

2009 SMALL GAME HUNTER MAIL SURVEY

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INTRODUCTION

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

METHODS

The Wildlife Research unit requested a random sample be drawn from the Electronic License System database in late February, 2010 to ensure that each license holder had an equal chance of being in the survey sample. The sample consisted of 5,999 (approximately 2%) Small Game License holders, drawn proportionately from each of the nine Small Game license types available: Resident Senior Citizen, Resident Youth Small Game, Resident (Adult) Small Game, Resident Individual sports, Resident Combination Sports, Resident Lifetime Small Game, Resident Lifetime sports, Nonresident Youth, and Nonresident (Adult) Small Game.

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

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

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

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

RESULTS

Estimated number of hunters increased slightly for crow, spruce grouse and red fox (Table 3). Number of hunters declined for duck, Canada goose, mourning dove, pheasant, sharp-tailed grouse, cottontails, and snowshoe hare (Table 3). There was very little change in estimated take per hunter (Table 4) or mean harvest and hunter success rates (Table 5). Total estimated harvests (Table 6) increased for crow, woodcock, ruffed grouse, spruce grouse, fox squirrel, and red fox. Estimated harvests declined for ducks, geese, coot, snipe, mourning dove, pheasant, sharp-tailed grouse, gray partridge, gray squirrel, cottontail, jack rabbit, snowshoe hare and raccoon. Estimated harvest for gray fox and coyote stayed the same as for the previous year. Note that all estimates were based on a survey of approximately 2% of all small game license holders. Data in this report may change as a result of future verification and more comprehensive analysis.

Attached are survey results. All estimates were statewide unless otherwise indicated. Tables 1-7 are historic tables of small game harvest for the previous 10 years and tables 8-12 are for the 2009-10 hunting season.

Table 1. Small game hunter response to mail surveys, 1979 - 80 through 2009 - 10.

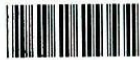
Year	Number mailed	Number not delivered	Delivered questionnaires completed and returned	
			Number	Percent
1979 - 80	5,696	443	4,504	85.7
1980 - 81	6,434	385	4,963	82.0
1981 - 82	6,656	399	5,419	86.6
1982 - 83	5,963	266	4,792	84.1
1983 - 84	4,551	269	3,325	77.7
1984 - 85	4,096	127	3,280	82.6
1985 - 86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

^a Includes resident and non-resident licenses, and excludes duplicate licenses.

Table 2. Use of small game hunter licenses, 1999-00 through 2009-2010.

		Returns from mail survey	Projections from license sales
1999-00	Hunted	2,689 (80.7%)	264,237
	Did not hunt	<u>644 (19.3%)</u>	<u>63,194</u>
		3,333 (100.0%)	327,431
2000-01	Hunted	2,254 (78.7%)	252,518
	Did not hunt	<u>610 (21.3%)</u>	<u>68,344</u>
		2,864 (100.0%)	320,862
2001-02	Hunted	2,849 (77.7%)	231,589
	Did not hunt	<u>610 (21.3%)</u>	<u>66,466</u>
		3,665 (100.0%)	298,055
2002-03	Hunted	2,962 (76.7%)	221,455
	Did not hunt	<u>900 (23.3%)</u>	<u>67,274</u>
		3,862 (100.0%)	288,729
2003-04	Hunted	3,085 (78.2%)	232,206
	Did not hunt	<u>862 (21.8%)</u>	<u>64,733</u>
		3,947 (100.0%)	296,939
2004-05	Hunted	2,934 (77.6%)	223,275
	Did not hunt	<u>847 (22.4%)</u>	<u>64,450</u>
		3,781 (100.0%)	287,725
2005-06	Hunted	3,035 (77.1%)	216,000
	Did not hunt	<u>900 (22.9%)</u>	<u>64,156</u>
		3,935 (100.0%)	280,156
2006-07	Hunted	2,994 (79.0%)	233,759
	Did not hunt	<u>795 (21.0%)</u>	<u>62,139</u>
		3,789 (100.0%)	295,898
2007-08	Hunted	2,894 (77.9%)	232,505
	Did not hunt	<u>822 (22.1%)</u>	<u>65,961</u>
		3,716 (100.0%)	298,467
2008-09	Hunted	2,678 (75.4%)	218,753
	Did not hunt	<u>873 (24.6%)</u>	<u>71,311</u>
		3,551 (100.0%)	290,064
2009-10	Hunted	2,850 (75.0%)	212,126
	Did not hunt	<u>952 (25.0%)</u>	<u>70,857</u>
		3,802 (100.0%)	282,983

Includes resident and non-resident information. Excludes duplicates.



