618	12.2	5.5
227	4,674	472	9.9	5.2
229	1,495	284	5.3	2.0
230	1,478	452	3.3	1.2
232	1,360	377	3.6	1.7
233	958	385	2.5	1.2
234	759	636	1.2	0.5
235	329	34	9.8	3.2
236	3,212	370	8.7	4.4
237	1,169	728	1.6	0.5
238	360	95	3.8	1.3
239	7,814	919	8.5	3.3
240	7,773	643	12.1	6.5
241	14,462	996	14.5	8.3
242	2,833	214	13.2	6.6
246	11,265	840	13.4	4.7
247	3,788	228	16.6	7.4
248	2,102	214	9.8	4.6
249	6,173	715	8.6	3.0
250	1,506	713	2.1	0.8
251	567	55	10.3	2.6
252	1,362	715	1.9	0.7
253	2,039	974	2.1	0.7
254	2,585	929	2.8	1.1
255	2,038	774	2.6	1.6
256	2,262	654	3.5	1.6
257	2,065	412	5.0	2.0
258	4,377	343	12.8	5.2
259	7,374	490	15.1	6.1
260	1,910	1,249	1.5	0.6

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile ²	Harvest/mile ²
203	257	83	3.1	0.9
208	1,130	414	2.7	1.0
209	2,611	639	4.1	1.6
210	4,211	615	6.8	2.4
213	10,082	1,057	9.5	5.1
214	7,386	554	13.3	7.5
215	7,002	701	10.0	5.5
218	5,834	884	6.6	2.8
219	3,661	391	9.4	3.5

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/mile ²	Harvest/mile ²
261	1,016	795	1.3	0.5
262	955	677	1.4	0.5
263	1,840	512	3.6	1.5
264	3,613	669	5.4	2.1
265	2,171	494	4.4	2.0
266	1,969	617	3.2	1.0
267	1,190	472	2.5	1.1
268	1,455	228	6.4	2.8
269	1,365	650	2.1	0.7

Table 18. Continued.

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/ mile ²	Harvest/ mile ²
270	1,056	747	1.4	0.5
271	1,130	632	1.8	0.7
272	1,130	531	2.1	0.6
273	2,803	571	4.9	1.7
274	1,208	354	3.4	1.3
275	1,980	764	2.6	0.8
276	3,246	542	6.0	2.3
277	6,844	812	8.4	3.9
278	1,929	402	4.8	1.4
279	1,247	344	3.6	1.1
280	1,401	675	2.1	0.6
281	2,493	575	4.3	1.6
282	887	778	1.1	0.3
283	1,523	613	2.5	0.8
284	1,757	837	2.1	0.7
285	2,370	549	4.3	1.2
286	1,397	446	3.1	1.0
287	1,076	46	23.5	5.1
288	1,943	625	3.1	1.2
289	1,158	815	1.4	0.5
290	2,296	662	3.5	1.2
291	3,917	800	4.9	1.7
292	3,082	479	6.4	2.7
293	2,610	511	5.1	2.9
294	1,447	686	2.1	0.9
295	2,208	839	2.6	0.9
296	1,834	667	2.8	0.8
297	1,036	438	2.4	0.6
298	3,551	618	5.7	1.6
299	1,554	386	4.0	1.5
338	2,129	454	4.7	1.4
339	1,715	393	4.4	1.4
341	5,027	612	8.2	3.8
342	3,859	349	11.1	5.3
343	4,308	663	6.5	3.2
344	2,915	189	15.4	4.4

Permit Area	Firearm Hunters	Area Size (sq mi)	Hunters/ mile²	Harvest/ mile²
345	2,936	322	9.1	3.9
346	4,331	318	13.6	9.2
347	2,792	434	6.4	2.3
348	3,387	332	10.2	5.2
349	6,055	490	12.3	7.4
601	2,861	1,625	1.8	2.1
Total	446,323	78,855	5.7	2.2

Note: This table excludes harvest data from all 900-series special hunts.

Area Size = Total land area (not water) within the DPA, area estimates were recalculated in 2014

Table 19. Deer harvest per square mile by season, 2016.

Permit Area	Area Size/ mi ²	Archery Harvest/ mi ²	Firearm Harvest/ mi ²	Muzzleloader Harvest/mi ²	EA Harvest /mi ²	Youth Harvest/ mi ²	Total Harvest/ mi ²	Rank
101	496	0.02	1.14	0.04	0.00	0.05	1.25	84
103	1,820	0.01	0.52	0.00	0.00	0.00	0.54	117
105	740	0.06	1.64	0.04	0.00	0.16	1.90	62
108	1,651	0.04	0.82	0.01	0.00	0.00	0.87	101
110	528	0.10	2.50	0.02	0.00	0.00	2.62	46
111	1,438	0.01	0.44	0.00	0.00	0.02	0.46	124
114	116	0.06	0.41	0.01	0.00	0.00	0.47	122
117	927	0.00	0.03	0.00	0.00	0.00	0.03	128
118	1,220	0.00	0.58	0.01	0.00	0.00	0.59	114
119	770	0.06	0.59	0.01	0.00	0.00	0.66	108
122	603	0.01	0.56	0.00	0.00	0.00	0.57	115
126	941	0.01	0.41	0.00	0.00	0.00	0.43	125
127	564	0.04	0.16	0.00	0.00	0.00	0.21	127
152	61	0.03	1.57	0.03	0.00	0.00	1.64	67
155	593	0.01	3.57	0.05	0.00	0.00	3.64	31
156	825	0.13	2.34	0.03	0.00	0.00	2.49	49
157	673	0.21	5.27	0.07	0.00	0.00	5.55	10
159	571	0.44	2.89	0.02	0.00	0.00	3.35	35
169	1,124	0.11	1.44	0.02	0.00	0.00	1.57	71
171	701	0.06	2.61	0.04	0.00	0.00	2.71	45
172	687	0.13	4.04	0.08	0.00	0.00	4.24	23
173	584	0.37	1.73	0.02	0.00	0.00	2.12	55
176	1,113	0.05	1.57	0.02	0.00	0.00	1.64	66
177	480	0.18	2.09	0.03	0.00	0.00	2.30	51
178	1,280	0.03	1.63	0.01	0.00	0.00	1.68	64
179	862	0.15	2.83	0.05	0.00	0.00	3.03	41
180	977	0.22	1.06	0.02	0.00	0.00	1.30	83
181	708	0.12	1.79	0.03	0.00	0.00	1.93	60
182	267	0.33	2.88	0.14	0.00	0.00	3.35	36
183	663	0.53	2.03	0.01	0.00	0.00	2.56	47
184	1,229	0.04	3.62	0.06	0.00	0.00	3.72	29
197	954	0.28	1.44	0.02	0.00	0.00	1.75	63

