

35th Midwest Deer and Wild Turkey Study Group Meeting Proceedings



September 25-28, 2011
Roscommon, MI

Submitted by:
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Table of Contents

Background	1
Business Meeting	1
List of Participants	3
Previous Meeting Locations	5
Agenda	6
Agency Deer Reports	9
Illinois	10
Indiana	14
Iowa	30
Kansas	41
Michigan	56
Minnesota	62
Missouri	68
Nebraska	84
North Dakota	94
Ohio	116
Ontario	135
South Dakota	138
Wisconsin	154
Agency Turkey Reports	166
Illinois	167
Indiana	169
Iowa	174
Kansas	184
Missouri	196
Michigan	213
Nebraska	257
North Dakota	265
Ohio	268
Ontario	274
South Dakota	275

35th Midwest Deer and Wild Turkey Study Group Meeting Proceedings

Background

The Midwest Deer and Wild Turkey Study Group (MDWTSG) Meeting is an annual gathering of wildlife managers sanctioned by and affiliated with the Midwest Association of Fish and Wildlife Agencies. Primary objectives of the meeting include dissemination of deer and wild turkey management strategies, discussion of emerging or existing issues associated with deer and wild turkey management, and coordination of regional deer and wild turkey management or research efforts. The meeting location rotates among the Midwestern states that are active within the group.

The Michigan Department of Natural Resources (MDNR) hosted the 2011 Midwest Deer and Wild Turkey Study Group Meeting at the Ralph A. MacMullen Conference Center in Roscommon, MI on September 26 – 28. Several speakers addressed the attendees as a group, prior to the separate deer and turkey breakout sessions. Participants in the breakout sessions delivered state status reports on deer or wild turkey and discussion focused on management issues. The field trip on September 27 consisted of a visit to a local Kirtland's warbler management area with a discussion led by MDNR Specialist Chris Hoving and a hike at Hartwick Pines State Park in Grayling, MI. The business meeting followed the field trip.

The MDWTSG appreciates the financial support provided by the National Wild Turkey Federation to partially fund this meeting.

Business Meeting

The Business Meeting was conducted as a joint session of the Deer and Wild Turkey groups on September 27, 2011 at 4 pm. The first item of discussion centered on future annual meetings of the Study Group. As had been established at the 2010 Study Group Meeting at Devil's Lake, ND, Andy Lindbloom (South Dakota Game, Fish, and Parks) confirmed that the 2012 meeting will be held in South Dakota. No specific dates were proposed for the meeting. Tom Micetich (Illinois Department of Natural Resources) volunteered to organize the 2013 annual meeting in Illinois.

Tom Litchfield (Iowa Department of Natural Resources) then requested assistance with a research project at Iowa State University. The degree of relatedness of deer through space and how this may influence the spread of disease are of interest in this project. Tom handed out materials for the collection of genetic material from harvested deer and requested that each state collect 200-300 samples over a fairly uniform spatial distribution, with an emphasis on deer harvested from states

bordering Iowa. Additionally, collection should either be distributed evenly between sexes or be slightly dominated by females. The finest scale harvest location data that are available, sex, and date of harvest should be recorded for each sample.

The Wild Turkey group proposed that a regional framework for data sharing and management may be of assistance to biologists. By consolidating the data from Midwestern states into one database, management decisions can be informed by both the larger regional context of data and the needs of the individual state. To enable the management of a regional database to store these data and process analyses, individuals from the Wild Turkey group will investigate the possibility of procuring monies from their individual state or province wildlife agency budget.

Finally, there was a lengthy discussion surrounding the need for additional materials, both paper and web-based, regarding wildlife feeding and baiting and the negative consequences associated with those activities. Of most concern is communicating the disease transmission risks inherent in wildlife baiting and feeding. Brent Rudolph (Michigan Department of Natural Resources), Lloyd Fox (Kansas Department of Wildlife and Parks), Tom Micetich, and Todd Gosselink (Iowa Department of Natural Resources) volunteered to review and evaluate the Wildlife Management Institute wildlife baiting and feeding risk communication devices. Additional materials may be generated to produce a consistent message platform across all Midwest Association of Fish and Wildlife Agencies states.

List of participants.

Last Name	First	Agency	Address	City	State	Zip	Phone (Business)	Email
Adams	Kip	Quality Deer Management Association	9652 Route 249	Knoxville	PA	16928	(814) 326-4023	kadams@qdma.com
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List of participants (continued).

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Previous Meeting Locations

Year	State	Location	Date
1977	Missouri	Fountain Grove Wildlife Area	January 17-19
1978	Wisconsin	Wyalusing State Park	January 16-17
1979	Iowa	Rathburn Fish Hatchery	January 15-18
1980	Minnesota	Whitewater State Park	January 21-24
1981	Indiana	Harrison-Crawford State Park	January 19-22
1982	Ohio	Lake Hope State Park	January 18-21
1983	Nebraska	Louisville 4-H Camp	January 17-21
1984	Kansas	Camp Aldrich	January 16-19
1985	South Dakota	Black Hills	May 7-10
1986	North Dakota	Camp-of-the-Cross	January 20-23
1987	Michigan	Kellogg Biological Station	January 27-29
1988	Illinois	Touch of Nature	February 1-4
1989	Missouri	YMCA Camp of the Ozarks	January 23-26
1990	Wisconsin	Bethel Horizons Prairie Center	January 15-18
1991	Iowa	Conservation Education Center	January 14-17
1992	Minnesota	Whitewater State Park	January 13-16
1993	Indiana	Harrison-Crawford State Park	January 11-14
1994	Ohio	Canter's Cave 4-H Park	January 30 - February 2
1995	Nebraska	Mahoney State Park	January 15-18
1996	Kansas	Camp Pecusa	January 14-16
1997	South Dakota	Camp NeSoDak	August 24-27
1998	North Dakota	Camp Grafton	August 9-12
1999	Ontario	Blue Springs Scout Reserve	August 15-18
2000	Michigan	Thunder Bay Resort	August 20-23
2001	Illinois	Dixon Springs Ag. Station	August 19-22
2002	Missouri	Conception Abbey	August 18-21
2003	Wisconsin	Bethel Horizons Prairie Center	August 24-27
2004	Iowa	Conservation Education Center	August 22-25
2005	Minnesota	Eagle Bluff Envir. Learning Center	August 21-24
2006	Indiana	Camp Ransburg, BSA	August 20-23
2007	Ohio	Canter's Cave 4-H Park	August 19-22
2008	Nebraska	Fort Robinson State Park	September 14-17
2009	Kansas	Rock Springs 4-H Camp	September 14-17
2010	North Dakota	Camp Grafton	August 22-25
2011	Michigan	Ralph A. MacMullen Center	September 25-28

**35th Midwest Deer and Wild Turkey Study Group
September 25-28, 2011
Ralph A. MacMullan Conference Center Roscommon, MI
Meeting Agenda**

Sunday, 9/25 Arrival Administration Building

4:00-7:00 PM: Check-in

5:00 PM: Food and social gathering

Monday, 9/26 Joint Meeting The Straits Building

8:15 AM: Welcome and Program Overview

 Welcome to Michigan – Rodney Stokes, Director, Michigan
Department of Natural Resources (MDNR)

 Michigan Whitetails and Wild Turkeys: Hunting, Stakeholders, and
Partners – Dr. Russ Mason, Wildlife Division Chief, MDNR

 Welcome from Michigan Chapter, National Wild Turkey Federation
(Michigan NWTF) – Tony Snyder, President, Michigan NWTF

9:00 AM: Transformative Change for Wildlife Management in Michigan: Wildlife
Division's Strategic Plan – Dr. Patrick Lederle, Planning and
Adaptation Section Supervisor, MDNR

9:30 AM: Planning from Strategic to Operational Levels: Michigan's Deer Plan
and Advisory Teams – Brent Rudolph, Deer and Elk Program Leader,
MDNR

9:50 AM: Regional Research Initiatives to Address Emerging Challenges – Dr.
William Porter, Boone and Crockett Chair of Wildlife Conservation,
Michigan State University (MSU)

10:10 AM: Practical Application of Risk Communication Theory – Bret Muter,
Graduate Research Assistant, MSU

10:40 AM: Using Animal Movement Behavior to Assess the Risk of Disease
Spread – Dr. Amy Dechen Quinn and Dr. David Williams, Post-Doctoral
Research Associates, MSU

Noon: Lunch Administration Building

Deer Breakout Session: The Straits Building

- 1:00 PM (DEER): Investing in Wisconsin's Whitetails – Dr. Robert Rolley, Wildlife Population Ecologist, Wisconsin DNR
- 1:30 PM (DEER): Assessing Effects of Social Capital Among Michigan Deer Management Cooperatives – Anna Mitterling, Graduate Research Assistant, MSU
- 2:00 PM (DEER): An Overview of 2000 and 2009 Regional Deer Harvest Density – Mike Wegan, Wildlife Research Technician, MDNR
- 2:30 PM (DEER): Individual State Status Reports

Turkey Breakout Session: Administration Building

- 1:00 PM (TURKEY): Regional Comparison of Youth and Other Turkey Hunting Regulations – Dr. Todd Gosselink, Forest Wildlife Research Biologist, Iowa DNR
- 1:30 PM (TURKEY): Effects of Landscape and Spring Weather on NY Fall Wild Turkey Harvest – Andrea Bowling, Graduate Research Assistant, MSU
- 2:00 PM (TURKEY): Coronavirus Surveillance in Indiana Wild Turkeys – Steve Backs, Wildlife Research Biologist, Indiana Division of Fish and Wildlife
- 2:30 PM (TURKEY): Individual State Status Reports

5:30 PM: **Dinner**

Tuesday, 9/27 Complete Status Reports, Field Trip, and Business Meeting

8:00 AM: **Deer: Straits Building Turkey: Administration Building**

11:00 AM: **Field Trip Depart from Administration Building**

Lunch in conjunction with the field trip. Sites will be visited that have been managed to improve deer and turkey habitat while meeting other unique program objectives. Throughout the trip, group discussion will continue regarding regional trends in deer and turkey populations, hunter numbers, and potential coordination of research and monitoring.

4:00 PM: **Business Meeting The Straits Building**

Completion of the annual group report will be discussed, as will direction that was provided by the Midwest Association of Fish and Wildlife Agencies for the group to work with the Health Committee to

35th MDWTSG Proceedings

produce educational brochures regarding baiting and feeding that could be used by all states in the region.

6:00PM:

Dinner

Wednesday, 9/28 Breakfast & Depart

Administration Building

Agency

Deer

Reports

Illinois Deer Report 2011 Midwest Deer Study Group

Automated harvest reporting system for deer and wild turkey serves us well. The few duplicate records found in the deer harvest database are mostly muzzleloader hunters who kill deer during the 2nd Firearm Deer weekend in manned deer check counties. ML hunters may use electronic harvest reporting, or bring their animal to a manned deer check station for CWD sampling during that weekend. Some do both, hence the duplication.

A new deer harvest report format was developed. It contains detailed current year information and summaries of the prior four years. With the background tables, it is updated rather efficiently. (Copy provided) Final reports for hunting years 2005-06 through 2010-11 can be found at:

<http://www.dnr.illinois.gov/hunting/deer/Pages/AnnualDeerHarvestReports.aspx>

Chronic Wasting Disease (CWD): We continued to operate manned firearm deer check stations to facilitate CWD surveillance testing in select northern Illinois counties where CWD is a major concern. Eight check stations served nine counties. Contracting with cooperating meat lockers and others provided samples from downstate. We sampled 7583 animals, statewide, and had another increase in CWD positive animals with 42 during our 2010-11 campaign (up from 37 in 2009-10); bringing our total to 336 since 2002. Hunters have harvested 160; sharpshooters removed 151; while 22 suspects and 3 road-kills have also tested positive. We had three new counties reporting positive animals – Kane, Grundy, and Jo Daviess; as well as new areas within existing counties. All new areas were well within “walking distance” of prior positive sections. More information on CWD in Illinois can be found at: <http://dnr.state.il.us/cwd/>

Nuisance Deer Removal Permits (DRP): Requests for permits, permits issued, and kill continue to decline from the drought year peak of 2007; and “success” has dropped since 2006. In 2010, we had 263 permits issued which authorized 2,045 deer from 54 counties. A total of 1,113 were taken (54.4%).

Deer Population Control Permits (DPCP): Thirty-nine permits (highest number to-date) were issued (3 not used/implemented) to 16 entities in 7 counties. There were eight new sites permitted, but only six of those were active. Of the record 2,337 deer authorized, 1,653 were collected (70.7%).

Changes implemented in 2010-11: Resident firearm deer permit fees increased; last increase was 1979. The combination archery permit, however, remained unchanged. Either-sex permits went to \$25 and antlerless only permits to \$17.50 from the former \$15 each. Firearm deer permit sales decreased by 7800, and muzzleloader permits dropped by 3530 compared to 2009, perhaps due to the increased fees. Interestingly, archery permit sales (unaffected by the fee increase) also declined by 2200.

Changes proposed for 2011-12:

1) Forest Wildlife staff recommended that all CWD-positive counties be included in the CWD deer season, bringing the total to 10. There are no manned deer check stations during this season due to the high cost of collecting samples. Hunters are encouraged to seek out cooperating CWD sampling stations (primarily meat processors) and/or voluntary head drop-off points in CWD counties.

The five new counties had previously been included in the concurrent late-winter deer season. The main difference is that the 2-antlered deer limit is waived for CWD season. All CWD season permits are available over-the-counter as “antlerless” so any antlered animals must be taken with left-over “either-sex” permits issued for an open county.

2) We added Lee County to the late-winter deer season – primarily due to its proximity to CWD-positive animals on three sides.

3) Due to the new positive animal detected there, we added manned firearm deer check station to Jo Daviess County, bringing our manned check counties to 10. We will operate nine stations in northern Illinois, with Kane County hunters taking their deer to De Kalb (as in past years).

4) Legislation of last year required IDNR to issue single either-sex archery permits. It will be issued from Springfield “the old fashioned way” via paper application, with a limit of one, and a 1 September deadline. We had discontinued that permit in favor of a single antlerless-only permit (for both residents and non-residents) in 2006, as part of our effort to increase female deer harvest.

Unlimited resident combination permits (1 ES; 1 AO) and resident/non-resident antlerless only archery permits will remain available OTC.

ILLINOIS – Annual Deer Harvest, 1995 - 2010 (Includes Percent Female & Percent Antlerless)

Year	Youth Permits	Youth Harvest	Archery Harvest	Archery Season Percent Female/ Percent Antlerless	Firearm Either-Sex Permits	Firearm Harvest	Muzzleloader Either-Sex Permits	Muzzleloader Harvest	Late Winter Harvest	Gun Seasons Percent Female/ Percent Antlerless	All Seasons Percent Female/ Percent Antlerless	Total Harvest
1995	N/A	34,491		44; N/A	190,806	105,067	5,428	846	1,829	43.9; N/A	43.9; N/A	142,233
1996	N/A	35,239		44; N/A	193,319	94,853	6,438	970	1,675	45.8; N/A	45.3; N/A	132,737
1997	N/A	36,763		42; N/A	189,092	93,621	6,192	1,114	1,776	44.8; N/A	44.0; N/A	133,274
1998	N/A	36,328		44; N/A	185,412	95,608	6,043	1,227	2,173	43.7; N/A	43.8; N/A	135,336
1999	N/A	41,310		43; N/A	191,047	92,196	6,190	1,309	1,719	41.2; N/A	41.7; N/A	136,534
2000	N/A	42,900		44; N/A	191,760	103,221	6,550	1,361	2,178	41.4; N/A	42.2; N/A	149,660
2001	1,039	298	47,868	44; N/A	194,312	101,304	6,210	1,507	2,099	40.3; N/A	41.5; N/A	153,066
2002	1,512	308	51,660	45; N/A	194,712	104,478	6,189	1,292	2,120	42.7; N/A	43.5; N/A	159,858
2003	2,015	363	57,802	43; N/A	197,178	105,873	14,448	3,037	1,667	41.3; N/A	41.9; N/A	168,762
2004	2,358	612	63,639	47; N/A	199,905	116,675	15,708	3,535	5,995	43.3; N/A	44.6; N/A	190,456
2005	3,109	1,065	66,093	47.4; 59.7	208,148	123,792	19,998	4,879	5,380	45.0; 59.8	45.7; 59.7	201,209
2006	3,654	1,100	64,770	50.6; 62.2	209,675	114,722	20,881	5,973	9,676	43.9; 57.6	46.1; 59.1	196,241
2007	5,205	898	64,155	49.2; 60.1	212,127	117,755	24,172	4,387	12,415	45.2; 58.8	46.4; 59.2	199,610
2008	5,960	1,045	64,920	50.4; 60.6	211,393	106,018	26,093	4,366	12,552	49.4; 62.7	49.7; 62.0	188,901
2009	8,085	2,409	64,819	50.5; 60.6	211,951	99,755	26,390	4,745	17,906	50.4; 64.6	50.5; 63.2	189,634
2010	8,996	1,544	63,570	50.4; 60.3	211,706	98,944	26,374	3,328	14,884	49.2; 63.0	49.6; 62.1	182,270

2010 Firearm and Muzzle-loader Seasons open in 99 of 102 Illinois Counties

2010 Archery Deer Season was open in all 102 Illinois Counties

2010 Youth Firearm Deer Season was open in 99 Illinois Counties for any deer.

Late-Winter was open in 70 Illinois Counties; Unfilled firearm permits were allowed again this year.

5 additional counties were open to CWD Season which was concurrent with late-winter season and harvest included there.

The following documents are provided as additional attachments to this report:

2010-11 Illinois Deer Harvest Summary.pdf

2010-11 Illinois Chronic Wasting Disease Report.pdf

2010 Illinois Deer Removal Permit Report.pdf

2010-11 Illinois Deer Population Control Permit Summary.pdf



2010 INDIANA DEER SEASON
SUMMARY
REPORT TO THE MIDWEST
DEER AND TURKEY STUDY
GROUP
ROSCOMMON, MI 2011



“A downed animal is most certainly the object of a hunting trip, but it becomes an anticlimax when compared to the many other pleasures of the hunt.” ~Fred Bear

2010 Indiana Deer Harvest Summary



Overview

The 2010 Indiana deer hunting season was comprised of four seasons: Early Archery (Oct. 1 to Nov. 28), Firearms (Nov. 13 to Nov. 28), Muzzleloader (Dec. 4-19), and Late Archery (Dec. 4 to Jan. 2). Additionally, there was a youth-only season Sept. 25-26 that was open to youth age 17 or younger who was accompanied by an adult at least 18 years old. The youth could take one either sex deer during this special season.

The statewide archery bag limit was two deer. Hunters could take one deer per license for a total of either two antlerless deer or one antlered and one antlerless deer. A hunter could take only one antlered deer during all statewide seasons combined using archery, firearm, or muzzleloader licenses. This was the 14th year the crossbow was legal for hunting by non-disabled hunters under an archery license. The crossbow was eligible for use only during the late archery season and could be used for deer of either sex.

Archers could harvest deer in designated urban zones that did not count towards any other statewide bag limit. Each extra urban zone deer required a separate extra archery license. The archery season in the urban deer zone opened two weeks prior to the opening of the early archery season (Sept. 15 to Nov. 28), and continued again into January (Dec. 4 to Jan. 2). Archers were allowed to harvest up to either four antlerless deer or three antlerless and one antlered deer during this period. Any deer harvested during this period were in addition to all other bag limits.



The bag limit during firearms season was one antlered deer, and the bag limit for the muzzleloader season was one either sex deer (maximum of one antlered deer harvested per hunter). A single firearms license was required to hunt with any or all shotgun, muzzleloader, rifle, or handgun during the firearms season, and a muzzleloader license (separate from the firearms license) was required to hunt during the muzzleloader season.

The resident deer license fee was \$24 and the nonresident fee was \$150. When an agricultural advantage could be gained, resident landowners who hunted on land they own were exempt from purchasing deer licenses, as were lessees.

Special public hunts were held at Muscatatuck and Big Oaks National Wildlife Refuges, Naval Surface Activity Crane, Newport Chemical Depot, and Camp Atterbury Joint Maneuver Training Center.

Bonus Antlerless Permits

An unlimited number of bonus antlerless permits were available at every deer license vendor statewide, and each permit could be used in any county. County bag limits ranged from A to 8 (Figure 1). Permits were available to both resident and non-resident hunters.

Each permit was valid for one antlerless deer, and hunters were allowed to take as many bonus antlerless deer as desired, as long as the county antlerless bag limits were observed.

Bonus antlerless permits cost \$24 and \$150 for the first permit for residents and nonresidents, respectively. The second and each additional permit was \$15 for residents and \$24 for nonresidents. Bonus antlerless permits could be used during all deer hunting seasons except for “A”-designated counties, where the license could only be used during the last four days of the firearms season (Nov. 25 to Nov. 28) plus the late archery and muzzleloader seasons.



Deer Harvested by Season

A total of 134,004 deer were legally harvested in Indiana during the 2010 season (Figure 2). This harvest was 1% higher than the 132,752 deer harvested during the 2009 season. The antlered deer harvest of 53,007 was nearly identical to the 52,981 harvested last year. The antlerless harvest of 80,997 was 1.5% more than the 79,771 harvested in 2009. In 2010, the harvest for total deer and antlerless deer ranks as the highest reported kill for each category in history. The antlered harvest ranks second all-time.

Approximately 2.86 million deer have been legally harvested during the past 58 deer hunting seasons in Indiana.

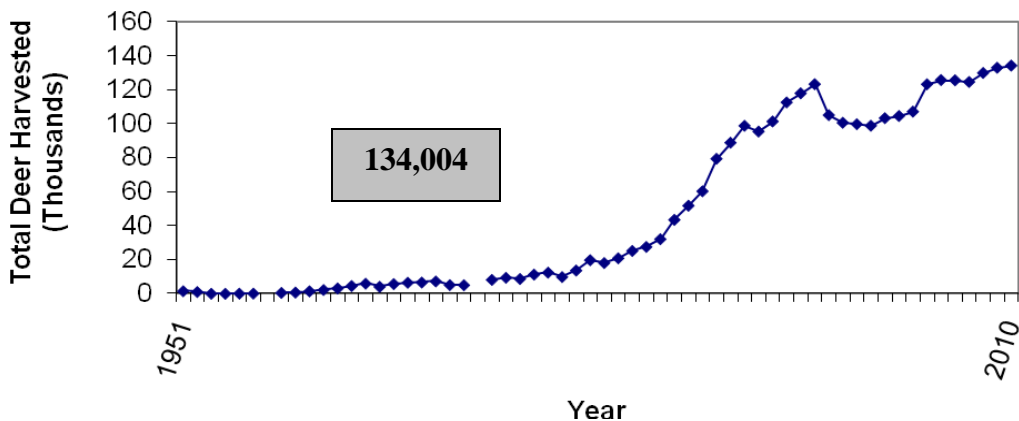


Figure 2. The number of deer harvested in Indiana deer hunting seasons 1951-2010.

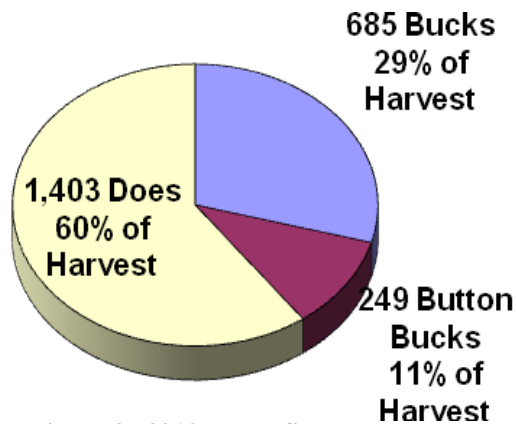


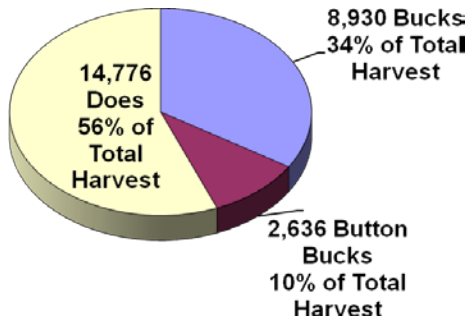
Figure 3. 2010 Youth Season harvest composition

The hunting season began with urban deer zones (Sept. 15) followed by a youth only weekend (Sept. 26-27). This season was created in 2006 and allowed youths 15 years and younger to harvest one antlerless deer. It was changed in 2009 to include all youths 17 years and younger. This year was the first year youths could harvest an antlered deer during this season. A total of 2,337 deer were harvested in 2010 during this season, up 39% from the 1,687 from 2009. This season resulted in 2% of the total harvest (Table 1). Bucks made up 29% of the harvest, and only 11% of the harvest was comprised of button bucks (Figure 3).

The early archery season harvest (including the early Urban Deer Zones) of 26,342 deer comprised 20% of the total harvest and was nearly 5% less than the 27,818 harvested in 2009 (Table 1). The late archery season comprised 1% of the total harvest, similar to the 2009 season. The combined archery seasons yielded 28,026 deer, a decrease of 5% from the 29,416 harvested in 2009. Antlerless deer comprised 67% of the total archery harvest, up 2 percentage points from 2009. Antlerless harvest in early archery season was 66%, while in late archery it was 80% (Figure 4). Does made up 56% of the total harvest in early archery season and nearly 68% of the harvest in late archery season.



A.



B.

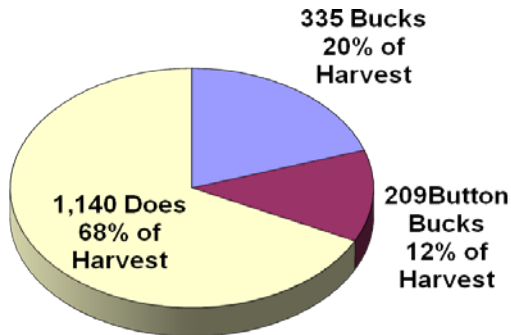


Figure 4. A. Early Archery harvest and B. Late Archery harvest composition in 2010

Season	Number of deer harvested		
	Antlered	Antlerless	Total
Youth season (25-26 Sept)	685 (1)	1,652 (2)	2,337 (2)
Early Archery* (1 Oct - 28 Nov)	8,930 (17)	17,412 (21)	26,342 (20)
Firearms (13-28 Nov)	39,818 (75)	46,423 (57)	86,241 (64)
Muzzleloader (4-19 Dec)	3,239 (6)	14,161 (17)	17,400 (13)
Late Archery (4 Dec - 2 Jan)	335 (0)	1,349 (2)	1,684 (1)
Totals	53,007	80,997	134,004

*Includes the early Urban Deer Zone Starting on 15 September

The firearms season harvest of 86,241 deer was an increase of nearly 4% from the 83,096 deer harvested in 2009 and comprised 64% of the total harvest (Table 1). The antlerless harvest of 46,243 was 5% more than the 2009 antlerless harvest of 44,175, while the antlered harvest of 39,818 was 2% more than the antlered deer harvest in 2009 (38,921). Antlered deer made up at least half of the total harvest on only the first two days of firearm season, while antlerless deer outnumbered antlered deer during the remaining 14 days of the season (Table 2). During the opening weekend of firearms season, 44% of the total firearm season harvest occurred, up slightly from 43% in 2008. Opening weekend contributed to 28% of the statewide total harvest for all seasons, which is 1 percentage point more than the opening weekend harvest from 2009. Antlerless deer comprised 54% (82% of which were does) of the firearm season harvest (Figure 5).

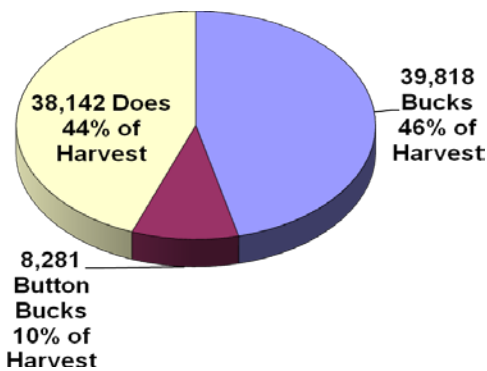


Figure 5. 2010 Firearms season harvest composition



Table 2. Number of deer harvested on each day of the 2010 Indiana firearm season (includes deer taken by bow, shotgun, pistol, rifle, and muzzleloader).

Date	Day	Antlered		Antlerless		Total	
		N	Daily %	N	Daily %	N	Total %
13 November	Sat	14,080	57	10,681	43	24,761	29
14 November	Sun	6,792	53	5,972	47	12,764	15
15 November	Mon	2,400	49	2,514	51	4,914	6
16 November	Tue	1,526	48	1,661	52	3,187	4
17 November	Wed	1,579	48	1,733	52	3,312	4
18 November	Thu	1,226	46	1,450	54	2,676	3
19 November	Fri	1,494	42	2,045	58	3,539	4
20 November	Sat	3,156	41	4,519	59	7,675	9
21 November	Sun	1,737	41	2,498	59	4,235	5
22 November	Mon	340	35	643	65	983	1
23 November	Tue	648	40	960	60	1,608	2
24 November	Wed	389	35	730	65	1,119	1
25 November	Thu	302	37	525	63	827	1
26 November	Fri	1,374	31	3,017	69	4,391	5
27 November	Sat	1,532	28	3,869	72	5,401	6
28 November	Sun	1,424	27	3,764	73	5,188	6
Totals*		39,999		46,581		86,580	100

* Totals differ from those in previous table because date of harvest is not known for some registered deer and this table includes deer from both the firearms season and the last 16 days of the early archery season.

The muzzleloader season harvest of 17,400 comprised 13% of the total harvest, down 1 percentage point from last year (Table 1). This year's muzzleloader season harvest was 6% lower than the 2009 muzzleloader harvest (18,553). As in years past, a large percentage of the deer harvested during the muzzleloader season were antlerless (81%) (Figure 6).

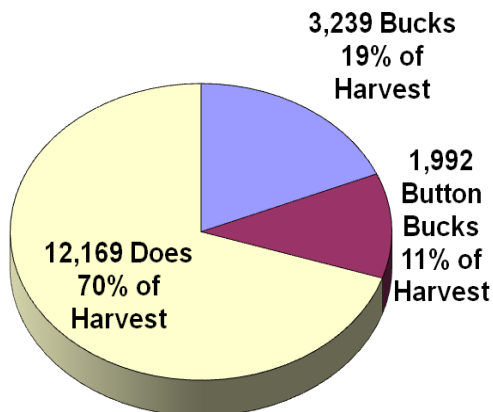


Figure 6. 2010 Muzzleloader season harvest composition



Harvest by Equipment Type

Six types of equipment were legal for hunting deer during 2010: bows, shotguns, muzzleloaders, handguns, crossbows, and rifles. Rifle cartridges were restricted to .357 diameter or larger bullet, and case length must be between 1.16 and 1.625 inches. These types of equipment accounted for 20%, 46%, 25%, 1%, 1%, and 7% of the total deer harvest, respectively (Figure 7). Shotgun harvest decreased 6% from 2009. Harvest by muzzleloader increased 2%, while bow and handgun decreased 5% and 32% from 2009, respectively (Table 3). The total crossbow harvest for the year, including deer taken on disabled hunter crossbow permits, was 928 animals, nearly identical to the number harvested in 2009. During the late archery season, the crossbow harvest was 172 deer, compared with 182 in 2009 and 159 in 2007 (Table 3). Reported harvest with rifles increased this year by 225% compared to 2009. This was the first year that check boxes for rifles was included on check station sheets, and likely contributed to the increased reporting of deer harvested by rifles.

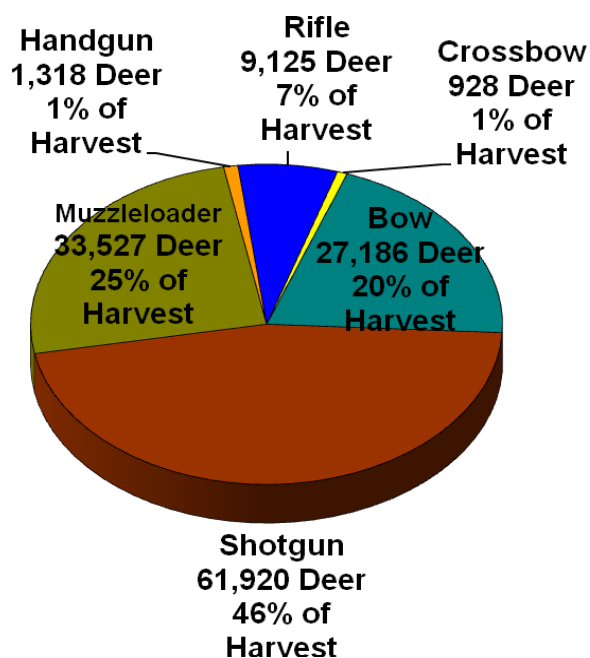


Figure 7. 2010 harvest by equipment type in Indiana

Harvest by License Status

Licensed resident hunters (lifetime, resident, and youth license holders) accounted for over 81% of the total deer harvest (Table 4). Licensed nonresident hunters harvested over 2% of the total harvest. Hunters with a regular yearly deer hunting license (resident

Table 3. Number of deer harvested by type of legal hunting equipment during the 2005-2010 seasons. Approximate percent of total harvest shown in parentheses.

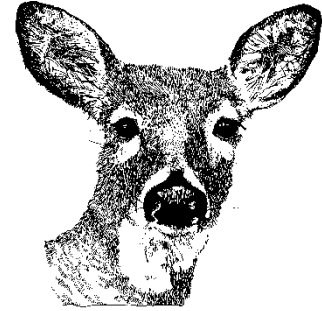
Equipment type	2005	2006	2007	2008	2009	2010
Bow*	23,692 (19)	26,723 (21)	26,187 (21)	26,369 (20)	28,497 (21)	27,186 (20)
Shotgun	70,022 (56)	66,304 (53)	63,919 (51)	68,520 (53)	65,839 (50)	61,920 (46)
Muzzleloader	29,686 (24)	30,247 (24)	30,740 (25)	30,295 (23)	32,745 (25)	33,527 (25)
Handgun	1,606 (1)	1,386 (1)	1,615 (1)	1,949 (2)	1,932 (1)	1,318 (1)
Rifle	x	x	1,203 (1)	1,788 (1)	2,809 (2)	9,125 (7)
Crossbow						
Disabled	427(0)	591 (0)	609 (0)	668 (1)	748 (1)	756 (1)
Late archery	93 (0)	130 (0)	154 (0)	159 (0)	182 (0)	172 (0)
Totals	125,526	124,562	124,427	129,748	132,752	134,004

* Crossbow harvest is not included in bow harvest. Values within this table do not exactly equal those tallied by season (page 3) due to the fact that multiple equipment types can be used during the firearm season. Muzzleloaders may also be used during both the firearm and muzzleloader season. Additionally, differences arise due to the different methods required to analyze data when either the equipment or the season is unknown.

plus non-resident) took only ~46% of the total deer harvest; hunters not paying the full yearly price (i.e. lifetime license holders, youth license holders, landowners/tenants, and military personnel) took over 54% of the total harvest. Landowners and lessees who hunted on their own land without a license and military personnel on official leave status accounted for almost 17% of the total deer harvest. Of the deer harvested by license-exempt hunters, nearly 99% were taken by landowners/tenants while only 1% by military personnel on leave.

Table 4. Harvest distribution of deer by license type during 2010 hunting season.

License Status	Deer Harvested	Percent of Harvest
Resident	58,182	43.42
Lifetime	37,630	28.08
Land Owner	22,256	16.61
Youth	12,753	9.52
Nonresident	2,934	2.19
Military	249	0.19
Total	134,004	100.0



Harvest Age and Sex Structure

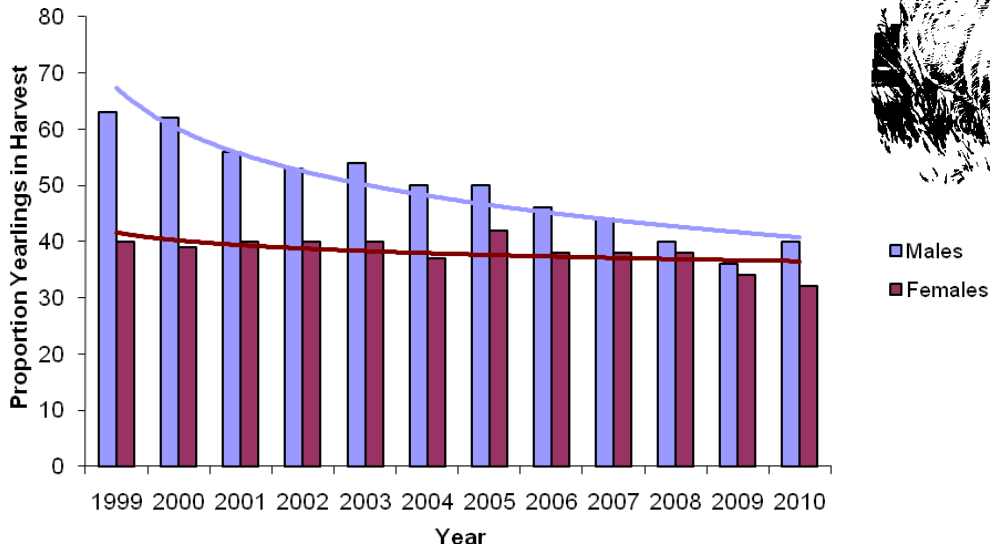
The age and sex structure of the 2010 deer harvest was 40% adult males (antlered bucks), 37% adult females, 10% male fawns (button bucks), and 13% female fawns (Table 5). These percentages are similar to the harvest in 2009. About 40% of the antlered bucks and 32% of the adult does harvested during 2010 were yearlings (1.5 years old) (Figure 8).

Table 5. Sex and age structure of the Indiana deer harvest during 1987-2010, as determined from mandatory check stations.

Year	Adults		Fawns		Total
	Males (%)	Females (%)	Males (%)	Females (%)	
1987	29,530 (57)	11,139 (21)	6,164 (12)	4,945 (10)	51,778
1988	34,358(57)	13,170 (22)	7,050 (12)	5,656 (10)	60,234
1989	40,503 (51)	19,464 (24)	10,737 (14)	8,614 (11)	79,318
1990	43,080 (48)	23,680 (27)	12,373 (14)	9,630 (11)	88,763
1991	41,593 (42)	31,211 (32)	14,626 (15)	11,253 (11)	98,683
1992	43,508 (46)	25,387 (27)	14,262 (15)	12,157 (13)*	95,314
1993	44,424 (44)	27,704 (27)	14,751 (15)	14,335 (14)*	101,214
1994	50,812 (45)	32,466 (29)	15,487 (14)	13,651 (12)*	112,416
1995	47,098 (40)	40,946 (35)	16,398 (14)	13,287 (11)*	117,729
1996	47,315 (38)	39,913 (32)	17,307 (14)	18,551 (15)*	123,086
1997	42,537 (41)	35,163 (34)	14,039 (13)	13,198 (12)*	104,937
1998	44,955 (45)	30,711 (31)	12,257 (12)	12,538 (12)*	100,461
1999	46,371 (46)	30,474 (31)	11,645 (12)	11,129 (11)*	99,618
2000	44,621 (45)	31,986 (32)	11,072 (11)	11,046 (11)*	98,725
2001	48,357 (47)	31,806 (31)	11,230 (11)	11,770 (11)*	103,163
2002	47,177 (45)	35,357 (34)	11,291 (11)	10,603 (10)*	104,428
2003	49,533 (46)	36,303 (34)	10,262 (10)	10,887 (10)*	106,986
2004	54,743 (44)	41,749 (34)	12,501 (10)	14,065 (11)*	123,058
2005	52,488 (42)	44,286 (35)	13,030 (10)	15,722 (13)*	125,526
2006	49,097 (39)	45,257 (36)	13,688 (11)	17,339 (14)*	125,381
2007	49,375 (40)	44,514 (36)	13,313 (11)	17,225 (14)*	124,427
2008	50,845 (39)	46,666 (36)	13,083 (11)	19,154 (15)*	129,748
2009	52,878 (40)	48,222 (36)	13,040 (10)	18,291 (14)*	132,431
2010	53,007 (40)	49,911 (37)	13,367 (10)	17,719 (13)*	134,004

* Number of adult and fawn females is projected from the % fawns of all females aged at the biological check stations (not from the ratio of fawn doe to fawn bucks in the total deer harvest).

Figure 8. Proportion of male and female yearlings in the harvest (1.5 years old), as determined by aging during the first weekend of the firearms season, for years 1999-2010.



Deer License Sales

Deer license sales decreased this year from 2009 by 1%, down from 271,919 (Table 6). Youth licenses increased nearly 5% from 2008. License sales from all categories were down except for archery and nonresident licenses, which rose 1% and 7%, respectively. Resident Firearm licenses comprised the largest proportion deer licenses sold (38%), followed by Bonus Antlerless licenses (26%).

	2008	2009	2010
Resident Archery/Extra Archery	54,414	58,748	59,473
Resident Firearm	103,562	105,150	102,626
Resident Muzzleloader	20,983	23,356	21,975
Resident Military/Refuge	2,460	2,684	2,541
Resident Bonus Antlerless	68,792	71,511	70,673
Nonresident	9,660	10,470	11,197
Youth	37,295	38,330	39,248
Total (excluding Youth)	259,871	271,919	268,485

*Total numbers subject to change slightly via refunds or voids

Distribution of the Harvest

The number of deer harvested in individual counties ranged from 125 in Tipton County to 3,948 in Steuben County (Table 7). Harvest exceeded 1,000 deer in 64 counties; 2,000 deer in 17 counties; and 3,000 deer in five counties. The antlered buck harvest exceeded 1,000 in nine counties (down from ten in 2009), while the antlerless harvest exceeded 1,000 deer in 34 counties compared with 31 in 2009. Antlerless deer comprised at least 50% of the total harvest in 89 of the state's 92 counties in 2009 compared with 87 counties in 2009. The counties with the highest harvests were Steuben, Kosciusko, Switzerland, Noble, Franklin, Marshall, Dearborn, Parke, Lagrange, and Washington. The counties with the lowest harvests were Tipton, Benton, Hancock, Marion, Blackford, Clinton, Rush, Shelby, Boone, and Hamilton.



Table 7. Number of deer harvested in each Indiana county during 2010 (after adjustment for unknowns).

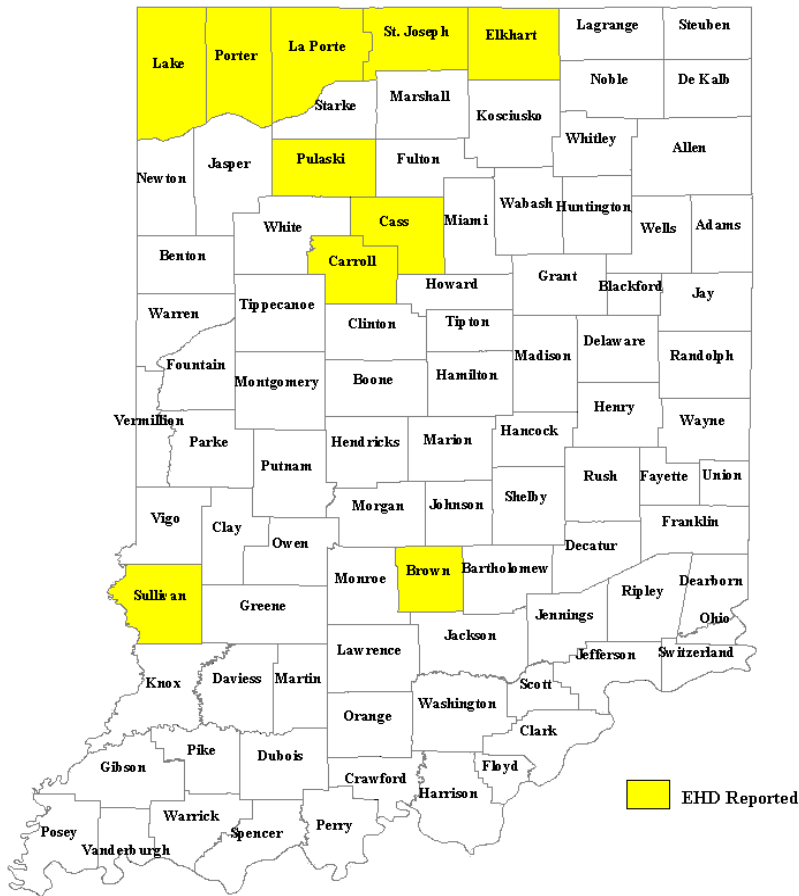
County	Number Harvested			County	Number Harvested		
	Antlered	Antlerless	Total		Antlered	Antlerless	Total
Adams	223	339	562	Lawrence	750	1,105	1,855
Allen	802	1,069	1,871	Madison	240	400	640
Bartholomew	510	634	1,144	Marion	145	152	297
Benton	89	62	151	Marshall	1,027	1,962	2,989
Blackford	137	165	302	Martin	712	918	1,630
Boone	212	219	431	Miami	604	992	1,596
Brown	667	1,022	1,689	Monroe	574	847	1,421
Carroll	399	560	959	Montgomery	502	696	1,198
Cass	588	825	1,413	Morgan	575	730	1,305
Clark	640	1,024	1,664	Newton	479	651	1,130
Clay	474	649	1,123	Noble	1,097	2,226	3,323
Clinton	166	193	359	Ohio	387	763	1,150
Crawford	664	1,035	1,699	Orange	789	1,158	1,947
Daviess	414	663	1,077	Owen	716	953	1,669
Dearborn	1,016	1,849	2,865	Parke	1,100	1,761	2,861
Decatur	287	400	687	Perry	698	847	1,545
DeKalb	923	1,538	2,461	Pike	680	871	1,551
Delaware	319	498	817	Porter	563	1,002	1,565
Dubois	676	1,106	1,782	Posey	643	874	1,517
Elkhart	577	1,045	1,622	Pulaski	715	1,055	1,770
Fayette	344	511	855	Putnam	979	1,260	2,239
Floyd	249	338	587	Randolph	320	295	615
Fountain	659	952	1,611	Ripley	762	1,114	1,876
Franklin	1,044	2,010	3,054	Rush	183	199	382
Fulton	766	1,335	2,101	St. Joseph	612	977	1,589
Gibson	600	885	1,485	Scott	375	604	979
Grant	336	543	879	Shelby	165	220	385
Greene	821	1,276	2,097	Spencer	634	726	1,360
Hamilton	210	266	476	Starke	667	1,078	1,745
Hancock	130	137	267	Steuben	1,389	2,559	3,948
Harrison	984	1,481	2,465	Sullivan	832	1,027	1,859
Hendricks	291	335	626	Switzerland	1,204	2,196	3,400
Henry	253	346	599	Tippecanoe	622	755	1,377
Howard	192	336	528	Tipton	73	52	125
Huntington	506	672	1,178	Union	248	396	644
Jackson	757	1,125	1,882	Vanderburgh	322	441	763
Jasper	654	1,055	1,709	Vermillion	516	659	1,175
Jay	373	678	1,051	Vigo	609	850	1,459
Jefferson	810	1,364	2,174	Wabash	743	1,050	1,793
Jennings	736	1,175	1,911	Warren	535	767	1,302
Johnson	250	384	634	Warrick	654	814	1,468
Knox	414	436	850	Washington	1,049	1,709	2,758
Kosciusko	1,231	2,347	3,578	Wayne	508	635	1,143
Lagrange	942	1,893	2,835	Wells	249	281	530
Lake	551	693	1,244	White	481	717	1,198
La Porte	859	1,374	2,233	Whitley	554	794	1,348

* Totals may be off +/- 1 due to rounding during partitioning of harvested deer of unknown sex or county.

35th MDWTSG Proceedings
Disease Monitoring

Epizootic Hemorrhagic Disease

Ten counties received reports of dead or dying deer due to Epizootic Hemorrhagic Disease (EHD) in Indiana in 2010 (Figure 9). EHD was not confirmed through laboratory testing in any case; however, cases were confirmed nearby in Illinois and Michigan. This marks the first time since 2008 that EHD has been reported in Indiana. The last major outbreak of EHD in Indiana occurred in 2007, and had far greater impact on the deer herd than the event seen



th

is year.

Figure 9. Counties in Indiana with reports of EHD in 2010.

Chronic Wasting Disease

35th MDWTSG Proceedings

Chronic Wasting Disease (CWD) is one of a group of diseases called Transmissible Spongiform Encephalopathies, which is a variant of scrapie in sheep and Creutzfeldt-Jakob disease in humans. The agents of CWD are called prions which are abnormal, protease-resistant forms of cellular proteins normally synthesized in the central nervous system and lymphoid tissues. Prions that cause CWD are highly resistant to heat or disinfectant. No study has ever proven that CWD is transmissible to humans.

CWD has been reported in Wisconsin, Illinois, West Virginia, and most recently Virginia and Minnesota, among other states. In 2002, Indiana created a monitoring program to detect the presence of CWD, which focused on removing the obex or the retropharyngeal gland from random hunter harvested deer throughout the state, deemed active surveillance. Reports of outwardly noticeable sick deer have also been tested, named targeted surveillance. This monitoring continues today, and well as testing random samples of road killed deer which was instituted in 2007.

Results from the Division of Fish and Wildlife's 2010 CWD sampling are still pending. CWD has not been detected in over 11,000 deer during this monitoring period.

Bovine Tuberculosis

In September 2008, a cow in Franklin county, Indiana tested positive for Bovine Tuberculosis (TB). In May 2009, several red deer from a captive cervid operation less than ½ mile away tested positive for TB at a slaughterhouse. The subsequent depopulation of the cervid herd resulted in an infection rate of 56%; no other cow tested positive for TB.

The Division of Fish and Wildlife, along with the help of the Indiana Board of Animal Health and the United States Department of Agriculture mobilized staff to collect and test free ranging white-tailed deer at check stations during the opening weekend of firearms season in counties where captive cervids were identified. A total of 178 deer were sampled from Franklin county in 2010. Culturing from the National Veterinary Services Laboratory is complete and failed to detect the presence of TB in any free ranging deer this year. Indiana has tested 609 deer for TB during the past two years and has failed to detect the presence of TB in the free ranging deer herd.

For more information on deer health, visit www.in.gov/dnr/fishwild.



35th MDWTSG Proceedings
Iowa Status Report Summary – 2010

Licenses Issued: Total: 394,298 Res: 370,585 Nonres: 14,718 Youth: 8,995

Reported Harvest: Total: 127,094 Antlered Buck: 48,749 Antlerless: 78,345
“Antlered Buck” includes shed-antlered bucks also

Age of Bucks: UNK

% Antlerless in Total Harvest: 62%

Hunter Numbers: Res: 166,970 Nonres: 8,621 Youth Season: 8,546 (figure included in the resident statistic)

Minimum Age: None. Twelve years old with Hunter Safety to hunt without direct supervision

Fees: Res: \$28.50 Nonres: \$426.00

Season Dates: Archery: 10/1- 12/3 & 12/20 – 1/10
Muzzleloader: 10/16 – 10/24 & 12/20 – 1/10
Shotgun: 12/4 – 12/8 & 12/11 – 12/19
Youth/Disabled: 9/18 – 10/3
Nov. Antlerless: 11/26 – 11/28
Jan. Antlerless: 1/11 – 1/30
Nonres. Hol. Antlerless: 12/24 – 1/02

Disease Issues: No evidence of CWD was found in any of the 4,375 tissue samples from wild deer or in 348 samples from captive deer and elk submitted during 2010/11. Since 2003, 38,031 wild deer samples and 1,350 captive deer and elk samples have been processed. No probable cases of EHD reported. A number of “escaped” captive cervids are currently loose in the state.

Population Trend: Statewide: Deer herd declining & near statewide goal
20 WMUs:

13 WMUs: Populations at or near goals (5 actually below goal to varying degrees)

7 WMUs: Populations declining

Midwest Deer and Turkey Group Report: Iowa 2010/11 Season**Reported Kill for the 2010/2011 Deer Season**

There was a 2.8% decrease in license sales in 2010 with 11,249 fewer deer licenses being issued for the 2010/11 deer season compared to 2009. The difference was comprised of 8,862 and 2,387 fewer antlerless and any-deer licenses respectively. The number of paid licenses decreased by 10,441 and landowner/tenant licenses decreased by 808.

The total reported harvest for 2010/11 was 7% lower than the previous year (9,410 fewer deer). The majority of this decrease was due to fewer antlerless deer in the reported harvest. Antlerless deer (not including shed-antlered bucks) represented 62% of the harvest and 51% of the total harvest was comprised of does (Table 1). The proportions represented a 1% decrease in does and a 2% decrease in antlerless animals when compared to the 2009 season.

Table 1. License sales and the number of deer reported killed during the 2010/11 deer season.

Season	Licenses	Reported Kill				Total	Success Rate ^a	% Does
		Antlerless Bucks	Button Bucks	Shed Bucks	Does			
Youth/Disabled	9,284	1,629	258	19	1,263	3,169	34%	40%
Early Muzzleloader	12,433	1,997	290	1	1,738	4,026	32%	43%
Archery	87,882	11,064	1,498	80	8,543	21,185	24%	40%
November Antlerless	9,049	7	601	6	2,185	2,799	31%	78%
Shotgun 1 (Paid)	83,232	15,912	3,670	76	16,568	36,226	44%	46%
Shotgun 2 (Paid)	61,875	6,863	2,447	152	10,823	20,285	33%	53%
Shotgun 1&2 (LO/T)	41,519	3,917	1,270	69	6,199	11,455	28%	54%
Late Muzzleloader	36,577	2,709	967	432	4,730	8,838	24%	54%
January Antlerless	26,714	7	1,195	850	6,424	8,476	32%	76%
Nonresident Depred & Spec Hunts	14,718	2,803	292	41	2,447	5,583	38%	44%
Totals	394,298	46,934	13,150	1,815	65,195	127,094	32%	51%

^aLicenses reported successfully filled

This hunting season represented the fifth year of mandatory harvest reporting in Iowa. Hunters were required to report their harvest by calling in the information, reporting it online at the Department's web site, or by reporting the harvest through the ELSI system at a license dealer. Since 2006, the reported harvest figures have represented the known minimum harvest for each season.

Information (registration numbers, age and sex, county of kill, etc.) was collected from about 2,500 deer checked in the field and at lockers during chronic wasting disease (CWD) surveillance and hunter contacts to determine what proportion of successful

35th MDWTSG Proceedings

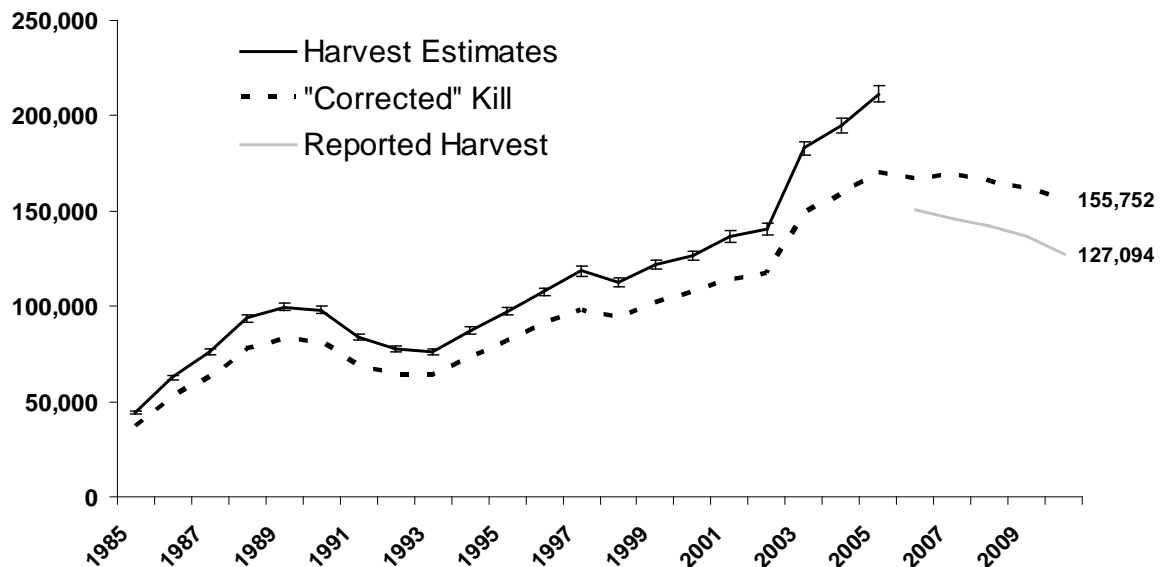
hunters reported their deer. Examination of this data indicated that 86.6% of the harvested deer that were encountered in the field were reported. This was a decrease of 3.1% from the reporting rate observed during the 2009 seasons.

There is likely a bias in the above rate since all of these situations require the hunter to take the deer to a locker or have contact with a DNR official or someone in an official capacity. People in these situations may be more likely to report their deer than would someone who hadn't talked with a DNR official or someone who doesn't take their deer to a locker. Recent deer hunter surveys indicate that about 1/3 of Iowa's deer hunters completely process their deer themselves. However, gathering data from these individuals is problematic since there is no way to gather the data without someone from, or working with, the DNR contacting them.

In final analyses, making some allowance for the potential bias, it was estimated that about 81.6% of the deer harvested in 2010/11 were properly reported. This represents an estimated total harvest of approximately 155,750 deer which is 3.6% lower than in 2009.

Figure 1 compares the harvest reporting (a known minimum harvest level) system with the post-season postcard survey harvest estimates conducted prior to the 2006 hunting season. The figure displays what past harvests might have looked like using the calculated relationship between the two systems (the "actual" harvest levels).

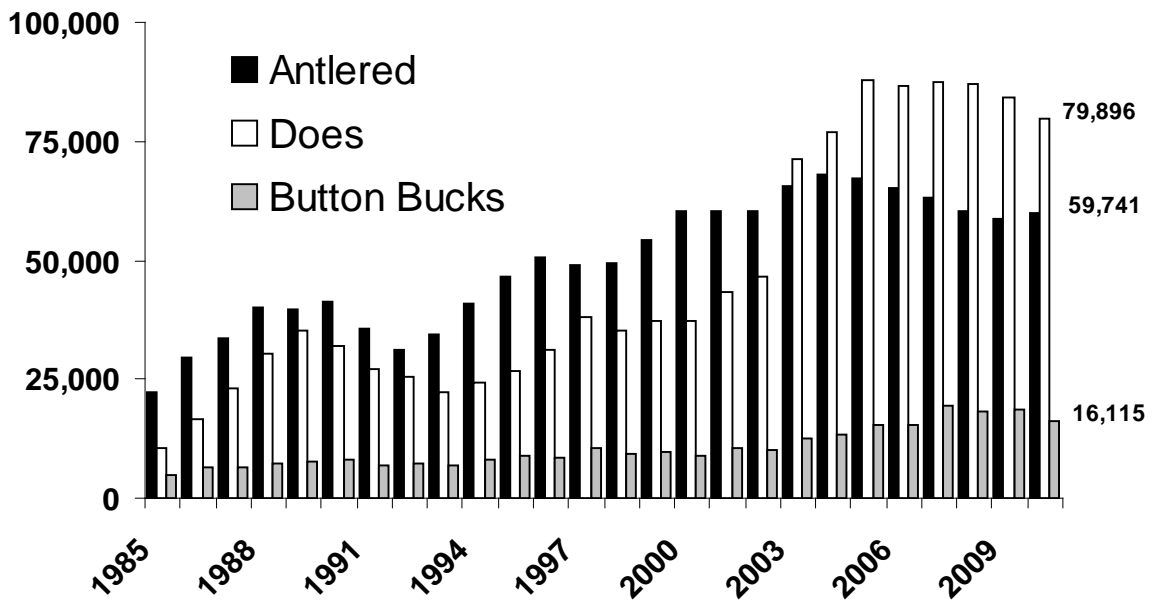
Figure 1. A comparison of the post-season harvest estimates from 1985-2005 (the top line) with the reported harvests from 2006-10 (the bottom line). The dotted line would be the "actual" harvest based on annual reporting compliance estimates (2006-10) and on the estimated biases in the postseason postcard survey for the years prior to 2006.



Utilizing the reporting information, an estimate of the number of antlered bucks, does, and button bucks killed in 2010 can be made. In Figure 2, estimates from 1985-2005 have been constructed on the assumption that the relationship between the reported

harvest and the post-season mail survey were consistent through time and that 90% of the harvest was reported (2006 compliance data). Harvest estimates from 2006-2010 were calculated from annual harvest reporting rates as described previously. The 2010 estimate is based on an estimated 81.6% reporting rate as discussed earlier.

Figure 2. An estimate of the number of antlered bucks, does, and button bucks killed in 2010 if 81.6% of the actual harvest were reported. The estimates from 1985 -2005 account for estimated biases in the postcard survey and assume the relationship between the reported harvest and the post-season mail survey would have been consistent in the past (constructed using the 2006 compliance rate of 90%).



Population Trend Surveys

Three techniques have traditionally been used to monitor deer population trends in Iowa. These are, 1) postseason aerial surveys conducted in January - March, 2) spotlight surveys conducted in April, and 3) the annual observed number of road-killed deer on Iowa's rural highways. Two newer trend surveys, the bowhunter observation survey and the new spotlight routes, have also begun to be utilized to monitor population trends in Iowa and were first included in the spring population analyses in 2010. All of these surveys can correlate well with the model simulations and provide reliable long-term trend indices. However, none of the surveys can be considered absolutely reliable predictors of annual changes in the population because of the high variability in the survey conditions.

Initiated in 1983, the aerial surveys are currently comprised of about 340

35th MDWTSG Proceedings

transects/areas distributed throughout the state and are flown primarily from fixed-wing aircraft. The aerial surveys conducted after the 2010/11 hunting season (Jan-Mar 2011) displayed a 1% increase from the previous year. Conditions for these surveys were good overall as Iowa experienced above average snowfall during the 2010/11 winter. In all, 304 survey transects/areas were monitored throughout the state, a 10% decline from 2010 when the winter conditions were even more severe.

At the statewide level, the mean for the surveys since 2000 is 16,898 deer observed (± 2853 deer; $\pm 95\%$ CL). This survey is dependent upon snowfall and proper winter weather conditions which make some years more difficult than others to get the surveys completed. While displaying more annual variation than any of the other trend surveys, it does provide good correlation values in some of the Units. However, on an overall basis, its correlation values tend to run lower than other survey methods in Iowa despite its having an advantage of a complete data string.

Road-killed deer information has been collected in Iowa since 1951. The information is collected by the Department of Transportation personnel and law enforcement officers throughout Iowa on rural interstates and state highways. The number of observed deer killed on rural highways decreased by about 25% in 2010. The estimated number of vehicle miles driven increased in 2010 when compared to 2009 so the adjusted road kill (kills per billion miles – KBM) declined by 26% overall. The trend in the KBM rate has been a declining one as the deer population decreases, but the relationship between these two variables has never been directly linear.

At the statewide level, the mean number of road-killed deer since 2000 is 13,127 ($\pm 1,172$ deer; $\pm 95\%$ CL). When annual highway mileages are taken into account to make the survey data more comparable between years (the KBM transformation), the mean is 705 KBM (± 58 KBM; $\pm 95\%$ CL). Both indices display about half the variation as does the aerial trend survey and provide some of the better correlations with the model simulations. This survey requires a year-round effort in order to function properly and could possibly be affected by work priorities and budgets.

The old spotlight routes were initiated in 1978 and are comprised of 90, 25-mile routes distributed throughout the state (approximately 2,250 total miles of transects). Originally set up to monitor raccoon population trends, these routes are primarily concentrated in river bottom and timbered areas. Since the transects are located in prime deer habitat areas, observations of these animals were recorded as well. The number of deer counted per 25-mile route in the old spotlight surveys increased by about 7% in 2011.

The statewide average in the number of deer observed per route since 2000 is 101 (± 15 deer; $\pm 95\%$ CL). The variation displayed by this survey is the second highest of the trend surveys but overall it has provided good correlations with the model simulations. Since these transects are located in a specific type of habitat they are not representative of deer habitats in general, neither in quantity or type. Because of this, the trend survey may be less responsive to population changes at the landscape level. Currently, with both the old spotlight and new spotlight transects being conducted, it requires some dedicated effort and planning in order to get all the routes completed. The current plan is to discontinue this trend survey in the future and replace it completely with the new spotlight routes.

Initiated in 2006, the new spotlight routes were set up to be more representative of

35th MDWTSG Proceedings

the rural habitats available to deer in Iowa. Consisting of 199 transects distributed in every county (2 per county except for one county which has 3 transects) the total survey mileage is approximately 4,750 miles. This is more than double the total transect length of the old spotlight surveys. Location, distance, and bearing are recorded for each deer/deer group observed allowing for density estimates to be calculated. This aspect of the trend survey has not been fully explored to date. The number of deer observed per 25 miles in 2011 increased about 1% on the new spotlight routes.

At the statewide level, the mean number of deer observed per 25 miles since 2006 is 62 (± 6 deer; $\pm 95\%$ CL). The new spotlight surveys display less variability overall when compared to the old spotlight routes and in the vast majority of cases, the same general trends. Currently the correlations are not as strong with the model simulations as the old spotlight survey routes. This is felt to simply be a function of the length of the data string coupled with the inherent variability of trend surveys. The new spotlight routes are intended to replace the old spotlight survey routes and this transition may occur by the spring of 2012.

