



## 2014 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 (Figure 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 2014-15 small game hunting season (N= 258,109). A stratified random sample (n= 7,000, 2.7%), allocated proportionally by license type was drawn from the Minnesota DNR electronic database. License type was used as strata and included the following small game license types: 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= 252,053) and “Nonresident” (N= 6,056) (Figure 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 2014-15 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. 3.1.2 (2014-10-31); R Development Core Team [RDCT] 2014).

### RESULTS

Of the 7,000 mailed surveys, 110 surveys were undeliverable; 3,451 surveys were returned for an adjusted response rate of 50%. A summary of the top four small game species (ducks- all species, Canada geese, pheasants, and ruffed grouse) harvested in Minnesota are

shown in figure 3. License sales were fairly similar to the previous year (Figure 2, Table 5). Estimated number of hunters increased slightly for ruffed grouse but declined for most other species (Table 2). Estimated harvest per active hunter (Table 3) was up for mourning doves (10.4) but relatively stable for most other species. Mean harvest for successful hunters and hunter success rates remain unchanged (Table 4). License sales and estimated hunter harvest are presented in Table 5. Ruffed grouse harvest increased from 288,410 in 2013 to 301,190 in 2014 but was less than the 2010 harvest of 465,580 which is the highest harvest in the last 10 years. Duck harvest declined from 782,810 in 2013 to 699,620 in 2014 but was still higher than harvests from 2008 to 2011. Canada goose (221,620) and Ring-necked pheasant (152,800) harvest estimates are the lowest in the last 10 years. Nonresident hunters (Table 6) showed increased license sales for ducks, geese, and ruffed grouse. Harvest was up for grouse but down for ducks, geese and raccoons (no nonresident hunters reported hunting or harvesting raccoons).

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



Figure 1. Sample of Small Game Hunter survey card.

Dear Small Game Hunter:

You have been selected at random from among Minnesota's small game hunting license buyers to assist us in evaluating the 2014-2015 small game hunting season (**March 2014-February 2015**). We need information to estimate the season's harvest and to help set future small game seasons. Answer only for your Minnesota 2014 hunting experience.

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

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

THANK YOU FOR YOUR COOPERATION

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

**2014 Small Game Hunter Report**

1. Did you hunt small game, listed below, in Minnesota this year (March 2014 - Feb 2015)?  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 2. Number of Minnesota small game license sold and usable returned surveys, 1998-2014. Includes resident and non-resident licenses, and excludes duplicate and free licenses.

