

# 2012 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 survey of small game hunters. Annual harvest estimates from survey data provide guidance for future 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. In past years there were up to 4 mailings (initial and up to 3 follow-up mailings to non-respondents). After examination of mailing responses over the years it was determined that the majority of responses were received during the first two mailings. Therefore, the number of mailings was reduced to one initial and one follow-up to non-respondents this year. The size of the initial mailing was increased to maintain overall sample size.

The sampling frame consisted of individuals who purchased a small game hunting license (any type) for the 2012 small game hunting season (N= 294,837). A stratified random sample, allocated proportionally by license type (n= 7,000; 2.3%) 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= 288,712) and “Nonresident” (N= 6,456) (Figure 2).

Recipients were asked if they hunted small game during the 2012-13 season and if not, they were instructed to return the survey. Respondents who hunted were asked, (1) if they used a Walk-In Access area, (2) the total number of days they hunted small game, (3) the number bagged by species, (4) the number of days hunted by species and (5) the county in which they hunted most for each species listed (Figure 1).

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. 2.9.2; R Development Core Team [RDCT] 2009).

## RESULTS

Of the 7,000 mailed surveys, 109 were undeliverable; 3,520 were returned for an adjusted response rate of 51%. This mail survey was initiated in 1976 as a means to gather small game harvest information. The response rate was initially very high (average 87% in first 5 years) but has been in a long term decline since the mid-1980s. That trend has been especially apparent

since 2004 and this year's survey marks the lowest response rate ever recorded (Figure 3). This may have been due to the reduced number of mailings (two instead of 4) although typically 80% of returns come during the first two mailings. Response rate is highest among license holders 50 to 70 years old and non-response is highest among the 18-35 year olds (Figure 3). However, the number of license holders who reported they actually hunted has remained steady (Table 1).

Estimated number of hunters showed a mild to moderate increase for ducks, woodcock, ring-necked pheasants, mourning doves and coyotes (Table 2). Success rates for all species were fairly similar to last year as was estimated take per hunter (Tables 3 and 4). License sales increased from the previous year as did pheasant stamp sales and duck stamp sales (Figure 2, Table 5). Total estimated harvest for the top-four small game species in Minnesota is presented in Figure 4. Total estimated harvest for all small game species is presented in Table 5. Duck harvest appears to be the highest since 2003-04 and coyote harvest was the highest ever recorded. Several increases in harvest were noted with the highest being eastern cottontails and snowshoe hares. Survey results for selected species taken by Non-resident hunters are presented in Table 6.

The Walk-In Access (WIA) program started in 2011 as a 2-year pilot program funded by the U.S. Department of Agriculture Voluntary Public Access Program. The goal of WIA is to provide new hunting opportunities on private land that is already enrolled in existing conservation programs or lands with high quality wildlife cover. In order to estimate use of WIA areas, respondents were asked if they hunted a Minnesota WIA area. Twenty five percent of respondents indicated they used Walk-In Access areas (Figure 5), which when expanded indicates that an estimated 62,500 small game hunters took advantage of Walk-In Access areas

Note that all estimates were based on a survey of approximately 2% of all small game license holders.

**2012 Small Game Hunter Report**

1. Did you hunt small game, listed below, in Minnesota this year (March 2012 - Feb 2013)?  No  Yes (Please check box)
2. Did you hunt a Minnesota Walk-In Access area?  No  Yes
3. Indicate the **total number of days** spent hunting small game of all species listed below, in Minnesota. \_\_\_\_\_
4. 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	_____	_____

**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 2012-2013 small game hunting season (**March 2012-February 2013**). We need information to estimate the season's harvest and to help set future small game seasons. Answer only for your Minnesota 2012 hunting experience.

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

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

THANK YOU FOR YOUR COOPERATION

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

Figure 1. Sample of Small Game Hunter survey card.

