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1997-2001 MICHIGAN SMALL GAME HARVEST SURVEY

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ABSTRACT

A survey of small game license buyers was conducted following the 1997-2001 hunting seasons to determine the number of people hunting upland game and waterfowl, their days afield, and harvest. The survey also was used to check whether migratory bird hunters registered with the Harvest Information Program (HIP) and to determine hunters' opinions about management issues. A 5-year average of nearly 249,000 people hunted upland game species, while about 66,100 people pursued waterfowl during 1997-2001. These hunters most often sought rabbits, grouse, and squirrels. The number of people hunting small game (upland game and waterfowl combined) has declined by about 60% since the mid-1950s. Most changes in harvest and hunter numbers generally tracked changes in game populations. At least 51% of the people hunting migratory birds (waterfowl and woodcock) registered with the HIP each year. At least 63% of the waterfowl hunters registered with the HIP, but less than 40% of the woodcock hunters registered annually with the HIP.

INTRODUCTION

The Michigan Department of Natural Resources has the authority and responsibility to protect and manage the wildlife resources of the State of Michigan. This responsibility is shared with the U.S. Fish and Wildlife Service (USFWS) for the management of migratory species such as ducks, geese, and woodcock. Harvest surveys are one of the primary management tools used by the Wildlife Division to accomplish its statutory responsibility. Estimating harvest and hunting effort are among the primary objectives of these surveys. Estimates derived from harvest surveys, as well as breeding bird counts and population modeling, are used to monitor game populations and establish harvest regulations.



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Since the 1950s, the primary upland small game species harvested in Michigan have been ring-necked pheasant (*Phasianus colchicus*), ruffed grouse (*Bonasa umbellus*), American woodcock (*Scolopax minor*), cottontail rabbit (*Sylvilagus floridanus*), snowshoe hare (*Lepus americanus*), squirrels (*Sciurus* spp. and *Tamiasciurus hudsonicus*), and American crow (*Corvus brachyrhynchos*). Most of these animals could be harvested during late fall through early winter (Table 1) by a person possessing a small game hunting license (includes resident, nonresident, 3-day nonresident, resident junior, and senior small game hunting licenses). Woodcock hunters also were required to register with the National Migratory Bird Harvest Information Program (HIP) since 1995.

People purchasing a small game license could also hunt ducks and geese (*Branta canadensis*) if they obtained a waterfowl hunting license, federal waterfowl stamp, and registered with the HIP. Landowners and their families that hunted upland game and waterfowl on their property could hunt without a hunting license, although they still needed to obtain a federal waterfowl stamp if they hunted waterfowl and register with the HIP if they hunted migratory species.

The HIP is a cooperative effort between state wildlife agencies and the U.S. Fish and Wildlife Service. The HIP was implemented to improve knowledge about the harvest of migratory game birds (e.g., ducks, geese, and woodcock). Beginning in 1995, any person who hunted migratory game birds in Michigan was required to register with the HIP and answer several questions about their hunting experience during the previous year. The HIP provided the USFWS with a national registry of migratory bird hunters from which they can select participants for harvest surveys.

Estimating harvest, hunter numbers, and hunting effort were the primary objectives of harvest surveys. These surveys also provided an opportunity to collect information about management issues. Questions were added to the questionnaire each year to assess hunter opinions about topical issues such as waterfowl and grouse hunting season dates and regulations. In addition, the rate of compliance with the HIP registration was determined for migratory bird hunters.

METHODS

Following each of the 1997-2001 hunting seasons, a questionnaire was sent to groups of randomly selected people that had purchased a small game hunting license (Table 2). Up to two follow-up questionnaires were sent to non-respondents. Each year, ≥ 275 questionnaires were undeliverable. Annually, questionnaires were returned by $\geq 60\%$ of the people that received questionnaires.

Estimates were calculated using a stratified random sampling design (Cochran 1977). Using stratification, hunters were placed into similar groups (stratum), and then estimates were derived for each group. The statewide estimate was then derived by combining group estimates so that the influence of each group matched the frequency that its members occurred in the population of hunters. Hunters were grouped into 1 of 8 strata based on the

region where they resided and type of license they purchased. Residents of the Upper Peninsula (UP), northern Lower Peninsula (NLP), southern Lower Peninsula (SLP), and nonresidents were grouped into separate stratum (Figure 1). Furthermore, hunters were divided into groups on the basis of whether they had purchased a waterfowl hunting license.

Estimates were calculated along with their 95% confidence limit (CL). This confidence limit can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval was a measure of the precision associated with the estimate and implies that the true value would be within this interval 95 times out of 100. Harvest estimates did not include animals taken legally outside the open season (e.g., nuisance animals) and by unlicensed landowners and their family that hunted on their own land. Estimates were not adjusted for possible response or nonresponse bias.

RESULTS AND DISCUSSION

License sales and hunter participation

During 1997-2001, $\geq 348,273$ people purchased small game and waterfowl hunting licenses each year (Table 2). About 75% ($\pm 1\%$) of the licensees actually hunted each year (Table 3). A 5-year average of nearly 249,000 people hunted upland game species, while about 66,100 people pursued waterfowl during 1997-2001 (Table 3). An average of 97% of the upland game hunters were males, and 98% of the waterfowl hunters were males (Table 4). Hunters most often sought rabbits, grouse, and squirrels (Tables 5-9).

In 2001, 348,273 people purchased either a small game or waterfowl hunting license. Most of these people were men (97%), and the average age of the license buyers was 40 years (Figure 2). Nearly 11% (37,193) of the license buyers were younger than 17 years old. Waterfowl hunting licenses were purchased by 65,966 people in 2001. Most people purchasing a waterfowl hunting license were men (97%), and the average age of the licensees was 40 years. About 2% (995) of the waterfowl license buyers were younger than 17 years old.

Harvest and hunting trends

The number of people hunting small game (upland game and waterfowl combined) has declined by about 60% since the mid-1950s (Figure 3). This trend has been previously reported in Michigan and nationally (Enck et al. 2000, Frawley 2001). Hawn (1979) speculated that declining ring-necked pheasant populations was the primary reason for the declining small game hunter numbers in Michigan. The number of people hunting pheasants has declined by about 85% between the mid-1950s and recent years (Figure 4).

Declining participation has also been noted among hunters pursuing cottontail rabbits (-70%), snowshoe hare (-60%), squirrels (-55%), and ducks (-60%). Only people hunting ruffed grouse, woodcock, and geese have seen stable or increasing participation since the mid-1950s.

Changes in hunter participation and harvest were generally similar, except for squirrels, ducks, and geese (Figure 4). Despite fewer hunters pursuing these species, harvest has remained stable (squirrels) or has increased (ducks and geese) for these species.

Harvest of game species and hunter participation usually track changes in game populations. The number of hunters that pursued pheasants, rabbits, snowshoe hares, and squirrel was near record low levels during recent years (Figure 4). Population surveys have indicated that pheasant, quail, and woodcock populations were currently among their lowest recorded levels since the 1960s (Kelley 2001, Tuovila et al. 2001b). The abundance of rabbit, hare, and squirrels was not monitored annually; thus, it was not possible to determine whether harvest and population trends were similar. Michigan's grouse population follows a cyclic pattern that lasts about 10 years, and the low point of the cycle was recently reached in 1993 (Tuovila et al. 2001a). Hunter numbers and the number of grouse harvested has followed a similar cyclic pattern.

Populations of some duck species have increased during recent years, and the resident goose population was currently near record highs (Soulliere and Luukkonen 1999, Wilkins and Cooch 1999). Goose harvest in the early season surpassed harvest in the regular season harvest for the first time in 1997. Goose harvest in the late season has also increased sharply during recent years because the area open for hunting geese and the daily bag limit has increased in an attempt to harvest more resident geese (Soulliere and Luukkonen 1999). Harvest during the regular season has declined during recent years because this season has been shortened and shifted to miss the peak abundance of migrant interior Canada geese (*B. c. interior*) (i.e., geese breeding in northern Canada) in an attempt to protect declining populations of these geese (Soulliere and Luukkonen 2001).

Hunter harvest and participation during the experimental early goose hunting season

Beginning in 2000, an experimental early goose season was conducted during September 1-10 in Saginaw, Tuscola, and Huron counties of the Saginaw Bay region. This 3-county area had been closed to early goose hunting since 1987, and the current experimental season was scheduled to last three years. At least 2,100 hunters have hunted geese each year during the experimental season in the 3-county area (Table 10), and these hunters have harvested at least 5,500 geese each year.

HIP compliance

During 1997-2001, $\geq 51\%$ of the people hunting migratory birds (waterfowl and woodcock) registered with the HIP each year (Table 11). At least 63% of the waterfowl hunters registered with the HIP, but less than 40% of the woodcock hunters registered annually with the HIP. When waterfowl hunters purchased their license prior to 1999, many hunters failed to register with the HIP because they were not aware of the requirement or vendors did not ask hunters whether they intended to hunt migratory species. Consequently, $\geq 63\%$ of the waterfowl licensees were self-registered with the HIP prior to 1999. Beginning in 1999, all hunters that purchased a waterfowl hunting license but did not register with the HIP were subsequently registered with the HIP. Consequently, nearly 92% of waterfowl hunters were

registered with the HIP during the 1999 and 2000 seasons. In 2001, only 63% of waterfowl hunters were self-registered with the HIP because not all waterfowl license buyers were subsequently registered with the HIP (i.e., reverted to the procedures followed prior to 1999 for registering with the HIP).