Permit Area	Area Size/ mi ²	Archery Harvest/ mi ²	Firearm Harvest/ mi ²	Muzzleloader Harvest/mi ²	EA Harvest /mi ²	Youth Harvest/ mi ²	Total Harvest/ mi ²	Rank
199	148	0.38	0.77	0.01	0.00	0.00	1.16	89
201	161	0.04	1.26	0.12	0.00	0.08	1.50	74
203	83	0.10	0.85	0.01	0.00	0.05	1.01	98
208	414	0.00	0.80	0.05	0.00	0.08	0.94	99
209	639	0.02	1.36	0.09	0.00	0.07	1.54	72
210	615	0.09	2.22	0.10	0.00	0.00	2.41	50
213	1,057	0.04	4.25	0.40	0.00	0.00	4.70	19
214	554	0.93	6.34	0.46	0.00	0.00	7.74	5
215	701	0.57	4.11	0.43	0.00	0.00	5.11	13
218	884	0.74	2.20	0.24	0.00	0.00	3.17	37
219	391	0.79	2.66	0.35	0.00	0.00	3.80	27
221	642	0.31	3.16	0.12	0.00	0.00	3.59	32
222	413	0.55	3.49	0.14	0.00	0.00	4.17	25
223	375	0.31	3.49	0.42	0.00	0.00	4.22	24
224	47	10.29	3.85	0.04	0.00	0.00	14.18	1
225	618	0.08	4.55	0.25	0.00	0.00	4.88	15
227	472	0.97	3.58	0.32	0.00	0.00	4.87	16
229	284	2.09	1.41	0.14	0.00	0.00	3.64	30
230	452	0.27	0.96	0.08	0.00	0.00	1.31	82
232	377	0.19	1.29	0.18	0.00	0.00	1.65	65
233	385	0.24	0.87	0.11	0.00	0.00	1.22	86
234	636	0.13	0.36	0.03	0.00	0.00	0.52	118
235	34	1.72	2.40	0.21	0.00	0.00	4.33	22
236	370	0.05	2.89	0.22	0.00	0.00	3.17	38
237	728	0.63	0.43	0.03	0.00	0.00	1.10	93
238	95	0.38	1.13	0.03	0.00	0.00	1.54	73
239	919	0.02	2.92	0.16	0.00	0.00	3.09	40
240	643	0.28	5.60	0.38	0.00	0.00	6.27	8
241	996	0.34	7.12	0.43	0.00	0.00	7.89	4
242	214	3.52	5.47	0.23	0.00	0.00	9.23	2
246	840	0.22	4.33	0.11	0.00	0.00	4.66	20
247	228	0.87	6.29	0.33	0.00	0.00	7.49	6
248	214	0.80	3.66	0.40	0.00	0.00	4.86	17

Permit Area	Area Size/ mi ²	Archery Harvest/ mi ²	Firearm Harvest/ mi ²	Muzzleloader Harvest/mi ²	EA Harvest /mi ²	Youth Harvest/ mi ²	Total Harvest/ mi ²	Rank
249	715	0.17	2.72	0.10	0.00	0.00	2.99	42
250	713	0.23	0.60	0.06	0.00	0.00	0.89	100
251	55	1.22	2.29	0.07	0.00	0.00	3.58	33
252	715	0.02	0.53	0.05	0.00	0.00	0.60	113
253	974	0.07	0.52	0.07	0.00	0.00	0.66	107
254	929	0.13	0.86	0.11	0.00	0.00	1.11	92
255	774	0.16	1.14	0.12	0.00	0.00	1.42	77
256	654	0.38	1.40	0.06	0.00	0.07	1.91	61
257	412	0.10	1.74	0.09	0.00	0.09	2.03	58
258	343	0.07	4.79	0.18	0.00	0.00	5.05	14
259	490	0.18	5.66	0.23	0.00	0.00	6.07	9
260	1,249	0.08	0.46	0.02	0.00	0.04	0.61	111
261	795	0.03	0.42	0.05	0.00	0.00	0.50	120
262	677	0.06	0.42	0.03	0.00	0.00	0.50	119
263	512	0.10	1.29	0.08	0.00	0.09	1.57	70
264	669	0.03	1.75	0.11	0.00	0.15	2.03	57
265	494	0.10	1.74	0.15	0.00	0.00	1.99	59
266	617	0.10	0.93	0.06	0.00	0.00	1.08	95
267	472	0.07	0.86	0.07	0.00	0.08	1.09	94
268	228	0.07	2.39	0.14	0.00	0.17	2.76	44
269	650	0.03	0.51	0.06	0.00	0.00	0.60	112
270	747	0.07	0.40	0.03	0.00	0.00	0.50	121
271	632	0.06	0.53	0.06	0.00	0.00	0.65	109
272	531	0.09	0.51	0.03	0.00	0.00	0.63	110
273	571	0.05	1.43	0.12	0.00	0.00	1.60	69
274	354	0.31	0.98	0.15	0.00	0.00	1.44	76
275	764	0.07	0.63	0.06	0.00	0.00	0.76	104
276	542	0.13	1.79	0.26	0.00	0.00	2.18	54
277	812	0.15	3.00	0.38	0.00	0.00	3.53	34
278	402	1.06	1.05	0.17	0.00	0.00	2.27	53
279	344	0.24	0.81	0.17	0.00	0.00	1.22	85
280	675	0.04	0.45	0.05	0.00	0.00	0.54	116
281	575	0.06	1.24	0.10	0.00	0.00	1.40	78

Permit Area	Area Size/ mi ²	Archery Harvest/ mi ²	Firearm Harvest/ mi ²	Muzzleloader Harvest/mi ²	EA Harvest /mi ²	Youth Harvest/ mi ²	Total Harvest/ mi ²	Rank
282	778	0.16	0.22	0.03	0.00	0.00	0.42	126
283	613	0.06	0.57	0.05	0.00	0.00	0.68	106
284	837	0.11	0.54	0.05	0.00	0.00	0.70	105
285	549	0.12	0.88	0.03	0.00	0.00	1.04	97
286	446	0.31	0.83	0.09	0.00	0.00	1.22	87
287	46	0.00	4.53	0.31	0.00	0.00	4.83	18
288	625	0.07	0.86	0.11	0.00	0.00	1.05	96
289	815	0.01	0.40	0.06	0.00	0.00	0.47	123
290	662	0.21	0.99	0.11	0.00	0.00	1.31	81
291	800	0.07	1.27	0.10	0.00	0.00	1.45	75
292	479	0.20	2.12	0.21	0.00	0.00	2.54	48
293	511	0.50	2.17	0.19	0.00	0.00	2.86	43
294	686	0.28	0.77	0.09	0.00	0.00	1.14	91
295	839	0.33	0.72	0.10	0.00	0.00	1.15	90
296	667	0.09	0.60	0.09	0.00	0.00	0.78	103
297	438	0.24	0.53	0.01	0.00	0.00	0.78	102
298	618	0.12	1.49	0.02	0.00	0.00	1.64	68
299	386	0.04	1.10	0.07	0.00	0.00	1.21	88
338	454	0.23	1.04	0.10	0.00	0.02	1.39	80
339	393	0.31	0.97	0.07	0.00	0.05	1.40	79
341	612	0.72	2.74	0.21	0.00	0.11	3.79	28
342	349	0.83	3.87	0.39	0.00	0.17	5.25	11
343	663	1.00	1.88	0.19	0.00	0.08	3.16	39
344	189	0.40	3.55	0.25	0.00	0.22	4.42	21
345	322	0.55	2.93	0.30	0.00	0.15	3.92	26
346	318	1.49	6.22	0.60	0.66	0.18	9.15	3
347	434	0.30	1.75	0.12	0.00	0.10	2.27	52
348	332	0.81	3.98	0.27	0.00	0.11	5.16	12
349	490	1.13	5.26	0.47	0.42	0.10	7.38	7
601	1,625	1.27	0.74	0.03	0.00	0.01	2.05	56
Total	78,855	0.25	1.79	0.10	0.01	0.01	2.16	

Note: This table excludes harvest data from all 900- series special hunts

Area Size = Total land area (not water) within the DPA, area estimates were recalculated in 2014

EA harvest is reported based on total permit area; in some scenarios may be sub-unit designation.