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2009 Small Game Hunter Report

1. Did you hunt small game, listed below, in Minnesota this year (March 2009 - Feb 2010)? 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	_____	_____

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 2009-2010 small game hunting season (**March 2009-February 2010**). We need information to estimate the season's harvest and to help set future small game seasons. Answer only for your Minnesota 2009 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

Dave Schad, Director
Division of Fish and Wildlife
Department of Natural Resources



Minnesota Department of Natural Resources
Division of Fish and Wildlife
Wildlife Research Unit
500 Lafayette Road, Box 20
St. Paul, MN 55155



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Figure 1. Sample of Small Game Hunter survey card

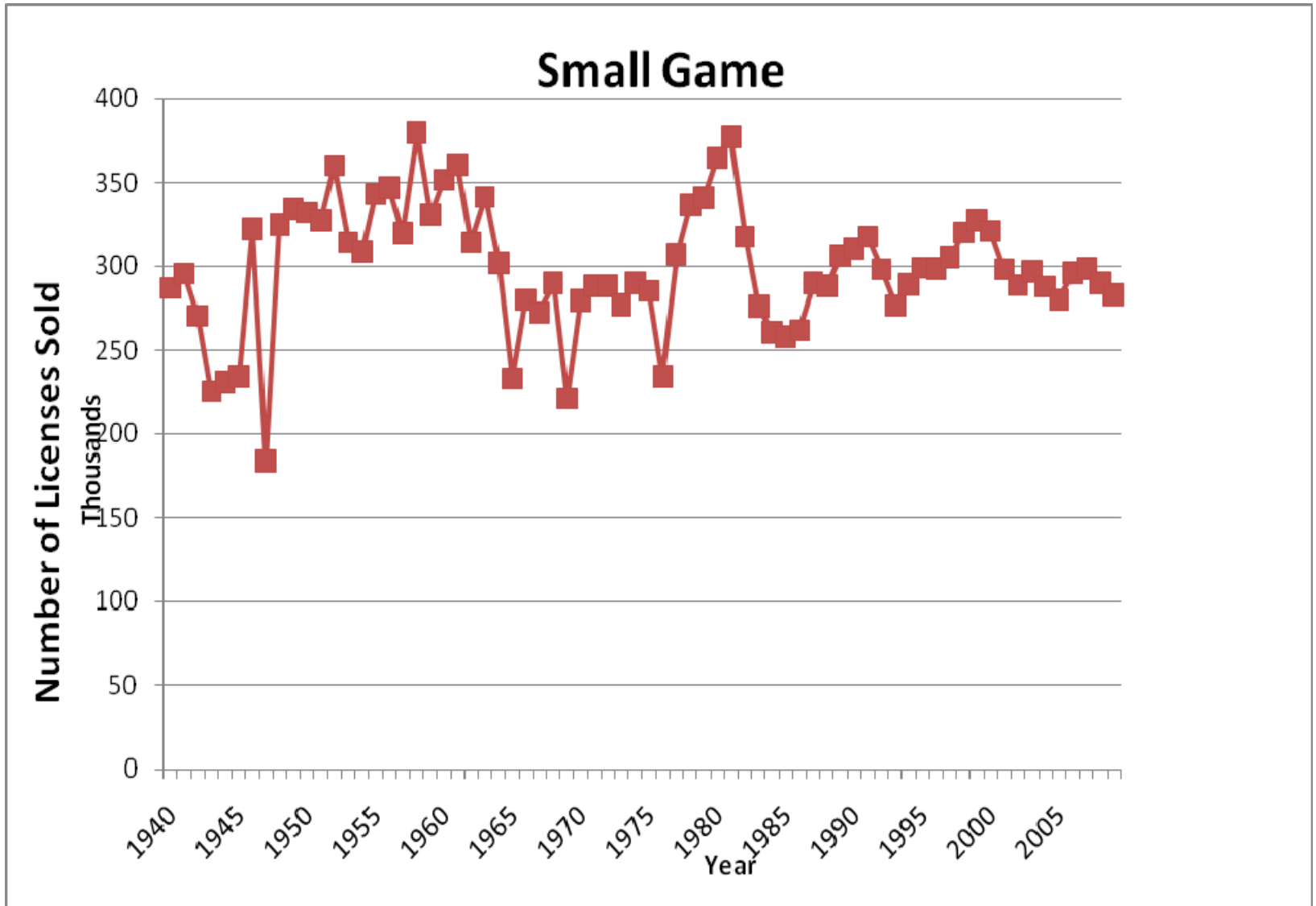


Figure 2. Number of Minnesota small game licenses sold, 1940–2009

Table 3. Estimated number of hunters (thousands) for various species, 1995-96 through 2009-10.