Hunters that had registered with the HIP were responsible for 63-95% of the geese harvested, 65-96% of the ducks harvested, and 36-45% of the woodcock taken annually (Table 12). Similarly, registered hunters were responsible for $\geq 64\%$ of the days spent afield pursuing geese, $\geq 64\%$ of the duck hunting efforts, but $\leq 38\%$ of the woodcock hunting trips.

Hunter opinions

Grouse bag limits. – During the 1997-1998 hunting seasons, grouse hunters in the UP and the SLP could harvest up to 3 birds per day, while hunters in the NLP could take 5 birds per day. Following the 1997-1998 hunting season, grouse hunters were asked to indicate the maximum number of grouse that hunters should be allowed to take daily. Hunters were asked to choose from 1 to 5 birds per day. About $41 \pm 2\%$ of grouse hunters wanted to take 3 grouse per day, while $25 \pm 2\%$ of grouse hunters preferred a bag limit of 2 birds per day. Nearly $27 \pm 2\%$ of grouse hunters desired a bag limit greater than 3 birds per day. About $3 \pm 1\%$ of hunters opted for bag limit of 1 bird per day, and nearly $5 \pm 1\%$ of hunters did not indicate a preference.

Opening date of grouse hunting season. – The grouse hunting season started on September 15. Grouse hunters were asked whether they preferred to start the hunting season earlier, later, or keep it unchanged. Most hunters ($55 \pm 2\%$) wanted the season to begin September 15; $23 \pm 2\%$ wanted to start later; $7 \pm 1\%$ wanted to start earlier; and $16 \pm 2\%$ had no opinion about the starting date.

The earliest and latest dates that the woodcock hunting season could occur are set by the USFWS. Currently, the woodcock season can open no earlier than the Saturday closest to September 22. This opening date generally does not coincide with the opening date of the grouse hunting season (i.e., September 15). Grouse hunters were asked whether the opening of grouse and woodcock hunting seasons should coincide (i.e. open no earlier than the Saturday closest to September 22), both open on October 1, or continue to open the grouse season on September 15 (i.e., different opening dates for woodcock and grouse). Most hunters ($63 \pm 2\%$) wanted the season to begin September 15; $12 \pm 1\%$ wanted both seasons to start on the Saturday closest to September 22; $15 \pm 1\%$ wanted both seasons to begin on October 1; and $10 \pm 1\%$ had no opinion about the starting dates.

Season dates for the regular duck hunting season. -- Waterfowl hunters were asked to indicate when the regular duck hunting season should occur. Hunters were given the following options to choose from: (1) a single season throughout the state, (2) separate seasons for the SLP and the remainder of the state, (3) different seasons for the SLP, NLP, and the UP, (4) a regular season beginning on the same date throughout the state plus a special early 9-day season in the SLP, and (5) the same as the previous option except the early season would be only 2 days. About $27 \pm 2\%$ of hunters wanted a single season

throughout the state. In contrast, $48 \pm 2\%$ of the hunters preferred separate hunting seasons in the state; $34 \pm 2\%$ wanted 3 seasons, and $14 \pm 2\%$ preferred 2 seasons. Less than $20 \pm 2\%$ of the hunters selected either of the options that included a special early season in the SLP.

Season dates for the late duck hunting season. -- Waterfowl hunters were asked to indicate when the late duck hunting season should occur. Hunters were given the following options to choose from: (1) maintain 2 days of duck hunting in conjunction with the opening of the late goose hunting season; (2) eliminate the 2-day duck hunting season in January, and add these 2 days to the end of the regular duck season; (3) maintain the late hunting season in January, but make the season longer; or (4) not sure which option was preferred. About $29 \pm 2\%$ of hunters wanted to maintain the late season in January but wanted it lengthened. About $27 \pm 2\%$ of the waterfowl hunters preferred to eliminate the late season and add the 2 days to the regular season; $18 \pm 2\%$ of waterfowl hunters wanted to maintain the 2-day late season in conjunction with the opening of the late goose season. About $27 \pm 2\%$ of the hunters did not have an opinion.

Opening date of the duck season in southern Michigan. -- Waterfowl hunters also were asked to indicate when the duck hunting season should begin in the SLP. Hunters selected from among the following choices: (1) Saturday closest to October 1, (2) first Saturday in October, (3) second Saturday in October, (4) the same date each year, regardless of date, and (5) no opinion. Each choice was selected by about the same percentage of the hunters. About $20 \pm 2\%$ of the hunters wanted the season to start on the Saturday closest to October 1; $17 \pm 2\%$ of the hunters wanted to start hunting on the first Saturday in October. About $23 \pm 2\%$ of the hunters preferred to start the season on the second Saturday of October; $18 \pm 2\%$ of the hunters wanted to hunt beginning on same date each year, regardless of the date. About $22 \pm 2\%$ of the hunters had no opinion or failed to provide an answer.

Preferred strategies to reduce duck harvest. -- Waterfowl hunters were asked to indicate which restrictions should be used to reduce duck harvest, if necessary. Hunters were asked to rank six options; 1 assigned to the most preferred option and 6 assigned to least preferred option. Hunters ranked the option that allowed state biologists to decide which regulations were appropriate as the most preferred option (\bar{x} rank = 3.5 ± 0.1) followed by adjusting the season to avoid migration peaks (\bar{x} = 4.1 ± 0.1), eliminating multiple season openings (\bar{x} = 5.0 ± 0.1), reducing bag limits (\bar{x} = 5.2 ± 0.1), and implementing no restrictions beyond what is required by USFWS (\bar{x} = 5.4 ± 0.1). The lowest ranked option was reducing the season length (\bar{x} = 5.6 ± 0.1).

Use and opinion of duck hunters about motorized spinning-wing decoys. -- Most duck hunters ($67 \pm 2\%$) did not use motorized spinning-wing decoys while hunting in the 2001-2002 seasons. About $18 \pm 2\%$ of the duck hunters occasionally used a motorized spinning-wing decoy, and $13 \pm 1\%$ of the duck hunters usually hunted with these decoys.

Most duck hunters ($57 \pm 2\%$) approved of hunters using motorized spinning-wing decoys; $25 \pm 2\%$ of the duck hunters strongly approved; and $32 \pm 2\%$ approved of these decoys. However, $20 \pm 2\%$ of the duck hunters disapproved of hunters using these decoys ($10 \pm 1\%$

strongly disapproved and $11 \pm 1\%$ disapproved). About $23 \pm 2\%$ of the duck hunters had no opinion or did not provide an answer.

Duck hunters were presented four options representing the major views that hunters had about hunting with spinning-wing decoys and were asked to select the option that best described their view. The four options included: (1) the use of spinning-wing decoys should never be restricted, (2) spinning-wing decoys should be banned because they are unethical, (3) spinning-wing decoys should be regulated only if their use results in declining duck numbers and shorter hunting seasons, and (4) not sure. The most frequently selected choice was that spinning-wing decoys should be regulated only if they cause duck numbers to decline and hunting seasons are shortened; $38 \pm 2\%$ of the hunters favored this option. About $25 \pm 2\%$ of the hunters never wanted to restrict the use of spinning-wing decoys, but $16 \pm 2\%$ wanted to ban spinning-wing decoys for ethical reasons. About $21 \pm 2\%$ of the duck hunters had no opinion or did not provide an answer.

Preferred strategies to reduce harvest of migrant geese. -- Waterfowl hunters were asked their preferred choice for modifying the regular goose hunting season to reduce harvest of migrant interior geese. From among the options provided, waterfowl hunters most frequently selected ($46 \pm 3\%$) the option that established a longer regular goose season that began before the duck hunting season (e.g., 20 days starting in late September). About $34 \pm 3\%$ of the waterfowl hunters preferred to establish a shorter regular goose season that was completely within the duck hunting season (e.g., 10 days in late October). Nearly $19 \pm 2\%$ of the waterfowl hunters were uncertain which option was better.

Internet access among small game hunters. -- After the 2000-2001 hunting seasons, small game hunters were asked whether they had access to the Internet. About $56 \pm 1\%$ of the hunters had access to the Internet from home, and $23 \pm 1\%$ had access from work. About $8 \pm 1\%$ of the hunters did not have access but planned to obtain access within one year. About $22 \pm 1\%$ of the hunters did not have access to the Internet and did not plan to gain access within the next year.

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Table 1. Upland game and waterfowl hunting seasons in Michigan during 1997-2001.