The bowhunter observation survey, which began in the fall of 2004, is a stratified random sample of avid bowhunters (hunters who have purchased archery licenses for at least 3 consecutive years) based on Iowa's 9 climatic regions. In 2010, this survey represented over 125,000 hours of observation distributed throughout the state and was conducted voluntarily by Iowa archers (in 2010 approximately 2,500 individuals returned observation logs). The tactics used during this season (stand hunting) make it useful for gathering observational data. Bowhunters are responsible for recording the date and time of their hunts and also observations of antlered, antlerless (since 2005), and unknown deer along with other selected animals. In 2010, observation rates of antlered and antlerless deer declined by 3% and 1% respectively and total deer observed remained unchanged.

All of the bowhunter observation survey indices provide good correlations with the model simulations and display some of the lowest levels of variation of all the surveys. The antlerless observations provide the best correlations overall, followed by the total deer observations. Statewide since the survey was initiated, the mean number of antlerless deer observed per 1000 hours is 1,064 (± 107 deer; $\pm 95\%$ CL), 1,646 total deer (± 116 deer; $\pm 95\%$ CL), and 461 antlered deer (± 26 deer; $\pm 95\%$ CL). The good levels of correlation, low levels of variation, and the involvement of the public are all encouraging signs for this relatively young trend survey.

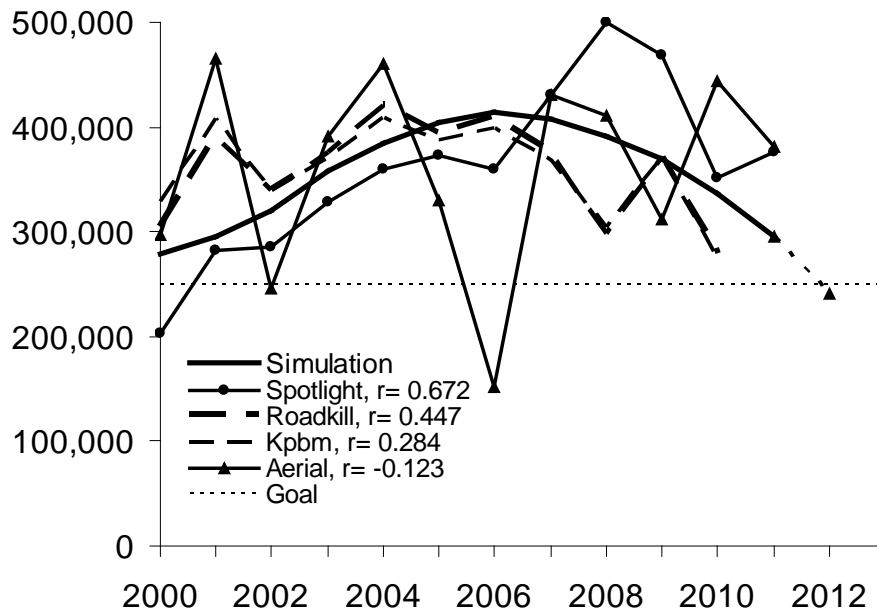
The value of the variety of population trend surveys utilized is that no single survey method is expected to provide all the information needed to determine current trends in Iowa's deer herd. The use of the model simulations allow all of the trend survey data, harvest data, and herd parameters to be brought together and analyzed as a single unit while projecting population simulations that "best fit" all the available information.

Utilizing the mathematical relationships described earlier to plot estimated harvests and harvest structures from 1985-2010, the data was utilized in the population model and the resulting "best fit" simulation indicates a declining deer population statewide (Figure 3). The model suggests that about a 12% decline in the population occurred as a result of the 2010/11 harvests in conjunction with other mortality factors. The statewide model has its best correlations with the spotlight surveys; components of the road kill survey, and portions

35th MDWTSG Proceedings
of the bowhunter survey.

In 2008, the legislature created the Deer Study Advisory Committee to review the deer management program and make recommendations of future needs for balancing Iowa's deer resource among the variety of public opinions and desires. The committee included legislators from the House and the Senate representing both parties and citizens representing a variety of non-hunting and hunting interest groups. The committee agreed that the trend surveys and model analyses provided an adequate tool for establishing and managing population trends of Iowa's deer herds. The group also agreed that the DNR goal of returning deer numbers to the mid-to-late 1990s population levels represented a good compromise among the competing desires of the public. In 2009, the committee's report was accepted by both the House and the Senate Natural Resource Committees.

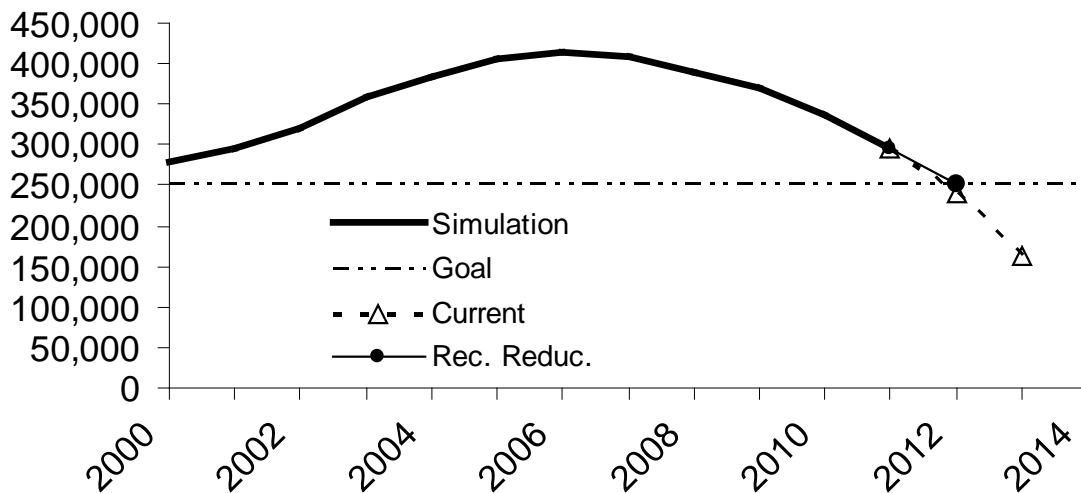
Figure 3. A comparison of the results from the statewide population simulation with deer population trend surveys. This simulation uses the 2010 harvest from the reporting system and a reporting rate of 81.6%.



Antlerless Quotas for the 2011/2012 Deer Season

The simulation can be used to estimate the level of harvest needed in 2011 to reach the department’s goal for the deer population. The goal is a deer population at the level it was in the mid-to-late 1990s when the public’s acceptance of deer numbers was more evenly balanced. On a statewide basis, an overall 7% reduction in the doe harvest was needed in 2011 in order for the simulation not to fall below the Department’s goal (Figure 4).

Figure 4. The result of the statewide population simulation with current and recommended doe harvests.



Simulations were conducted for each Wildlife Management Unit (WMU) to determine the county antlerless quotas (Table 2). The “best fit” models indicated that the doe harvest needed to decrease in 5 WMUs in order to keep them from dropping below the Department’s goals. Recommendations were made to reduce antlerless quotas in 20 counties contained within these WMUs to maintain goal objectives. However, the antlerless quota changes were not adopted and the county quotas will be the same as they were in 2010. Because of this, hunters will need to be judicious in their use of antlerless licenses in these 20 counties or deer numbers may go below the department’s goal. Deer numbers are still above the department’s goal in some areas in central and southwestern Iowa. The 2011 antlerless quotas will help reduce deer numbers in these areas.

The following map (Figure 5) shows the county antlerless quotas for the 2011/12 deer season. The 42 shaded counties (light and dark shaded) will be open during the November and January antlerless seasons (if licenses are still available on 12 Nov. and 15 Dec. respectively). In the 21 dark shaded counties, centerfire rifles will be a legal

35th MDWTSG Proceedings

weapon during the entire January Antlerless season. The total number of antlerless licenses available for 2011/12 is 132,900, the same as last year.

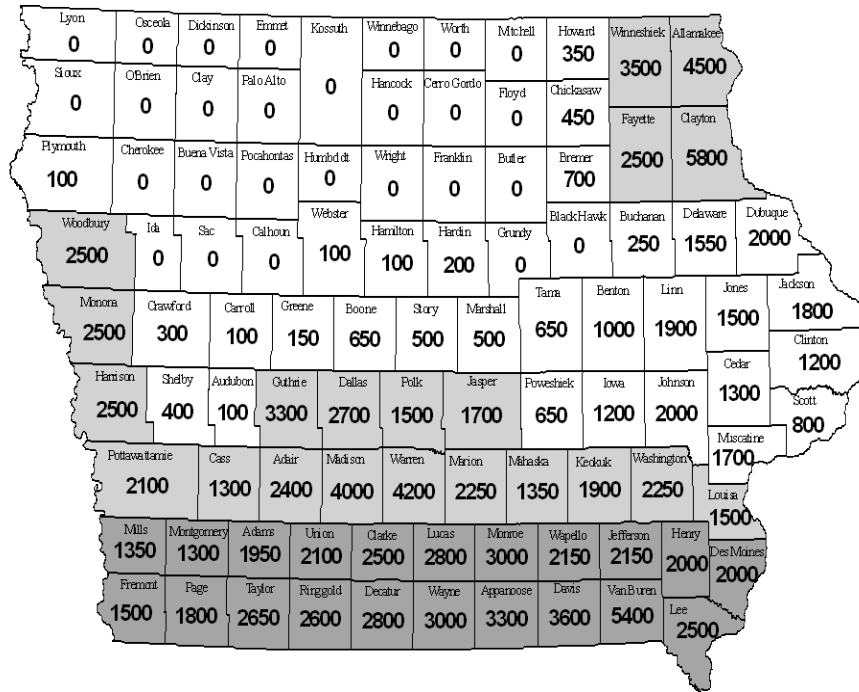
Table 2. Deer harvest, correlation of the simulation with the deer population trend surveys, and the change in the doe kill needed to move the simulated deer numbers towards the department's goal for all 20 wildlife units.

Wildlife Unit	Correlation of Simulation with Trend Surveys										
	2010 Harvest		Old					New		Bowhunter (antlerless obs.)	Change in Doe Kill
	Does	Bucks	Spotlight	Spotlight	Aerial	Road Kill	KBM				
Bays Branch	5303	5191	0.785	0.261	0.073	0.008	0.036	0.089	0%		
Big Marsh	1676	2042	0.658	-0.202	0.147	0.934	0.902	0.216	0%		
Big Sioux	725	1018	0.713	0.836	0.339	0.848	0.859	0.825	0%		
Black Hawk	739	1131	-0.151	0.087	0.052	0.677	0.677	0.275	0%		
Coralville	6290	5179	0.670	0.209	0.356	0.177	0.017	0.807	-5% ^a		
Ingham	587	914	0.203	-0.756	0.291	0.678	0.680	-0.028	0%		
Maquoketa	6369	5828	0.373	0.374	0.341	0.699	0.654	0.836	-9% ^a		
Missouri River	3589	3925	0.850	0.738	0.434	0.697	0.717	0.432	0%		
Mt. Ayr	7202	6228	0.851	0.022	-0.066	0.418	0.356	0.585	0%		
Odessa	4734	4263	0.503	-0.021	0.510	0.379	0.262	0.528	-14% ^a		
Otter Creek	3244	3266	-0.118	-0.898	-0.244	0.232	0.120	0.965	-11% ^a		
Rathbun	5749	5134	0.760	0.215	0.562	0.668	0.704	0.743	0%		
Red Rock	5275	4491	0.742	0.439	0.073	0.849	0.811	0.738	0%		
Rice Lake	1222	1551	0.127	-0.125	0.274	0.803	0.742	0.501	0%		
Riverton	4469	4080	0.909	0.340	-0.484	0.508	0.409	0.591	0%		
Ruthven	980	1582	-0.821	-0.064	0.068	0.324	0.341	-0.351	0%		
Saylorville	1455	1598	-0.342	-0.677	-0.245	0.851	0.853	0.889	0%		
Sweet Marsh	7499	7004	0.782	0.756	0.127	0.267	0.096	0.685	-9% ^{a,b}		
Upper Iowa	4719	4684	0.567	-0.166	0.404	-0.536	-0.641	0.638	0%		
Wapello	8069	6746	0.839	0.652	0.774	0.563	0.516	0.859	0%		

^aWMU recommended for antlerless quota reduction but not adopted.

^bWMU had one county that was recommended for an antlerless quota increase as trend surveys indicated this county still needed further herd reduction to return to the mid-to-late 1990s level.

Figure 5. 2011/12 resident antlerless-only license quotas by county and distribution of November and January antlerless-only seasons.



- November and January Antlerless-only seasons closed
- Nov. and Jan. Antlerless-only seasons open if licenses were available
- Nov. and Jan. Antlerless-only seasons open if licenses were available and centerfire rifles could be used during the entire Jan. Antlerless-only season

35th MDWTSG Proceedings

Table 1.1 A summary of the number of licenses issued, the number of deer harvested, and success rates for the 2010-2011 season.

Season	License Type	License Type	Licenses Issued	Number of Hunters ^c	Harvest ^d	Success Rate ^e
REGULAR GUN						
Season 1	Paid	Either-sex	60,463	60,463	25,018	41%
		Antlerless	22,769	13,959	11,208	49%
Season 2	Nonresident	Either-sex	42,747	42,747	12,491	29%
		Antlerless	19,128	11,439	7,794	41%
		Both	8,194	5,251	3,540	43%
		Total	153,301 (-3%)^a	133,859	60,051 (-4%)	39%
Season 1 & 2	Landowner	Either-sex	24,827	24,827	6,298	25%
		Antlerless	16,692	14,082	5,157	31%
		Total	41,519 (+1%)	38,909	11,455 (-10%)	28%
GUN SEASON TOTAL			194,820 (-2%)	172,768	71,506 (-5%)	37%
MUZZLELOADER						
Early	Paid	Either-sex	7,499	7,499	2,472	33%
		Antlerless	1,739	1,316	751	43%
		Both	3,195	2,799	803	25%
		Total	12,433 (-5%)	11,614	4,026 (-12%)	32%
Late	Paid	Either-sex	18,619	18,618	4,256	23%
		Antlerless	13,025	8,821	3,627	28%
	Landowner	Both	4,933	4,300	955	19%
		Both	1,898	949	627	33%
		Total	38,475 (-2%)	32,688	9,465 (-7%)	25%
MUZZLELOADER TOTAL			50,908 (-3%)	44,302	13,491 (-8%)	27%
NOVEMBER ANTLERLESS SEASON						
Paid	Landowner	Antlerless	7,610	6,067	2,496	33%
		Antlerless	1,439	1,353	303	21%
		Total	9,049 (-11%)	7,420	2,799 (-6%)	31%
JANUARY ANTLERLESS SEASON						
Paid	Landowner	Antlerless	18,582	10,860	7,169	39%
		Antlerless	8,132	7,552	1,307	16%
		Total	26,714 (+1%)	18,412	8,476 (-10%)	32%
YOUTH	Paid	Both	8,809	8,406	3,028	34%
		Both	186	168	34	18%
		Both	289	231	107	37%
		Total	9,284 (-2%)	8,805	3,169 (-12%)	34%
ARCHERY	Paid	Either-sex	52,080	52,080	11,208	22%
		Antlerless	27,262	17,509	7,703	28%
	Landowner	Both	8,392	6,439	2,243	27%
		Both	4,200	2,100	1,279	30%
		Total	91,934 (-2%)	78,128	22,433 (-9%)	24%
TOTAL^b			394,298 (-3%)	334,463	127,094 (-7%)	

^a - the numbers in parentheses are the percent change from 2009-2010, NC = < 0.5%

^b - total include licenses and kill from hunts in special deer management zones and depredation licenses

^c - number of individuals with licenses, not comparable to estimates prior to 2006 hunting season

^d - reported kill, not comparable to estimates prior to the 2006 hunting season

^e - licenses reported successfully filled, not comparable to estimates prior to 2006 hunting season

KANSAS - 2010-2011 STATUS REPORT

Prepared by Lloyd Fox

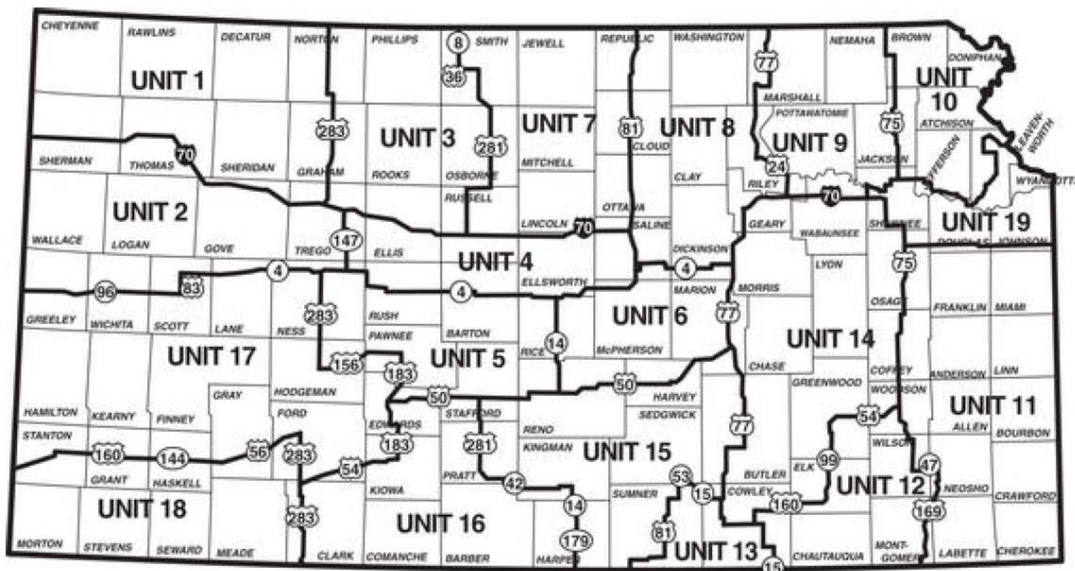
Deer Population Trends

The Kansas Department of Wildlife Parks and Tourism (KDWP) manages deer at the level of Deer Management Units (DMU), see Figure 1. Population trends, harvest and human dimensions aspects to deer management are summarized by these units.

Population trend information from deer related vehicle accident data are collected on a county-by-county basis and converted to an approximate DMU based on the mean of all counties within a DMU. Population trends of deer in Kansas are currently monitored using deer related vehicle accidents adjusted for annual changes in vehicle mileage. County sheriff or state highway patrol officers collect vehicle accident data at the site of each accident. State laws require that an accident report be prepared for each accident that results in an injury or causes more than \$1,000. Vehicle mileage estimates for each county are obtained from standard surveys compiled by the Kansas Department of Transportation (KDOT).

There were 9,018 accidents reported during 2010 compared to a revised total of 9,767 in 2009, a decrease of 7.7%. Revisions in the 2010 accident database may be done by KDOT as records from three of the 105 counties appear to be incomplete (records from Jewell County averaged 76.3 during the previous three year but only 18 in 2010, Rooks County averaged 114.3 but recorded 15 in 2010, and Republic County averaged 108.7 but recorded only 3 in 2010).

Figure 1. Deer management units in Kansas.



35th MDWTSG Proceedings

Bowhunter observations of deer have been collected using diaries and summary forms since 1998 (Figure 2).

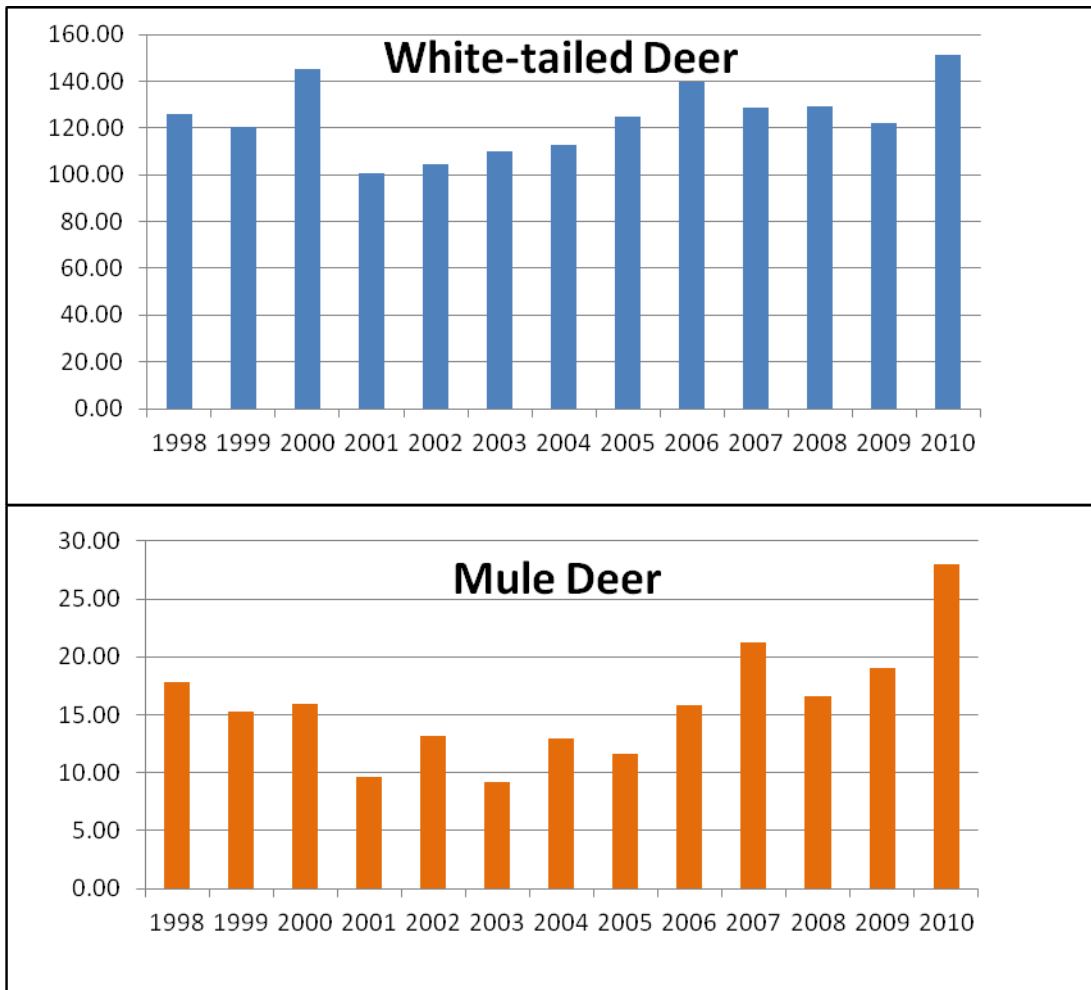


Figure 2. The average number of white-tailed deer and mule deer seen per 100 observational hours recorded in diaries by Kansas bowhunters during the seasons from 1998 to 2010.

Spotlight surveys have been conducted by agency personnel during October and November on selected department managed properties and on representative areas of private property in deer management units since 2002. Distance sampling techniques have been used to analyze those data. Surveys were conducted along 2,030.2 miles of survey routes during 2010. Observations of the age, sex and species were record on each of 3,303 clusters of deer. A total of 6,898 deer were classified in those groups. Standard distance and angle data were collected as well as observations on the behavior of the deer and the habitat they were using. The estimated deer density (deer per square miles and the 95% confidence interval for the management units surveyed in 2010 are shown in Table 1.

Table 1. Estimated deer densities as determined by spotlight and distance sampling procedures in Deer Management Units and selected Wildlife Management Area of Kansas during October and November of 2010.

DMU	Land Type or Name	Estimated Density	95% Confidence Interval	
			Lower	Upper
1	Private	4.88	0.91	26.03
1	Private (CWD area)	14.23	10.58	19.12
1	Public (NORR)	40.39	29.52	55.25
2	Private	1.54	0.89	2.65
2	Private LTNC	8.12	1.40	47.07
2	Public CDBR	50.82	27.77	93.02
3	Private	10.72	6.46	17.79
3	Public WEBR	23.64	16.73	33.40
4	Private	9.23	6.07	14.03
4	Public KANR	53.15	24.34	116.06
5	Private	14.27	9.16	22.25
5	Public CHBW	5.63	2.03	13.76
6	Private	6.08	3.10	11.93
6	Public MARR	3.08	0.79	11.98
7	Private	10.64	7.72	14.66
7	Public WILR	29.82	21.06	42.23
7	Public GELR	30.37	22.39	41.17
8	Private	4.72	3.20	6.95
8	Private KONZA	13.55	9.61	19.10
8	Public MILR	10.81	5.21	22.41
9	Private	6.37	3.40	12.72
9	Public TCRR	9.66	7.85	11.90
10	Private	4.16	3.32	5.22
10	Public PERR	6.28	1.51	26.09
10	Private KU	45.77	30.31	69.10
11N	Private	8.82	6.10	12.77
11N	Public HILR	10.67	6.52	17.48
11S	Private	14.23	7.36	27.52
11S	Public MLWA	12.55	1.19	131.86
11	Public Parsons Ammo Plant	50.48	41.40	61.54
12	Private	13.41	10.41	17.26
12	Public EKCR	18.03	10.58	30.73
12	Public FLRR	12.26	8.15	18.46

Table 1. cont.

DMU	Land Type or Name		Estimated Density	95% Confidence Interval	
				Lower	Upper
13	Private		13.28	7.11	24.80
13	Public	KAWR	70.04	26.61	184.33
14	Private		9.69	5.48	17.15
14	Public	MELR	13.38	6.77	26.47
14	Public	FHNR	22.54	14.77	34.38
15	Private		16.84	3.41	82.28
15	Public		No Survey	No Survey	No Survey
16	Private		10.11	2.07	49.31
16	Public	PRSH	15.04	10.16	22.27
17	Private	CREP	4.06	2.56	6.44
17	Public	SSWA	2.42	1.00	5.85
18	Private		4.95	1.99	12.32
18	Public	CMNG	1.93	0.77	4.86
19	Private		No Survey	No Survey	No Survey
19	Public	CLTN	5.80	3.47	9.70
19	Public	SMCP	60.50	45.33	80.04
19	Public	JOCP	32.15	21.10	48.99

Deer Hunters and Harvest

There were 116,458 people that purchased a deer permit in Kansas during the 2010-11 seasons, an increase of 2.1% over the number of deer hunters in 2009. They purchased 178,935 permits in 2010-11, an increase of 2.7% over the level in 2009 (see Table 2). The history of season dates is presented in Table 3. Shooting hours have traditionally been from ½ hour before sunrise to ½ hour after sunset.

Resident deer hunters may obtain a permit that allows them to pursue either sex of white-tailed deer in any DMU and to use their permit during any season with the equipment authorized for that season (i.e., a statewide any season permit). Resident deer hunters who choose to hunt mule deer in addition to white-tailed deer may purchase an either species, either sex permit. Either-species permits are restricted to a DMU and a specific equipment type (archery, muzzleloader or firearms). The archery and muzzleloader permits are unlimited and available over-the-counter. The firearms permits are limited and available by application and drawing.

35th MDWTSG Proceedings

Quotas for non-resident permits are established for each DMU. Non-residents must apply for a permit. They are selected based on preference points within a random draw system. Hunters receive a preference point each year they but not receive a permit. The total number of non-resident deer permits is established based on deer population trends, deer related vehicle accidents, crop damage complaints and social factors such as landowner desires for additional or fewer non-resident hunters. The number of non-residents is limited in each unit however, the non-residents drawn for a unit may pick the equipment type they desire (i.e., firearms, muzzleloader or archery). They may also designate one additional adjacent unit where they may hunt. During the 2010-11 drawing 17,358 non-residents received a permit and only 532 people did not receive their first choice. In only five units were there more applications than available permits. After the drawing there were 4,016 non-resident deer permits still available. Those permits were issued on a first come basis and most were sold within a few days after the system was reopened.

Successful non-residents with an archery or muzzleloader permit for western units are allowed to draw for a mule deer stamp. This allows them to pursue either species of deer. Table 2 shows the 133 non-resident muzzleloader hunters and 133 non-resident archers obtained a mule deer stamp.

Resident and non-resident landowners are allowed to purchase a deer permit restricted to lands they own or lease for agricultural purposes. Those types of permits allow the hunter to pursue either species and either sex of deer. There is no quota on that type of permit and it may be purchased over-the-counter

The trend in hunting pressure and estimated harvest since 1994 is shown in Table 4. That table shows the changes in number of limited quota permits issued through drawings and the number of unlimited availability permits.

Table 2. Number of deer hunting permits sold in Kansas for the 2010-11 seasons.

FIREARM								
Permit Type	General Resident	Landowner / Tenant	Youth	Non Res Tenant	Hunt-Own-Land	Non_Res Leftover	General Non_Res	Total
Reg Firearm AD	1,730	403	157		5,989		1,111	9,390
Reg Firearm AO	460		38				100	598
Reg Firearm WTES	50,331	18,830	7,028					76,189
Muzzleloader	761	136	65					962
Game Tags *								0
WTAO Permit **	54,398		3,308				4,173	61,879
Special Transferrable HOL				530	1,453			1,983
Non- Resident								
Firearm - White-tailed Either Sex						1,361	6,505	7,866
Muzzleloader - White-tailed Either Sex						441	1,850	2,291
Muzzleloader - Either Species / Either Sex							133	133
Firearm - White-tailed Antlerless								0
Mule Deer Stamp								
Total - Firearm	107,680	19,369	10,596	530	7,442	1,802	13,872	161,291
Total 2009	105,537	19,271	9,635	60	6,877	2,206	13,151	156,737
% Change	2.0	0.5	10.0	783.3	8.2	-18.3	5.5	2.9

ARCHERY								
Permit Type	General Resident	Landowner / Tenant	Youth	Non Res Tenant	Hunt-Own-Land	Non_Res Leftover	General Non_Res	Total
Statewide Archery **	5,179	1,141	243					6,563
Non- Resident								
Archery - White-tailed Either Sex						2,211	8,737	10,948
Archery - Either Species / Either Sex							133	133
Total - Archery	5,179	1,141	243	0	0	2,211	8,870	17,644
Total 2009	5,576	1,293	209	15	0	2,096	8,389	17,578
% Change	-7.1	-11.8	16.3	0	0	5.5	5.7	0.4

Table 3. History of deer hunting season dates in Kansas.

YEAR	FIREARMS OPEN DATES	NO. DAYS	ARCHERY OPEN DATES	NO. DAYS	MUZZLELOADER OPEN DATES	NO. DAYS	YOUTH AND DISABILITY OPEN DATES	NO. DAYS	EXTENDED OPEN DATES	NO. DAYS	YEAR
1965	Dec. 11 - 15	5	Oct. 1 - Nov. 15	46		0		0		0	1965
1966	Dec. 10 - 14	5	Oct. 1 - Dec. 9	70		0		0		0	1966
1967	Dec. 8 - 12	5	Oct. 1 - Nov. 26	57		0		0		0	1967
1968	Dec. 13 - 17	5	Oct. 1 - Dec. 1	62		0		0		0	1968
1969	Dec. 6 - 10	5	Oct. 1 - Nov. 30	61		0		0		0	1969
1970	Dec. 5 - 9	5 - WEST 9 - EAST	Oct. 1 - Nov. 30	61		0		0		0	1970
1971	Dec. 4 - 8	5 - WEST 9 - EAST	Oct. 16 - Nov. 23, Dec. 11 - Dec. 31	62		0		0		0	1971
1972	Dec. 2 - 6	5 - WEST 9 - EAST	Oct. 1 - Nov. 30	61		0		0		0	1972
1973	Dec. 1 - 9	9	Oct. 1 - Nov. 25, Dec. 15 - Dec. 31	73		0		0		0	1973
1974	Dec. 7 - 15	9	Oct. 1 - Nov. 30, Dec. 21 - Dec. 31	72		0		0		0	1974
1975	Dec. 6 - 14	9	Oct. 1 - Nov. 30, Dec. 20 - Dec. 31	73		0		0		0	1975
1976	Dec. 4 - 12	9	Oct. 1 - Nov. 30, Dec. 18 - Dec. 31	75		0		0		0	1976
1977	Dec. 3 - 11	9	Oct. 1 - Nov. 30, Dec. 17 - Dec. 31	76		0		0		0	1977
1978	Dec. 2 - 10	9	Oct. 1 - Nov. 30, Dec. 16 - Dec. 31	77		0		0		0	1978
1979	Dec. 1 - 9	9	Oct. 1 - Nov. 28, Dec. 12 - Dec. 31	79		0		0		0	1979
1980	Dec. 5 - 14	9	Oct. 1 - Dec. 3, Dec. 17 - Dec. 31	79		0		0		0	1980
1981	Dec. 5 - 13	9	Oct. 1 - Dec. 2, Dec. 16 - Dec. 31	79		0		0		0	1981
1982	Dec. 4 - 12	9	Oct. 1 - Dec. 1, Dec. 15 - Dec. 31	79		0		0		0	1982
1983	Dec. 3 - 11	9	Oct. 1 - Nov. 30, Dec. 12 - Dec. 31	79		0		0		0	1983
1984	Dec. 1 - 9	9	Oct. 1 - Nov. 30, Dec. 10 - Dec. 31	79		0		0		0	1984
1985	Dec. 7 - 15	9	Oct. 1 - Dec. 6, Dec. 16 - Dec. 31	79		0		0		0	1985
1986	Dec. 6 - 14	9	Oct. 1 - Dec. 5, Dec. 15 - Dec. 31	79	Dec. 6 - 14	9		0		0	1986
1987	Dec. 5 - 13	12	Oct. 1 - Dec. 4, Dec. 14 - Dec. 31	79	Dec. 5 - 13	9		0	Jan. 2 - 10, 1988	9	1987
1988	Nov. 30 - Dec. 11	12	Oct. 1 - Nov. 20, Dec. 12 - Dec. 31	79	Nov. 30 - Dec. 11	12		0	Jan. 2 - 10, 1989	9	1988
1989	Nov. 29 - Dec. 10	12	Oct. 1 - Nov. 28, Dec. 11 - Dec. 31	79	Sept. 22 - 30	9		0		0	1989
1990	Nov. 28 - Dec. 9	12	Oct. 1 - Nov. 27, Dec. 10 - Dec. 31	79	Sept. 22 - 30	9		0	1st seg Jan. 1 - 14, 2nd seg Jan. 22 - Feb. 4	28	1990
1991	Dec. 4 - 15	12	Oct. 1 - Dec. 3, Dec. 16 - Dec. 31	79	Sept. 21 - 29	9		0	1st seg Jan. 1 - 13, 2nd seg Jan. 21 - Feb. 3	28	1991
1992	Dec. 2 - 13	12	Oct. 1 - Dec. 1, Dec. 14 - Dec. 31	79	Sept. 19 - 27	9		0	Jan. 13 - 26	14	1992
1993	Dec. 1 - 12	12	Oct. 1 - Nov. 30, Dec. 13 - Dec. 31	79	Sept. 18 - 26	9		0	Jan. 11 - 24	14	1993
1994	Nov. 30 - Dec. 11	12	Oct. 1 - Nov. 29, Dec. 12 - Dec. 31	79	Sept. 17 - 25	9		0		0	1994
1995	Dec. 1 - 10	12	Oct. 1 - Nov. 28, Dec. 11 - Dec. 31	79	Sept. 16 - 24	9		0		0	1995
1996	Dec. 4 - 15	12	Oct. 1 - Dec. 3, Dec. 16 - Dec. 31	79	Sept. 21 - 29	9		0		0	1996
1997	Dec. 3 - 14	12	Oct. 1 - Dec. 2, Dec. 15 - Dec. 31	79	Sept. 20 - 28	9		0		0	1997
1998	Dec. 2 - 13	12	Oct. 1 - Dec. 1, Dec. 14 - Dec. 31	79	Sept. 19 - 27	9		0	Jan. 9 - 10, 1999	2	1998
1999	Dec. 1 - 12	12	Oct. 1 - Nov. 30, Dec. 13 - Dec. 30	78	Sept. 18 - 30	13		0	Dec. 31 - Jan. 9, 2000	10	1999
2000	Nov. 29 - Dec. 10	12	Oct. 1 - Nov. 28, Dec. 11 - 31	79	Sept. 16 - 26	14	Sept. 30 - Oct. 1	2	Jan. 1 - 14, 2001	14	2000
2001	Nov. 28 - Dec. 9	12	Oct. 1 - Nov. 27, Dec. 10 - 31	79	Sept. 15 - 26	14	Sept. 29 - 30	2	Jan. 13, 2002	13	2001
2002	Dec. 4 - 15	12	Oct. 1 - Dec. 3, Dec. 16 - 31	79	Sept. 14 - 27	14	Sept. 28 - 29	2	Jan. 12, 2003	12	2002
2003	Dec. 3 - 14	12	Oct. 1 - Dec. 2, Dec. 15 - 31	79	Sept. 13 - 26	14	Sept. 27 - 28	2	Jan. 1 - 4, 2004	4	2003
DMU 19 *	Oct. 18 - 26	9	Jan. 5 - 31	26							
2004	Dec. 1 - 12	12	Oct. 1 - Nov. 30, Dec. 13 - 31	79	Sept. 11 - 24	14	Sept. 25 - 26	2	Jan. 1 - 2, 2005	2	2004
DMU 19 *	Oct. 16 - 24	9	Jan. 3 - 31	28							
2005	Nov. 30 - Dec. 11	12	Oct. 1 - Dec. 31	91	Sept. 10 - 23	14	Sept. 24 - 25	2	Jan. 1 - 8, 2006	8	2005
DMU 19 *	Oct. 15 - 23	9	Jan. 9 - 31	23							
2006	Nov. 29 - Dec. 10	12	Oct. 1 - Dec. 31	91	Sept. 9 - 22	14	Sept. 23 - 24	2	Jan. 1 - 7, 2007	7	2006
DMU 19 *	Oct. 14 - 22	9	Jan. 8 - 31	23							
2007	Nov. 28 - Dec. 9	12	Oct. 1 - Dec. 31	91	Sept. 15 - 28	14	Sept. 29 - 30	2	Jan. 1 - 6, 2008	6	2007
DMU 19	Oct. 13 - 21	9	Jan. 7 - 31	24							
2008	Dec. 3 - 14	12	Sept. 22 - Dec. 31	100	Sept. 22 - Oct. 5	14	Sept. 13 - 21	9	Jan. 1 - 4, 2009	4	2008
DMU 19	Oct. 11 - 19	9	Jan. 5 - 31	26							
2009	Dec. 2 - 13	12	Sept. 21 - Dec. 31	101	Sept. 21 - Oct. 4	14	Sept. 12 - 20	9	Jan. 1 - 10, 2010	10	2009
DMU 19	Oct. 10 - 18	9	Jan. 11 - 31	21					Jan. 1 - 17, 2010 (DMU 7, 8, & 15)	17	
2010	Dec. 1 - 12	12	Sept. 20 - Dec. 31	100	Sept. 20 - Oct. 3	14	Sept. 11 - 19	9	Jan. 1 - 9, 2011	9	2009
DMU 19	Oct. 9 - 17	9	Jan. 10 - 31	22					Jan. 1 - 16, 2011 (DMU 7, 8, & 15)	16	

* Additional days of hunting opportunity in DMU 19

Table 4. History of deer permit availability and harvest in Kansas, 1994 to 2010.

Permit Type	1994*	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
RESIDENT																	
Limited Quota																	
Any Deer	26,380	26,895	27,850	31,150	37,200	40,000	45,175	4,373	3,270	2,855	2,439	2,440	2,453	2,477	2,585	2,480	2,290
Buck Only	5,850	5,000	4,875	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-T Either Sex	3,900	5,480	6,180	7,800	8,900	11,030	14,420	0	0	0	0	0	0	0	0	0	0
W-T Buck Only	1,220	870	320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muzzleloader	3,000	3,550	3,945	3,945	4,755	5,140	5,935	1,188	1,172	1,054	1,048	841	778	768	0	0	0
Antlerless Only	2,860	4,786	3,566	13,886	8,960	8,760	12,406	1,386	1,223	903	174	0	0	102	100	100	488
W-T Antlerless Only	300	600	1,750	2,820	5,055	4,330	6,511										
Sub-total	42,800	46,880	53,830	64,335	85,275	89,280	84,598	6,944	5,886	4,782	3,882	3,281	3,231	3,335	2,885	2,690	2,788
Unlimited Availability																	
Permit Sales																	
Hunt-Your-Own-Land	13,881	14,864	15,507	16,407	18,521	18,119	18,161	12,968	11,983	8,962	8,719	9,120	8,440	8,312	5,851	5,823	5,889
W-T Either Sex								45,385	41,982	48,293	49,371	53,127	53,181	53,412	72,074	74,713	78,189
Muzzleloader																	
Game Tag Residents)	3,119	4,794	4,872	4,894	29,707	49,200	53,784	84,118	79,870	82,275	62,354	45,982	47,842	48,898	0	0	0
W-T Antlerless Only	18,158	18,108	18,429	16,289	17,330	19,180	19,831	17,315	17,340	17,154	2,857	3,616	4,407	4,348	51,558	66,252	57,709
31WD Archery	4,868	4,742	5,108	5,434	3,093	1,758	1,837										
Unit Archery																	
Sub-total	37,812	40,238	41,814	42,774	88,851	88,255	98,583	171,358	162,814	138,738	130,833	128,852	133,147	133,184	135,033	144,828	147,459
Sub-total Residents	80,412	87,118	95,744	107,088	131,828	155,515	181,179	178,302	153,479	143,520	134,495	132,983	138,378	138,518	140,723	147,218	150,187
NON RESIDENT																	
Antlered (Firearms)	415	385	451	645	888	1,687	3,878	3,985	4,347	4,088	6,432	7,304	8,884	9,725	7,553	8,188	7,888
Either Spokees ES (M2)	18	0	43	141	154	237	481	240	244	158	184	187	221	241	184	132	133
White-tailed ES (M2)																	
Antlered (HOL)	207	245	288	520	700	1,028	1,190	1,168	1,372	1,670	1,708	2,028	2,553	2,531	1,727	2,082	2,291
Antlerless (Firearms)	115	45	241	775	648	852	906	800	728	840	1,101	850	411	421	3,538	3,888	4,273
Game Tag Nonresidentic)																	
W-T ES (Archery)	415	385	451	645	814	888	2,577	2,977	2,800	2,801	3,253	3,746	4,248	4,884	7,588	10,331	10,848
ES ES (Archery)																	
Antlerless (Archery)	115	45	241	775	271	154	207	0	0	0	0	0	0	0	122	164	133
Sub-total	1,285	1,105	1,898	3,601	3,571	5,440	14,982	16,225	15,220	13,872	21,244	17,883	20,822	23,481	23,251	27,088	28,738
Percent of Permits to NR	1.8	1.3	1.7	3.2	2.8	3.4	7.2	7.9	8.8	8.7	13.8	11.7	13.2	14.7	14.2	16.5	18.1
GRAND TOTAL	81,697	88,221	97,439	110,600	135,497	160,955	195,241	193,527	173,699	157,192	155,739	150,546	157,200	160,010	163,974	174,315	178,335
History of deer harvest in Kansas, 1994 to 2008.																	
Permit Type																	
Regular Firearms (Res)	25,500	27,700	31,200	39,600	40,700	44,700	38,548	27,493	22,561	24,313	28,555	31,885	33,912	31,172	41,845	41,835	44,479
Hunt-Own-Land (Res + NR)	8,400	8,900	8,800	10,400	10,900	12,000	11,732	7,114	5,370	4,754	5,550	5,344	5,571	5,002	4,739	4,207	4,945
Antlerless Tags (Res + NR)	1,800	2,500	3,100	2,800	20,300	31,000	44,216	56,164	43,002	30,372	29,328	22,554	22,427	20,422	21,134	27,598	26,532
Regular Firearms (NR)	340	290	450	640	1,200	1,500	4,776	2,768	2,832	2,672	3,867	4,170	5,596	5,501	4,872	5,711	5,327
Archery (Res + NR)	7,800	7,200	8,500	9,700	8,000	12,000	11,887	8,045	9,147	9,172	9,435	11,157	11,685	11,584	7,900	7,696	7,555
Grand Total	43,840	46,590	52,050	63,140	81,100	101,300	111,159	101,584	82,912	71,283	76,935	74,910	79,191	73,681	80,450	87,047	89,038

* First year of non-resident deer hunting in Kansas.

35th MDWTSG Proceedings

The basic deer hunter harvest survey in Kansas is an on-line survey that covers all permits a hunter might purchase. A sample of hunters is selected for this survey. People are contacted by the email address in the KOALS database. The survey is written in SurveyMonkey. Our sample consisted of four groups of 8,305 deer hunters ($n = 33,220$). Each group was contacted three times by email. Due to non-deliverable addresses and duplication of email addresses (SurveyMonkey will not contact a second or more hunter having the same address). We contacted 30,847 hunters of which 286 opted out of Survey Monkey.

In addition to the basic e-mail survey, we send paper surveys to 1,162 deer hunters that did not have an email address associated with their license data and we sent a paper survey to 520 of the non-respondents to the e-mail survey. We also surveyed 3,506 resident bowhunters with a paper survey. They were contacted before the season and asked to gather wildlife observations using a diary as well as being given a deer hunter report card. Because they were selected before the season we draw their names from previous years. Only 2,925 people in that sample purchased a deer permit valid for 2010 and only 1,482 had purchased a statewide archery permit. We mailed two follow-ups to non-respondents to the paper surveys.

Responses were received from 18,396 deer hunters in the e-mail survey, a 59.6% response rate with 94.9% of them completing all questions in the survey. Among the people contacted with a paper survey, usable responses were received from 512 of the hunters without an e-mail address (44.1% response rate), 250 of the non-response e-mail sample (48.1% response rate), and 1,107 of the resident bowhunters (37.8% response rate).

Selected variables such as 'Did you hunt?' 'Did you kill a deer?', and 'How many days did you hunt?' were compared for hunters with the same type of deer permit that were contacted in different manners. No significant difference was detected in hunter responses to those questions based on the method used to contact the hunter (e-mail versus paper survey). We also compared the gender and age structure of the hunters in the four groups and did not detect a significant difference. We were not able to detect a significant difference in responses to the email survey based on which wave of sampling they completed, (i.e., response to first e-mail, 2nd e-mail or 3rd e-mail). As a result we combined all surveys and used no correction factor to expand our sample to an estimate of total harvest, effort and similar items.

The estimate of the number of deer killed by hunters in Kansas during the 2010-11 seasons was 89,038. That was 2.3% above the corresponding estimate made of the harvest in 2009-10. Table 5 shows the success rates of the various permit hunt types and the breakdown of the harvest by species and age sex category. Table 6 shows the number of deer taken statewide by permit type.

35th MDWTSG Proceedings

The hunting regulations in 2010-11 once again allowed deer hunters flexibility to use a variety of equipment and conduct activities during a variety of seasons. We cannot use the permit type to classify hunters to an equipment category. A firearms permit allowed the hunter to use muzzleloaders or archery equipment. As in previous years, all unfilled permits converted to a firearm permit during the extended season for antlerless white-tailed deer. Table 7 shows the harvest by equipment by hunters with the various permit types.

Hunter satisfaction has been monitored using our post season harvest survey and a five-point Likert scale to a simple question; “Describe your satisfaction with your 2010-11 deer hunt in Kansas.” The five choices are: Extremely Satisfied, Satisfied, Neutral, Dissatisfied and Extremely Dissatisfied. This is an annual gauge for deer hunters. Periodically more in-depth surveys are specifically designed and conducted to gather more information. Typically non-resident deer hunters indicate higher satisfaction than resident deer hunters. That was observed again this year with 74.7% of the non-residents indicating that they were extremely satisfied or satisfied and 8.9% indicated they were dissatisfied or extremely dissatisfied, whereas 66.6% of the residents selected the satisfied levels and 12.1% picked the levels expressing dissatisfaction.

Legislative and Social Issues

Extensive changes in the deer permitting and regulation system were initiated for the 2008-09 deer hunting seasons. Most of those changes have received public support and reduced some of the efforts people traditionally made to modify the system from the legislature. Deer related vehicle accidents continue to shape the concerns of some legislators toward deer management. Once again in 2010 a bill was introduced to expand the length of the white-tailed deer antlerless only season and to expand the use of crossbows in the state. No action was taken on that bill. However, the legislative committee asked the department to review option to increase deer hunting for antlerless deer.

Suggestions from hunters and landowners for changes in season length and timing are common. In addition the department receives various suggestions for changes in deer hunting regulations dealing with equipment, permit limitations, and tagging requirements. Law enforcement officers have requested that an antler tagging program be initiated in addition to the department’s current carcass tagging program. As a result of these requests the department initiated a series of public meeting and plans to conduct human dimension surveys to determine the demand for change and to determine the potential for conflict that these changes might cause.

Table 5. Success rate of hunters using various permit hunt types during the 2010 - 2011 deer season in Kansas.

RES	STWD	Permit Type	Permit Success Rate	Percent of the Harvest in Species and Sex Category									
				White-tailed Deer					Mule Deer				
				Antlered Buck	Male Fawn	Adult doe	Female Fawn	Buck With Sheds	Antlered Buck	Male Fawn	Adult doe	Female Fawn	Buck With Sheds
KS		Any Deer, Gen Res	73.2%	33.87%	1.42%	5.48%	1.01%	0.81%	49.70%	0.20%	7.10%	0.20%	0.20%
KS		Any Deer, LO/Ten	68.9%	40.00%	1.82%	5.45%	0.00%	0.00%	49.09%	0.00%	3.64%	0.00%	0.00%
KS		Any Deer, Youth	71.0%	40.91%	0.00%	4.55%	0.00%	0.00%	50.00%	0.00%	4.55%	0.00%	0.00%
KS		Any Season W-T Either Sex, Gen Res	55.3%	66.41%	2.93%	27.59%	1.42%	1.35%	0.20%	0.00%	0.03%	0.00%	0.07%
KS		Any Season W-T Either Sex, LO/Ten	54.3%	68.15%	3.16%	26.35%	1.17%	0.82%	0.12%	0.00%	0.00%	0.23%	0.00%
KS		Any Season W-T Either Sex, Youth	55.5%	68.15%	6.37%	22.28%	1.27%	1.27%	0.64%	0.00%	0.00%	0.00%	0.00%
KS		Muzzleloader, Gen Res	63.9%	31.25%	0.89%	10.71%	1.79%	0.00%	45.54%	0.89%	8.04%	0.00%	0.89%
KS		Muzzleloader, LO/Ten	61.4%	31.43%	2.88%	11.43%	0.00%	0.00%	45.71%	0.00%	5.71%	0.00%	2.88%
KS		Muzzleloader, Youth	75.0%	0.00%	0.00%	33.33%	0.00%	0.00%	66.67%	0.00%	0.00%	0.00%	0.00%
KS		HOL	53.9%	56.45%	2.05%	18.18%	0.45%	0.68%	21.14%	0.00%	1.82%	0.23%	0.00%
KS		STWD Archery, Gen Res	48.8%	66.03%	1.92%	17.85%	0.85%	0.84%	11.32%	0.21%	0.85%	0.00%	0.21%
KS		STWD Archery, LO/Ten	53.2%	69.78%	2.88%	14.39%	1.44%	0.00%	10.79%	0.00%	0.72%	0.00%	0.00%
KS		STWD Archery, Youth	60.0%	66.67%	0.00%	16.67%	0.00%	0.00%	16.67%	0.00%	0.00%	0.00%	0.00%
KS		WTAO, General Resident	33.4%	0.00%	7.53%	84.48%	6.07%	1.64%	0.00%	0.00%	0.00%	0.00%	0.00%
KS		WTAO, Youth	35.4%	0.00%	12.24%	81.63%	6.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KS		ESAO	57.6%	0.00%	3.42%	20.51%	0.85%	1.71%	0.00%	1.71%	69.23%	1.71%	0.85%
NR		Firearms W-T Either Sex, Draw	58.5%	93.11%	0.34%	5.32%	0.00%	0.85%	0.27%	0.00%	0.00%	0.00%	0.00%
NR		Firearms W-T Either Sex, Leftover	43.0%	90.24%	0.81%	7.32%	0.00%	1.22%	0.61%	0.00%	0.00%	0.00%	0.00%
NR		Muzzleloader, Draw	47.5%	93.15%	0.60%	5.08%	0.00%	0.89%	0.30%	0.00%	0.00%	0.00%	0.00%
NR		Muzzleloader, Leftover	32.7%	87.76%	0.00%	12.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NR		Muzzleloader, ESES	62.5%	28.57%	0.00%	2.88%	0.00%	0.00%	65.71%	2.88%	0.00%	0.00%	0.00%
NR		HOL	54.6%	73.58%	0.52%	15.54%	1.04%	1.55%	6.22%	0.00%	1.55%	0.00%	0.00%
NR		HOL Special	56.9%	62.68%	0.00%	17.22%	0.96%	1.44%	15.79%	0.00%	0.96%	0.86%	0.00%
NR		HOL NR Tenant	46.7%	71.88%	1.56%	18.75%	1.56%	0.00%	6.25%	0.00%	0.00%	0.00%	0.00%
NR		Archery, Draw	41.2%	91.75%	0.52%	6.32%	0.45%	0.97%	0.00%	0.00%	0.00%	0.00%	0.00%
NR		Archery, Leftover	29.5%	91.03%	0.90%	7.17%	0.45%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
NR		Archery, ESES	58.1%	73.81%	0.00%	4.78%	0.00%	0.00%	21.43%	0.00%	0.00%	0.00%	0.00%
NR		WTAO	37.5%	0.00%	4.70%	90.02%	3.33%	1.96%	0.00%	0.00%	0.00%	0.00%	0.00%
NR		ESAO	29.1%	0.00%	0.00%	31.25%	6.25%	0.00%	0.00%	0.00%	62.50%	0.00%	0.00%
KS		KS Sub-Total		45.42%	4.65%	45.54%	2.90%	1.29%	3.14%	0.03%	0.67%	0.05%	0.05%
NR		NR Sub-Total		76.41%	1.12%	20.52%	0.81%	1.13%	2.08%	0.02%	0.31%	0.06%	0.00%

Table 6. Number of deer harvested in Kansas during the 2010-11 season by the permit hunt type of the hunter.

RES	Permit Type	White-tailed Deer						Mule Deer						Total Antlerless MD	Total Antlerless	Total Deer Harvested	Percent Of WT Harvest That Was Antlerless	Percent Of MD Harvest That Was Antlerless	Grand Total For Permit Type
		Antlered Buck	Male Fawn	Adult doe	Female Fawn	Buck With Sheds	Total Antlerless WTD	Antlered Buck	Male Fawn	Adult doe	Female Fawn	Buck With Sheds	Total Antlerless						
KS	Any Deer	431	18	70	13	10	111	632	3	90	3	3	98	542	730	20.48%	13.43%	1,272	
KS	Any Deer	113	5	15	0	0	21	139	0	10	0	0	10	134	149	15.38%	6.90%	283	
KS	Any Deer	46	0	5	0	0	5	56	0	5	0	0	5	51	61	10.00%	8.33%	111	
KS	W-T Either Sex	18,575	820	7,717	396	378	9,310	55	0	9	0	18	28	27,885	83	33.39%	33.33%	27,968	
KS	W-T Either Sex	7,021	326	2,714	121	84	3,245	12	0	24	0	24	0	10,266	36	31.61%	66.67%	10,302	
KS	W-T Either Sex	2,669	249	873	50	50	1,222	25	0	0	0	0	0	3,891	25	31.41%	0.00%	3,916	
KS	Muzzleloader	154	4	53	9	0	66	224	4	40	0	4	48	220	272	30.00%	17.74%	492	
KS	Muzzleloader	27	2	10	0	0	12	40	0	5	0	2	7	40	47	31.25%	15.79%	87	
KS	Muzzleloader	0	0	16	0	0	16	33	0	0	0	0	0	16	33	100.00%	0.00%	49	
KS	HOL	1,803	66	591	15	22	664	667	0	59	7	0	66	2,487	754	27.81%	8.82%	3,251	
KS	STWD Archery	1,687	49	459	22	16	546	289	5	22	0	5	33	2,233	322	24.45%	10.17%	2,555	
KS	STWD Archery	429	18	88	9	0	115	66	0	4	0	4	4	544	71	21.14%	6.25%	615	
KS	STWD Archery	97	0	24	0	0	24	24	0	0	0	0	0	122	24	20.00%	0.00%	146	
KS	WTAO General	0	1,784	19,249	1,384	373	22,760	0	0	0	0	0	0	22,760	0	100.00%	#DIV/0!	22,760	
KS	WTAO Youth	0	178	1,184	89	0	1,450	0	0	0	0	0	0	1,450	0	100.00%	#DIV/0!	1,450	
KS	ESAO	0	12	71	3	6	92	0	6	239	6	3	254	92	254	100.00%	100.00%	348	
NR	W-T Either Sex	3,414	13	195	0	35	243	10	0	0	0	0	0	3,657	10	6.63%	0.00%	3,667	
NR	W-T Either Sex	540	4	44	0	7	55	4	0	0	0	0	0	595	4	9.20%	0.00%	599	
NR	Muzzleloader	773	5	42	0	7	54	2	0	0	0	0	0	827	2	6.57%	0.00%	829	
NR	Muzzleloader	131	0	18	0	0	18	0	0	0	0	0	0	149	0	12.24%	#DIV/0!	149	
NR	Muzzleloader ESES	24	0	2	0	0	2	55	2	2	0	2	2	26	57	9.09%	4.17%	83	
NR	HOL	462	3	96	6	10	115	38	0	10	0	10	10	567	48	20.22%	20.00%	615	
NR	HOL Special	519	0	143	8	12	163	131	0	8	8	0	16	682	147	23.84%	10.81%	829	
NR	HOL NR Tenant	181	4	47	4	0	55	16	0	0	0	0	0	236	16	23.33%	0.00%	252	
NR	Archery	3,296	19	227	16	35	297	0	0	0	0	0	0	3,593	0	8.25%	#DIV/0!	3,593	
NR	Archery	609	6	48	3	3	60	0	0	0	0	0	0	669	0	8.97%	#DIV/0!	669	
NR	Archery ESES	57	0	4	0	0	4	17	0	0	0	0	0	81	17	6.06%	0.00%	77	
NR	WTAO	0	64	1,807	67	39	2,008	0	0	0	0	0	0	2,008	0	100.00%	#DIV/0!	2,008	
NR	ESAO	0	0	12	2	0	14	0	0	24	0	0	24	14	24	100.00%	100.00%	38	
KS	KS Sub-Total	33,050	3,531	33,140	2,110	939	38,720	2,282	18	484	40	38	578	72,771	2,861	54.56%	20.23%	75,631	
NR	NR Sub-Total	9,996	147	2,685	107	148	3,086	272	2	41	8	51	13,083	324	324	23.59%	15.90%	13,406	
	STWD Total	43,047	3,678	35,824	2,216	1,088	42,807	2,554	21	525	48	38	630	85,853	3,184	49.86%	19.79%	89,038	

Table 7. Number of deer taken by equipment type by hunters with various permit type in Kansas, 2010.

RES	Permit Type	STWD													Total
		Compound Bow	Recurve/Long Bow	Archery Unspecified	In-Line MZ	Traditional MZ Unspecified	MZ Unspecified	Centerfire Rifle	Shotgun & Slug	Pistol	Cross Bow Unspecified	Firearms Unspecified			
KS	Any Deer, Gen Res	10	0	0	3	0	0	1,166	5	0	0	0	88	1,272	
KS	Any Deer, LO/Ten	0	0	0	0	0	0	211	0	0	0	0	72	283	
KS	Any Deer, Youth	5	0	0	0	0	0	106	0	0	0	0	0	111	
KS	Any Season W-T Either Sex, Gen Res	5,102	83	1,409	691	92	83	19,275	193	64	101	875	27,968		
KS	Any Season W-T Either Sex, LO/Ten	1,411	24	434	193	12	0	7,515	48	72	48	543	10,302		
KS	Any Season W-T Either Sex, Youth	399	0	25	25	0	0	2,868	25	0	0	574	3,916		
KS	Muzzleloader, Gen Res	0	0	0	316	66	79	26	0	0	0	4	492		
KS	Muzzleloader, LO/Ten	0	0	0	27	7	42	5	0	0	0	5	87		
KS	Muzzleloader, Youth	0	0	0	16	16	0	16	0	0	0	0	49		
KS	HOL	303	0	22	22	7	7	2,726	30	7	7	118	3,251		
KS	STWD Archery, Gen Res	1,097	60	1,119	0	0	0	169	0	0	0	109	2,555		
KS	STWD Archery, LO/Ten	217	13	288	0	0	0	49	0	0	0	49	615		
KS	STWD Archery, Youth	122	0	0	0	0	0	24	0	0	0	0	146		
KS	WTAO, General Resident	3,862	89	2,207	581	82	127	13,881	37	112	82	1,730	22,790		
KS	WTAO, Youth	248	18	0	18	0	0	1,008	0	0	0	159	1,450		
KS	ESAO	6	0	24	21	3	12	257	0	0	0	24	346		
NR	Firearms W-T Either Sex, Draw	18	0	0	20	3	3	3,529	8	0	0	88	3,667		
NR	Firearms W-T Either Sex, Leftover	7	0	0	0	0	0	544	0	0	0	47	599		
NR	Muzzleloader, Draw	2	0	0	688	57	72	10	0	0	0	0	829		
NR	Muzzleloader, Leftover	3	0	0	124	0	19	0	0	0	0	3	149		
NR	Muzzleloader, ESES	0	0	0	76	7	0	0	0	0	0	0	83		
NR	HOL	166	0	13	13	13	3	373	0	0	0	35	615		
NR	HOL Special	135	0	8	16	0	4	615	4	0	4	44	829		
NR	HOL NR Tenant	63	0	0	8	0	0	181	0	0	0	0	252		
NR	Archery, Draw	3,324	97	69	5	0	0	28	0	0	69	0	3,593		
NR	Archery, Leftover	603	6	36	0	0	0	3	0	0	21	0	669		
NR	Archery, ESES	72	4	0	0	0	0	0	0	0	2	0	77		
NR	WTAO	854	27	0	115	12	0	981	0	3	15	0	2,008		
NR	ESAO	7	0	0	17	0	0	14	0	0	0	0	38		
KS	KS Sub-Total	12,782	287	5,527	1,913	286	350	49,304	339	256	239	4,349	75,633		
NR	NR Sub-Total	5,254	134	126	1,081	91	100	6,279	11	3	111	217	13,408		
	Total	18,036	422	5,654	2,994	377	450	55,583	350	259	350	4,566	89,041		

Chronic Wasting Disease Management

The heads of deer and elk were collected from hunters and from vehicle accident locations by KDWPT personnel and contractors. Some taxidermists were also contractors and they assisted in collecting samples from older aged male deer. Focusing on that segment of the population should enhance our potential to detecting positive animals. Samples were obtained from 2,518 wild cervids (2,201 white-tailed deer, 297 mule deer, 17 elk and three unspecified animals) during 2010-11 (Figure 4).

Retropharyngeal lymph nodes (RPLN) were submitted to the Veterinary Diagnostic Laboratory at Kansas State University (KSU) for ELISA screening. Confirmation IHC tests were conducted at the National Veterinary Services Laboratories in Ames, IA. Six clinical cases of sick deer were shipped to SCWDS and tested with IHC. The majority of the financial assistance for CWD surveillance was provided by the USDA APHIS VS, while standard deer health issues were handled under PR funds (W39R).

CWD was detected in 9 white-tailed deer and one mule deer last year. This is the first time we have detected CWD in mule deer. The distribution of sampling and positive animals since 1996 is shown in Figure 5. In 2001 the first positive animal was detected in a privately owned elk imported from Colorado. Since that time 37 CWD positive specimens have been detected in DMU 1, 1 in DMU 2, and 1 in DMU 3.

N = 2503
(498 samples could not be plotted---No Coordinates)

10 CWD Detections

2010-2011

All Males (9 White-tailed and 1 Mule Deer)
 Seven, 3.5 year-olds (includes 1 mule deer)
 Two, 2.5 year-olds
 One, 1.5 year-old

Decatur = 6 (includes one mule deer in SW corner and 2 WT from same location)
 Norton = 1 (new county of detection)
 Graham = 1
 Sherman = 1 (new county of detection)
 Smith = 1 (new county of detection, 1.5 male)

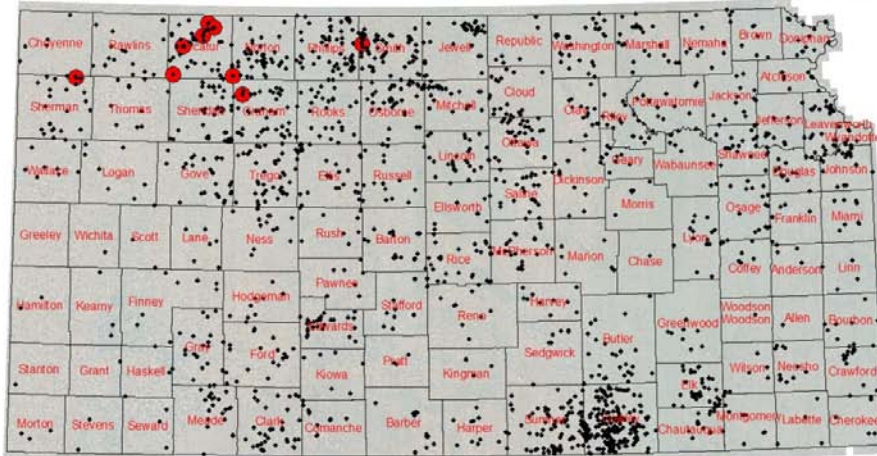


Figure 4. Distribution of deer and elk sampled for CWD detection in Kansas during 2010-11.