Table 20. Harvest using Depredation Permits, by Permit Area, 2016.

Permit Area	Adult Female	Fawn Male	Fawn Female	Total
156	8	3	0	11
TOTAL	8	3	0	11

Table 21. 2016 Firearm Lottery Distribution Report.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
101	1	162	3	162	0	297
	2	162	0	102	60	
	3	143	1	0	143	
	4	93	0	0	93	
	6	1	0	0	1	
		561	4	264	297	
105	1	424	5	424	0	494
	2	374	2	374	0	
	3	433	2	224	209	
	4	284	1	0	284	
	9	1	0	0	1	
		1516	10	1022	494	
108	1	448	0	448	0	99
	2	285	1	285	0	
	3	209	1	209	0	
	4	221	1	221	0	
	5	167	0	126	41	
	6	58	1	0	58	
		1388	4	1289	99	
110	1	565	2	565	0	347
	2	661	6	661	0	
	3	647	1	303	344	
	4	3	0	0	3	
		1876	9	1529	347	
111	1	249	1	249	0	99
	2	234	0	234	0	
	3	231	0	161	70	
	4	29	0	0	29	
		743	1	644	99	
118	1	333	1	333	0	98
	2	236	0	236	0	
	3	222	0	222	0	
	4	183	0	109	74	
	5	23	0	0	23	
	6	1	0	0	1	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		998	1	900	98	
122	1	382	0	243	139	497
	2	293	2	0	293	
	3	60	0	0	60	
	4	3	0	0	3	
	5	1	0	0	1	
	9	1	0	0	1	
			740	2	243	
126	1	421	0	0	308	393
	2	83	0	0	83	
	3	2	0	0	2	
		506	0	0	393	
155	1	1527	1	1527	0	1972
	2	1278	1	265	1013	
	3	954	14	0	954	
	4	5	0	0	5	
		3764	16	1792	1972	
156	1	971	5	971	0	296
	2	1063	2	1063	0	
	3	1238	6	944	294	
	5	1	0	0	1	
	9	1	0	0	1	
		3274	13	2978	296	
157	1	2686	9	2465	221	2460
	2	2178	8	0	2178	
	3	52	0	0	52	
	4	6	0	0	6	
	9	3	0	0	3	
		4925	17	2465	2460	
159	1	930	5	930	0	493
	2	944	2	944	0	
	3	731	5	239	492	
	4	1	0	0	1	
		2606	12	2113	493	
171	1	819	0	819	0	1481
	2	929	7	929	0	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	1195	5	181	1014	
	4	466	1	0	466	
	5	1	0	0	1	
		3410	13	1929	1481	
172	1	1672	4	1672	0	1965
	2	1415	4	1415	0	
	3	1901	5	604	1297	
	4	667	5	0	667	
	7	1	0	0	1	
		5656	18	3691	1965	
173	1	616	4	616	0	296
	2	720	10	720	0	
	3	738	4	448	290	
	4	6	0	0	6	
		2080	18	1784	296	
176	1	1643	6	1643	0	495
	2	1159	2	947	212	
	3	266	1	0	266	
	4	16	0	0	16	
	9	1	0	0	1	
		3085	9	2590	495	
177	1	974	5	855	119	888
	2	669	4	0	669	
	3	71	1	0	71	
	4	18	0	0	18	
	5	10	0	0	10	
	6	1	0	0	1	
		1743	10	855	888	
178	1	3089	11	3058	31	495
	2	354	0	0	354	
	3	91	0	0	91	
	4	16	0	0	16	
	5	1	0	0	1	
	9	2	0	0	2	
		3553	11	3058	495	
179	1	1256	2	1256	0	1484
	2	1350	4	1309	41	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	1441	4	0	1441	
	4	2	2	0	2	
		4049	12	2565	1484	
180	1	1123	6	10	1113	1475
	2	340	2	0	340	
	3	20	0	0	20	
	4	1	0	0	1	
	9	1	0	0	1	
		1485	8	10	1475	
181	1	1658	6	1608	50	296
	2	195	0	0	195	
	3	46	0	0	46	
	4	5	0	0	5	
		1904	6	1608	296	
184	1	2917	11	2022	895	4932
	2	3099	14	0	3099	
	3	931	8	0	931	
	4	5	0	0	5	
	9	2	0	0	2	
		6954	33	2022	4932	
197	1	669	1	669	0	495
	2	694	4	694	0	
	3	988	8	733	255	
	4	240	1	0	240	
		2591	14	2096	495	
203	1	38	0	38	0	25
	2	46	0	30	16	
	3	8	0	0	8	
		92	0	68	24	
208	1	149	4	49	100	292
	2	135	2	0	135	
	3	57	3	0	57	
		341	9	49	292	
221	1	1149	5	1230	259	1462
	2	1176	3	0	1176	
	3	25	0	0	25	
	4	2	0	0	2	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		2352	8	1230	1462	
222	1	1640	3	682	958	1464
	2	488	3	0	488	
	3	16	0	0	16	
	4	2	0	0	2	
		2146	6	682	1464	
224	1	185	0	116	69	149
	2	78	0	0	78	
	3	2	0	0	2	
		265	0	116	149	
234	1	238	1	169	69	93
	2	24	0	0	24	
		262	1	169	93	
235	1	76	0	30	46	125
	2	12	0	0	12	
	3	3	0	0	3	
	4	1	0	0	1	
		92	0	30	62	
		184	0	60	124	
237	1	187	0	187	0	48
	2	135	2	96	39	
	3	9	1	0	9	
		331	3	283	48	
238	1	56	0	56	0	49
	2	68	1	21	47	
	3	2	0	0	2	
		126	1	77	49	
246	1	1918	2	1918	0	2943
	2	1806	12	1000	806	
	3	2128	7	0	2128	
	4	4	0	0	4	
	5	3	0	0	3	
	6	1	0	0	1	
	9	1	0	0	1	
		5861	21	2918	2943	
249	1	1913	6	1576	337	1479
	2	1117	8	0	1117	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	21	0	0	21	
	4	4	0	0	4	
		3055	14	1576	1479	
250	1	307	1	307	0	277
	2	296	2	78	218	
	3	58	0	0	58	
	4	1	0	0	1	
		662	3	385	277	
251	1	116	0	88	28	196
	2	119	1	0	119	
	3	48	0	0	48	
	4	1	0	0	1	
		284	1	88	196	
252	1	363	0	217	146	361
	2	207	0	0	207	
	3	8	0	0	8	
		578	0	217	361	
253	1	359	0	359	0	263
	2	356	3	258	98	
	3	164	0	0	164	
	4	1	0	0	1	
		880	3	617	263	
260	1	203	1	0	203	574
	2	173	1	0	173	
	3	187	1	0	187	
	4	1	0	0	1	
		564	3	0	564	
262	1	193	1	193	0	141
	2	142	0	35	107	
	3	34	0	0	34	
		369	1	228	141	
266	1	280	1	280	0	477
	2	266	0	15	251	
	3	225	0	0	225	
	4	1	0	0	1	
		772	1	295	477	
269	1	255	0	255	0	136