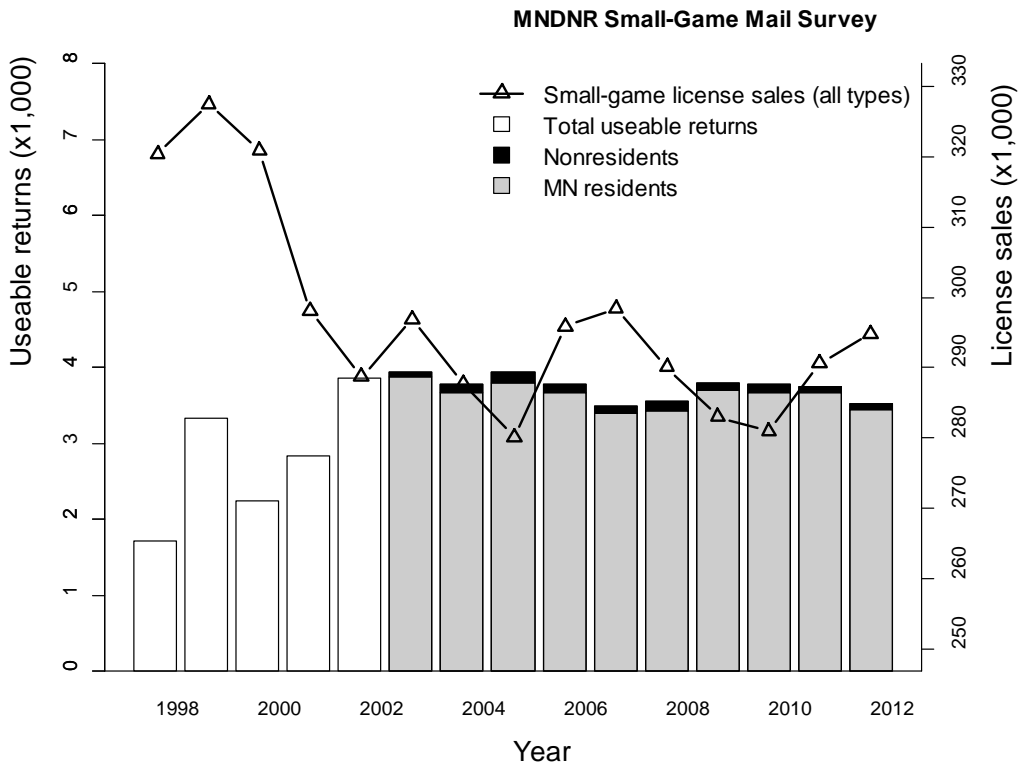


Figure 2. Number of Minnesota small game license sold and usable returned surveys, 1998-2012. Includes resident and non-resident licenses, and excludes duplicate licenses

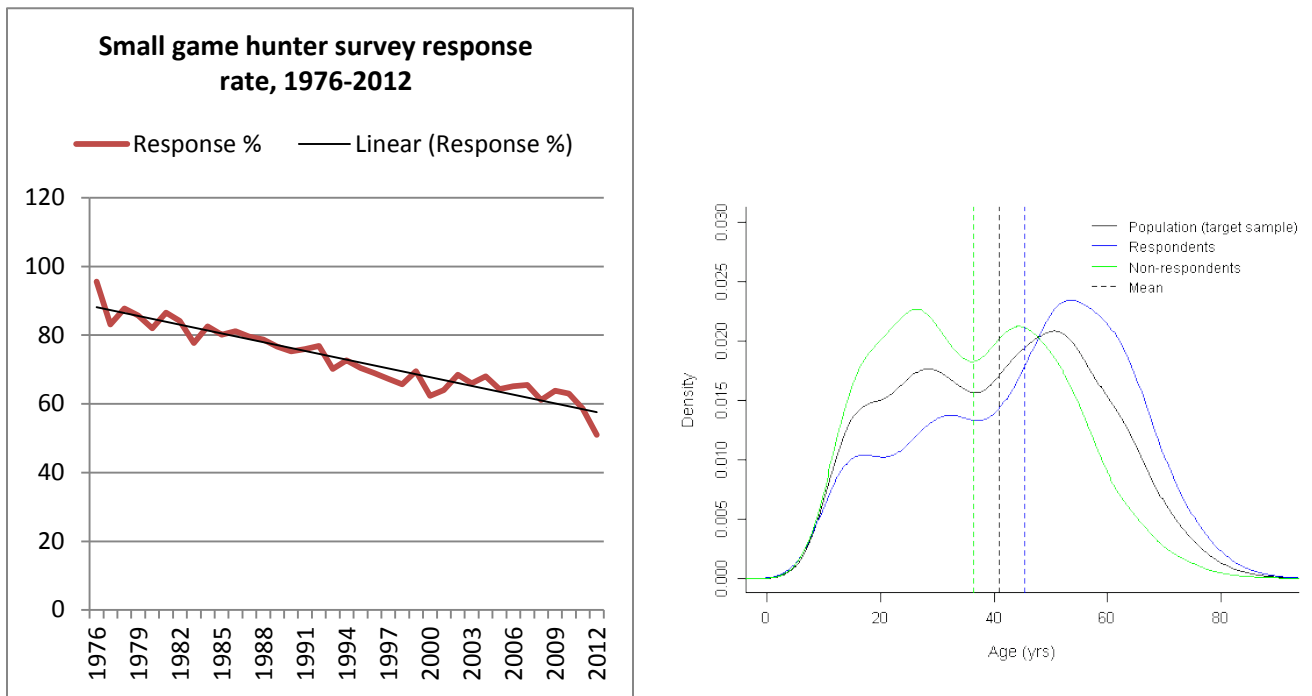


Figure 3. Response by year and by age for small game survey 2012.