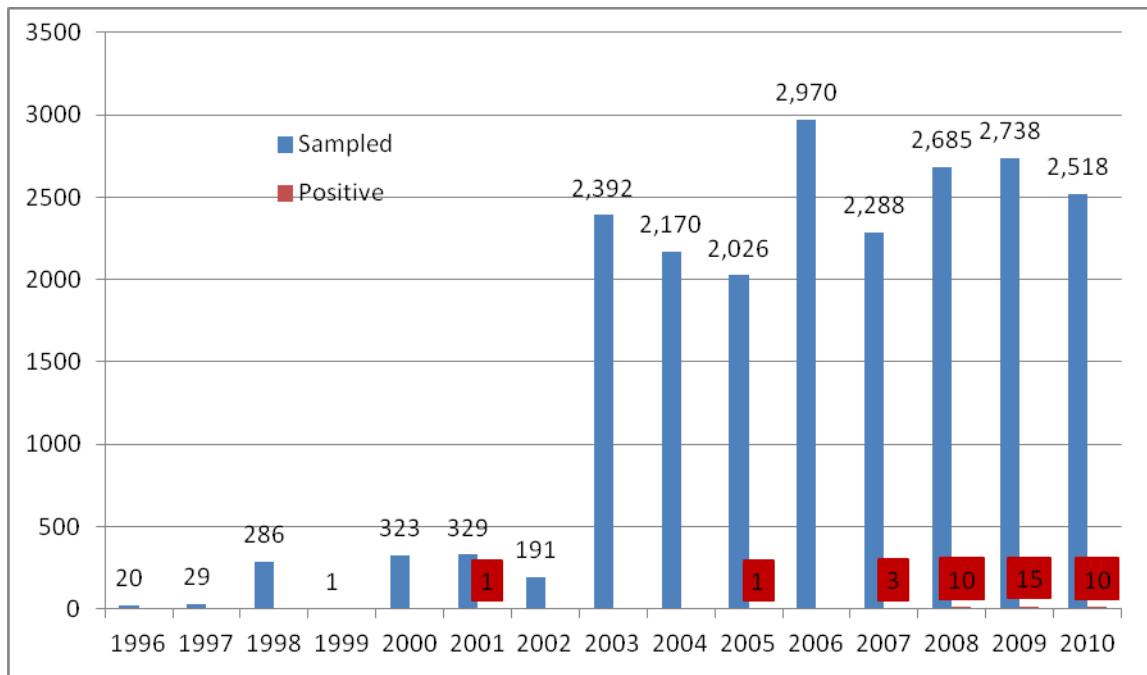


Figure 5. Number of deer and elk sampled and CWD positive animals detected by year in Kansas.



**2010 - 2011 MICHIGAN DEER STATUS REPORT
35TH MIDWEST DEER AND WILD TURKEY STUDY GROUP MEETING
25 - 28 SEPTEMBER 2011 · ROSCOMMON, MI**

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2010 Michigan Deer Seasons and Licenses

During 2010, white-tailed deer (*Odocoileus virginianus*) in Michigan could be harvested primarily during the following hunting seasons: youth, archery, regular firearm, muzzleloader, early antlerless, late antlerless, and special hunts for disabled hunters. In order to harvest a deer, hunters had to possess a hunting license (firearm, archery, combination, or antlerless license). A harvest tag was issued as part of the hunting license. Hunters could purchase a maximum of two licenses for taking an antlered deer (either one combination license or both a firearm and an archery license). Archery and firearm licenses included one harvest tag, while the combination license had two harvest tags. A firearm license allowed a person to take one deer with at least one antler three inches or longer. An archery license allowed an individual to take one deer of either sex. A person with a combination license could take two deer of either sex during the archery season, two antlered deer during the firearm season, or one deer during each season. If two antlered deer were taken, regardless of type of license, one needed to have at least one antler with four or more points (qualifying points must be at least one inch).

Antler point restrictions adopted in 2008 for the taking of antlered deer (bucks) in the UP remained in place and were implemented in 2010 in the TB zone (DMU 487) in the Northeast LP. Under this regulation, the regular buck tag of a combination deer license could only be used to tag a buck with at least three antler points on one side. The restricted tag could only be placed on a buck with a minimum of four points on one side. Hunters who chose not to purchase the combination tag were restricted to one buck only (without any new antler point restrictions) in the UP or DMU 487, all seasons combined, even if they purchased both archery and firearms licenses.

Antlerless licenses could be purchased in addition to archery, firearm, or combination licenses. Antlerless deer licenses allowed hunters to take deer without antlers or with antlers shorter than three inches during any season with equipment appropriate for the season. Use of each antlerless license was restricted to a single deer management unit (DMU) designated at the time of purchase. Antlerless licenses were available for most of the state, except in seventeen DMUs in the UP and three DMUs in the Lower Peninsula (LP). Antlerless licenses were issued specifically for either public or private lands. Public land antlerless licenses were not available in all DMUs that had private land licenses. The number of licenses available in DMUs open to antlerless deer hunting was established by the Natural Resources Commission.

A private land antlerless deer hunting license was valid for taking antlerless deer only from privately-owned lands within the DMU specified on the license with permission of the landowner. A private land license was not valid on land enrolled in the Commercial Forest Act program (Commercial Forest Lands). Antlerless licenses for DMUs where demand was expected to exceed supply were allocated using a random drawing. In DMUs where the supply of licenses was expected to exceed demand, antlerless licenses could be purchased directly from a license vendor on a first-come, first-served basis. To purchase a private land antlerless license, hunters had to provide the contact phone number of the private landowner granting permission to deer hunt in the DMU.

A public land antlerless deer hunting license allowed an individual to hunt for antlerless deer on publicly-owned lands (including state, federal, and county lands) open to hunting and Commercial Forest Lands within the DMU for which it was issued. A public land license was invalid on any privately-owned lands except Commercial Forest Lands. Antlerless licenses for use on public lands were allocated among people that applied for these licenses using a random drawing. In select DMUs, licenses available after the drawing was completed were made available on a first-come, first-served basis. Hunters were limited to a maximum purchase of five private or public land antlerless deer licenses per day for DMUs 486 (Southern LP), 487 (TB zone), and 041 (CWD area - Kent Co.), with no season limit. The daily purchase limit for antlerless licenses in all other DMUs was two, with a season limit of 5.

Deer Management Assistance (DMA) permits were special antlerless permits issued to landowners where the number of antlerless licenses was insufficient to meet the objective of specific landowners (e.g., controlling disease, crop damage, or deer abundance). These permits allowed hunters to take one antlerless deer per permit during any deer season on the land where issued or adjacent private lands with the landowner's permission and cost \$15 each. To use these permits, the hunter also must have purchased a valid deer hunting license for the season in which they were hunting and abide by all other hunting regulations.

Managed Deer Hunt permits were antlerless permits that could be used during special seasons on some public lands (e.g., state parks, state wildlife areas, and some federal land). These permits were issued by special random drawings. To use these permits, the hunter also must have purchased a valid deer hunting license and abide by all other hunting regulations.

The youth firearm season was held during September 25-26 on public and private lands statewide. Youths 10-16 years of age could take one deer of either sex using a firearm license or combination license. Only an antlerless deer could be taken with an antlerless license or DMA permit. Youths participating during this season had to be accompanied by an adult at least 18 years old. Youths 10 and 11 years of age were restricted to archery-only equipment. Youths 12 and 13 years of age could use archery equipment or firearms, but firearm hunting was restricted to only private land. Youth hunters could take no more than one deer during the season. Additionally, a new youth early antlerless firearm hunting season in DMU 041 and DMU 486 was created in 2010. This season occurred September 21-24, and was open on all lands within these DMUs with the appropriate public or private-land antlerless license or DMA permit.

The archery season occurred statewide on public and private lands. This season was divided into an early and late season (October 1 through November 14 and December 1, 2010, through January 1, 2011). Archery licenses, antlerless licenses, combination licenses, and DMA permits could be used to take deer during the archery seasons using archery equipment.

Deer could also be taken during the special disabled firearm hunt October 14-17, 2010. Hunters could take deer on private lands or public lands requiring an access permit. Only hunters that were issued a permit to hunt from a standing vehicle; veterans with 100% disability as defined by the United States Department of Veterans Affairs, and legally blind people could participate in this season. A veteran with 100% disability also could take a deer during the youth firearm season (September 25-26).

The statewide regular firearm season occurred November 15-30. The muzzleloader season was held December 3-12 in the Upper Peninsula, December 11-19 in the northern LP, and December 3-19 in the southern LP. Hunters were allowed to take deer on both public and private lands with firearm and combination deer hunting licenses during the regular firearm and muzzleloader seasons. Antlerless licenses (including DMA permits) also could be used during the firearm seasons.

The early antlerless firearm season occurred from September 16-20. The late antlerless firearm season occurred from December 20, 2010, through January 1, 2011. Hunters pursuing deer during these seasons had to have purchased an antlerless license and possess an unused antlerless harvest tag (including DMA permits) and were limited to hunting on private land. The area open to hunting during the early antlerless season was limited to all or portions of 47 counties in the LP. The area open to hunting during the late antlerless season was limited to 35 counties in the LP.

Mail Survey and Harvest Results

Michigan uses an annual mail survey of hunters following completion of the deer hunting season to estimate hunter participation, harvest, and hunting effort. The Wildlife Division also provided all hunters the option to report information about their deer hunting activity voluntarily via the internet. This option was advertised through hunting regulation booklet and on the DNR web site, and an email message was sent to all license buyers that had provided an email address to the DNR. Questions in the 2010 harvest survey questionnaire were also designed to investigate hunter satisfaction with the 2010 hunting season and deer numbers, to gauge support for the antler point restrictions that were enacted in the UP and DMU 487, and to investigate whether these restrictions had influenced deer hunting activity (hunting effort, harvest, and satisfaction) in the UP or DMU 487. Following the 2010 deer hunting seasons, a questionnaire was sent to 51,348 randomly selected individuals who had purchased a hunting license (firearm, archery, antlerless, or combination deer hunting licenses) and had not already voluntarily reported harvest information via the internet. Hunters receiving the questionnaire were asked to report seasons in which they pursued deer, number of days spent afield, and number of deer harvested. Hunters were instructed not to report hunting effort and harvest associated with DMA permits because landowners obtaining these permits already were required to report the number of deer harvested to the DNR.

In 2010, 697,529 people purchased a license to hunt deer in Michigan. The number of people buying a license in 2010 declined nearly 4% from 2009. The number of 2010 deer harvest tags sold for all license types combined also declined approximately 4% from 2009 (Table 1). License buyers were issued an average of 2.2 harvest tags. About 46% of the license buyers purchased at least one antlerless license.

The antlerless license quota on private lands increased 7% from 659,800 in 2009 to 704,400 licenses in 2010. The quota for public land antlerless licenses increased 6% from 68,300 to

72,100 between 2009 and 2010. Although the 2010 antlerless quota increased 7% from 2009, the number of antlerless licenses sold declined 6% between 2009 and 2010 (Table 1).

About 94.1% of the people buying a license in 2010 actually spent time hunting deer. Most hunters (593,074) pursued deer during the regular firearm season. Statewide, the number of people hunting deer during all seasons combined decreased 4% from 2009. About 45% of the days hunters spent pursuing deer throughout the state occurred in the regular firearm season and 41% occurred during the archery season. Nearly 13% of the hunting effort occurred in the other hunting seasons (muzzleloader, early antlerless, late antlerless, youth, and disabled hunter seasons). Statewide, hunters devoted an average of 15.3 days afield hunting deer during all seasons combined. Hunting effort decreased significantly during the youth (-17%), early antlerless (-13%), late antlerless (-10%), muzzleloader (-11%) and regular firearm (-9%) seasons. Hunting effort was unchanged during the archery and disabled seasons between 2009 and 2010.

Nearly 418,000 deer were harvested in 2010, a decrease of about 6% from the number taken in 2009 (Table 2). Statewide, the harvest of antlered deer was unchanged, but antlerless deer harvest decreased 10%. About 54% of the deer harvested (sexes combined) in 2010 were taken during the regular firearm season. Nearly 46% of the antlerless deer and 61% of the antlered bucks were harvested in the regular firearm season. Hunters took 28% of the harvested deer (sexes combined) during archery season. During the archery season, hunters took 27% of the antlerless deer and 31% of the antlered bucks harvested.

Statewide, 44% of the deer hunters harvested at least one deer (all deer seasons and sexes combined) in 2010. About 23% of the hunters took an antlerless deer, and 29% took an antlered buck. About 15% of deer hunters harvested two or more deer.

Deer hunters were asked to report how satisfied they were with (1) number of deer seen, (2) number of antlered deer [bucks] seen, (3) number of deer taken, and (4) their overall hunting experience. Statewide, less than 45% of hunters were satisfied with numbers of deer seen, bucks seen, deer taken, and their overall hunting experience in 2010. Satisfaction increased statewide for all measures between 2009 and 2010. Highest levels of satisfaction were reported among hunters in the southern LP.

Statewide, about 50% of hunters supported the antler point restrictions on buck harvest implemented for the UP, and about 59% of the hunters that preferred to hunt in the UP supported the antler point restrictions. About 40% of all hunters supported the antler point restrictions on buck harvest implemented for DMU 487, and about 42% of the hunters that preferred to hunt in the northeast LP supported the antler point restrictions. Statewide and regional levels of support for the antler point restrictions increased significantly between 2009 and 2010.

About 90,615 hunters took advantage of the liberalized crossbow regulations during the archery season in 2010 and they harvested about 24,882 deer with the crossbow. About 36% of these archers using a crossbow harvested a deer with a crossbow. Hunters using a crossbow to hunt deer were required to obtain a free crossbow stamp, unless they were a disabled hunter that already had a DNRE-issued crossbow permit. About 58% of the archers using a crossbow during the archery season had obtained the required crossbow stamp.

Table 1. Number of Michigan deer licenses purchased and harvest tags issued, 2008-2010.

Licenses or Harvest Tags	Number Purchased or Issued			Change Between 2009 and 2010 (%)
	2008	2009	2010	
Firearm Licenses				
Resident	249,345	237,282	217,816	-8.2
Non-resident	13,299	13,170	12,753	-3.2
Senior	35,243	35,568	36,606	2.9
Military	822	1,015	926	-8.8
Subtotal	298,709	287,035	268,101	-6.6
Archery Licenses				
Resident	35,564	39,246	40,803	4.0
Non-resident	2,579	2,869	3,070	7.0
Junior	4,098	3,807	4,477	17.6
Senior	3,379	4,578	5,366	17.2
Military	208	266	312	17.3
Subtotal	45,828	50,766	54,028	6.4
Combination Licenses^a				
Resident	285,698	287,564	281,091	-2.3
Non-resident	1,889	1,861	1,952	4.9
Junior	49,092	48,247	46,632	-3.3
Senior	36,043	39,037	39,332	0.8
Military	1,484	1,669	1,583	-5.2
Subtotal	374,206	378,378	370,590	-2.1
Antlerless Licenses				
Resident	487,987	489,302	463,947	-5.2
Non-resident	3,204	2,584	2,154	-16.6
Junior	5,799	4,554	3,319	-27.1
Military	1,408	2,181	2,537	16.3
Pure Michigan Hunt	NA	NA	3	NA
Deer Management Assistance	12,213	10,679	7,771	-27.2
Managed Deer Hunt	604	245	296	20.8
Subtotal	511,215	509,545	480,027	-5.8
Total Licenses Sold	1,229,958	1,225,724	1,172,746	-4.3
Harvest Tags Issued				
Firearm	298,709	287,035	268,101	-6.6
Archery	45,828	50,766	54,028	6.4
Combination	748,412	756,756	741,180	-2.1
Antlerless	511,215	509,545	480,027	-5.8
Total Harvest Tags	1,604,164	1,604,102	1,543,336	-3.8

^aCombination licenses included two harvest tags. Other license types had one harvest tag.

Table 2. Number of deer harvested in Michigan, 2008-2010.

Season or permit	Type of deer	2008	2009	2010	Change from 2009 to 2010 (%)
Season					
Archery	Antlerless	46,423	53,053	51,309	-3.3
	Antlered bucks	60,016	64,580	65,871	2.0
	Sexes combined	106,439	117,633	117,180	-0.4
Regular firearm	Antlerless	122,160	101,234	90,927	-10.2*
	Antlered bucks	169,665	132,822	129,376	-2.6
	Sexes combined	291,825	234,056	220,303	-5.9*
Muzzleloader	Antlerless	31,049	30,595	26,627	-13.0*
	Antlered bucks	13,085	12,252	12,348	0.8
	Sexes combined	44,134	42,847	38,975	-9.0
Early antlerless	Antlerless	12,871	11,545	8,423	-27.0*
Late antlerless	Antlerless	16,453	21,325	18,957	-11.1
Early youth	Antlerless	0	0	720	NA
Youth	Antlerless	3,007	2,993	2,748	-8.2
	Antlered bucks	5,584	5,283	4,557	-13.7
	Sexes combined	8,590	8,275	7,305	-11.7
Disabled hunts	Antlerless	142	171	248	45.1
	Antlered bucks	184	184	189	2.8
	Sexes combined	326	354	436	23.2
Special permits ^a	Antlerless	9,468	8,195	5,551	-32.3
Grand Total	Antlerless	241,573	229,111	205,509	-10.3*
	Antlered bucks	248,533	215,120	212,341	-1.3
	Sexes combined	490,106	444,231	417,850	-5.9*

^aIncludes deer harvested with DMA permits. These permits could be used during any deer hunting season.

*P<0.005.

Minnesota Deer Status Report

2011 Midwest Deer & Wild Turkey Study Group – Roscommon, MI
Brian Haroldson

Season Framework

Firearm: Hunters must select between 2 season options: (1) The statewide firearm season begins on the Saturday nearest 6 November and runs for 16 days in forested regions with abundant public land [100-level deer management units (DMUs) in northeast Minnesota], and 9 days in agricultural regions dominated by private land [200/300-level DMUs in southern and western Minnesota]; (2) The 9-day, late-season in southeast Minnesota (300 level DMUs) begins 2 weeks after the statewide opener. In agricultural regions, hunters are restricted to shotguns with a single slug, whereas rifles and shotguns are authorized in forested areas. Muzzleloaders, handguns, and crossbows are allowed statewide during either season. Annually, 1 of 4 harvest strategies (lottery, hunter choice, managed, intensive) are implemented within each DMU ($n=129$), based upon estimated deer density in relation to population goal. In general, deer populations are below goal in lottery DMUs, at goal or exceed goal by <10% in hunter choice DMUs, exceed goal by 10-20% in managed DMUs, and exceed goal by >20% in intensive DMUs. Bag limits are 1, 1, 2, and 5 deer in each DMU category, respectively. A regular firearm license (\$27 resident, \$141 non-resident) is valid for bucks-only or deer of either sex, depending upon the DMU harvest strategy. In lottery DMUs, hunters interested in pursuing antlerless deer are required to apply for either-sex permits (available at no charge) through a lottery drawing. Unsuccessful applicants in the drawing are restricted to legal bucks (≥ 3 inch antler) only. Firearm hunters who hunt in hunter choice, managed, or intensive DMUs may tag a deer of either sex using their regular license. In addition, hunters in managed DMUs may purchase 1 bonus permit (\$14 resident, \$69.50 non-resident) to take a second, antlerless-only deer. Hunters in intensive DMUs may purchase up to 4 bonus permits and tag up to 4 additional antlerless deer. Bonus permits are issued over-the-counter. Youth hunters (ages 12-17; \$14 resident or non-resident) may take a deer of either sex, statewide, without a permit. In select lottery DMUs where deer populations are not increasing, a reduced number of either-sex permits are offered to youth hunters only. All others are restricted to hunting bucks. Conversely, in intensive DMUs where deer populations have not decreased following several years of intensive harvest, a 2-day October antlerless season is offered. To participate, hunters must purchase an early-season antlerless permit (\$8.50 resident, \$34.75 non-resident) and a firearm or muzzleloader license. Bag limit is 2 deer, which does not count against the statewide bag limit. The bovine TB (bTB) and chronic wasting disease (CWD) DMUs are open to hunting during the archery, early-antlerless, youth, statewide firearm, late southeast firearm (CWD only) and muzzleloader seasons. Hunters must possess a valid license for the appropriate season/weapon. In addition, an unlimited number of disease management antlerless permits (\$2.50) are available. Bag limit is 1 buck plus unlimited antlerless deer.

Muzzleloader: The 16-day muzzleloader season begins the Saturday after Thanksgiving. Hunters (\$27 resident, \$141 non-resident, \$14 youth) may take 1 deer of either sex in hunter choice, managed, or intensive DMUs, and may purchase bonus permits for taking additional antlerless deer in managed/intensive areas. In lottery DMUs, hunters interested in pursuing antlerless deer are required to apply for antlerless permits through a lottery drawing. Unsuccessful applicants in the drawing are restricted to legal bucks (≥ 3 inch antler) only.

Smooth-bored and rifled muzzleloaders must be at least .45 caliber and .40 caliber, respectively. Scopes and breech-loading weapons are not legal during this season. There are no restrictions on ignition systems, bullet types, etc.

Archery: The statewide archery season runs from the Saturday nearest 16 September through 31 December. Archers (\$27 resident, \$141 non-resident, \$14 youth) may take 1 deer of either sex, statewide. In managed and intensive DMUs, archers may purchase bonus permits for taking additional antlerless deer. Archers may continue to hunt and take deer of either sex during the firearm and muzzleloader seasons. Crossbows are not allowed, except by permit for disabled hunters.

General: For all deer seasons, resident youth hunters (ages 10-11) under direct supervision of a licensed parent or guardian may hunt without a firearm safety certificate, but must obtain a free license prior to hunting. Shooting hours for all seasons are 30 minutes before sunrise to 30 minutes after sunset. Use of bait is prohibited. Regardless of area or season hunted, only 1 legal buck is allowed per calendar year. Registration is mandatory within 24 hours of season closure and may be completed by telephone, internet, or at traditional, walk-in registration stations. For telephone / internet registration, hunters receive a confirmation number to be written on the license. At walk-in registration stations, hunters are given a possession tag to attach to the carcass. In TB, CWD, and antler point restriction areas, hunters cannot use telephone/internet registration and must present their deer at walk-in registration stations.

Population Trends

Although moderate to severe winters during 3 of the last 4 years have decreased deer numbers in the northeast, many DMUs remain above goal. Despite high deer kill by hunters during recent years, deer numbers also remain above goal in several DMUs along the agricultural/forest transition line in northwest, north-central, east-central and southeast Minnesota. Populations have declining, however, in most DMUs where early antlerless seasons have been implemented for multiple years. In contrast, in the intensively cultivated areas in southwest and west-central Minnesota, deer populations are generally stable to increasing, although many DMUs remain below goal. The 2011 statewide pre-fawn population estimate ($n=739,000$ deer) has decreased 2% from 2010. Population goals were revised during 2005-06 in all DMUs using a round-table approach of citizen teams. In west-central and southwest Minnesota, teams recommended increasing deer population by 25-50%. Population goals in forested and mixed forest/agriculture DMUs generally decreased 10-25% or remained stable.

2010 Season Summary

In 2010, hunters registered 207,308 deer (Table 1), up 7% from 2009. Firearm, muzzleloader, and archery kill increased 6%, 12% and 7%, respectively. A slight uptick in harvest from last year was expected because >90% of standing corn was harvested by opening day of the firearm season. In contrast, 77% of the state's corn crop was still in the fields on the 2009 firearm deer opener. Although firearm antlered harvest increased 5% from 2009, it was 10% lower than the 10-year average, which implies that deer numbers have been decreasing during the past decade. Firearm antlerless harvest increased 8% from 2009, but was 22% below the 10-year average. Antlerless deer comprised 50% of the firearm harvest, similar to last year, but below recent trends of 54-59% since 2003. Firearm hunters account for 85% of total harvest, while archers

and muzzleloader hunters account for 11% and 4%, respectively. Firearm and archery license sales were stable, while muzzleloader license sales decreased 13% (Table 1). During 2010, DMUs were partitioned into 63 lottery areas (including 6 areas where antlerless harvest was restricted to youth-only hunters), 45 managed areas, and 20 intensive areas (including 10 intensive DMUs with an early antlerless season). A complete harvest breakdown by weapon type is presented in Table 1.

2011 Season Outlook

Based upon the winter severity index (WSI; measured by the number of days with ambient temperatures of $<0^{\circ}\text{F}$ and days with ≥ 15 inches of snow cover), the winter of 2010-11 was mild in east-central Minnesota, but moderate to severe throughout most of northern Minnesota. Despite increased harvest and winter mortality, much of the forest zone remains above density goals. Deer numbers also remain above goal in several DMUs along the agricultural/forest transition line. Management strategy will continue as either managed or intensive in these units. Throughout much of western and southern Minnesota, winter severity was considered moderate to severe for a 2nd year in a row due to lengthy snow cover. Deer populations remain at or below goal throughout most agricultural DMUs. Most units will be designated as lottery or hunter choice during 2011. Statewide, the pre-hunt deer population is estimated at 1.1 million, down slightly from last year. For 2011, DMUs will be partitioned into 32 lottery units, 40 hunter choice units, 34 managed units, and 23 intensive units. There will be no early antlerless season in 2011.

2011 Regulation Changes

Hunter Choice DMUs: This is a new designation that allows a hunter to take 1 either-sex deer in 1 DMU without making a lottery application. This designation was created specifically for DMUs that are within population goal ranges and eliminates the burden of lottery applications for either-sex permits. Bag limit is 1 deer. If successful, a hunter cannot take a 2nd deer in another hunter choice or lottery DMU. Bonus permits are not allowed.

Early Antlerless Season: Because deer herds are largely within goals, there will be no early antlerless firearm season in 2011. This season is considered annually when formulating deer management recommendations.

CWD DMU/Management Zone: With the discovery of CWD in a hunter-killed deer in southeast Minnesota in 2010, a CWD Management Zone (DMU 602) was created to facilitate special hunts, permits, and extended seasons to reduce deer density. Submission of tissue samples for disease testing will be mandatory for hunter-killed deer in this area and new carcass transport restrictions will be implemented.

Research Activities

Antler Point Restrictions: Beginning in 2010, antler point restrictions were implemented within all 300-level DMUs ($n=11$) in southeast Minnesota during all seasons. Under this rule, bucks must have at least one 4-point antler to be legally harvested. Youth hunters (10-17 years old) are exempt from this regulation and can legally take any antlered buck. In addition, cross-tagging for bucks is banned (i.e., hunters cannot shoot and tag bucks for each other), although cross-tagging for antlerless deer remains legal. This restriction is expected to protect about 75% of the

yearling bucks, but increase antlerless harvest. This regulation will be in effect for 3 years and then re-assessed to determine hunter support and whether population objectives are being met.

Deer Movement Related to Bovine TB Transmission: The goal of this pilot research study is to provide a better understanding of white-tailed deer movements and habitat use in the agricultural/forest transitional landscape of northwestern Minnesota where a recent outbreak of bTB heightened awareness of disease transmission risks between deer and cattle. In January 2011, 16 deer were captured by helicopter netgunning and fitted with satellite-linked global positioning system (GPS) collars. A second, ground-based capture effort in March added 5 deer to the study to compensate for a high winter mortality rate (47%), caused primarily by wolf predation. Preliminary findings for the first 5 months of this 15-month study indicated a mean winter home range size for deer ($n=19$) from mid-January through mid-June of 19.9 km² (SE = ± 5.4) and a mean cumulative distance traveled of 97 km (± 13). Serological screening of deer at capture for 9 common cattle diseases indicated exposure to bovine parainfluenza 3 virus (24%), malignant catarrhal fever (19%), and infectious bovine rhinotracheitis (9%). Fecal parasitology indicted 13 (65%) deer had evidence of liver fluke (*Fascioloides magna*) infection and strongyle-type ova was detected in 4 (20%) deer. Analysis of deer use of agricultural landscapes will occur at the end of the 15-month study.

Distance Sampling: We are currently investigating the use of distance sampling during roadside spotlight surveys to estimate deer density in agricultural DMUs. Our intent is to provide alternative field techniques for estimating deer population size when, and where, aerial surveys are inappropriate. During spring 2010, surveys were completed in 6 DMUs.

Aerial Deer Surveys: We are currently utilizing quadrat-based aerial deer surveys to estimate deer density in select DMUs. Survey purpose is to evaluate the impact of non-traditional harvest regulations (early-antlerless season, antler restrictions, earn-a-buck restrictions) on deer population levels and to recalibrate population models. During 2010, surveys were completed in 7 DMUs.

Current Deer Management Issues

Bovine-Tuberculosis: Since July 2005, bTB has been confirmed in 12 beef cattle herds in northwest Minnesota. To date, all infected herds have been depopulated and the Board of Animal Health (BAH) has continued to test cattle herds in the area. The TB strain is consistent with bTB found in cattle in the southwestern U.S. and Mexico. In fall 2008, Minnesota was granted a Split-State Status for bTB that resulted in a lessening of testing requirements for cattle in the majority of the state (Modified Accredited Advanced status level), with a small area in the northwest remaining more restrictive (Modified Accredited status). Also in 2008, the Minnesota Legislature allocated funds to buy out cattle herds located in the 600-mi² Bovine TB Management Zone (~15 mi radius around infected cattle farms), spending \$3 million to remove 6,200 cattle from 46 farms. This buy-out resulted in the discovery of the 12th infected herd. The remaining cattle farms ($n=27$) in the Bovine TB Management Zone were required to erect deer-exclusion fencing to protect stored forage and winter feeding areas, costing an additional \$690,000 in state funds. MDNR has conducted surveillance for the disease in hunter-killed deer within the Bovine TB Management Zone each fall since 2005. In 2007, MDNR created a special Bovine TB DMU that encompasses the 164-mi² Core Area (~2 mi radius around infected

deer/cattle farms) of the TB Management Zone, and has used special hunts, permits, and extended seasons to allow hunters to help manage the disease in deer. MDNR also conducted targeted removal operations in the Core Area using ground sharpshooters (winters 2007-2010) and aerial sharpshooters (winters 2007-2008). In 2008, a 934-mi² Landowner/Tenant Shooting Zone was established to allow landowners and tenants to take deer without license or permit, provided deer are submitted for testing. Further, a recreational feeding ban, covering 4,000-mi² in northwest Minnesota, was instituted in November 2006 to help reduce the risk of deer to deer transmission of the disease. Baiting deer has been illegal in Minnesota since 1991. To date, 27 of 9,783 deer (6,955 from hunters; 2,613 from sharpshooters; 215 from landowners) sampled in the TB Management Zone have tested positive for the disease. All infected deer were born during or before 2005 and taken within a 10-mile radius of the first confirmed positive cattle herd. Prevalence of the disease is decreasing, remains low (<0.2%), and is confined to a small geographic area. In addition, no new infected cases were detected in hunter-killed deer during 2010. Also in 2010, the U.S. Department of Agriculture (USDA) upgraded Minnesota's bTB accreditation to Modified Accredited Advanced within the split-state zone and bTB-Free throughout the remainder of the state. Based on a Memorandum of Understanding between USDA and the State of Minnesota, MDNR is committed to conducting annual surveillance for bTB in free-ranging deer in northwest Minnesota. If no positive deer are found during five consecutive years of surveillance, TB will be considered to have reached an undetectable level in the state.

Chronic Wasting Disease: MDNR sampled 564 hunter-killed deer for CWD in southeastern Minnesota during the 2010 deer season. Surveillance effort focused on a 20-mi radius around a CWD-positive captive elk facility near Pine Island (subsequently depopulated), discovered in 2009. One deer tested positive for CWD (0.2% apparent prevalence), marking the first detection of the disease in Minnesota's wild deer population. In response to this disease detection, MDNR conducted an aerial deer survey in a 10-mile radius of the index case during January 2011 and estimated 6,200 deer (19 deer/mi²). Supplemental surveillance efforts, which included landowner shooting permits and sharpshooters, were conducted during February–March 2011 and 752 adult deer samples were collected; all animals tested CWD-negative. MDNR has subsequently created a 306 mi² CWD Management Zone (DMU 602) to facilitate special hunts, permits, and extended seasons to reduce deer density. To prevent further disease spread, recreational feeding of deer has been banned in a 4-county area surrounding the CWD-positive kill site. Baiting deer has been illegal in Minnesota since 1991. MDNR will continue to conduct CWD surveillance of hunter-killed deer during fall 2011 under the following restrictions. Bag limit is 1 legal buck and an unlimited number of antlerless deer. Disease management permits (\$2.50) may be used for antlerless deer only. Antler point restrictions and cross-tagging restrictions enacted in 2010 are not in effect in this area. All deer taken within the CWD zone must be registered within the zone at walk-in registration stations (telephone / internet registration is disabled). Submission of lymph nodes is mandatory for all adult deer taken during all deer seasons (archery, youth, firearm, muzzleloader). Deer that are sampled must remain in the zone until a negative test result is received, which typically takes 3 business days.

Table 1. Statewide deer license sales, harvest, and success rates in Minnesota, 1998-2010.

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change (2009-10)
FIREARM														
Resident License	378,320	395,745	400,814	401,005	368,587	340,919	311,128	301,905	302,537	299,943	381,362	377,085	379,500	1
Non-Resident License	8,852	9,970	10,595	10,972	10,823	11,334	12,004	12,527	13,212	12,552	11,883	11,777	11,895	1
Mgmt/Intensive Harvest Permit	20,884	23,785	34,802	59,013	105,419	194,201	183,347	177,764	159,468	146,120	190,165	140,926	143,640	2
Multi-Zone Buck License	44,739	43,903	42,669	41,921	35,701	33,094	32,783	27,678	16,098	15,180	--	--	--	
Youth License (no tag)	3,445	2,038	3,215	4,011	2,748	--	--	--	--	--	--	--	--	
Youth License	--	--	--	--	--	34,463	51,331	50,506	49,581	49,196	51,358	56,699	59,691	5
All Season Buck License	--	--	2,384	3,986	--	--	--	--	--	--	--	--	--	
All Season Deer License	--	--	--	--	21,888	30,998	46,345	60,301	77,476	76,398	--	--	--	
Early Antlerless Season Permit	Early	--	--	--	--	--	--	6,810	7,715	28,246	30,974	12,757	9,737	-24
Disease Management Permit	--	--	--	--	--	--	--	--	--	2,193	1,499	1,354	1,531	13
Free Landowner License	--	--	1,671	2,604	3,462	3,956	3,961	3,959	3,953	3,973	3,918	3,351	4,235	26
Total License Sales ^a	456,240	475,441	496,150	523,512	548,628	648,965	640,899	641,450	630,040	633,801	671,159	603,949	610,229	1
Either-sex Permits Offered	140,280	177,380	232,595	284,210	363,765	31,625	30,760	28,830	19,125	18,830	32,325	60,800	60,083	-1
Either-sex Permits Issued	108,016	135,852	180,490	196,603	192,907	25,386	24,111	23,552	16,764	15,454	27,396	57,631	54,381	-6
Either-sex Permit Applications	151,148	214,597	237,571	225,341	202,086	30,253	28,454	26,694	21,680	32,777	47,682	90,882	86,783	-5
Adult Male Harvest	82,928	92,584	102,861	98,645	100,083	110,440	105,994	95,612	95,715	97,573	85,674	83,837	88,286	5
Antlerless Harvest	60,492	71,681	88,492	98,095	100,038	148,857	124,530	121,247	136,035	126,370	103,722	81,647	87,877	8
Total Harvest ²	143,420	164,265	191,353	196,740	200,121	259,297	230,524	216,859	231,750	223,943	189,396	165,484	176,163	6
Success Rate (%) ^{a,b}	31.4	34.6	38.6	37.6	36.5	40.0	36.0	33.8	36.8	35.3	28.2	27.4	28.9	5
ARCHERY														
Resident License	63,826	66,226	68,918	69,573	57,372	55,608	50,974	50,709	50,052	53,577	88,923	89,084	90,171	1
Non-Resident License	1,029	1,073	1,271	1,288	1,261	1,428	1,144	1,206	1,284	1,509	1,614	1,614	1,630	1
Mgmt/Intensive Harvest Permit	15,846	16,945	20,393	22,141	17,742	0	0	0	0	0	0	0	0	
Youth License	--	--	--	--	--	3,731	7,261	7,491	7,672	7,643	9,006	9,161	9,562	4
Free Landowner License	--	--	29	35	62	83	92	104	116	152	147	134	0	-100
Total License Sales ^c	80,701	84,244	90,611	93,037	76,437	60,850	59,471	59,510	59,124	62,881	99,690	99,993	101,363	1
Total Harvest ^d	12,450	13,579	16,251	16,300	16,192	20,870	20,754	23,812	25,375	24,167	22,689	20,646	22,097	7
Success Rate (%) ^{c,d}	15.4	16.1	17.9	17.5	21.2	34.3	34.9	40.0	42.9	38.4	22.8	20.6	21.8	6
MUZZLELOADER														
Total License Sales ^e	9,765	11,411	11,972	13,043	11,764	10,044	10,122	9,567	9,293	11,365	66,447	63,915	55,644	-13
Total Harvest ^e	3,183	2,972	4,548	4,780	5,737	9,254	9,326	15,065	13,653	12,324	9,738	8,048	9,048	12
Success Rate (%) ^{c,e}	32.6	26.0	38.0	36.6	48.8	92.1	92.1	157.5	146.9	108.4	14.7	12.6	16.3	29
TOTAL HARVEST	159,053	180,816	212,152	217,820	222,050	289,421	260,604	255,736	270,778	260,434	221,823	194,178	207,308	7

^a Includes firearm, archery, and muzzleloader license sales from the All Season Deer License.

^b Includes firearm harvest data from the All Season Deer License.

^c Excludes firearm, archery, and muzzleloader license sales from the All Season Deer License.

^d Includes archery harvest data from the All Season Deer License.

^e Includes muzzleloader harvest data from the All Season Deer License.



Missouri Deer Population Status Report and 2010-2011 Deer Season Summary

**Prepared by: Jason Sumners and Lonnie Hansen, Resource Scientist
Resource Science Division—Missouri Department of Conservation**

Population Status

One of the goals of deer regulation liberalizations over the last decade has been to decrease deer numbers in many parts of Missouri. In addition to liberalization of antlerless harvest, an antler point restriction (APR) has been implemented in many counties in an effort to shift harvest pressure from bucks to does (Figure 1). Increased harvest pressure on does should result in fewer does in the population and resulting in fewer does needing to be harvested over time to maintain populations at desirable levels. Over the past several years harvest of does has consistently exceeded antlered buck harvest. The result is a change in the sex ratio of the populations and a projected need to harvest fewer does over time as they make up a smaller portion of the population.

Coupling regulation liberalizations with periodic natural mortality events (Epizootic Hemorrhagic Disease; EHD) has resulted in decreasing deer numbers in a number of counties particularly in central, northern and western Missouri. Prior to 2007, our limited experience with previous widespread hemorrhagic disease outbreaks indicated that the need for regulation changes in response to an outbreak largely depended on habitat quality and deer abundance. It was believed that in counties with low or moderate deer densities regulation restrictions may have to be implemented, whereas in our best deer habitat the impacts might be corrected without a regulation change. This previous experience does not appear to be reflective of deer populations following the 2007 EHD outbreak. We believe that harvest levels, particularly of does, and hunting pressure have remained high and not allowed deer numbers to rebound. In fact, harvest has driven some populations considerably lower, even in areas considered to be good deer habitat with previously high deer densities.

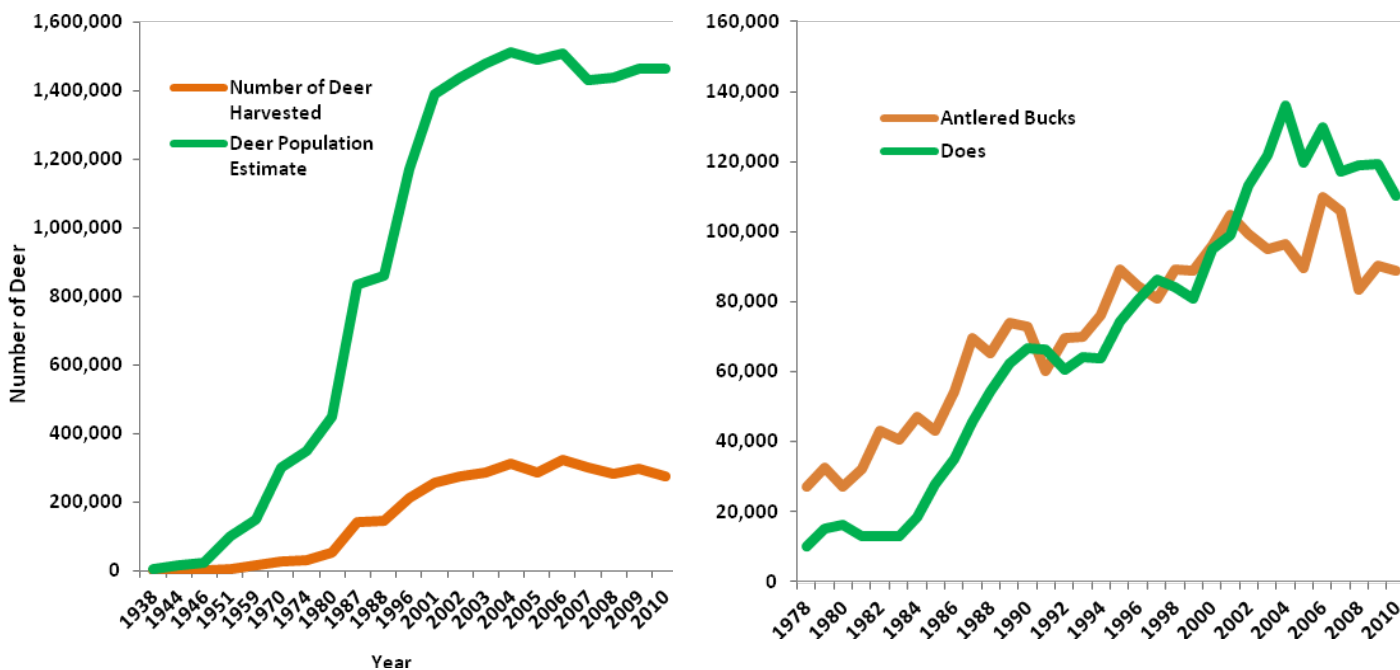


Figure 1. Statewide estimated deer population and total deer harvest from 1938 to 2010 (left). Number of antlered bucks and does in the statewide deer harvest from 1978 to 2010(right).

Lower deer populations are reflected in landowner and hunter attitude concerning deer abundance (Figure 2 & 3). In general, the percentage of hunters and landowners who perceive that there are too few deer has increased in the last 5 years. This increasing dissatisfaction with low population densities combined with the realities of decreased harvest in a number of counties make it prudent to consider future regulation changes in some counties to stabilize deer populations at desirable levels.

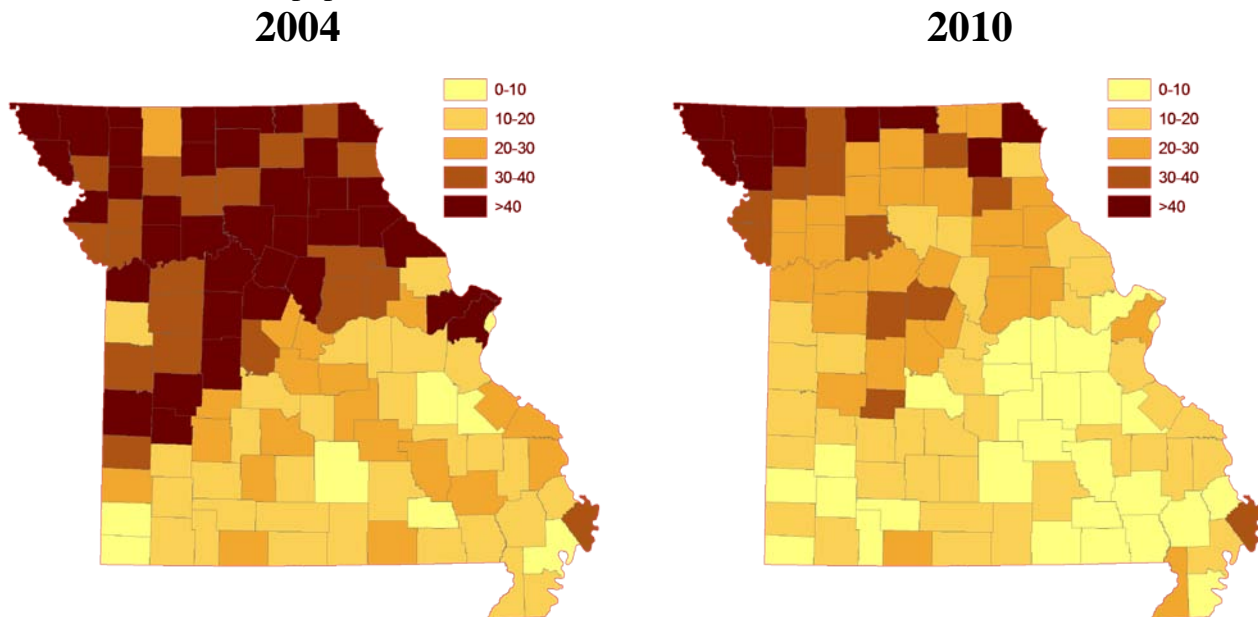


Figure 2. Percentage of production landowners surveyed in 2004 and 2010 that feel there are too many deer.

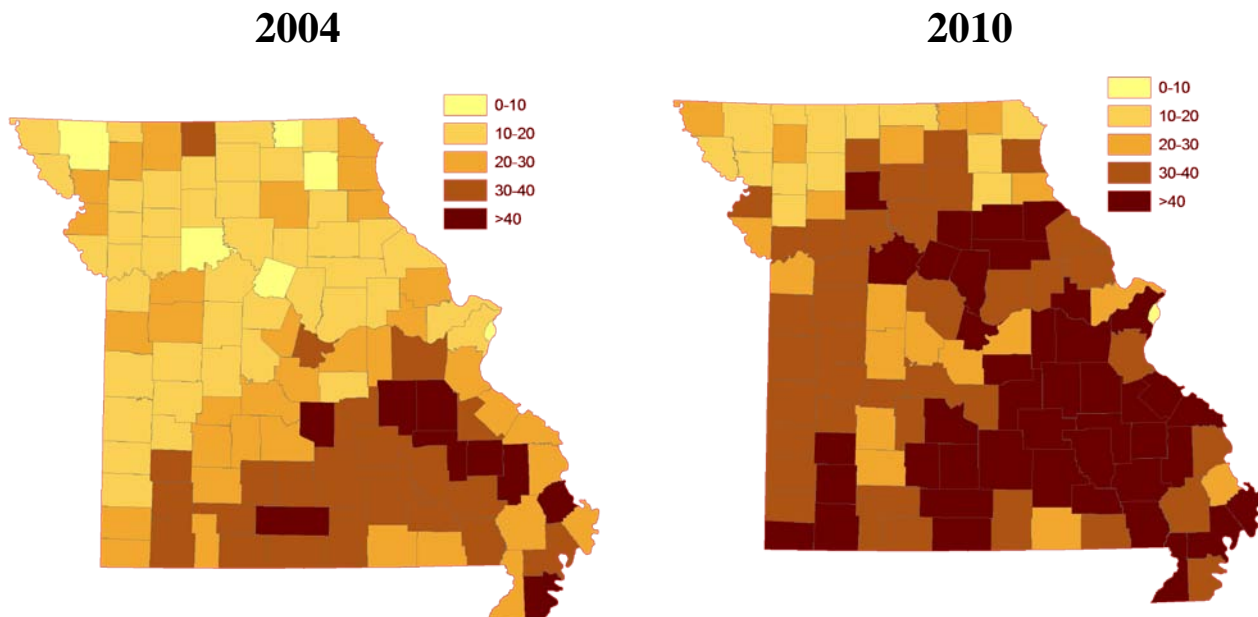


Figure 3. Percentage of hunters surveyed in 2004 and 2010 that feel there are too few deer.

Although there continue to be areas with greater than desirable deer numbers, deer overabundance is much less of an issue in rural Missouri today than it has been in the past. However, the biggest deer management problem area in Missouri and most other states is associated with our cities. Deer are highly adaptable and can thrive in and adjacent to urban settings. Unfortunately, our ability to manage deer through hunting in these settings is often limited by city ordinances prohibiting the discharge of weapons and a lack of hunting access.

We have received an increasing number of complaints from hunters about a lack of deer sightings in 2010, particularly in central Missouri. Some of this can be attributed to an abundant acorn crop in the Ozarks; however, it is also reflective of decreasing deer numbers in many parts of rural Missouri as a result of liberal bag limits and the lingering effects of hemorrhagic disease. Overall rural deer populations appear stable or decreasing in much of Missouri.

The 2010 harvest was affected by several factors:

- Liberalization of deer harvest in recent years has generally resulted in higher doe harvests and, as a result, in many counties across Missouri overall deer populations have stabilized or declined.
- Acorn production in much of Missouri was high in 2010. Abundant mast crops are associated with low deer harvests in the Ozarks because deer tend to be dispersed across the landscape and do not concentrate around openings. This is apparent in the 2010 harvest with most of the decreases over the 2009 hunting season occurring in southern Missouri (Figure 4).
- The 2010 deer season marked the third year of the antler point restriction (APR) for 36 central and western counties. Based on our evaluation of the APR in 2004-2007, harvests are depressed the first year of the APR and recover in following years as the number of legal bucks in the population increases over time.
- In August and September of 2010 hemorrhagic disease affected parts of Howard and Randolph Counties. More widespread outbreaks occurred between 2005 and 2007 with one of the largest and most widespread outbreaks on record occurring in 2007. The effects of these outbreaks are still being felt in some counties.

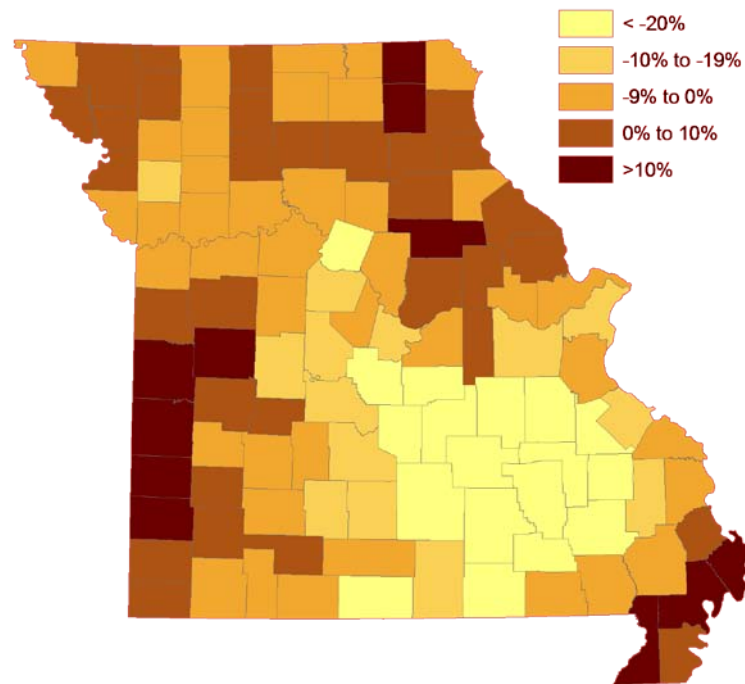


Figure 4. Percent change in total county deer harvest from 2009 to 2010.

2000 Deer Harvest Rates

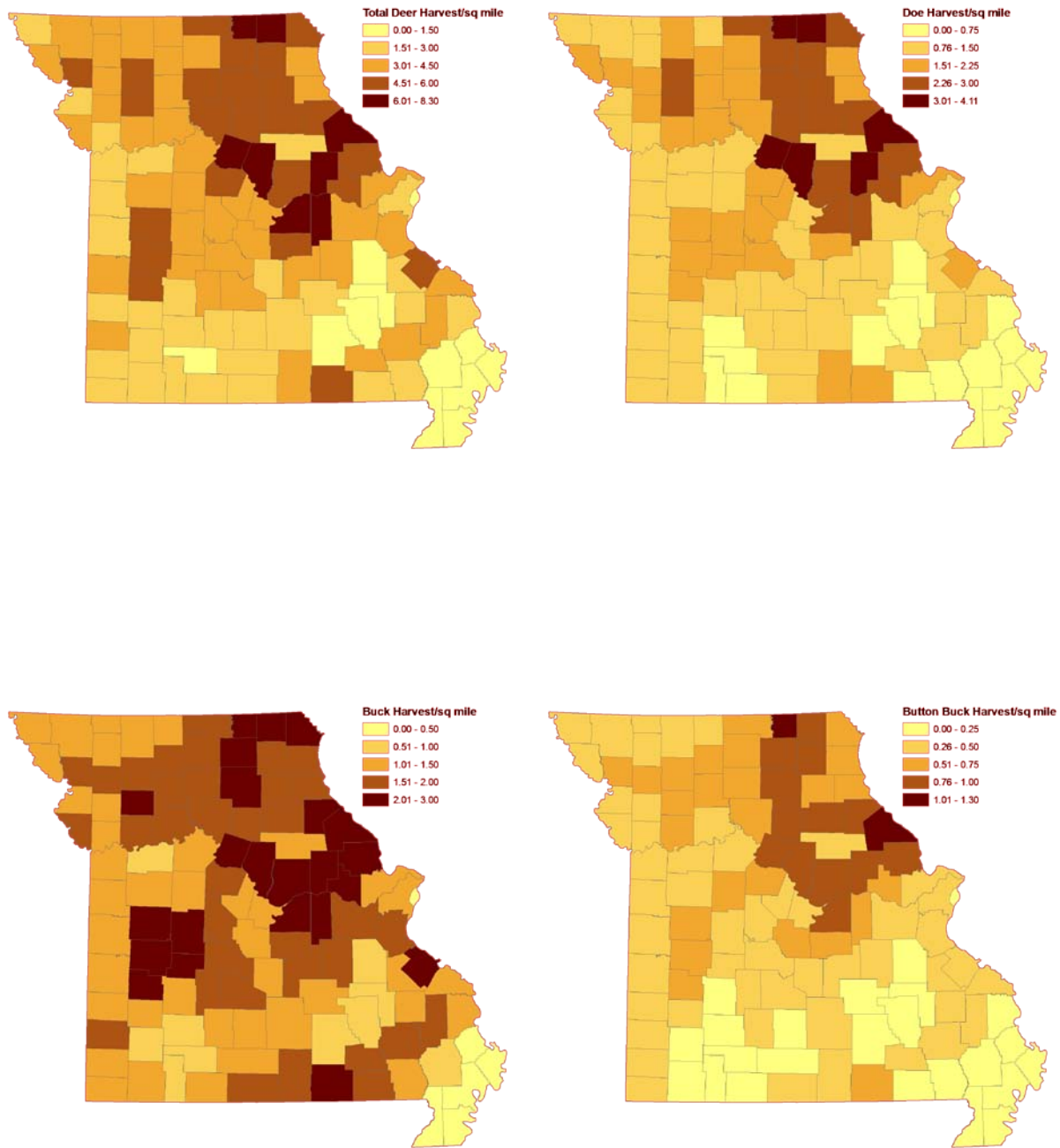


Figure 2. Total, doe, antlered buck and button buck harvest per square mile during the 2000-2001 Deer Hunting Season.

2005 Deer Harvest Rates

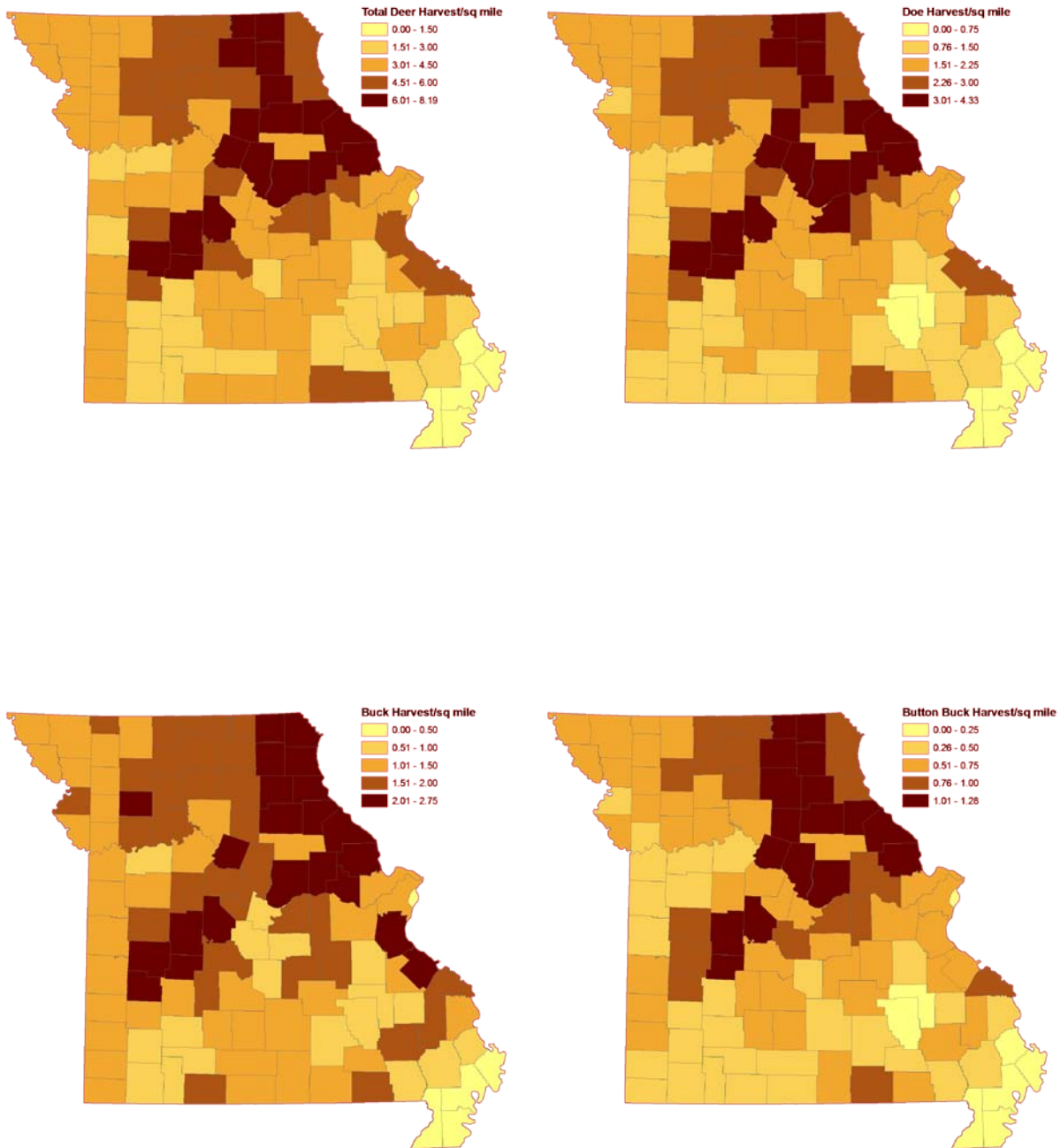


Figure 3. Total, doe, antlered buck and button buck harvest per square mile during the 2005-2006 Deer Hunting Season.

2010 Deer Harvest Rates

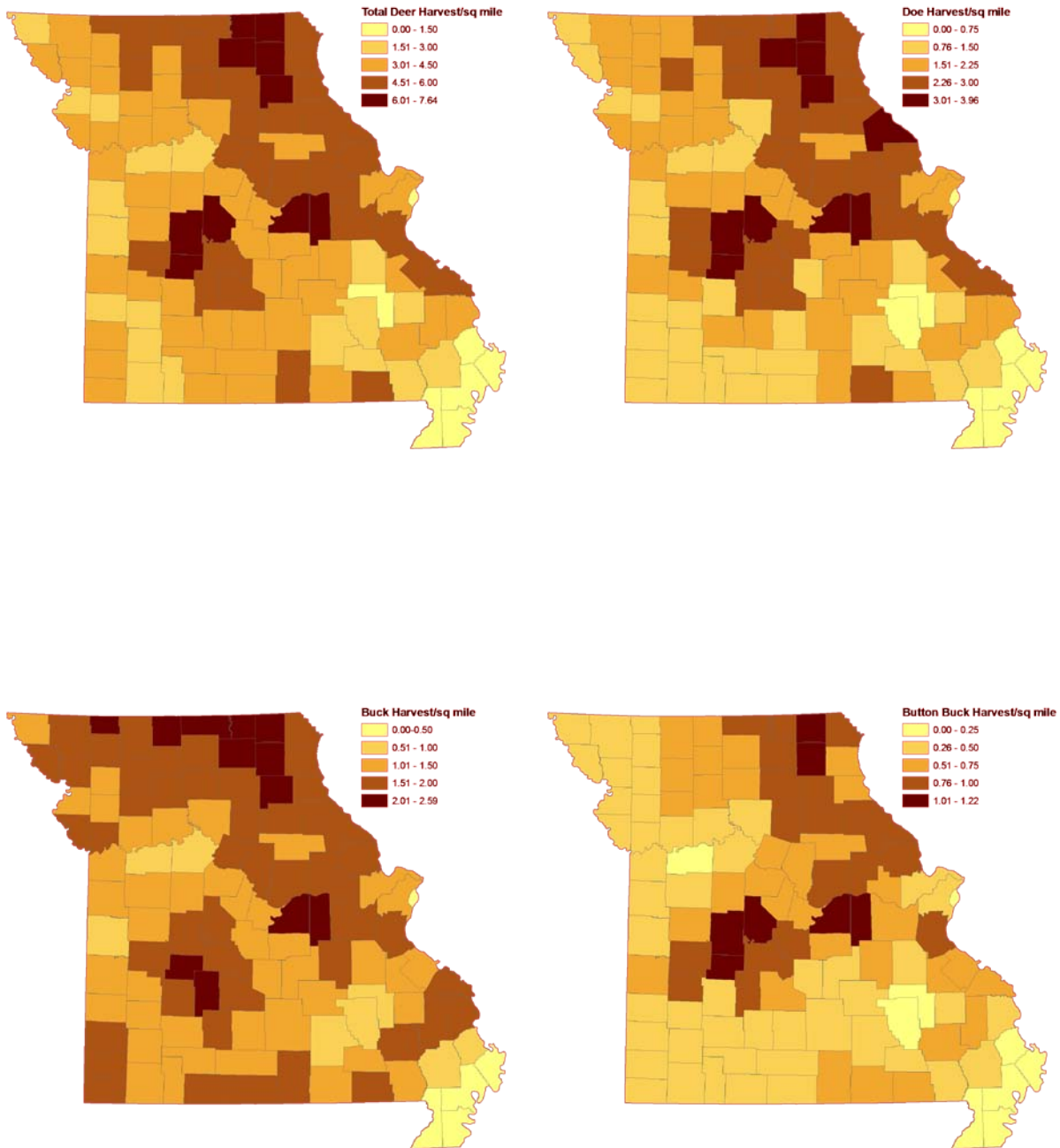


Figure 4. Total, doe, antlered buck and button buck harvest per square mile during the 2010-2011 Deer Hunting Season.

Antler Point Restriction:

An antler point restriction (APR) of 4-points on at least one side was first implemented in 2004 for 29 counties in North and Central Missouri (Old Central, Old North; Figure 5). In 2008, the 4-point antler restriction was expanded to all or part of 66 counties across North and west central Missouri. APR has been successful in reducing yearling buck harvest and increasing recruitment of bucks into older age classes. On average in APR counties 1.5 year old bucks make up 17% of the antlered buck harvest. Two and one-half, 3.5, and ≥ 4.5 make up 50, 25, and 8% of the antlered buck harvest, respectively (Figure 5).