Species, season, and area ^a	Year				
	1997	1998	1999	2000	2001
Pheasant					
Regular season					
UP	Oct. 10 - 20	Same	Same	Same	Same
LP	Oct. 2 - Nov. 14	Same	Same	Same	Same
Experimental season					
SLP	Dec. 1 - 15	Same	Same	Same	Same
Northern bobwhite					
SLP	Closed	Oct. 28 - Nov. 11	Same	Oct. 20 - Nov. 11	Same
Ruffed grouse					
UP	Sept. 15 - Nov. 14	Same	Same	Same	Same
LP	Sept. 15 - Nov. 14 and Dec. 1 - Jan. 1	Same	Same	Same	Same
Woodcock					
Statewide	Sept. 20 - Nov. 3	Sept. 19 - Nov. 2	Sept. 25 - Nov. 8	Sept. 23 - Nov. 6	Sept. 22 - Nov. 5
Cottontail rabbit					
Statewide	Sept. 15 - March 31	Same	Same	Same	Same
Snowshoe hare					
Statewide	Sept. 15 - March 31	Same	Same	Same	Same
Squirrels					
Statewide	Sept. 15 - Jan. 1	Same	Same	Same	Same
Crow					
UP	Aug. 1 - Sept. 30	Same	Same	Same	Same
LP	Aug. 1 - Sept. 30 and Feb. 1 - March 31	Same	Same	Same	Same
Ducks ^b					
UP and NLP	Oct. 4 - Dec. 2	Oct. 3 - Dec. 1	Oct. 2 - Nov. 30	Sept. 30 - Nov. 28	Sept. 29 - Nov. 27
SLP	Oct. 11 - Dec. 9	Oct. 10 - Dec. 8	Oct. 9 - Dec. 7	Oct. 7 - Dec. 3 and Jan. 6 - 7	Oct. 6 - Dec. 2 and Jan. 5 - 6

Table 1 (continued). Upland game and waterfowl hunting seasons in Michigan during 1997-2001.

Species, season, and area ^a	Year				
	1997	1998	1999	2000	2001
Canada geese ^{b,c}					
Early seasons					
UP	Sept. 1 – 10	Same	Same	Same	Same
LP	Sept. 1 – 15	Same	Same	Same	Same
Regular seasons					
UP and NLP	Oct. 4 – 19	Sept. 19 – Oct. 4	Sept. 19 – Oct. 3	Sept. 17 – Oct. 4	
SLP	Oct. 11 – 19 and Nov. 27 – Dec. 7	Sept. 19 – Oct. 4	Sept. 19 – Oct. 3	Sept. 17 – Oct. 4	
SJBPe					Sept. 17 – Oct. 7 and Dec. 15-23
MVPf					Sept. 17 – Oct. 3
Late season					
SLP	Jan. 3 – Feb 1	Jan. 9 – Feb 7	Jan. 8 – Feb 6	Jan. 6 – Feb 4	Jan. 5 – Feb 3

^aSee Figure 1 for boundaries of hunt areas.

^bDucks and geese could also be taken each year during a special 1-day Youth Season held in mid-September.

^cSpecial goose hunting seasons also occurred on Goose Management Units, but these seasons affected a relatively small area.

^eManagement area for the Southern James Bay Population (SJBPe) of Canada geese.

^fManagement area for the Mississippi Valley Population of Canada geese.

Table 2. Number of small game hunting licenses sold and people receiving and returning harvest questionnaires, 1997-2001.

Item	Year				
	1997	1998	1999	2000	2001
Number of licenses sold					
Small Game	374,916	362,678	368,777	358,727	352,059
Waterfowl	70,537	70,207	69,187	66,583	66,472
Combined	445,453	432,885	437,964	425,310	418,531
Number of people buying a hunting license ^a					
Small Game	368,513	358,979	364,451	354,906	347,429
Waterfowl	69,795	69,712	68,693	66,115	65,966
Combined	370,338	360,402	365,655	355,842	348,273
People that were mailed a questionnaire (No.)	14,476	10,212	10,000	16,277	16,365
Non-deliverable questionnaires (No.)	415	468	276	339	383
People that did not return questionnaire (No.)	5,027	3,309	3,010	5,942	4,990
Questionnaires returned (No.)	9,034	6,435	6,714	10,352	10,992
Questionnaires returned (%) ^b	64%	66%	69%	65%	69%

^aA person was counted only once, regardless of how many licenses they purchased.

^bResponse rate was adjusted to exclude non-deliverable questionnaires.

Table 3. Number of people that hunted upland game and waterfowl in Michigan, 1997-2001.

Hunters	1997		1998		1999		2000		2001	
	No.	95% CL								
Upland game	262,937	3,412	256,879	3,912	250,710	3,966	242,458	3,671	232,054	3,666
Waterfowl	72,838	1,737	69,175	2,141	63,911	2,081	60,767	1,643	63,966	1,757
Combined ^a	282,682	3,151	276,540	3,622	273,125	3,701	263,649	3,563	254,687	3,553

^aA person was counted only once, although they may have hunted both upland game and waterfowl.

Table 4. Sex and age of upland game and waterfowl hunters in Michigan, 1997-2001.^a

Hunters	1997			1998			1999			2000			2001			
	Estimate	95% CL		Estimate	95% CL		Estimate	95% CL		Estimate	95% CL		Estimate	95% CL		
Upland game																
Males (%)	97.6%	0.4%		97.5%	0.4%		97.0%	0.5%		97.0%	0.5%		96.8%	0.5%		1.0%
Females (%)	2.3%	0.4%		2.4%	0.4%		2.9%	0.5%		3.0%	0.5%		3.2%	0.5%		1.0%
Age (Years)	39.7	0.4		40.2	0.5		40.7	0.5		40.3	0.5		40.6	0.5		0.5
Waterfowl																
Males (%)	97.2%	0.7%		98.2%	0.7%		98.0%	0.8%		97.8%	0.6%		98.0%	0.6%		1.0%
Females (%)	2.7%	0.7%		1.8%	0.7%		2.0%	0.8%		2.2%	0.6%		2.0%	0.6%		1.0%
Age (Years)	37.9	0.6		38.8	0.4		38.5	0.8		38.5	0.6		38.3	0.6		0.6
Combined																
Males (%)	97.4%	0.4%		97.5%	0.4%		97.1%	0.5%		97.0%	0.5%		96.9%	0.5%		0.5%
Females (%)	2.5%	0.4%		2.5%	0.4%		2.9%	0.5%		3.0%	0.5%		3.1%	0.5%		0.5%
Age (Years)	39.8	0.4		40.2	0.4		40.8	0.8		40.4	0.4		40.6	0.4		0.4

^aAnalyses included only those people that hunted.

Table 5. Number of hunters, harvest, and hunter effort (days afield) during the 1997 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Pheasants (Regular season)						
UP	1,417	449	2,397	1,242	6,665	2,617
NLP	22,933	1,733	23,409	3,635	82,436	9,141
SLP	64,398	2,724	69,783	6,367	252,668	15,522
Statewide	84,116	3,101	95,589	7,681	341,769	18,452
Pheasants (Late season)						
UP	0	0	0	0	0	0
NLP	744	330	644	478	1,694	896
SLP	16,110	1,503	13,518	2,417	42,640	5,186
Statewide	16,733	1,551	14,162	2,489	44,334	5,354
Ruffed grouse						
UP	45,342	1,859	247,897	20,859	433,319	26,895
NLP	63,470	2,733	128,685	12,544	365,724	25,831
SLP	23,826	1,817	27,355	5,144	114,554	13,636
Statewide	121,547	3,324	403,937	25,519	913,597	39,905
Woodcock						
UP	14,799	1,428	46,804	9,610	121,583	16,605
NLP	34,055	2,143	89,385	13,558	204,902	20,088
SLP	12,725	1,354	22,972	5,519	60,089	9,805
Statewide	56,055	2,698	159,161	18,358	386,574	28,408
Cottontail rabbits						
UP	4,479	799	6,502	2,435	28,588	9,379
NLP	44,845	2,249	148,823	22,493	321,604	32,253
SLP	98,211	3,075	535,208	49,328	737,470	57,215
Statewide	138,497	3,568	690,533	55,959	1,087,662	67,214
Snowshoe hares						
UP	15,009	1,377	59,406	4,690	120,981	21,698
NLP	22,234	1,727	47,204	481	158,836	24,021
SLP	3,297	713	5,960	6,036	16,441	5,491
Statewide	38,928	2,260	112,570	15,942	296,258	34,555
Squirrels						
UP	5,093	850	23,583	6,036	37,372	11,497
NLP	46,995	2,368	249,865	27,056	309,863	29,860
SLP	71,400	2,804	381,570	30,451	472,880	36,308
Statewide	115,484	3,444	655,018	41,735	820,115	48,673

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

Table 5 (Continued). Number of hunters, harvest, and hunter effort (days afield) during the 1997 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Crows						
UP	863	351	4,725	1,713	7,881	5,274
NLP	7,057	988	32,185	3,393	49,753	15,038
SLP	12,275	1,316	47,501	4,944	75,217	15,442
Statewide	19,273	1,660	84,412	20,070	132,851	22,538
Ducks						
UP	7,333	923	50,844	10,655	47,304	7,609
NLP	23,680	1,481	202,028	29,111	155,193	16,226
SLP	36,896	1,667	293,293	35,998	255,799	20,977
Statewide	59,619	1,869	546,166	48,048	458,296	27,143
Geese (Early season)						
UP	2,975	589	6,900	2,654	11,274	2,898
NLP	7,093	880	14,736	4,215	26,630	5,030
SLP	25,829	1,558	87,366	11,299	104,761	8,927
Statewide	34,550	1,781	109,002	12,501	142,665	10,872
Geese (Regular season)						
UP	5,143	744	12,990	3,393	27,595	5,092
NLP	15,020	1,238	25,678	4,944	89,912	11,289
SLP	28,936	1,615	52,834	7,320	160,639	15,380
Statewide	45,990	1,890	91,502	681	278,146	19,525
Geese (Late season)						
UP	0	0	0	0	0	0
NLP	1,169	400	6,389	9,406	5,120	2,926
SLP	13,795	1,272	38,097	12,194	57,192	7,986
Statewide	14,805	1,328	44,487	12,194	62,311	8,680