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	2	251	2	159	92	136
	3	43	4	0	43	
	5	1	0	0	1	
		550	6	414	136	
270	1	143	0	143	0	23
	2	131	0	131	0	
	3	104	0	81	23	
		378	0	355	23	
271	1	262	6	209	53	228
	2	170	3	0	170	
	3	5	0	0	5	
		437	9	209	228	
272	1	262	2	169	0	97
	2	165	0	165	0	
	3	135	3	40	95	
	4	1	0	0	1	
	9	1	0	0	1	
		471	5	374	97	
274	1	276	1	276	0	307
	2	237	0	6	231	
	3	75	0	0	75	
	4	1	0	0	1	
		589	1	282	307	
275	1	314	1	314	0	233
	2	447	1	313	134	
	3	96	1	0	96	
	4	3	0	0	3	
		860	3	627	233	
278	1	278	1	278	0	179
	2	293	1	293	0	
	3	314	2	147	167	
	4	12	1	0	12	
	6	0	2	0	0	
		897	7	718	179	
279	1	491	1	117	374	520
	2	138	0	0	138	
	3	8	0	0	8	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		637	1	117	520	
280	1	272	0	272	0	188
280	2	288	2	133	155	188
	3	29	0	0	29	
	4	3	0	0	3	
	9	1	0	0	1	
		593	2	405	188	
281	1	230	1	435	95	628
	2	365	0	0	365	
	3	161	0	0	161	
	4	5	1	0	5	
	9	2	0	0	2	
		1063	2	435	628	
282	1	84	0	84	0	24
	2	70	0	70	0	
	3	37	0	34	3	
	4	21	0	0	21	
		212	0	188	24	
283	1	245	1	245	0	188
	2	245	2	217	28	
	3	159	0	0	159	
	4	1	1	0	1	
		650	4	462	188	
284	1	329	2	329	0	284
	2	350	2	212	138	
	3	142	0	0	142	
	4	2	0	0	2	
	5	2	0	0	2	
		825	4	541	284	
285	1	448	6	448	0	279
	2	717	0	453	264	
	3	15	0	0	15	
	4	0	1	0	0	
		1180	7	901	279	
286	1	340	2	340	0	93
	2	148	0	66	82	
	3	11	0	0	11	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		499	2	406	93	
288	1	496	1	402	94	462
	2	349	2	0	349	
	3	16	0	0	16	
	4	3	0	0	3	
		864	3	402	462	
289	1	237	1	99	138	407
	2	237	1	0	237	
	3	30	0	0	30	
	4	2	0	0	2	
		506	2	99	407	
290	1	433	1	397	0	358
	2	465	5	0	68	
	3	287	2	0	287	
	4	2	1	0	2	
	9	1	0	0	1	
		1188	9	397	358	
291	1	852	1	852	0	725
	2	821	2	342	479	
	3	245	2	0	245	
	5	1	0	0	1	
		1919	5	1194	725	
294	1	431	1	147	284	453
	2	164	0	0	164	
	3	5	1	0	5	
		600	2	147	453	
295	1	360	0	360	0	266
	2	341	1	290	51	
	3	215	2	0	215	
		916	3	650	266	
296	1	323	0	323	0	265
	2	283	2	224	59	
	3	205	1	0	205	
	5	1	0	0	1	
		812	3	547	265	
297	1	133	1	133	0	98
	2	120	0	73	47	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	51	1	0	51	
		304	2	206	98	
298	1	382	2	382	0	586
	2	364	1	350	14	
	3	442	2	0	442	
	4	129	0	0	129	
	9	1	0	0	1	
		1318	5	732	586	
299	1	368	0	368	0	354
	2	362	3	23	339	
	3	13	2	0	13	
	4	2	0	0	2	
		745	5	391	354	
TOTAL		97,056	406	57,298	39,552	39,646

Table 22. 2016 Muzzleloader Lottery Distribution Report.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
101	1	3	0	3	0	3
	2	2	0	0	2	
	3	1	0	0	1	
		6	0	3	3	
103	1	6	0	6	0	3
	2	3	0	3	0	
	3	6	0	3	3	
		15	0	12	3	
105	1	8	0	8	0	6
	2	7	0	3	4	
	3	2	0	0	2	
		17	0	11	6	
108	1	10	0	10	0	1
	2	2	0	2	0	
	3	2	0	2	0	
	4	3	0	2	1	
		17	0	16	1	
110	1	7	0	7	0	3
	2	2	0	2	0	
	3	5	0	2	3	
		14	0	11	3	
111	1	2	0	2	0	1
	2	2	0	1	1	
		4	0	3	1	
118	1	12	0	12	0	2
	2	2	0	2	0	
	3	1	0	1	0	
	4	2	0	0	2	
		17	0	15	2	
122	1	4	0	1	3	3
		14	0	1	3	
126	1	9	0	2	7	7
		9	0	2	7	
155	1	34	0	25	9	28
	2	13	0	0	13	
	3	6	0	0	6	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		53	0	25	28	
157	1	59	0	39	20	40
	2	16	0	0	16	
	3	4	0	0	4	
		79	0	39	40	
159	1	22	0	22	0	7
	2	11	0	8	3	
	3	4	0	0	4	
		37	0	30	7	
172	1	47	0	47	0	35
	2	29	0	16	13	
	3	20	0	0	20	
	4	2	0	0	2	
		98	0	63	35	
173	1	11	0	11	0	4
	2	10	0	10	0	
	3	4	0	0	4	
		25	0	21	4	
176	1	22	0	22	0	5
	2	7	0	2	5	
		29	0	24	5	
177	1	17	0	12	5	12
	2	5	0	0	5	
	3	1	0	0	1	
	4	1	0	0	1	
		24	0	12	12	
179	1	28	0	27	1	16
	2	11	0	0	11	
	3	4	0	0	4	
		43	0	27	16	
180	1	21	0	0	21	25
	2	4	0	0	4	
		25	0	0	25	
180	1	22	0	22	0	4
	2	6	0	2	4	
		28	0	24	4	
184	1	48	0	27	21	68
	2	42	0	0	42	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	5	0	0	5	
		95	0	27	68	
197	1	9	0	9	0	5
	2	5	0	5	0	
	3	10	0	5	5	
		24	0	19	5	
203	1	2	0	2	0	1
	2	1	0	0	1	
		3	0	2	1	
208	1	7	0	1	6	8
	2	2	0	0	2	
		9	0	1	8	
221	1	49	0	31	18	38
	2	20	0	0	20	
		69	0	31	38	
222	1	43	0	15	28	36
	2	8	0	0	8	
		51	0	15	36	
224	1	2	0	1	1	1
		2	0	1	1	
234	1	17	0	11	6	7
	2	1	0	0	1	
		18	0	11	7	
235	1	14	0	3	11	13
	2	1	0	0	1	
	3	1	0	0	1	
		16	0	3	13	
237	1	11	0	11	0	2
	2	5	0	3	2	
		16	0	14	2	
238	1	1	0	1	0	1
	2	1	0	0	1	
		2	0	1	1	
246	1	66	0	63	3	66
	2	49	0	0	49	
	3	14	0	0	14	
		129	0	63	66	
249	1	33	0	22	11	21