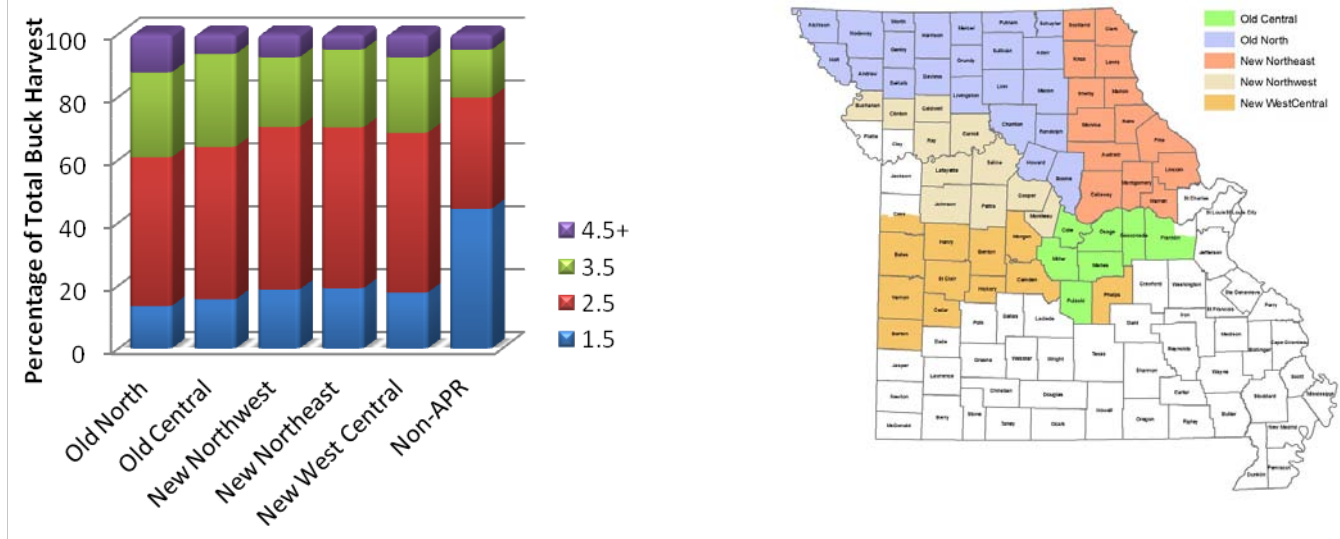


Figure 5. Portion of total antlered buck harvest made of 1.5, 2.5, 3.5, and ≥ 4.5 years old for different regions of Missouri under the 4-point antler restriction and those counties not under antler point restrictions.

We have observed the greatest increase in the harvest of 2.5 year old bucks as a result of the APR. Harvest of bucks ≥ 3.5 years of age is lower in the APR counties added in 2008 because there has only been one cohort of protected yearling bucks recruited into the 3.5 year old age class since implementation of the APR in the new counties. In the next 2 to 3 years it is expected that the harvest of ≥ 3.5 year old bucks will increase as additional bucks are recruited into older age classes.

Chronic Wasting Disease Update

In March of 2010, MDC staff responded to the finding of CWD in a captive big-game shooting area in southeast Linn County by working with landowners in parts of Linn, Macon, and Chariton Counties to collect 153 free-ranging deer from a 5 mile radius around the infected high-fence facility. All 153 samples were negative. During opening weekend of the 2010 November portion of the firearms deer season hunters voluntarily submit 554 samples from adult deer for testing from a 25 mile radius around the infected hunting preserve. Taxidermist collected an additional 213 samples bringing the total number of samples collected with 25 miles of the infected hunting preserve, since March of 2010, to 920 with no detectable CWD prions (Figure 6).

In addition to the sampling within 25-miles of the infected hunting preserve, MDC collected 1987 samples from adult deer from North and West-Central Missouri (Figure 7). In the fall of 2011 additional surveillance will occur in the remaining half of the state not sampled in 2010. Since 2001, MDC has tested 30,198 free-ranging deer with no detectable CWD prions.

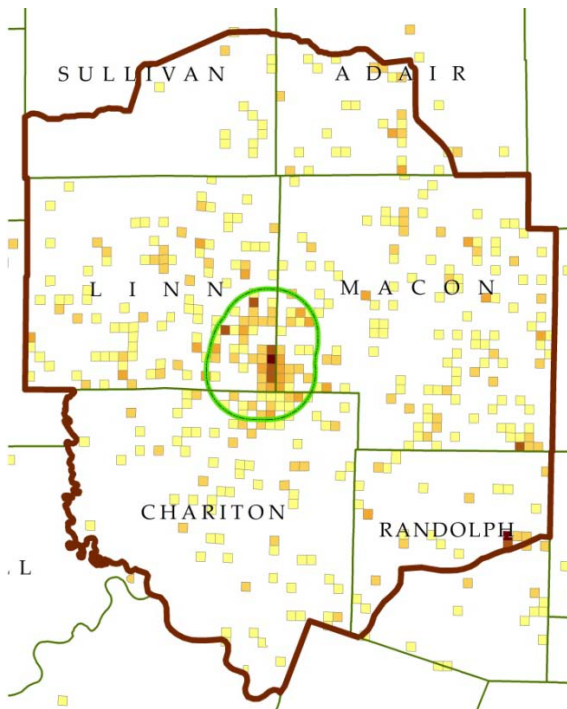


Figure 6. Number of deer tested per section for CWD in 2010. Darker shading indicates greater number of deer sampled per section.

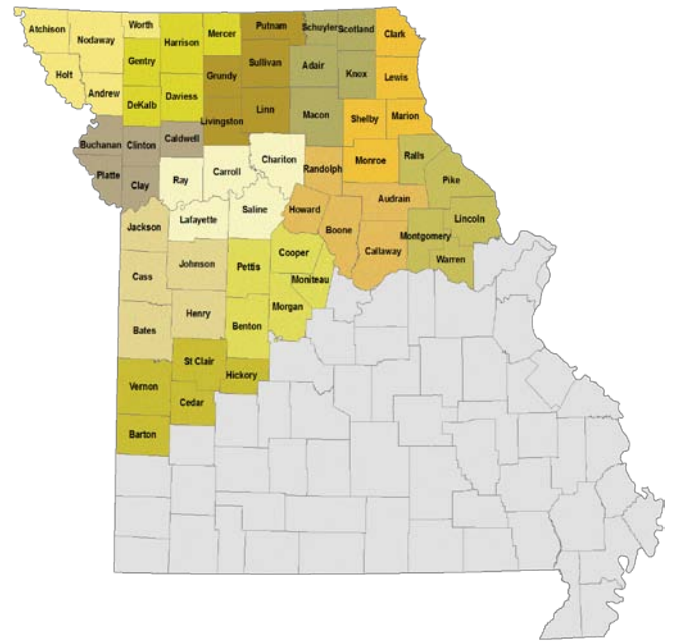


Figure 7. Missouri counties in which free-ranging white-tailed deer were tested for CWD in 2010.

In the winter of 2011 the United States Department of Agriculture in cooperation with the Missouri Departments of Agriculture and Conservation successfully completed depopulated the infected big-game shooting area. Since the winter of 2010 more than 150 cervids from the infected facility were tested for CWD with no additional CWD prions detected.

Since 2001, the MDC has tested more than 36,000 free-ranging white-tailed deer. Statewide and targeted testing of sick deer continues throughout the state.

General Information about the 2010-2011 Deer Season

Season Dates:

Archery Season: September 15 through January 15, closed during the November portion of the firearms deer season

Firearms Season:

Urban Portion: October 8-11

Youth Portion: October 30-31; January 1-2

November Portion: November 13-23

Antlerless Portion: November 24-December 5

Muzzleloader Portion: December 18-28

Bag Limit:

Archery Deer: Archery Deer Hunting permits allows for the taking of two deer of either sex, except that only one antlered deer may be taken before the November portion of the firearms season. Unlimited numbers of additional antlerless deer may be taken on Archery Antlerless Deer Hunting Permits in selected counties

Firearms Deer: Firearms Any-Deer and Antlerless Permits were sold over-the-counter in unlimited quantities. An Any-Deer Permit was valid for one deer of either sex in any county. A Firearms Antlerless Permit was valid for one antlerless deer of either sex in any county. An unlimited number of Firearms Antlerless Permits could be filled in 74 counties (only the urban portion of 3 of these counties), one could be filled in 29 counties (only the rural portion of 3 of these counties) and none could be filled in 14 counties.

Harvest Reporting: Successful hunters are required to report their harvest by 10PM of the day of harvest using Telecheck (telephone or internet)

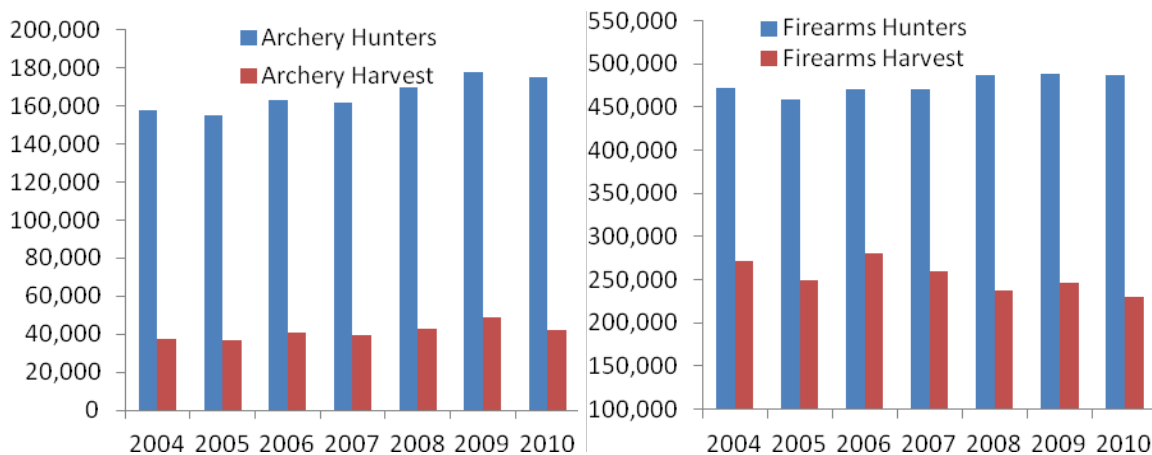


Figure 5. Trends in the number of individuals holding an archery and firearms deer hunting permit and harvest.

Archery Deer Season Summary

There is a long term trend on increasing participation in the archery season and that is reflective in archery season deer harvest numbers. In 2010, archers took 42,372 including 21,467 does, 4,996 button bucks and 15,909 antlered bucks, which was a 14% decrease from 2009 (Table 1). Sale of archery permits decreased by 1% to 100,482; landowner archery permittees only changed slightly at 79,964 (Table 2). Individual nonresident archers totaled 9,408 which was a 3% increase from 2009. The record for archery harvest was set in 2009 at

49,010 deer harvested. The 2010 harvest is only slightly lower than the total of 42,802 from 2008 and greater than the 39,387 from 2007.

Firearms Deer Season Summary

Resident Firearms Any-Deer and Antlerless Permit sales in 2010 both declined by 1% from those in 2009 (Table 2). Nonresident firearms permittees totaled 16,135, which was similar to the total in 2009 (Table 2). Nonresident firearms hunters purchased a total of 27,788 permits, down 1% from 2009 (Table 2). A total of 487,535 individuals possessed a firearms deer hunting permit in 2010, similar to that in 2009 (Table 3). Deer harvest during the 2010 firearms season totaled 230,162, a 6% decrease from 2009 (Table 1). This included stable harvest in north and west Missouri (Northwest, Northeast, Kansas City and Southwest regions) and decreased harvest in central and southeast Missouri (Central, St. Louis, Ozark and Southeast regions). Of this total, 109,205 were does, a 9% decrease from that in 2009; 32,986 were button bucks, a 9% decrease; and 87,971 were antlered bucks, a 2% decrease. Harvest by any-deer permittees included 79,108 does, 24,105 button bucks and 63,424 antlered bucks. Harvest by firearms antlerless permittees included 85,023 does and 23,756 button bucks. Firearms landowner permittees took 63,010, which was 27% of the total firearms harvest. Much of the reduction in deer harvest for 2010 from 2009 is a result of a good acorn crop across southern Missouri and lower deer numbers in northern Missouri.

The early and late youth-only portions continue to be popular with 13,369 and 1,301 deer, respectively taken in 2010. The total youth portion harvest in 2010 decreased by 3% from 2009. It consisted of 8,199 antlered bucks, 1,810 button bucks and 4,661 does (Table 1, pg 9). The number of permits sold to youth 15 and younger totaled 71,849 in 2010.

Harvest during the Urban Zones portion decreased from 1,457 in 2009 to 586, a 60% decrease. The muzzleloader portion harvest was 12,945, a 19% decrease from 2009. The antlerless portion harvest was 15,217, a 31% decrease from 2009. Despite the decrease in harvest for both the muzzleloader and antlerless portion, harvest totals for these two portions has increased with the change in timing that occurred following the 2008 deer season.

Managed Deer Hunts

Overall, hunters harvested 2,665 deer during the managed deer hunts in 2010.

Table 1. Deer Season Harvest Summary

Season/Portion	Antlered Deer			Button Bucks			Does			Total		
	2009	2010	% Diff.	2009	2010	% Diff.	2009	2010	% Diff.	2009	2010	% Diff.
Archery	16,576	15,909	-4	6,384	4,996	-22	26,050	21,467	-18	49,010	42,372	-14
Urban	10	7	NA	285	114	-60	1,162	465	-60	1,457	586	-60
Early Youth	7,111	7,929	12	1,773	1,570	-11	4,574	3,870	-15	13,458	13,369	-1
November	79,346	76,962	-3	26,926	26,134	-3	85,064	83,648	-2	191,336	186,744	-2
Muzzleloader	3,278	2,655	-19	2,531	1,941	-23	10,106	8,349	-17	15,915	12,945	-19
Antlerless	138	148	NA	4,581	2,987	-35	17,353	12,082	-30	22,072	15,217	-31
Managed Hunts	371	727	96	368	442	20	1,103	1,496	36	1,842	2,665	45
Late Youth	320	270	-16	306	240	-22	1,081	791	-27	1,707	1,301	-24
Total Firearms	90,203	87,971	-2	36,402	32,986	-9	119,340	109,205	-8	245,945	230,162	-6
Total	107,150	104,607	-2	43,154	38,424	-11	146,493	132,168	-10	296,797	275,199	-7

Table 2. Summary of Permit Sales and Harvest by Permit Type

Permit Type	Number of Permits			Number of Deer Harvested		
	2009	2010	% Diff.	2009	2010	% Diff.
Permittee Archery	101,926	100,482	-1	21,312	19,315	-9
Landowner Archery	79,892	79,964	0	6,757	5,380	-20
Youth Archery	5,354	5,880	10	736	618	-16
Permittee Archery Antlerless	44,138	43,029	-3	13,990	12,231	-13
Landowner Archery Antlerless	123,565	123,759	0	5,756	4,318	-25
Youth Archery Antlerless	1,394	1,501	8	258	228	-12
Permittee Firearms Any-Deer	296,198	294,451	-1	73,139	69,076	-6
Landowner Firearms Any-Deer	172,753	175,050	1	38,867	34,480	-11
Youth Firearms Any-Deer	41,514	50,062	21	12,729	15,848	25
Permittee Firearms Antlerless	224,837	221,737	-1	79,134	75,213	-5
Landowner Firearms Antlerless	151,839	156,508	3	31,305	28,530	-9
Youth Firearms Antlerless	20,143	21,787	8	6,594	6,592	0
Resident Firearms	893,196	891,807	0	235,119	218,659	-7
Nonresident Firearms	28,050	27,788	-1	10,533	11,080	5
Resident Archery	347,106	345,127	-1	45,732	39,033	-15
Nonresident Archery	9,167	9,408	3	3,077	3,057	-1
Permittee Archery & Firearms	749,470	743,312	-1	211,776	199,121	-6
Landowner Archery & Firearms	528,049	535,281	1	82,685	72,708	-12

Table 3. Deer Permit and Harvest Facts

	Archery	Firearms	Total ¹
Resident Permittees ¹	98,688	330,157	428,845
Non Resident permittees ¹	7,752	18,118	25,870
Landowners ¹	79,964	175,050	255,014
Total ²	177,061	487,535	507,068
Age Distribution of hunters			
≤ 10	1,452	19,227	-
11-15	9,503	46,168	-
16-40	79,052	184,878	-
≥ 41	87,054	237,262	-
Antlerless permit sales			
1	22,403	133,366	155,769
2	6,147	27,104	33,251
3	1,268	6,366	7,634
≥ 4	825	4,049	4,874
Number of deer taken			
0	144,962	310,322	313,422
1	24,982	137,837	140,859
2	5,323	30,606	37,416
3	1,192	6,265	9,934
≥ 4	602	2,505	5,437
Number of antlered deer taken			
0	161,655	400,118	408,246
1	14,965	87,077	94,231
2	439	337	4,397
3	2	3	194
Percentage taking;			
≥ 1 deer	18.13	36.35	38.19
1 deer	14.11	28.27	27.78
2 deer	3.01	6.28	7.38
≥ 3 deer	1.01	1.80	3.03
Percentage taking:			
1 antlered buck	8.45	17.86	18.58
2 antlered bucks	0.25	0.07	0.87
≥ 3 antlered bucks	0.00	0.00	0.04
Percentage of deer taken by nonresidents			
	7.2	4.8	5.1
Percentage of deer taken by landowners			
	22.9	27.4	26.4

¹ Number of any-deer permits issued² Number of individuals, including nonresidents, possessing a permit, not number of permits issued

Table 4. Archery and Firearms harvest totals for the 2010 Missouri Deer Season.

County	Archery						Firearms						Totals		
	Doe	Antlered		Total	Doe	Antlered		Total	Doe	Button Buck	Antlered Buck	Total	Button Buck	Antlered Buck	Total
		Buck	Buck			Buck	Buck								
Adair	256	50	216	522	1519	477	1096	3092	1775	527	1312	3614			
Andrew	92	12	89	193	656	178	723	1557	748	190	812	1750			
Atchison	144	23	128	295	569	124	648	1341	713	147	776	1636			
Audrain	135	47	87	269	985	333	638	1956	1120	380	725	2225			
Barry	159	46	160	365	680	208	816	1704	839	254	976	2069			
Barton	155	28	119	302	572	168	545	1285	727	196	664	1587			
Bates	143	23	96	261	850	253	655	1758	993	276	750	2019			
Benton	294	66	177	537	2134	714	1295	4143	2428	780	1472	4680			
Bollinger	200	66	177	443	982	295	1042	2319	1182	361	1219	2762			
Boone	356	79	223	658	1313	431	918	2662	1669	510	1141	3320			
Buchanan	58	9	62	129	451	133	398	982	509	142	460	1111			
Butler	174	57	186	417	566	175	635	1376	740	232	821	1793			
Caldwell	133	14	77	224	759	216	589	1564	892	230	666	1788			
Callaway	391	107	220	718	2062	629	1321	4012	2453	736	1541	4730			
Camden	323	82	195	600	1702	540	991	3233	2025	622	1186	3833			
Cape Girardeau	287	58	157	502	616	178	818	1612	903	236	975	2114			
Carroll	145	24	103	272	1080	232	935	2247	1225	256	1038	2519			
Carter	105	44	128	277	502	154	570	1226	607	198	698	1503			
Cass	159	27	137	323	729	210	719	1658	888	237	856	1981			
Cedar	120	37	80	237	980	351	622	1953	1100	388	702	2190			
Chariton	121	22	102	245	1025	273	793	2091	1146	295	895	2336			
Christian	149	38	141	328	551	147	664	1362	700	185	805	1690			
Clark	182	45	179	406	1098	340	825	2263	1280	385	1004	2669			
Clay	292	52	196	540	419	99	452	970	711	151	648	1510			
Clinton	64	15	63	142	528	114	407	1049	592	129	470	1191			
Cole	120	31	81	232	628	230	370	1228	748	261	451	1460			
Cooper	155	32	87	274	1084	279	736	2099	1239	311	823	2373			
Crawford	212	68	162	442	998	315	1008	2321	1210	363	1170	2763			
Dade	54	15	56	125	344	122	529	995	398	137	585	1120			
Dallas	199	46	171	416	1233	412	986	2631	1432	458	1157	3047			
Davies	181	42	133	356	1232	326	989	2547	1413	368	1122	2903			
Dekalb	62	18	64	144	611	172	559	1342	673	190	623	1486			

County	Archery						Firearms						Totals				
	Doe	Button Buck		Antlered Buck		Total	Doe	Button Buck		Antlered Buck		Total	Doe	Button Buck		Antlered Buck	Total
		Buck	Buck	Buck	Buck			Buck	Buck	Buck	Buck			Buck	Buck		
Dert	180	42	137	359	1087	318	920	2325	1267	360	1057	2684					
Douglas	139	51	134	324	899	278	1022	2199	1038	329	1156	2523					
Dunklin	42	9	39	90	107	39	170	316	149	48	209	406					
Franklin	371	115	214	700	1746	550	1236	3532	2117	665	1450	4232					
Gasconade	244	46	116	406	1631	510	1046	3187	1875	556	1162	3693					
Gentry	120	23	123	266	867	213	798	1878	987	236	921	2144					
Greene	199	55	204	458	843	242	674	1759	1042	297	878	2217					
Grundy	100	20	104	224	813	219	667	1699	913	239	771	1923					
Hampton	195	32	230	457	1349	389	1220	2958	1544	421	1450	3415					
Henry	214	51	104	369	1565	458	822	2845	1779	509	926	3214					
Hickory	192	53	106	351	1427	447	745	2619	1619	500	861	2970					
Holt	93	19	102	214	581	121	618	1320	674	140	720	1534					
Howard	183	32	109	324	1008	316	707	2031	1191	348	816	2355					
Howell	262	55	219	536	1825	556	1330	3711	2087	611	1549	4247					
Iron	46	19	55	120	259	93	339	691	305	112	394	811					
Jackson	557	103	360	1020	448	121	440	1009	1005	224	800	2029					
Jasper	216	46	210	472	616	205	966	1787	832	251	1176	2259					
Jefferson	512	123	235	870	1297	393	880	2570	1809	516	1115	3440					
Johnson	192	45	107	344	1085	331	793	2209	1277	376	900	2553					
Knox	254	66	196	516	1461	477	982	2920	1715	543	1178	3436					
Laclede	197	65	189	451	1561	493	1254	3308	1758	558	1443	3759					
Lafayette	81	11	48	140	537	146	374	1057	618	157	422	1197					
Lawrence	116	37	101	254	451	144	597	1192	567	181	698	1446					
Lewis	167	33	117	317	1045	325	744	2114	1212	358	861	2431					
Lincoln	325	92	187	604	1460	466	982	2908	1785	558	1169	3612					
Linn	272	52	181	505	1270	344	1060	2674	1542	396	1241	3179					
Livingston	124	32	112	268	953	255	801	2009	1077	287	913	2277					
Macon	372	84	228	684	2054	727	1360	4141	2426	811	1588	4825					
Madison	72	16	76	164	410	145	497	1052	482	161	573	1216					
Marion	120	35	99	254	901	320	649	1870	1021	355	748	2124					
Marion	149	34	111	294	986	298	647	1931	1135	332	758	2225					
McDonald	114	25	131	270	541	152	742	1435	655	177	873	1705					
Mercer	196	37	210	443	954	299	893	2146	1150	336	1103	2589					

County	Archery						Firearms						Totals					
	Doe	Button		Antlered		Total	Doe	Button		Antlered		Total	Doe	Button		Antlered		Total
		Buck	Buck	Buck	Buck			Buck	Buck	Buck	Buck			Buck	Buck	Buck	Buck	
Miller	177	61	100	338	1204	390	669	2263	1381	451	769	2601						
Mississippi	40	2	30	72	84	16	174	274	124	18	204	346						
Moniteau	98	23	63	184	636	194	414	1244	734	217	477	1428						
Monroe	248	53	166	467	1489	491	988	2968	1737	544	1154	3436						
Montgomery	183	58	140	381	1262	382	812	2456	1445	440	952	2837						
Morgan	241	54	156	451	1756	585	1014	3355	1997	639	1170	3806						
New Madrid	46	9	35	90	65	19	197	281	111	28	232	371						
Newton	211	34	203	448	647	204	861	1712	858	238	1064	2160						
Nodaway	184	24	182	390	1361	327	1232	2920	1545	351	1414	3310						
Oregon	249	66	179	494	1639	479	932	3050	1888	545	1111	3544						
Osage	312	52	210	574	1902	585	1178	3665	2214	637	1388	4239						
Ozark	153	33	143	329	815	230	1017	2062	968	263	1160	2391						
Pemiscot	13	1	22	36	30	5	66	101	43	6	88	137						
Perry	172	35	99	306	963	290	853	2106	1135	325	952	2412						
Pettis	187	29	125	341	1239	357	820	2416	1426	386	945	2757						
PHELPS	173	51	102	326	891	268	647	1806	1064	319	749	2132						
Pike	316	56	191	563	1839	546	1164	3549	2155	602	1355	4112						
Platte	318	68	197	583	538	117	510	1165	856	185	707	1748						
Polk	139	34	115	288	642	198	914	1754	781	232	1029	2042						
Pulaski	179	33	93	305	648	190	518	1356	827	223	611	1661						
Putnam	254	46	241	541	1176	351	1000	2527	1430	397	1241	3088						
Ralls	166	36	138	340	997	338	736	2071	1163	374	874	2411						
Randolph	179	28	137	344	1261	365	807	2433	1440	393	944	2777						
Ray	105	13	75	193	837	236	686	1759	942	249	761	1952						
Reynolds	80	23	105	208	463	138	514	1115	543	161	619	1323						
Ripley	275	71	192	538	1091	356	928	2375	1366	427	1120	2913						
Saint Charles	277	61	202	540	739	214	636	1589	1016	275	838	2129						
Saint Clair	241	65	137	443	1733	535	993	3261	1974	600	1130	3704						
Saint Francois	161	47	101	309	548	182	534	1264	709	229	635	1573						
Saint Louis	523	123	297	943	381	101	309	791	904	224	606	1734						
Sainte Genevieve	210	36	70	316	1076	275	659	2010	1286	311	729	2326						
Saline	126	29	86	241	833	213	635	1681	969	242	721	1922						
Schuyler	109	23	100	232	774	274	595	1643	883	297	695	1875						

County	Archery						Firearms						Totals					
	Doe	Button		Antlered		Total	Doe	Button		Antlered		Total	Doe	Button		Antlered		Total
		Buck	Buck	Buck	Buck			Buck	Buck	Buck	Buck			Buck	Buck			
Scotland	313	71	226	610	1427	408	909	2744	1740	479	1135	3354						
Scott	48	13	40	101	179	64	227	470	227	77	267	571						
Shannon	130	43	114	287	841	258	745	1844	971	301	859	2131						
Shelby	270	60	164	494	1386	410	850	2646	1656	470	1014	3140						
Stoddard	238	63	170	471	520	193	494	1207	758	256	664	1678						
Stone	108	24	88	220	399	117	491	1007	507	141	579	1227						
Sullivan	260	59	217	536	1312	382	1069	2763	1572	441	1286	3299						
Taney	151	50	137	338	757	218	924	1899	908	268	1061	2237						
Texas	255	61	217	533	1530	437	1546	3513	1785	498	1763	4046						
Vernon	231	52	145	428	1274	389	832	2495	1505	441	977	2923						
Warren	176	32	113	321	884	276	643	1753	1010	308	756	2074						
Washington	91	26	107	224	624	190	714	1528	715	216	821	1752						
Wayne	219	83	210	512	1007	348	1056	2411	1226	431	1266	2923						
Webster	167	42	149	358	795	252	890	1937	962	294	1039	2295						
Worth	78	13	104	195	457	114	490	1061	535	127	594	1256						
Wright	151	46	131	328	809	261	812	1882	960	307	943	2210						
Northwest	2,467	444	2,244	5,155	16,353	4,285	14,506	35,144	18,820	4,729	16,750	40,299						
Northeast	3,495	744	2,627	6,866	19,824	6,209	13,772	39,805	23,319	6,953	16,399	46,671						
Kansas City	2,909	592	1,828	5,329	12,551	3,730	8,705	24,986	15,460	4,322	10,533	30,315						
Central	3,164	768	1,972	5,904	18,907	5,937	12,098	36,942	22,071	6,705	14,070	42,846						
St. Louis	2,487	640	1,517	4,644	8,079	2,505	6,408	16,992	10,566	3,145	7,925	21,636						
Southwest	2,646	675	2,360	5,681	13,039	4,080	13,220	30,339	15,655	4,755	15,580	36,020						
Ozark	2,251	596	1,789	4,636	12,577	3,785	10,987	27,349	14,828	4,381	12,776	31,985						
Southeast	2,048	537	1,572	4,157	7,875	2,455	8,275	18,605	9,923	2,992	9,847	22,762						
GRAND TOTAL	21,467	4,996	15,909	42,372	109,205	32,986	87,971	230,162	130,672	37,982	103,880	272,534						

NEBRASKA DEER STATUS REPORT

2011 Midwest Deer & Wild Turkey Group

MacMullen Conference Center, Higgins Lake, Michigan
September 25-28, 2011

Submitted by the State of Nebraska
Nebraska Game and Parks Commission - Wildlife Division
Big Game Program Manager: Kit Hams

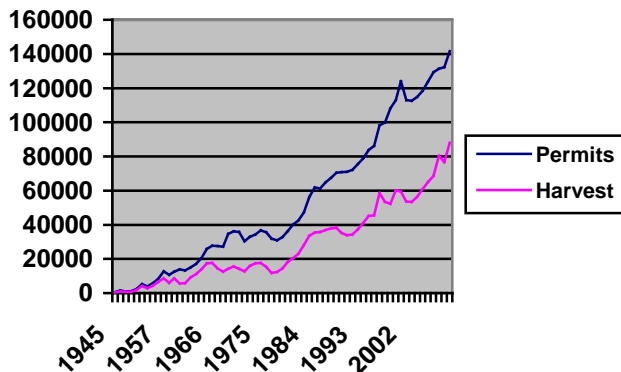
Collection and Analysis of Deer Harvest Data - 2010

Project Objective: To gather information related to the status, distribution, and abundance of wildlife populations in Nebraska, and to develop effective management practices and programs for these species.

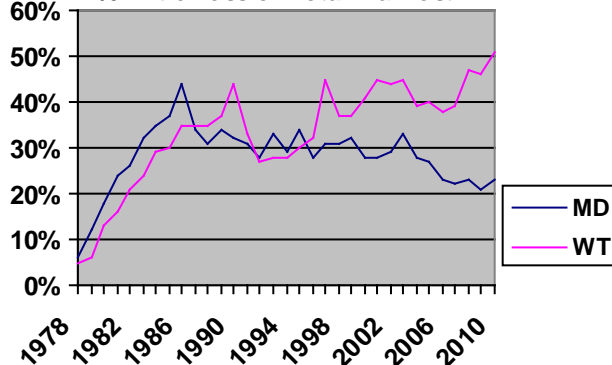


Nebraska 2010 Deer Season Summary

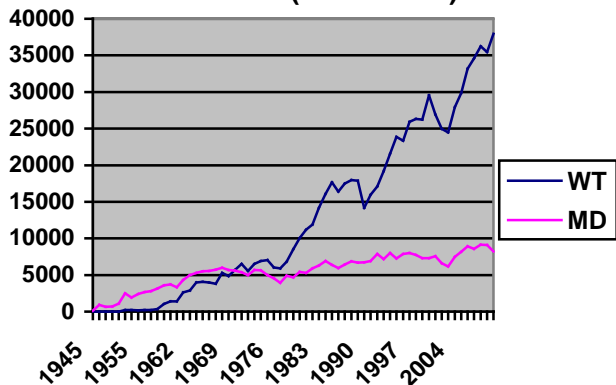
Deer Permits & Harvest (1945-2010)



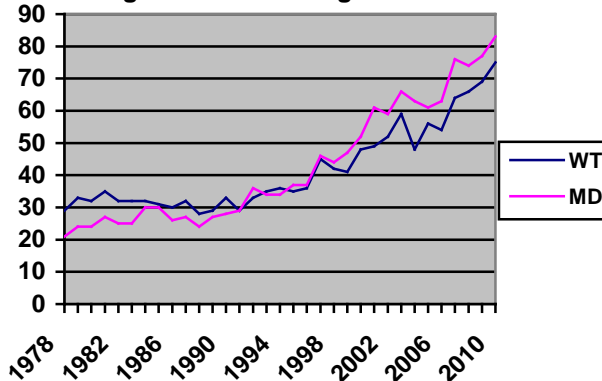
% Antlerless of Total Harvest



Buck Harvest (1945 - 2010)



Age of Bucks - % age 2+



Permits: 141,573 permits sold

- 126,028 bonus AO WT tags
- 99,397 either sex permits
- 33,014 antlerless permits
- 9,164 buck only permits

Harvest: 88,034 deer

- 37,967 WT buck
- 39,198 WT antlerless*
- 9,073 MD buck
- 2,594 MD antlerless

*1st year WT AO kill exceeded WT buck kill

Check Stations:

- Telecheck:** 24,351 deer checked
80 cents per deer
- Manual:** 64,000 deer checked
\$1.25 per deer

October Antlerless firearm:

- 10 days
- 60% of state
- \$11 permit
- 7,223 permits sold,
- Bag Limit: 2 antlerless whitetail
- Kill = 2,696 deer

Earn-A-Buck:

- 1st time used in Nebraska
- Two DMUs (8,100 permits)
- 20% increase in antlerless kill (+2,000 deer)
- Generally well accepted by most hunters

\$5 Youth deer permits (Res & Nres)

- Age 12-15
- 48% increase in sales
- 11,255 permits issued (8% to nonresidents)
- Bag Limit: 1 any deer and 1 Antlerless WT

2010 Antlerless Kill Summary

Seasons	Days	Dates	Antlerless Permits	Antlerless Kill	Antlerless Success
Nov. Firearm	9	Nov. 13-21	39,647	7,516	19%
Nov. Earn A Buck	11	Nov. 13-23	8,100	5,278	65%
WT Statewide Buck	108	Sept. 15 – Dec. 31	6,663	1,187	18%
SCA Antlerless	126	Sept. 15 – Jan. 18	25,268	11,953	47%
Archery	99	Sept. 15 – Dec. 31	15,609	2,781	18%
Landowner	126	Sept. 15 – Jan. 18	13,202	2,488	19%
Muzzleloader	31	Dec. 1-31	11,484	2,129	19%
Youth	126	Sept. 15 – Jan. 18	11,255	2,842	25%
October Antlerless	10	Oct. 1-10	7,223	2,696	37%

Deer Exchange Program: Participation averages 1,000 per year 1,700 in 2009; 900 in 2008
Persons sign up to donate or receive deer on the NGPC website
\$0 cost to NGPC

Antlerless Deer Hunter Program:

Good hunter sign up (800)

Low Landowner participation

Staff give hunter lists to landowners who complain of damage

2011 Season Changes / Issues:

Deer damage complaints continue:

Earn-A-Buck expanded to 5 eastern DMUs (25% of state)

1000+ deer killed by Landowners on depredation permits

Missouri River flooding:

Deer hunts closed at two National Wildlife Refuges due to flood damage

Mule deer: Meningeal worm losses seem to lower in 2011

CWD: Sampling to reduced to 1,500 deer (50% reduction) in 6 DMU's

Regulations: Crossbow now legal on all archery permits

Job A2: Collection and Analysis of Deer Harvest Data (K.Hams)

Objectives: To estimate hunting success, the distribution of kill, and the sex and age composition of the deer harvest.

Activity: Establish check stations during deer season to check, seal and record biological data on all harvested deer. Successful hunters are required to check harvested deer at one of approximately 120 designated check stations distributed statewide where these data are gathered. Check stations are staffed primarily by private businesses with NGPC staff and other trained professionals running check stations during peak periods, e.g. first and last weekend of the firearm season. In 2010, approximately 100 Commission personnel aged 15,300 deer (33% of total buck harvest) and collected tissue samples from 2,983 deer for chronic wasting disease (CWD) testing (see Job P1). Data are compiled and summarized by February 1 so they are available for creating well-informed season recommendations for the following year.

“Telecheck,” a telephone and web-based harvest registration system, was expanded in 2010. Hunters who harvested deer outside the November firearm deer season were required to check deer by telephone or internet. 24,351 deer (12,535 in 2009) deer were checked (10,855 phone, 13,507 by Internet). The proportion of hunters checking deer by Telecheck increased to 32%. Cost savings to the agency was \$11,000 and savings to hunters was estimated at \$400,000 in reduced transportation costs.

Table 1. Deer Check 2009-2010

Year	Total Harvest	Telecheck	by Phone	by Internet	by Check Station
2009	76,613	12,535	5%	11%	84%
2010	88,034	24,351	12%	16%	72%

Significant Deviations: None

Results: The 2010 deer season allowed 126 days of hunting from September 15 – January 18. Archery season was September 15 - December 31; muzzleloader season was December 1-31; firearm season was November 13-21; Earn-A-Buck season was Nov. 13-23; January antlerless season was December 26 – January 18; October Antlerless season was October 2-11.

Total deer permit sales deer hunters increased to 141,573 permits, which is a 7% increase and the highest number of permits ever issued. Total deer harvest was 88,034, a 15% over the previous year, and the highest on record.

Total mule deer harvest was 10,709. Harvest has ranged from 9,155 to 11,787 for the past 25 years. Mule deer buck harvest was the 5th highest on record (8,227). Mule deer antlerless harvest was the 3rd lowest in 25 years (2,594), reflecting NGPC goal to increase mule deer population.

Whitetail buck harvest was the highest on record (37,967) and whitetail antlerless was also the highest on record (39,198). 2010 was the first year that antlerless kill exceeded buck kill.

November Firearm Season - *Results of the November firearm season (Table 2) are shown for the 18 deer management units (Figure 1) and four statewide permits. Total harvest for the past five years is in Table 3.*

Table 2. 2010 November firearm season, permits, harvest, and success.

Units	Permits Issued	Bag Limits	Adult Buck Harvest		Antlerless Harvest		Total Kill	% Success	% Age 1 Bucks	
			MD	WT	MD	WT			ALL	MD
Blue NW	2700	1ES,1AO	1	1359	0	850	2216	82%		71%
Blue SE	3900	1ES,1AO	1	1643	1	1090	2961	76%		68%
Buffalo	1700	ES	328	563	54	99	1047	62%	72%	79%
Buffalo WT	1750	1ESWT	3	796	2	152	955	55%		71%
Calamus E	1300	1ES ³	53	649	0	79	783	60%	75%	73%
Calamus W	1800	1ES,1aowt	305	764	70	305	1447	80%	88%	79%
Elkhorn EAB	3600	1ES,1AO	3	1498	2	2318	3848	107%		67%
Frenchman	1225	1ES,1AOWT	605	198	37	180	1022	83%	79%	71%
Frenchman WT	1994	1WT,1AOWT	3	953	1	513	1473	74%		66%
Keya Paha	2300	1ES ³ ,1AOWT	254	1299	1	521	2079	90%	86%	89%
Loup East	2400	1ES ³	46	1153	1	213	1414	59%	62%	65%
Loup West	1700	1ES,1aowt	362	656	71	369	1465	86%	76%	77%
Missouri	3200	1ES ³ ,1AOWT	68	1766	1	933	2776	87%	81%	76%
Pine Ridge	3000	1ES	670	877	125	155	1834	61%	86%	85%
Plains	1500	1ES	613	325	98	35	1078	72%	85%	82%
Platte	1200	1ES,1aowt	427	267	29	228	953	79%	81%	67%
Platte WT	1290	1WT,1AOWT	8	576	4	270	860	67%		75%
Republican MD	100	1MD buck	26	5	0	5	37	37%		
Repub. WT	3000	1WT,1AOWT	2	1659	1	967	2634	88%		77%
Sandhills	2400	1ES,1aowt	856	749	97	518	2225	93%	95%	93%
Upper Platte	1200	1ES	420	203	82	34	743	62%	79%	68%
Wahoo EAB	4500	1ES,1AO	0	1759	0	2960	4760	106%		68%
Restricted SWB	2501	Buck	286	947	1	5	1242	50%	11%	18%
WT SWB	6663	1BOWT,1aowt	18	2801	4	1187	4033	61%	18%	30%
Youth	11255	1ES,1aowt	1163	3768	248	2842	8055	72%	77%	66%
Landowner	13202	1ES,1AO	1073	4782	326	2488	8702	66%	17%	24%
TOTALS	81368	--	7594	32215	1256	19316	60642	75%	17%	25%

* Antlerless mule deer prohibited

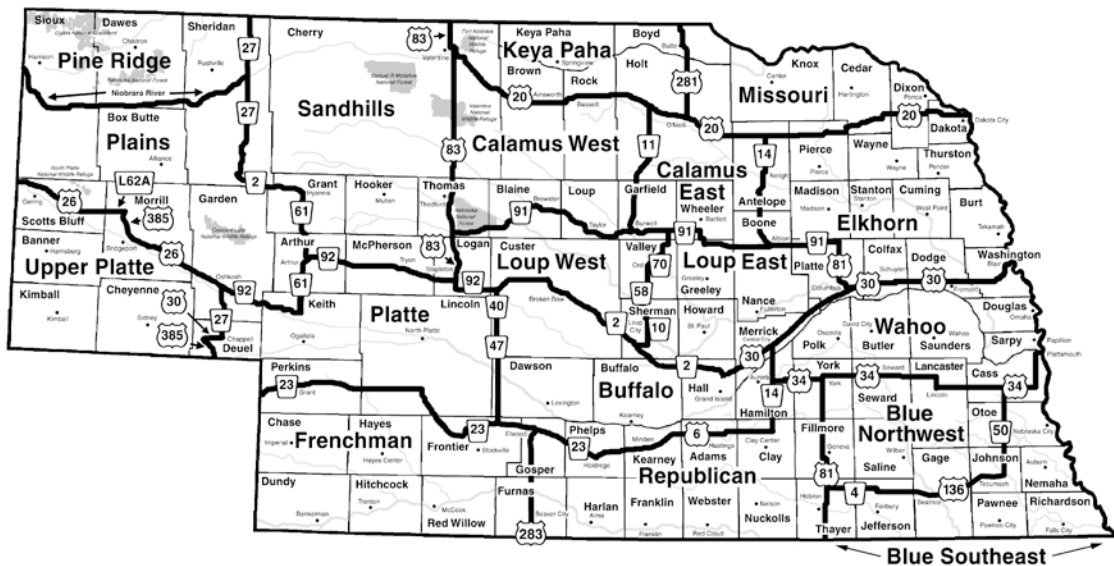
b Bonus antlerless tag included with each permit

Table 3. November firearm deer season, 2006-2010

Year	November Firearm Season		
	Permits	Harvest	% Success
2006	70,498	43,081	61
2007	73,169	42,710	58
2008	75,940	50,733	67*
2009	74,347	47,286	64*
2010	81,368	60,642	75*

* bonus tags inflate success

Figure 1. 2010 Firearm Deer Management Units



Archery Season – A total of 6,315 deer was taken on 15,609 permits for a 40% success rate. Bonus antlerless whitetail tags (first added in 2008) increase hunter success. 55% of the harvest was adult bucks and 97% of the harvest was whitetail deer. Results for the past five years are in Table 4.

Table 4. Harvest and success for archery seasons 2006-2010.

Year	Permits	Adult Male		Antlerless		Total Harvest*	Percent Success	% Antlerless
		MD	WT	MD	WT			
2006	15,606	174	3,634	35	750	4,596	29	17%
2007	16,067	172	3,783	49	808	4,858	30	18%
2008	16,350	187	4,165	50	3,008	7,440	46**	41%
2009	17,265	252	4,028	55	3,220	7,612	44**	44%
2010	15,609	151	3,349	34	2,781	6,315	40**	45%

*includes unknown species.

** bonus tags inflate success

Muzzleloader Season – A total of 4,252 deer was taken on 11,484 permits, for a success rate of 37%. Much of the antlerless kill occurs due to the addition of bonus antlerless whitetail tags on all permits. Permit sales decreased 21% and harvest decreased 28% possibly due to increased muzzleloader opportunities with SCA antlerless permits, season choice Statewide Whitetail Buck permits and muzzleloader restrictions in the Mule Deer Conservation Area. 47% of the harvest was adult bucks and 87% of the harvest was whitetail deer. Results of the muzzleloader season for the past five years are in Table 5.

Table 5. Harvest and success for muzzleloader season 2006-2010.

Year	Permits	Adult Male		Antlerless		Total Harvest*	Percent Success	% Antlerless
		MD	WT	MD	WT			
2006	16,293	559	1,923	336	1,335	4,164	26	40%
2007	16,077	653	2,210	431	1,632	4,953	31	42%
2008	15,199	690	2,266	420	3,555	6,946	46	60%
2009	14,490	680	2,005	291	2,911	5,929	41	54%
2010	11,484	427	1,587	109	2,129	4,252	37	53%

* includes unknown species.

Statewide Youth Season – *This was the first year for the reduced fee \$6 Statewide Youth permit. Bonus antlerless whitetail tags were included on all permits. 11,255 permits were issued and 5,472 deer were harvested. Success was 76%. 62% of the harvest was adult bucks, and 80% of the harvest was whitetail. Harvest details can be found in Table 1 and Table 6.*

The objective of this permit was to provide youth and mentors with many options to create a quality youth deer hunting experience in multiple seasons with the one permit. Reduced fees are a hunter recruitment and retention strategy, and based on permit sale increases of 56% it appears successful in hunter recruitment. It remains to be seen if it is successful in hunter retention.

Table 6. Harvest and success for youth deer season, 2006-2010.

Year	Permits	Adult Male		Antlerless		Total Harvest*	Percent Success	% Antlerless
		MD	WT	MD	WT			
2006	5,003	495	1,779	140	560	2,977	60	24%
2007	5,092	464	1,814	136	524	2,945	58	22%
2008	6,854	742	2,564	188	2,144	5,654	82	41%
2009	7,230	857	2,510	158	1,876	5,472	76	37%
2010	11,255	1,163	3,768	248	2,842	8,055	72	38%

* includes unknown species

Season Choice Area Antlerless Season – SCA seasons were first used in 2000. Hunters are allowed to take antlerless deer during archery, muzzleloader, November firearm and January late season (126 days). Twenty-five SCA units were open in 2010. Unit boundaries, permit quotas, bag limit and season length are designed to allow maximum hunter opportunity to harvest antlerless deer in areas where herd reduction is desired. A total of 13,747 antlerless deer were harvested in the twenty-five SCA units on 25,268 permits (Table 7). SCA harvest for the past five years is shown in Table 8.

Table 7. Harvest and success for Season Choice Area antlerless seasons, 2010.

Unit	Permits			Harvest	% Success
	Authorized	Sold	Bag Limit ¹		
303 SCA1	2000	1081	2aowt	688	64%
304 SCA2	2000	1545	2aowt	915	59%
350 SCA3	400	239	2aowt	160	67%
351 SCA4	300	160	2aowt	112	70%
352 SCA5	1000	1001	2aowt	599	60%
353 SCA6	400	334	2aowt	172	51%
305 SCA8	1000	832	2aowt	399	48%
355 SCA8W	200	199	2ao	165	83%
306 SCA9	1200	876	2aowt	390	45%
356 SCA9N	300	133	2ao	99	74%
307 SCA11	400	381	1ao,1aowt	289	76%
308 SCA12	1500	1494	2aowt	1000	67%
309 SCA13	400	400	1aowt	133	33%
310 SCA17	800	799	1ao,1aowt	688	86%
358 SCA17WR	400	112	2aowt	86	77%
311 SCA18	1600	1035	2ao	508	49%
312 SCA19	2000	2001	2ao	929	46%
313 SCA20	6000	6003	2aowt	2874	48%
314 SCA21	8000	4793	2ao	2456	51%
315 SCA22	700	440	2ao	348	79%
316 SCA23	500	500	2ao	405	81%
317 SCA24	300	300	1ao	137	46%
359 SCA24R	300	116	1aowt	24	21%
318 SCA25	400	397	1aowt	126	32%
360 SCA25N	150	97	1ao	45	46%
Total	32,250	25,268		13,747	54%

¹AO = antlerless deer only, AOWT = antlerless only whitetail deer

Table 8. Season Choice Area antlerless deer harvest, 2006-2010.

Year	SCA Antlerless Season		
	Permits Issued	Harvest	Success
2006	20,973	13,081	62%
2007	23,515	15,617	66%
2008	23,405	14,738	63%
2009	24,921	15,009	60%
2010	25,268	13,747	54%

Special Seasons - Special seasons were established in refuge areas to reduce deer numbers. These were antlerless-only hunts except for Boyer Chute National Wildlife Refuge and DeSoto Bend National Wildlife Refuge, except for DeSoto December muzzleloader which also allows buck harvest (Table 9).

Table 9. Harvest and Success for Special Seasons, 2010.

Unit	Permits			Harvest	% Success
	Authorized	Sold	% Either Sex ¹		
Boyer Chute October	70	70	2AOWT	22	31*
Boyer Chute November	70	37	2AOWT	8	22*
Boyer Chute December	70	62	2AOWT	24	39*
DeSoto October Early	140	140	2AOWT	26	19*
DeSoto October Late	140	96	2AOWT	20	21*
DeSoto December MZ Esex	100	98	1Esex, 1AO	30	31*
DeSoto January	100	118	2AOWT	38	32*

* Bonus tags elevate success.

¹AO = antlerless deer only, WT = whitetail deer, Esex = Either sex

Mule Deer and White-tailed Deer Harvest - Mule deer harvest declined 6% to 10,709. Harvest the past 20 years has remained relatively stable, ranging from 9,155 to 11,787. Whitetail harvest has tripled during the past 30 years (Table 10) herds have expanded.

Table 10. White-tailed and Mule Deer Harvest, All Seasons, 1980-2010.

Year	Total Permits*	All Seasons Harvest		
		Mule Deer	Whitetail	All**
1980	36,184	6,584	11,578	18,252
1985	61,913	10,174	25,250	35,500
1990	70,736	9,920	25,512	35,201
1995	83,739	10,960	34,160	45,180
2000	112,933	10,095	49,714	60,148
2001	123,956	10,544	48,815	59,455
2002	112,894	9,225	44,390	53,624
2003	112,563	9,155	44,132	53,314
2004	114,925	10,321	45,919	56,311
2005	118,369	11,144	49,672	60,816
2006	123,860	11,610	53,322	65,091
2007	128,283	10,931	57,121	68,489
2008	131,392	11,787	68,632	80,467
2009	132,338	11,354	64,479	76,613
2010	141,573	10,709	77,028	88,034

* Does not include bonus tags

** Includes unknown species

Age of harvested bucks has shifted to older animals in all units as evidenced in the increasing percentage of age 2 and older (2+) whitetail bucks harvested statewide (75%). Mule deer harvest has also shifted to older bucks statewide (83% 2+ MD bucks in 2010). This trend towards older bucks has been ongoing for more than 20 years and is indicative of the improving quality of the deer herd (Table 11).

Table 11. Percentage of older white-tail and mule deer bucks in the harvest, 1992-2010.

% Harvested Bucks \geq 2 Years Old	White-tail Bucks					Mule Deer Bucks				
	1	1	20	2	2	19	1	2	2	2
9	9	02	0	0	92	9	0	0	0	
9	9		0	1		9	0	0	1	
2	7		7	0		7	2	7	0	
3	4	52	6	7	36	4	5	7	8	
3	5		4	5		6	9	6	3	

Discussion: We expected to set harvest records for whitetail in 2010 and good weather and a nearly complete harvest of corn resulted in record whitetail kill. Earn-A-Buck was successful and resulted in increased antlerless harvest in Elkhorn and Wahoo units. Few complaints were received from hunters. Mule Deer Conservation Area rules were successful in decreasing mule deer buck harvest, however, increasing permit demand by nonresidents has resulted in a need to reevaluate allocation of permits among residents and nonresidents. Mule deer herds may be declining in some central Nebraska units due to increased mortality associated with Meningeal worm.

The number of hunters using Telecheck doubled in 2010 due to a requirement to Telecheck all deer taken outside the November firearm season. 24,352 used Telecheck in 2010.

Nonresident permits sales increased 18% to 15,300 which was 2,365 above last year's record. In some mule deer units, permit demand is exceeding permit availability. The trend of increasing nonresident demand will require that we search for new ways to balance nonresident demand with a statutory requirement to give preference to residents.

Recommendations: Continue the use of manual check stations and Telecheck.

2011 STATUS REPORT ON DEER MANAGEMENT IN NORTH DAKOTA

by

Bill Jensen and Bruce Stillings

North Dakota Game and Fish Department

(August 9, 2011)

2009 Regular Deer-Gun Season Structure - Regulations for the 2010 regular deer-gun season were applied to all 38 hunting units within the state (Figure 1). Deer licenses are initially issued through a lottery except for landowner gratis licenses. In 1993, a weighted priority lottery system was instituted. The priority system is similar to South Dakota's in which unsuccessful applicants have their name entered more times in the drawing the longer they have been unsuccessful. The licenses are issued for specific deer types (antlered or antlerless white-tailed deer, antlered or antlerless mule deer, and antlered or antlerless any deer). The gratis landowner licenses allow any deer to be taken, but are restrictive in that the holders may only hunt on their own land. A total of 116,169 licenses were issued of the 116,775 licenses made available for the 2010 regular deer-gun season (Table 1a). The distribution of these deer licenses was as follows: 16,042 gratis landowners, 93,298 residents, and 6,829 non-resident lottery licenses.

The deer-gun season throughout the state was 16½ days in length (November 5 to 21). The deer gun season started at noon, CST, November 5, 2010 for all units. The daily hunting hours are from one-half hour before sunrise to one-half hour after sunset. In 2010, North Dakota held an early deer season for antlerless license holder in two selected areas of the state where deer numbers are way above goals.

2010 Deer-Gun Season Harvest - Based upon harvest survey questionnaires it is estimated that 90% of the licensees actively attempted to hunt and harvest a deer. This resulted in the harvest of 60,277 white-tailed deer and 6,686 mule deer. The overall success rate for licensees that actually hunted was 59%. A breakdown of the harvest, by species of deer and hunting unit, is provided in Table 2a.

2010 Muzzleloading Long Gun Season Structure - The muzzleloader season was first mandated by the state legislature for the 1987 season. This season was modified during the 1996-97 state legislature. The change allowed for 2% of the white-tailed deer gun permits to be allocated for muzzleloader season, of which up to one-half may be antlered licenses. In 2010, there were 1,095 antlered and 1,095 antlerless white-tailed deer licenses issued. The season opened at noon, CST, November 26, 2010 and ran from one-half hour before sunrise to one-half hour after sunset each day thereafter through December 12, 2010. Licenses are valid for all of North Dakota. The licenses were issued by lottery. A priority system is in place for the drawing of these licenses. Legal weapons were long guns of .45 caliber or larger, and handguns .50 caliber or larger, loaded through the muzzle, with flint or percussion ignition, firing black powder or black powder substitutes. Smokeless powders are not legal. In-line type percussion locks were legalized in 1994, but telescopic sights remain illegal. No magnification (1x) scopes are legal.

2010 Muzzleloading Long Gun Harvest - All 2,190 muzzleloader licensee's were sent a questionnaire, of which an estimated 2,185 actually hunted during the season (87%). The projected harvest of white-tailed deer was 845 deer (471 antlered and 374 antlerless) for an overall success rate of 46.3% (Table 3a).

2010 Archery Season Structure - Archery deer licenses are issued over the counter through license vendors and county auditors with no restrictions on species or sex. The 2010 archery deer season started at noon, CTS, September 3, 2010 and continued from one-half hour before sunrise to one-half hour after sunset each day until January 2, 2010. The deer-bow season is open during the entire deer-gun season with the restriction that all

bow hunters must wear blaze orange during the deer gun season. Any deer was legal, with no unit restrictions for residents. Nonresidents are restricted in the number of mule deer licenses available to 15% of the previous season's regular-gun mule deer licenses (n=1,305).

2010 Archery Harvest - In total, 22,020 archery licenses were sold in 2010. After the season, 4028 questionnaires were sent to resident and nonresident license holders from the 2009 season. Expanding the sample results projected that 19,695 of the hunters who bought a license actually went hunting (89.4%). These deer-bow hunters had an overall success rate of 36.8%, with a total harvest of 7,249 deer (6,601 white-tailed deer and 648 mule deer) (Table 3a).

2010 Youth Deer Gun Season - An experimental youth deer gun season was initiated in 1994. The season is a one time opportunity for youths 14 and 15 years of age at the time of the application deadline. All regular deer gun season regulations and weapon restrictions applied. This includes a half price (\$10.00) license for all youths under sixteen. In addition, each youth licensee must be accompanied by at least one unarmed parent, guardian, or adult authorized by their parent or guardian. In 2010, an unlimited number of any white-tailed deer and antlerless mule deer permits were available and a limited number of antlered mule deer permits (i.e., 10% of the total antlered mule deer licenses available, or 320 licenses in 2010). The nine and one-half day season ran from noon, CTS, September 17 and closed September 26, with the option that youth license holders can also hunt during the regular deer-gun season if they are unsuccessful in the youth season. In addition to the regular youth deer season, the 2009 legislature approved a law that allowed individuals whose 12th birthday occurs on or before the opening of deer hunting season but is younger than fourteen years of age is entitled to receive a statewide white-tailed antlerless deer permit but may hunt only in the youth deer hunting season. All regular deer gun season regulations applied to this youth deer gun season and in addition each youth licensee must be accompanied by at least one unarmed parent, guardian, or adult authorized by their parent or guardian.

2010 Youth Deer Gun Season Harvest – A total of 3,201 youth licenses were sold. After the youth season, questionnaires were sent to 3,400 licensees. An estimated 3,039 teenagers participated in the youth season (87.3%). They experienced an overall success rate of 55%, with a total harvest of 1,674 deer (1,491 white-tailed deer and 183 mule deer). When harvest during the regular deer-gun season is included, a total overall harvest by youth hunters was 2,191 deer (1,933 white-tailed deer and 258 mule deer) (Table 3a).

2010 Special Herd Reduction Deer Bow Season - There are four areas in North Dakota open for special herd reduction seasons. These areas include: within the city limits of Bismarck; Fargo; USDA-ARS Research facility in Mandan; and Graham's Island State Park near Devils Lake. These areas each have special regulations to fit their individual needs.

In the city of Bismarck, the chief of police issued antlerless white-tailed deer permits for portions of the city as the need arises. The season ran from September 3, 2010 through January 31, 2011. These special hunt permits are above the allotted number of permits allowed by the state during regular deer-gun season. All the information and paperwork for these hunts are handled by the entity in charge; therefore, it requires a minimum effort by the Game & Fish Department. The harvest from these special hunts has been minimal in recent years, 50-75 animals, but it does help to disperse the deer, and reduce deer depredation conflicts.

2009-2010 Population Trend - White-tailed deer are distributed throughout North Dakota. Population densities vary by region and are influenced by land use patterns, human population densities, habitat types, and climate. In 1958, big game biologists divided the state into 41 subunits with permanent boundaries that most nearly coincide with identified environmental influences. These management subunit's boundaries also coincide with hunting unit boundaries. To provide comparative annual population trend data, permanent aerial

winter survey areas have been established within each of the 41 subunits, thus permitting unit specific deer management. Since 1999, population trend data has also been collected on deer sighted per hour of effort by hunters. Additionally, information on deer-vehicle collisions has been compiled on a county-by-county basis across the state. Regular population indices mentioned above, have been used to monitor white-tailed deer population trends. Population trends and indices for white-tailed deer are summarized in Table 4a. Available data suggests decreasing white-tailed deer numbers after three severe winters across the state.

The main range of mule deer in North Dakota is the region of the state southwest of the Missouri River. The unitized system of management for white-tailed deer is also the basis for mule deer management. The Badlands region is considered the primary mule deer range and permanent deer population study areas have been established since 1954. Population trend and demographic data for mule deer is obtained from aerial survey areas each spring and fall, respectively. Population trend data for mule deer is also obtained from hunter observations. Population index data for mule deer is summarized in Table 5a. Available data suggests decreasing mule deer numbers throughout the badlands and that portion of the state south and west of the Missouri River after two severe winters in the state. Demographic information, based upon hunter observations and aerial surveys, are summarized for white-tailed and mule deer in Tables 6a and 7a, respectively.

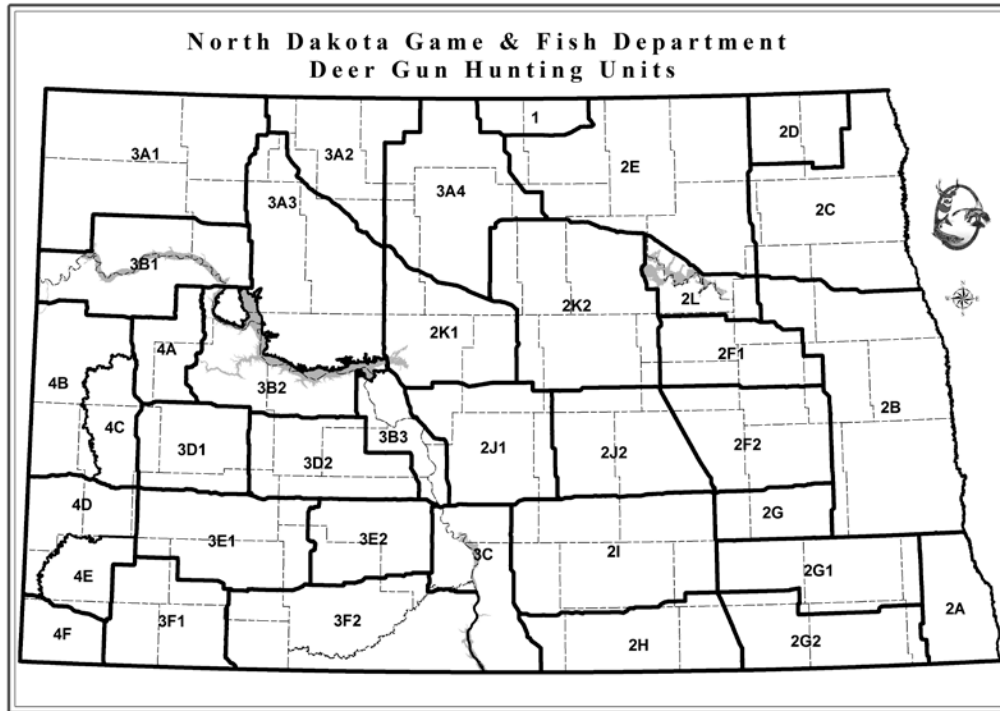


Figure 1. Distribution of deer hunting units in North Dakota.

**Appendix A:
Summary of 2010-2011 Mule Deer and White-tailed Deer
Harvest, Census, and Demographic Data**

1. A total of 116,169 licenses were issued of the 116,775 licenses made available for the regular deer-gun season (Table 1a).
2. The overall hunter success for the 2010 regular gun season was 64.0 percent.
3. Deer-gun hunters harvested an estimated 60,277 white-tailed deer and 6,686 mule deer during the 2010 season (Table 2a).
4. Youth deer hunters in 2010 had a success rate of 50.4 percent during the youth season, and harvested 1491 white-tailed deer and 183 mule deer during the youth deer season (Table 3a). During the regular deer-gun season an additional 442 white-tailed deer, and 75 mule deer harvested by youth hunters.
5. Muzzleloader hunters in 2010 had a success rate of 46.3 percent, and harvested 845 white-tailed deer (Table 3a).
6. Archery hunters in 2010 had a success rate of 36.8 percent, and harvested 6601 white-tailed deer and 648 mule deer (Table 3a).
7. Population indices for white-tailed deer suggest a stable to decreasing population in a most of the state, with stable to increasing deer numbers in the southeastern and southwestern portion of the state along the South Dakota border (Table 4a) (See Figures 1 and 2).
8. Population indices for mule deer suggest a stable to decreasing population in the badlands and stable to increasing numbers in portions of the Slope and Missouri River Major Management areas (Table 5a) (Figure 3).
9. Based on 2570 useable questionnaires from the 2010 Hunter Observation Survey (n=36,713 white-tailed deer and 10,944 mule deer classified), overall white-tailed deer population demographics suggest that about 17 percent of the population were antlered deer prior to, or on the opening weekend of the deer-gun season (Table 6a).
10. Based on fall aerial surveys (n=1613 mule deer classified), and Hunter Observation Survey results (n=7333 mule deer classified) for the Badlands Major management Units, overall mule deer population demographics suggest that between 17 and 21 percent of the population were antlered deer prior to, or on the opening weekend of the deer-gun season (Table 7a).
11. In 2008 information on the number of elk and moose observed during the opening weekend of the deer was added to the hunter observation questionnaire. Maps summarizing the results of the 2010 data set for elk and moose observations are given in Figures 4 and 5.

35th MDWTSG Proceedings

Table 1a. Summary of license numbers available for hunting units by license type for the 2010 regular deer gun season.

MGMT UNIT	HUNTING UNIT	Any Deer Antlered	Any Deer Antlerless	WT Deer Antlered	WT Deer Antlerless	Mule Deer Antlered	Mule Deer Antlerless
TURTLE MTS	I	900	1,000				
RED RIVER	2A	500	200				
	2B	4,100	3,600				
	2C	3,000	5,000				
PEMBINA HILLS	2D	1,400	2,000				
SHEYENNE	2F1	2,600	3,000				
	2F2	2,000	3,000				
	2G	750	750				
	2G1	1,700	1,600				
	2G2	1,200	1,600				
COTEAU	2E	2,000	3,200				
	2H	900	1,300				
	2I	1,600	2,000				
	2J1	700	700				
	2J2	1,800	2,300				
	2K1	1,000	1,800				
	2K2	3,000	5,500				
	3A1	1,100	900				
3A3	1,100	1,500					
DEVILS LAKE	2L	800	1,400				
SOURIS	3A2	1,300	2,500				
	3A4	2,100	3,500				
MISSOURI	3B1			400	400	500	650
	3B2			300	400	250	300
	3B3	150	200	1,000	1,700		
	3C	100	200	1,000	1,400		
SLOPE	3D1	300	400	200	200		
	3D2	400	500	350	350		
	3E1	400	1,000	600	1,000		
	3E2	500	900	450	800		
	3F1	400	900	800	1,200		
	3F2	400	1,200	800	1,200		
BADLANDS	4A			250	300	400	600
	4B			200	200	650	850
	4C			200	250	450	650
	4D			250	200	450	450
	4E			250	250	300	300
	4F			300	450	200	275
	TOTALS	38,200	53,650	7,350	10,300	3,200	4075

TOTAL LICENSES = 116,775

Table 2a. Summary of 2010 white-tailed deer and mule deer harvest data and buck:doe:fawn ratios, by hunting unit, for all regular deer-gun license holders.