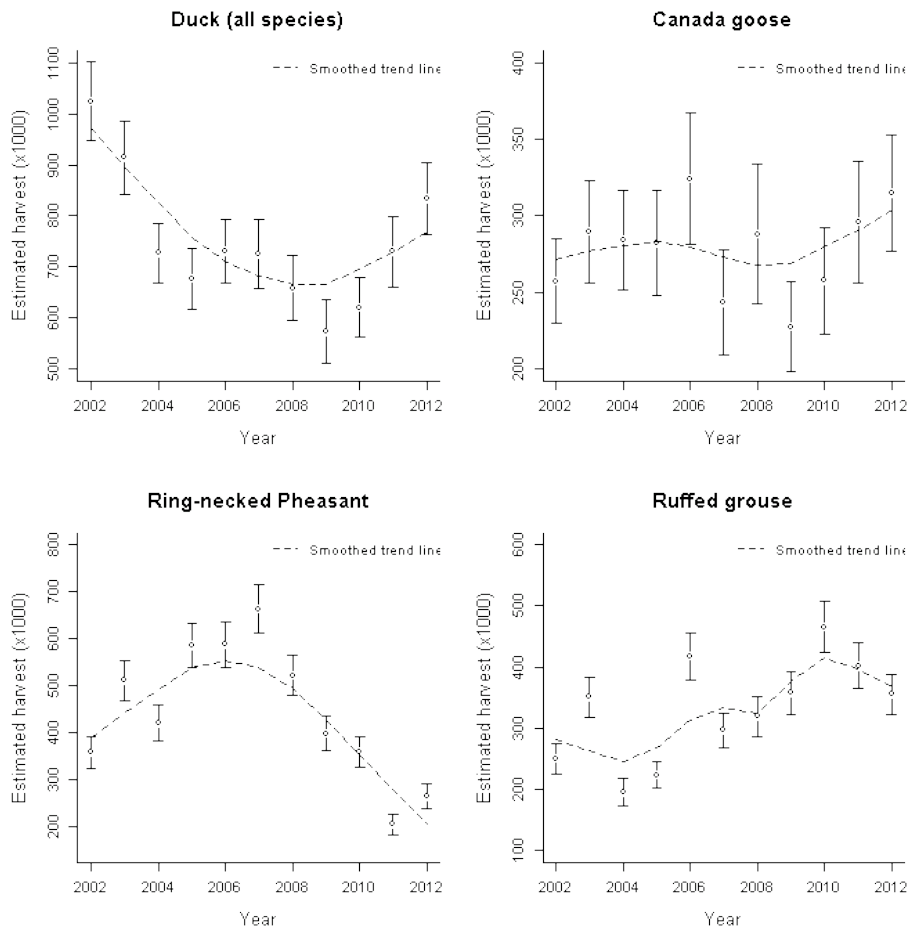


Figure 4. Summary of top four small game species harvested in Minnesota 2002-2012.

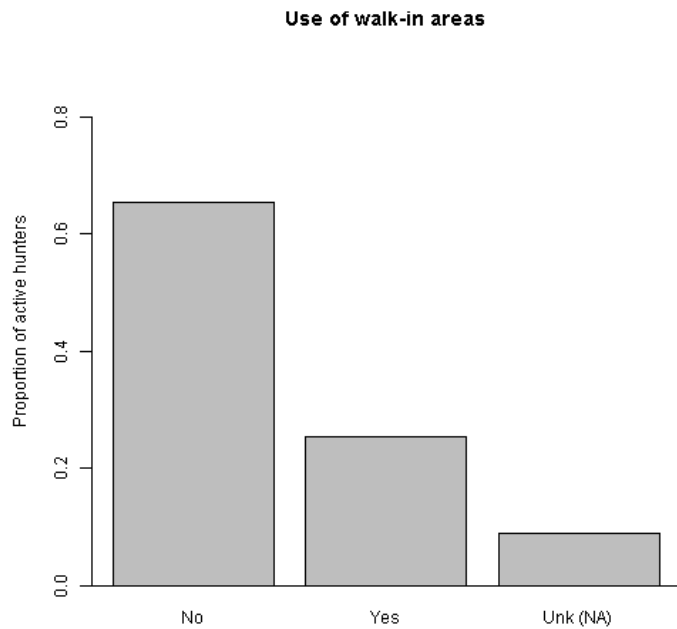


Figure 5. Proportion of active hunters reporting they used Walk-In Areas in Minnesota, 2012.

Table 1. Percent of respondents who hunted small game, 2003-04 through 2012-2013 <sup>a</sup>.