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

Table 6. Number of hunters, harvest, and hunter effort (days afield) during the 1998 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Pheasants (Regular season)						
UP	1,326	526	2,768	1,733	6,755	3,398
NLP	22,352	2,027	31,109	5,315	85,733	11,573
SLP	59,678	3,112	72,579	7,803	235,142	18,620
Statewide	78,702	3,545	106,456	10,062	327,630	23,283
Pheasants (Late season)						
UP	0	0	0	0	0	0
NLP	1,141	482	681	473	2,264	1,127
SLP	12,398	1,565	9,588	2,304	32,264	5,284
Statewide	13,311	1,639	10,269	2,427	34,529	5,507
Northern bobwhite quail						
UP	0	0	0	0	0	0
NLP	173	292	474	584	639	1,167
SLP	3,175	1,265	3,604	1,995	11,023	6,549
Statewide	3,348	1,391	4,077	2,936	11,661	6,730
Ruffed grouse						
UP	52,837	2,287	310,984	27,607	473,655	33,276
NLP	69,998	3,263	187,548	19,154	428,166	32,077
SLP	21,053	2,018	29,084	6,373	104,755	15,324
Statewide	131,857	3,904	527,615	35,118	1,006,576	48,989
Woodcock						
UP	17,798	1,789	52,168	9,797	130,499	19,888
NLP	37,930	2,588	116,119	20,312	241,078	25,671
SLP	11,068	1,482	23,103	6,738	51,890	11,653
Statewide	61,367	3,241	191,391	25,017	423,466	35,248
Cottontail rabbits						
UP	5,528	1,047	12,092	4,925	44,465	14,768
NLP	37,504	2,458	121,948	20,525	271,422	39,637
SLP	83,745	3,425	474,246	42,859	626,598	50,142
Statewide	119,244	4,016	608,286	48,254	942,485	66,182
Snowshoe hares						
UP	15,613	1,639	67,635	1,906	115,818	23,707
NLP	21,489	1,985	56,698	153	154,264	28,214
SLP	2,875	775	3,727	25,428	14,684	8,799
Statewide	38,269	2,609	128,059	23,434	284,766	37,990

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

Table 6 (Continued). Number of hunters, harvest, and hunter effort (days afield) during the 1998 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Squirrels						
UP	5,584	1,043	45,196	25,428	58,836	22,856
NLP	46,441	2,767	238,235	25,575	280,910	30,980
SLP	65,217	3,178	378,985	39,171	412,044	36,509
Statewide	108,859	3,934	662,416	53,971	751,789	53,376
Crows						
UP	1,243	503	5,733	1,240	14,091	9,655
NLP	6,736	1,158	27,427	6,513	37,329	10,320
SLP	10,751	1,458	52,218	4,222	60,174	13,636
Statewide	17,707	1,877	85,377	21,588	111,594	20,505
Ducks						
UP	7,087	1,050	40,569	10,745	44,916	10,137
NLP	21,684	1,660	168,096	26,892	148,164	19,640
SLP	33,816	1,960	229,216	30,302	224,304	22,752
Statewide	55,308	2,225	437,881	42,323	417,384	31,220
Geese (Early season)						
UP	2,751	643	9,087	5,189	9,760	2,906
NLP	7,364	1,114	24,319	7,497	28,275	6,151
SLP	23,050	1,769	75,585	14,510	93,121	10,241
Statewide	32,247	2,082	108,991	17,119	131,156	12,227
Geese (Regular season)						
UP	4,824	808	18,422	6,513	28,280	6,680
NLP	12,716	1,364	18,884	4,222	67,991	11,554
SLP	20,634	1,728	35,308	6,931	98,392	12,753
Statewide	36,633	2,173	72,615	634	194,663	18,317
Geese (Late season)						
UP	0	0	0	0	0	0
NLP	672	374	858	1,019	2,277	1,993
SLP	9,484	1,265	22,804	9,672	36,596	7,745
Statewide	10,156	1,336	23,661	9,796	38,872	7,999

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

Table 7. Number of hunters, harvest, and hunter effort (days afield) during the 1999 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Pheasants ^b						
UP	1,575	558	4,072	2,558	6,635	3,049
NLP	19,451	1,881	43,883	16,237	77,421	13,299
SLP	51,891	2,916	85,981	14,092	222,862	21,123
Statewide	69,709	3,362	133,936	23,317	306,919	26,852
Northern bobwhite quail						
UP	0	0	0	0	0	0
NLP	558	331	425	487	1,184	893
SLP	2,720	793	2,806	1,457	9,470	3,661
Statewide	3,069	793	3,231	1,457	10,654	3,661
Ruffed grouse						
UP	54,704	2,253	374,090	30,373	500,207	34,958
NLP	72,428	3,291	219,978	22,820	429,050	32,361
SLP	23,327	2,088	40,247	8,648	128,840	18,795
Statewide	139,807	3,919	634,316	39,508	1,058,097	51,081
Woodcock						
UP	15,290	1,640	54,238	12,173	111,786	19,549
NLP	33,239	2,437	91,050	19,883	197,015	22,987
SLP	11,505	1,496	35,182	12,068	61,791	13,269
Statewide	55,497	3,088	180,470	26,690	370,592	33,591
Cottontail rabbits						
UP	4,360	909	5,955	2,149	23,738	7,807
NLP	35,522	2,406	135,172	33,234	278,232	54,330
SLP	76,114	3,277	425,583	41,309	549,488	48,371
Statewide	109,856	3,890	566,709	53,859	851,458	73,947
Snowshoe hares						
UP	13,683	1,551	88,739	1,616	103,750	28,790
NLP	16,263	1,730	41,015	1,126	130,779	28,832
SLP	1,571	566	2,370	10,969	9,751	5,765
Statewide	30,600	2,346	132,125	63,441	244,280	41,352
Squirrels						
UP	5,764	1,031	38,275	10,969	45,615	15,810
NLP	42,971	2,641	280,740	33,044	295,589	36,118
SLP	61,170	3,064	355,342	44,070	366,869	36,979
Statewide	103,059	3,837	674,357	56,777	708,074	55,144

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 7 (Continued). Number of hunters, harvest, and hunter effort (days afield) during the 1999 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Crows						
UP	1,125	466	3,143	239	6,461	5,301
NLP	7,016	1,160	37,102	4,697	51,071	19,885
SLP	12,156	1,533	82,743	6,125	90,872	28,389
Statewide	19,483	1,937	122,989	39,654	148,404	35,565
Ducks						
UP	5,908	980	35,220	11,091	31,597	8,335
NLP	20,768	1,632	172,187	50,092	130,593	16,908
SLP	27,360	1,778	195,883	29,066	181,691	18,908
Statewide	48,281	2,133	403,289	59,411	343,881	26,461
Geese (Early season)						
UP	3,083	730	7,901	3,010	8,992	2,656
NLP	7,523	1,060	24,152	12,342	31,107	7,009
SLP	21,403	1,695	58,475	12,080	90,509	10,062
Statewide	31,225	2,039	90,528	17,800	130,608	12,696
Geese (Regular season)						
UP	4,024	805	10,789	4,697	15,647	4,935
NLP	10,885	1,254	19,110	6,125	42,499	7,033
SLP	15,189	1,513	21,018	4,290	60,184	8,049
Statewide	29,066	1,997	50,916	247	118,330	11,923
Geese (Late season)						
UP	0	0	0	0	0	0
NLP	935	412	3,881	4,191	3,940	2,525
SLP	11,908	1,380	27,993	7,910	50,163	8,834
Statewide	12,741	1,440	31,874	8,942	54,103	9,242

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 8. Number of hunters, harvest, and hunter effort (days afield) during the 2000 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Pheasants^b						
UP	1,521	504	4,256	2,961	6,577	3,392
NLP	24,990	1,934	46,027	7,843	93,400	10,232
SLP	48,096	2,598	83,129	12,957	182,090	15,523
Statewide	70,937	3,113	133,411	15,551	282,067	19,420
Northern bobwhite quail						
UP	0	0	0	0	0	0
NLP	291	198	221	179	875	692
SLP	2,560	632	4,993	3,236	9,172	3,261
Statewide	2,847	681	5,214	3,241	10,047	3,333
Ruffed grouse						
UP	54,140	2,154	344,301	35,381	475,315	30,740
NLP	64,844	2,945	209,088	52,913	385,363	30,540
SLP	16,786	1,628	27,013	6,930	78,334	11,404
Statewide	125,858	3,537	580,402	64,246	939,011	45,297
Woodcock						
UP	14,913	1,514	40,755	6,886	106,677	15,974
NLP	31,214	2,173	82,638	11,601	187,535	20,129
SLP	10,108	1,259	21,803	10,594	42,757	8,319
Statewide	51,499	2,751	145,196	17,994	336,969	27,969
Cottontail rabbits						
UP	5,163	933	10,587	3,583	32,419	9,044
NLP	34,591	2,236	130,381	24,011	220,751	27,458
SLP	73,842	3,013	374,710	43,541	495,311	43,273
Statewide	107,714	3,629	515,678	50,284	748,481	52,902
Snowshoe hares						
UP	12,489	1,398	52,251	8,630	83,588	15,489
NLP	13,897	1,546	39,036	2,850	92,062	21,499
SLP	1,293	491	6,897	23,703	10,241	7,128
Statewide	26,929	2,105	98,184	22,076	185,891	27,524
Squirrels						
UP	5,533	970	48,803	23,703	42,973	13,613
NLP	43,859	2,543	295,368	34,176	268,069	26,898
SLP	58,891	2,820	333,416	31,327	347,482	29,372
Statewide	101,643	3,602	677,586	52,867	658,524	42,497