Hunting Unit	White-tailed Deer				Mule Deer			
	Antlered	Antlerless	Total	Ratios (B/D/F)	Antlered	Antlerless	Total	Ratios (B/D/F)
1	406	507	913	0.98/1/0.22				
2A	343	120	463	4.08/1/0.43				
2B	2257	2290	4547	1.33/1/0.35				
2C	1127	2624	4866	0.60/1/0.39				
2D	647	1088	1735	0.91/1/0.40				
2F1	1507	1779	3286	1.37/1/0.62				
2F2	1230	1817	3047	1.06/1/0.57				
2G	411	410	821	1.43/1/0.43				
2G1	982	1145	2127	1.31/1/0.53				
2G2	800	874	1647	1.16/1/0.27				
2E	1118	1864	2982	0.94/1/0.56				
2H	581	872	1453	0.88/1/0.32				
2I	981	1316	2297	1.08/1/0.44				
2J1	446	302	748	2.46/1/0.67				
2J2	1105	1510	2615	1.02/1/0.40				
2K1	619	842	1461	1.05/1/0.42				
2K2	1700	3237	4937	0.74/1/0.42				
3A1	729	336	1065	2.93/1/0.35				
3A3	672	578	1276	1.59/1/0.43				
2L	497	871	1368	0.84/1/0.47				
3A2	745	1707	2316	0.62/1/0.30				
3A4	1128	2551	2835	0.91/1/0.38				
3B1	269	198	467	1.76/1/0.29	266	265	531	1.15/1/0.15
3B2	232	202	434	1.84/1/0.60	149	143	292	1.37/1/0.31
3B3	578	897	1475	0.86/1/0.48	80	42	124	2.50/1/0.38
3C	752	904	1656	1.13/1/0.36	76	27	103	4.22/1/0.24
3D1	203	235	438	1.30/1/0.51	147	169	316	0.92/1/0.06
3D2	291	283	574	1.43/1/0.39	194	186	380	1.55/1/0.49
3E1	566	855	1421	0.93/1/0.50	150	228	378	0.87/1/0.33
3E2	544	782	1326	1.08/1/0.56	135	229	364	0.74/1/0.25
3F1	711	810	1521	1.08/1/0.24	135	42	177	4.35/1/0.35
3F2	662	818	1480	1.17/1/0.54	164	412	576	0.61/1/0.52
4A	150	188	338	1.03/1/0.30	229	362	591	0.78/1/0.30
4B	148	76	224	3.44/1/0.77	440	507	947	1.28/1/0.77
4C	122	134	256	1.09/1/0.20	334	436	770	1.16/1/0.29
4D	152	79	231	2.81/1/0.46	290	262	552	1.74/1/0.46
4E	160	148	308	1.74/1/0.61	207	164	371	1.52/1/0.61
4F	184	227	411	1.18/1/0.46	101	113	214	1.23/1/0.46
Total	25755	34522	60277	1.06/1/0.43	3097	3589	6686	1.17/1/0.43

Table 3a. Summary of 2010 September Youth Deer Seasons (N=3481 licenses issued; including new 12-year-old antlerless white-tailed deer only season), muzzleloader (N=2,185 licenses issued), and archery season (N=22,020 licenses issued) harvest data and buck:doe:fawn ratios, by license type for those license holders that hunted.

License Type	White-tailed Deer				Mule Deer			
	Antlered	Antlerless	Total	Ratios (B/D/F)	Antlered	Antlerless	Total	Ratios (B/D/F)
Youth Season	244	1247	1491	0.33/1/0.69 (244/737/510)	169	14	183	33.8/1/1.80 (169/5/9)
Muzzle-Loader	471	374	845	2.22/1/0.76 (471/212/162)				
Archery	4389	2212	6601	2.67/1/0.35 (4389/1642/570)	502	146	648	3.86/1/0.12 (502/130/16)
Total	5104	3833	8937	1.97/1/0.48 (5104/2591/1242)	671	160	831	4.97/1/0.19 (671/135/25)

Table 4a. Summary of white-tailed deer population indices for 2010-2011 (i.e., 2011 winter aerial survey [Deer/ Sq. Mi.], 2010 deer-vehicle collisions, and 2010 white-tailed deer observed by hunters per hour of effort during the first Saturday and Sunday of the 2010 regular deer season (number of useable surveys)).

Hunting Unit	2011 Winter Aerial Survey (Sample Size)	2010 Deer-Vehicle Collisions (MD & WTD)	2010 Hunter Obs. WTD/Hr. \pm s.d. (Sample Size)
Turtle Mountains 1	5.6 (520/93.0) Stable	Stable to Decreasing	2.60 \pm 2.199 (29) Increasing
Red River All Units	11.3 (8720/773.0)	Stable to Decreasing	NA
2A	5.8 (827/141.4) Increase	Stable to Decreasing	1.88 \pm 1.512 (41) Stable to Increase
2B	15.0 (3461/231.1) Increase	Stable	1.62 \pm 1.412 (40) Stable to Increase
2C	11.1 (4432/400.5) Increase	Decreasing	2.51 \pm 6.527 (52) Increasing
Pembina Hills 2D	13.2 (3830/289.4) Stable	Stable to Decreasing	1.11 \pm 0.764 (40) Stable
Sheyenne-James River All Units	9.0 (7987/886.1) Increase	Stable	NA
2F1	7.7 (1647/213.9) Increase	Stable	2.53 \pm 2.002 (37) Stable
2F2	10.4 (1708/164.9) Increase	Stable	1.81 \pm 1.766 (43) Stable to Increase
2G	9.0 (913/101.5) Increase	Stable	1.62 \pm 1.168 (33) Stable to Increase
2G1	7.8 (1694/218.5) Increase	Decreasing	1.86 \pm 1.370 (37) Stable
2G2	10.8 (2025/187.3) Decrease	Stable	2.24 \pm 2.094 (43) Stable to Increase
Devils Lake 2L	5.4 (92/17.1) Decrease	NA	3.59 \pm 4.410 (38) Stable to Increase
Coteau Hills All Units	3.1 (23045/7248.7) Increase	Stable to Decreasing	NA
2E	1.9 (2331/1200) Decrease	Stable to Decreasing	1.97 \pm 2.477 (33) Stable
2H	6.6 (1387/209.2) Increase	Stable	1.03 \pm 1.062 (54) Increasing
2I	2.4 (3484/1480) Stable	Stable	1.83 \pm 1.485 (41) Stable to Increase
2J1 & 2J2	3.8 (4567/1200) Stable	Stable to Decreasing	1.54 \pm 0.885 (2J1) (37) Stable to Increase
2J2	3.6 (347/97.2) Decrease	Decreasing	2.49 \pm 1.840 (31) Increasing

Table 4a. (Continued)

Hunting Unit	2011 Winter Aerial Survey (Sample Size)	2010 Deer-Vehicle Collisions (MD & WTD)	2010 Hunter Obs. WTD/Hr. \pm s.d. (Sample Size)
Coteau Hills 2K1	0.8 (93/111.7)	Decreasing	1.44 \pm 1.374 (30) Stable
2K2	3.7 (683/187.0) Decrease	Decreasing	2.52 \pm 2.049 (43) Increasing
2K1 & 2K2	5.2 (6682/1290) Increase	Decreasing	
3A1	1.3 (1831/1260) Decrease	Stable to Decreasing	2.14 \pm 1.312 (33) Stable to Increase
3A3	7.7 (1640/213.6) Decrease	Decreasing	2.08 \pm 3.071 (35) Stable to Increase
Souris Des Lacs All Units	8.4 (1789/214.2) Stable	Stable	NA
3A2	NA	Stable	2.47 \pm 2.726 (47) Stable to Increase
3A4	8.4 (1789/214.2) Stable	Stable	1.68 \pm 0.967 (42) Stable
Missouri River All Units	NA	Stable to Decreasing	NA
3B1	NA	NA	2.41 \pm 2.003 (27) Stable
3B2	NA	Decreasing	2.71 \pm 2.451 (18)
3B3	NA	NA	1.61 \pm 1.691 (35) Decreasing
3C	NA	Stable to Decreasing	1.81 \pm 1.143 (41) Stable
Slope All Units	3.0 (10414/3523) Increase	Stable to Decreasing	NA
3D1	1.7 (1025/574) Increase	Stable to Increasing	NA
3D2	2.2 (559/577) Increase	Decreasing	1.75 \pm 1.508 (41) Stable
3E1	2.5 (1240/586) Stable	Decreasing	2.93 \pm 4.389 (33) Stable
3E2	3.3 (1903/570) Increase	Decreasing	2.61 \pm 1.769 (34) Increasing
3F1	4.6 (2534/560) Stable	Stable	3.96 \pm 2.848 (29) Stable to Decreasing
3F2	4.6 (3153/656) Increase	Stable to Decreasing	4.90 \pm 7.308 (32) Stable to Increasing

Table 4a. (Continued)

Hunting Unit	2011 Winter Aerial Survey (Sample Size)	2010 Deer-Vehicle Collisions (MD & WTD)	2010 Hunter Obs. Deer/Hr. \pm s.d. (Sample Size)
Badlands All Units	NA	Stable to Increasing	NA
4A	4.3 WT & 2.2 MD (395 WT & 204 MD/92.1) Decrease	NA	2.21 \pm 2.471 (17) Increasing (Mule Deer Hunter Observations)
4B	NA	NA	1.51 \pm 1.920 (7)*** Increasing (Mule Deer Hunter Observations)
4C	NA	Decreasing	1.04 \pm 0.844 (8)*** Increase (Mule Deer Hunter Observations)
4D	NA	NA	1.58 \pm 1.444 (9) Stable to Increasing (Mule Deer Hunter Observations)
4E	NA	Decreasing	1.51 \pm 1.061 (13)*** Stable (Mule Deer Hunter Observations)
4F	NA	Stable to Increasing	4.55 \pm 3.612 (19)*** Increasing (ALL Deer Hunter Observations)

*** Small Sample

Table 5a. Summary of mule deer population indices for 2010-2011 (i.e., 2011 winter/spring aerial survey, 2010 Deer-vehicle collisions, and 2010 mule deer observed by hunters per hour of effort during the first Saturday and Sunday of the 2008 regular deer season(number of useable surveys).

Hunting Unit	2011 Winter(*) or Spring Aerial Survey (Sample Size)	2010 Deer-Vehicle Collisions (MD & WTD)	2010 Hunter Obs. MD/Hr. \pm s.d. (Sample Size)
Missouri River All Units	NA	Stable to Increasing	NA
3B1	NA	NA	2.26 \pm 2.120 (11) Increasing All Hunters
3B2	NA	Stable to Decreasing	2.17 \pm 1.466 (11) All Hunters
3B3	NA	NA	0.90 \pm 0.730 (9) Stable ALL Hunters
3C	NA	Stable to Increasing	1.60 \pm 1.387 (8) Stable to Increase All Hunters
Slope All Units	0.9 (3229/3532) Decreasing	Stable to Decreasing	NA
3D1	0.9 (522/574) Stable	Stable	NA
3D2	1.2 (683/577) Stable	Decreasing	1.86 \pm 1.340 (22) Stable All Hunters
3E1	0.4 (226/586) Stable	Decreasing	1.07 \pm 0.558 (18) Stable to Decreasing All Hunters
3E2	1.3 (644/570) Stable	Decreasing	2.33 \pm 2.888 (19) Increasing All Hunters
3F1	0.6 (362/560) Decreasing	Stable	1.68 \pm 1.746 (14) Stable All Hunters
3F2	1.2 (792/683) Increasing	Stable	5.11 \pm 14.105 (27) Increasing All Hunters

Table 5a. (Continued)

Hunting Unit	2011 Spring Aerial Survey (Sample Size)	2010 Deer-Vehicle Collisions (MD & WTD)	2010 Hunter Obs. MD/Hr. \pm s.d. (Sample Size)
Badlands All Units	6.0 (1756) Decreasing	Stable to Increasing	NA
4A	8.7 (239) Decreasing	NA	2.67 \pm 2.553 (40) Stable All Hunters
4B	4.7 (336) Decreasing	Decreasing	2.25 \pm 1.393 (34) Stable All Hunters
4C	5.1 (316) Decreasing	Decreasing	2.89 \pm 2.416 (34) Stable All Hunters
4D	8.8 (613) Decreasing to Stable	NA	3.04 \pm 2.921 (40) Stable All Hunters
4E	5.6 (246) Decreasing	Stable to Decreasing	2.78 \pm 2.953 (31) Decrease All Hunters
4F	3.6 (140) Decreasing to Stable	Stable to Decreasing	1.57 \pm 1.024 (15)*** Stable All Hunters

*** Small Sample

Table 6a. Summary of white-tailed deer buck:doe:fawn ratios based upon observations by white-tailed deer hunters during the first Saturday and Sunday of the 2010 regular deer season.

Hunting Unit	2010 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Turtle Mountains 1	0.13:1:0.73 (46-353-259)
Red River All Units	0.26:1:0.44 (462-1777-785)
2A	0.31:1:0.31 (173-559-171)
2B	0.23:1:0.54 (117-516-278)
2C	0.25:1:0.48 (172-702-336)
Pembina Hills 2D	NA
Sheyenne-James River All Units	0.30:1:0.49 (874-2903-1427)
2F1	0.34:1:0.57 (256-759-430)
2F2	0.35:1:0.49 (189-535-264)
2G	0.18:1:0.33 (94-398-175)
2G1	0.29:1:0.43 (130-444-189)
2G2	0.27:1:0.48 (205-767-369)
Devils Lake 2L	NA
Coteau Hills All Units	0.34:1:0.55 (1576-4589-2513)
2E	0.38:1:0.61 (146-388-238)
2H	0.38:1:0.52 (301-801-416)
2I	0.27:1:0.47 (148-546-256)
2J1	0.28:1:0.55 (130-405-224)
2J2	0.33:1:0.51 (177-535-272)
2J1 & 2J2	0.22:1:0.53 (207-940-496)

Table 6a (Continued).

Hunting Unit	2010 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Coteau Hills 2K1	0.43:1:0.61 (114-263-161)
2K2	0.36:1:0.51 (271-751-383)
2K1 & 2K2	0.38:1:0.54 (385-1014-544)
3A1	0.31:1:0.68 (156-502-343)
3A3	0.33:1:0.55 (133-398-220)
Souris Des Lacs All Units	0.28:1:0.58 (374-1329-765)
3A2	0.29:1:0.60 (248-843-504)
3A4	0.26:1:0.54 (126-486-261)
Missouri River All Units	0.31:1:0.50 (504-1620-814)
3B1	0.27:1:0.43 (114-426-183)
3B2	0.24:1:0.55 (67-282-155)***
3B3	0.37:1:0.66 (130-349-230)
3C	0.34:1:0.44 (193-563-246)
Slope All Units	0.40:1:0.60 (1311-3282-1976)
3D1	NA
3D2	0.27:1:0.46 (144-534-245)
3E1	0.42:1:0.54 (280-661-359)
3E2	0.55:1:0.58 (298-545-318)
3F1	0.40:1:0.83 (279-693-574)
3F2	0.37:1:0.60 (310-849-507)

Table 6a. (Continued).

Hunting Unit	2010 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Badlands All Units (All Hunters)	0.29:1:0.53 (759-2656-1408)
4A (All Hunters)	0.39:1:0.53 (163-597-316)
4B (All Hunters)	0.21:1:0.66 (57-269-177)
4C (All Hunters)	0.26:1:0.44 (63-186-82)
4D (All Hunters)	0.26:1:0.46 (142-546-253)
4E (All Hunters)	0.32:1:0.56 (149-467-261)
4F (All Hunters)	0.32:1:0.54 (185-591-319)
Statewide (All Hunter Observations)	0.32:1:0.54 (6229-19759-10725)

*** Small Sample

Table 7a. Summary of mule deer buck:doe:fawn ratios based upon fall 2010 aerial survey and observations by hunters during the first Saturday and Sunday of the 2010 regular deer season.

Hunting Unit	Fall 2010 Aerial Survey Buck:Doe:Fawn (Sample Size)	2010 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Missouri River All Units	NA	0.28:1:0.36 (140-498-178) (All Hunters)
3B1	NA	0.52:1:0.30 (75-143-43)
3B2	NA	0.16:1:0.35 (26-158-56)
3B3	NA	0.23:1:0.56 (12-52-29)
3C	NA	0.30:1:0.17 (27-145-50)
Slope All Units	NA	0.27:1:0.42 (391-1457-615) (All Hunters)
3D1	NA	NA
3D2	NA	0.23:1:0.42 (76-334-141)
3E1	NA	0.28:1:0.21 (47-170-36)
3E2	NA	0.30:1:0.37 (91-302-111)
3F1	NA	0.32:1:0.66 (52-164-108)
3F2	NA	0.26:1:0.45 (125-487-219)
Badlands All Units	0.45:1:0.72 (336-744-533)	0.30:1:0.45 (1257-4188-1888)
4A	0.53:1:0.67 (60-114-76)	0.25:1:0.48 (191-761-368)
4B	0.76:1:0.90 (78-102-92)	0.35:1:0.51 (218-619-314)
4C	0.39:1:0.90 (40-102-92)	0.43:1:0.58 (337-789-458)
4D	0.53:1:0.67 (87-215-144)	0.29:1:0.34 (325-1138-390)
4E	0.40:1:0.88 (45-113-100)	0.20:1:0.42 (147-720-300)
4F	0.33:1:0.67 (26-79-53)	0.24:1:0.36 (39-161-58)
Statewide	NA	0.29:1:0.44 (1838-6313-2793) (All Hunters)

*** Small Sample

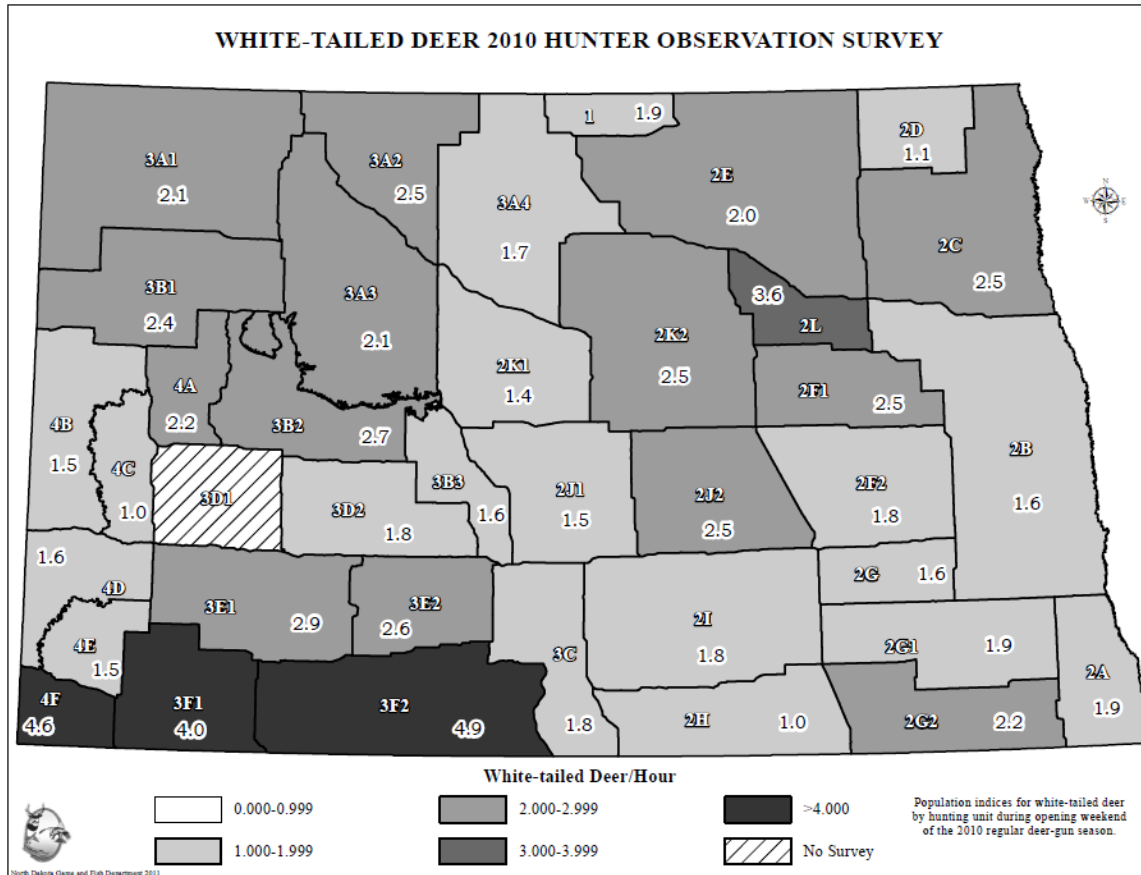


Figure 1. Map of North Dakota illustrating the use of observation rates by hunters (white-tailed deer sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2010 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for white-tailed deer population trends since 2004.

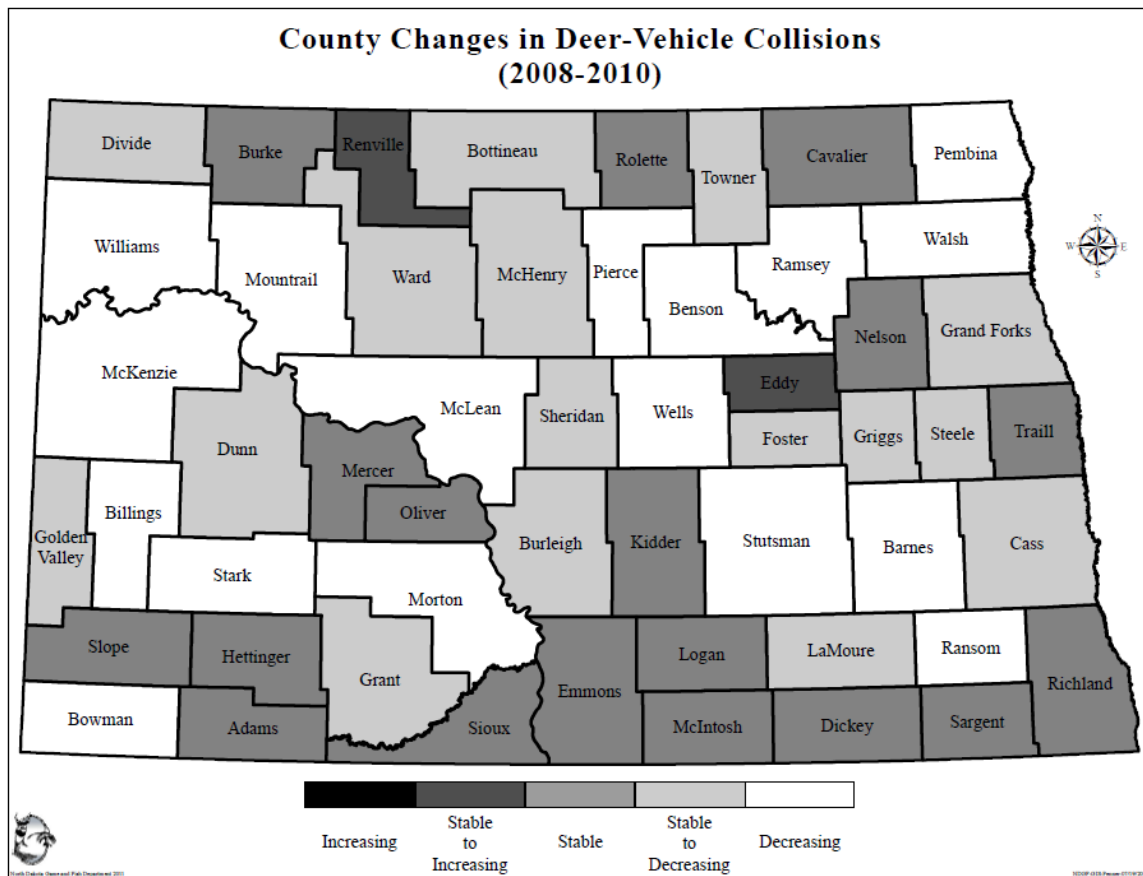


Figure 2. Map of North Dakota illustrating trends in Deer-Vehicle Collisions (DVC) as a population index for each county. Year-to-year changes in DVC rates have been monitored statewide for deer population trends since 2001.

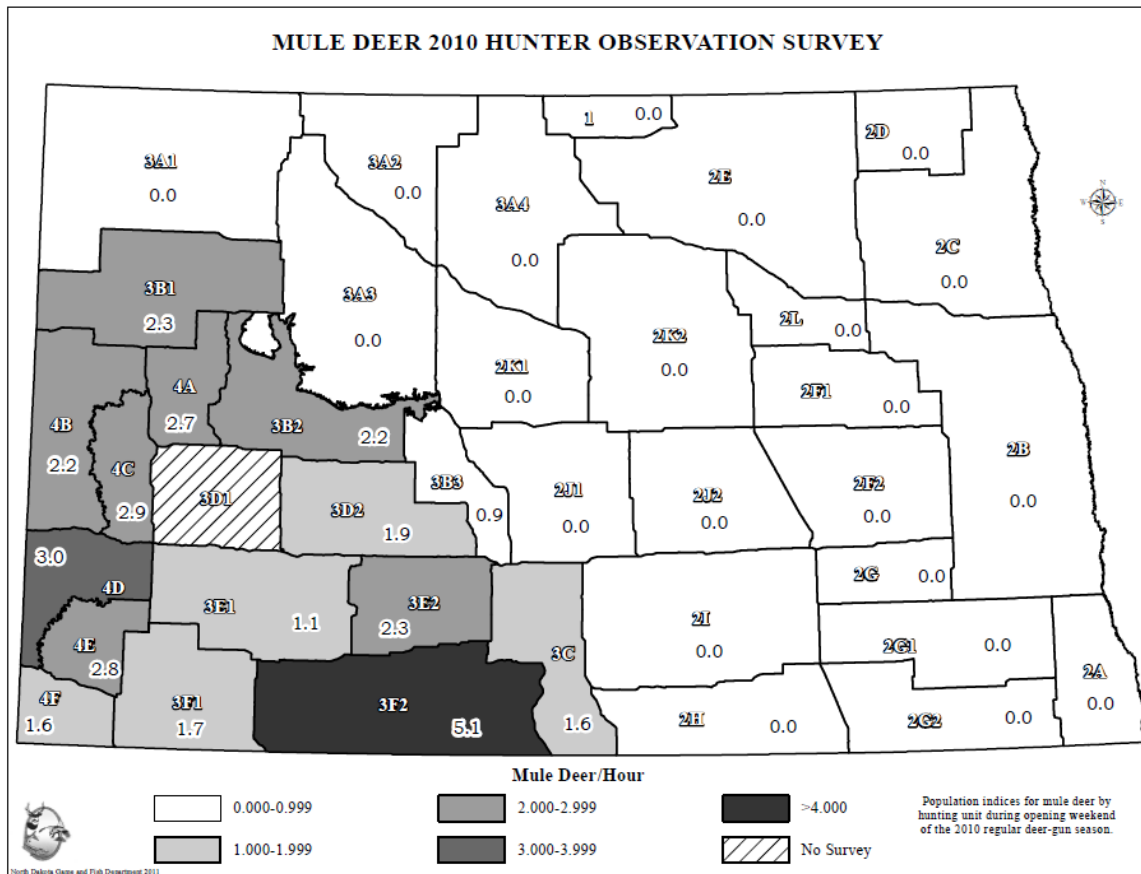


Figure 3. Map of North Dakota illustrating the use of observation rates by hunters (mule deer sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2010 deer-gun season. Year-to-year changes in hunter observation rates have been monitored for mule deer population trends in the Badlands units (4A – 4F) since 1998, and statewide since 2004.

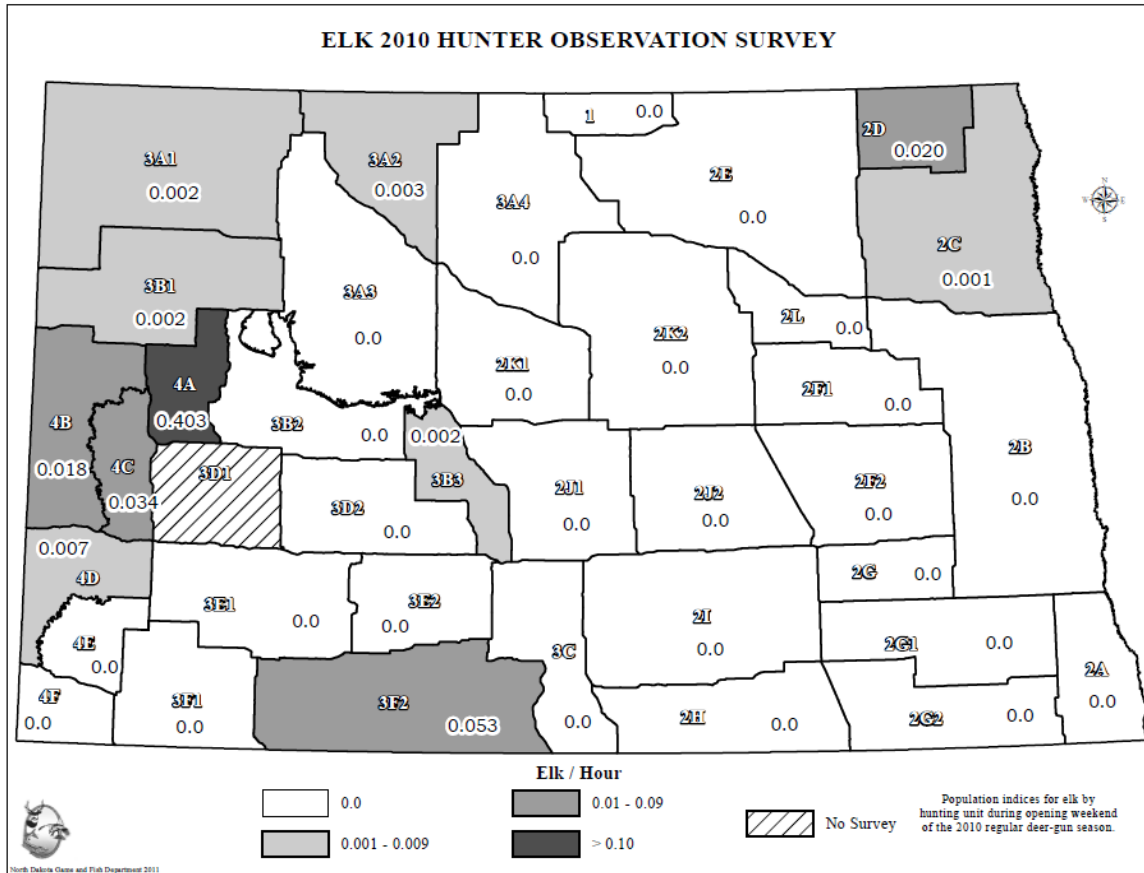


Figure 4. Map of North Dakota illustrating the use of observation rates by hunters (elk sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2010 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for elk population trends since 2007.

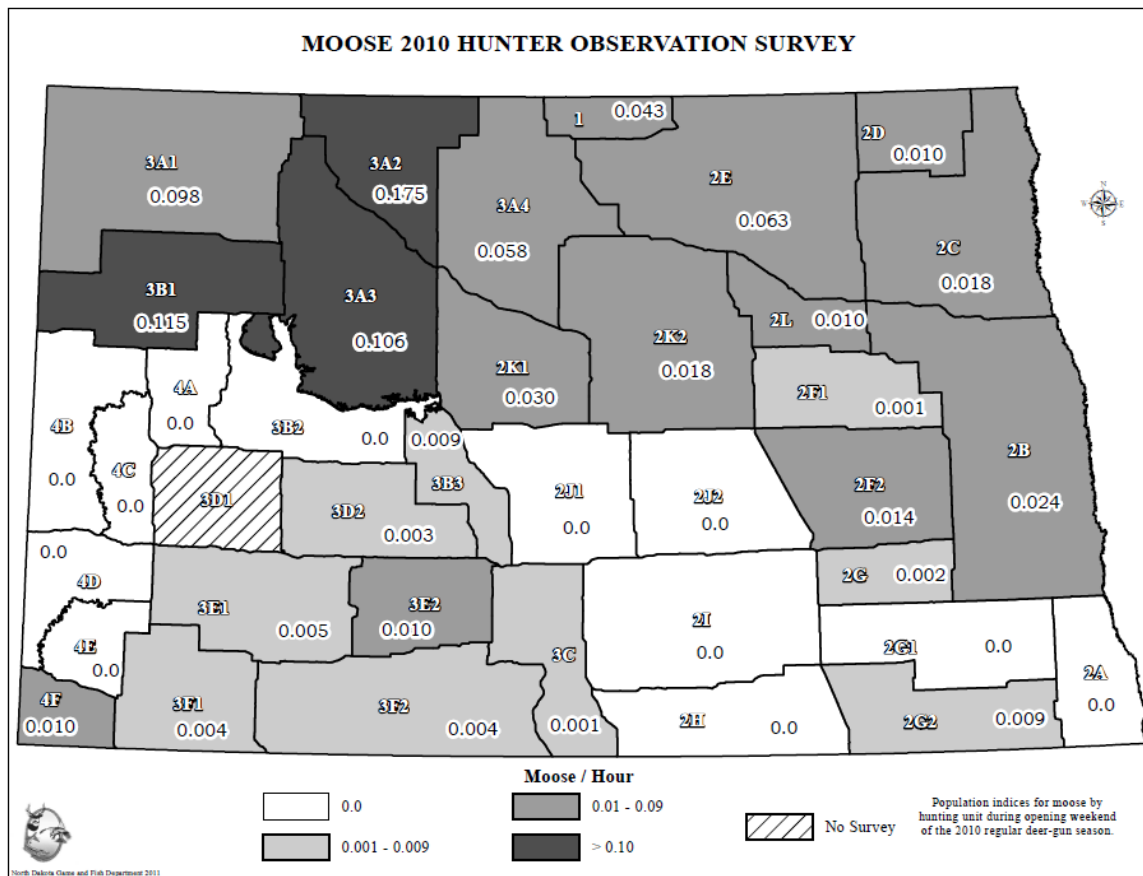


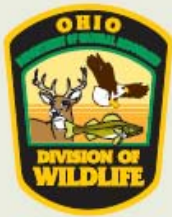
Figure 5. Map of North Dakota illustrating the use of observation rates by hunters (moose sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2010 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for moose population trends since 2007.



TABLE OF CONTENTS

	Page
Our Management Strategy	1
Seasons, Permits, and Bag Limits	2
Harvest	3
Age, Sex, and Condition Data	6
Deer Damage Complaints	7
Season Summary	8
Appendix A - Harvest by County and Season	11
Appendix B - Permit and Harvest History	15
Appendix C - Deer Damage Complaints, Permits Issued, and Deer Killed	16

The Division of Wildlife offers equal opportunity regardless of race, color, national origin, age, disability or sex (in educational programs). If you believe you have been discriminated against in any program, activity, or facility, you should contact: The U. S. Fish and Wildlife Service, Office for Diversity and Civil Rights Programs-External Programs, 4040 N. Fairfax Drive, Suite 130, Arlington, VA 22203; or the Ohio Department of Natural Resources, EEO Office, 2045 Morse Road, Bldg. D, Columbus, OH 43229.



Mission Statement

We are dedicated to conserving and improving the fish and wildlife resources and their habitats, and promoting their use and appreciation by the people so that these resources continue to enhance the quality of life for all Ohioans.

OUR MANAGEMENT STRATEGY

The goal of Ohio's deer program is to provide a deer population that maximizes recreational opportunity including viewing, photographing, and hunting while minimizing conflicts with agriculture, motor travel, and other areas of human endeavor. This has been our goal for nearly 50 years. Farmer attitude surveys are used to establish and update population goals for most counties. We believe these goals represent a reasonable compromise between interests with opposing opinions on appropriate deer population levels. Furthermore, although these goals are based on social values, the resulting populations have never exceeded the biological carrying capacity of the habitat. Deer herd condition data collected annually and through periodic studies confirm this. Our deer management goal ensures that Ohio's deer herd is maintained at a level that is acceptable to most, and biologically sound. Maintaining the deer population at or near goal is accomplished through harvest management.



SEASONS, PERMITS, AND BAG LIMITS

A valid hunting license (resident = \$19, nonresident = \$125) and either Special Deer Permit (\$24) or Antlerless Permit (\$15) are required (landowners are exempt) to hunt deer in Ohio. Hunters could harvest up to 18 deer with a combination of Special Deer and Antlerless Permits during the 2010-11 season (Fig. 1). Hunters were allowed only 1 antlered deer.

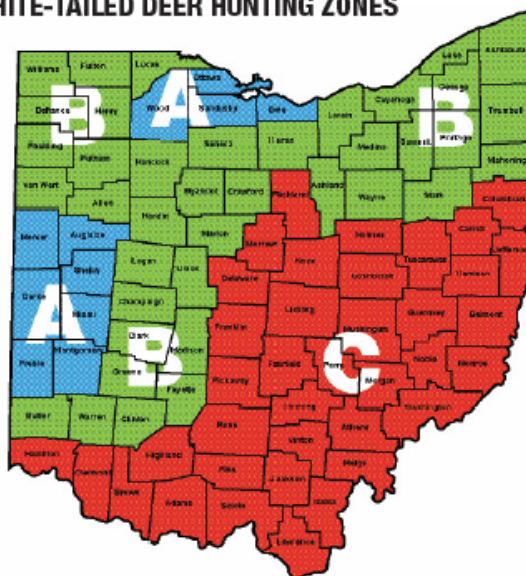


Hunters had the opportunity to harvest deer during any of Ohio's 5 seasons including: archery Sep. 25, 2010 - Feb. 6, 2011, early muzzleloader Oct. 18-23, gun Nov. 29 - Dec. 5, bonus gun Dec. 18-19, and muzzleloader Jan. 8-11. Young (17 and under) hunters had the opportunity to participate in the statewide youth season Nov. 20-21. All seasons were either-sex and with the exception of the early muzzleloader season, all seasons were statewide. The early muzzleloader season was restricted to Shawnee State Forest, Wolf Creek Wildlife Area/Wildcat Hollow, and Salt Fork Wildlife Area. The \$15 antlerless permit was available once again this year. Permits were good for an antlerless deer only and were valid statewide during the first 9 weeks of the archery season. Unfilled

DEER SEASONS & ZONE MAP

Season	Opening Date	Closing Date
Archery Season: Open Statewide	Sept 25, 2010	Feb 6, 2011
Early Muzzleloader Season: Wildcat Hollow, Salt Fork Wildlife Area, Shawnee State Forest	Oct 18, 2010	Oct 23, 2010
Youth Gun Season: Open Statewide	Nov 20, 2010	Nov 21, 2010
Gun Season: Open Statewide	Nov 29, 2010	Dec 5, 2010
	Dec 18, 2010	Dec 19, 2010
Muzzleloader Season: Open Statewide	Jan 8, 2011	Jan 11, 2011

WHITE-TAILED DEER HUNTING ZONES



No more than one (1) antlered deer may be taken per license year

A	B	C
A hunter may harvest no more than 2 deer in Zone A during the 2010-2011 season.	A hunter may harvest no more than 4 deer in Zone B during the 2010-2011 season.	A hunter may harvest no more than 6 deer in Zone C during the 2010-2011 season.
The Antlerless Deer Permit is NOT valid in Zone A after Nov. 28, 2010.	The Antlerless Deer Permit is NOT valid in Zone B after Nov. 28, 2010.	The Antlerless Deer Permit is NOT valid in Zone C after Dec. 5, 2010.

Figure 1. Ohio's 2010-11 deer zones and permit structure as presented in the Ohio Hunting and Trapping Regulation, Publication 85.

permits could be used during deer gun season in Zone C only. Permits had to be purchased before gun season started, however. Antlerless permits could also be used in any of the 5 Urban Deer units and during many Division of Wildlife

special and controlled hunts, including the early muzzleloader season. A maximum of 12 deer could be harvested using \$15 antlerless permits.

HARVEST

A total of 239,475 deer was harvested this year, a 8% decrease from last season (Table 1). Figure 2 displays total harvest by county with the top 5 counties highlighted. Coshocton County once again led the state in total harvest with 8,838 deer for all seasons combined. A harvest summary by season for the top 5 counties is presented in Table 2. A complete harvest summary by county and season is available in Appendix A on page 11.

Hunters harvested 105,781 deer during the traditional statewide gun season, 7% fewer than last year (Table 1). Coshocton, Tuscarawas, Muskingum, Harrison, and Guernsey counties led the state in total gun harvest. This group of counties held the same top 5 positions last year as well. The Bonus Gun harvest was up nearly 7% this year, and the only season to post an increase in 2010-11. Hunters harvested 21,376 deer during the 2-day mid-December season. The top 5 Bonus Gun season counties were Coshocton, Tuscarawas, Harrison, Licking, and Guernsey. Archers reported harvesting 85,012 deer this year, 7% fewer than last

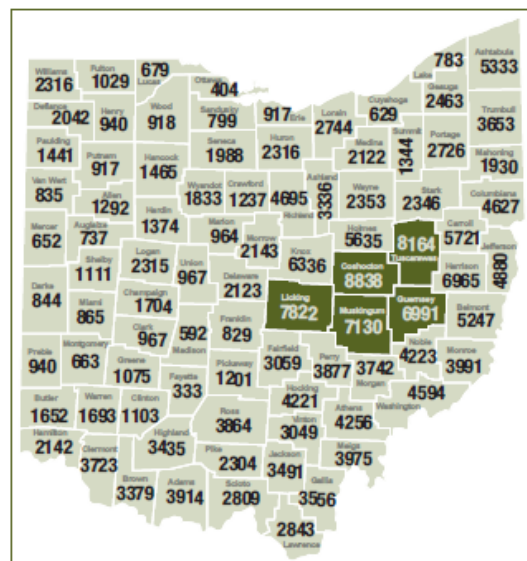


Figure 2. Ohio's 2010-11 deer harvest by county with the top 5 counties highlighted.

Table 1. Ohio's buck, doe, and button buck harvest by season and year.

Season	Bucks		Does		Button Bucks		Total	
	2010-11	2009-10	2010-11	2009-10	2010-11	2009-10	2010-11	2009-10
Early Gun ¹	35,419	39,221	56,038	59,852	14,324	15,002	105,781	114,075
Bonus Gun	5,803	5,582	12,543	11,706	3,030	2,767	21,376	20,055
Gun	41,222	44,803	68,581	71,558	17,354	17,769	127,157	134,130
Crossbow	19,665	21,565	19,106	21,634	5,352	5,866	44,123	49,065
Vertical Bow	16,274	16,829	20,209	21,164	4,406	4,488	40,889	42,481
Archery	35,939	38,394	39,315	42,798	9,758	10,354	85,012	91,546
Salt Fork ²	112	90	106	147	37	36	255	273
Wildcat Hollow ²	83	55	75	89	18	30	176	174
Shawnee ²	52	19	26	22	3	3	81	44
Statewide Muzzleloader ³	4,284	5,846	10,833	15,812	2,258	3,348	17,375	25,006
Muzzleloader	4,531	6,010	11,040	16,070	2,316	3,417	17,887	25,497
Statewide Youth	4,067	4,464	3,229	3,402	1,331	1,403	8,627	9,269
NASA/Plumbrook	104	89	120	167	36	69	260	325
Ravenna Hunt	80	69	170	162	46	30	296	261
Season Total	86,017	93,905	122,569	134,256	30,889	33,099	239,475	261,260

¹Traditional gun season for deer of either sex, Nov. 29 - Dec. 5, 2010.

²Special early muzzleloader season Oct. 18-23, 2010.

³Statewide either-sex muzzleloader season Jan. 8-11, 2011.

Summary of 2010-2011 Ohio Deer Seasons *Page 4*

season (Table 1). Archers now account for 35% of the entire harvest. By comparison, just a decade ago the archery harvest accounted for just over 22% of the annual harvest. This year's vertical bow harvest of 40,889 deer represents a 4% decrease over last season. Despite an 11% decrease, Licking County archers led the state once again with a vertical bow harvest of 1,602. This is the 4th consecutive year that Licking County has held the top spot for vertical bow harvest. Coshocton, Tuscarawas, Muskingum, and Knox, counties rounded out the list of top 5 harvest counties for vertical bow. Crossbow hunters harvested 44,123 deer this year, down 10% from the record harvest of 49,065 deer set last season. Licking County led the state again with 1,684 deer harvested with a crossbow, a decrease of 13% from last

Table 2. Ohio's buck, doe, and button buck harvest by season and year for the top 5 total harvest counties.

SEASON	COUNTY	BUCKS		DOES		BUTTON BUCKS	
		2010-11	2009-10	2010-11	2009-10	2010-11	2009-10
BONUS GUN	Coshocton	205	177	574	420	160	93
	Tuscarawas	196	166	461	447	101	99
	Harrison	188	162	424	381	90	102
	Licking	156	144	392	346	91	65
	Guernsey	181	133	370	322	73	72
GUN	Coshocton	1,329	1,494	2,387	2,585	593	697
	Tuscarawas	1,203	1,249	2,307	2,423	562	589
	Muskingum	1,122	1,265	2,113	2,278	492	560
	Harrison	1,142	1,266	1,943	2,144	495	510
	Guernsey	1,056	1,235	1,799	2,268	480	529
CROSSBOW	Licking	692	799	792	925	200	222
	Coshocton	617	650	627	714	135	206
	Tuscarawas	554	674	524	721	130	160
	Ashtabula	425	466	530	607	165	179
	Holmes	494	483	475	623	124	143
VERTICAL BOW	Licking	598	680	835	942	169	183
	Coshocton	562	536	617	712	111	137
	Tuscarawas	414	421	660	746	91	116
	Muskingum	499	574	446	470	76	79
	Knox	336	449	548	637	101	118
MUZZLELOADER	Tuscarawas	148	191	435	573	90	129
	Licking	181	166	382	436	78	108
	Coshocton	163	209	384	575	93	135
	Harrison	138	207	396	613	92	159
	Muskingum	143	185	370	554	97	120
YOUTH	Tuscarawas	151	129	101	134	36	43
	Coshocton	105	128	122	127	54	38
	Guernsey	124	145	100	118	36	36
	Muskingum	107	145	103	111	47	39
	Harrison	94	124	111	103	32	38
TOTAL	Coshocton	2,981	3,194	4,711	5,133	1,146	1,306
	Tuscarawas	2,666	2,830	4,488	5,044	1,010	1,136
	Licking	2,668	2,952	4,147	4,547	1,007	1,091
	Muskingum	2,470	2,802	3,777	4,123	880	938
	Guernsey	2,530	2,782	3,578	4,501	883	1,006

year. Coshocton, Tuscarawas, Ashtabula and Holmes rounded out the top 5 harvest counties for crossbow. There were 17,375 deer harvested during the 4-day statewide muzzleloader season, January 8-11 (Table 1). Tuscarawas County was the top spot for muzzleloader hunters with a harvest of 673 deer, 25% fewer than last year. Licking, Coshocton, Harrison, and Muskingum counties rounded out the top 5 harvest counties. There was only a 63-deer spread between the top 5 muzzleloader counties this year (Table 2). Young hunters took 8,627 deer this year, 7% fewer than last year. This is the 3rd consecutive year that the youth harvest has dropped. Top spots for youth hunters were Tuscarawas, Coshocton, Guernsey, Muskingum, and Harrison counties. The Division of Wildlife issued 609,417 deer permits in license year



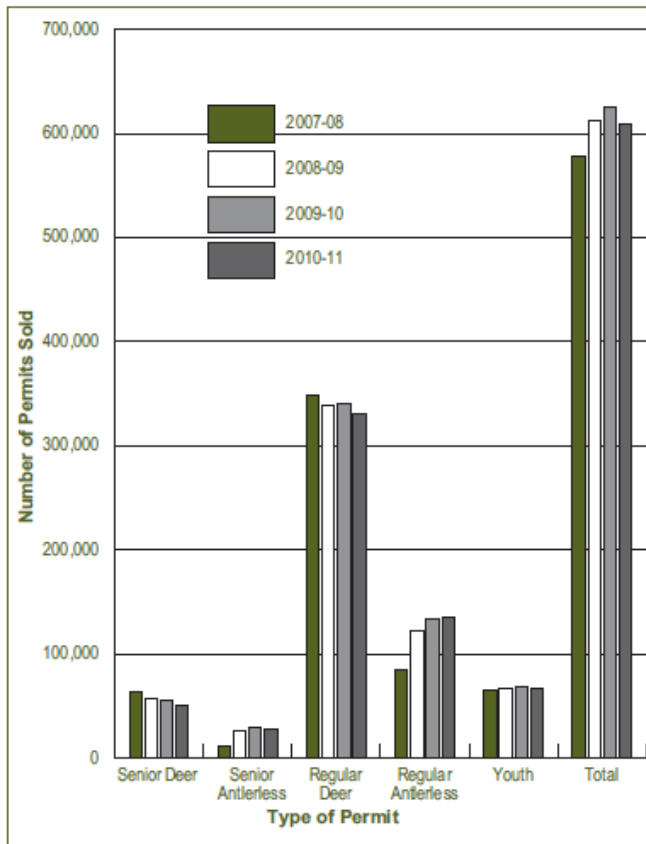


Figure 3. Deer permit sales for 2007-08, 2008-09, 2009-10, and 2010-11.

2010-11 (Appendix B on page 15), a 2% decline from last year. The only permit type posting an increase this year was the regular \$15 antlerless permit (Fig. 3). These permits were first available in 2007 and sales have increased each year since then. Declines for all other permit types ranged from 2%-9% for youth and senior special deer permits, respectively (Fig. 3).



Table 3. Estimated annual mortality rate of antlered deer, preseason adult (1.5 years old and older) sex ratio, and fawns per adult doe in the gun season harvest sample. Estimates are based on 5,152 deer sampled during the 2010-11 gun season.

Variable	Region		
	EC-Southeast	Northeast	Western
Adult buck mortality rate¹			
5-year average ²	0.48	0.51	0.57
2010	0.42	0.51	0.52
Adult sex ratio³			
5-year average	1.48	1.48	1.52
2010	1.56	1.69	1.45
Fawns/adult doe			
5-year average	0.84	1.07	0.99
2010	0.81	1.11	0.85

¹The proportion of antlered deer that die each year from all causes.

²Average based on data from 2006-10 seasons.

³For example, for every 100 adult bucks alive at the start of the fall hunting season, there will be approximately 130 adult does.



AGE, SEX, AND CONDITION DATA

Each year during the gun season, Division of Wildlife personnel age approximately 5-7% of the harvest. This year 5,152 deer were aged in 22 counties (Fig. 4). These data are used to generate an estimate of adult buck mortality, adult sex ratio, and fawns per adult doe in the harvest, a relative composite measure of reproduction and survival (Table 3). In turn, these data are used to generate population estimates for the upcoming season. The average age of deer in this year's harvest sample, the last 5 years, and 1977 are presented in Figure 5.

In addition to the age data, biologists also collect antler measurements from yearling (1.5 years old) bucks. These

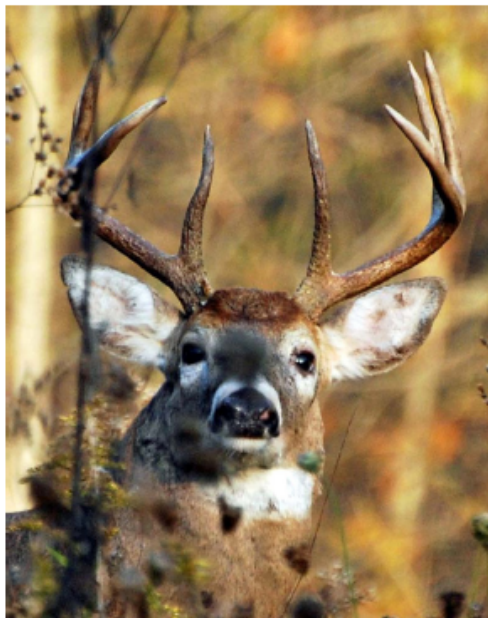


Figure 4. Distribution of the deer aging stations for the 2010-11 deer season.



data provide a relative measure of herd condition when viewed over time. When yearling bucks are faced with dietary deficiencies, antler development will be compromised and declines in beam diameter and number of points can be expected. By monitoring yearling antler development and herd size, we are better able to understand the relationship between deer abundance and herd condition. Average yearling antler beam for the 1977-78 and 2010-11 seasons is presented in Figure 6.

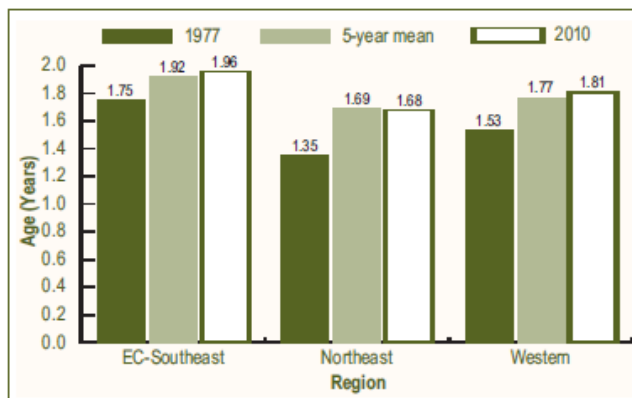


Figure 5. Mean age of all deer sampled by region for gun season harvest samples. Annual means are based on sample sizes that generally ranged from 5-7% of the total gun harvest.

DEER DAMAGE COMPLAINTS

Because population goals for most of Ohio's rural counties are based on farmer tolerances, the likelihood of widespread agricultural problems should be minimal when deer populations are at goal. However, some localized damage is still likely to occur. In situations where deer need to be killed to reduce property damage, landowners/lessees may be issued Deer Damage Control Permits (DDCP) at the time the damage is occurring. These permits allow landowners/lessees and their agents to kill deer dur-

ing the dates and under the conditions specified on the permit. For most agricultural problems, these permits will only be valid for the period of January 1 until the start of the archery season. Under limited crop damage circumstances permits may be extended until the start of the youth gun season. In specific circumstances permits may be valid year-round to control damage at orchards, nurseries, inside municipalities, and for safety purposes at airports. Regardless of the situation, DDCPs expire no later than December 31 of the year in which the permit is issued. Except in the case of rub damage to trees, permit holders are strongly encouraged to kill antlerless deer. Permit holders must surrender all antlers to the Division of Wildlife. In 2010, a total of 1,469 crop damage complaints was received by the Division of Wildlife (Fig 7 and Appendix C on page 16). This number represents a 25% decrease from the previous year. A total of 5,878 deer was killed on damage permits this year, 44% fewer than last season.

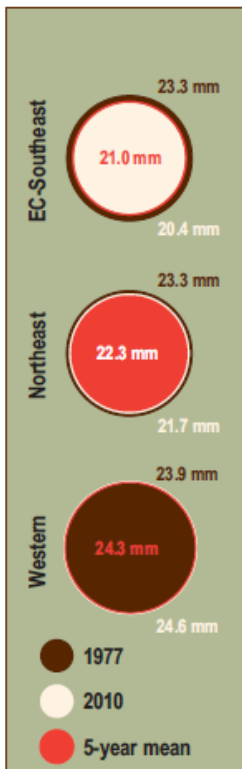


Figure 6. Mean yearling beam diameter from gun season harvest samples, 1977-78 and 2010-11.

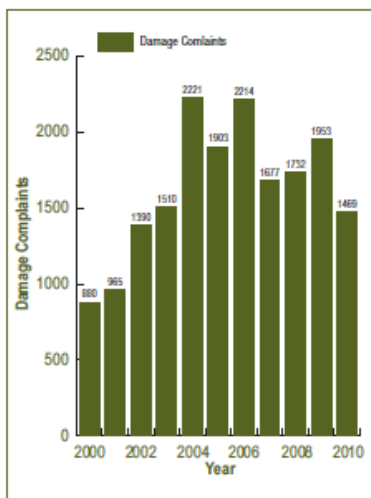


Figure 7. Statewide trends in deer damage complaints, 2000-2010.



SEASON SUMMARY

Acorn Abundance and Deer Observations

Hunters harvested 239,475 deer this fall, 8% fewer than last season, and most notably, 8% fewer than expected based on preseason population estimate. In spite of average weather conditions, many hunters reported that hunting was difficult at best this year. While some made the connection between the abundant acorn crop and the lack of deer sightings and adjusted accordingly, most simply attributed their poor season to fewer deer, not the above average mast crop. On average, 24% and 37% of white and red oak crowns surveyed on 38 wildlife areas this fall had acorns, up nearly 400% and 200%, respectively over last year. Average values for 2007-09 were 8% and 16% for white and red oaks, respectively. While mast, particularly acorns, represents a very small portion of the white-tailed deer's diet in Ohio's western farmland region, anyone who has spent time in Ohio's eastern oak-hickory forests, knows first hand that acorns, particularly white oak acorns,

can dramatically influence deer movements. Those who adjust, are typically very successful. Judging from the calls and conversations this fall, many failed to do so and ended their season early, frustrated, and with unfilled tags.

When acorns are abundant, as they were this year, deer have little reason to move; they simply "bed in the kitchen." Hunters who either fail to find the right white oak flat or set up between feeding and traditional bedding areas will often have limited success. Moreover, in years like 2010, food plots and feeders – deer magnets in poor mast years – receive little if any use until the acorns are gone. Judging from reports from the field, deer were likely still eating acorns long after the season was over. Long term data on firearm deer hunter success and mast abundance from the state of Connecticut provide concrete evidence that mast abundance can impact hunter success and ultimately influence harvest (Fig. 8). Ohio's poor mast crop in 2009-10 undoubtedly contributed to the record deer harvest that year. While many inquired about the unusually high

number of road-killed squirrels during the fall of 2009, and learned that it was largely due to increased movements associated with food searches, few realized that the abundant mast crop of 2010 likely contributed to not only fewer deer observations and lower hunter success, but fewer crop damage complaints (Fig. 7) as well.

Antlerless Deer Harvest

Last year, nearly 2 of every 3 deer harvested were antlerless deer. However, roughly 1 of every 5 of these deer were male fawns, or button bucks. While there is no intent to minimize the accomplishment of the successful hunter, from a herd management standpoint, there is little to be gained from harvesting a button buck. The good news is that we're in a great position to reduce the button buck harvest, due in large part to the ever-increasing popularity of bow hunting. Nearly eight in 10 deer hunters now bow hunt each year. Because archers are limited to close range shots, they are in a better position than gun hunters to reduce the harvest of button bucks. Moreover, because of longer seasons and overall greater harvest opportunities, bow hunters can afford to be

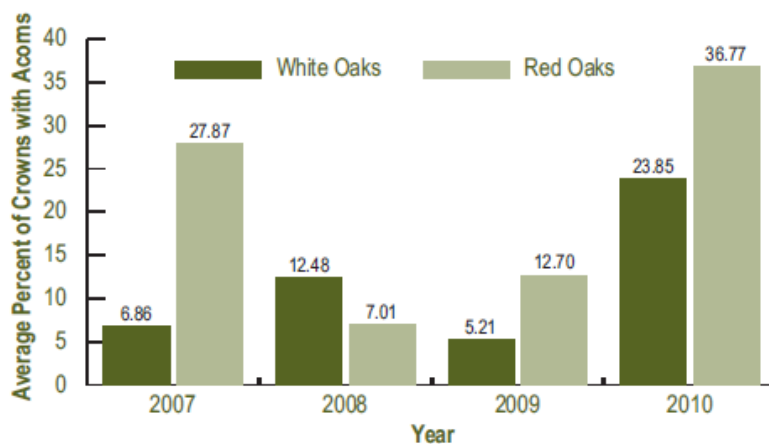


Figure 8. Average percent of red and white oak crowns with acorns, 2007-10. Estimates are based on surveys conducted on 38 wildlife areas.

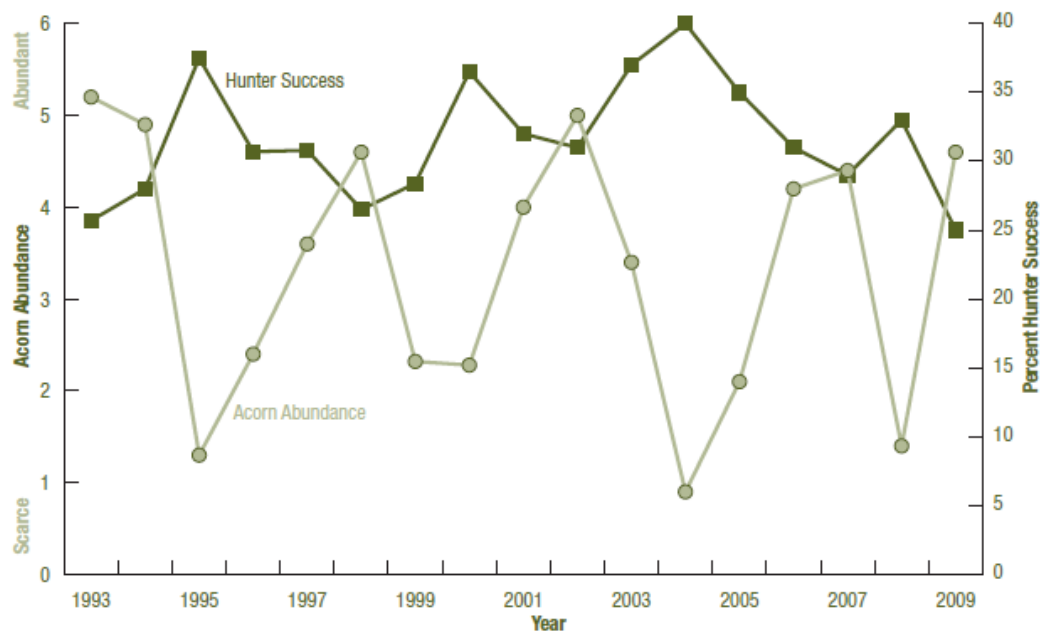


Figure 9. Relationship between Connecticut private land shotgun/rifle hunter success and fall acorn productivity, 1993-2009.



more selective without compromising opportunity. Therefore, in an effort to highlight the importance of the button buck harvest, beginning this year, we will replace “antlerless” with “doe” and “button buck” in both our county and state-wide harvest summaries. This year, there were 30,889 button bucks harvested, nearly 1/3 of them by archers (Table 1). Undoubtedly, some of these deer were mistakenly harvested for does. Aside from all of the other social and biological benefits of an early harvest, harvesting early in the season will help to minimize harvest errors because of the relatively large size difference between does and their fawns. However, as the season progresses, button bucks can easily be mistaken for young does. In these situations, hunters must rely on differences in physical appearances such as head shape and even behavioral differences (male

fawns tend to be the lead deer in family groups) to distinguish button bucks from does. It is best to avoid taking lone antlerless deer. Male fawns tend to be more "adventure-some" than does, often times wandering off on their own. Additionally, a hunter lacks any frame of reference for gauging size with a lone deer. The best solution for hunters is to wait for a group and if possible, take the largest antlerless deer in the group.

The Division of Wildlife remains committed to providing quality

deer now and into the future. To accomplish this, we must harvest an adequate number of does each year to maintain the herd at a level that the habitat is capable of supporting in good to excellent condition. Through a combination of liberal bag limits, reduced cost antlerless permits, and other programmatic changes, including education on the importance of an adequate doe harvest, we have been successful in most regions of the state. Work remains, however. Managing the button buck harvest presents another opportunity to increase the doe harvest with little or no impact at all on opportunity. As a hunter, you are in a position to help, especially if you are an archer. By reducing the proportion of button bucks in the harvest, you're helping to ensure that Ohio's deer program remains a model for the rest of the country.