Year		Returns from Mail Survey		Projections from license sales
		Number	Percent	
2003-04	Hunted	3,085	78%	232,206
	Did not hunt	862	22%	64,733
		3,947		296,939
2004-05	Hunted	2,934	78%	223,275
	Did not hunt	847	22%	64,450
		3,781		287,725
2005-06	Hunted	3,035	77%	216,000
	Did not hunt	900	23%	64,156
		3,935		280,156
2006-07	Hunted	2,994	79%	233,759
	Did not hunt	795	21%	62,139
		3,789		295,898
2007-08	Hunted	2,894	78%	232,505
	Did not hunt	822	22%	65,961
		3,716		298,466
2008-09	Hunted	2,678	75%	218,753
	Did not hunt	873	25%	71,311
		3,551		290,064
2009-10	Hunted	2,850	75%	212,126
	Did not hunt	952	25%	70,857
		3,802		282,983
2010-11	Hunted	2,824	75%	210,129
	Did not hunt	953	25%	70,911
		3,777		281,040
2011-12	Hunted	2,761	74%	214,137
	Did not hunt	987	26%	76,549
		3,748		290,686
2012-13	Hunted	2,669	76%	223,808
	Did not hunt	851	24%	71,360
		3,520		295,168

<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, 2000-01 through 2012-13.

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Ducks	109,008	109,241	111,619	101,487	104,634	92,634	87,075	87,468	81,358	77,705	72,772	83,450	90,400
Canada goose	76,518	76,322	78,574	74,855	74,728	69,416	66,224	62,649	59,222	55,599	53,426	61,190	64,990
Other geese	6,834	6,502	5,981	7,373	5,327	4,628	4,529	3,695	4,411	3,275	3,647	3,020	4,110
American coot	3,809	3,901	4,411	3,912	5,099	4,129	4,529	3,454	4,166	4,094	4,614	4,580	4,700
Common snipe	2,241	1,382	2,243	1,429	1,902	1,210	2,187	1,928	1,797	1,340	1,340	1,240	1,260
Rails / gallinules	336	406	673	150	228	0	547	482	408	372	224	230	590
Crow *	14,004	11,542	12,859	12,263	12,404	11,890	10,777	8,514	10,047	10,643	9,376	11,170	12,660
American woodcock	15,909	11,542	11,962	12,789	12,023	11,035	13,510	10,843	12,171	11,834	10,790	10,080	14,000
Mourning dove †					15,524	11,107	12,886	13,172	11,599	10,495	10,641	10,000	10,730
Ring-necked pheasant	100,045	84,694	91,284	105,023	104,406	110,852	118,703	118,311	106,763	99,811	89,142	77,640	84,270
Ruffed grouse	120,547	101,194	90,686	93,513	79,141	76,037	91,682	90,600	86,505	87,530	92,490	93,840	97,190
Spruce grouse	9,411	8,778	7,327	8,727	7,305	7,048	9,840	10,602	8,332	9,825	8,855	10,860	8,300
Sharp-tailed grouse	9,747	8,372	6,355	6,921	6,164	4,913	6,560	6,827	6,616	5,582	7,144	6,590	7,300
Gray partridge	7,842	6,828	6,579	7,975	5,327	6,265	6,013	6,667	4,411	4,243	3,721	2,480	3,270
Gray squirrel	26,664	26,010	25,494	29,190	23,438	24,563	25,459	25,863	22,382	22,255	23,737	26,680	29,350
Fox squirrel	16,693	15,281	14,878	19,936	15,372	15,094	15,619	14,779	13,233	13,174	15,626	13,810	16,770
Eastern cottontail	19,830	17,150	15,700	21,441	18,644	20,148	20,070	19,598	17,644	16,300	15,031	13,730	18,620
White-tailed jackrabbit	2,465	3,251	2,467	3,009	3,044	2,065	2,577	2,891	2,451	1,786	2,233	2,640	2,520
Snowshoe hare	5,154	6,502	5,682	5,567	4,338	3,346	5,545	4,257	4,574	3,498	3,795	3,650	5,450
Raccoon (Sept - Feb )	6,498	6,340	5,981	5,868	6,316	4,841	8,747	9,558	7,433	7,294	8,260	8,920	9,730
Raccoon ‡ (March -Aug)	4,593	4,145	3,589	4,589	3,348	2,705							
Red fox (Sept -Feb )	10,083	5,608	7,476	7,222	5,783	5,980	6,248	5,783	5,800	7,815	7,218	6,130	6,460
Red fox ‡ (March -Aug )	1,905	2,682	2,243	2,182	1,370	1,282							
Gray fox	1,344	1,544	1,271	1,505	1,674	997	2,030	1,928	1,879	1,786	1,637	1,400	2,010
Coyote	15,797	10,648	12,261	15,122	16,133	18,653	17,024	16,064	19,278	19,426	19,421	19,240	22,470
Badger	672	406	748	451	533	783	859	482	490	372	596	390	340

\* Crow season added in 1989.