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	2	10	0	0	10	
		43	0	22	21	
250	1	26	0	26	0	23
	2	23	0	2	21	
	3	2	0	0	2	
		51	0	28	23	
251	1	4	0	2	2	4
	2	2	0	0	2	
		6	0	2	4	
252	1	42	0	18	24	39
	2	15	0	0	15	
		57	0	18	39	
253	1	61	0	61	0	37
	2	38	0	11	27	
	3	10	0	0	10	
		109	0	72	37	
260	1	12	0	0	12	26
	2	7	0	0	7	
	3	5	0	0	5	
		24	0	0	24	
262	1	8	0	8	0	9
	2	12	0	4	8	
	3	1	0	0	1	
		21	0	12	9	
266	1	18	0	12	6	23
	2	13	0	0	13	
	3	4	0	0	4	
		35	0	12	23	
269	1	33	0	33	0	14
	2	18	0	4	14	
		51	0	37	14	
270	1	15	0	15	0	2
	2	10	0	10	0	
	3	9	0	7	2	
		34	0	32	2	
271	1	25	0	17	8	22
	2	14	0	0	14	
		39	0	17	22	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
272	1	9	0	9	0	3
	2	5	0	4	1	
	3	2	0	0	2	
		16	0	13	3	
274	1	40	0	29	11	43
	2	32	0	0	32	
		72	0	29	43	
275	1	28	0	28	0	17
	2	29	0	14	15	
	3	2	0	0	2	
		59	0	42	17	
278	1	35	0	35	0	21
	2	39	0	39	0	
	3	21	0	0	21	
		95	0	74	21	
278	1	79	0	5	74	80
	2	6	0	0	6	
		85	0	5	80	
280	1	24	0	24	0	12
	2	12	0	0	12	
		36	0	24	12	
281	1	63	0	37	26	72
	2	43	0	0	43	
	3	2	0	0	2	
	9	1	0	0	1	
		109	0	37	72	
282	1	5	0	5	0	1
	2	2	0	2	0	
	3	1	0	1	0	
	4	1	0	1	0	
	5	1	0	0	1	
		10	0	9	1	
283	1	19	0	19	0	12
	2	13	0	9	4	
	3	8	0	0	8	
		40	0	28	12	
284	1	21	0	21	0	16
	2	18	0	6	12	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	3	4	0	0	4	
		43	0	27	16	
285	1	48	0	48	0	21
	2	34	0	14	20	
	3	1	0	0	1	
		83	0	62	21	
286	1	30	0	29	1	7
	2	6	0	0	6	
		36	0	29	7	
288	1	43	0	28	15	38
	2	23	0	0	23	
		66	0	28	38	
289	1	28	0	5	23	43
	2	18	0	0	18	
	3	2	0	0	2	
		48	0	5	43	
290	1	59	0	59	0	42
	2	50	0	24	26	
	3	16	0	0	16	
		125	0	83	42	
291	1	96	0	96	0	75
	2	72	0	8	64	
	3	11	0	0	11	
		179	0	104	75	
294	1	43	0	9	34	47
	2	12	0	0	12	
	4	1	0	0	1	
		56	0	9	47	
295	1	47	0	47	0	34
	2	35	0	23	12	
	3	22	0	0	22	
		104	0	70	34	
296	1	49	0	49	0	35
	2	38	0	12	26	
	3	9	0	0	9	
		96	0	61	35	
297	1	5	0	4	1	2
	3	1	0	0	1	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
		6	0	4	2	
298	1	11	0	11	0	14
	2	13	0	6	7	
	3	7	0	0	7	
		31	0	17	14	
299	1	53	0	40	13	46
	2	33	0	0	33	
		86	0	40	46	
TOTAL		2,930	0	1,577	1,343	1,352

Table 23. 2016 Special Permit Areas for Firearms Hunters.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
900 - Cascade River SP	1	8	5	0	8	8
		8	0	0	8	
901 - Rice Lake NWR	1	40	23	28	12	40
	2	25	14	0	25	
	3	3	1	0	3	
		68	38	28	40	
902 - St. Croix SP	1	405	184	236	169	350
	2	173	86	0	173	
	3	8	6	0	8	
	9	1	1	0	1	
		587	277	236	351	
903 - Lake Louise SP	1	44	21	44	0	25
	2	15	11	15	0	
	3	26	11	1	25	
		85	43	60	25	
904 - Gooseberry Falls SP	1	35	0	11	24	30
	2	6	0	0	6	
		41	0	0	30	
905 - Split Rock Lighthouse SP	1	31	0	7	24	30
	2	6	0	0	6	
		37	0	0	30	
906 - Tettegouche SP	1	83	0	0	83	125
	2	3	0	0	3	
		86	0	0	86	
907 - Scenic SP	1	36	0	12	24	30
	2	5	0	0	5	
	3	1	0	0	1	
		42	0	0	30	
908 - Hayes Lake SP	1	44	41	0	44	50
	2	4	4	0	4	
		48	45	0	48	
909 - Lake Bemidji SP	1	32	0	8	24	30
	2	4	0	0	4	
	3	2	0	0	2	
		38	0	8	30	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
910 - Zippel Bay SP	1	63	0	16	47	55
	2	6	0	0	6	
	3	2	0	0	2	
		71	0	16	55	
911 - Judge CR Magney SP	1	5	0	0	5	75
	2	1	0	0	1	
		6	0	0	6	
913 - Lake Carlos SP	1	23	0	4	19	18
	2	2	0	0	2	
		25	0	4	21	
914 - William O'Brien SP	1	82	0	82	0	50
	2	29	0	2	27	
	3	25	0	0	25	
		136	0	84	52	
915 - Lake Bronson SP	1	47	35	35	12	30
	2	18	15	0	18	
	3	3	3	0	3	
		68	53	35	33	
916 - Maplewood SP	1	168	0	168	0	100
	2	113	0	113	0	
	3	77	0	13	64	
	4	34	0	0	34	
	9	2	0	0	2	
		394	0	294	100	
919 - Glacial Lakes SP	1	34	0	5	29	30
	2	4	0	0	4	
		38	0	5	33	
920 - Zumbro Falls SNA	1	16	0	10	6	12
	2	6	0	0	6	
		22	0	10	12	
923 - Zumbro Falls SNA	1	9	0	0	9	9
		9	0	0	9	
925 - Vermillion Highlands WMA	1	53	0	53	0	20
	2	33	0	33	0	
	3	17	0	0	17	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	4	2	0	0	2	
	9	1	0	0	1	
		106	0	0	20	
927A - Elm Creek Park Reserve	1	261	0	0		137
	2	207	0	261	69	
	3	65	0	138	65	
	4	4	0	0	4	
	9	1	0	0	1	
		538	0	399	139	
927B - Elm Creek Park Reserve	1	7	0	7	0	3
	2	2	0	0	2	
	4	1	0	0	1	
		10	0	7	3	
928 - Wild River SP	1	247	0	247	0	75
	2	96	0	57	39	
	3	33	0	0	33	
	4	3	0	0	3	
		379	0	304	75	
929 - Frontenac SP	1	86	0	69	17	55
	2	35	0	0	35	
	3	3	0	0	3	
		124	0	69	55	
931 - City of Grand Rapids	1	62	0	0	62	74
	2	11	0	0	11	
	4	1	0	0	1	
		74	0	0	74	