Appendix A. Continued

COUNTY/SEASON	BUCKS		DOES		BUTTON BUCKS		
	2010-11	2010-09	2010-11	2010-09	2010-11	2010-09	
VANWERT	BONUS GUN	20	25	54	32	11	6
	CROSSBOW	55	58	77	76	34	15
	GUN	138	118	184	100	38	43
	MUZZLELOADER	15	16	20	29	4	2
	TOTAL	285	275	436	302	114	85
	VERTICAL BOW	30	37	76	46	20	11
	YOUTH	27	21	25	19	7	8
VINTON	BONUS GUN	55	79	145	147	25	30
	CROSSBOW	214	219	142	184	37	52
	GUN	564	772	830	1091	197	276
	MUZZLELOADER	74	104	140	261	22	66
	TOTAL	1247	1486	1469	1955	332	501
	VERTICAL BOW	286	244	178	221	37	49
	YOUTH	54	68	34	51	14	28
WARREN	BONUS GUN	41	37	81	58	19	20
	CROSSBOW	217	200	203	203	73	59
	GUN	179	153	217	201	58	58
	MUZZLELOADER	30	43	55	96	7	18
	TOTAL	656	660	794	811	243	203
	VERTICAL BOW	170	198	228	237	76	43
	YOUTH	19	29	10	16	10	5
WASHINGTON	BONUS GUN	116	78	272	167	51	26
	CROSSBOW	248	258	190	229	33	56
	GUN	824	1051	1416	1475	325	309
	MUZZLELOADER	108	150	274	472	32	83
	TOTAL	1646	1966	2442	2685	506	552
	VERTICAL BOW	236	257	215	249	28	50
	YOUTH	114	172	75	73	37	28
WAYNE	BONUS GUN	54	65	131	155	29	37
	CROSSBOW	259	236	271	231	66	62
	GUN	295	289	440	387	138	130
	MUZZLELOADER	31	54	99	108	14	20
	TOTAL	820	834	1216	1117	317	318
	VERTICAL BOW	146	146	234	204	49	58
	YOUTH	35	44	41	32	21	11
WILLIAMS	BONUS GUN	59	50	92	72	33	20
	CROSSBOW	134	160	179	140	59	45
	GUN	400	394	472	339	138	86
	MUZZLELOADER	38	48	79	55	18	27
	TOTAL	820	872	1170	873	326	240
	VERTICAL BOW	152	185	324	241	63	51
	YOUTH	37	35	24	26	15	11
WOOD	BONUS GUN	26	29	38	34	8	15
	CROSSBOW	96	111	95	96	38	25
	GUN	144	145	132	129	33	34
	MUZZLELOADER	19	21	21	27	8	2
	TOTAL	384	441	396	410	138	110
	VERTICAL BOW	80	110	86	107	38	31
	YOUTH	19	25	24	17	13	3
WYANDOT	BONUS GUN	36	46	93	136	35	26
	CROSSBOW	105	117	128	127	40	52
	GUN	302	291	419	426	109	127
	MUZZLELOADER	33	39	79	79	18	21
	TOTAL	615	640	933	974	245	283
	VERTICAL BOW	101	118	181	164	27	42
	YOUTH	38	29	33	42	16	15

Appendix B. Deer harvest and permit data, 1900-2010.^a

YEAR	NUMBER OF OPEN COUNTIES IN GUN SEASON	NUMBER OF PERMITS SOLD	NUMBER OF DEER HARVESTED ^b
1900	88	?	?
1901-02	Season closed		
1943	3	8,500	168
1944	3	9,200	117
1945	3	7,700	62
1946	Season closed		
1947	8	9,669	1,000
1948	13	23,044	1,600
1949	Season closed		
1950	19	22,728	3,500
1951	Season closed		
1952	27	14,061	450
1953	40	30,033	4,000
1954	Season closed		
1955	42	36,419	4,200
1956	88	48,263	3,911
1957	88	46,466	4,784
1958	88	42,777	4,415
1959	88	38,414	2,960
1960	88	27,430	2,584
1961	Season closed		
1962	88	23,049	2,114
1963	88	33,298	2,074
1964	88	32,400	1,326
1965	36	12,808	406
1966	48	24,079	1,073
1967	50	28,892	1,437
1968	50	35,322	1,396
1969	56	45,078	2,105
1970	51	54,807	2,387
1971	63	74,758	3,831
1972	63	88,919	5,074
1973	59	107,933	7,594
1974	65	106,867	10,747
1975	68	125,807	14,972
1976	68	138,946	23,431
1977	73	155,445	22,319
1978	74	175,314	22,967
1979	88	193,764	34,874
1980	88	216,055	40,499
1981	88	231,948	47,834
1982	88	257,504	52,885
1983	88	264,493	59,812
1984	88	273,205	66,860
1985	88	277,714	64,263
1986	88	290,293	67,626
1987	88	297,205	79,355
1988	88	373,435	100,674
1989	88	284,909	91,236
1990	88	295,127	98,468
1991	88	338,186	119,215
1992	88	359,250	126,113
1993	88	385,068	138,752
1994	88	425,797	170,527
1995	88	496,890	179,543
1996	88	475,288	158,000
1997	88	439,814	153,159
1998	88	365,875	118,270
1999	88	361,125	126,770
2000	88	438,744	150,432
2001	88	469,055	165,124
2002	88	507,723	204,652
2003	88	515,928	197,790
2004	88	520,458	216,443
2005	88	515,181	209,513
2006	88	543,614	237,316
2007	88	578,366	232,854
2008	88	611,442	252,017
2009	88	624,908	261,260
2010	88	609,417	239,475

^a Season length, bag limit, type of season (e.g., buck-only versus either-sex) and weather have varied among years and have affected total harvest, hunter success rates, and the number of hunters in the field in a given year.

^b Harvest estimates based on hunter questionnaires 1946-61 and mandatory check thereafter.

Appendix C. Continued

Appendix C. Continued

COUNTY	DATA	YEAR				
		2006	2007	2008	2009	2010
MARION	COMPLAINTS	3	1	5	0	0
	OUT OF SEASON PERMITS	2	1	5	0	0
	DEER KILLED	1	2	7	0	0
MEDINA	COMPLAINTS	15	12	9	10	12
	OUT OF SEASON PERMITS	8	8	4	9	12
	DEER KILLED	20	33	21	31	29
MEigs	COMPLAINTS	23	20	12	13	10
	OUT OF SEASON PERMITS	16	15	11	13	9
	DEER KILLED	45	67	36	68	26
MERCER	COMPLAINTS	0	0	1	1	0
	OUT OF SEASON PERMITS	0	0	1	1	0
	DEER KILLED	0	0	0	2	0
MIAM	COMPLAINTS	1	2	7	3	3
	OUT OF SEASON PERMITS	1	1	5	3	3
	DEER KILLED	0	0	1	3	2
MONROE	COMPLAINTS	54	50	26	42	25
	OUT OF SEASON PERMITS	32	48	26	42	25
	DEER KILLED	55	70	77	163	57
MONTGOMERY	COMPLAINTS	8	3	3	1	1
	OUT OF SEASON PERMITS	0	3	2	1	1
	DEER KILLED	0	54	0	148	3
MORGAN	COMPLAINTS	25	28	27	29	22
	OUT OF SEASON PERMITS	22	26	26	29	22
	DEER KILLED	188	236	178	151	100
MORROW	COMPLAINTS	2	5	3	8	6
	OUT OF SEASON PERMITS	1	5	3	6	5
	DEER KILLED	0	7	5	15	3
MUSKINGUM	COMPLAINTS	65	67	57	76	50
	OUT OF SEASON PERMITS	50	65	50	76	42
	DEER KILLED	296	378	297	396	207
NOBLE	COMPLAINTS	14	18	22	13	19
	OUT OF SEASON PERMITS	8	18	21	13	17
	DEER KILLED	7	91	74	54	60
OTTAWA	COMPLAINTS	11	3	5	5	6
	OUT OF SEASON PERMITS	7	1	5	5	6
	DEER KILLED	0	3	3	6	7
PAULDING	COMPLAINTS	9	5	5	4	5
	OUT OF SEASON PERMITS	3	4	5	4	5
	DEER KILLED	4	7	5	6	4
PERRY	COMPLAINTS	39	18	15	14	7
	OUT OF SEASON PERMITS	13	18	14	14	7
	DEER KILLED	55	44	30	35	9
PICKAWAY	COMPLAINTS	9	5	22	16	12
	OUT OF SEASON PERMITS	9	5	20	16	12
	DEER KILLED	12	5	47	36	18
PIKE	COMPLAINTS	16	10	7	5	1
	OUT OF SEASON PERMITS	7	9	7	5	1
	DEER KILLED	14	10	16	14	3
PORTAGE	COMPLAINTS	7	18	15	23	18
	OUT OF SEASON PERMITS	7	18	15	23	18
	DEER KILLED	35	95	70	52	44
PREELE	COMPLAINTS	10	4	3	6	3
	OUT OF SEASON PERMITS	0	4	3	6	3
	DEER KILLED	0	27	5	37	19
PUTNAM	COMPLAINTS	0	0	2	6	2
	OUT OF SEASON PERMITS	0	0	2	6	2
	DEER KILLED	0	0	8	15	12
RICHLAND	COMPLAINTS	26	31	28	33	19
	OUT OF SEASON PERMITS	22	24	26	28	14
	DEER KILLED	107	132	122	151	42

COUNTY	DATA	YEAR				
		2006	2007	2008	2009	2010
ROSS	COMPLAINTS	42	25	23	22	20
	OUT OF SEASON PERMITS	18	24	22	22	20
	DEER KILLED	128	183	152	135	169
SANDUSKY	COMPLAINTS	24	5	13	8	7
	OUT OF SEASON PERMITS	7	3	12	7	5
	DEER KILLED	0	6	4	57	8
SOTO	COMPLAINTS	44	22	18	15	17
	OUT OF SEASON PERMITS	33	21	17	15	16
	DEER KILLED	88	144	125	174	122
SENECA	COMPLAINTS	32	7	13	11	12
	OUT OF SEASON PERMITS	8	5	12	10	11
	DEER KILLED	16	11	34	24	14
SHELBY	COMPLAINTS	0	0	0	0	0
	OUT OF SEASON PERMITS	0	0	0	0	0
	DEER KILLED	0	0	0	0	0
STARKE	COMPLAINTS	11	13	13	26	17
	OUT OF SEASON PERMITS	8	12	12	22	17
	DEER KILLED	34	24	33	53	15
SUMMIT	COMPLAINTS	19	20	25	27	19
	OUT OF SEASON PERMITS	18	17	22	25	15
	DEER KILLED	96	71	80	116	50
TRUMBULL	COMPLAINTS	10	14	17	23	17
	OUT OF SEASON PERMITS	9	14	14	23	17
	DEER KILLED	25	37	39	74	52
TUSCARAWAS	COMPLAINTS	45	49	32	56	18
	OUT OF SEASON PERMITS	24	48	32	56	18
	DEER KILLED	184	389	365	511	131
UNION	COMPLAINTS	6	4	3	2	3
	OUT OF SEASON PERMITS	5	4	3	2	3
	DEER KILLED	10	13	17	4	4
VANWERT	COMPLAINTS	6	2	6	11	7
	OUT OF SEASON PERMITS	0	1	6	11	6
	DEER KILLED	0	0	7	16	3
VINTON	COMPLAINTS	9	5	5	8	7
	OUT OF SEASON PERMITS	5	5	5	8	7
	DEER KILLED	24	27	5	18	11
WARREN	COMPLAINTS	29	15	12	9	10
	OUT OF SEASON PERMITS	21	15	12	9	10
	DEER KILLED	75	58	41	36	31
WASHINGTON	COMPLAINTS	71	56	33	39	35
	OUT OF SEASON PERMITS	43	54	33	39	35
	DEER KILLED	132	185	112	140	108
WAYNE	COMPLAINTS	23	19	23	41	26
	OUT OF SEASON PERMITS	15	18	22	37	26
	DEER KILLED	28	70	106	217	105
WILLIAMS	COMPLAINTS	48	9	17	38	18
	OUT OF SEASON PERMITS	8	8	17	38	18
	DEER KILLED	18	26	74	114	57
WOOD	COMPLAINTS	2	1	2	3	2
	OUT OF SEASON PERMITS	1	1	0	3	2
	DEER KILLED	2	3	0	0	2
WYANDOT	COMPLAINTS	17	4	6	6	5
	OUT OF SEASON PERMITS	0	3	5	6	5
	DEER KILLED	0	0	19	34	24
TOTAL COMPLAINTS		2214	1677	1732	1953	1469
TOTAL OUT OF SEASON PERMITS		1300	1591	1650	1893	1411
TOTAL DEER KILLED		6039	8723	7685	10524	5878

2011 Ontario Deer Report

Introduction

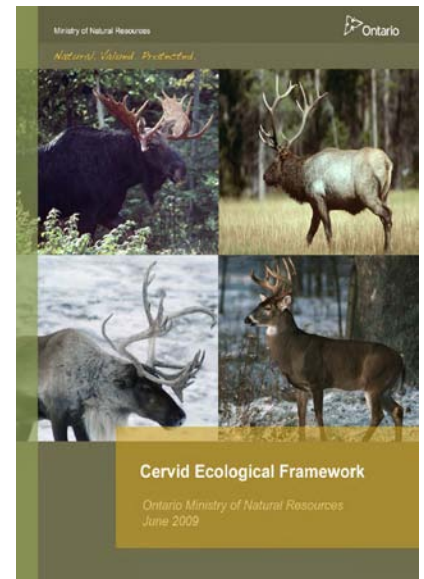
Ontario's deer management has been operating under a selective harvest system since the early 1980s. Currently, there are three types of deer hunting opportunities in Ontario:

- Selective Harvest System - Antlerless Deer Validation Tag (non-residents restricted to antlered deer only)
- Controlled Deer Hunt Validation Tag (residents only)
- Additional Deer Seals (generally restricted to residents only)

Ontario's *Cervid Ecological Framework* is a strategic policy that integrates the management of all cervid (i.e., moose, deer, elk and caribou) species across the province. The management of deer in Ontario is focused on sustainably managing this species and its habitat throughout its range, and providing recreational opportunities, consistent with other land uses, for the ecological, social, cultural and economic benefit of the people of Ontario.

I. Harvest

Harvest estimates are based on a provincial postcard survey for the regular deer hunt (RDH), the controlled deer hunt (CDH) and additional deer seals (ADS). The postcard survey is conducted annually based on a random selection of hunters who have purchased deer licenses (also online). In 2010, there were an estimated 197,223 deer hunters and an estimated 65,170 deer harvested in the province.



Year	Number of Hunters	RDH Harvest	CDH Harvest	ADS Harvest	Total Harvest	% Change in Harvest
2010	197,223	44,240	14,075	6,855	65,170	3% decrease
2009	205,395	46,646	12,985	7,155	66,786	15% decrease
2008	204,920	55,536	13,745	9,738	79,019	24% decrease

Provincially, deer harvest reached its highest point in 2007 at over 100,000 deer harvested. Since then, a 24% decrease in harvest was observed in 2008, followed by a subsequent 15% decrease in 2009, and harvest levels generally stabilized in 2010. Harvest levels are now in line with those of the late 1990s and early 2000s.

II. Population Estimate

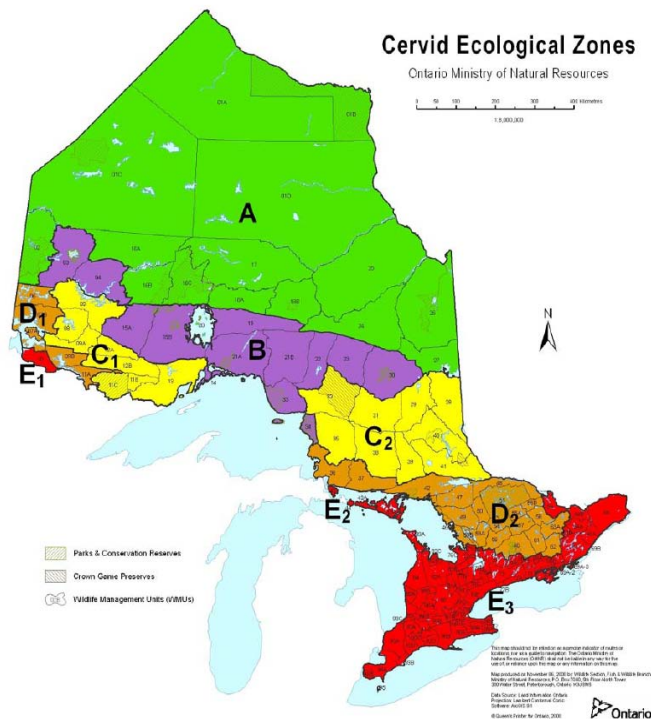
Ontario uses indices and hunter observations to monitor trends in deer harvest and estimate deer populations. Ontario has reported a deer population estimate of approximately 400,000 in recent years. Assuming an overall harvest rate of 15 to 20% (Voigt et al 1992), the Ontario deer population would be very roughly estimated to be 325,000 to 435,000. However, using density estimates for Ontario's Cervid Ecological Zones (which range from 0 in the north to 6 deer/km² in the south) the provincial estimate would be in over 500,000 animals. A better indicator is to look at trend information on a smaller Wildlife Management Unit scale and adjust quotas based on local population information and objectives.

As a result of expanded hunting opportunities and successive severe winters in 2007-08 and 2008-09 in central and southeastern Ontario, the deer population has declined to where it is now more consistent with previous

management objectives. In some cases, the populations have declined to levels below population objectives and adjustments in management actions (reduced antlerless tag quotas and reduction or removal of additional seals) are required to increase the numbers of deer.

III. Deer Management Regions

Ontario uses Cervid Ecological landscape scale guidance for cervid. There are 9 CEZ in the province, in portions of most zones at varying are dependent on climate and (e.g. deer have expanded northward CEZ A due to milder winters not a management priority in this province). Deer are most abundant E3 areas, followed by D1 and D2, density populations in C1 and C2 with very few deer present in CEZ are set on the smaller Wildlife Unit scale but work towards objectives outlined in Ontario's *Ecological Framework*.



Zones (CEZ) as management. with deer present densities which predation levels into portions of however they are area of the in the E1, E2 and with lower followed by B, A. Deer quotas Management landscape level *Cervid*

IV. Management Program:

Agricultural Conflicts

- Agricultural conflicts with deer continue to be a concern for some producers in southern Ontario. Ontario has worked with stakeholders to help address/mitigate these issues through the development of the *Strategy for Preventing and Managing Human-Deer Conflicts in Southern Ontario* and a more specific policy/authorization for harassing or removing deer on agricultural property (DRA). Ontario is exploring updates to the DRA policy.
- Ontario continues to evaluate the deer management program and recreational hunting for controlling deer numbers in rural and suburban areas of Ontario (e.g. recent expansion of deer hunting seasons, additional seals, enabling Sunday gun hunting where requested by municipalities).

Disease

- Ontario has worked collaboratively with the federal government to prepare the Ontario Chronic Wasting Disease Surveillance and Response Plan. The plan focuses on five key areas: prevention, surveillance, control and eradication, recovery and communications. Monitoring occurs annually. To date, no positive cases of CWD have been confirmed in Ontario.
- In 2005, regulations came into effect preventing the possession of any part of the antlers, head, brain, eyes, tonsils, hide, hooves, lymph nodes, spleen, mammary glands, entrails, internal organs or spinal column of a cervid that has been harvested outside Ontario. Some exceptions apply (e.g. finished taxidermy mounts, tanned skin, animal transported through Ontario to another jurisdiction in a sealed container, etc). If you have transported a cervid into Ontario that was harvested in another jurisdiction, but later find out that it has tested positive for CWD, one must immediately notify a MNR Office and provide information as requested.
- In 2009, additional regulations were implemented to further help minimize the risk of entry of CWD into Ontario. This included prohibiting the possession and use of products that contain, or purport to contain, any body part of a member of the deer family, including urine, blood, glands, or other fluids (for the

Notes/Updates

purposes of hunting). In addition, the importation of live white-tailed deer, elk, moose, caribou, and/or their hybrids into Ontario was prohibited, unless done so under an authorization.

Wildlife Feeding

- In 2009, changes were made to Ontario's *Fish and Wildlife Conservation Act* to allow the Minister to regulate the feeding of wildlife. Although this tool has not been used in Ontario as of yet, the legislative changes have been made to be able to do so.

Regulatory Changes

- No new major regulatory changes specific to deer are planned for 2011.

Research

- No major or large scale white tailed deer research projects are currently occurring in Ontario.
- Ontario is conducting a number of small scale research projects in conjunction with various universities and colleges (e.g. deer hunter patterns, deer behaviour, etc).
- A number of deer-related monitoring programs are ongoing (e.g. CWD surveillance, winter severity, wildlife food survey).

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DEER REPORT

SOUTH DAKOTA

MIDWEST DEER AND TURKEY WORKSHOP

Higgins Lake, MI

2011



Statewide Combined Deer Harvest

There were 76,752 resident deer licenses (plus unlimited licenses) available in 2010 and 119,201 were issued. Nonresidents had 3,081 licenses (plus unlimited licenses) available and 11,151 were issued. Statewide, there were a total of 130,352 licenses sold that represented a total of 203,375 tags, an increase in 1,563 licenses and 31 tags from 2009. This was the second year that triple-tag licenses were issued for both East and West River seasons.

Random samplings were taken for each unit within each season unless the numbers of hunters were low enough that all were sampled to satisfy the statistical analyses. In most cases, the response rates in the majority of units within seasons did not meet the 85% goals.

The projected statewide deer harvest was 94,726, an 8% increase from 2009. This projection included 36,377 whitetail bucks, 44,068 whitetail does, 6,993 mule bucks and 7,287 mule does. An increase in overall harvest of over 7,000 deer with a similar number of tags issued accounted for the 4% increase in harvest success from 2009.

Increases in harvest for East River Deer, Archery Deer, Muzzleloader Deer, and Youth Deer accounted for most of the increase, with a decrease in West River Deer and Black Hills Deer harvest offsetting the effect of those four. Both whitetail buck and doe harvest estimates increased from 2009 by 4,564 and 6,388 respectively. Mule buck and doe harvest decreased from 2009 by 1,526 and 2,050 respectively. Mule deer made up approximately 15% of the total harvest.

The 2010 overall statewide harvest success increased significantly to 47% from 43% in 2009. Harvest success ranged from 20% at Sand Lake Refuge to 75% for West River Special Buck.

Respondents reported hunting an average of 4.89 days per hunter, which projects to a statewide total of 637,862 recreation days in 2010. The average number of days hunted was slightly lower than 2009. That combined with the modest increase in license sales resulted in an increase of approximately 800 total days of recreation from 2009.

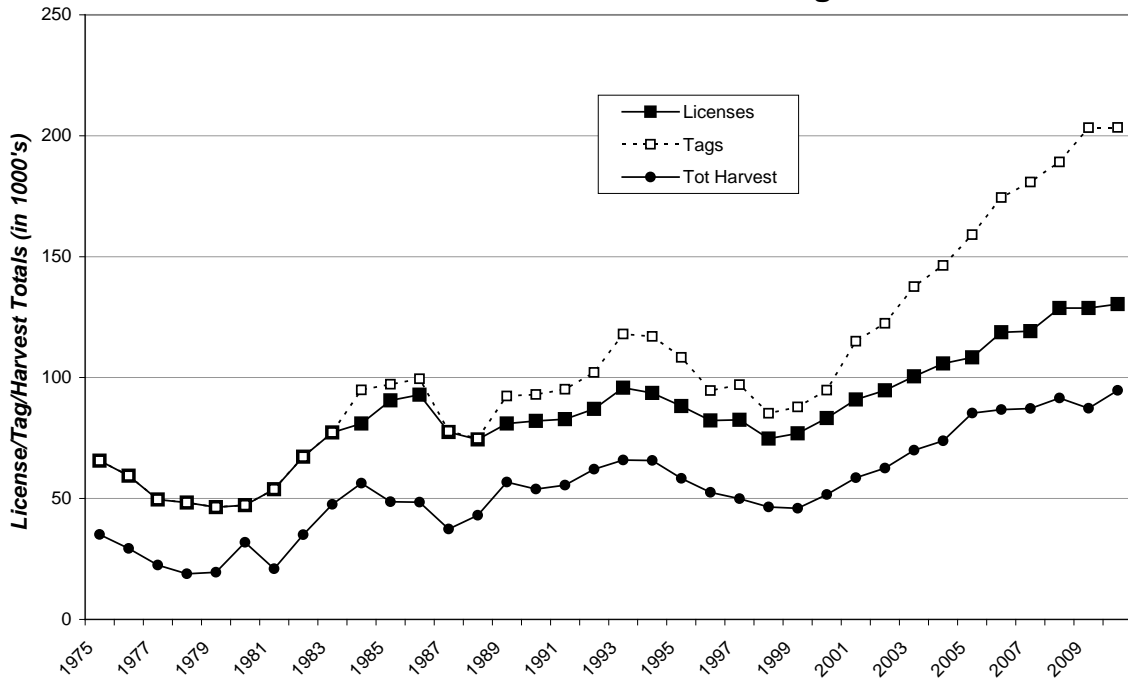
Average hunter satisfaction values (1=very dissatisfied to 7=very satisfied) varied between seasons and ranged from 3.86 for Sand Lake Refuge to 5.65 for West River Special Buck and 5.94 for Mentored Youth.

2010 Statewide Deer Harvest Projection Summary

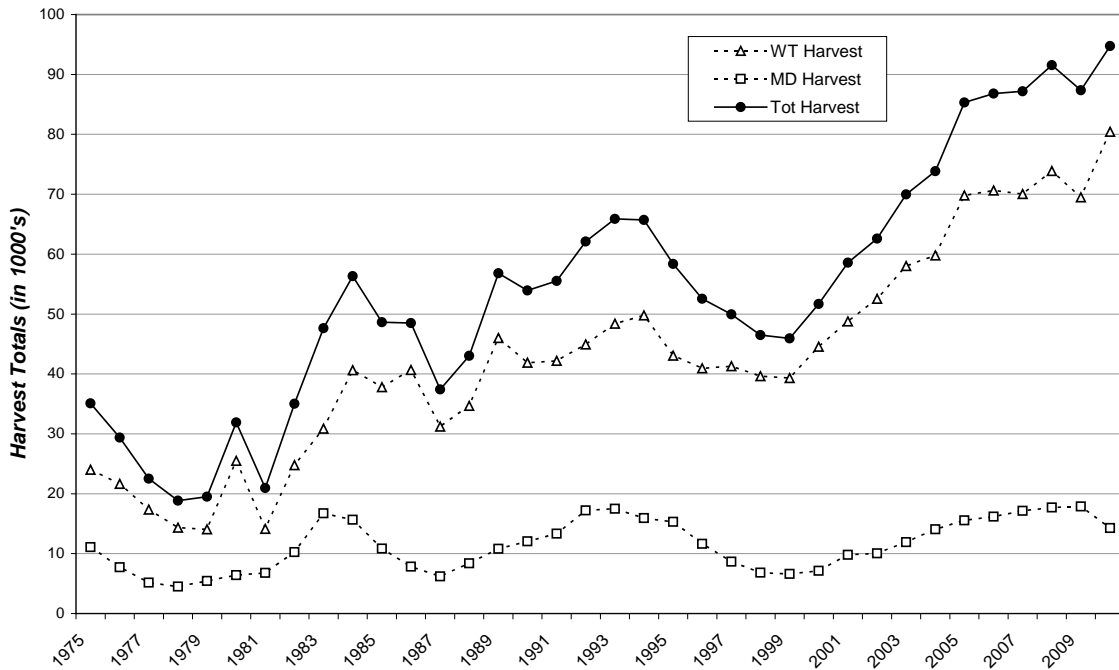
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SOUTH DAKOTA Harvest Statistic	Season											Refuges				Grand Totals
	Archery	Youth Antlerless	Mentored Youth	Muzzleloader	West River	West River Landowner Own Land	West River Special Buck Unit	East River	East River Landowner Own Land	East River Special Buck Unit	Sand Lake NWR	Lacreek NWR	Waubay NWR	Black Hills	Custer State Park	
Licenses/Tags																
Resident Licenses																
Available	Unlimited	Unlimited	Unlimited	Unlimited	26,860	Unlimited	500	43,595	Unlimited	500	250	40	60	4,900	47	76,752
Sold	24,824	6,555	2,174	5,509	24,515	2,642	498	40,223	6,429	502	242	40	63	4,938	47	119,201
Resident Tags																
Available	Unlimited	Unlimited	Unlimited	Unlimited	61,120	Unlimited	500	74,515	Unlimited	500	500	40	60	4,900	92	142,227
Sold	26,751	6,555	2,174	7,182	55,413	3,763	498	66,458	9,589	502	484	40	63	4,938	92	184,502
Nonresident Licenses																
Available	Unlimited	Unlimited	N/A	Unlimited	2,152	N/A	500	Leftovers	N/A	N/A	25	6	6	392	N/A	3,081
Sold	3,492	706	N/A	374	3,760	N/A	499	1,892	N/A	N/A	30	6	3	389	N/A	11,151
Nonresident Tags																
Available	Unlimited	Unlimited	N/A	Unlimited	4,895	N/A	500	Leftovers	N/A	N/A	50	6	6	392	N/A	5,849
Sold	3,750	706	N/A	568	8,647	N/A	499	4,245	N/A	N/A	60	6	3	389	N/A	18,873
Total Licenses																
Available	Unlimited	Unlimited	Unlimited	Unlimited	29,012	Unlimited	1,000	43,595	Unlimited	500	275	46	66	5,292	47	79,833
Sold	28,316	7,261	2,174	5,883	28,275	2,642	997	42,115	6,429	502	272	46	66	5,327	47	130,352
Total Tags																
Available	Unlimited	Unlimited	Unlimited	Unlimited	66,015	Unlimited	1,000	74,515	Unlimited	500	550	46	66	5,292	92	148,076
Sold	30,501	7,261	2,174	7,750	64,060	3,763	997	70,703	9,589	502	544	46	66	5,327	92	203,375
Recreation																
Average Days Hunted	12.29	5.72	3.72	4.48	3.53	4.41	3.50	4.28	4.24	5.37	2.86	2.46	2.22	4.58	6.30	4.89
Total Days Hunted	232,834	28,600	8,088	23,610	93,451	11,648	3,485	180,435	27,286	2,694	777	113	147	24,398	296	637,862
Mean Satisfaction Score	5.27	5.38	5.94	4.98	5.21	5.24	5.65	4.95	5.06	5.34	3.86	5.02	4.49	5.07	N/A	
Harvest																
White-tailed Deer																
Bucks	4,582	414	128	546	10,035	682	292	14,621	2,407	272	56	16	17	2,301	8	36,377
Does	4,364	2,790	946	1,991	11,131	531	3	20,002	1,575	18	55	10	8	599	44	44,068
Total	8,946	3,204	1,075	2,537	21,166	1,213	295	34,623	3,982	290	111	26	25	2,900	52	80,445
Mule Deer																
Bucks	474	46	17	102	4,883	427	448	359	106	28	0	0	0	101	2	6,993
Does	306	458	152	280	5,317	220	0	493	44	0	0	0	0	16	0	7,287
Total	781	504	169	382	10,200	647	448	852	151	28	0	0	0	117	2	14,281
Total Deer Harvest																
Bucks	5,056	460	145	648	14,918	1,109	739	14,980	2,513	300	56	16	17	2,402	10	43,371
Does	4,671	3,247	1,098	2,271	16,448	751	3	20,495	1,620	18	55	10	8	615	44	51,355
Total	9,727	3,708	1,244	2,919	31,366	1,860	743	35,475	4,133	317	111	26	25	3,017	54	94,726
Success	32%	51%	57%	38%	49%	49%	75%	50%	43%	63%	20%	57%	38%	57%	59%	47%

South Dakota Combined Deer Licensing 1975-2010



South Dakota's Combined Deer Harvest 1975-2010



ARCHERY DEER

There were 28,316 archery deer licenses issued in 2010 (24,824 resident, 3,492 nonresident). All were single any-deer tags, single antlerless-deer tags, or double-antlerless deer tags for the Statewide, LM1, East River or West River units.

A random sampling of 4,975 (26%) hunters was taken and 3,833 responded for a return rate of 77%. Approximately 58% of responding hunters used the Internet response system.

The 2010 Archery season ran from September 2, 2010 through January 31, 2011. Licensed "any deer" hunters who did not fill their license by December 31 were allowed to continue hunting through January for antlerless deer only. Respondents reported hunting 12.29 days per hunter, which projects to a total of 232,834 recreation days for the season.

The projected deer harvest for the archery season was 9,727 deer (4,582 whitetail bucks, 4,364 whitetail does, 475 mule deer bucks, and 307 mule deer does). The success rate for the season was 32%. The five counties with the highest reported harvest were Brown, Minnehaha, Pennington, Charles Mix, and Lawrence.

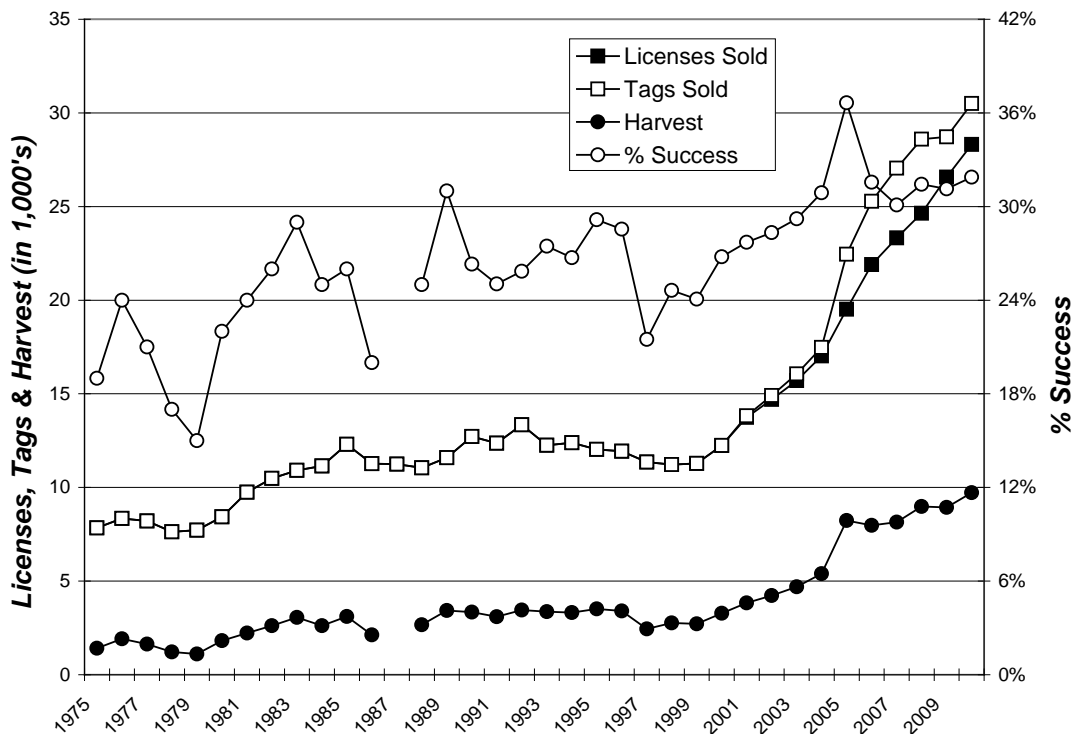
Hunters were also asked to identify if they harvested a deer in the Black Hills or on or between Farm and LaFramboise Islands in Hughes County. Estimates indicated 891 deer were harvested in the Black Hills and 72 on or between Farm and LaFramboise Islands.

Satisfaction was also measured (1=very dissatisfied to 7=very satisfied) and the average response for this season was 5.27.

Summary comparison of the 2000-2010 Archery Deer seasons

YEAR	Licenses Sold		Harvest					Success	Avg Days Hunted	Average Satisfctn
			Bucks		Does		Total			
	Res	Nonres	WT	Mule	WT	Mule				
2000	11,403	840	1,894	204	1,068	112	3,278	27%	11.29	5.33
2001	12,666	1,074	2,297	314	1,121	98	3,830	28%	12.49	5.17
2002	13,532	1,160	2,431	262	1,428	103	4,224	28%	12.43	5.30
2003	14,270	1,440	2,557	287	1,726	120	4,692	29%	11.85	5.43
2004	15,377	1,642	3,097	322	1,836	141	5,396	31%	12.84	5.25
2005	17,597	1,920	4,144	490	3,306	289	8,229	37%	13.21	5.35
2006	19,595	2,308	3,423	425	3,812	316	7,976	32%	13.35	4.28
2007	20,863	2,459	3,589	538	3,664	352	8,143	30%	12.47	5.11
2008	21,990	2,649	3,860	551	4,147	427	8,985	31%	12.36	5.10
2009	23,495	3,071	4,228	488	3,960	266	8,939	31%	12.34	5.12
2010	24,824	3,492	4,582	475	4,364	307	9,727	32%	12.29	5.27

Archery Deer 1975-2010



YOUTH DEER

There were 7,261 single-tag antlerless licenses issued for the 2010 Youth Deer hunting season (6,555 resident, 706 nonresident). Approximately 99% of hunters were sampled and 3,475 responses (70%) were received. Approximately 44% of responding hunters used the Internet response site.

The Youth season ran from September 11, 2010 through January 31, 2011, a total of 143 days. Respondents reported hunting an average of 5.72 days each, which projected to 28,600 recreation days for the season.

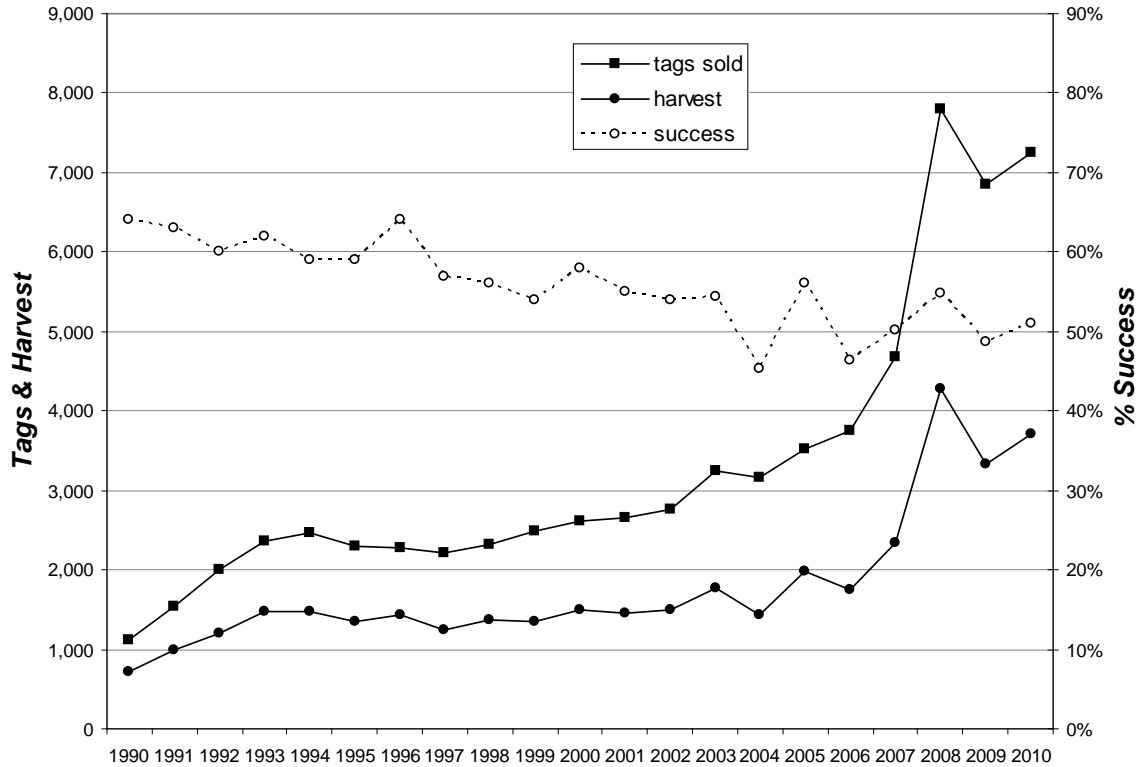
Projections for the season estimated that a total of 414 whitetail bucks, 2,790 whitetail does, 46 mule deer bucks, and 457 mule deer does were harvested. The total harvest for the Youth Deer season was 3,708, and the overall success rate was 51%. The five counties with the highest reported harvest were Pennington, Charles Mix, Lawrence, Custer, and Brown. Projected harvest for the Black Hills region was 565 deer.

The average satisfaction rating for those responding (1 being very dissatisfied and 7 very satisfied) was 5.38.

Comparison of the 1997 - 2010 Youth Deer hunting seasons

YEAR	Licenses Sold	Harvest					Total	Success	Avg Days Hunted	Average Satisfctn
		Bucks		Does						
		WT	Mule	WT	Mule					
1997	2,210	167	37	811	237	1,252	57%	NA	5.40	
1998	2,321	217	20	860	185	1,371	56%	4.13	5.16	
1999	2,490	224	26	862	227	1,339	54%	4.04	5.20	
2000	2,609	288	11	1,026	180	1,505	58%	3.42	5.36	
2001	2,662	251	25	974	211	1,461	55%	3.76	5.39	
2002	2,767	198	16	1,031	245	1,490	54%	3.96	5.48	
2003	3,256	264	30	1,234	243	1,771	54%	4.05	5.48	
2004	3,119	195	25	998	210	1,428	45%	4.13	5.36	
2005	3,525	363	36	1,330	246	1,975	56%	3.67	5.42	
2006	3,762	228	34	1,204	276	1,742	46%	4.72	5.01	
2007	4,670	296	42	1,612	389	2,339	50%	5.39	5.35	
2008	7,800	558	76	3,081	558	4,274	55%	6.36	5.45	
2009	6,847	387	66	2,391	491	3,336	49%	5.72	5.22	
2010	7,261	414	46	2,790	457	3,708	51%	5.72	5.38	

Youth Deer 1990-2010



MENTORED YOUTH DEER

There were 2,174 resident single-tag antlerless licenses issued for the 2010 Mentored Youth Deer hunting season. All mentors/hunters were sampled and 1,659 responses (77%) were received. Approximately 59% of responding mentors/hunters used the Internet response site.

The Mentored Youth licenses were valid during the Youth Deer season which ran from September 11, 2010 through January 31, 2011, a total of 143 days. Respondents reported hunting an average of 3.72 days each, which projected to 8,088 recreation days for the season.

Projections for the season estimated that a total of 128 whitetail bucks, 947 whitetail does, 17 mule deer bucks, and 152 mule deer does were harvested. The total harvest for the Mentored Youth Deer season was 1,244, and the overall success rate was 57%. The six counties with the highest reported harvest were Pennington, Gregory, Meade, Minnehaha, Charles Mix and Lawrence.

The average satisfaction rating for those responding (1 being very dissatisfied and 7 very satisfied) was 5.94.

Summary for the 2008-2010 Mentored Youth Deer hunting seasons

YEAR	Licenses Sold	Harvest				Total	Success	Avg Days Hunted	Average Satisfctn
		Bucks		Does					
		WT	Mule	WT	Mule				
2008	1,110	79	13	489	106	687	62%	4.09	6.02
2009	1,627	132	16	624	164	936	58%	4.02	5.78
2010	2,174	128	17	947	152	1,244	57%	3.72	5.94

MUZZLELOADER DEER

There were 4,870 antlerless deer licenses (4,496 resident, 374 nonresident) and 1,013 “any deer” licenses issued for the 2010 Muzzleloader Deer season, which represented a total of 7,750 tags. A survey sample of 3,986 hunters (76%) was taken and 3,367 responded for a response rate of 84%. Approximately 58% of muzzleloader hunters used the Internet response system.

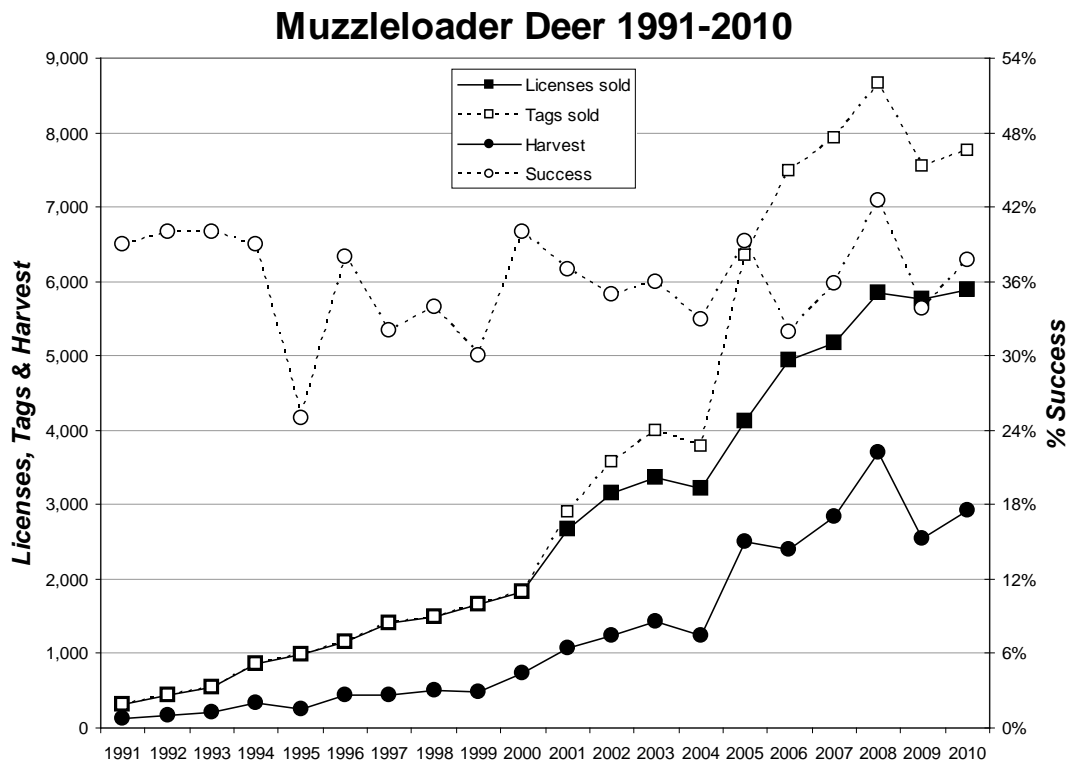
The 2010 Muzzleloader season was open 53 days from December 11, 2010 through January 31, 2011. From Jan. 1-31, all “any deer” tags converted to “antlerless deer” tags. This was the sixth year that “any deer” licenses were available for the muzzleloader season. The number of “any deer” licenses available was increased to 1,000 in 2008. A total of 5,516 applications were received for those licenses. Respondents averaged 4.48 days of hunting for a projected total of 23,610 recreation days for the season.

The estimated harvest for the Muzzleloader season was 2,919 deer (546 whitetail bucks, 1,991 whitetail does, 101 mule deer bucks, and 280 mule deer does). The overall success rate for the muzzleloader season was 38% and average satisfaction was 4.98 (1 = very dissatisfied, 7 = very satisfied).

The five counties with the highest reported harvest were Pennington, Custer, Brown, Brookings, and Charles Mix. These five counties accounted for approximately 26% of the total statewide harvest. Approximately 345 deer, just under 12% of the statewide harvest, were harvested within the Black Hills area.

Summary comparison of the 2000-2010 Muzzleloader Deer seasons

YEAR	Licenses Sold		Harvest					Total	Success	Avg Days Hunted	Average Satisfctn
	Res	Nonres	Bucks		Does						
			WT	Mule	WT	Mule					
2000	1,824	NA	150	13	467	99	729	40%	2.83	5.04	
2001	2,644	24	168	32	686	177	1,063	37%	4.98	5.29	
2002	3,118	31	194	13	828	209	1,244	35%	5.29	5.33	
2003	3,307	59	184	23	974	249	1,430	36%	5.18	5.25	
2004	3,142	80	141	21	901	181	1,244	33%	5.10	5.22	
2005	4,052	171	413	54	1,756	273	2,496	39%	5.51	5.53	
2006	4,687	248	346	57	1,605	385	2,393	32%	5.88	4.95	
2007	4,899	284	444	66	1,928	402	2,840	36%	5.38	4.91	
2008	5,520	336	600	156	2,436	502	3,693	43%	5.38	5.03	
2009	5,406	361	461	88	1,786	327	2,553	34%	4.49	4.87	
2010	5,509	374	546	101	1,991	280	2,919	38%	4.48	4.98	



WEST RIVER FIREARM DEER

There were 31,914 licenses issued for the 2010 West River Firearm Deer season (28,275 regular, 997 Special Buck and 2,642 Landowner Own Land Only) for a total of 68,820 tags.

The West River season was open 16 days from November 13-28 in most units and from November 6-28 in Corson, Dewey and Ziebach counties. Units 50A in Mellette County and 30A in Gregory County were open from Nov. 6-9 and 22-28, while units 50B and 30B were open from Nov. 13-28. The season was also open from January 1-9, 2011 for all unfilled and unsold antlerless deer tags. Beginning January 1, all unused and unsold tags for "any deer" and "any whitetail" converted to their respective antlerless tags. All antlerless tags were also valid during the Firearm Antelope season (October 2-17) in their respective units.

A random sample of 12,126 hunters was taken from the regular West River season, 2,053 from the Landowner Own Land Only licenses, and 996 from the Special Buck licenses. The overall response rates for the seasons were 80% for the regular West River Deer, 74% for landowner West River Deer and 86% for Special Buck. Of all responding hunters, 50% of regular West River, 31% of landowner on own land and 60% of Special Buck hunters responded over the Internet.

Respondents reported hunting an average of 3.53 days in the regular West River season, 4.41 days for landowner and 3.50 days in the Special Buck. These averages projected to a total of 106,095 recreation days for all West River deer seasons. Hunters reported harvesting approximately 4% of their deer during the Firearm Antelope season, 87% during the regular season, and 9% during January 1-9.

The West River projected deer harvest was 31,366 for the regular season, 1,860 for landowner on own land, and 743 for the Special Buck licenses. Success rates were 49% for the regular season, 49% for landowner and 75% for Special Buck.

Success for the regular West River season "any deer and any antlerless deer" and "any whitetail and antlerless whitetail" license 1st tags (any) was 61% and for 2nd (antlerless only) tags was 38%. Success for "any antlerless deer and any antlerless deer" and "antlerless whitetail and antlerless whitetail" license 1st tags was 61% and for 2nd tags was 37%. Success for the "any deer and any two antlerless deer" and "any whitetail and two antlerless whitetail" license 1st tags (any) was 64%, for 2nd (antlerless only) tags was 46%, and for 3rd (antlerless only) tags was 23%. Success for "three any antlerless deer" and "three antlerless whitetail" license 1st tags was 68%, for 2nd tags was 48%, and for 3rd tags was 27%.

The mean satisfaction score for those responding to the regular West River season was 5.21 (1 being very dissatisfied and 7 very satisfied).

Summary comparison of the 2000-2010 West River Deer seasons (including Special Buck and Landowner)

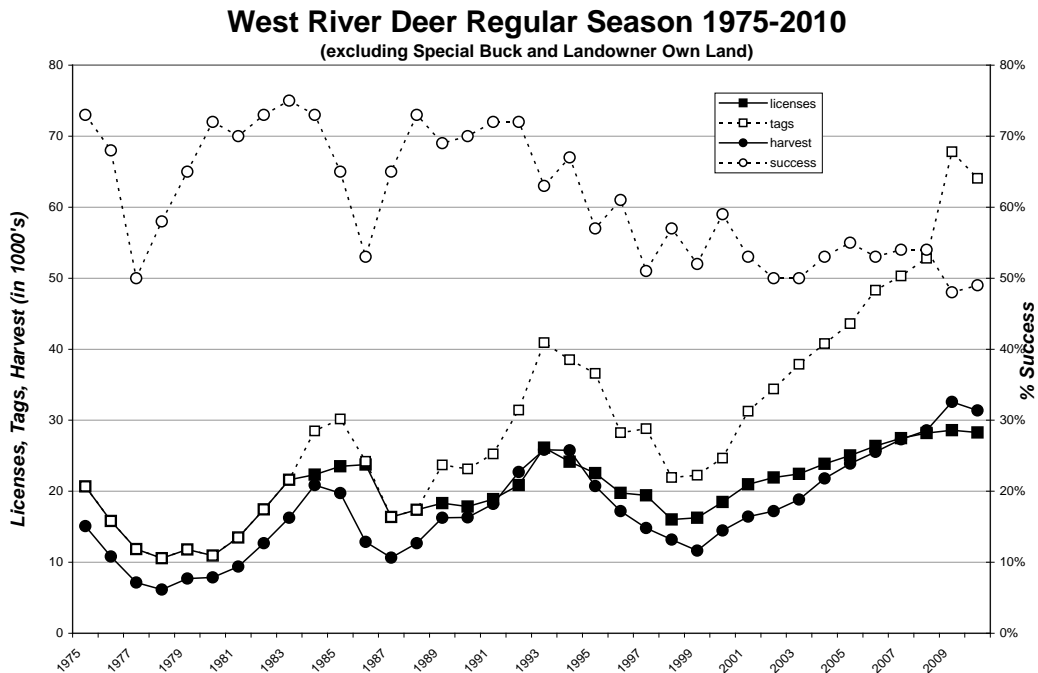
YEAR	Licenses Sold				Harvest				Total	Success	Avg Days	Avg Satis
	Resident		Nonres		Bucks		Does					
	Lics	Tags	Lics	Tags	WT	Mule	WT	Mule				
2000	17,826	23,441	1,891	2,451	6,567	4,178	3,450	1,078	15,273	59%	2.91	5.16
2001	20,133	29,525	2,264	3,248	6,588	4,962	3,586	2,145	17,281	53%	3.29	4.99
2002	20,844	32,278	2,463	3,658	6,686	5,109	3,893	2,455	18,143	50%	3.42	5.03
2003	21,601	35,570	2,705	4,367	5,599	5,326	5,188	3,438	19,551	49%	3.49	5.17
2004	22,608	37,845	2,913	4,795	6,266	6,186	5,395	5,134	22,981	52%	3.49	5.10
2005	23,626	39,413	3,126	4,981	6,866	6,640	5,860	5,716	25,082	56%	3.55	5.06
2006	24,872	44,720	3,617	6,273	7,732	7,213	6,563	5,616	27,124	53%	3.72	5.02
2007	26,271	46,805	3,413	6,370	8,138	7,721	7,009	6,232	29,100	55%	3.54	5.19
2008	26,533	48,770	4,064	7,256	8,621	7,560	8,081	6,256	30,518	54%	3.42	5.29
2009	26,999	61,947	4,391	9,798	10,319	7,224	10,036	7,281	34,862	49%	3.55	5.22
2010	27,655	59,674	4,259	9,146	11,009	5,759	11,665	5,537	33,970	49%	3.53	5.21

2010 West River Deer harvest by date

	Total	Oct 2-17	Nov 6-28	Jan 1-9
Reports	10,671	464	9,297	910
Percent of total		4%	87%	9%
Projected	31,366	1,364	27,327	2,675

2010 West River Deer antlerless harvest by date

	Total	Oct 2-17	Nov 6-28	Jan 1-9
Reports	6,087	464	4,713	910
Percent of total		8%	77%	15%
Projected	17,942	1,364	13,903	2,675



2010 West River LOL Harvest Projections

Last Revised: 26-Apr-11

Unit	Licenses		Tags		Response Rate	Tag Success	Harvest Projections								Total Deer Harvest	Mean Satisfactn Rating	Average Days Hunted	
	Avail.	Sold	sold	Hunters			Whitetail				Mule Deer							
							Bucks	Does	Bucks	Does	Bucks	Does	Bucks	Does				
West River	Unltd	2,348	3,469	1,864	73%	48%	633	35	354	25	405	17	182	7	1,657	5.28	3.88	
Statewide	Unltd	294	0	294	228	80%	48%	0	14	137	16	0	5	28	4	203	4.98	2.89
Totals		2,642	3,763	2,092	74.0%	49%	633	49	490	41	405	22	209	11	1,860	5.24	4.41	

Units less than 85% response rate & harvest projections may not be within +/- 15% of sample statistic.

2010 West River Special Buck Harvest Projections

Last Revised: 26-Apr-11

Unit/Type	Licenses				Tags sold	Response Rate	Tag Success	Harvest Projections				Total Deer Harvest	Mean Satisfactn Rating	Average Days Hunted
	Resident		Nonresident					Whitetail	Mule Deer					
	Avail.	Sold	Avail.	Sold						Bucks	Does			
WR-01	500	498	500	499	997	86%	75%	292	3	448	0	743	5.65	3.50

Units less than 85% response rate & harvest projections may not be within +/- 15% of sample statistic.

EAST RIVER FIREARM DEER

There were 48,330 licenses issued for the 2010 East River Firearm Deer season (42,115 regular, 502 Special Buck and 6,249 Landowner Own Land Only) for a total of 80,794 tags.

The East River season was open 16 days from November 20 through December 5 in all units. The season was also open from January 1-9, 2011 for all unfilled and unsold antlerless deer tags. Beginning January 1, all unused and unsold tags for "any deer" and "any whitetail" converted to their respective antlerless tags.

A random sample of 18,279 hunters was taken from the regular East River season, 5,575 from the Landowner Own Land Only licenses, and all 502 Special Buck hunters. The response rates were 78% for the regular East River Deer, 73% for Landowner East River Deer and 91% for Special Buck. Of all responding hunters, 46% of regular East River, 31% of Landowner Own Land and 60% of Special Buck hunters responded over the Internet.

Respondents reported hunting an average of 4.28 days per hunter for the regular season, 4.24 days for Landowner Own Land and 5.37 days for Special Buck, resulting in a projected total of 200,510 recreation days for the entire East River season. Hunters reported harvesting approximately 89% of their deer during the regular season and 11% from January 1-9.

The East River projected deer harvest was 35,479 for the regular season, 4,133 for Landowner Own Land, and 317 for the Special Buck season. Success rates were 50% for the regular season, 43% for Landowner Own Land, and 63% for Special Buck. Success for the regular East River season "any deer and any antlerless deer" and "any whitetail and antlerless whitetail" license 1st tags (any) was 63% and success for 2nd (antlerless only) tags was 44%. Success for "any antlerless deer and any antlerless deer" and "antlerless whitetail and antlerless whitetail" license 1st tags was 59% and success for 2nd tags was 34%.

The mean satisfaction score for those responding to the regular East River survey was 4.95, for the Landowner Own Land survey was 5.06, and for the Special Buck survey was 5.34 (1 = "very dissatisfied" and 7 = "very satisfied").

Summary comparison of the 2000-2010 East River Deer seasons (including Special Buck and Landowner)

YEAR	Licenses Sold				Harvest				Total	Success	Avg Days	Avg Satis
	Resident		Nonres		Bucks		Does					
	Lics	Tags	Lics	Tags	WT	Mule	WT	Mule				
2000	38,129	43,744	238	383	14,641	505	12,170	231	27,547	62%	3.05	4.99
2001	41,550	54,651	452	819	14,835	465	15,276	439	31,015	56%	3.79	4.83
2002	42,714	56,826	503	889	15,365	543	17,489	441	33,838	59%	3.93	5.01
2003	45,846	65,567	837	1,581	15,251	488	21,911	476	38,126	57%	4.40	5.14
2004	47,942	71,443	1,134	2,157	13,953	519	22,991	498	37,961	52%	4.42	4.90
2005	47,649	71,362	1,316	2,462	17,337	559	24,636	535	43,067	58%	4.06	5.01
2006	48,608	74,462	1,506	2,804	17,444	544	23,503	421	41,912	54%	4.56	4.82
2007	48,708	74,502	1,760	3,340	17,609	593	20,311	562	39,075	50%	4.52	4.72
2008	47,308	73,592	1,672	3,191	16,951	646	20,239	642	38,478	50%	4.79	4.71
2009	46,533	74,613	1,797	3,663	13,733	511	17,741	735	32,717	42%	4.53	4.41
2010	47,154	76,549	1,892	4,245	17,300	496	21,595	539	39,929	49%	4.28	4.95

2010 East River Deer harvest by date

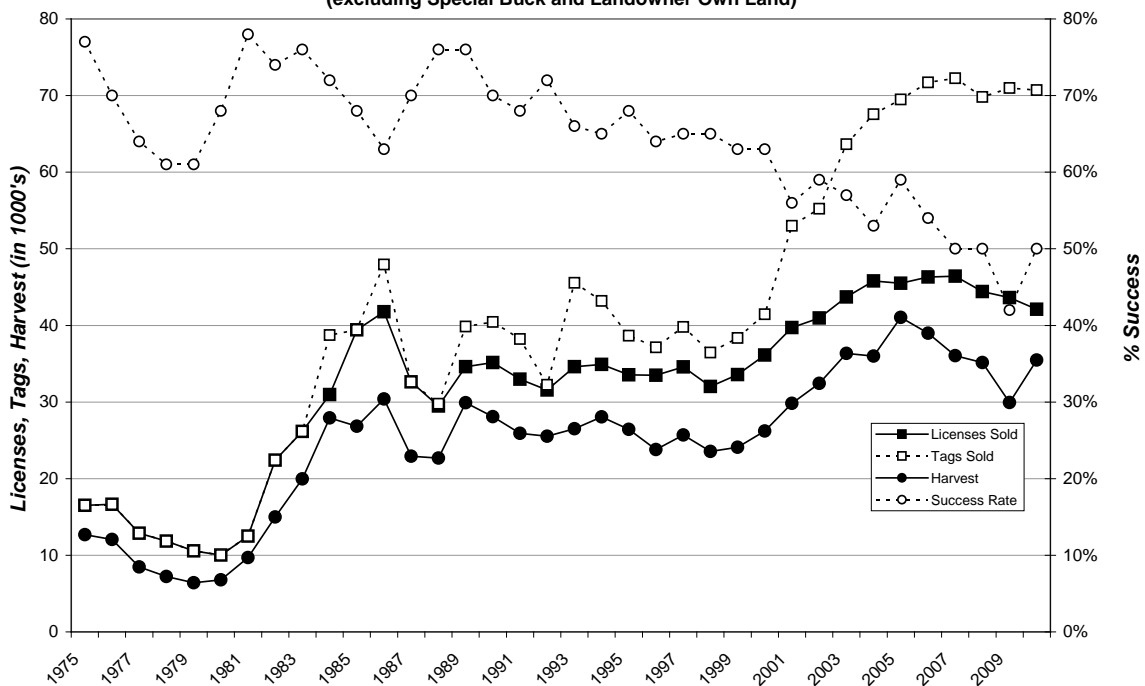
	Total	Nov 20- Dec 5	Jan 1-9
Reports	12,133	10,822	1,311
Percent of total		89%	11%
Projected	35,479	31,645	3,834

2010 East River Deer antlerless harvest by date

	Total	Nov 20- Dec 5	Jan 1-9
Reports	7,719	6,408	1,311
Percent of total		83%	17%
Projected	22,758	18,924	3,834

East River Deer Regular Season 1975-2010

(excluding Special Buck and Landowner Own Land)



2010 East River LOL Harvest Projections

Last Revised: 14-Apr-11

Unit	Harvest Projections														Total Deer Harvest	Mean Satisfactn Rating	Average Days Hunted
	Licenses		Tags	Response Rate	Tag Success	Whitetail				Mule Deer							
	Avail.	Sold	sold			Hunters	Bucks	Does	Bucks	Does	Bucks	Does					
East River	Unltd	5,859	9,019	5,196	72%	43%	2,238	147	1,267	122	98	6	41	3	3,922	5.06	4.37
Statewide	Unltd	570	570	442	80%	48%	0	22	168	18	0	3	1	0	212	4.98	2.89
Totals		6,429	9,589	5,638	72.7%	43%	2,238	169	1,435	140	98	8	42	3	4,133	5.06	4.24

Units less than 85% response rate & harvest projections may not be within +/- 15% of sample statistic.

2010 East River Special Buck Harvest Projections

Last Revised: 19-Apr-11

Unit/Type	Harvest Projections										Total Deer Harvest	Mean Satisfactn Rating	Average Days Hunted
	Resident Licenses		Response Rate	Tag Success	Whitetail				Mule Deer				
	Avail.	Sold			Bucks	Does	Bucks	Does	Bucks	Does			
ER-01	500	502	91%	63%	272	18	28	0	317	5.34	5.37		

Units less than 85% response rate & harvest projections may not be within +/- 15% of sample statistic.

BLACK HILLS DEER

There were 5,327 single-tag licenses issued for the 2010 Black Hills Deer season (4,938 resident, 389 nonresident).

A random sample of 4,847 hunters was taken (91% of license holders) and there were 2,952 responses for a 61% return rate. Approximately 75% of responding hunters used the Internet to respond to their survey.

The season ran the usual month of November, a total of 30 days. The special antlerless season again ran the entire month of November, an increase from the 10-day season in 2004. Those responding reported hunting an average of 4.58 days, which projected to 24,398 recreation days for the season. Of those responding, 8.4% stated they did not hunt at all during the season.

The mean satisfaction score for all combined units was 5.07. The satisfaction scale ranged from 1 = "very dissatisfied" to 7 = "very satisfied".