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Ducks	119	114	122	117	122	109	109	112	101	105	92	87	87	81	78
Canada goose	73	75	79	77	80	77	76	79	75	75	69	66	63	59	56
Other geese	10	6	5	6	5	7	7	6	7	5	5	5	4	4	3
American coot	9	6	7	5	6	4	4	4	4	5	4	5	3	4	4
Common snipe	2	2	2	2	2	2	1	2	1	2	1	2	2	2	1
Rails / gallinules	1	<1	<1	<1	<1	<1	<1	1	<1	<1	0	1	<1	<1	<1
Crow *	15	13	11	11	14	14	11	13	12	12	12	11	9	10	11
American woodcock	21	18	17	19	19	16	11	12	13	12	11	14	11	12	12
Mourning dove ^γ										16	11	13	13	12	10
Ring-necked pheasant	96	88	80	88	93	100	85	91	105	104	111	119	118	107	100
Ruffed grouse	116	118	127	142	139	121	101	91	94	79	76	92	91	87	87
Spruce grouse	14	11	11	11	11	9	9	7	9	7	7	10	11	8	10
Sharp-tailed grouse	8	7	8	8	8	10	8	6	7	6	5	7	7	7	6
Gray partridge	12	11	8	10	10	8	7	7	8	5	6	6	7	4	4
Gray squirrel	35	33	27	30	31	27	26	25	29	23	25	25	26	22	22
Fox squirrel	23	20	16	18	20	17	15	15	20	15	15	16	15	13	13
Eastern cottontail	23	19	14	19	18	20	17	16	21	19	20	20	20	18	16
White-tailed jackrabbit	5	4	3	3	3	2	3	2	3	3	2	3	3	2	2
Snowshoe hare	5	4	4	7	7	5	6	6	6	4	3	6	4	5	3
Raccoon (Sept - Feb)	10	10	9	9	6	6	6	6	6	6	5	9	10	7	7
Raccoon [‡] (March -Aug)	5	4	3	4	3	5	4	4	5	3	3				
Red fox (Sept -Feb)	15	11	9	9	8	10	6	7	7	6	6	6	6	6	8
Red fox [‡] (March -Aug)	4	3	2	3	2	2	3	2	2	1	1				
Gray fox	3	n.a.	2	2	2	1	1	1	2	2	1	2	2	2	2
Coyote	15	13	10	11	11	16	11	12	15	16	19	17	16	19	19
Badger	<1	1	1	<1	<1	1	<1	1	<1	1	1	1	<1	<1	<1

* Crow season added in 1989.

[‡] Raccoon and red fox season continuous May 1994 thru March 15, 2006. ^γ Mourning dove season added 2004.

Table 4. Estimated take per hunter, for respondents reporting that they hunted a particular species, 1995-96 through 2009-10.

	Estimated take per hunter														
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Ducks	9.7	9.6	9.9	9.5	8.4	8.9	9.1	9.2	9.0	6.9	7.3	8.4	8.1	8.1	7.4
Canada geese	2.5	3.2	2.9	2.8	3.5	3.9	4.0	3.3	3.9	3.8	4.1	4.9	3.9	4.9	4.1
Other geese	0.9	1.4	2.3	1.0	1.2	2.2	1.2	1.9	1.7	1.5	1.9	1.5	2.1	3.2	1.9
American coot	3.1	3.8	4.1	4.7	4.0	2.7	4.5	4.6	2.8	4.0	3.9	5.6	4.6	5.7	3.6
Common snipe	1.6	2.8	2.6	2.9	1.6	1.3	1.3	1.5	1.8	1.1	4.4	1.9	2.0	1.2	1.1
Rails/gallinules	2.3	1.0	0.7	0.5	0.2	3.7	0.6	2.6	0.5	0.3	0	2.4	5.3	0.4	0.8
Crow *	8.5	7.3	6.6	9.3	4.4	6.9	7.7	5.6	6.7	5.8	7.8	6.4	6.4	5.2	5.3
American woodcock	3.9	3.2	3.4	3.3	2.8	2.8	2.3	2.4	2.4	3.5	2.5	3.2	2.6	2.4	3.0
Mourning dove ^γ										6.2	7	6.7	7.7	11.4	10.5
Ring-necked pheasant	4.2	3.9	3.1	3.5	3.7	3.7	3.2	3.9	4.9	4.0	5.3	4.9	5.5	4.9	4.0
Ruffed grouse	3.9	4.5	5.2	6.7	4.9	5.1	3.3	2.8	3.8	2.5	2.9	4.5	3.2	3.7	4.1
Spruce grouse	1.8	1.4	2.3	2.4	1.8	2.5	1.1	1.6	2.1	1.3	1.4	2.7	1.7	2.0	1.9
Sharp-tailed grouse	1.3	1.2	1.7	2.6	1.6	1.6	1.2	1.3	1.7	1.7	1.3	1.8	2.0	2.1	1.7
Gray partridge	2.2	2.2	1.9	2.5	1.9	2.1	1.5	1.7	2.8	2.4	2.6	1.9	1.6	2.2	1.9
Gray squirrel	4.9	4.9	4.9	5.0	4.3	5.3	5.6	5.2	6.0	5.7	5.0	5.5	5.2	5.4	4.9
Fox squirrel	4.6	3.8	4.4	3.3	3.5	3.9	4.1	4.5	4.2	4.1	4.1	4.2	3.2	3.9	4.1
Eastern cottontail	4.3	3.4	4.5	4.6	3.2	3.9	3.6	3.3	4.3	4.6	4.5	3.9	4.0	4.5	3.5
White-tailed jackrabbit	1.5	2.6	1.6	2.5	1.9	2.8	2.6	1.6	2.4	2.3	2.7	1.6	3.3	2.6	1.5
Snowshoe hare	2.0	2.3	2.0	3.5	3.1	5.2	3.3	1.9	2.2	1.8	3.1	3.0	1.4	2.5	1.5
Raccoon (Sept - Feb)	14.7	21.3	13.8	16.6	10.9	7.6	9.4	10.0	8.5	9.0	6.0	7.2	4.9	9.7	9.1
Raccoon [‡] (March -Aug)	11.3	24.4	5.1	5.8	6.4	7.8	4.4	5.4	4.7	6.1	2.7				
Red fox (Sept -Feb)	3.1	3.0	1.4	1.3	1.2	1.9	1.2	1.5	1.8	1.1	1.7	1.3	1.1	0.8	1.3
Red fox [‡] (March -Aug)	1.5	1.3	0.8	1.2	0.6	0.9	1.5	1.7	0.6	0.6	0.9				
Gray fox	1.0	n.a.	1.3	0.9	0.9	0.7	0.4	0.4	0.4	1.1	0.9	1.8	0.3	1.3	1.0
Coyote	1.8	2.3	1.6	1.3	1.3	1.8	1.1	1.2	1.3	1.1	2.1	1.2	2.1	2.4	2.4
Badger	1.4	2.1	0.9	4.3	1.1	0.8	0.6	1.7	0.7	1.0	1.2	1.3	0.3	1.0	2.0