‡ Raccoon and red fox season continuous May 1994 thru March 15, 2006.

† Mourning dove season added 2004.

Table 3. Estimated harvest per hunter, for respondents reporting that they hunted a particular species, 2000-01 through 2012-13.

	Estimated take per hunter												
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Ducks	8.9	9.1	9.2	9.0	6.9	7.3	8.4	8.1	8.1	7.4	8.5	8.8	9.2
Canada geese	3.9	4.0	3.3	3.9	3.8	4.1	4.9	3.9	4.9	4.1	4.8	4.8	4.9
Other geese	2.2	1.2	1.9	1.7	1.5	1.9	1.5	2.1	3.2	1.9	1.1	2.2	2.2
American coot	2.7	4.5	4.6	2.8	4.0	3.9	5.6	4.6	5.7	3.6	5.7	3.2	3.8
Common snipe	1.3	1.3	1.5	1.8	1.1	4.4	1.9	2.0	1.2	1.1	1.4	1.2	1.1
Rails/gallinules	3.7	0.6	2.6	0.5	0.3	0	2.4	5.3	0.4	0.8	0.3	1.7	0.3
Crow *	6.9	7.7	5.6	6.7	5.8	7.8	6.4	6.4	5.2	5.3	6.1	7.4	7.5
American woodcock	2.8	2.3	2.4	2.4	3.5	2.5	3.2	2.6	2.4	3.0	2.8	2.6	2.3
Mourning dove <sup>γ</sup>					6.2	7	6.7	7.7	11.4	10.5	9.4	7.8	9.0
Ring-necked pheasant	3.7	3.2	3.9	4.9	4.0	5.3	4.9	5.5	4.9	4.0	4.0	2.6	3.1
Ruffed grouse	5.1	3.3	2.8	3.8	2.5	2.9	4.5	3.2	3.7	4.1	5.0	4.3	3.7
Spruce grouse	2.5	1.1	1.6	2.1	1.3	1.4	2.7	1.7	2.0	1.9	1.7	1.8	1.5
Sharp-tailed grouse	1.6	1.2	1.3	1.7	1.7	1.3	1.8	2.0	2.1	1.7	2.4	1.8	1.6
Gray partridge	2.1	1.5	1.7	2.8	2.4	2.6	1.9	1.6	2.2	1.9	2.5	1.7	1.8
Gray squirrel	5.3	5.6	5.2	6.0	5.7	5.0	5.5	5.2	5.4	4.9	5.9	4.9	4.7
Fox squirrel	3.9	4.1	4.5	4.2	4.1	4.1	4.2	3.2	3.9	4.1	3.9	3.7	3.4
Eastern cottontail	3.9	3.6	3.3	4.3	4.6	4.5	3.9	4.0	4.5	3.5	3.6	2.8	3.6
White-tailed jackrabbit	2.8	2.6	1.6	2.4	2.3	2.7	1.6	3.3	2.6	1.5	3.2	2.1	1.1
Snowshoe hare	5.2	3.3	1.9	2.2	1.8	3.1	3.0	1.4	2.5	1.5	1.8	2.7	3.2
Raccoon (Sept - Feb )	7.6	9.4	10.0	8.5	9.0	6.0	7.2	4.9	9.7	9.1	9.4	6.0	5.3
Raccoon <sup>‡</sup> (March -Aug )	7.8	4.4	5.4	4.7	6.1	2.7							
Red fox (Sept -Feb )	1.9	1.2	1.5	1.8	1.1	1.7	1.3	1.1	0.8	1.3	1.2	1.2	1.3
Red fox <sup>‡</sup> (March -Aug )	0.9	1.5	1.7	0.6	0.6	0.9							
Gray fox	0.7	0.4	0.4	0.4	1.1	0.9	1.8	0.3	1.3	1.0	1.5	0.8	0.2
Coyote	1.8	1.1	1.2	1.3	1.1	2.1	1.2	2.1	2.4	2.4	2.3	1.8	2.4
Badger	0.8	0.6	1.7	0.7	1.0	1.2	1.3	0.3	1.0	2.0	1.0	0.8	1.0

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



Table 4. Mean harvest for successful hunters and hunter success rates (%), 2002-03 through 2012-13.