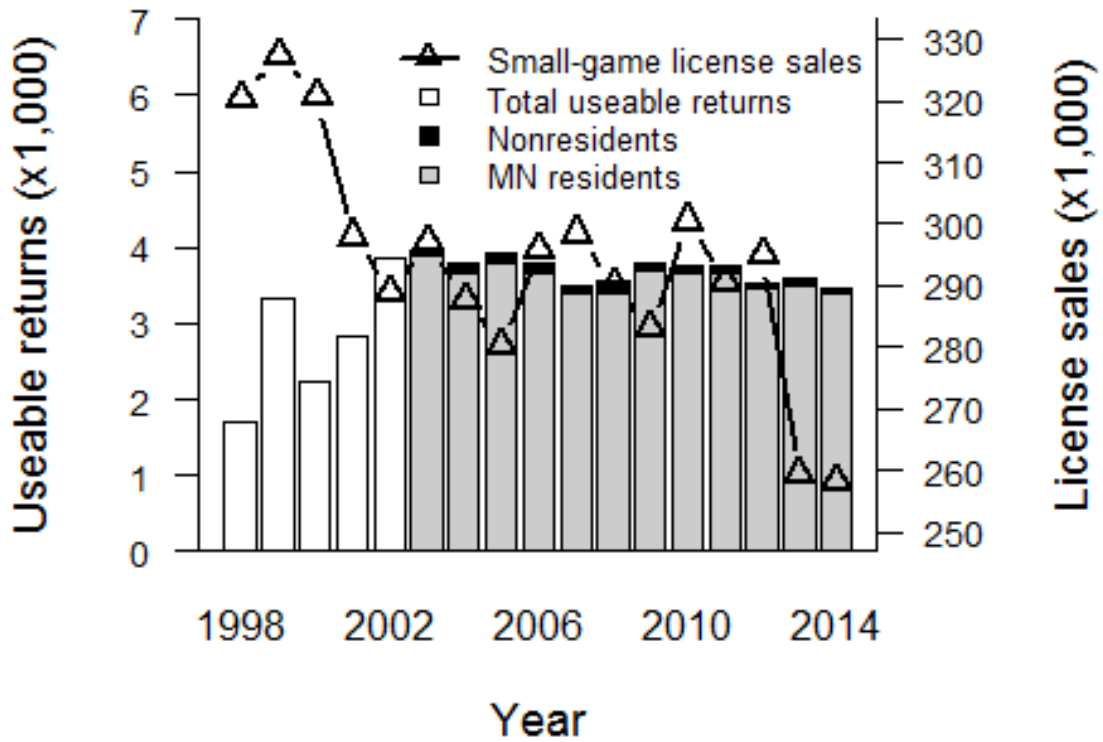


Figure 3. Summary of top four small game species harvested in Minnesota, 2002-2014.