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 8 (Continued). Number of hunters, harvest, and hunter effort (days afield) during the 2000 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Crows						
UP	1,612	525	9,283	194	9,211	6,895
NLP	5,915	995	32,985	3,355	43,228	21,133
SLP	11,595	1,339	60,825	3,141	58,533	9,564
Statewide	18,086	1,708	103,093	20,702	110,972	24,732
Ducks (Regular season)						
UP	6,827	726	47,325	8,361	44,561	7,102
NLP	20,009	1,115	136,118	13,589	122,269	10,613
SLP	28,491	1,283	198,232	18,918	180,288	12,041
Statewide	49,452	1,606	381,676	25,271	347,118	17,660
Ducks (Late season)						
UP	0	0	0	0	0	0
NLP	562	245	1,140	1,317	877	427
SLP	7,324	776	17,057	3,124	11,056	1,267
Statewide	7,866	818	18,197	3,390	11,933	1,340
Geese (Early season)						
UP	2,671	477	9,262	3,464	9,350	2,073
NLP	7,242	671	23,552	4,276	29,181	3,577
SLP	17,785	1,123	55,770	7,407	69,454	5,920
Statewide	26,791	1,340	88,584	9,212	107,986	7,219
Geese (Regular season)						
UP	4,256	575	13,063	3,355	18,348	3,488
NLP	8,594	740	18,332	3,141	43,587	6,169
SLP	12,888	972	23,895	3,735	51,609	5,293
Statewide	24,840	1,292	55,290	385	113,544	8,812
Geese (Late season)						
UP	0	0	0	0	0	0
NLP	467	194	224	71	1,589	973
SLP	8,329	800	18,761	3,959	32,629	5,285
Statewide	8,788	828	18,985	4,024	34,218	5,418

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 9. Number of hunters, harvest, and hunter effort (days afield) during the 2001 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Pheasants ^b						
UP	2,006	609	4,781	3,049	8,407	3,284
NLP	23,279	1,859	36,400	6,097	88,541	10,909
SLP	48,704	2,603	80,502	12,832	180,933	14,683
Statewide	70,051	3,089	121,682	14,675	277,880	18,811
Northern bobwhite quail						
UP	0	0	0	0	0	0
NLP	1,000	418	1,124	854	3,901	2,211
SLP	2,672	658	3,263	1,530	11,811	3,987
Statewide	3,541	779	4,387	1,809	15,712	4,722
Ruffed grouse						
UP	46,455	1,976	219,541	21,170	404,393	30,482
NLP	61,441	2,861	136,760	14,620	339,643	24,576
SLP	17,252	1,670	24,555	5,556	84,600	12,390
Statewide	116,008	3,446	380,857	27,087	828,636	41,812
Woodcock						
UP	15,379	1,505	46,658	9,294	105,801	15,011
NLP	29,397	2,092	82,266	13,875	162,176	17,326
SLP	10,587	1,295	25,331	14,670	55,196	11,489
Statewide	50,618	2,695	154,255	22,827	323,173	26,604
Cottontail rabbits						
UP	4,878	933	3,954	1,719	27,305	8,570
NLP	36,036	2,252	122,253	17,380	229,330	26,153
SLP	71,978	3,006	385,028	37,321	478,608	38,707
Statewide	106,378	3,589	511,235	42,971	735,243	47,792
Snowshoe hares						
UP	14,202	1,507	61,760	21,751	99,217	17,131
NLP	16,040	1,645	46,871	1,913	110,851	21,430
SLP	1,658	568	13,717	14,446	21,218	22,132
Statewide	30,855	2,252	122,349	33,618	231,286	35,706
Squirrels						
UP	5,261	955	43,019	14,446	32,955	8,803
NLP	45,589	2,546	279,005	29,848	275,349	27,725
SLP	56,705	2,791	322,510	29,626	350,533	32,454
Statewide	100,597	3,559	644,534	47,551	658,837	44,534

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 9. Number of hunters, harvest, and hunter effort (days afield) during the 2001 Michigan upland game and waterfowl hunting seasons.

Species	Hunters ^a		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
Crows						
UP	1,922	574	8,824	262	9,189	3,883
NLP	7,880	1,123	31,725	2,585	38,371	8,824
SLP	12,638	1,407	75,599	2,805	72,658	15,997
Statewide	21,641	1,864	116,148	22,252	120,219	18,959
Ducks (Regular season)						
UP	6,293	676	39,105	8,207	37,721	5,804
NLP	19,615	1,089	154,453	18,350	125,364	9,264
SLP	31,734	1,434	226,820	24,292	211,935	14,163
Statewide	51,908	1,677	420,378	39,831	375,020	38,701
Ducks (Late season)						
UP	0	0	0	0	0	0
NLP	875	232	1,643	730	1,356	360
SLP	9,150	827	25,969	4,037	14,864	1,528
Statewide	10,003	863	27,611	4,148	16,220	1,580
Geese (Early season)						
UP	2,177	449	5,885	2,465	8,513	2,126
NLP	7,924	737	24,495	3,912	32,953	4,239
SLP	19,251	1,179	69,247	8,324	79,788	6,486
Statewide	28,352	1,405	99,627	9,518	121,254	8,093
Geese (Regular season)						
UP	3,869	604	8,053	2,585	16,520	3,399
NLP	9,629	780	18,055	2,805	45,666	5,257
SLP	16,673	1,146	33,278	4,832	62,621	5,706
Statewide	28,907	1,452	59,385	446	124,807	8,526
Geese (Late season)						
UP	0	0	0	0	0	0
NLP	1,041	245	1,624	575	3,403	948
SLP	12,283	955	33,359	7,432	48,923	5,908
Statewide	13,190	985	34,983	7,453	52,326	5,987

^aThe number of hunters does not add up to the statewide total because hunters can hunt in more than one region.

^bIncluded both regular and late seasons.

Table 10. Number of goose hunters, harvest, and hunter effort (days afield) during the experimental early goose season in Huron, Saginaw, and Tuscola counties.

Year and species	Hunters		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
2000						
Geese (Early season)	2,120	347	5,529	1,271	8,059	1,700
2001						
Geese (Early season)	2,382	355	5,931	1,175	8,355	1,239

Table 11. Number and proportion of migratory bird hunters that registered with the Harvest Information Program during 1997-2001.^a

Year and hunters	No.	95% CL	%	95% CL
1997				
Waterfowl	41,128	1,589	63%	2%
Woodcock	19,672	1,731	38%	3%
Combined	52,698	2,153	51%	2%
1998				
Waterfowl	48,535	2,151	70%	2%
Woodcock	20,580	1,967	34%	3%
Combined	58,376	2,504	51%	2%
1999				
Waterfowl	58,811	1,900	92%	2%
Woodcock	20,961	1,945	39%	3%
Combined	69,571	2,225	65%	2%
2000				
Waterfowl	56,352	1,390	93%	1%
Woodcock	19,741	1,491	40%	3%
Combined	65,561	1,788	66%	2%
2001				
Waterfowl	40,228	1,464	63%	2%
Woodcock	19,279	1,604	39%	3%
Combined	51,853	1,992	51%	2%

^aAnalyses limited to licensees that hunted.