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

Table 5. Mean harvest for successful hunters and hunter success rates (%), 1999-00 through 2009-10.

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Ducks	9.7 (86.2)	10.2 (84.9)	10.6 (85.6)	10.6 (86.7)	10.4 (86.7)	8.6 (81.1)	8.9 (82.5)	9.9 (84.4)	9.5 (85.4)	9.8 (82.8)	9.2(80.5)
Canada geese	4.7 (74.7)	5.3 (74.2)	5.3 (76.3)	4.6 (72.0)	5.1 (76.0)	5.2 (72.8)	5.5 (73.7)	6.3 (78.4)	5.5 (71.4)	6.4 (76.6)	5.6 (72.8)
Other geese	2.8 (38.2)	4.0 (54.1)	2.8 (43.8)	4.4 (42.5)	2.7 (65.3)	3.3 (45.7)	4.5 (43.1)	2.7 (55.2)	4.2 (50.0)	6.3 (50.0)	3.5 (54.5)
American coot	5.5 (73.0)	4.2 (64.7)	7.5 (60.4)	6.4 (71.2)	3.7 (76.9)	5.5 (73.1)	5.1 (75.9)	7.2 (77.6)	6.3 (74.4)	6.9 (82.4)	5.5 (65.5)
Common snipe	2.3 (66.7)	1.5 (85.0)	2.4 (52.9)	2.6 (60.0)	2.3 (78.9)	1.6 (68.0)	4.7 (94.1)	2.6 (75.0)	2.9 (70.8)	1.7 (72.7)	1.82 (61.1)
Rails / gallinules	1.0 (20.0)	3.7 (100.0)	1.5 (40.0)	3.8 (66.7)	1.0 (50.0)	1.0 (33.3)	0.0 (0.0) *	4.3 (57.1)	6.4 (83.3)	1.0 (40.0)	1.3 (60.0)
Crow	5.2 (85.5)	8.2 (84.0)	8.6 (89.4)	6.3 (89.0)	7.9 (85.3)	6.4 (90.8)	9.1 (85.6)	7.2 (89.1)	7.3 (87.7)	5.9 (87.8)	5.9 (89.5)
American woodcock	3.8 (74.6)	3.6 (80.3)	3.4 (68.3)	3.6 (65.6)	3.3 (71.8)	5.3 (64.6)	3.6 (70.3)	3.9 (82.7)	3.7 (68.9)	3.3 (73.8)	4.1 (72.3)
Mourning dove ^γ						7.9 (78.9)	8.7 (80.1)	8.2 (81.2)	9.8 (78.7)	13.2 (86.6)	11.4 (92.2)
Ring-necked pheasant	5.2 (69.8)	5.2 (71.9)	4.7 (66.4)	5.5 (71.7)	6.3 (77.2)	5.7 (70.0)	7.0 (75.9)	6.6 (75.3)	7.1 (78.1)	6.4 (76.7)	5.8 (68.7)
Ruffed grouse	6.3 (78.9)	6.4 (80.7)	4.8 (68.5)	4.3 (63.8)	5.1 (73.5)	3.9 (63.3)	4.4 (67.5)	5.9 (77.4)	4.7 (69.4)	5.0 (73.7)	5.5 (74.5)
Spruce grouse	2.9 (62.7)	4.1 (60.7)	2.3 (47.2)	3.4 (48.0)	3.3 (62.9)	2.3 (54.2)	2.4 (60.6)	3.8 (70.6)	3.1 (53.8)	3.0 (67.6)	3.1 (63.6)