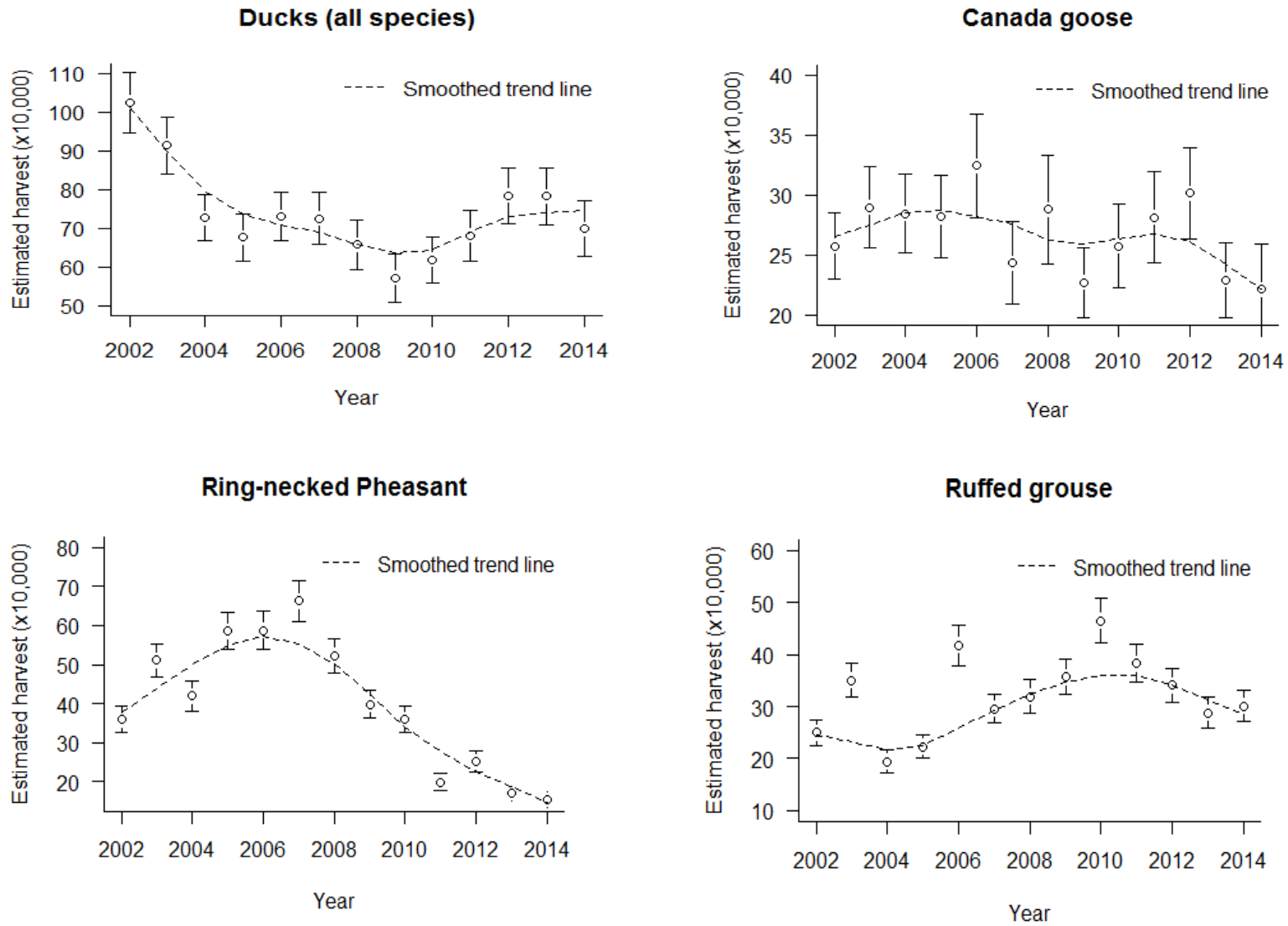


Table 1. Percent of respondents who hunted small game, 2005-06 through 2014-2015 <sup>a</sup>.

		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

<sup>a</sup> Includes 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, 2002-03 through 2014-15.

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 <sup>β</sup>	2012-13 <sup>β</sup>	2013-14	2014-15
Ducks	111,619	101,487	104,634	92,634	87,075	87,468	81,358	77,480	72,770	76,090	80,770	76,950	75,170
Canada goose	78,574	74,855	74,728	69,416	66,224	62,649	59,222	55,520	53,430	57,220	58,900	51,160	48,240
Other geese	5,981	7,373	5,327	4,628	4,529	3,695	4,411	3,280	3,650	2,710	3,830	2,810	2,770
American coot	4,411	3,912	5,099	4,129	4,529	3,454	4,166	4,090	4,610	3,480	3,990	3,820	4,410
Common snipe	2,243	1,429	1,902	1,210	2,187	1,928	1,797	1,340	1,340	1,160	1,160	1,370	820
Rails / gallinules	673	150	228	0	547	482	408	370	220	230	500	140	300
Crow *	12,859	12,263	12,404	11,890	10,777	8,514	10,047	10,640	9,380	10,360	11,480	8,570	7,400
American woodcock	11,962	12,789	12,023	11,035	13,510	10,843	12,171	11,760	10,790	9,430	13,310	12,030	9,650
Mourning dove <sup>γ</sup>			15,524	11,107	12,886	13,172	11,599	10,500	10,640	8,970	9,230	10,380	9,950
Ring-necked pheasant	91,284	105,023	104,406	110,852	118,703	118,311	106,763	99,440	89,140	72,840	76,950	62,110	57,590
Ruffed grouse	90,686	93,513	79,141	76,037	91,682	90,600	86,505	87,230	92,490	88,620	91,260	81,130	83,020
Spruce grouse	7,327	8,727	7,305	7,048	9,840	10,602	8,332	9,750	8,860	10,210	7,400	10,810	10,320
Sharp-tailed grouse	6,355	6,921	6,164	4,913	6,560	6,827	6,616	5,510	7,140	6,190	6,570	6,700	5,460
Gray partridge	6,579	7,975	5,327	6,265	6,013	6,667	4,411	4,240	3,720	2,400	3,080	2,450	2,540
Gray squirrel	25,494	29,190	23,438	24,563	25,459	25,863	22,382	22,260	23,740	23,280	24,710	21,690	21,240
Fox squirrel	14,878	19,936	15,372	15,094	15,619	14,779	13,233	13,180	15,630	12,060	14,220	12,030	12,790
Eastern cottontail	15,700	21,441	18,644	20,148	20,070	19,598	17,644	16,300	15,030	12,300	16,390	14,550	13,160
White-tailed jackrabbit	2,467	3,009	3,044	2,065	2,577	2,891	2,451	1,790	2,230	2,320	1,750	1,220	1,350
Snowshoe hare	5,682	5,567	4,338	3,346	5,545	4,257	4,574	3,500	3,800	3,250	4,820	3,750	4,560
Raccoon (Sept - Feb )	5,981	5,868	6,316	4,841	8,747	9,558	7,433	7,300	8,260	8,040	8,570	7,640	6,880
Raccoon <sup>‡</sup> (March -Aug)	3,589	4,589	3,348	2,705									
Red fox (Sept -Feb )	7,476	7,222	5,783	5,980	6,248	5,783	5,800	7,820	7,220	6,030	5,820	5,910	4,560
Red fox <sup>‡</sup> (March -Aug )	2,243	2,182	1,370	1,282									
Gray fox	1,271	1,505	1,674	997	2,030	1,928	1,879	1,790	1,640	1,390	1,580	1,730	1,050
Coyote	12,261	15,122	16,133	18,653	17,024	16,064	19,278	19,280	19,420	17,940	21,050	17,650	17,580
Badger	748	451	533	783	859	482	490	370	600	310	330	500	80