Table 12. Number of hunters, animals harvested, and hunting effort (days afield) among people that registered with the Harvest Information Program, 1997-2001.^a

Year and species	Hunters		Harvest		Days afield	
	No.	95% CL	No.	95% CL	No.	95% CL
1997						
Woodcock	17,858	1,569	57,657	10,986	116,098	14,453
Ducks (Regular season)	41,537	1,800	407,596	41,600	338,836	25,149
Geese (Early season)	24,765	1,589	81,764	11,220	101,938	9,443
Geese (Regular season)	32,693	1,737	66,089	8,209	203,677	17,571
Geese (Late season)	10,618	1,157	37,087	11,918	44,800	7,306
1998						
Woodcock	21,219	1,995	72,779	15,534	144,084	21,364
Ducks (Regular season)	39,739	2,114	336,669	39,484	314,194	29,023
Geese (Early season)	23,771	1,879	79,709	15,291	98,077	10,948
Geese (Regular season)	25,931	1,937	51,510	8,498	143,301	16,342
Geese (Late season)	7,346	1,151	18,598	9,238	27,662	6,610
1999						
Woodcock	21,927	1,982	81,440	15,919	139,118	20,357
Ducks (Regular season)	44,915	1,999	385,347	58,990	325,882	25,777
Geese (Early season)	29,260	1,946	86,359	17,642	122,773	12,162
Geese (Regular season)	26,854	1,897	47,468	9,049	109,994	11,426
Geese (Late season)	11,779	1,384	30,965	8,923	50,432	8,757
2000						
Woodcock	20,042	1,500	61,667	8,258	129,395	14,338
Ducks (Regular season)	45,896	1,399	363,151	24,450	326,783	16,505
Ducks (Late season)	6,965	703	15,983	2,778	10,533	1,145
Geese (Early season)	24,801	1,194	84,169	8,839	102,060	6,856
Geese (Regular season)	23,136	1,168	52,334	5,694	106,344	8,238
Geese (Late season)	8,215	761	18,644	4,011	32,129	5,130
2001						
Woodcock	19,730	1,622	60,370	9,948	119,598	15,424
Ducks (Regular season)	32,733	1,366	277,504	35,856	248,932	37,276
Ducks (Late season)	6,721	679	18,765	3,067	10,603	1,143
Geese (Early season)	18,102	1,099	64,151	6,982	79,142	6,695
Geese (Regular season)	17,914	1,111	36,462	4,272	77,380	6,530
Geese (Late season)	8,779	790	22,500	4,405	36,500	5,217

^aAnalyses limited to people that registered with the HIP and hunted.

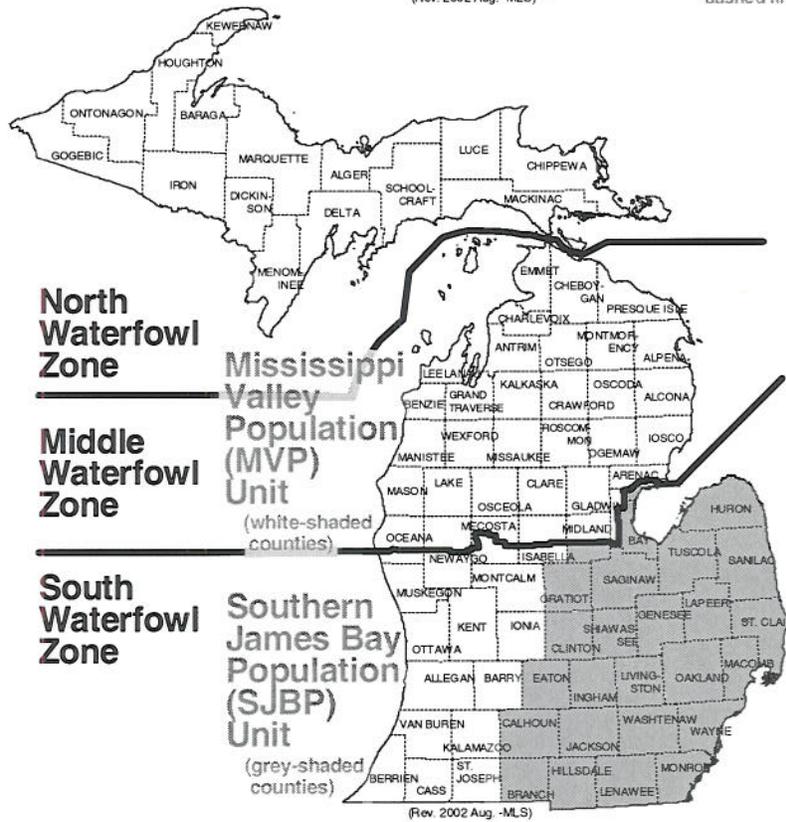


Figure 1. Areas (strata) used to summarize the survey data (top). Stratum boundaries did not entirely match either the small game (top) or the waterfowl (bottom) management hunting zones.

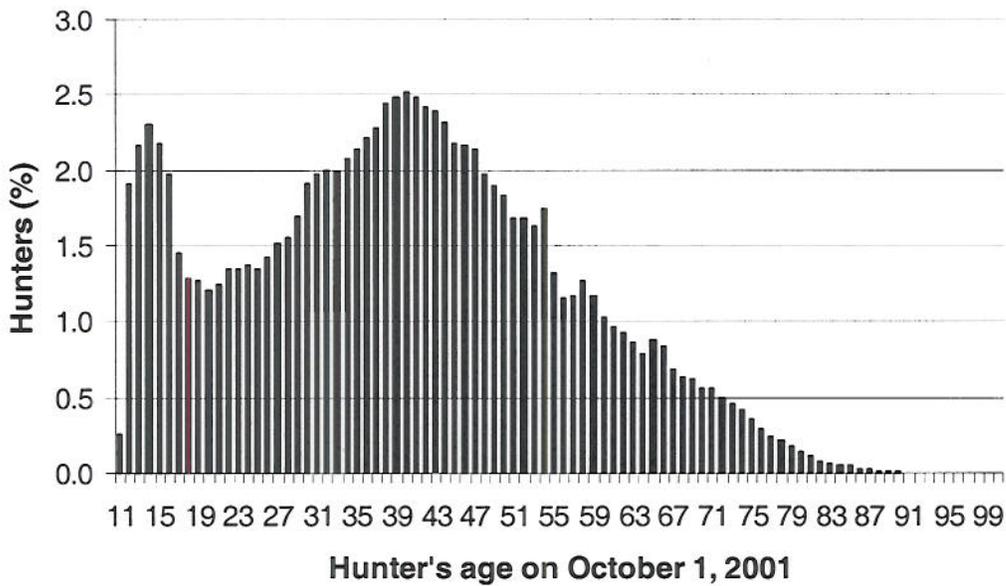


Figure 2. Age of people that purchased a small game hunting license in Michigan for the 2001 hunting seasons ($\bar{x} = 40$ years).

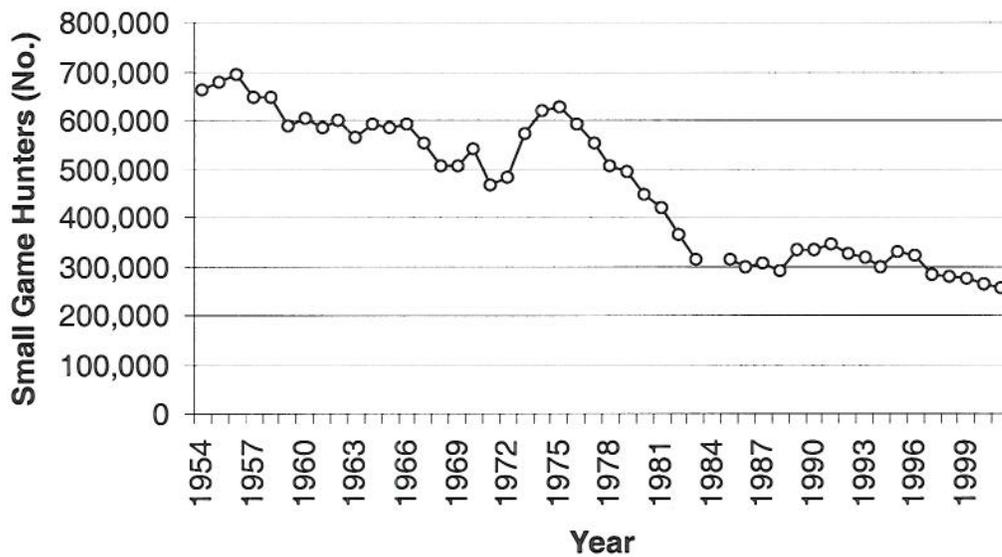


Figure 3. Number of upland game and waterfowl hunters in Michigan, 1954-2001 (estimate of the number of people that went afield). No estimate was available for 1984.