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Ducks	10.6 (86.7)	10.4 (86.7)	8.6 (81.1)	8.9 (82.5)	9.9 (84.4)	9.5 (85.4)	9.8 (82.8)	9.2(80.5)	10.3 (82.7)	10.3 (84.6)	10.6 (87)
Canada geese	4.6 (72.0)	5.1 (76.0)	5.2 (72.8)	5.5 (73.7)	6.3 (78.4)	5.5 (71.4)	6.4 (76.6)	5.6 (72.8)	6.1 (79.5)	6.3 (77.3)	6.3 (77)
Other geese	4.4 (42.5)	2.7 (65.3)	3.3 (45.7)	4.5 (43.1)	2.7 (55.2)	4.2 (50.0)	6.3 (50.0)	3.5 (54.5)	2.7 (40.8)	4.3 (51.3)	4.2 (53)
American coot	6.4 (71.2)	3.7 (76.9)	5.5 (73.1)	5.1 (75.9)	7.2 (77.6)	6.3 (74.4)	6.9 (82.4)	5.5 (65.5)	7.2 (79.0)	4.3 (74.6)	4.8 (80)
Common snipe	2.6 (60.0)	2.3 (78.9)	1.6 (68.0)	4.7 (94.1)	2.6 (75.0)	2.9 (70.8)	1.7 (72.7)	1.8 (61.1)	2.2 (66.7)	1.6 (75.0)	2.1 (53)
Rails / gallinules	3.8 (66.7)	1.0 (50.0)	1.0 (33.3)	0.0 (0.0) *	4.3 (57.1)	6.4 (83.3)	1.0 (40.0)	1.3 (60.0)	1.0 (33.3)	5.0 (33.3)	1.0 (29)
Crow	6.3 (89.0)	7.9 (85.3)	6.4 (90.8)	9.1 (85.6)	7.2 (89.1)	7.3 (87.7)	5.9 (87.8)	5.9 (89.5)	6.7 (91.3)	8.6 (86.1)	8.4 (90)
American woodcock	3.6 (65.6)	3.3 (71.8)	5.3 (64.6)	3.6 (70.3)	3.9 (82.7)	3.7 (68.9)	3.3 (73.8)	4.1 (72.3)	3.6 (75.9)	3.6 (71.5)	3.3 (68)
Mourning dove <sup>‡</sup>			7.9 (78.9)	8.7 (80.1)	8.2 (81.2)	9.8 (78.7)	13.2 (86.6)	11.4 (92.2)	11.1 (84.6)	10.0 (77.5)	11.6 (77)
Ring-necked pheasant	5.5 (71.7)	6.3 (77.2)	5.7 (70.0)	7.0 (75.9)	6.6 (75.3)	7.1 (78.1)	6.4 (76.7)	5.8 (68.7)	5.6 (71.5)	4.3 (61.8)	4.8 (66)
Ruffed grouse	4.3 (63.8)	5.1 (73.5)	3.9 (63.3)	4.4 (67.5)	5.9 (77.4)	4.7 (69.4)	5.0 (73.7)	5.5 (74.5)	6.6 (76.3)	5.8 (73.6)	5.2 (70)
Spruce grouse	3.4 (48.0)	3.3 (62.9)	2.3 (54.2)	2.4 (60.6)	3.8 (70.6)	3.1 (53.8)	3.0 (67.6)	3.1 (63.6)	2.4 (70.6)	2.9 (62.9)	2.8 (54)
Sharp-tailed grouse	3.5 (38.8)	3.3 (52.2)	3.1 (54.3)	2.4 (55.1)	3.3 (56.0)	4.4 (45.9)	3.2 (64.2)	3.0 (57.3)	3.5 (67.7)	3.0 (60.0)	3.3 (49)
Gray partridge	2.8 (59.1)	4.1 (68.9)	3.6 (65.7)	5.0 (52.3)	2.8 (68.8)	3.0 (55.4)	3.4 (64.8)	3.3 (57.9)	4.2 (58.0)	3.1 (53.1)	3.4 (54)
Gray squirrel	6.1 (86.2)	7.0 (85.3)	6.9 (82.5)	5.8 (86.1)	6.4 (87.1)	5.9 (87.6)	6.2 (87.6)	5.8 (85.6)	7.0 (84.0)	6.3 (77.6)	6.0 (77)
Fox squirrel	5.9 (76.4)	5.1 (82.6)	4.8 (85.1)	5.0 (82.5)	5.0 (84.5)	3.9 (82.6)	4.6 (83.3)	4.8 (84.7)	4.6 (85.7)	4.9 (75.8)	4.3 (79)
Eastern cottontail	4.7 (70.5)	5.2 (84.2)	5.8 (79.6)	5.4 (83.4)	4.6 (84.8)	4.8 (84.0)	5.3 (85.2)	4.3 (82.6)	4.4 (81.2)	4.1 (69.5)	5.2 (69)
White-tailed jackrabbit	2.7 (60.6)	3.3 (72.5)	3.0 (75.0)	3.2 (82.8)	2.5 (63.6)	4.5 (72.2)	3.8 (70.0)	2.1 (70.8)	4.6 (70.0)	3.3 (61.8)	1.9 (60)
Snowshoe hare	2.9 (67.1)	3.5 (60.8)	3.0 (61.4)	4.6 (68.1)	3.8 (80.3)	2.2 (62.3)	3.5 (71.4)	2.6 (59.6)	2.6 (68.6)	3.7 (72.3)	4.7 (68)
Raccoon (Sept -Feb )	11.6 (86.3)	9.6 (88.5)	9.9 (91.6)	6.5 (92.6)	7.7 (93.8)	5.4 (89.9)	10.6 (91.2)	9.6 (94.9)	10.0 (93.7)	6.7 (89.6)	5.8 (92)
Raccoon <sup>‡</sup> (March -Aug )	5.9 (91.7)	5.6 (85.2)	6.7 (90.9)	3.1 (86.8)							
Red fox (Sept -Feb )	3.1 (49.0)	3.5 (51.0)	2.8 (38.2)	3.7 (46.4)	2.1 (60.0)	2.3 (45.8)	1.5 (49.3)	2.4 (54.3)	2.3 (53.6)	2.4 (48.1)	2.6 (51)
Red fox <sup>‡</sup> (March -Aug )	3.6 (46.7)	1.1 (51.7)	1.4 (44.4)	1.6 (55.6)							
Gray fox	1.8 (23.5)	1.3 (30.0)	2.6 (40.9)	1.9 (50.0)	2.7 (65.4)	1.0 (29.2)	3.3 (39.1)	2.5 (41.7)	4.0 (36.4)	2.5 (33.3)	1.0 (21)
Coyote	3.2 (36.6)	2.7 (48.8)	2.5 (45.3)	4.11 (50.4)	2.4 (50.5)	4.4 (49.0)	4.4 (53.8)	4.6 (51.7)	4.0 (57.1)	3.9 (44.8)	4.9 (49)
Badger	2.8 (60.0)	1.0 (66.7)	1.2 (85.7)	1.2 (100.0)	1.6 (81.8)	1.0 (33.3)	1.2 (83.3)	2.5 (80.0)	1.0 (100.0)	1.3 (60.0)	1.0 (100)