\* Crow season added in 1989. <sup>‡</sup> Raccoon and red fox season continuous May 1994 thru March 15, 2006. <sup>γ</sup> Mourning dove season added 2004. <sup>β</sup> 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, 2003-04 through 2014-15.

	Estimated harvest per hunter											
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 <sup>β</sup>	2012-13 <sup>β</sup>	2013-14	2014-15
<b>Ducks</b>	9.0	6.9	7.3	8.4	8.1	8.1	7.4	8.5	9.0	9.7	10.2	9.3
Canada geese	3.9	3.8	4.1	4.9	3.9	4.9	4.1	4.8	4.9	5.1	4.5	4.6
Other geese	1.7	1.5	1.9	1.5	2.1	3.2	1.9	1.1	1.8	2.3	2.5	2.4
American coot	2.8	4.0	3.9	5.6	4.6	5.7	3.6	5.7	3.0	4.2	4.0	3.9
Common snipe	1.8	1.1	4.4	1.9	2.0	1.2	1.1	1.4	1.2	1.2	1.7	0.6
Rails/gallinules	0.5	0.3	0	2.4	5.3	0.4	0.8	0.3	1.7	0.2	0.5	0.2
Crow *	6.7	5.8	7.8	6.4	6.4	5.2	5.3	6.1	7.9	7.9	7.9	7.6
American woodcock	2.4	3.5	2.5	3.2	2.6	2.4	3.0	2.8	2.6	2.3	2.7	2.7
Mourning dove <sup>γ</sup>		6.2	7	6.7	7.7	11.4	10.5	9.4	8.2	10.0	7.8	10.4
Ring-necked pheasant	4.9	4.0	5.3	4.9	5.5	4.9	4.0	4.0	2.7	3.3	2.7	2.7
Ruffed grouse	3.8	2.5	2.9	4.5	3.2	3.7	4.1	5.0	4.3	3.7	3.6	3.6
Spruce grouse	2.1	1.3	1.4	2.7	1.7	2.0	2.0	1.7	1.8	1.6	1.2	1.4
Sharp-tailed grouse	1.7	1.7	1.3	1.8	2.0	2.1	1.7	2.4	1.9	1.6	1.1	1.6
Gray partridge	2.8	2.4	2.6	1.9	1.6	2.2	1.9	2.5	1.6	1.7	1.0	1.4
Gray squirrel	6.0	5.7	5.0	5.5	5.2	5.4	4.9	5.9	5.0	5.1	3.9	4.3
Fox squirrel	4.2	4.1	4.1	4.2	3.2	3.9	4.1	3.9	4.0	3.5	2.8	3.2
Eastern cottontail	4.3	4.6	4.5	3.9	4.0	4.5	3.5	3.6	2.8	3.9	2.8	2.9
White-tailed jackrabbit	2.4	2.3	2.7	1.6	3.3	2.6	1.5	3.2	2.2	1.1	1.5	0.8
Snowshoe hare	2.2	1.8	3.1	3.0	1.4	2.5	1.5	1.8	2.6	3.5	1.7	1.7
Raccoon (Sept - Feb )	8.5	9.0	6.0	7.2	4.9	9.7	9.1	9.4	5.5	5.6	6.1	7.7
Raccoon <sup>‡</sup> (March -Aug )	4.7	6.1	2.7									
Red fox (Sept -Feb )	1.8	1.1	1.7	1.3	1.1	0.8	1.3	1.2	1.2	1.4	0.9	0.7
Red fox <sup>‡</sup> (March -Aug )	0.6	0.6	0.9									
Gray fox	0.4	1.1	0.9	1.8	0.3	1.3	1.0	1.5	0.8	0.2	0.2	0.6
Coyote	1.3	1.1	2.1	1.2	2.1	2.4	2.4	2.3	1.9	2.5	1.3	1.0
Badger	0.7	1.0	1.2	1.3	0.3	1.0	2.0	1.0	0.8	1.0	0.6	1.0