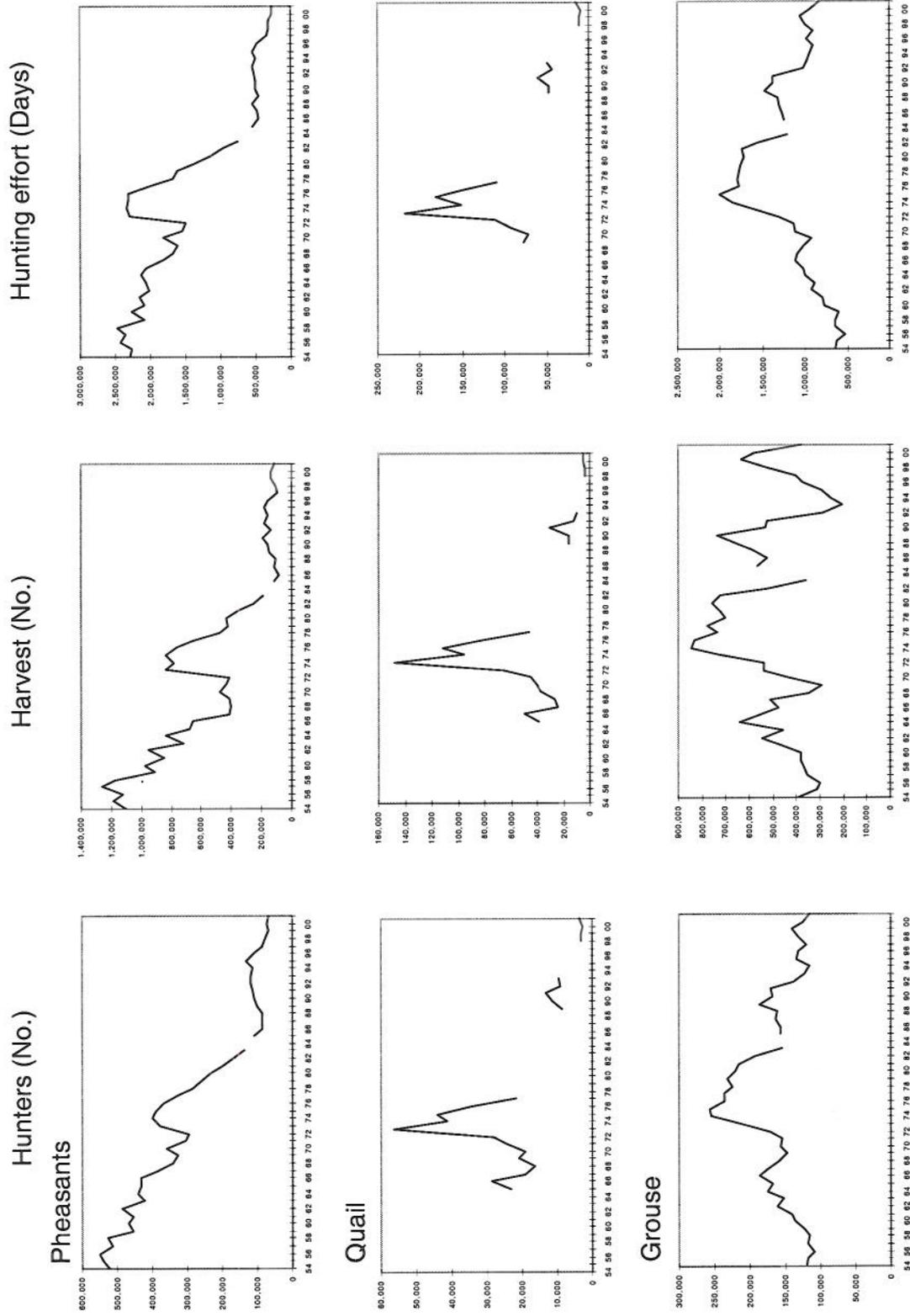


Figure 4. Number of hunters, harvest, and hunting effort in Michigan during the upland game and waterfowl hunting seasons, 1954-2001. No estimates were available or no seasons existed during years when no data was plotted.

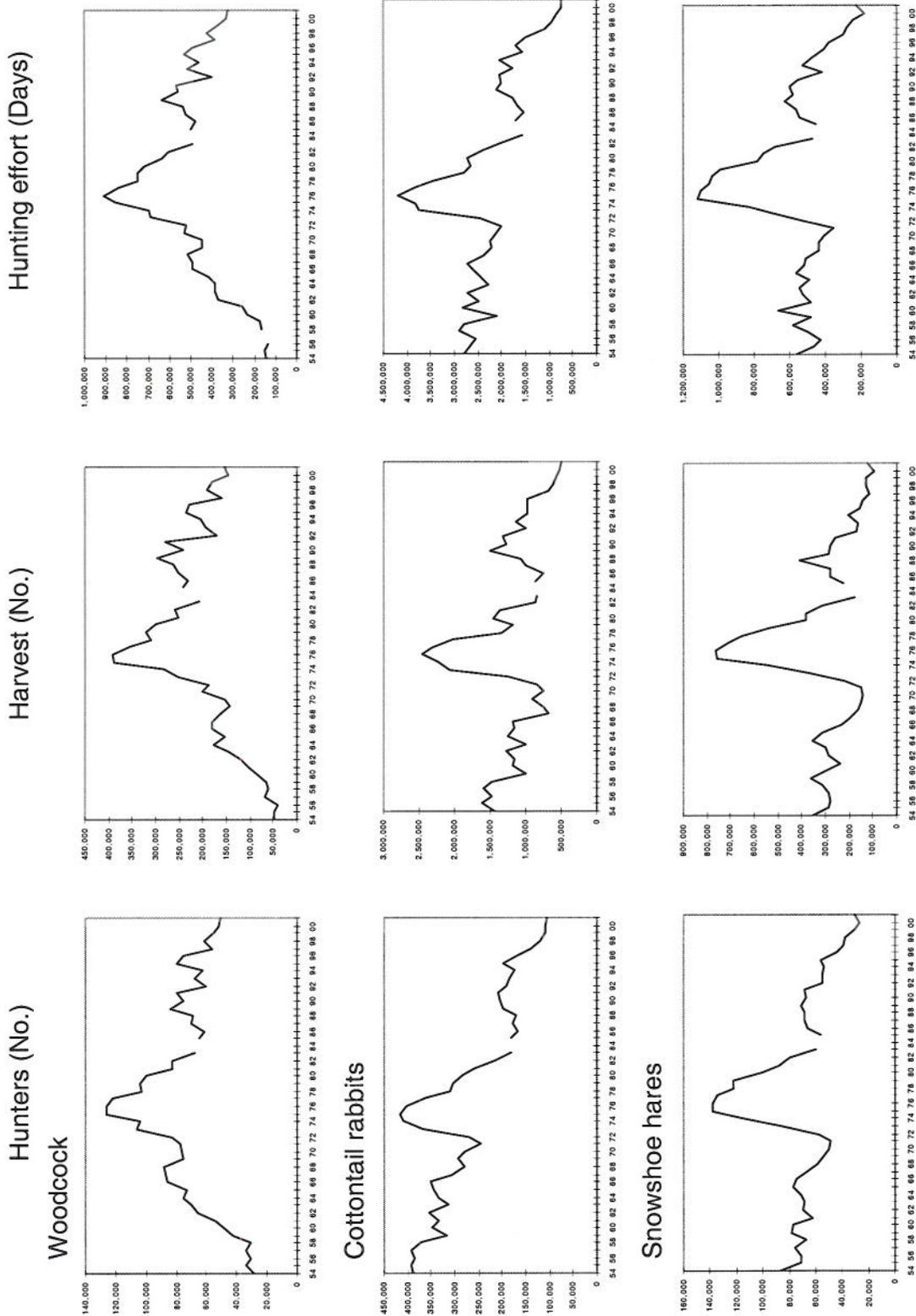


Figure 4. (Continued) Number of hunters, harvest, and hunting effort in Michigan during the upland game and waterfowl hunting seasons, 1954-2001. No estimates were available or no seasons existed during years when no data was plotted.

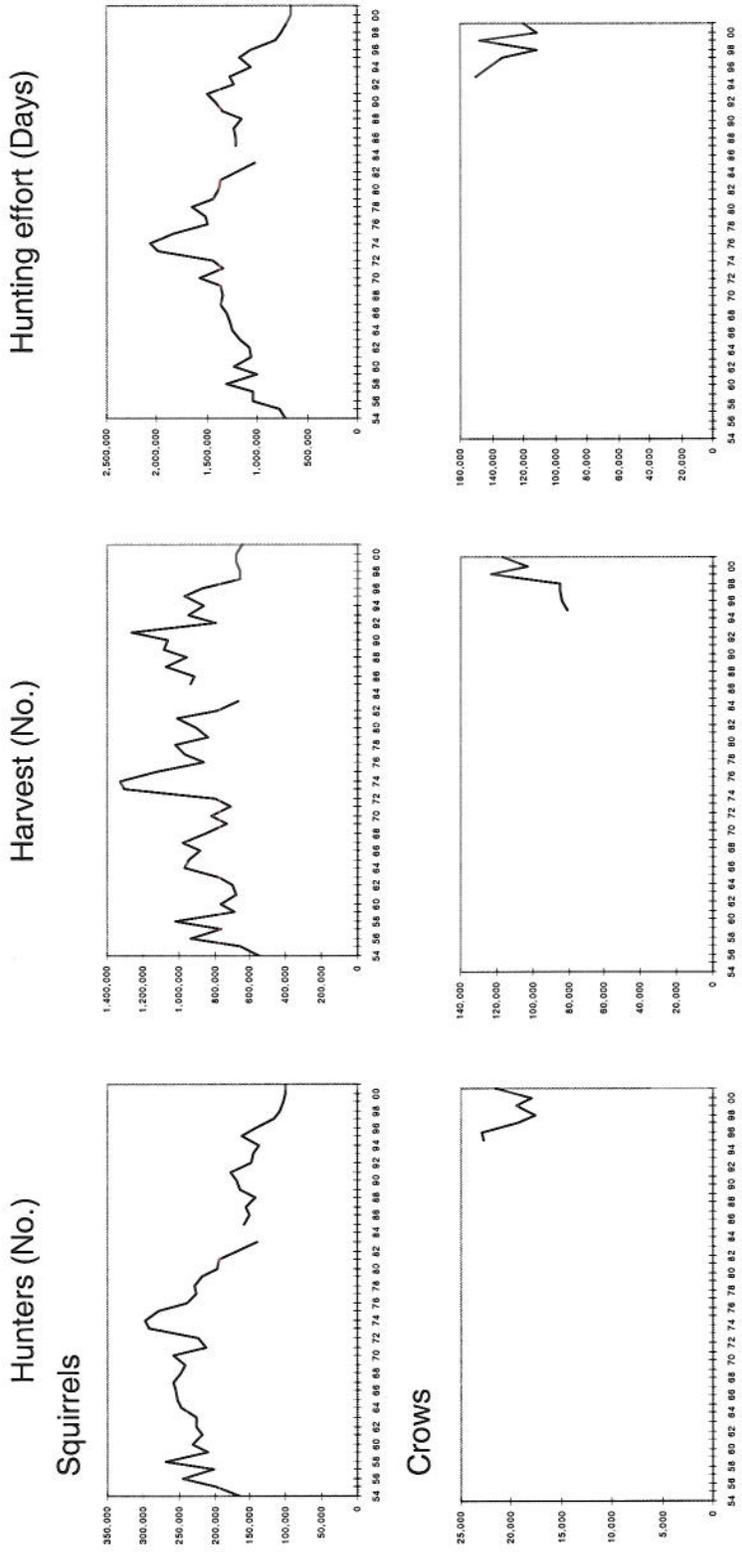


Figure 4. (Continued) Number of hunters, harvest, and hunting effort in Michigan during the upland game and waterfowl hunting seasons, 1954-2001. No estimates were available or no seasons existed during years when no data was plotted.