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

Table 5. Statewide (resident and non-resident) small game hunting license sales and estimated hunter harvest, 2001-02 through 2012-13.

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Small game license sales <sup>a</sup>	298,055	288,729	296,939	287,725	280,156	295,898	298,467	290,064	282,983	300,624	290,686	295,168
State duck stamp sales	118,590	119,677	118,757	114,003	102,143	101,792	100,134	95,675	89,942	88,069	89,681	90,052
Pheasant stamp sales	97,665	102,097	121,456	114,653	117,301	129,546	129,315	123,270	110,456	104,286	86,868	90,541
Estimated harvest <sup>b</sup>												
Ducks	989,723	1,024,662	914,398	727,206	676,741	730,559	708,491	658,186	576,571	619,604	730,370	834,950
Canada geese	308,341	256,937	289,689	284,714	281,829	324,498	243,705	288,411	229,068	257,532	296,040	315,380
Other geese	7,867	11,125	12,755	8,150	9,025	6,658	7,723	13,895	6,255	3,945	6,750	9,060
American coot	17,554	20,114	10,993	20,345	15,938	24,909	16,061	23,871	14,820	26,345	14,740	18,030
Common snipe	1,783	3,432	2,558	2,130	5,336	4,221	3,933	2,210	1,487	1,936	1,470	1,430
Rails / gallinules	244	1,723	75	75	0	1,329	2,569	163	298	75	390	170
Crow	84,412	71,753	82,285	71,943	92,742	69,188	54,319	51,742	56,301	57,298	82,990	95,430
American woodcock	26,662	28,230	30,438	41,479	27,919	39,907	27,866	29,210	35,384	29,766	25,980	31,610
Mourning dove <sup>d</sup>				96,559	77,749	85,950	101,161	132,577	109,988	100,234	77,790	96,520
Ring-necked pheasant	266,786	357,833	511,462	419,712	585,299	587,580	655,443	522,071	400,242	359,396	204,440	264,310
Ruffed grouse	331,916	249,386	350,674	194,687	224,309	417,153	293,544	318,338	357,998	465,576	401,280	355,130
Spruce grouse	9,480	11,943	18,327	9,204	10,079	26,568	17,705	16,997	19,159	14,957	19,470	12,240
Sharp-tailed grouse	9,795	8,516	11,835	10,417	6,387	11,939	13,790	13,695	9,545	16,819	12,020	11,820
Gray partridge	10,174	10,921	22,250	12,572	16,289	11,545	11,000	9,660	8,019	9,154	4,110	6,040
Gray squirrel	145,916	133,589	174,848	132,659	122,078	140,788	133,194	121,534	109,717	138,925	129,600	137,280
Fox squirrel	62,958	67,100	84,529	62,410	62,187	66,068	47,736	51,079	54,013	61,686	51,580	56,850
Eastern cottontail	62,426	51,967	93,054	86,508	90,062	77,872	78,588	79,927	57,702	53,874	38,780	67,000
White-tailed jack rabbit	8,453	4,046	7,161	6,940	5,493	4,149	9,482	6,446	2,608	7,221	5,430	2,850
Snowshoe hare	21,717	10,909	11,969	7,895	10,406	16,801	5,789	11,343	5,352	6,772	9,700	17,280
Raccoon (Sept -Feb )	59,279	60,049	49,878	56,970	29,191	62,891	46,739	72,026	66,667	77,689	53,910	51,660
Raccoon <sup>c</sup> (Mar -Aug )	18,362	19,524	21,752	20,456	7,331							
Red fox (Sept -Feb )	6,842	11,438	13,000	6,072	10,166	7,872	6,188	4,408	10,238	8,781	7,140	8,470
Red fox <sup>c</sup> (Mar -Aug )	4,077	3,746	1,287	836	1,141							
Gray fox	571	521	602	1,758	927	3,593	559	2,443	1,857	2,382	1,160	420
Coyote	12,032	14,223	19,961	18,230	38,612	20,769	34,377	45,689	46,234	44,051	33,820	53,750
Badger	244	1,272	302	533	924	1,091	159	490	744	596	310	340