Sharp-tailed grouse	3.4 (48.2)	3.1 (52.9)	2.4 (49.5)	3.5 (38.8)	3.3 (52.2)	3.1 (54.3)	2.4 (55.1)	3.3 (56.0)	4.4 (45.9)	3.2 (64.2)	3.0 (57.3)
Gray partridge	3.1 (62.4)	3.7 (58.6)	2.5 (58.3)	2.8 (59.1)	4.1 (68.9)	3.6 (65.7)	5.0 (52.3)	2.8 (68.8)	3.0 (55.4)	3.4 (64.8)	3.3 (57.9)
Gray squirrel	5.1 (84.7)	6.7 (84.9)	6.6 (84.4)	6.1 (86.2)	7.0 (85.3)	6.9 (82.5)	5.8 (86.1)	6.4 (87.1)	5.9 (87.6)	6.2 (87.6)	5.8 (85.6)
Fox squirrel	4.5 (79.0)	4.8 (80.5)	5.3 (77.7)	5.9 (76.4)	5.1 (82.6)	4.8 (85.1)	5.0 (82.5)	5.0 (84.5)	3.9 (82.6)	4.6 (83.3)	4.8 (84.7)
Eastern cottontail	4.0 (80.0)	4.8 (82.5)	4.7 (77.7)	4.7 (70.5)	5.2 (84.2)	5.8 (79.6)	5.4 (83.4)	4.6 (84.8)	4.8 (84.0)	5.3 (85.2)	4.3 (82.6)
White-tailed jackrabbit	2.6 (72.7)	4.1 (68.2)	5.2 (50.0)	2.7 (60.6)	3.3 (72.5)	3.0 (75.0)	3.2 (82.8)	2.5 (63.6)	4.5 (72.2)	3.8 (70.0)	2.1 (70.8)
Snowshoe hare	3.9 (79.4)	6.3 (82.6)	4.4 (75.0)	2.9 (67.1)	3.5 (60.8)	3.0 (61.4)	4.6 (68.1)	3.8 (80.3)	2.2 (62.3)	3.5 (71.4)	2.6 (59.6)
Raccoon (Sept -Feb)	11.4 (95.1)	8.0 (94.8)	10.0 (93.6)	11.6 (86.3)	9.6 (88.5)	9.9 (91.6)	6.5 (92.6)	7.7 (93.8)	5.4 (89.9)	10.6 (91.2)	9.6 (94.9)
Raccoon [‡] (March -Aug)	6.6 (96.2)	8.2 (95.1)	4.9 (90.2)	5.9 (91.7)	5.6 (85.2)	6.7 (90.9)	3.1 (86.8)				
Red fox (Sept -Feb)	2.4 (51.9)	3.4 (56.7)	2.7 (44.9)	3.1 (49.0)	3.5 (51.0)	2.8 (38.2)	3.7 (46.4)	2.1 (60.0)	2.3 (45.8)	1.5 (49.3)	2.4 (54.3)
Red fox [‡] (March -Aug)	1.3 (47.4)	1.9 (47.1)	2.8 (54.5)	3.6 (46.7)	1.1 (51.7)	1.4 (44.4)	1.6 (55.6)				
Gray fox	2.3 (40.0)	2.0 (33.3)	1.4 (26.3)	1.8 (23.5)	1.3 (30.0)	2.6 (40.9)	1.9 (50.0)	2.7 (65.4)	1.0 (29.2)	3.3 (39.1)	2.5 (41.7)
Coyote	2.5 (49.1)	3.4 (53.9)	2.4 (47.3)	3.2 (36.6)	2.7 (48.8)	2.5 (45.3)	4.11 (50.4)	2.4 (50.5)	4.4 (49.0)	4.4 (53.8)	4.6 (51.7)
Badger	1.3 (87.5)	1.0 (83.3)	1.0 (60.0)	2.8 (60.0)	1.0 (66.7)	1.2 (85.7)	1.2 (100.0)	1.6 (81.8)	1.0 (33.3)	1.2 (83.3)	2.5 (80.0)

[‡] 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.