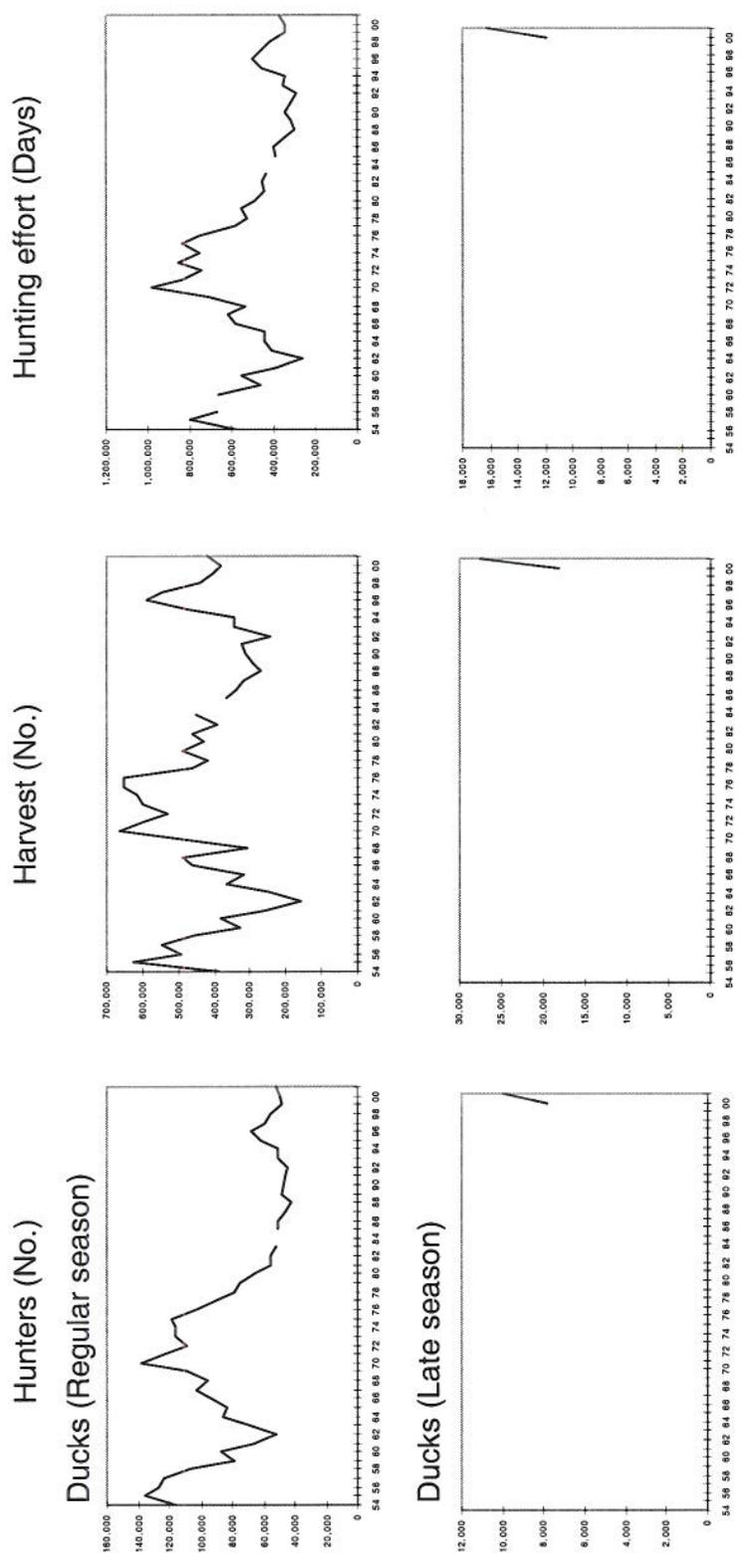


Figure 4. (Continued) Number of hunters, harvest, and hunting effort in Michigan during the upland game and waterfowl hunting seasons, 1954-2001. No estimates were available or no seasons existed during years when no data was plotted.

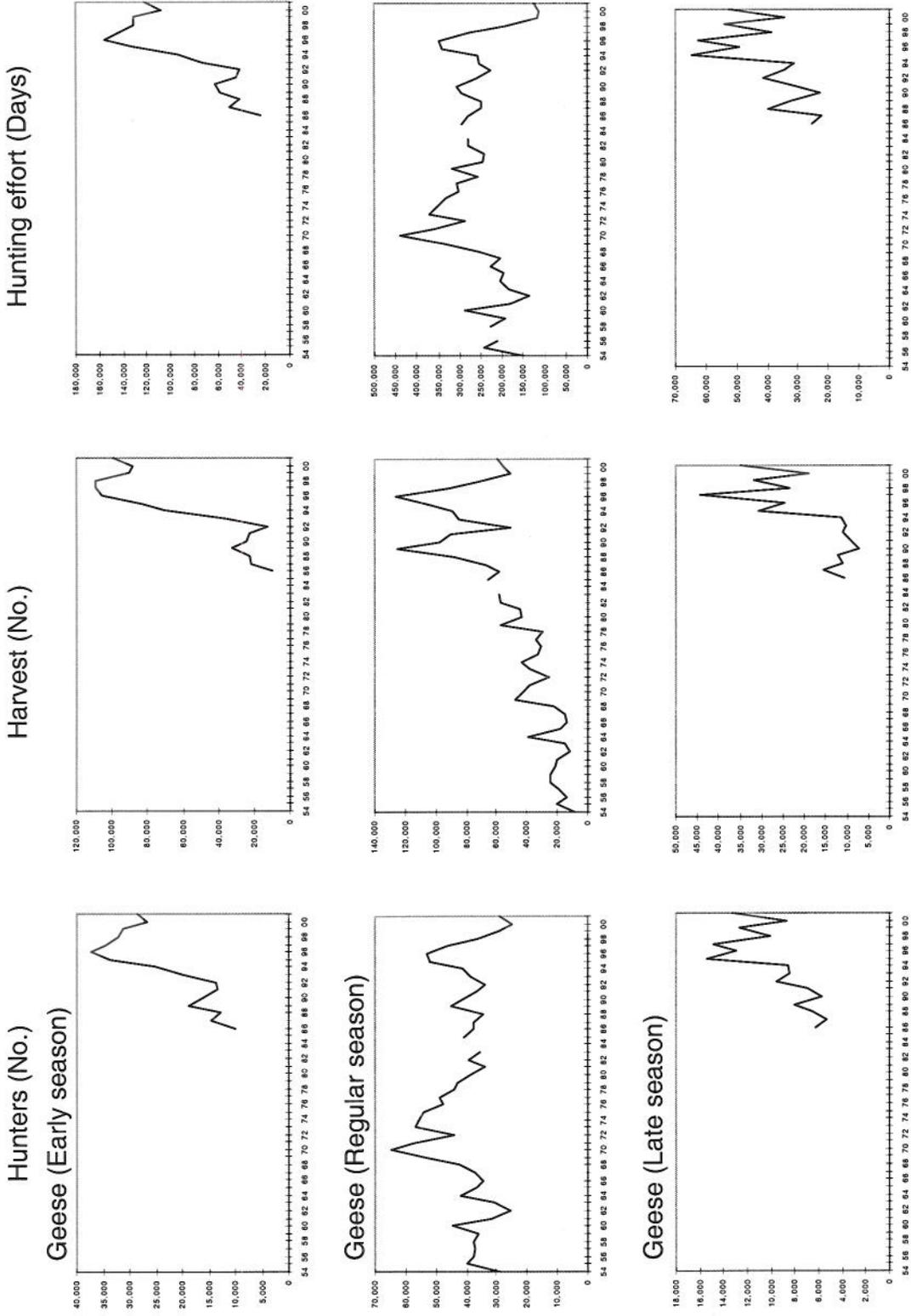


Figure 4. (Continued) Number of hunters, harvest, and hunting effort in Michigan during the upland game and waterfowl hunting seasons, 1954-2001. No estimates were available or no seasons existed during years when no data was plotted.