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



Table 4. Mean harvest for successful hunters and hunter success rates (%), 2005-06 through 2014-15.

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 <sup>β</sup>	2012-13 <sup>β</sup>	2013-14	2014-15
Ducks	8.9 (83)	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)
Canada geese	5.5 (74)	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)
Other geese	4.5 (43)	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)
American coot	5.1 (76)	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)
Common snipe	4.7 (94)	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)
Rails / gallinules	0.0 (0.0) *	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)
Crow	9.1 (86)	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)
American woodcock	3.6 (70)	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)
Mourning dove <sup>γ</sup>	8.7 (80)	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)
Ring-necked pheasant	7.0 (76)	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)
Ruffed grouse	4.4 (68)	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)
Spruce grouse	2.4 (61)	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)
Sharp-tailed grouse	2.4 (55)	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)
Gray partridge	5.0 (52)	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)
Gray squirrel	5.8 (86)	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)
Fox squirrel	5.0 (83)	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)
Eastern cottontail	5.4 (83)	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)
White-tailed jackrabbit	3.2 (83)	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)
Snowshoe hare	4.6 (68)	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)
Raccoon (Sept -Feb )	6.5 (93)	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)
Raccoon <sup>‡</sup> (March -Aug )	3.1 (87)									
Red fox (Sept -Feb )	3.7 (46)	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)
Red fox <sup>‡</sup> (March -Aug )	1.6 (56)									
Gray fox	1.9 (50)	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)
Coyote	4.11 (50)	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)
Badger	1.2 (100)	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)

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

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

Table 5. Statewide (resident and non-resident) small game hunting license sales and estimated hunter harvest, 2004-05 through 2014-15.