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

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

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

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

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

Table 6. Mail survey results of nonresident small game hunters, 2001-02 through 2012-13.

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Nonresident licenses issued <sup>a</sup></b>	5,843	5,852	6,291	6,385	5,897	7,356	7,858	7,114	6,934	6,695	6,312	6,456
<b>Questionnaires:</b>												
Number mailed	124	130	123	182	210	185	185	226	196	163	169	166
Number not delivered	9	9	17	13	10	11	11	15	10	6	11	11
Number (percent) returned	77 (67)	75 (66)	68 (64)	114 (67)	134 (67)	115 (62)	101 (58)	89 (42)	105 (54)	107 (66)	91 (54)	71 (43)
<b>Estimated nonresidents and (percent) of all licensed nonresidents hunting:</b>												
Ducks	2,727 (47)	2,263 (39)	2,498 (40)	2,394 (37)	2,040 (35)	2,344 (32)	2,256 (29)	2,293 (32)	1,849 (27)	2,003 (29.9)	2,430 (38.5)	2,360 (36.6)
Canada goose	1,169 (20)	1,092 (19)	1,388 (24)	1,368 (21)	1,818 (31)	2,083 (28)	934 (12)	1,587(22)	726 (10)	1,314 (19.6)	1,620 (25.6)	1,360 (21.1)
Ruffed grouse	1,169 (20)	2,029 (35)	2,313 (40)	1,824 (29)	1,774 (30)	1,953 (26)	1,867 (24)	1,940 (27)	1,915 (28)	2,503 (37.4)	1,460 (23.1)	2,820 (43.7)
Ring-necked pheasant	935 (16)	1,404 (24)	2,128 (36)	2,679 (42)	2,572 (44)	3,776 (51)	2,645 (34)	3,116 (44)	1,519 (22)	2,003 (29.9)	1,780 (28.2)	1,910 (29.6)
Raccoon	0 (0)	0 (0)	0 (0)	0 (0)	44 (0.7)	0 (0)	78 (1.0)	0 (0)	0 (0)	63 (0.9)	0 (0)	0 (0)
<b>Estimated nonresident take:</b>												
Ducks	42,225	17,556	17,855	19,269	12,149	12,173	22,718	15,463	11,755	17,055	13,840	20,380
Canada goose	13,400	5,852	5,736	6,214	3,946	3,580	3,501	5,762	3,698	6,334	4,050	2,270
Ruffed grouse	6,622	9,207	9,437	7,924	6,429	11,522	7,236	6,938	8,651	12,600	8,980	10,090
Ring-necked pheasant	3,740	7,647	9,344	11,174	13,656	16,079	17,661	10,642	6,274	8,076	4,860	6,820
Raccoon <sup>b</sup>	0	0	0	0	887	0	3,268	0	0	593	0	0

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

<sup>b</sup> In 2001, 2002, 2003, 2004, 2006, 2008, 2009, 2011 and 2012 no non-residents reported hunting/harvesting raccoons.

<b>Raccoon take per hunter</b>			
Year	Resident	Non-resident	Number of Non-resident raccoon licenses
2000	8	13	51
2001 <sup>b</sup>	10	0	48
2002 <sup>b</sup>	11	0	46
2003 <sup>b</sup>	10	0	44
2004 <sup>b</sup>	8	0	46
2005	6	20	44
2006 <sup>b</sup>	8	0	53
2007	5	42	45
2008 <sup>b</sup>	10	0	40
2009 <sup>b</sup>	10	0	33
2010	9.4	9.4	42
2011 <sup>b</sup>	6.7	0	34
2012 <sup>b</sup>	5.8	0	52