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
934 - Whitewater State Game Refuge	1	116	0	62	54	75
	2	21	0	0	21	
		137	0	62	75	
962- Great Rivers Bluff SP	1	70	0	41	29	50
	2	16	0	0	16	
	3	6	0	0	6	
		92	0	41	51	
TOTAL		3,269	456	1,662	1,491	1,586

Table 24. 2016 Special Permit Areas for Muzzleloader Hunts.

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
921 - Minneopa SP	1	16	0	15	1	10
	2	5	0	0	5	
	3	4	0	0	4	
		25	0	15	10	
935 - Jay Cook SP	1	78	0	78	0	75
	2	84	0	10	74	
	3	2	0	0	2	
		164	0	88	76	
936 - Crow Wing SP	1	30	0	30	0	25
	2	17	0	7	10	
	3	15	0	0	15	
	9	1	0	0	1	
		63	0	37	26	
937 - Lake Vermillion SP	1	23	0	19	4	20
	2	16	0	0	16	
		39	0	19	20	
938 - City of Tower	1	11	0	0	11	20
	2	2	0	0	2	
	3	1	0	0	1	
		14	0	0	14	
941 - Nstrand Big Woods SP	1	95	0	95	0	50
	2	68	0	68	0	
	3	48	0	6	42	
	4	9	0	0	9	
	5	1	0	0	1	
		221	0	169	52	
942 - Sibley SP	1	98	0	89	9	60
	2	44	0	0	44	
	3	8	0	0	8	
	4	1	0	0	1	
		151	0	89	62	
943 - Rice Lake SP	1	39	0	39	0	20

Permit Area Number	Preference Level	Applications		Unsuccessful	Winners	Permits Available
		Total	Rejected			
	2	31	0	16	15	
	3	4	0	0	4	
	9	1	0	0	1	
		75	0	55	20	
944 - Vermillion Highlands WMA	1	28	0	28	0	20
	2	23	0	5	18	
	3	5	0	0	5	
		56	0	33	23	
946 - City of Grand Rapids	1	12	0	0	12	14
	2	2	0	0	2	
		14	0	0	14	
947 - Lake Bemidji SP	1	19	0	0	19	30
	2	3	0	0	3	
		22	0	0	22	
948 - Savanna Portage	1	11	0	0	11	30
	2	17	0	0	17	
		28	0	0	28	
949 - St. Croix SP	1	81	0	4	77	100
	2	19	0	0	19	
	3	4	0	0	4	
		104	0	4	100	
992 - Sakatah Lake SP	1	21	0	18	3	15
	2	8	0	0	8	
	3	6	0	0	6	
		35	0	18	17	
TOTAL		1,011	0	527	484	489

GRAND TOTAL		104,266	862	61,064	42,840	43,073
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2016 MINNESOTA ELK HARVEST REPORT

Adam Murkowski, Big Game Program Leader
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INTRODUCTION

A limited number of licenses are offered to Minnesota residents to hunt elk. In 2016, there were two established zones: 1) Zone 20 - Kittson County Central and 2) Zone 30 - Kittson County Northeast (Figure 1). Zone 10, near Grygla, Minnesota, has been closed since 2013 because the population is below goal (Figure 2). In 2016, there was one regular season hunt (September 10-18) held in both zones. The hunt was structured to fall within the breeding season when bull elk are most vulnerable and elk can be located by vocalizations.

METHODS

All elk hunters are required to attend a mandatory orientation session the day before the hunt begins. At this session, DNR staff also provide hunters with their license, and a kit to collect biological samples from their harvested animal. Field samples collected by the hunter include whole blood, hair with skin, ticks (if found), and the whole liver. Hunters must register their animal in person at the local DNR office. DNR staff map the harvest location, provide a possession tag, and take the hunter-collected biological samples. DNR staff also collect lymph nodes, the obex (brain stem), and a tooth so an accurate age can be determined at a later date. DNR staff submit all biological samples to Wildlife Health for disease testing and other monitoring projects.

RESULTS

A total of 7 licenses were available and 1,827 individuals or parties applied for the opportunity to hunt elk (Table 1). A first random drawing was held for landowners who applied for the one landowner license available in Zone 20. All remaining landowners were then placed into the general drawing for remaining elk licenses. Licenses were distributed through a second random drawing conducted per Zone. In 2016, a total of 5 elk were harvested in the zones (Table 2).

Long-term elk harvest for the zones are depicted in Tables 3 and 4.

Table 1. License allocation and application numbers for two elk hunting zones, 2016.

Zone	Either-Sex	Antlerless	Bull-only	Total	Total Applicants
20 – Kittson	0	0	5	5	1,152
30 – Kittson NE	0	0	2	2	675
Total	0	0	7	7	1,827

Table 2. Distribution of the 2016 Minnesota elk harvest.

Kittson County Central Hunt Zone (20)					
Season	Bulls-only Licenses	Antlerless Licenses	Bulls taken	Antlerless taken	Total elk taken
September 10 - 18	5	0	3	0	3
Total	5	0	3	0	3
Kittson County Northeast Hunt Zone (30)					
Season	Bull-only Licenses	Bulls taken	Total elk taken		
September 10 - 18	2	2	2		
Total	2	2	2		

Table 3. Grygla elk harvests, 1987-2016

Year	Grygla Elk Harvests			
	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		6	6
2008	2	2	10	6
2009	2	3*	12	11
2010	2	1	5	3
2011	2	2	3	0
2012	2	1	3	0
2013	Closed	0	Closed	0
2014	Closed	0	Closed	0
2015	Closed	0	Closed	0
2016	Closed	0	Closed	0
Total	27	18	67	39

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

Table 4. Kittson County elk harvests, 2008-2016.

	Kittson County (combined)			
	Bulls (or Either-Sex)		Antlerless	
Year	Permits	Harvest	Permits	Harvest
2008	1	1	10	10
2009	12	9 ^a	4	5
2010	1	1	3	3
2011	2	3 ^b	8 ^c	4
2012	5	4 ^d	13	3
2013	8	6	15	6
2014	9	6	0	0
2015	7	5	0	0
2016	7	5	0	0
Total	52	38	53	31

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

^b One bull was a male calf and was legally tagged as an antlerless animal.

^c Three unsuccessful hunters from the Grygla zone were invited to participate in the January extended season in Kittson County, however only 2 participated and were included in the number of antlerless permits issued.

^d One bull was a sub-legal spike and was confiscated.

Figure 1. Kittson County Elk Hunt Zones.