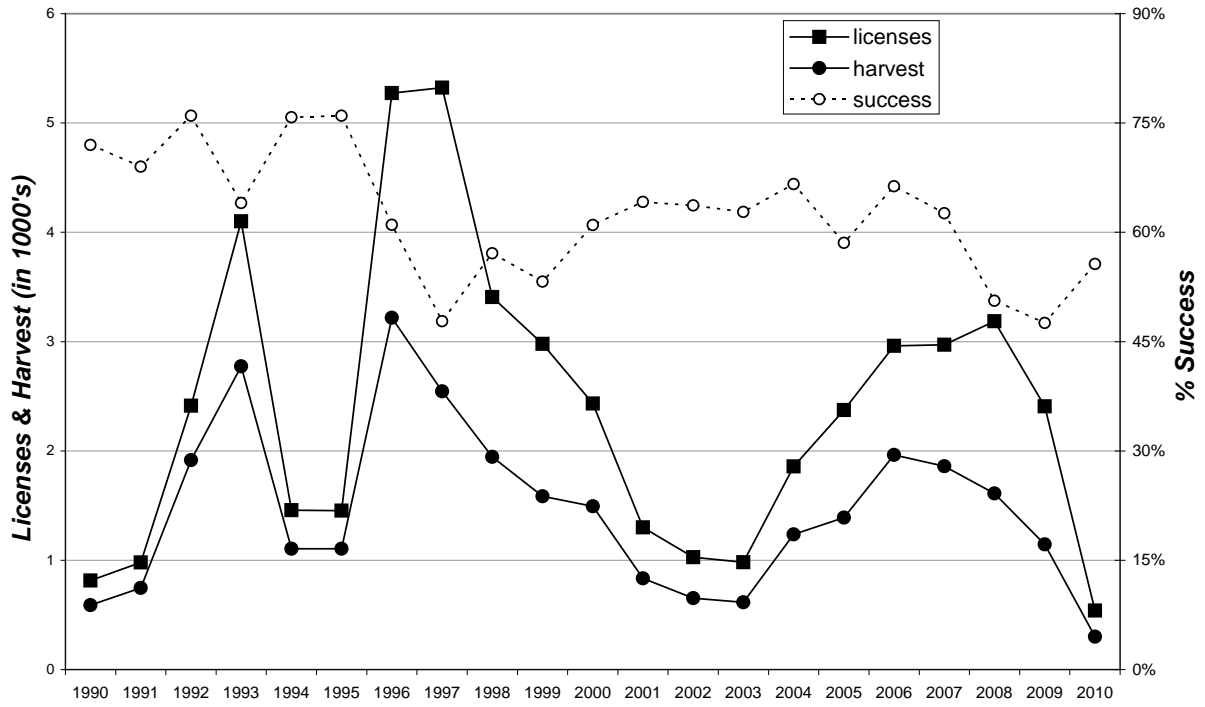
The harvest projection for the Black Hills Deer season was 3,017 deer (2,203 adult whitetail bucks, 97 fawn whitetail bucks, 556 adult whitetail does, 43 fawn whitetail does, 97 adult mule deer bucks, 4 fawn mule deer bucks, 16 adult mule deer does and no fawn mule deer does). The overall season harvest success rate was 57%, up from 48% in 2009.

Including the estimated Black Hills harvest of 1,947 deer from the Archery, Youth and Muzzleloader seasons, approximately 4,964 deer were harvested in the Black Hills proper.

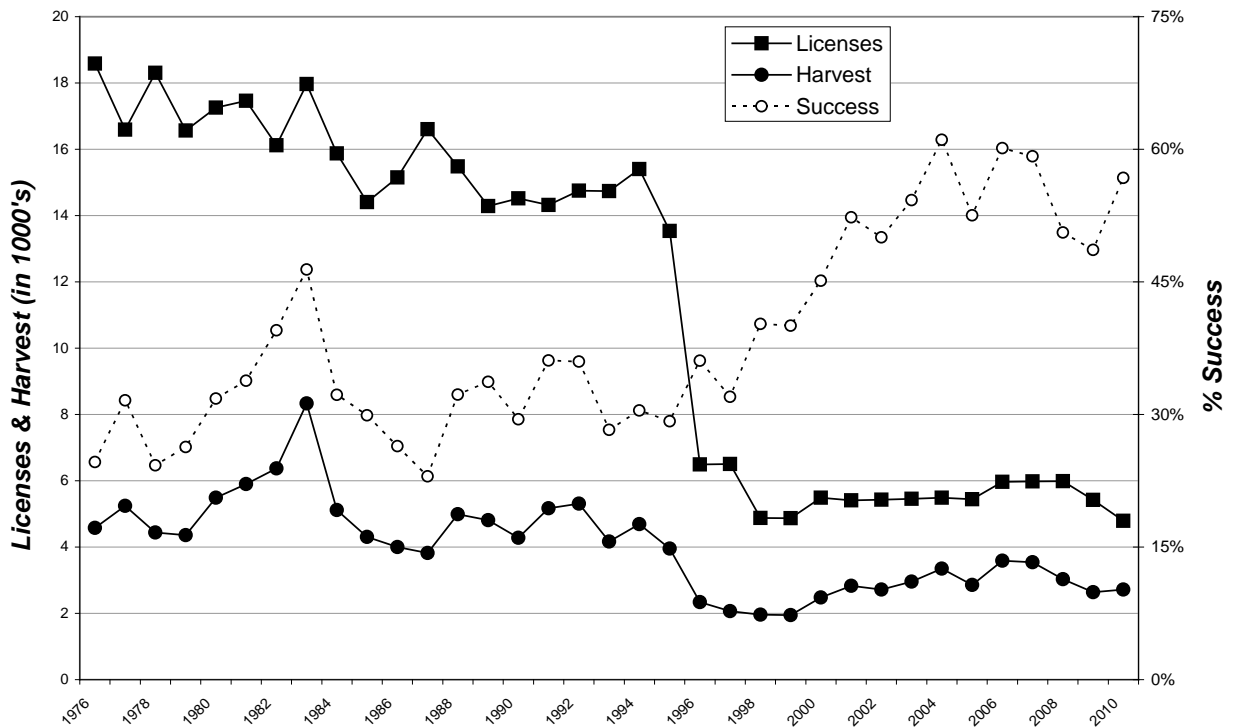
Harvest summaries for the 2001-2010 Black Hills Deer seasons

YEAR	Licenses Sold		Harvest				Success	Avg Days Hunted	Avg Satis	
	Resident	Nonres	Bucks		Does					
			WT	Mule	WT	Mule	Total			
2001	6,211	496	2,419	859	313	71	3,662	55%	4.14	5.20
2002	5,980	474	2,365	618	346	40	3,369	52%	4.59	5.25
2003	5,965	473	2,427	694	402	53	3,576	56%	4.01	5.42
2004	6,810	536	2,802	783	946	58	4,589	62%	4.14	5.46
2005	7,217	597	2,219	696	1,324	8	4,247	54%	4.12	5.50
2006	8,250	689	2,746	722	1,770	167	5,405	60%	4.22	5.37
2007	8,240	709	3,172	133	1,988	104	5,397	60%	4.45	5.27
2008	8,451	722	2,620	138	1,824	56	4,638	51%	4.08	5.11
2009	7,218	613	2,450	134	1,122	74	3,781	48%	4.75	4.53
2010	4,938	389	2,203	101	599	16	3,017	57%	4.58	5.07

Black Hills Antlerless Deer 1990-2010



Black Hills Buck/Any Deer 1976-2010



WISCONSIN DEER STATUS REPORT, 2011

Midwest Deer & Wild Turkey Study Group
Ralph A. McMullen Conference Center, Grayling, Michigan
Robert E. Rolley

POPULATION GOALS

In the Northern and Central Forest regions population goals have been set relative to environmental carrying capacity. In the three farmland regions, goals have primarily been set relative to human tolerance for deer. Prior to 2010, overwinter goals ranged by unit from 10 to 30 deer/mi² of deer habitat for a statewide overwinter population goal of approximately 740,000. Normal recruitment would have resulted in fall populations of over 1,000,000 when the population was at goal and an annual gun and bow harvest of about 300,000. In 2010, population goals were raised in many deer management units resulting in a statewide overwinter goal of almost 800,000.

POPULATION TRENDS

Overwinter deer populations in Wisconsin fluctuated around 500,000 during the 1960s and 1970s (Figure 1). During the 1980 and 1990s, the population generally increased with occasional short-term declines due to poor recruitment following severe winters and/or intensive antlerless harvests. Most of the statewide increase in deer populations over the past 40 years was due to population growth in the farmland regions of the state. Below average recruitment and higher antlerless harvest rates during the early to mid 2000s reduced populations in portions of the state. Reduced antlerless harvests in 2009 and 2010 have set the stage for renewed population growth.

HARVEST TRENDS

During the 1960s and early 1970s, the combined gun and archery harvest fluctuated from a low of about 40,000 to a high of about 136,000 and averaged about 90,000 (Figure 2). Total harvest increased steadily during the late 1970s and 1980s, peaking at over 400,000 in 1991. This harvest increase was due largely to population growth in the farmland regions. Harvest fluctuated considerably during the 1990s around an overall increasing trend. An all-time record harvest of 618,374 was set in 2000. After a marked decrease in total harvest in 2001 and 2002, harvest during 2003-07 averaged about 500,000 deer, with about 36% of the harvest composed of antlered bucks and about 64% antlerless deer. Total harvest decreased 13% in 2008 and 27% in 2009 but increased 2% in 2010. During the past 3 years, antlered buck harvest decreased 13% and antlerless deer harvest decreased 46%. The proportion of the total harvest taken by archers has increased steadily during the past 50 years to where archers accounted for 25% of the total harvest and 28% of the antlered buck harvest in 2010.

HUNTING SEASON SUMMARY - 2010

The 2009 posthunt population was estimated to be near 1.0 million. The winter of 2009-10 was rated as mild for the Northern Forest Region. Observations of fawns and does in summer 2010 indicated that recruitment was 9% below the long-term average in the Northern Forest but was near average in the Central Forest (+5%) and farmland regions (-2 - +5%). The estimated statewide fall 2010 population was approximately 1.5 million.

The 2010 archery season was held during September 18 – November 18 and November 29 – January 9 (Figure 3). In most management units, archers were allowed to harvest one antlered and one antlerless deer during the season, but in 18 units archers were restricted to bucks only. In many units, archers were allowed to harvest additional antlerless deer using free herd control antlerless permits, CWD antlerless permits or purchased antlerless deer permits. More than 250,000 people purchased archery licenses in 2010. Archers killed more than 83,800 deer (42,100 antlered, 40,700 antlerless, and

1,000 unknown). This was the 9th highest archery harvest on record. Approximately 90% of the archery harvest occurred prior to the November gun season.

A 2-day either-sex gun hunt was held statewide on October 9-10 for youths aged 12-15 who had completed hunter education or youths as young as 10 who had not completed hunter education if they hunted with an adult mentor. Young hunters were required to be accompanied by an adult. Approximately 4,100 deer were harvested during this season.

A 4-day antlerless gun hunt was held October 14-17 in 17 CWD and 38 herd control units. The archery season remained open during these 4 days but archers were limited to antlerless deer and were required to wear blaze orange. Approximately 10,600 deer were killed with a gun in this season.

Sales of 622,900 gun deer licenses in 2010 were 2.5% lower than in 2009 and were 10% below the 2001 pre-CWD level. The opening day of the firearm season was November 20. Opening morning had normal temperatures, calm winds, and clear skies throughout much of the state. Sunday morning was warmer with fog and misty rain in the south and fog then wind and rain in the north. Only the northwestern corner of the state had snow cover on opening weekend. Temperatures were above average with high winds and rain early in the week in much of the state. By late-week, temperatures returned to normal and snow covered the ground in the northern half of the state. Corn harvest was well ahead of 5-year average, with 96% of the harvest completed by mid-November compared to an average of 82%. Approximately 221,500 deer (100,600 antlered, 119,300 antlerless, and 1,700 unknown) were killed during the 9-day November gun season. The 10-day muzzleloader-only season (November 29-December 8) resulted in a harvest of about 6,580 deer (2,665 antlered, 3,850 antlerless, and 65 unknown).

A 4-day antlerless gun season was held December 9-12 statewide and in the CWD units an either-sex gun season was held December 24-January 9. Hunting conditions during these December seasons were fair with nearly statewide snow cover and average to below average temperatures. There were areas of significant snow cover (>12 inches) in the southern and western parts of the state which may have hindered movement for some hunters. Approximately 10,200 deer (1,100 antlered, 8,900 antlerless, and 200 unknown) were harvested during the December gun hunts.

In all seasons, gun hunters registered 253,038 deer. This was 5% higher than the gun harvest in 2009. The gun season antlered harvest was 106,263 (+15% from 2009) while the antlerless harvest was 146,775 (-1.6% from 2009). The combined bow and gun season harvest was 148,378 bucks and 185,211 antlerless deer. The Chippewa tribes harvested an additional 646 antlered bucks and 847 antlerless deer in the ceded territories outside of reservations.

In total, more than 644,500 people purchased a deer hunting license (either gun, archery, or both). Of these, approximately 239,000 hunters (37%) killed and registered at least 1 deer in 2010.

A gun harvest quota of approximately 245,600 antlerless deer in non-CWD units was established for the 2010 gun season compared to 287,600 antlerless deer in 2009. Each hunter received 1 free antlerless permit valid in any of 38 herd control units with the purchase of his or her regular gun and bow license. In addition, hunters could purchase an unlimited number of antlerless-only licenses in these units. More than 169,700 unit-specific antlerless permits were available in 44 "regular" (buck-plus-quota) management units.

Approximately 21,500 deer were checked for sex and age at 119 of the 610 registration stations during the 2010 gun deer season. In the Northern Forest, the percentage of harvested bucks that were yearlings (44%) was below the 5-year average (53%). The percentage of yearlings among does (24%) was slightly below the 5-year (27%) and long-term (27%) averages in the Northern Forest. In the Central Forest the percentage of yearlings among harvested bucks (46%) was below the 5-year average (54%) and the percentage of yearling does (27%) was similar to the 5-year average. The farmland regions continued to show below average percentages of yearlings among bucks (40-54%) suggesting increased survival of bucks. Yearling doe percents (29-34%) were similar to or slightly below the 5-year

average in the farmland regions, although there has been a gradual downward trend in recruitment evident during the past 20 years in the southern and western farmland regions.

Antler development of yearling bucks was below normal in the Northern Forest (49% of yearlings had forked antlers compared to a 36-year average of 57%, Figure 4). The percentage of yearling bucks with forked antlers in the Central Forest in 2010 was 5% higher than the long-term average. Antler development in the farmland regions was near the long-term average; 89% of yearlings had forked antlers.

Twelve non-fatal hunting accidents were reported during the 9-day November gun season. One fatal and one non-fatal accident occurred during the archery, muzzleloader, and supplemental gun seasons in 2010. In 64% of the accidents the shooter and victim were members of the same hunting party and in 21% of the accidents hunters shot themselves.

WINTER 2010-11

The average winter severity index (WSI) for the 32 recording stations with complete records was 47 (mild) compared to a 30-year average of 55. On average, snow depths greater than or equal to 18 inches were recorded on only 12 days in 2010-11 and minimum temperatures less than or equal to 0°F occurred on 35 days. Severe conditions (WSI > 80) were reported from 2 stations in the northcentral part of the state. Moderate conditions (WSI = 50-80) were recorded at 8 stations in western and central portions of the Northern Forest. While there may be limited local winter impacts in portions of the north, recruitment of fawns and yearlings are expected to be near normal throughout the majority of the Northern Forest in 2011. The winter of 2010-11 was the second mild winter after the consecutive moderately severe winters of 2007-08 and 2008-09.

2011 SEASON PLANNING

Following the close of the 2010 deer season, Department staff conducted their regular review of deer population and harvest data. The statewide posthunt white-tailed deer population estimate for 2010 was approximately 1,160,000, 46% above the newly revised statewide goal of approximately 794,000. The 2010 posthunt population estimates were more than 20% below goal in 6 deer management units while in 83 units they were more than 20% above goal. The statewide posthunt 2010 population estimate was 18% higher than the 2009 estimate.

Wildlife management staff held 34 deer management public information forums across the state in March to provide the public with current information about deer harvest, population status and recommendations for 2011 season frameworks. Local wildlife biologists were on hand at each meeting to provide information on local deer management units and answer questions. Total attendance was 640. Staff also participated in deer expos in Eau Claire, Green Bay, Madison, and Milwaukee. Over the winter, Department administrators met with regional wildlife field staff and representatives of major deer hunting interest groups to insure they had a good understanding of current deer management issues.

The Department presented its deer season proposal to the Natural Resources Board in April. The proposal was described as an attempt to strike a balance between the social and biological interests expressed by various stakeholders. The proposal was designed to increase hunter and landowner acceptance and participation in the state's deer management program. October gun seasons and earn-a-buck requirements have been unpopular with a number of hunters due to concerns about interference with the early archery season, disagreement on deer population size and the need for herd control, concerns over the inability to shoot a trophy buck if hunters had not yet earned their tag, and uneven distribution of deer within units. The Department recommended a one-year suspension of the October 4-day antlerless season for Herd Control units. These units would still have available an unlimited number of \$2.00 antlerless harvest permits. The proposal also modified the earn-a-buck regulations in the CWD Management Zone to exempt the first buck under an archery license and the first buck under a gun

license. Earn-a-buck would still apply to additional bucks. Earn-a-buck regulations had previously been suspended outside of the CWD Management Zone. The Board accepted the proposal with knowledge that the legislature's natural resources committees would be meeting later that day to consider a bill that would prohibit the Department from holding gun deer seasons prior to the start of the traditional November 9-day firearm season and from using earn-a-buck regulations outside of the CWD Management Zone.

2011 DEER SEASON

Outside of the CWD zones and Metro Units, there are two types of season structures in 2011: regular (R) and herd control (HC) (Figure 5). Season dates are the same for these two structures:

- Bow – Sept. 17 - Nov. 17 and Nov. 19 - Jan. 8 (R, HC)
- Youth Deer Hunt – Oct. 8-9 (R, HC)
- Gun - Nov. 19 – Nov. 27 (R, HC)
- Muzzleloader – Nov. 28 - Dec. 7 (R, HC)
- Antlerless-only Hunt – Dec. 8 - Dec. 11 (R, HC)

Regular units have deer populations below, at, or near goal. Harvest limits in most (36) Regular units are 1 antlered buck (>3" antler) with a gun license and 1 buck plus 1 antlerless deer with an archery license. A limited number of unit-specific antlerless deer tags are available in most Regular units, which allow a hunter to harvest additional antlerless deer. Unit-specific antlerless tags will be sold for \$12 on a first come, first serve basis beginning at noon on Saturday, August 20th. Unused gun buck and antlerless deer tags are valid during the Muzzleloader season. Only antlerless deer may be harvested during the December gun hunt.

Some Regular units (8) have been designated as bucks-only for 2011. In these units both bow and gun hunters will be restricted to hunting only antlered bucks.

Additional harvest of antlerless deer is necessary in Herd Control units to reduce the deer population and move it toward goal. In addition to the harvest limits for Regular Units, one free antlerless deer tag that is valid in Herd Control units is issued with each gun and archery license. Additionally, an unlimited number of Herd Control Antlerless Deer Carcass Tags can be purchased for \$2.00 for use during any open season in Herd Control units. Sixty-four units are designated as Herd Control units in 2011.

CHRONIC WASTING DISEASE MANAGEMENT

Deer population reduction strategies for 2010 within the CWD Management Zone utilized extended hunting seasons with liberal bag limits. Deer hunting seasons within the management zone included an archery season during September 18-January 9; gun seasons during October 9-10 (youth only), October 14-17, November 20-28, December 9-12, and December 24-January 9; and a muzzleloader season November 29-December 8. Unlimited earn-a-buck regulations were used for all season segments except for the October 14-17 and December 9-12 gun hunts which were antlerless only. Free landowner permits were issued in 2010 to authorize additional harvest after the close of the deer seasons. More than 58,400 deer (72% antlerless) were removed from the CWD management zone in 2010-11. Agency sharp-shooting activities were not conducted in winter 2010-11.

Disease surveillance activities in 2010 were focused in and around 2 monitoring areas associated with the eastern and western disease clusters, north of the eastern cluster, and north and west of the western cluster. Additional samples were collected opportunistically throughout the rest of the CWD Management Zone. Sampling in areas of higher risk in proximity to infected cervid farms continued. Samples were also collected around a cervid farm in northwestern Wisconsin where a suspect positive was identified shortly before the November gun season. Subsequent testing determined that the captive deer was not positive for CWD. Approximately 7,040 deer from the CWD Management Zone were tested

in 2010-11, 219 tested positive. To date, more than 166,000 deer have been tested with a total of 1,572 free-ranging deer testing positive for CWD (Figure 6).

There has been an overall increasing trend in prevalence in all sex and age classes in the western Wisconsin core monitoring area (Figure 7). Since 2002, prevalence in adult males has risen from about 8 percent to over 16 percent and in adult females from about 3 percent to approximately 7 percent. During that same time, the prevalence trend in yearling males has increased from about 2 percent to about 6 percent and in yearling females from less than 2 percent to about 4 percent. Prevalence increases are also evident in the eastern monitoring area where prevalence in adult males has increased from 2% to 6% and in adult females from 1% to 4% during 2003-2010.

A comprehensive CWD management plan was approved by the Natural Resources Board in September 2010. The goal of the plan is to minimize the area of Wisconsin where CWD occurs and the number of infected deer in the state. Key objectives of the plan were to 1) prevent new introductions of CWD, 2) respond to new disease foci, 3) control the distribution and intensity of CWD, 4) increase public recognition and understanding of CWD risks, 5) address the needs of our customers, and 6) enhance the scientific information about CWD.

More than 27,600 farm-raised deer have been tested to date in Wisconsin; 97 were positive for CWD on eight farms and hunting preserves -- 82 on a single farm in Portage County. The Portage County farm was depopulated in 2006 by USDA and the owner was required to maintain the fences for 5 years. The premise plan expired in May 2011. Due to concerns that contaminated soils still pose an unacceptable risk to wild deer, the Department agreed to purchase the 80-acre property for \$465,000. Purchasing the property was the best way to insure that the deer-proof fences around it are maintained.

Recognizing that reliance on recreational hunters to play a significant role in controlling CWD will require increased public support for the management program, the Department has contracted with a professional public relations/marketing firm to develop a comprehensive CWD communications and outreach plan for Wisconsin. The goals of the plan are to help increase public recognition and understanding of the risks associated with CWD and to promote acceptance of Wisconsin's CWD Response Plan. The campaign is focused on moving hunters and landowners to take an active role in preserving a healthy whitetail deer herd. The outreach plan is designed to compel stakeholders to take action by dispelling old or false information about CWD. The desired action is to increase harvest and build support for harvest of additional deer. To motivate hunters and landowners to take action they must first understand the disease. The outreach plan targets several specific audiences in the CWD Management Zone. Each of the target audiences has preferences for where and how they like to receive their news and information. In addition, due to the overall size of the geographic region, an effective plan requires using a mix of mediums (e.g., print, television, outdoor, web). A communications plan, campaign theme (Hunt. Harvest. Help and KnowCWD.com), creative approach (design of website, brochures, TV ads) and media approach were developed based on extensive research into the attitudes and opinions of hunters and landowners (conducted in 2010). The outreach efforts of the plan target stakeholders primarily in the CWD management zone. The first implementation of the plan will be from mid-August to early December 2011 to coincide with the 2011 hunting season.

DEER HUNTER OBSERVATION SURVEYS

Beginning in 2009, Wisconsin deer hunters were asked to voluntarily report their observations of deer and other wildlife seen while deer hunting via an online survey form. In 2010, nearly 2,100 hunters submitted reports for approximately 9,500 hunting trips. They reported seeing 0.27 deer/hour. This compares to an average of 0.19 deer/hr during nearly 20,000 trips in 2009.

Deer hunters' observations were also collected via deer registration stubs. Successful deer hunters who registered a deer were asked how many deer they saw on the day they harvested the deer, how many hours they hunted, and their rating of the weather conditions that day. Deer sightings on

opening day by successful hunters averaged 0.84 deer seen/hour in 2010 compared to 0.60 deer/hour in 2009. Opening day deer sightings tended to be higher in farmland regions than in forest regions. Deer hunter's ratings of weather conditions on opening day of the gun season generally were higher in 2010 than in 2009.

During summer 2010, the Department initiated Operation Deer Watch (ODW) and invited citizens to participate in monitoring statewide deer recruitment by reporting all deer they saw during August and September via a web-based interface. The goal of ODW is to increase citizen involvement in Wisconsin's deer management program while adding more deer observations to the Department's existing summer deer observation database. ODW participants were provided with on-line survey instructions identical to those provided to Department staff. Operation Deer Watch generated more than 4,100 reported observations of a total of 9,662 deer by 1,378 individuals during August and September. The estimated statewide fawn:doe ratio in ODW data was 0.89 compared to 0.96 in the Department's summer deer observation survey.

WILDLIFE DAMAGE ABATEMENT AND CLAIMS PROGRAM

Wisconsin has had a wildlife damage program since 1931. The current Wildlife Damage Abatement and Claims Program (WDACP) was created in 1983 by the legislature, in response to concerns from the agricultural community and with input from farmers, hunters, landowners, and wildlife damage specialists. Each county administers the WDACP to provide local control and minimize costs. The DNR only manages the program. The WDACP emphasizes wildlife damage prevention, but also offers partial compensation for damage caused by wild deer, bears, turkeys, and geese. Currently 70 of the 72 counties in Wisconsin participate in the WDACP. The WDACP is funded by a \$2 surcharge on all hunting licenses, and a \$12 resident and \$20 nonresident bonus deer permit fee. Bonus permit revenues can only be spent for WDACP expenses (administration, damage prevention, and damage compensation).

During 2010, 375 wildlife damage claims were submitted to WDACP, reflecting \$1,577,617 in appraised losses, with \$1,079,230 eligible for payment. The number of claims submitted in 2010 was 24% lower and the assessed damage was 19% lower than in 2008. Wildlife damage claims were filed in 53 of the 70 counties enrolled in the program in 2010. Deer damage represented 76% of appraised losses statewide. Statewide, the primary crop damaged by deer was corn (appraised loss \$663,320), followed by soybeans (appraised loss \$218,953) and forage (appraised loss \$125,775). The most commonly used abatement measure was deer damage shooting permits. In 2010, we issued 500 Agricultural Damage Deer shooting Permits under which 2,854 deer were removed. In addition, 64 Nuisance Deer Shooting Permits were issued for urban, airport, and nuisance situations, resulting in the removal of 637 deer.

In 2010, WDACP paid 75% of the cost for construction of 6 permanent fences, protecting 313 acres, on farms with a history of deer damage to high value crops (e.g., cranberries, strawberries, orchards, and tree nurseries). Landowners enter into a 15 year agreement to maintain the fences. Estimated savings from deer damage over the 15 year period was approximately \$623,800.

Since 2000, the WDACP has been authorized to pay for processing venison donated to food pantries. In 2010, 132 meat processors in 59 counties chose to participate in the donation program. In those counties, hunters donated 3,606 deer amounting to approximately 162,300 pounds of venison. The cost of the venison donation program in 2010 was approximately \$209,000, 91% for venison processing and 9% for advertising and administration.

DEER HUNTER DEMOGRAPHICS

Research by the Applied Population Laboratory at University of Wisconsin-Madison has analyzed deer gun hunter license sales data from 2000 to 2009 in relation to human population data. The number of gun deer hunting licenses sold to Wisconsin residents declined 6.5% in 10 years. The number of female hunters has increased, but the number of female hunters remains too small to make up for the

decline in male hunters (91% of gun licenses sold in 2010 were to males). Hunting participation was affected by time period, age, and generation. Participation dropped markedly between 2001 and 2002 with the discovery of CWD. Participation continued to drop between 2004 and 2009 across all ages and generations, except those over age 65 who are hunting at higher rates than they have previously. Males born during the Baby Boom (1946-65) have been more likely to hunt than younger cohorts, regardless of age. Declines in hunter numbers have been due to both lower rates of recruitment into hunting of young men born since 1980 and relatively low rates of retention from year to year of hunters age 30-55 during the last decade. Projections using an age-time period-cohort model suggest that the number of resident male gun hunters will drop from 549,500 in 2010 to 480,000 in 2020 and 400,000 by 2030. Geographic analyses show that most hunters live in urban areas; however, hunter participation rates are highest in rural counties, especially in northern Wisconsin. Declines in participation have been greatest in counties where urban areas have been expanding into rural counties and in areas that are experiencing retirement migration and lakeshore development.

DEER RESEARCH UPDATE

A fawn recruitment study began in winter 2010-11 in 2 study areas in northern and east-central Wisconsin. In the northern study area 126 does were captured, 40 were radio-collared and fitted with vaginal implant transmitters (VIT). In the east-central study area, 80 does were captured and 46 were radio-collared and fit with VITs. Thirty-six neonatal fawns were captured in northern Wisconsin, 30 were equipped with expandable radiocollars. In east-central Wisconsin, 68 fawns were captured and 48 are radio-collared. By the end of July, 18 fawns had died on the northern study area and 13 mortalities were documented in the east-central study area. Causes of mortality on the northern study area included 5 black bear, 4 unknown predation, 2 bobcat, 2 unknown canid, 2 starvation, 2 unknown, and 1 coyote. In the east central area mortality causes were 6 starvation, 3 coyote, 2 vehicle collisions, 1 black bear, and 1 unknown. Eight-week post-capture fawn survival was 40% on the northern study area and 73% on the east-central area.

A buck survival study also began in winter 2010-11 on the same 2 study areas. On the northern study area 78 males (50 fawns, 18 yearlings, and 10 adults) were captured with 70 fitted with radiocollars and 8 ear tagged. On the east-central area 55 males (33 fawns, 15 yearlings, 7 adults) were captured. Forty-eight bucks were radiocollared and 7 were ear tagged. As of the end of July, 48 of 70 radiocollared bucks on the northern area are alive and within the study area. Nineteen mortalities have been documented (5 capture-related, 4 wolf predation, 2 bobcat, 2 winter starvation, 2 poaching, 1 coyote, 1 roadkill, 1 unknown canid predation, and 1 unknown predation). On the eastern study area, 43 of 50 radiocollared bucks were still alive by the end of July, 6 mortalities have been documented. Causes of mortality include 3 roadkills, 2 capture-related, and 1 winter starvation. Eleven of 31 yearling bucks on the northern study area have exhibited dispersal movements (\bar{x} distance = 7.7 km, range 2.4-19 km). On the eastern study area, 6 of 27 yearling bucks have dispersed (\bar{x} = 12.1 km, range = 1.6-32.2 km).

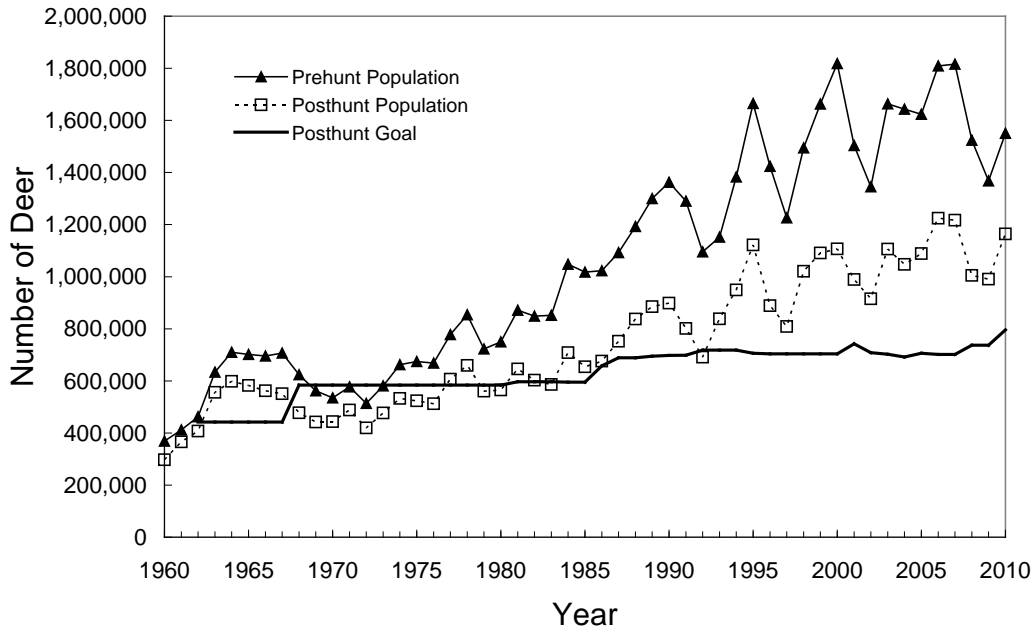


Figure 1. White-tailed deer population estimates in Wisconsin, 1960-2010.

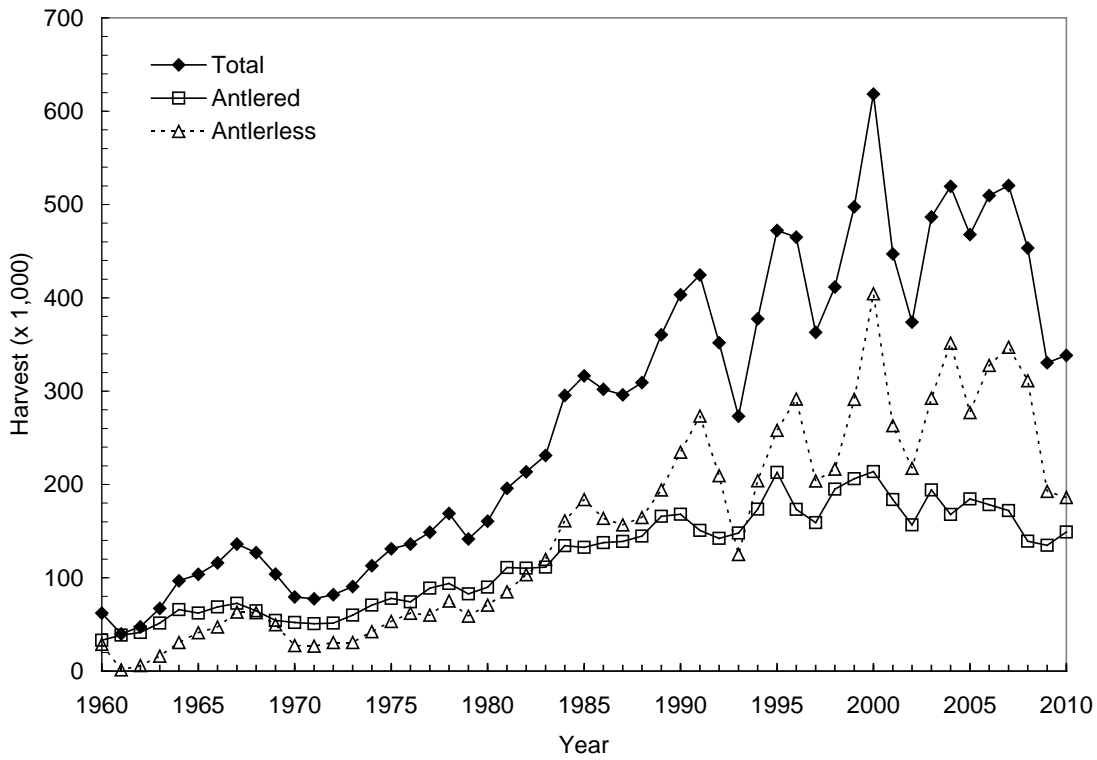


Figure 2. Number of antlered, antlerless, and total deer harvested during gun and archery seasons in Wisconsin, 1960-2010.

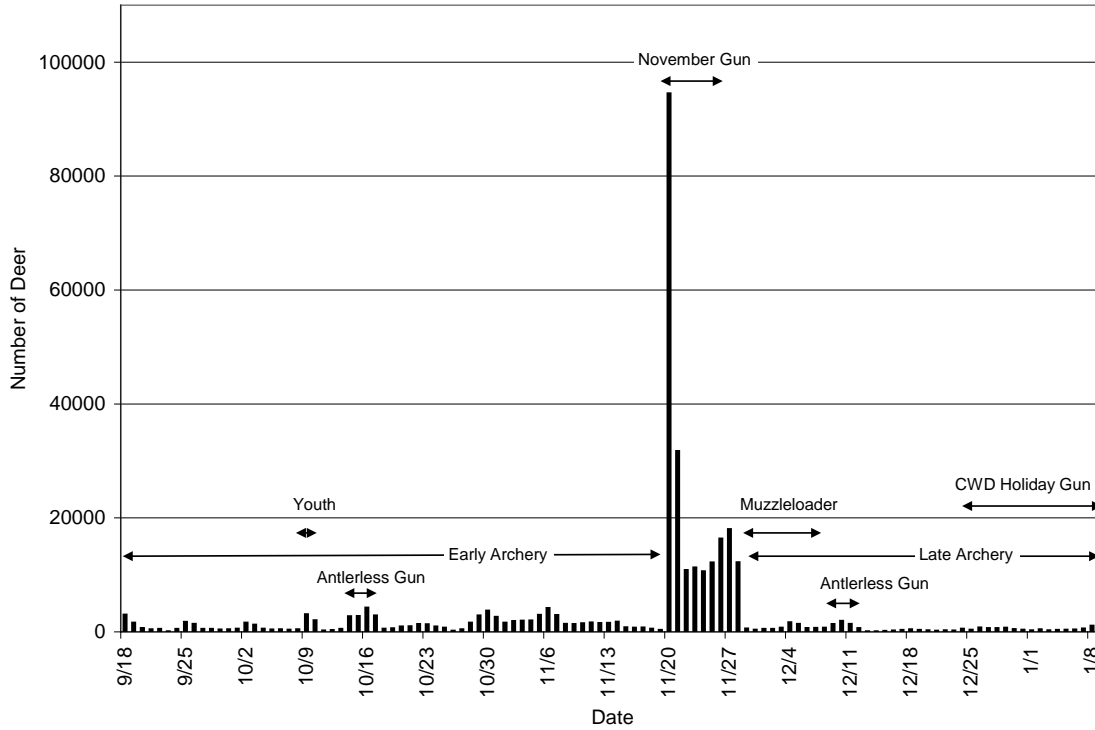


Figure 3. Number of deer killed by day of the 2010 deer season.

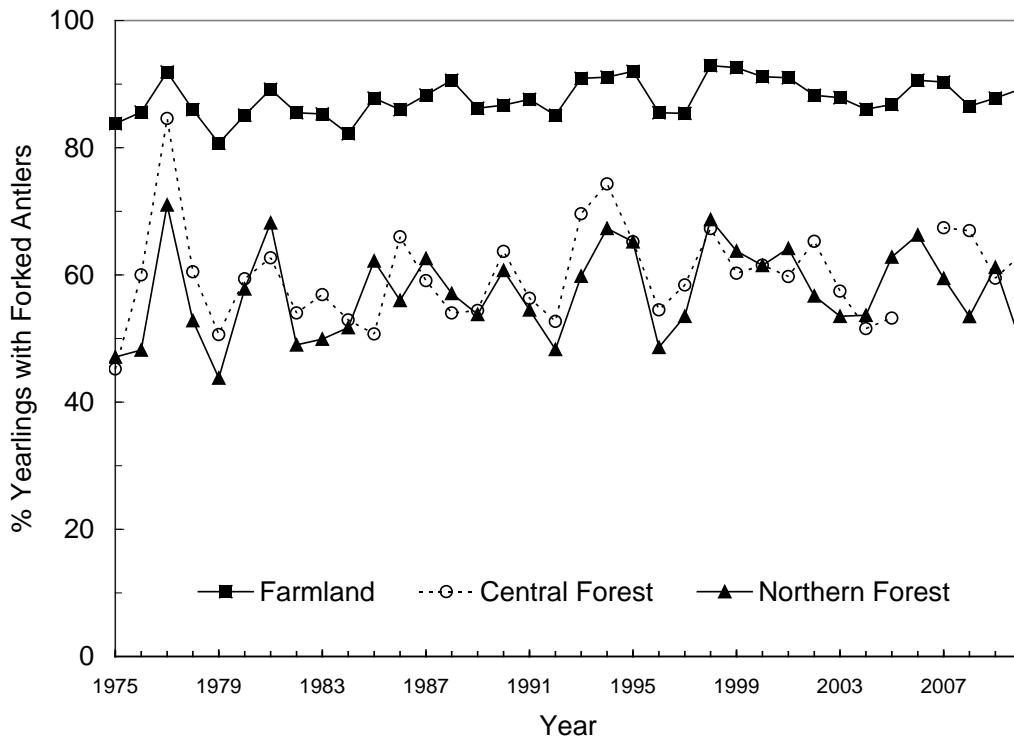
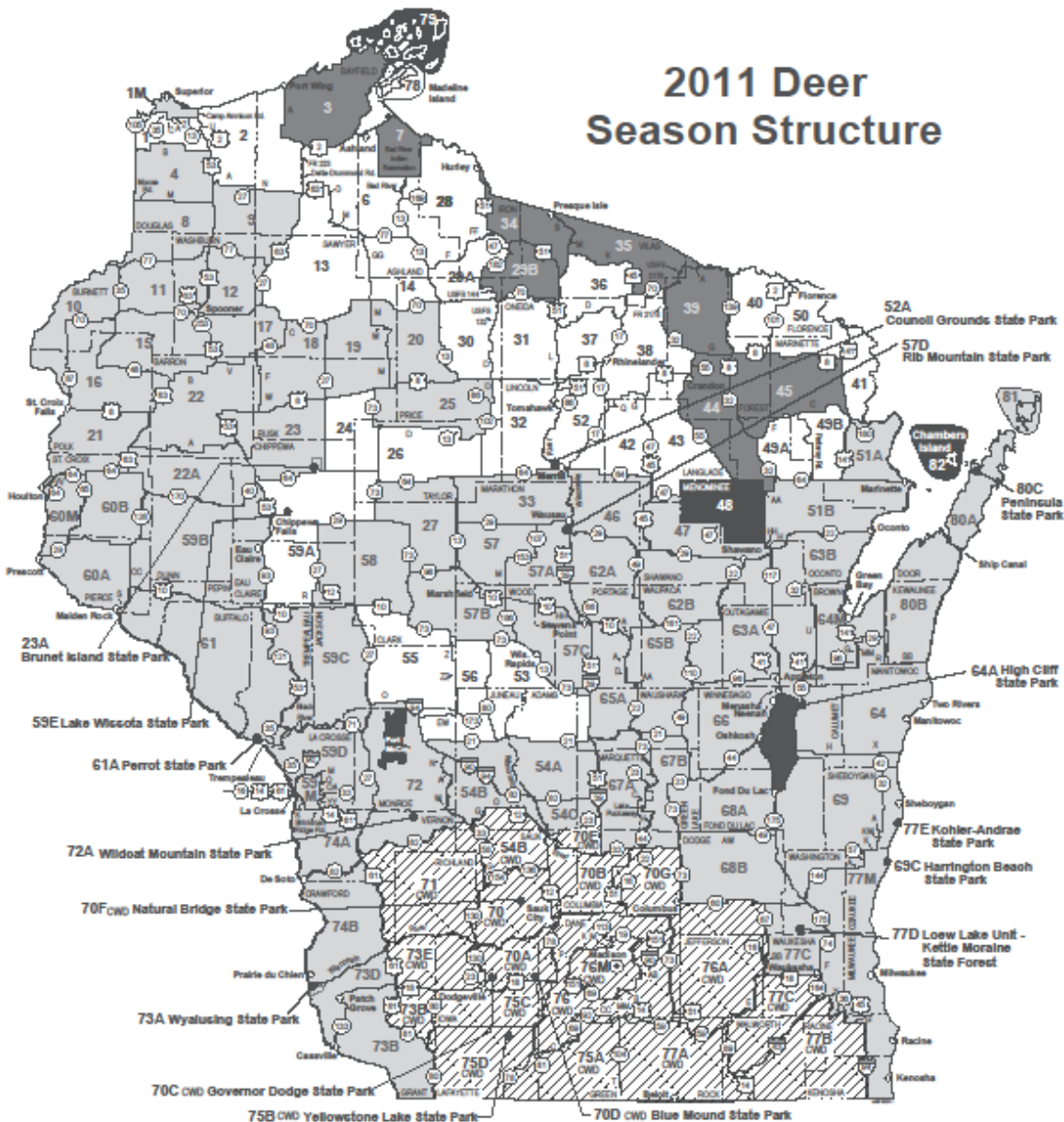


Figure 4. Yearling antler development in the principle deer habitat regions, 1976-2010.

2011 Deer Season Structure



- Regular Unit** - Bucks and limited bonus antlerless permits available
- Herd Control Unit** - Bucks and unlimited \$2 antlerless permits
- Regular Unit - Buck Only** - No bonus antlerless permits available
- Non - Quota Area** - No permits available
- CWD Unit** - 1 archery buck, 1 gun buck, unlimited additional bucks under EAB rules, and unlimited antlerless deer
 - Oct. 13-16* - Antlerless only hunt** in CWD units only
 - * These dates could change pending the results of Legislative Action
 - Dec. 8-11 Antlerless only hunt** in all units statewide, except non-quota areas
 - ** Antlerless only restrictions apply to both gun and archery hunters

Figure 5. Deer season frameworks in Wisconsin, 2011.

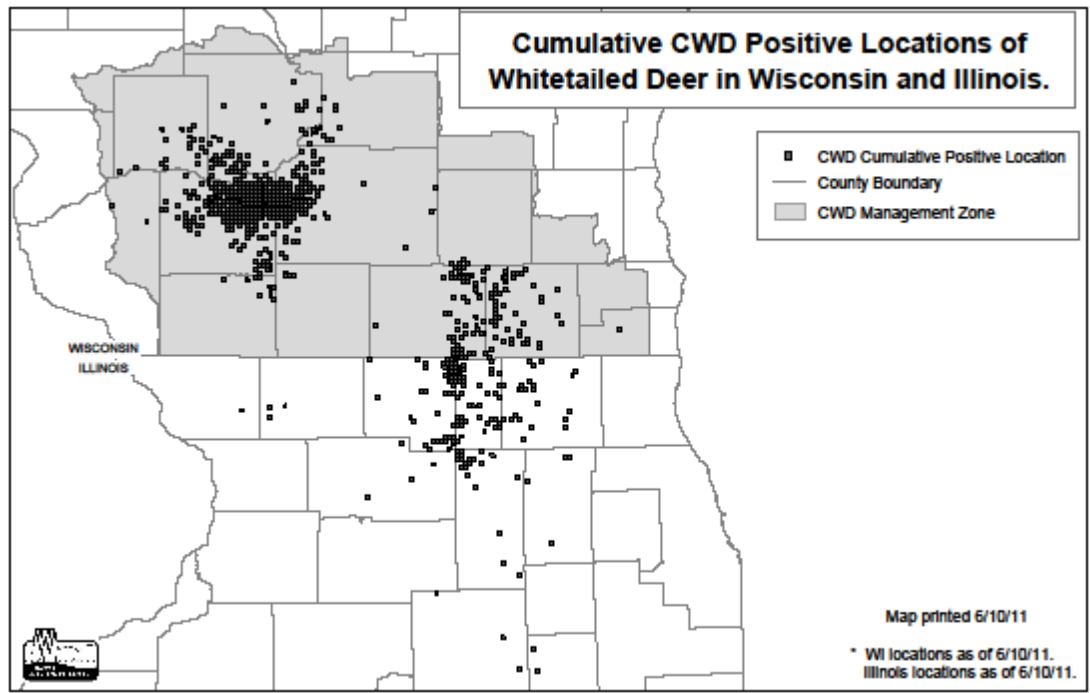


Figure 6. *Distribution of CWD positive deer in southern Wisconsin and northern Illinois, 2002-2010.*

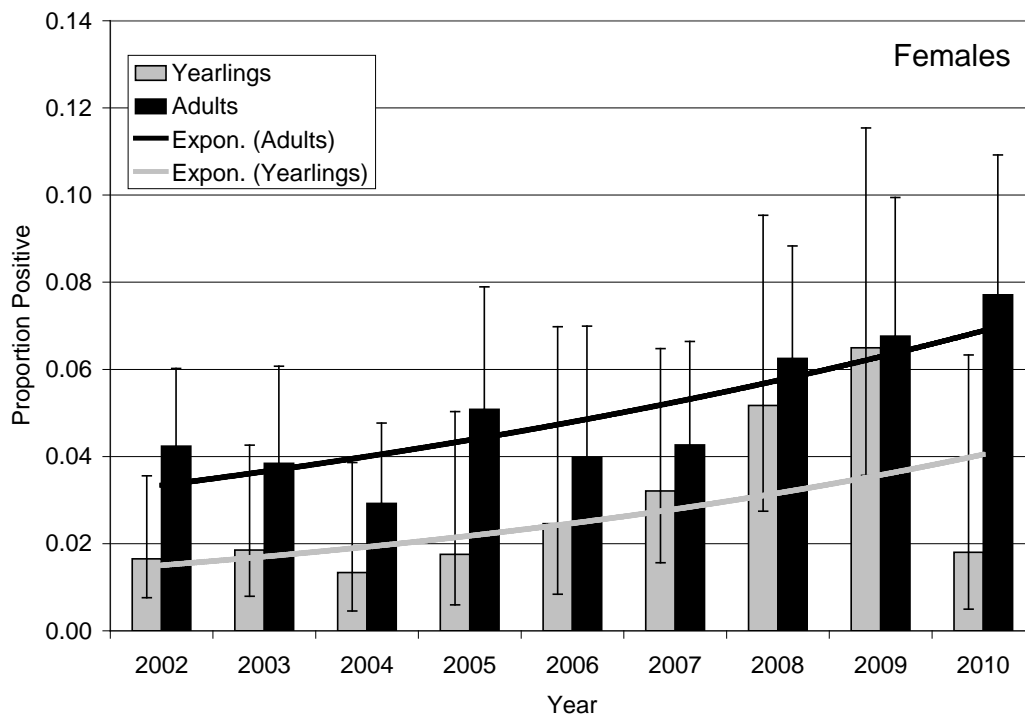
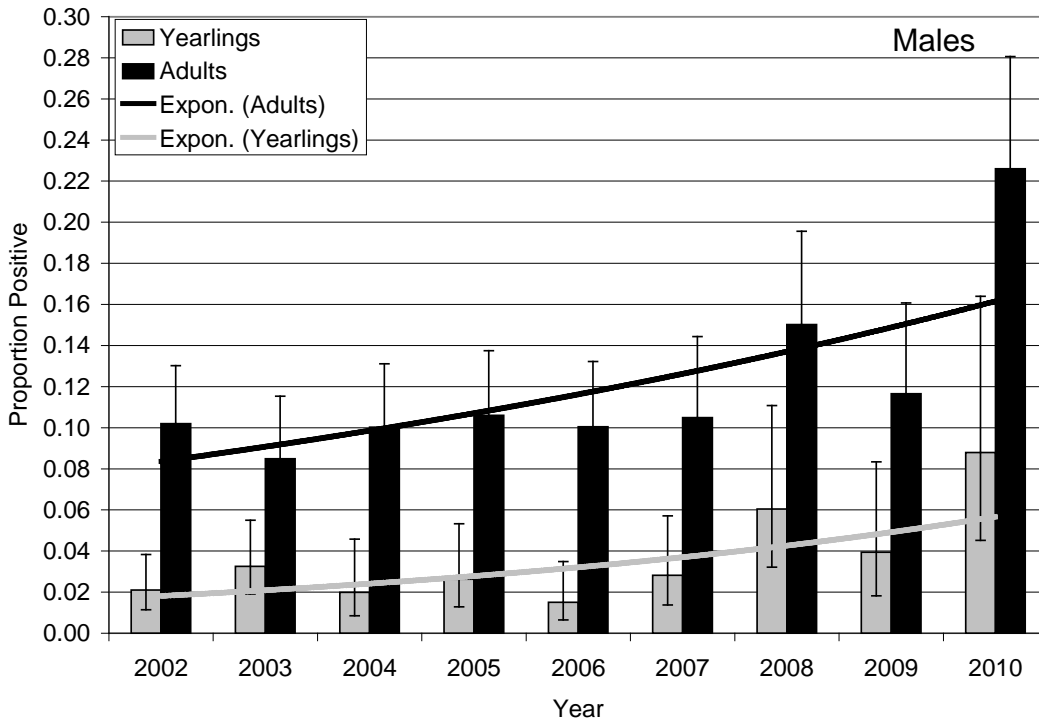


Figure 7. CWD prevalence (\pm 95% confidence intervals) in yearling and adult male and female hunter harvested white-tailed deer from the western core monitoring area, 2002-2010.

Agency

Turkey

Reports

ILLINOIS TURKEY REPORT - 2011

Only minor changes were made to any of the quotas for 2011. Youth harvest remained almost unchanged, but overall Spring Turkey harvest declined 9.1% compared to 2010.

We continue efforts to improve on brood survey information. Last year, we added mailings to all county Soil and Water Conservation Districts, and in 2011 we have asked NWTF chapter around the state to assist as well. This should increase the number of cooperators receiving Brood Survey to almost 3,000. We also provided a separate color-coded card for each month during the survey period of June-August, and included a more detailed instruction sheet for the surveys, including an illustrated example card. We are also working to improve and standardize our brood survey and hunter observation reports (see attached).

Six additional counties were added to the fall firearm season this year. Participation in fall firearm turkey hunting has showed significant decline since 2006. The six new counties, chosen on the basis of available habitat and turkey sighting reports from our deer hunters, are Hamilton, Franklin, Menard, Clay, White, and Washington.

Preliminary brood surveys for this year (2011) have not been completed at this time, however a very preliminary analysis of the June brood survey cards returned indicated a poult/hen ratio of 1.42. While all data has not been tabulated, July and August surveys are indicating improved numbers of late broods with improved hen/poult ratios. A preliminary analysis of the August survey indicated a poult/hen ratio of 2.39, with 15.7% of the August poults reported as being $\frac{1}{4}$ grown, 43.9% reported as $\frac{1}{2}$ grown, and 40.2% being reported as $\frac{3}{4}$ grown or more.

ILLINOIS -- Wild Turkey Broods and Hen Observations, 1999 - 2010

BROODS

Year	# Hens With/Without	# Poults	Poult/Hen Index
1999	1,551	4,643	2.99
2000	1,598	5,547	3.47
2001	1,653	5,923	3.58
2002	984	3,035	3.08
2003	1,276	2,886	2.26
2004	1,590	4,219	2.65
2005	1,389	3,251	2.34
2006	1,746	4,834	2.77
2007	2,631	6,051	2.30
2008	2,109	4,387	2.08
2009	2,789	5,798	2.08
11yr Mean	1,756	4,598	2.61
2010	2,129	4,975	2.34

Yearly Turkey Harvest 1995 - 2011

Year	Youth	Spring	Fall Gun	Archery	Total
1995	--	6,918	885	163	7,966
1996	--	7,262	862	165	8,289
1997	--	7,134	976	277	8,387
1998	--	9,125	1,203	299	10,627
1999	--	10,061	1,460	470	11,991
2000	--	11,494	1,715	542	13,751
2001	75	12,840	1,427	537	14,879
2002	198	14,106	1,495	545	16,344
2003	346	14,631	1,368	555	16,900
2004	498	15,066	1,485	680	17,729
2005	450	14,962	1,120	692	17,224
2006	512	15,628	1,197	717	18,054
2007	570	14,197	1,161	754	16,682
2008	635	15,159	878	731	17,403
2009	617	14,870	760	821	17,685
2010	729	15,836	719	704	17,988
2011	733	14,388			

2010 Fall Archery and 2010 Spring Turkey Seasons were open in 96 of 102 Illinois Counties

2011 Fall Gun Turkey Season was open in 51 of 102 Illinois Counties

2011 Spring Turkey Permits issued: 75,141

INDIANA WILD TURKEY STATUS REPORT

35th Annual Midwest Deer and Turkey Group Meeting
25-28 September, 2011
Ralph A. MacMullan Conference Center
Higgins Lake, Michigan

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Forest Wildlife Hdqts., 562 DNR Rd., Mitchell, IN 47446
TX: 812-849-4586 (ext 222); Fax 849-6013; Email: sbacks@dnr.IN.gov

Note: Complete results of turkey population and harvest surveys found at: <http://www.in.gov/dnr/fishwild/3352.htm>

WILD TURKEY PRODUCTION AND POPULATION SURVEYS

Summer Brood Survey

District wildlife biologists and conservation officers' record observations of wild turkey hens and poults during normal duty hours in July and August. The wild turkey summer brood Production Index (PI) is the total poults/total adult hens (poults:hen ratio) compiled from July and August into one combined index. The 2010 statewide mean of 2.1 poults:hen (PI) observed was lower than the 2.5 PI of the 5 prior summers (2005 -2009) and was the lowest production index since the survey began in 1993. The proportion of hens observed with poults was 71%, also lower than the previous 5 years. The 2010 production was the 6th consecutive year below the long term average trend and the record high production in 2004 (**Figure 1**). The general decreasing trend (1993-2010) in the annual summer production of wild turkeys is indicative of a population whose growth rate has leveled off to "maintenance" or stable population level.

Preliminary data compilations indicate that 2011 wasn't a very good year either with many barren hens reported. Above normal precipitation during 6 of the last 7 Junes has also likely influenced the downward trend.

Roadside Gobbling Counts

Roadside gobbler trend routes (10 routes; 14 counties; 15 stops/route) are conducted annually (late March to April) in conjunction with roadside trend routes for ruffed grouse. The mean number of wild turkeys heard along 10 roadside counts during March 28 through 22 April 2011 was 0.74 gobblers heard per stop, a 4% increase compared to the gobbling index of 0.71 in 2010. The long-term trend, based on a 5-yr moving average, shows a general increase from 1987-2006, followed by a general decrease since the 2006 peak (**Figure 2**). The 4% increase was not significantly different ($P > 0.05$) from the previous 5-yr mean of 0.90 gobblers heard per stop.

WILD TURKEY HARVESTS

2010 Fall Season Results

Archery hunting was expanded statewide in 2010 with 7 days added to the early archery portion. An additional ~30 days was added with a second archery portion that coincides with the late deer archery season (approximately 60 days/yr). The fall turkey firearm (shotguns only) hunting range was expanded in the south with 7 more days (12 days; includes 2 weekends). The turkey firearm range now also includes 7 counties in the north with a 5-day season (1 weekend). Nine more counties in the south were added to the 34 already open to fall firearms; total to 50 counties open to firearms hunting (7 north; 43 south). The fall turkey bag limit remains at 1 bird either sex per hunter for the entire fall season irrespective of weapon used or portion of the fall season hunted (open permits/over-the-counter).

Hunters harvested 751 wild turkeys during the 6th fall turkey hunting season (**Figure 3**). The 2010 fall harvest was 3% less than the record 773 birds taken during the 2009 fall turkey season. The 61 days of archery-only portions of the season accounted for 27% of the harvest with 73% during the 5-12 days of the combined shotgun and archery seasons.

Shotgun hunters accounted for 60% of the harvest. Weekends accounted for 40% of the total harvest with 28% during the 1-2 weekends of the combined archery and shotgun portions. Juvenile birds made up 22% of the harvest with a juvenile to adult ratio of 1:3.6. The high adult proportion (78%) was probably related to a combination below average brood production in 2010, hunter selection for larger adult birds, and age determination errors. The proportion of the fall to spring harvest by county ranged from 0% to 12% and the statewide fall to spring harvest proportion was 6% due to the conservative season structure and relatively low hunter interest. Despite increases in days of opportunity and fall hunting range, participation dropped in 2010 (**Table 1**). Factors related to the severe summer-fall drought and below normal brood production likely influenced the fall 2010 turkey harvest.

2011 Spring Season Results

Hunters harvested 11,669 wild turkeys in 88 of the 92 counties during the 42nd spring turkey season in 2011. The 2011 harvest was 15% less than the record 2010 harvest of 13,742. Estimated hunter success was around 21%. Inclement weather and subsequent flooding, were the primary reasons for the decline in the 2011 harvest and hunter success. The majority of the birds were harvested in the early part of the season and the early morning hours. A total of 971 birds (8% of total harvest) was taken during the youth-only weekend prior to the regular season. The proportion of juvenile turkeys in the harvest was 21% with 48% 2-yr-olds, and 31% ≥ 3 yr-olds. The south-central and southeastern regions supported 49% of the harvest followed by northern Indiana at 22% (**Figure 4**). The general growth in the spring harvests began to level off over the last decade and only recently, has hunter growth appeared to have level off (**Figure 5**). Indiana has an open, over the counter permit system with a 1 bird/hunter/spring season irrespective of equipment used.

Crop or Nuisance Issues

Crop depredation complaints in row crops continue to diminish each year to almost nothing some years. Nuisance complaints are still increasing. Most nuisance complaints involve “backyard” situations, wildlife feeding, cars/residences, and sometimes linked to birds of questionable origin (imprinted wild or pen-reared). The primary root cause appears to related to “progressive generational acclimation” (PGA) resulting from the increasing practice of winter feeding for songbirds/deer using mechanical automatic feeders aka “disease inoculation centers” (DIC’s)

Other Chronic or Evolving Issues

Hunter complaints about wanting the spring turkey season dates set earlier is persistent and increasingly distracting to accomplishing other project tasks. The issue of spring season dates was more contentious in 2011. The normal calendar shift from the earliest date (4/21) in 2010 to the latest date of our standardized spring season framework (4/27) occurred in 2011, just it did in 2004 to 2005, and in previous years (See summary of Indiana Spring Turkey Seasons; **Table 2**). Earlier starting dates in nearby states, prevailing climatic and phonological conditions in March/April, and gobbler displaying along roadways are contributing factors to this debate. Understanding the breeding chronology of wild turkeys is often lacking.

The constant barrage of “gobbling gobblers galore” fantasies from cable hunting shows and videos have created unrealistic expectations among turkey hunters. Increased inquiries from hunters about “turkey pre-rut” dates, gobbler-to-hen ratios, and biggest turkey records are evolving symptoms of parallel ills haunting deer management. Coincidentally, interest in having a 2 bird bag in the spring has dropped off considerably with 6-7 years of poor production but this has now renewed hunter demands for re-starting the restoration program.

Disease Monitoring Test Case – Coronavirus outbreak in commercial poultry facility

A couple of weeks prior to the 2010 spring turkey season, we received communications from a veterinarian with a commercial poultry company in southern Indiana that had an outbreak of coronavirus resulting in the

depopulation of several of their facilities. Unfortunately, before the veterinarian had detected the disease, workers spread some uncomposted manure/bedding materials from the contaminated houses in a field frequently used by where wild turkeys. The poultry company immediately contacted us and expressed a concern that they might have inadvertently contaminated a wild flock and that this contamination might be a potential source of re-infection in the future. The company had a prior history of sponsoring youth wild turkey hunts on their properties and many of their employees are avid turkey hunters.

In cooperation with Purdue University’s Avian Disease Diagnostic Lab, the commercial facility, and USDA-APHIS Wildlife Services, a testing protocol to collect blood and organ samples from spring harvested turkeys was quickly developed. Control samples away from commercial poultry operations were collected at some selected mandatory check stations in northern Indiana. Most of the tissues sample collections over the special youth weekend. The poultry company covered the test costs. Costs of collecting sample tissues was minimal since we utilized existing check stations, sent/retrieved the collections materials by overnight mail. One of our concerns was the possible developing public perception that if our free-ranging wild flocks were now contaminated, then there would be calls for shooting wild turkeys around poultry facilities until we could “prove” our wild birds were not infected (e.g., TB infected deer). All birds harvested on the poultry company properties were to be sampled. The preliminary results, published in the Indiana Wildlife Disease Newsletter (Spring 2011; Vol. 6, pages 3-4), indicated only 1 out of 11 wild turkeys harvested in proximity to the infected poultry house testing positive for coronavirus and no positive detections made in the other 28 wild turkeys collected elsewhere in the state.

Probably the best thing that came out of this exercise, was demonstrating to the commercial poultry industry that we could mobilize a disease monitoring protocol relatively quickly, we were responsive, and we maintained control of the issue. Purdue University’s poultry disease lab is currently testing all the samples for several other avian pathogens of concern to the poultry industry (*Mycoplasma* spp., avian influenza, New Castle’s Disease, and *Salmonella pullorum*). These are the same pathogens we cooperatively tested with Purdue’s Diagnostic Disease Lab back in the mid-1980’s, when state wild turkey restoration programs across much of the US were heavily scrutinized by the USDA and the poultry industry. Throughout our restoration effort, no positive samples for the selected pathogens were detected in our source populations (In-State and Out-of-State), gaining us a “disease free” status.