Table 6. Statewide (resident and non-resident) small game hunting license sales and estimated hunter harvest, 1997-98 through 2009-10.

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Small game license sales ^a	305,186	320,308	327,431	320,862	298,055	288,729	296,939	287,725	280,156	295,898	298,467	290,064	282,983
Federal duck stamp sales	138,331	134,098	134,138	135,884	140,980 ^c	144,851 ^c							
State duck stamp sales	126,009	126,488	128,245	121,709	118,590	119,677	118,757	114,003	102,143	101,792	100,134	95,675	89,942
Pheasant stamp sales	85,093	99,664	106,945	114,440	97,665	102,097	121,456	114,653	117,301	129,546	129,315	123,270	110,456
Estimated harvest ^b (thousands)													
Ducks ^c	1,206	1,119	1,021	969	990	1,024	914	727	677	731	708	658	576
Canada geese ^c	230	218	285	301	308	257	290	284	282	324	244	288	229
Other geese ^c	11	6	6	15	8	11	13	8	9	7	8	14	6
American coot ^c	29	25	25	10	17	20	11	20	16	25	16	24	15
Common snipe	4	5	3	3	2	3	3	2	5	4	4	2	1
Rails / gallinules	<1	<1	<1	1	<1	2	<1	<1	0	1	3	<1	<1
Crow	74	106	60	96	88	72	82	72	93	69	54	52	56
American woodcock	58	63	54	45	27	28	30	41	28	43	28	29	35
Mourning dove ^f								97	78	86	101	133	110
Ring-necked pheasant	248	309	339	375	267	358	511	420	586	588	655	522	400
Ruffed grouse	654	946	685	619	332	249	351	194	224	417	294	318	358
Spruce grouse	25	27	19	23	9	12	18	9	10	27	18	17	19
Sharp-tailed grouse	13	22	14	16	10	9	12	10	6	12	14	14	10
Gray partridge	16	24	19	17	10	11	22	13	16	11	11	10	8
Gray squirrel	131	149	132	140	146	134	175	133	122	141	133	122	110
Fox squirrel	68	57	71	65	63	67	85	62	62	66	48	51	54
Eastern cottontail	65	89	59	78	63	52	93	87	90	78	79	80	58
White-tailed jack rabbit	4	7	6	7	8	4	7	7	5	4	9	6	3
Snowshoe hare	8	25	21	27	22	11	12	8	10	17	6	11	5
Raccoon (Sept -Feb)	124	143	65	49	59	60	50	57	29	63	47	72	67
Raccoon ^d (Mar -Aug)	17	2	16	36	18	19	22	20	7				
Red fox (Sept -Feb)	13	13	10	19	7	11	13	6	10	8	6	4	10
Red fox ^d (Mar -Aug)	2	3	1	2	4	4	1	1	1				
Gray fox	3	1	2	1	1	1	1	2	1	4	1	2	2
Coyote	16	14	13	29	12	14	20	18	39	21	34	46	46
Badger	1	1	1	1	<1	1	<1	<1	1	1	<1	<1	1

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 Duplicate licenses not included.

^b Estimates based upon response of hunters to questionnaires.

^c U.S. Fish and Wildlife Service HIP harvest estimates for 2008 are:

Ducks 584,000 Canada geese 222,900 Other geese 0

^d Raccoon and red fox seasons were year round from May,1994 through March 16, 2006.

^e Federal duck stamps sold have not been audited for non-hunting stamp purchasers. ^f Mourning dove season added 2004.

Table 7. Mail survey results of nonresident small game hunters, 1996-97 through 2008-09.