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 <sup>b</sup>	2012-13 <sup>b</sup>	2013-14	2014-15
Small game license sales <sup>a</sup>	287,725	280,156	295,898	298,467	290,064	282,983	282,227	271,768	264,063	258,581	258,109
State duck stamp sales	114,003	102,143	101,792	100,134	95,675	89,942	88,069	89,681	90,052	90,483	90,376
Pheasant stamp sales	114,653	117,301	129,546	129,315	123,270	110,456	104,286	86,868	90,541	74,668	70,406
Estimated harvest <sup>b</sup>											
Ducks	727,206	676,741	730,559	708,491	658,186	572,220	619,600	681,550	784,360	782,810	699,620
Canada geese	284,714	281,829	324,498	243,705	288,411	227,160	257,530	281,630	301,550	229,120	221,620
Other geese	8,150	9,025	6,658	7,723	13,895	6,250	3,940	4,800	8,820	7,130	6,510
American coot	20,345	15,938	24,909	16,061	23,871	14,810	26,340	10,520	16,720	15,130	17,050
Common snipe	2,130	5,336	4,221	3,933	2,210	1,490	1,940	1,390	1,420	2,310	520
Rails / gallinules	75	0	1,329	2,569	163	300	80	390	80	70	80
Crow	71,943	92,742	69,188	54,319	51,742	56,350	57,300	81,500	90,260	67,440	56,020
American woodcock	41,479	27,919	39,907	27,866	29,210	35,430	29,770	24,980	30,360	31,920	25,810
Mourning dove <sup>d</sup>	96,559	77,749	85,950	101,161	132,577	109,940	100,230	74,000	92,760	80,480	103,370
Ring-necked pheasant	419,712	585,299	587,580	655,443	522,071	398,130	359,400	198,500	250,140	169,100	152,800
Ruffed grouse	194,687	224,309	417,153	293,544	318,338	357,420	465,580	383,150	341,320	288,410	301,190
Spruce grouse	9,204	10,079	26,568	17,705	16,997	19,130	14,960	18,640	11,980	13,110	14,590
Sharp-tailed grouse	10,417	6,387	11,939	13,790	13,695	9,530	16,820	11,600	10,650	7,130	8,530
Gray partridge	12,572	16,289	11,545	11,000	9,660	8,040	9,150	3,950	5,160	2,380	3,590
Gray squirrel	132,659	122,078	140,788	133,194	121,534	109,790	138,920	115,840	126,110	84,010	91,250
Fox squirrel	62,410	62,187	66,068	47,736	51,079	53,970	61,690	48,100	49,750	33,940	40,840
Eastern cottontail	86,508	90,062	77,872	78,588	79,927	57,760	53,870	34,640	64,140	40,710	38,820
White-tailed jack rabbit	6,940	5,493	4,149	9,482	6,446	2,610	7,220	5,180	1,910	1,870	1,050
Snowshoe hare	7,895	10,406	16,801	5,789	11,343	5,360	6,770	8,430	16,800	6,200	7,860
Raccoon (Sept -Feb )	56,970	29,191	62,891	46,739	72,026	66,700	77,690	44,080	48,340	46,690	52,800
Raccoon <sup>c</sup> (Mar -Aug )	20,456	7,331									
Red fox (Sept -Feb )	6,072	10,166	7,872	6,188	4,408	10,270	8,780	7,120	7,990	5,190	3,220
Red fox <sup>c</sup> (Mar -Aug )	836	1,141									
Gray fox	1,758	927	3,593	559	2,443	1,860	2,380	1,160	250	430	600
Coyote	18,230	38,612	20,769	34,377	45,689	46,070	44,050	33,410	51,990	23,630	17,430
Badger	533	924	1,091	159	490	750	600	230	330	290	80

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 statistics 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.

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

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

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

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

Table 6. Mail survey results of nonresident small game hunters, 2004-05 through 2014-15.

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
<b>Nonresident licenses issued <sup>a</sup></b>	6,385	5,897	7,356	7,858	7,114	6,934	6,695	6,312	6,456	6,031	6,056
<b>Questionnaires:</b>											
Number mailed	182	210	185	185	226	196	163	169	166	162	165
Number not delivered	13	10	11	11	15	10	6	11	11	10	12
Number (percent) returned	114 (67)	134 (67)	115 (62)	101 (58)	89 (42)	105 (54)	107 (66)	91 (54)	71 (43)	81 (50)	70 (42)
<b>Estimated nonresidents and (percent) of all licensed nonresidents hunting:</b>											
Ducks	2,394 (37)	2,040 (35)	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)
Canada goose	1,368 (21)	1,818 (31)	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)
Ruffed grouse	1,824 (29)	1,774 (30)	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)
Ring-necked pheasant	2,679 (42)	2,572 (44)	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)
Raccoon <sup>b, c</sup>	0 (0)	44 (0.7)	0 (0)	78 (1.0)	0 (0)	0 (0)	63 (0.9)	0 (0)	0 (0)	80 (1.2)	0 (0)
<b>Estimated nonresident take:</b>											
Ducks	19,269	12,149	12,173	22,718	15,463	11,755	17,055	13,840	20,380	20,410	13,060
Canada goose	6,214	3,946	3,580	3,501	5,762	3,698	6,334	4,050	2,270	3,650	2,680
Ruffed grouse	7,924	6,429	11,522	7,236	6,938	8,651	12,600	8,980	10,090	4,990	9,090
Ring-necked pheasant	11,174	13,656	16,079	17,661	10,642	6,274	8,076	4,860	6,820	3,430	3,720
Raccoon <sup>b, c</sup>	0	887	0	3,268	0	0	593	0	0	1,280	0

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

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

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