Kittson County Elk Zones

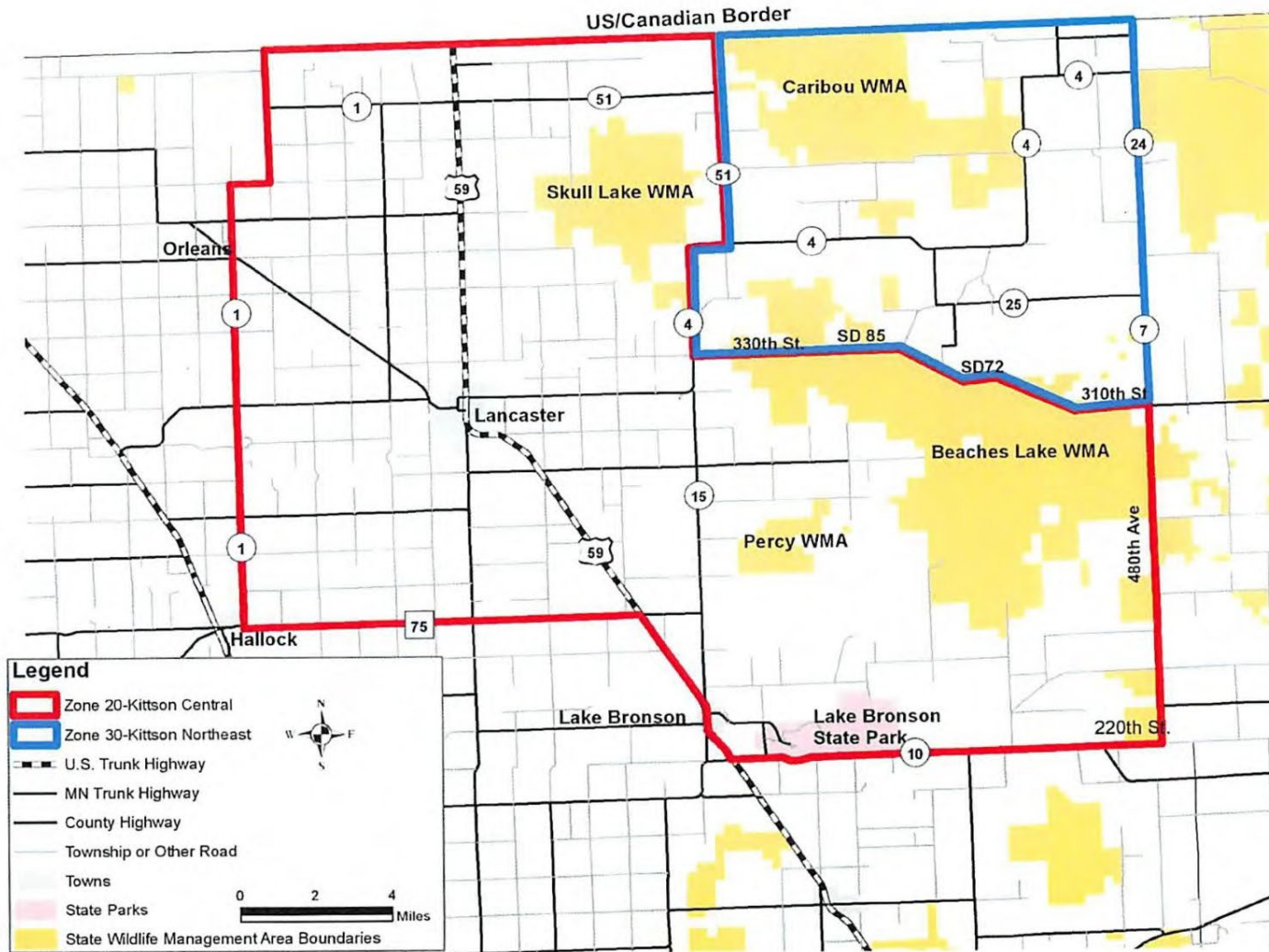
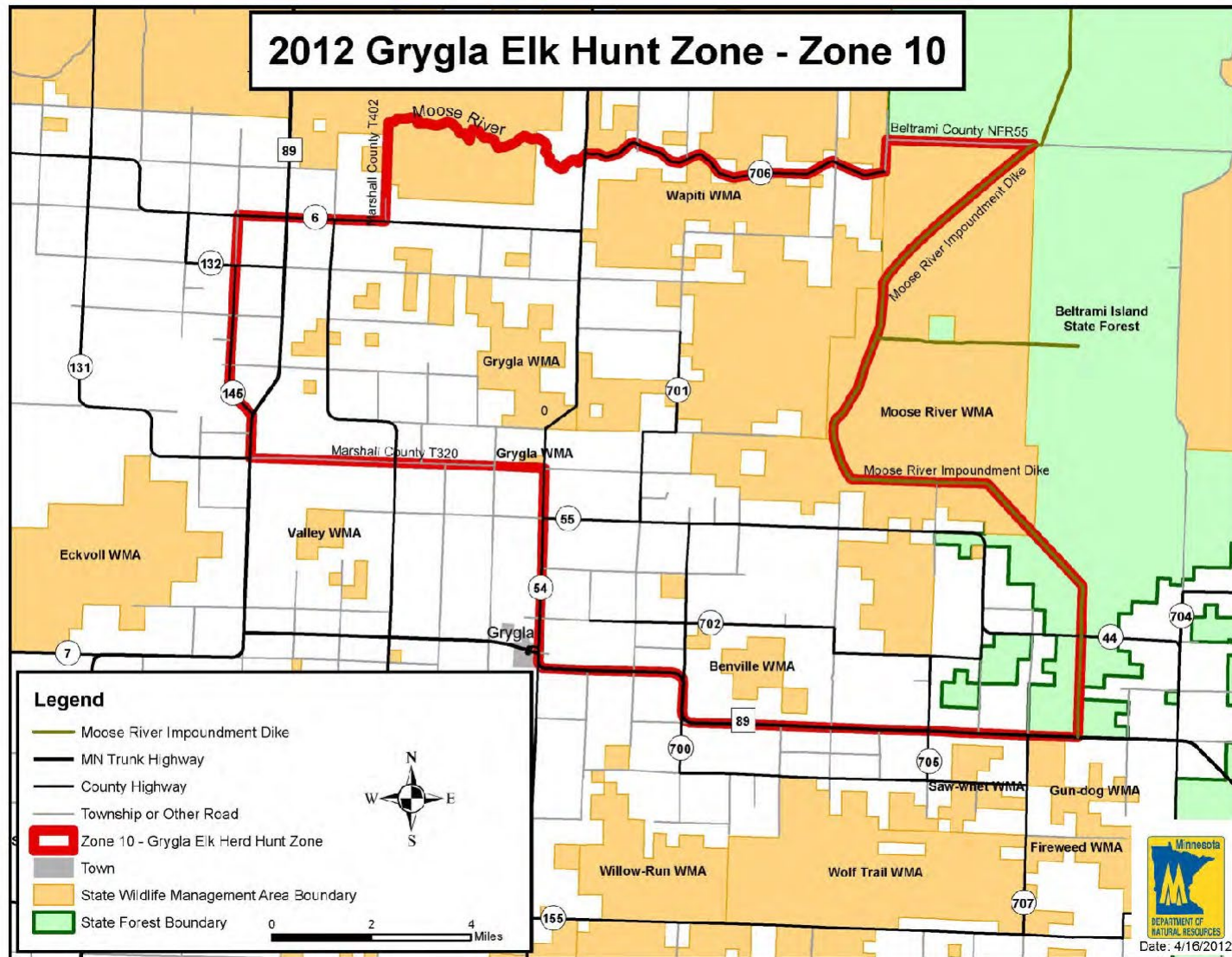


Figure 2. Grygla Elk Hunt Zone.