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Nonresident licenses issued^a	6,361	7,155	7,572	7001	5,843	5,852	6,291	6,385	5,897	7,356	7,858	7,114	6,934
Questionnaires:													
Number mailed	269	200	199	98	124	130	123	182	210	185	185	226	196
Number not delivered	18	17	16	6	9	9	17	13	10	11	11	15	10
Number (percent) returned	183 (73)	117 (64)	136 (74)	56 (61)	77 (67)	75 (66)	68 (64)	114 (67)	134 (67)	115 (62)	101 (58)	89 (42)	105 (54)
Estimated nonresidents and (percent) of all nonresidents hunting:													
Ducks	2,331 (37)	2,874 (40)	2,505 (33)	2,375 (34)	2,727 (47)	2,263 (39)	2,498 (40)	2,394 (37)	2,040 (35)	2,344 (32)	2,256 (29)	2,293 (32)	1,849 (27)
Canada goose	1,113 (17)	1,468 (20)	1,225 (16)	1,500 (21)	1,169 (20)	1,092 (19)	1,388 (24)	1,368 (21)	1,818 (31)	2,083 (28)	934 (12)	1,587(22)	726 (10)
Ruffed grouse	2,157 (34)	3,608 (50)	3,508 (46)	3,000 (43)	1,169 (20)	2,029 (35)	2,313 (40)	1,824 (29)	1,774 (30)	1,953 (26)	1,867 (24)	1,940 (27)	1,915 (28)
Ring-necked pheasant	731 (11)	612 (8)	947 (13)	625 (9)	935 (16)	1,404 (24)	2,128 (36)	2,679 (42)	2,572 (44)	3,776 (51)	2,645 (34)	3,116 (44)	1,519 (22)
Raccoon	35 (1)	0 (0) ^c	56 (1)	250 (4)	0 (0)	0 (0)	0 (0)	0 (0)	44 (0.7)	0 (0)	78 (1.0)	0 (0)	0 (0)
Estimated nonresident take:													
Ducks	15,967	26,663	26,391	18,253	42,225	17,556	17,855	19,269	12,149	12,173	22,718	15,463	11,755
Canada goose	4,905	4,587	6,960	5,001	13,400	5,852	5,736	6,214	3,946	3,580	3,501	5,762	3,698
Ruffed grouse	16,072	27,886	23,384	24,003	6,622	9,207	9,437	7,924	6,429	11,522	7,236	6,938	8,651
Ring-necked pheasant	2,505	1,712	4,844	4,001	3,740	7,647	9,344	11,174	13,656	16,079	17,661	10,642	6,274
Raccoon ^b	70	0	724	3,375	0	0	0	0	887	0	3,268	0	0

^a Excludes duplicate licenses and nonresident shooting preserve licenses.

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

Raccoon take per hunter			
Year	Resident	Non-resident	Number of Non-resident raccoon licenses
2000	8	13	51
2001 ^b	10	0	48
2002 ^b	11	0	46
2003 ^b	10	0	44
2004 ^b	8	0	46
2005	6	20	44
2006 ^b	8	0	53
2007	5	42	45
2008 ^b	10	0	40
2009 ^b	10	0	33

Table 8. Number of days spent hunting small game statewide by species, 2009 – 10.

SPECIES HUNTED	SUM OF DAYS HUNTED	SAMPLE SIZE	MEAN DAYS HUNTED W/ ZEROES	95% CONF INT	N REPORTING DAYS HUNTED	MEAN DAYS HUNTED W/O ZEROES	95% CONF INT	ESTIMATED HUNTERS	ESTIMATED HUNTER-DAYS	95% CONF INT
DUCK (ALL SPECIES)	7485	3802	1.97	0.16	1032	7.25	0.47	77,705	557,109	45,756
BADGER	7	3802	0.00	0.00	4	1.75	1.52	372	521	561
CANADA GOOSE	5580	3802	1.47	0.15	728	7.66	0.60	55,599	415,320	42,066
OTHER GEESE	300	3802	0.08	0.04	40	7.50	3.15	3,275	22,329	11,461
COOT	355	3802	0.09	0.04	50	7.10	2.76	4,094	26,423	12,433
SNIPE	130	3802	0.03	0.03	15	8.67	6.42	1,340	9,676	7,942
RAILS & GALLINULES	71	3802	0.02	0.02	5	14.20	22.44	372	5,285	6,971
CROW	617	3802	0.16	0.06	133	4.64	1.51	10,643	45,923	16,615
WOODCOCK	915	3802	0.24	0.05	151	6.06	0.93	11,834	68,103	14,761
MOURNING DOVE	631	3802	0.17	0.04	138	4.57	0.88	10,495	46,965	11,743
PHEASANT	9150	3802	2.41	0.19	1314	6.96	0.46	99,811	681,035	53,296
RUFFED GROUSE	7481	3802	1.97	0.16	1152	6.49	0.44	87,530	556,811	46,294
SPRUCE GROUSE	775	3802	0.20	0.06	122	6.35	1.32	9,825	57,683	15,546
SHARP-TAILED GROUSE	449	3802	0.12	0.05	72	6.24	2.01	5,582	33,419	13,046
GRAY PARTRIDGE	447	3802	0.12	0.05	54	8.28	3.01	4,243	33,270	14,765
FOX SQUIRREL	1084	3802	0.29	0.08	172	6.30	1.45	13,174	80,682	21,822
GRAY SQUIRREL	1568	3802	0.41	0.08	284	5.52	0.82	22,255	116,706	21,475
COTTONTAIL RABBIT	1180	3802	0.31	0.12	208	5.67	2.03	16,300	87,827	33,254
JACKRABBIT	40	3802	0.01	0.01	21	1.90	0.83	1,786	2,977	1,724
SNOWSHOE HARE	159	3802	0.04	0.02	43	3.70	1.28	3,498	11,834	5,317
RACCOON(SEPT-FEB)	771	3802	0.20	0.09	86	8.97	3.75	7,294	57,386	26,546
RED FOX(SEPT-FEB)	904	3802	0.24	0.10	91	9.93	3.46	7,815	67,285	26,833
GRAY FOX	405	3802	0.11	0.09	20	20.25	15.55	1,786	30,144	24,731
COYOTE	2153	3802	0.57	0.14	244	8.82	1.88	19,426	160,248	38,912

Table 9. Statewide estimates of number of hunters and mean harvest for all hunters reporting hunting for that species, 2009 – 10.

SPECIES HUNTED	BAGGED SUM	SAMPLE SIZE	N HUNTING	ESTIMATED HUNTERS	MEAN BAGGED W/ ZEROES	95% CONF INT
DUCK (ALL SPECIES)	7749	3802	1044	77,705	7.42	0.22
BADGER	10	3802	5	372	2.00	0.00
CANADA GOOSE	3074	3802	747	55,599	4.12	0.11
OTHER GEESE	84	3802	44	3,275	1.91	0.01
COOT	199	3802	55	4,094	3.62	0.03
SNIPE	20	3802	18	1,340	1.11	0.00
RAILS & GALLINULES	4	3802	5	372	0.80	0.00
CROW	757	3802	143	10,643	5.29	0.05
WOODCOCK	476	3802	159	11,834	2.99	0.05
MOURNING DOVE	1477	3802	141	10,495	10.48	0.10
PHEASANT	5375	3802	1341	99,811	4.01	0.13
RUFFED GROUSE	4810	3802	1176	87,530	4.09	0.12
SPRUCE GROUSE	257	3802	132	9,825	1.95	0.02
SHARP-TAILED GROUSE	128	3802	75	5,582	1.71	0.01
GRAY PARTRIDGE	108	3802	57	4,243	1.89	0.01
FOX SQUIRREL	725	3802	177	13,174	4.10	0.05
GRAY SQUIRREL	1475	3802	299	22,255	4.93	0.06
COTTONTAIL RABBIT	776	3802	219	16,300	3.54	0.04
JACKRABBIT	35	3802	24	1,786	1.46	0.01
SNOWSHOE HARE	72	3802	47	3,498	1.53	0.01
RACCOON(SEPT-FEB)	896	3802	98	7,294	9.14	0.11
RED FOX(SEPT-FEB)	138	3802	105	7,815	1.31	0.01
GRAY FOX	25	3802	24	1,786	1.04	0.01
COYOTE	620	3802	261	19,426	2.38	0.05

Table 10. Estimated harvest and mean harvest per successful hunter 2009-10

SPECIES HUNTED	N BAGGING	MEAN BAGGED W/O ZEROES	95% CONF INT	ESTIMATED BAGGERS	HARVEST ESTIMATE	95% CONF INT	HUNTER SUCCESS RATE (%)
DUCK (ALL SPECIES)	840	9.23	0.85	62,521	576,758	62,631	80.5
BADGER	4	2.50	3.79	298	744	939	80.0
CANADA GOOSE	544	5.65	0.59	40,490	228,798	29,573	72.8
OTHER GEESE	24	3.50	1.80	1,786	6,252	3,867	54.5
COOT	36	5.53	2.43	2,679	14,812	7,975	65.5
SNIPE	11	1.82	0.78	819	1,489	1,024	61.1
RAILS & GALLINULES	3	1.33	1.43	223	298	355	60.0
CROW	128	5.91	1.09	9,527	56,344	13,992	89.5
WOODCOCK	115	4.14	1.53	8,559	35,429	14,452	72.3
MOURNING DOVE	130	11.36	2.11	9,676	109,933	27,382	92.2
PHEASANT	921	5.84	0.42	68,550	400,061	36,455	68.7
RUFFED GROUSE	876	5.49	0.43	65,201	358,008	34,886	74.5
SPRUCE GROUSE	84	3.06	0.78	6,252	19,129	6,293	63.6
SHARP-TAILED GROUSE	43	2.98	0.69	3,200	9,527	3,549	57.3
GRAY PARTRIDGE	33	3.27	1.16	2,456	8,038	3,886	57.9
FOX SQUIRREL	150	4.83	1.00	11,165	53,962	13,873	84.7
GRAY SQUIRREL	256	5.76	0.67	19,054	109,784	18,048	85.6
COTTONTAIL RABBIT	181	4.29	0.65	13,472	57,758	11,929	82.6
JACKRABBIT	17	2.06	0.97	1,265	2,605	1,644	70.8
SNOWSHOE HARE	28	2.57	0.59	2,084	5,359	2,303	59.6
RACCOON(SEPT-FEB)	93	9.63	4.10	6,922	66,689	31,026	94.9
RED FOX(SEPT-FEB)	57	2.42	0.55	4,243	10,271	3,493	54.3
GRAY FOX	10	2.50	1.94	744	1,861	1,645	41.7
COYOTE	135	4.59	1.28	10,048	46,147	14,799	51.7