MINNESOTA SANDHILL CRANE HARVEST REPORT, 2016

Margaret Dexter, Wildlife Research Unit

Two distinct populations of sandhill cranes (*Grus Canadensis*) occur in Minnesota. Sandhill cranes that breed and stage during fall in NW Minnesota are part of the Mid-continent population whereas sandhill cranes in the remainder of the state are part of the Eastern population. The Mid-continent population, including cranes in NW Minnesota 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's Northwest Goose Zone (Figure 1) beginning in 2010. The season was open from the first Saturday in September through the second Sunday in October for the first two years with a daily limit of 2 and a possession limit of 4 (Table 1). In 2012 the season was shifted to a week later but the limits remained the same. The possession limit increased from 4 to 6 in 2013. In 2014 limits were reduce to 1 daily and 3 in possession. There were no changes to the 2016 season. Hunters were required to purchase a \$3.00 sandhill crane permit. A sample of sandhill crane permit holders were selected to receive a harvest survey from the U.S. Fish and Wildlife Service after the season. This survey is used to monitor harvest levels and hunting activity (Table 2).

LITERATURE CITED

- Central Flyway Webless Migratory Bird Technical Committee. 2006. Management Guidelines for the Mid-Continent Population of Sandhill Cranes. Special Report in files of the Central Flyway Representative. Denver, Colorado.
- Dubovsky, J.A. 2016. Status and harvests of sandhill cranes:Mid-Continent, Rocky Mountain, Lower Colorado River Valley and Eastern Populations. Administrative Report, U.S. Fish and Wildlife Service, Denver, Colorado. 15pp.)
<http://www.fws.gov/migratorybirds/NewReportsPublications/PopulationStatus.html>

Table 1. Sandhill Crane season dates and limits in Minnesota, 2010 – 2016.

Year	Dates	Daily limit	Possession limit
2010	4 Sept – 10 Oct	2	4
2011	3 Sept – 9 Oct	2	4
2012	15 Sept – 21 Oct	2	4
2013	14 Sept – 20 Oct	2	6
2014	13 Sept – 19 Oct	1	3
2015	12 Sept – 18 Oct	1	3
2016	10 Sept – 16 Oct	1	3

Table 2. Sandhill crane permit sales, estimated number of active hunters and harvest for NW Minnesota, 2010-2016. (Kruse, K.L. et al. 2015).

Year	Number of Permits	Active Hunters	Harvest
2010	1,954	964	830
2011	1,342	643	765
2012	1,032	410	407
2013	1,086	485	378
2014	1,216	401	247
2015	1,199	424	212
2016	1,139	471	287

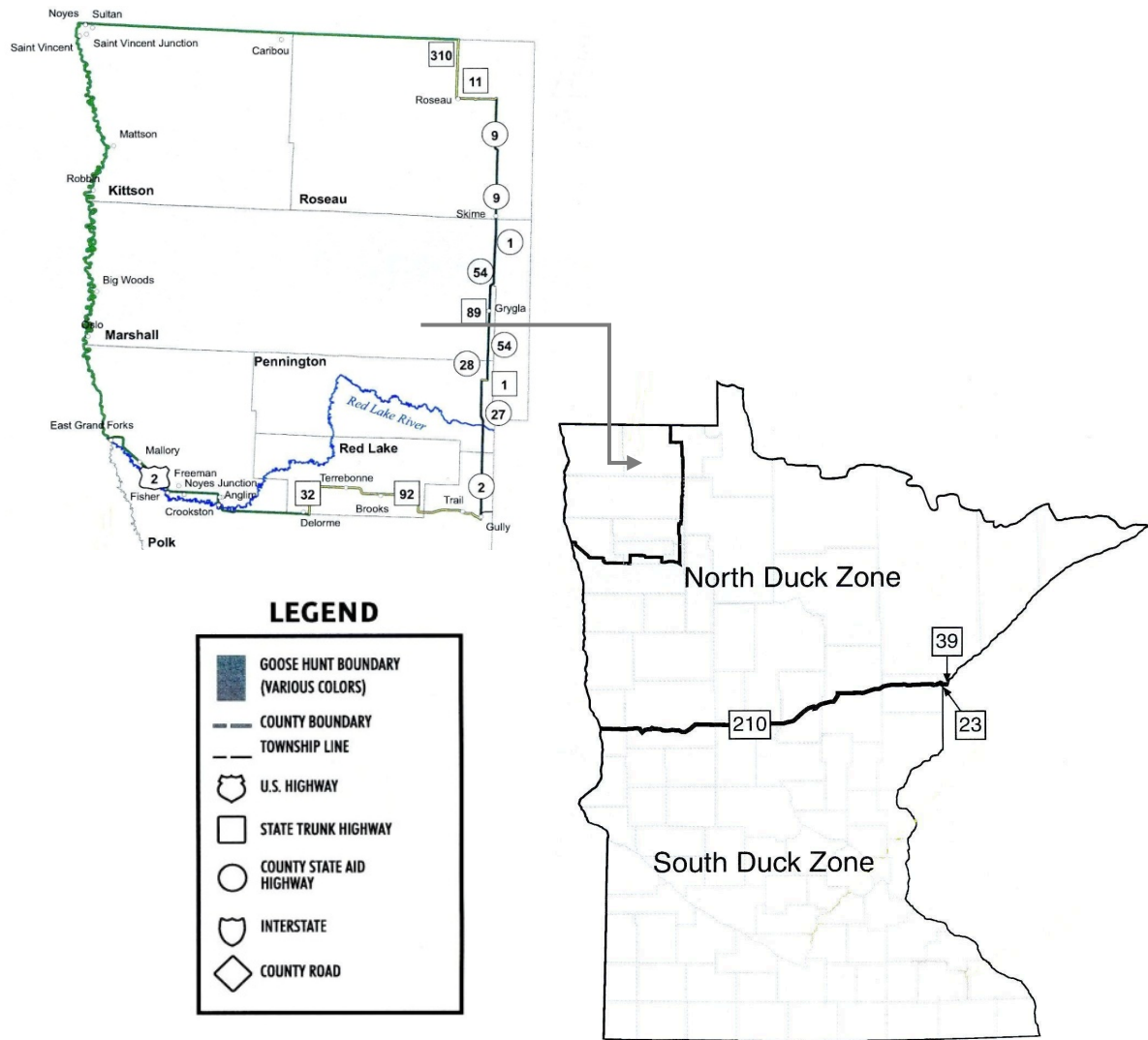


Figure 1. Sandhill crane hunting zone in Minnesota, 2010-2016.