Figure 1. Wild Turkey Production - Indiana

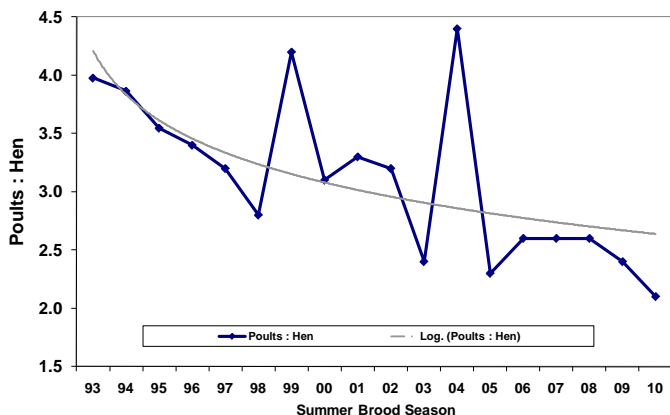


Figure 2. Roadside Gobbling Indices

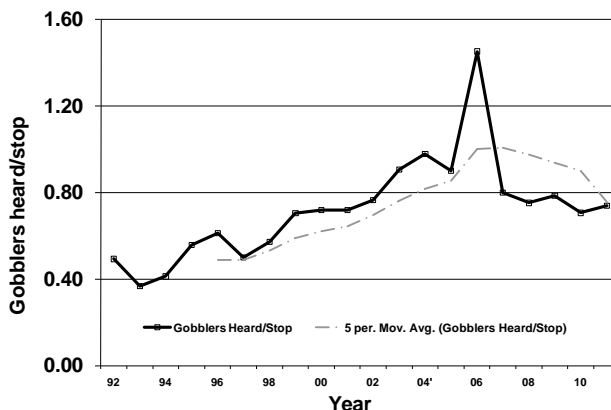


Figure 3. 2010 Fall Turkey Harvest

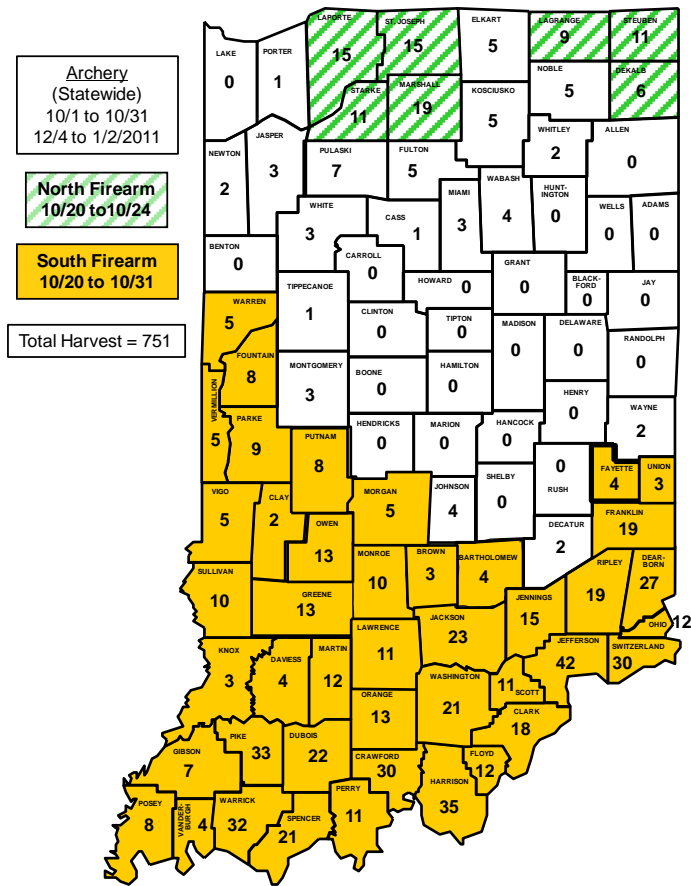


Figure 4. 2011 Spring wild turkey harvest and age structure by region

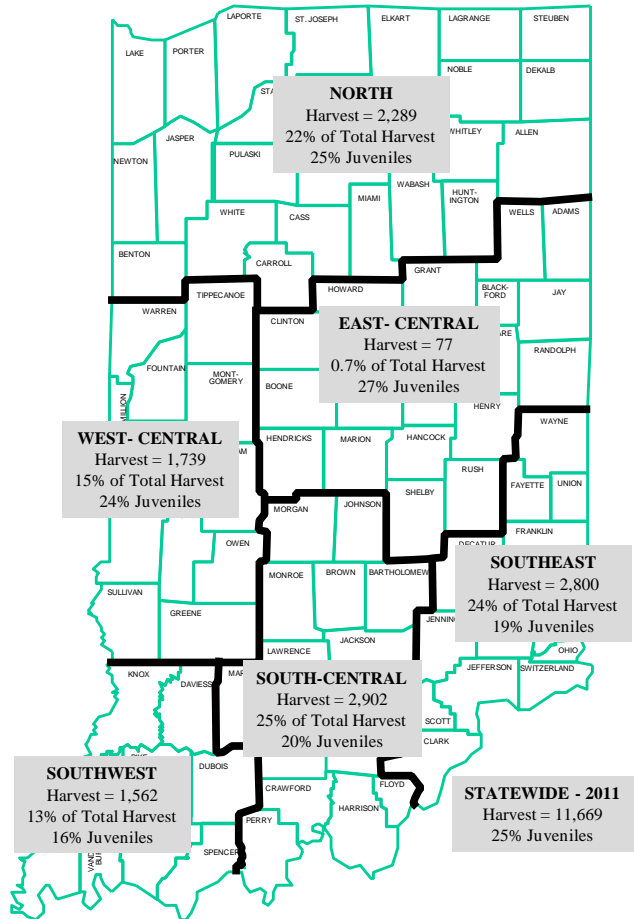


Table 1. Indiana Fall Wild Turkey Season Summary 2005 to 2010.

	YEAR					
	2005	2006	2007	2008	2009	2010
Annual Harvest	716	646	585	610	773	751
Statewide Fall/Spring Ratio in %	6%	5%	5%	5%	6%	6%
County F:S Ratios (range of values)*	0-15%	0-17%	0-18%	0-11%	0-17%	0-12%
No. Resident Fall Licenses Sold	2,225	1,682	1,557	1,689	2,054	2,591
Rough Estimate of Fall Turkey Hunters**	19,000	15,000	14,000	15,000	18,000	23,000

* High side of range related to counties with low spring harvests e.g., 1 fall/6 spring

** Estimate based on rough extrapolation of participation rates of approximately 40,000+ lifetimers, 25,000 to 30,000 youth hunters, 10-12 nonresidents, and an undetermined but license exempt landowners/active military.

Figure 5. Indiana Spring Turkey Seasons

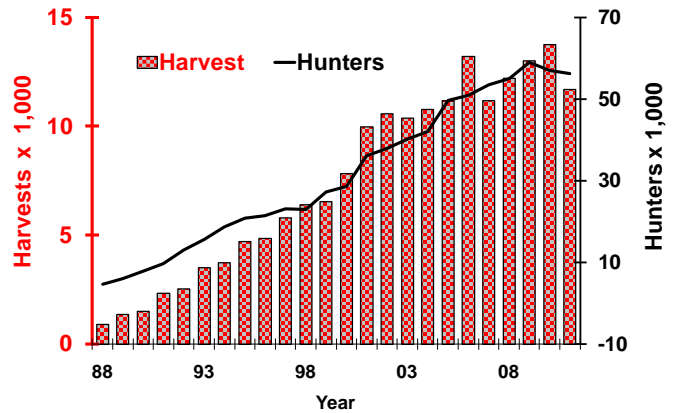


Table 2. Indiana's spring wild turkey hunting seasons, 1970 to 2011.

Year	Regular Season Dates	Season Length (Days)	No. of Counties	No. of Permits Sold*	Est. No. of Hunters**	Reported Harvest	Hunter Success
1970	5/2-5/5	4	3	75	62	6	9.7%
1971	5/1-5/5	5	9	298	224	11	4.9%
1972	4/26-4/30	5	9	585	422	12	2.8%
1973	4/25-4/29	5	11	625	503	27	5.4%
1974	4/24-4/28	5	11	665	496	26	5.2%
1975	4/29-5/5	7	11	722	501	15	3.0%
1976	4/29-5/5	7	13	666	500	32	6.4%
1977	4/28-5/5	8	16	668	520	46	8.8%
1978	4/26-5/7	12	18	852	619	33	5.3%
1979	4/25-5/6	12	19	932	860	48	5.6%
1980	4/23-5/4	12	17	706	670	54	8.1%
1981	4/22-5/3	12	18	922	814	90	11.1%
1982	4/21-5/2	12	18	1,125	696	73	10.5%
1983	4/20-5/1	12	18	1,218	984	93	9.5%
1984	4/25-5/6	12	18	1,320	1,205	104	8.6%
1985	4/24-5/5	12	25	1,882	1,302	255	19.6%
1986	4/23-5/4	12	25	2,523	1,648	293	17.8%
1987	4/22-5/6	15	33	3,348	2,619	741	28.3%
1988	4/27-5/11	15	33	10,894	4,677	905	19.4%
1989	4/26-5/10	15	39	11,442	6,068	1,359	22.4%
1990	4/25-5/9	15	39	14,379	7,860	1,505	19.1%
1991	4/24-5/8	15	43	16,387	9,643	2,318	24.0%
1992	4/22-5/6	15	43	18,735	13,110	2,531	19.3%
1993	4/28-5/16	19	48	21,078	15,673	3,500	22.3%
1994	4/27-5/15	19	48	23,357	18,622	3,741	20.1%
1995	4/26-5/14	19	52	28,858	20,861	4,706	22.6%
1996	4/24-5/12	19	52	28,733	21,442	4,859	22.6%
1997	4/23-5/11	19	74	32,703	23,085	5,790	25.1%
1998	4/22-5/10	19	74	32,889	22,876	6,384	27.9%
1999	4/21-5/9	19	74	38,730	27,285	6,548	24.0%
2000	4/26-5/14	19	74	40,801	28,615	7,822	27%
2001	4/25-5/13	19	74	43,815	36,103	9,975	28%
2002	4/24-5/12 [†]	19	90	44,333	37,919	10,575	28%
2003	4/23-5/11	19	90	48,857	40,110	10,366	26%
2004	4/21-5/9	19	90	50,839	41,996	10,765	26%
2005	4/27-5/15	19	88	50,839	49,684	11,159	22%
2006	4/26-5/14	19	88	67,290	50,880	13,193	26%
2007	4/25-5/13 ^{††}	19	91	69,861	53,402	11,163	21%
2008	4/23-5/11	19	91	71,052	55,022	12,204	22%
2009	4/22-5/10	19	92	75,161	59,000	12,993	22%
2010	4/21-5/9	19	92	73,089	56,891	13,742	24%
2011	4/27-5/15	19	92	72,323	56,220	11,669	21%
2012	4/25-5/13	19	92				

* Includes all allowable license types (e.g., lifetime, youth licenses sold by May, non-residnets, and apprentice).

** No. of hunters includes those permit holders who hunted ≥ 1 day and since 1986 has been adjusted for non-licensed landowners or military hunters

[†] "All-day" turkey hunting initiated; 1/2 hr prior to sunrise to sunset.

^{††} Beginning with the spring 2007 season, a special 2-day youth-only season is held the weekend prior to the regular season opening.

Bold italics = preliminary estimates based on projecting previous years' trends or means

IOWA WILD TURKEY STATUS REPORT
Midwest Deer and Turkey Study Group Meeting
Roscommon, MI, Sept 25-28, 2011

Todd E. Gosselink, Ph.D., Forest Wildlife Research Biologist

IA DNR Chariton Research Station, 24570 US HWY 34, Chariton, IA 50049

todd.gosselink@dnr.iowa.gov 641-774-2958

STATUS REPORT SUMMARY:

<i>Gun/bow combo licenses</i>	Licenses issued^a	Harvest totals^a	Hunter numbers^a (> 1 license/hunter)	Succes s rates (per lic.)	Season dates	License fees
Resident Fall 2010	6,536 (- 15%)	706 (-13%)	6,010 (- 16%)	10%	11 Oct - 3 Dec	Hunting fee: \$17.50
Youth Season (< 16) Spring 2011	2, 631 (- 1.5%)	666 (+9%)	One license/yout h	25%	8 Apr - 10 Apr	Habitat fee: \$11.50 Turkey lic. fee: \$23.00 Total fees: \$52.00
Resident - Spring 2011	40,393 (- 2.5%)	8,031 (- 12%)	31,959 (- 1.4%)	19%	11 Apr - 14 Apr	Hunting fee: \$82.00 Habitat fee: \$13.00 Turkey lic. fee: \$102.00 Total fees: \$197.00
Nonresident Spring 2011	1,859 (-7%) (81% available sold)	666 (-19%)	One license/ non-res. (- 7%)	36%	15 Apr - 19 Apr 20 Apr - 26 Apr 27 Apr - 15 May	
<i>Bow only Licenses</i>						
Resident Fall 2010	1,956 (+8%)	99 (-4%)	1,892 (+14%)	6%	1 Oct - 3 Dec 20 Dec - 10 Jan	Hunting fee: \$17.50 Habitat fee: \$11.50 Turkey lic. fee: \$23.00 Total fees: \$52.00
Resident - Spring 2011	6,053 (- 1.5%)	830 (-8.5%)	5,608 (-7%)	14%	11 Apr - 15 May	
<i>Totals</i>						
Fall 2010	8,492 (- 11%)	805 (-12%)	7,902 (- 10%)	9.5%		
Spring 2011	48,305 (- 2.5%)	9,527 (- 12.5%)	37,567 (- 9%)	19%		

^a parentheses indicates percent change from previous year

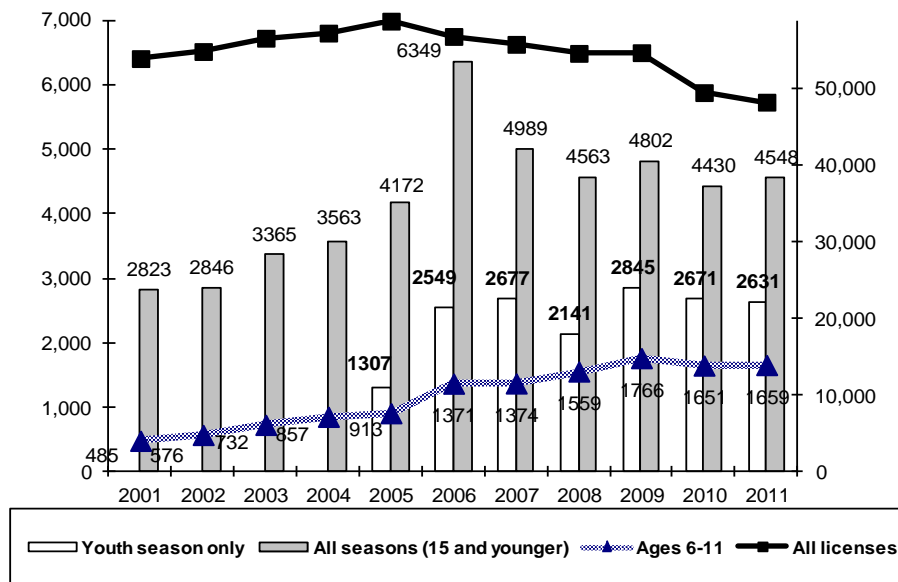


Figure 1. Iowa spring turkey license issue by age, 2001-2011.

YOUTH TURKEY HUNTING

Iowa’s 7th youth spring turkey season has held in April 8-10, 2011. During the 3 day season, youth 15 and younger were allowed to participate with an accompanied licensed adult (adult licensed for one of the regular seasons). In 2005, the first year of the youth season, ages were limited to ages 12-15. Starting in 2006, ages 15 and younger could participate in the youth season. A total of 2,631 youth purchased licenses for the season (Fig. 1). Youth season license sales decreased slightly (40 fewer licenses sold) in 2011.

Since the inception of ELSI (Electronic Licensing System of Iowa) in 2001, hunter age and gender has been recorded (Fig. 1). From 2001-2006, youth spring turkey hunters (age 15 and under) increased each year. After the first youth season in 2006, youth licenses have varied slightly, but overall have remained similar. The total number of licenses sold has decreased each year since 2005 with a slight increase in 2009, and a decrease in 2010 and 2011 (Fig. 1).

BOWHUNTER SURVEY

Wild Turkey Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources

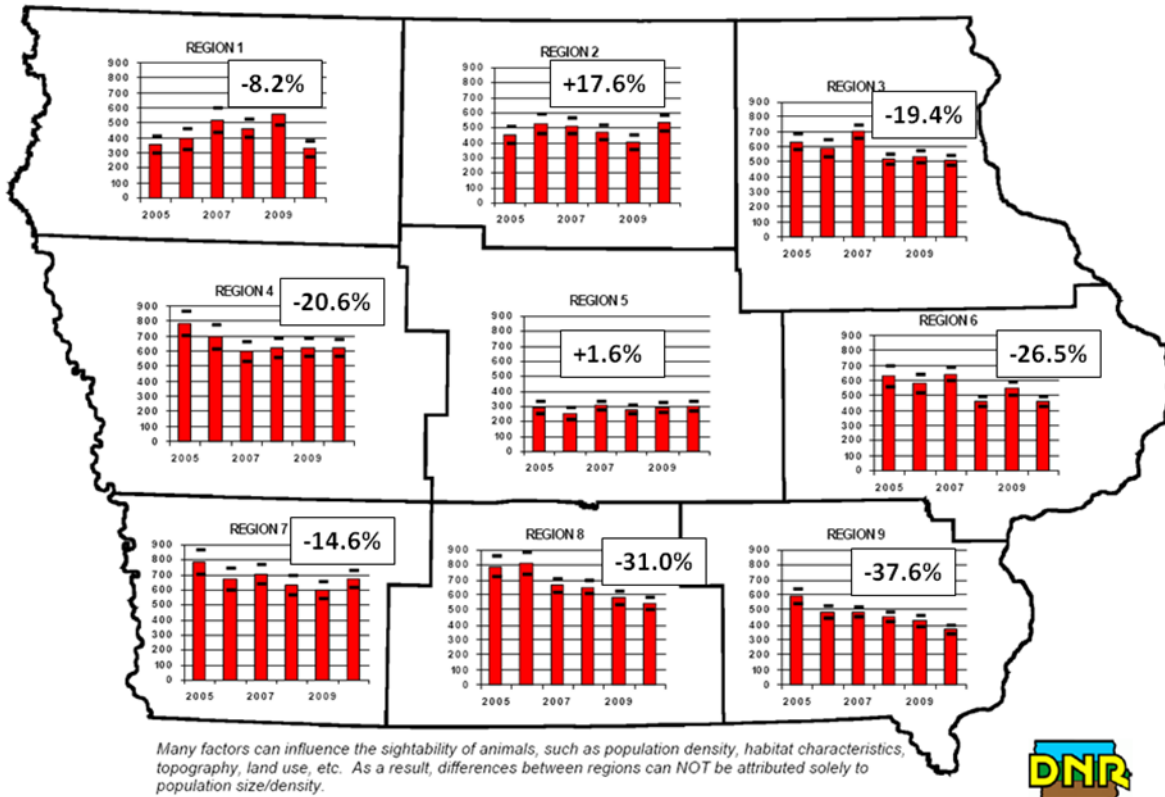


Figure 2. Bowhunter observation survey, wild turkey observations per 1,000 hrs, 2005-2010. Percentage change is calculated from the 2005 to 2010 observations.

2010 Bowhunter Observation Survey Iowa Department of Natural Resources

Steven D. Roberts, Ph.D., Biometrician, Iowa DNR
Dr. William R. Clark, Professor, Iowa State University

The Iowa Department of Natural Resources (DNR) conducted the annual Bowhunter Observation Survey during October 1 – December 3, 2010. This was the seventh year of the survey, which was designed jointly with William R. Clark, Professor at Iowa State University. The two primary objectives for this survey are to: 1) determine the value of bowhunter observation data as a supplement to other deer data collected by the DNR; and 2) develop a long-term database of selected furbearer data for monitoring and evaluating population trends. Bowhunters are a logical choice for observational-type surveys because the methods used while bowhunting deer are also ideal for viewing most wildlife species in their natural environment. In addition, bowhunters typically spend a large amount of time in bow stands: more than 40 hours/season is not uncommon. We believe avid bowhunters are the best hunters to select for participation in this survey because they not only hunt often, but they also have the most experience in selecting good stand locations, controlling or masking human scent, using camouflage, identifying animals correctly, and returning surveys.

Participants for the 2010 survey were selected from a list of bowhunters who had purchased a license for each of the 3 years prior to 2010 (i.e., avid bowhunters). Our goal was to select approximately 999 bowhunters in each of Iowa's 9 climate regions. Each climate region contains approximately 11 counties, and approximately 91 bowhunters were selected per county in an effort to evenly distribute observations in each region. Selection of participants consisted of a 3-step process. In each county, participants were first selected from a core group of avid bowhunters who had previously indicated an interest in participating in this survey. If fewer than 91 core group participants existed in a county, additional participants were randomly selected from a separate list of avid bowhunters who were not in the core group. Finally, if the number of "core group" and "randomly selected" participants in a county was less than 91, additional avid hunters were selected from other counties in the region to reach the regional goal of 999 participants. A total statewide sample of 8,991 bowhunters was selected for participation.

Responses were obtained from 2,487 bowhunters who recorded their observations during 36,747 hunting trips, yielding 125,882.5 hours of total observation time (3.43 ± 0.02 hours/trip; mean \pm 95% CL). Bowhunters reported a median of 14 trips during the 64-day season. Regionally, the number of bow hunting trips (and hours hunted) ranged from 1,867 (6,126 hours) in northwest Iowa (Region 1) to 6,069 (20,356 hours) in northeast Iowa (Region 3). The raw survey response rate was 27.7%.

Observations were standardized for each of the 12 species to reflect the number of observations per 1,000 hours hunted in each of the 9 regions. In addition, 95% confidence limits were calculated for each estimate. Precision among estimates for common species, such as deer, wild turkeys, and raccoons, was good: confidence limits were generally within $\pm 15\%$ of the estimate. However, for less common species, such as badgers, bobcats, gray fox, and otters, the uncertainty associated with the estimate was quite large and occasionally exceeded the estimated value.

A comparison of results from 2009 and 2010 indicated that the number of total deer observed/1,000 hours increased significantly in northcentral, northeast, and westcentral Iowa (Regions 2, 3, and 4), and declined significantly in southeast Iowa (Region 9). No significant changes in total deer observations were observed in any other region. The only significant increase in the number of wild turkeys observed/1,000 hours occurred in northcentral Iowa (Region 2), and significant declines were observed in northwest and eastcentral Iowa (Regions 1 and 6). Bobcat observations/1,000 hours remain stationary in west-central Iowa and across the southern third of the state, and data suggest the bobcat population is slowly expanding into northwest, central, and east-central Iowa.

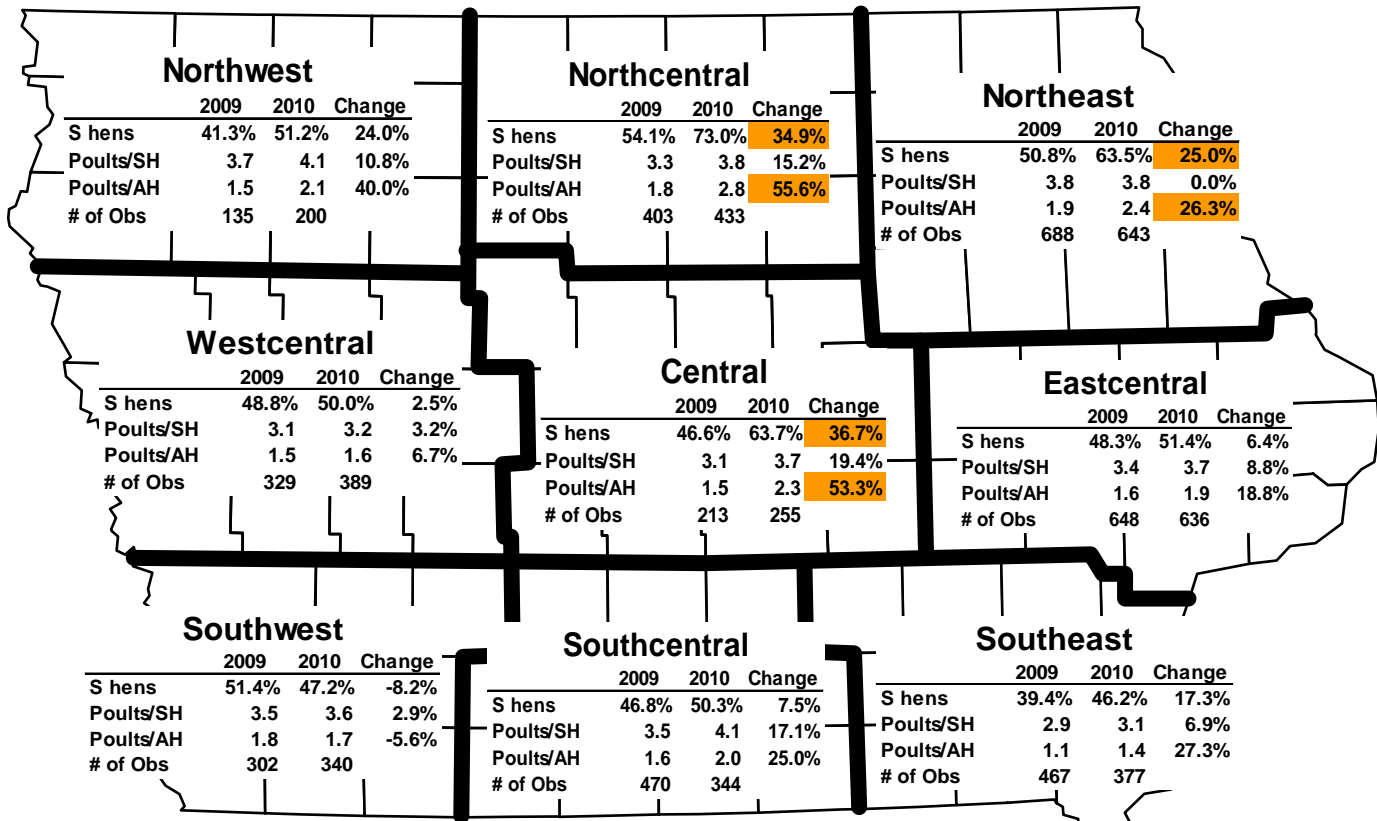
The DNR thanks all hunters who participated in the 2010 Bowhunter Observation Survey. Iowa's bowhunters are the best group of hunters to provide this observational information, and their participation in this survey will play a major role in the conservation of these wildlife species in the future. The volume of information they have provided could never be duplicated by the staff of biologists, technicians, and conservation officers of the Iowa DNR.

When looking at the following charts, we caution against making comparisons between regional estimates for any species. Any differences in observation rates between regions could be related to differences in many factors such as population size, habitat, topography, land use, or any other factor affecting the sightability of animals. For each of the selected species, any differences between regions are NOT entirely related to regional differences in population size.

TURKEY BROOD SURVEY

Statewide

	2009	2010	Change
S hens	47.4%	54.7%	15.4%
Poults/SH	3.3	3.7	12.1%
Poults/AH	1.6	2.0	25.0%
# of Obs	3655	3617	



S hens = percent of successful hens observed with a brood.
 Poults/SH = number of poults observed per successful hens.
 Poults/AH = number poults observed per all hens.
 # of Obs = number times turkeys were observed by cooperators.
 Percent change highlighted if statistically significant

Figure 3. Iowa turkey brood survey statewide results, 2009 & 2010.

Results from Iowa's 2010 summer wild turkey survey indicated a statewide increase in turkey reproduction. Statewide, the number of hens observed with a brood increased by 15%, the number of poults per hen with broods increased by 12%, and the number of poults observed per all hens increased by 25% compared to last year. Regionally, north central, northeast, and central Iowa experienced a significant increase of successful hens (hens with broods) and the number of poults observed per all hens. All other regions except southwest Iowa experienced increases in reproduction from the previous year, but the changes were not statistically significant (either positive or negative).

The 2010 survey suggests that wild turkey reproduction improved relative to 2009, despite the heavy June rainfall (150-400% above normal) that coincided with Iowa's peak hatching period. The largest above normal rainfall amounts were recorded in southern and west central Iowa

(<http://www.ncdc.noaa.gov/oa/ncdc.html>), and reproduction was reported lower in these regions also. Incidental reports of larger sized poults indicate an earlier hatch, with those broods hatching prior to the intense rains of June. The bowhunter survey has been recording declines in turkey numbers in southern Iowa over the past several years, which is due to the poor reproduction turkeys have experienced recently with poor weather conditions during the nesting/brood rearing periods.

FALL 2010 HARVEST SURVEY

Fall hunting was allowed in the entire state in 2010, which was the 5th consecutive year (Fig. 4). Fall turkey hunter success rates decreased slightly from 9.6% in 2009 to 9.5% in 2010 (Fig. 7), but still well below the 2005 and prior estimates due to the change in harvest estimation. In fall of 2006, mandatory harvest reporting required successful hunters to report turkeys harvested, and many hunters likely did not report turkeys harvested. Prior to this, harvest totals were estimated using a postcard survey after the seasons closed.

Shotgun/bow license issue (paid and free combined) decreased from 2009 to 8,492 for the 54-day season that ran from 11 October through 3 December, 2010. Forty-five percent of the fall licenses were issued free to landowners. An additional 1,956 archery-only licenses were issued for a season that ran from 1 October through 3 December, 2010 and 20 December, 2010 through 10 January, 2011. Hunter success rates varied from 10.2% in zone 9 to 34% in Zone 8 (Fig. 4). Archery only licensed hunters reported a harvest of 99 turkeys in 2010 which decreased from the 2009 archery-only license harvest. The 5.1% success rate for 2010 archery only licenses was similar to the previous year's success rates for archery-only hunters. Nonresidents have not been permitted to hunt fall turkeys in Iowa since 1990.

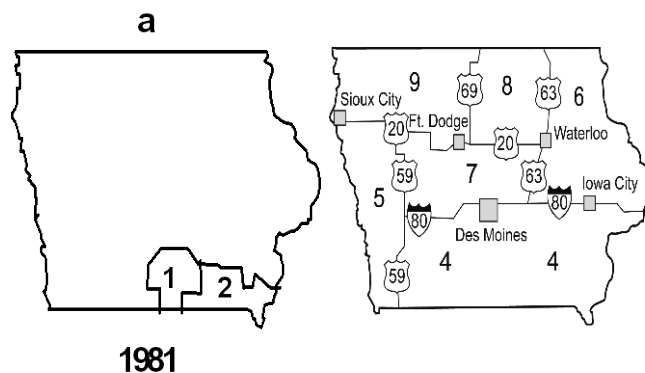


Figure 4. Fall turkey hunting zones in Iowa, 2010.

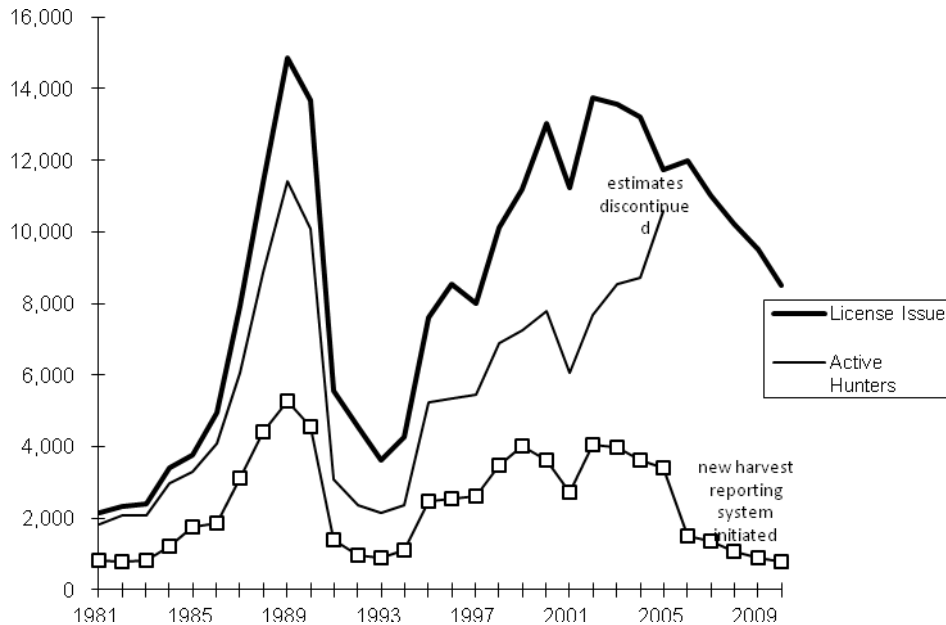


Figure 5. Iowa fall turkey hunting statewide estimates, 1981-2010

SPRING 2011 HARVEST SURVEY

Iowa's 38th modern spring hunting season recorded an estimated 8,861 turkeys harvested, with 48,305 licenses sold (Fig. 6). This was the 23rd year the entire state was open to spring turkey hunting. The 38-day season (9 April through 16 May, 2010) was partitioned into 5 separate seasons: a 3-day youth-only season, and 4 regular seasons (4, 5, 7, and 19-day seasons). A decrease in the number (2,631) of licenses were sold for the youth-only season with 40 fewer youth licenses sold, but all licenses sold for youth (15 and younger) increased 118 for all seasons (Fig. 1). The 4-season format, with unlimited license quota an unlimited license quota for all the periods, resulted in 47,549 resident shotgun licenses issued. An additional record number (6,143) of archery-only licenses were issued. Archery-only licenses harvested 907 turkeys, resulting in a 14.8% success rate in 2010. Southeast Iowa has experienced the most declines in turkey harvest (Fig. 8). and turkeys observed by bowhunters (Fig. 2).

Twenty-one percent of the resident hunters were successful in harvesting a gobbler in 2010 (Fig. 7). Spring harvest success rates fluctuated around 20-30% during the first 12 years (unweighted average = 25.1 for 1974-85) but success increased each year during 1985-88 (Fig. 7). Declines observed in spring hunter success rates during 1983 and 1984 (Fig. 7) can be partially explained by poor brood production during the summers of 1982 (Fig. 7). Similarly, the decline in hunter success rates between 1988 and 1993 may be explained by 6 years of poor brood production starting in 1988. The success rates from 2002-2006 averaged 46.0%.

The decrease in success rates beginning in 2007 and number of turkeys harvested is likely due the change in survey methods. In spring of 2007, mandatory harvest reporting required successful hunters to report turkey harvested. A follow-up post card survey for spring of 2007 revealed 74% compliance rate, which equated to nearly 4,000 harvested turkeys that were not reported initially during the spring season. The major reasons for the non-reports were attributed to hunters forgetting to report (40%), difficulty in reporting process (29%), and unaware of the requirement (22%).

This was the 22nd spring that non-residents were allowed to hunt turkeys in Iowa. Quotas

filled in zone 4 (seasons 2-4), zone 5 (seasons 2-4), zone 6 (season 4) and Zone 8 (season 4) in 2011, leaving 289 licenses available. Non-resident hunters harvested 666 wild turkeys. Non-residents were more successful than residents in harvesting a spring gobbler (19% versus 36%, respectively).

In spring of 2011, known jakes (spurs < 1/2") harvested were 18% of the total harvest (15% the previous year). Turkeys harvested with spurs 1/2" – 3/4" were 24% (27% in 2010) of the total harvest in 2009. The majority (58%) of turkeys harvested had spurs > 3/4".

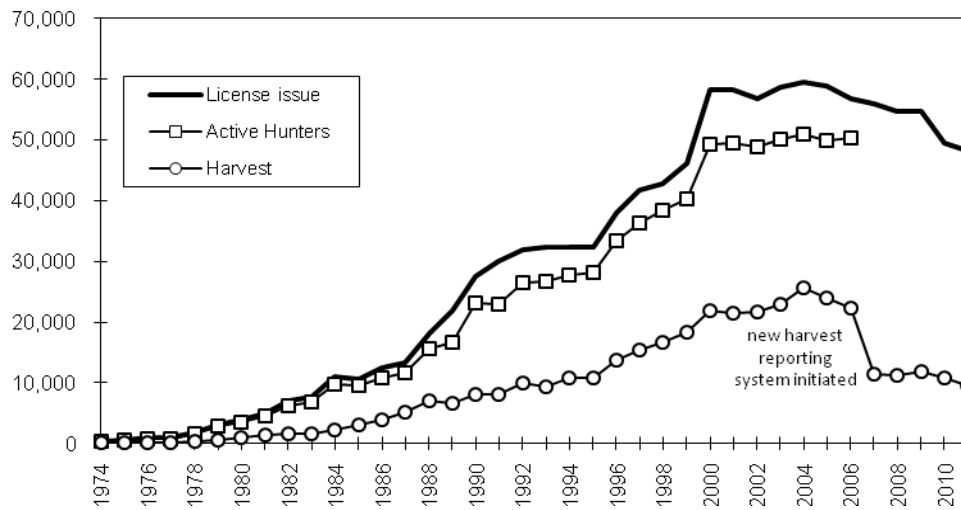


Figure 6. Iowa spring turkey hunting statewide estimates, 1974-2011. Beginning in 2007, the harvest estimates are based on mandatory harvest reporting instead of mail surveys.

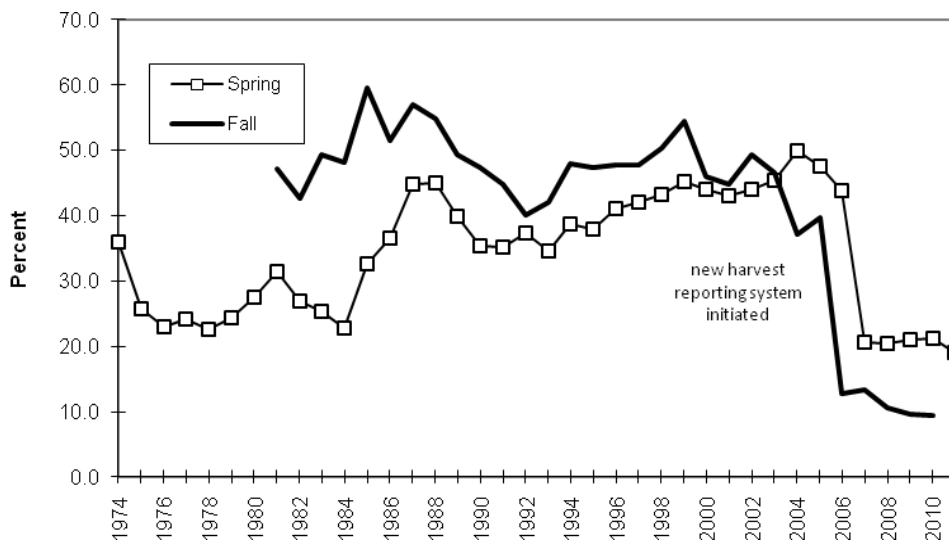


Figure 7. Iowa fall and spring turkey harvest statewide success rates, 1974-2011. Beginning in 2006, survey estimates are based on mandatory harvest reporting instead of mail surveys.

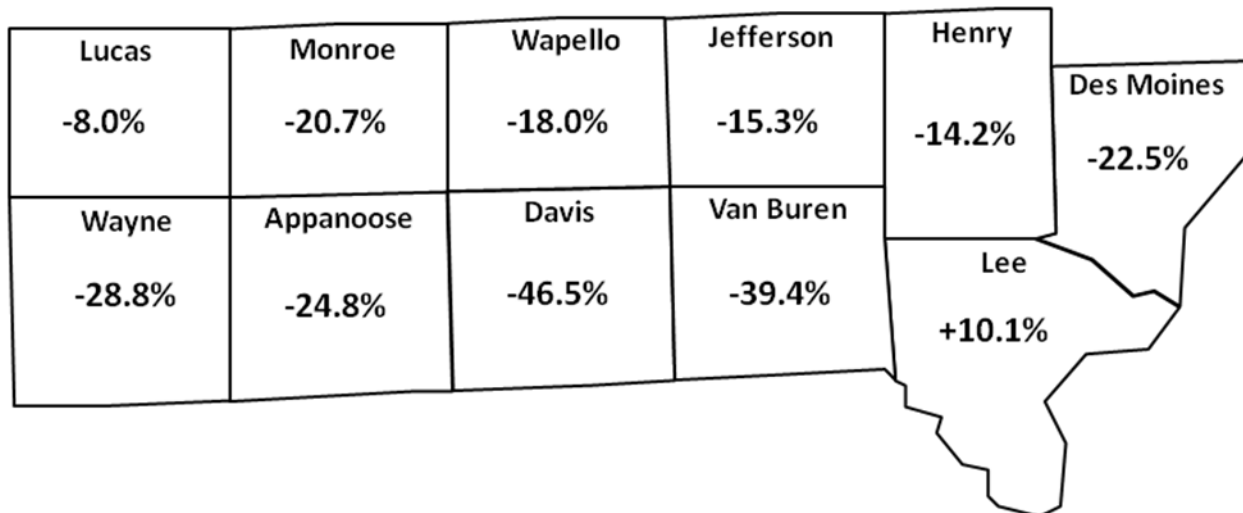


Figure 8. Percentage change in SE Iowa spring turkey harvest from 2007 to 2011. Statewide licenses issued dropped 15% during the time period also.

RESTORTATION

Restoration efforts within Iowa ended in 2001, with a total of 3,583 Eastern wild turkeys that have been trapped and released at 265 sites at a stocking rate of approximately 5 adult gobblers and 9 hens per site. Nearly all sites are considered successful; however the most recent stockings are still being evaluated. No sites are currently considered to be unsuccessful. Most sites were opened to hunting after populations were established, usually about 5 years post-stocking. Restorations by the IDNR during the last 2 decades have returned wild turkeys to about 95% of the remnant timber stands in the state (Fig. 10).

Eastern turkeys adapted so well to habitat conditions in Iowa that by 1980 the IDNR decided to start trading turkeys for other extirpated wildlife. Since 1980, 7,501 Iowa turkeys have been traded for prairie chickens, ruffed grouse, river otters, habitat monies, and sharp-tailed grouse with 11 states and 1 Canadian province.

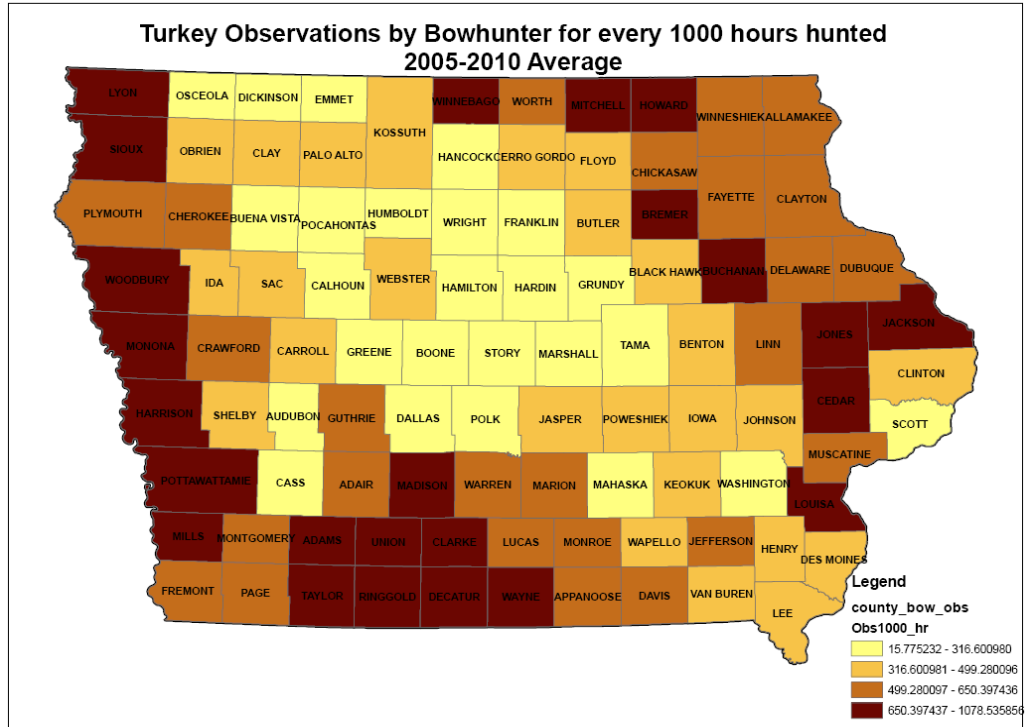


Figure 9. The 2005-2009 average bowhunter observation survey for wild turkeys by county.

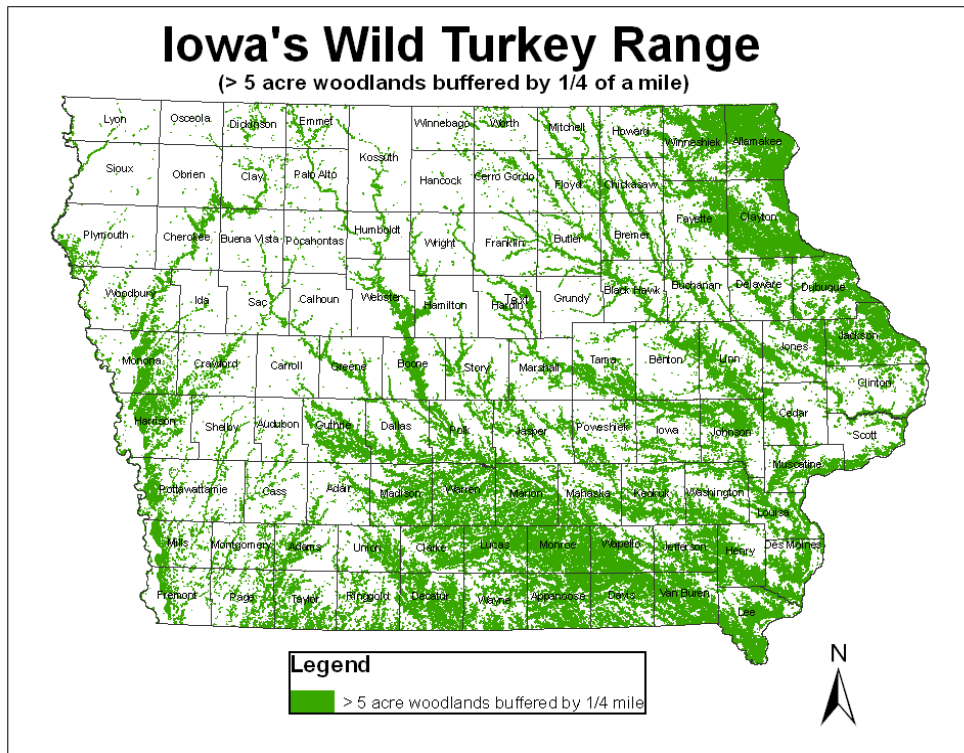


Figure 10. Iowa's wild turkey range (5 acre and greater woodlands buffered by 1/4 mile).

**KANSAS WILD TURKEY UPDATE
MIDWEST DEER & TURKEY STUDY GROUP
ROSCOMMON, MICHIGAN
SEPTEMBER 25-28, 2011**

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Population Trends and Productivity

The rural mail carrier survey (RMCS) has been utilized since 1986 to monitor wild turkey abundance in Kansas. The RMCS is conducted 4 times annually during the 3rd weeks of January, April, July, and the 2nd week of October. During each survey period approximately 400-500 carriers travel 200,000+ miles of Kansas roadway and record observations of wild turkeys and other species. Observations are standardized (obs./100 mi.) to provide an index to the population in the state's 6 turkey management regions (Figure 1). Because the long-term trend is strongly correlated across the 4 seasonal survey periods only the results from the spring (April) survey are presented. In approximately 1998, growth of the Kansas turkey population began to accelerate in each of the 6 management regions (Figure 2). The rate of population growth was much slower in the 2 westernmost management regions likely due to less suitable habitat and frequent drought. In recent years, the Kansas turkey population in the eastern 2/3 of the state has declined. Turkey populations in the central and western portions of the state are either stable or gradually increasing.

The Kansas Department of Wildlife, Parks, & Tourism (KDWPT) estimates wild turkey productivity using data collected primarily during the summer RMCS. Since 1987, the carriers have been asked not only to record the number of turkeys observed but to differentiate between young and adults. The department uses the ratio of young:adult as an index to productivity. The RMCS young:adult ratio indicated that statewide production was 34.5% below the previous 10-year average during 2011 and 26.3% worse than the previous year. Production was below the 10-year average in every region except the southeast and south-central regions (Figure 3). The southern half of the state (especially SW Kansas) has been experiencing record drought conditions that started during the fall of 2010. While below average moisture is conducive to productivity in the eastern portion of the state that is not the case out west where annual precipitation averages less than 25" in most areas (much less in far SW Kansas). Much of the northern half of the state received untimely rain and hail events during or shortly after the peak of hatching this summer.

Employees of the KDWPT also record observations of pheasant, bobwhite, and turkey broods from the 3rd week of July through the 4th week of August while conducting their normal daily activities. Turkey was not added to this survey until 2006 so only 6 years of data are currently available. Thus, these data are currently only used as a secondary form of

monitoring until a more long-term data set is established. Turkey brood size on a statewide scale averaged 4.7 poults in 2011 which was similar to the 2010 estimate of 5.0 poults.

Harvest Regulations

The first modern wild turkey season in Kansas was an archery-only spring season in 1974. During that first season a total of 400 permits were issued to residents and landowner/tenants. The season was open for only 9 days and 123 birds were harvested. Kansas now offers some of the most liberal seasons and bag limits in the country. Additionally, there is no minimum age to hunt turkeys in Kansas and hunters that are 15 and younger may hunt without hunter education certification if they are directly supervised by an adult. Hunters that are 12 or older may hunt by themselves during the regular season if they have completed a hunter education course.

The fall 2010 turkey season was open for 102 days across 3 segments (Table 1). Hunters pursuing turkeys in Unit 2 (Figure 4) were able to purchase 3 either sex game tags in addition to their initial permit. Only the southwestern corner of the state was closed to fall turkey hunting. The 2011 spring turkey season ran 61 days (including the special seasons) and permits were available over-the-counter for Units 1, 2, and 3. Only 500 spring permits were available to general residents and landowners for Unit 4 (southwest KS) through a pre-season drawing. Any youth (<16) could purchase an over-the-counter permit valid for any unit in the state (including Unit 4). All spring hunters had the option to purchase a second permit called a game tag which was valid only in Unit 2 or 3. Additionally, all hunters (resident and non-resident) had the opportunity to purchase a combination license prior to March 31 that contained both carcass tags. These combination licenses were sold at a \$7.50 discount over buying both permits individually.

Estimation of Hunter Activity and Harvest

The KDWPT estimates hunter activity and harvest for the spring and fall seasons through post-season surveys sent to a 20% random sample of all permit holders. Recently, following the spring 2010 season, an e-mail-only survey was conducted and the results were compared to those collected using traditional methods. About 35% of all Kansas turkey hunters provide an e-mail address when purchasing a permit. A random sample equal in number to 20% of the total number of hunters was selected from that group. Those individuals were sent an e-mail with a link directing them to an online questionnaire. About two week after the first notification a second e-mail was sent to those individuals who had not yet responded. For comparative purposes, a similar number of hunters from the remaining license holders were surveyed using the traditional method (post-2005). The traditional method constitutes a postcard mailing which directs people to an internet web site to complete the same questionnaire. A second postcard mailing to non-respondents about 2 weeks after the first notification provided people with the option to request a paper survey.

The results indicated that that the response rate for e-mail surveys was much greater (~65% vs. ~35%), the results were similar, and the cost was much cheaper compared to the traditional survey method. Additionally, data from the e-mail survey was available much

more quickly because the time required for postal mailings was eliminated as was all manual data entry. Thus, all future harvest surveys starting with the fall 2010-2011 season will be conducted solely by e-mail with no option for a paper survey.

Permit Sales and Harvest Estimates

The KDWPT currently sells spring turkey permits to >43,000 hunters and fall turkey permits to >10,000 hunters (Table 2). Non-residents account for 30.5% of Kansas' spring hunters and 21.5% of the fall hunters. Kansas turkey hunters purchase approximately 78,000 permits (~65,000 spring and 13,000 fall) annually and harvest about 37,000 birds (~33,000 spring and 4,000 fall; Table 1-2). The percentage of hunters harvesting at least one bird was 39% and 61% for the fall 2010 and spring 2011 seasons, respectively.

Recent Regulation Changes

The only regulation change that has occurred in the last year involved the number of spring permits issued for Unit 4 (southwestern Kansas). The quota was increased from 325 to 500 for the spring 2011 season. No other regulation changes have occurred in the last year for spring or fall turkey hunting in Kansas.

Access Programs

In addition to publicly owned properties, all Kansas turkey hunters have access to private lands leased for public hunting through the department's walk-in hunting area (WIHA) program. During the fall of 2010, approximately 1.01 million acres were enrolled; some of which provided fall turkey hunting opportunities. These parcels were open to public access from either 1 September – 31 January or 1 November – 31 January and leased for an average of \$2.16/acre. The spring turkey WIHA program is still expanding in the state and enrollment for the spring 2011 season was >176,000 acres. Landowners enrolled in the spring WIHA program received an average of \$1.76/acre and allowed access to their property from 1 April – 31 May. For the 6th year the state chapter of the National Wild Turkey Federation (NWTf) made a monetary contribution to the spring WIHA program from the state superfund. As a 75/25 federally reimbursable program through the Pitman-Robertson Wildlife Restoration Act, their contribution of \$5,250 allowed for the enrollment of nearly 12,000 additional spring access acres. Approximately 15% of both fall and spring turkey hunters indicated that they pursued turkeys on WIHA at some point during the past year. This figure approximates the percentage of turkey hunters that utilize publicly owned land in Kansas.

For the 3rd consecutive year, the KDWP has also leased additional private land for limited access special hunts. The program was started to try and acquire more public hunting access near our urban areas. It was believed that landowners near major urban areas would be more willing to enroll their properties in an access program if we limited the number and/or type (e.g. youth) of hunters. The program allows landowners to choose the number of hunter days and/or type of hunters they will allow on their property. The payment rates are adjusted according to the number of hunter days with more days equaling a greater payment. The

spring special hunts program opened nearly 3,400 acres in the target counties to turkey hunting for spring 2011 which provided 743 hunter days of access. The average cost per acre for the tracts enrolled in the program was \$1.23 which is less than the general WIHA payment. This was done to try and discourage cooperators in the general WIHA program from switching to the limited access special hunts program.

In October of 2010, KDWPT was awarded additional federal grant dollars through the USDA Farm Service Agency (FSA) Voluntary Public Access and Habitat Incentive Program (VPA-HIP). This Farm Bill funded program allows for the enhancement of existing public access and habitat improvement on private lands that are made available to the public for hunting and fishing. The KDWPT was awarded an initial \$3 million with the potential for another \$1.5 million for a third year of funding. The primary focus for enhancing private lands access and habitat improvement through VPA-HIP funds will be to promote enrollment in Continuous CRP (CCRP) practices, specifically CP33 (Habitat Buffers for Upland Birds) and CP38 (State Acres For Wildlife Enhancement), bundling additional CCRP enrollment incentive payments (above and beyond those paid by USDA) with public hunting access agreements for the length of the CCRP contract. This approach will maximize the utility of VPA-HIP funds, help to insure appropriate wildlife habitat is in place for the duration of the hunting access agreement, and ensure that habitat improvements are compliant with all federal best management practices. The KDWPT began enrolling landowners in the program during late summer.

Translocation Efforts

For the most part, turkey stocking efforts have been completed in Kansas. However, the department still moves birds occasionally to address nuisance complaints. The departmental turkey committee develops a priority list for translocated turkeys each fall should birds need to be moved. For the winter of 2010-2011 the field staff identified 4 suitable sites for translocations but only 9 turkeys were trapped at one site. All 9 of those birds were released in Hamilton County along the Arkansas River.

Due to poor band retention rates for standard butt-end bands, the KDWPT has been using locking aluminum bands since the winter of 2006-2007. During the spring 2011 season, a total of 7 bands were recovered by hunters and reported to the department. The birds carrying those bands were all adult gobblers at the time of harvest. Of the 305 males (81 gobblers, 220 jakes, and 4 unknown) banded over the last 6 years a total of 23 (19 gobblers and 4 jakes) were harvested and reported by hunters during the first season following capture. This equates to minimum apparent harvest rates of 1.8% and 23.5% for jakes and gobblers, respectively. However, most of the banded birds were translocated to hunt Unit 4 where the number of hunters was regulated through a pre-season drawing.

Research

Currently, the University of Wisconsin (Dr. Scott Lutz) just finished up a 2 year research project in north-central Kansas that was supported by contributions from the NWTF, KDWPT, and the University of Wisconsin. The research assessed spring (April 1 – May 31)

gobbler survival on 3 public wildlife areas and adjacent private land within 3 different hunting units. Regulations were most restrictive on Cedar Bluff WA which fell within a unit with a 1 bird spring bag limit only open to 325 Kansas residents through a pre-season drawing during the course of the study. Over-the-counter permits were available for the other two locations but one site was in a unit with a 1 bird spring bag limit (Webster WA) and the other fell within a unit with a 2 bird bag limit (Lovewell WA).

Survival did not differ by year or land ownership (public and private) but varied greatly across the 3 study sites. Pooled survival estimates were 0.814 (95% CI: 0.706-0.939) at Cedar Bluff WA, 0.310 (95% CI: 0.197-0.486) at Webster WA, and 0.408 (95% CI: 0.259-0.643) at Lovewell WA. Hunter harvest or crippling accounted for 63-70% of mortality across the 3 study sites. The remaining mortality was predation likely by bobcats and coyotes. Results from this study indicate that gobbler survival was not detectably different between Kansas hunt units managed with spring bag limits of 1 or 2 birds and unlimited permit availability. This is likely the case because few active hunters (<25%) fill a second tag and other factors influence local harvest rates as much or more than permit availability (e.g. proximity to urban areas, habitat composition, etc.). The restrictive regulations imposed at Cedar Bluff WA certainly played into the much higher survival rate than observed at the other two sites.

A secondary objective of the project was to identify reproductive chronology and recruitment rates. The median dates for initiation of nest incubation were 28 May and 12 May in 2009 and 2010, respectively. Only 50.9% of hens ($n = 55$) initiated incubation of a nests and apparent success was only 26.5%. An estimated 62.1% of poults from those successful nests survived to 2 weeks of age. All of these estimates were within the range of estimates reported in the literatures for other Rio Grande populations but they were all on the low end. However, the researchers speculated that some first nests were being depredated before they could be located (especially during the first year of the study). Thus, it is likely that some of the figures could be skewed somewhat as a result

Regulation Changes Being Considered

About 3 years ago the KDWPT wild turkey committee began working on a harvest strategy that would change the way harvest is regulated in Kansas (Appendix 1). If adopted by the KDWPT commission, the strategy would more closely align the turkey management and hunting units so that population indices could be produced for approximately the same areas being used to regulate harvest. The hunting units would become permanent and regulations for each unit would be changed as necessary instead of adjusting hunt unit boundaries as we've done in the past. The strategy proposes that active resident hunter success during the spring season (% harvesting at least 1 bird) be used as the primary trigger for regulation changes along with the percentage of jakes in the spring harvest as a secondary measure. A hierarchy of regulation packages was developed and regional regulations would be adjusted up and down the list when triggers were exceeded for a specified number of seasons. It is anticipated that the harvest strategy will be formally presented to the KDWPT commission later this fall or winter.

Table 1. Kansas wild turkey season dates, total harvest, and hunter success for each of the last 5 seasons, 2006-2011.

Year	Spring			Fall		
	Season Dates	Total Harvest	Success ^a (%)	Season Dates	Total Harvest	Success ^a (%)
2007	Archery-only: Apr. 1-10 Youth/Disabled: Apr. 6-8 Regular: Apr. 11– May 31	33,913	62	Seg. 1: Oct. 1–Nov. 27 Seg. 2: Dec. 10-31 Seg. 3: Jan 7-31 (08)	4,716 (36%) ^b	42
2008	Archery-only: Apr. 1-8 Youth/Disabled: Apr. 1-8 Regular: Apr. 9– May 31	35,040	65	Seg. 1: Oct. 1–Dec. 2 Seg. 2: Dec. 15-31 Seg. 3: Jan 5-31 (09)	4,871 (34%)	42
2009	Archery-only: Apr. 1-7 Youth/Disabled: Apr. 1-7 Regular: Apr. 8– May 31	33,350	61	Seg. 1: Oct. 1–Dec. 1 Seg. 2: Dec. 14-31 Seg. 3: Jan 11-31 (10)	4,664 (35%)	41
2010	Archery-only: Apr. 1-13 Youth/Disabled: Apr. 1-13 Regular: Apr. 14– May 31	34,991	63	Seg. 1: Oct. 1–Nov. 30 Seg. 2: Dec. 13-31 Seg. 3: Jan 10-31 (11)	3,954	39
2011	Archery-only: Apr. 1-12 Youth/Disabled: Apr. 1-12 Regular: Apr. 13– May 31	32,298	61	Seg. 1: Oct. 1–Nov. 29 Seg. 2: Dec. 12-31 Seg. 3: Jan 9-31 (12)	NA	NA

^a Success was the percentage of active hunters harvesting ≥ 1 bird.

^b Percentage of harvest composed of females.

Table 2. Number of permits sold for Kansas' fall and spring turkey seasons, 2010-2011.

Permit ^a	Fall (2010-2011)	Spring (2011)
Resident permit (\$22.50) ^b	5,325	15,611
Resident combo (\$27.50)	NA	3,834
Non-resident permit (\$32.50)	2,160	11,183
Non-resident combo (\$47.50)	NA	1,966
Landowner/tenant permit (\$12.50)	1,856	4,914
Landowner/tenant combo (\$17.50)	NA	940
Resident youth permit (\$12.50) ^{c,d}	670	3,736
Resident youth combo (\$17.50)	NA	919
Resident game tags (\$12.50)	2,422	7,330
Non-resident game tags (\$22.50)	556	6,934
Total Tags	12,989	65,026^e

^a Turkey hunters must also buy an annual small game license (resident = \$20.50, non-resident = \$72.50, and non-resident under 16 = \$37.50)

^b The price of all permits includes an agent fee (\$1.00) and processing fee (\$1.50).

^c Individuals ≤ 16 are considered youth.

^d Non-resident youth must purchase a regular price non-resident permit.

^e The total number of valid tags does not equal the sum of all the issuances because the combination permits include two carcass tags.

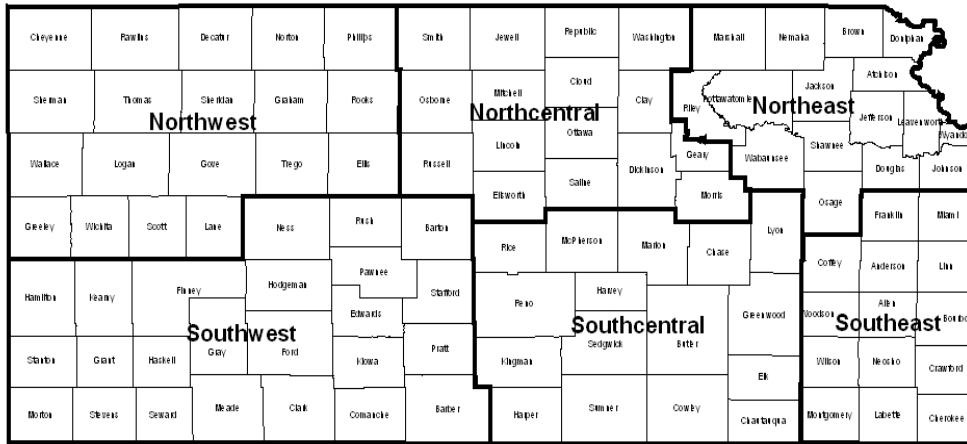


Figure 1. The 6 wild turkey management regions of Kansas, 2011.

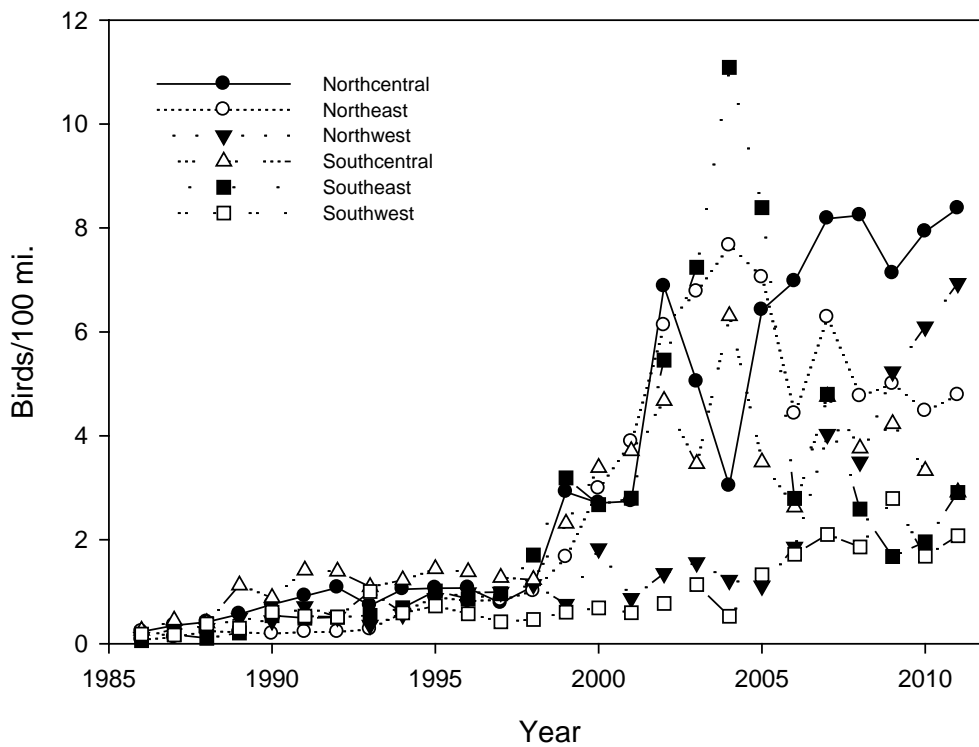


Figure 2. The spring rural mail carrier index (birds/100 mi. traveled) to wild turkey populations in the 6 Kansas management regions, 1986-2011.

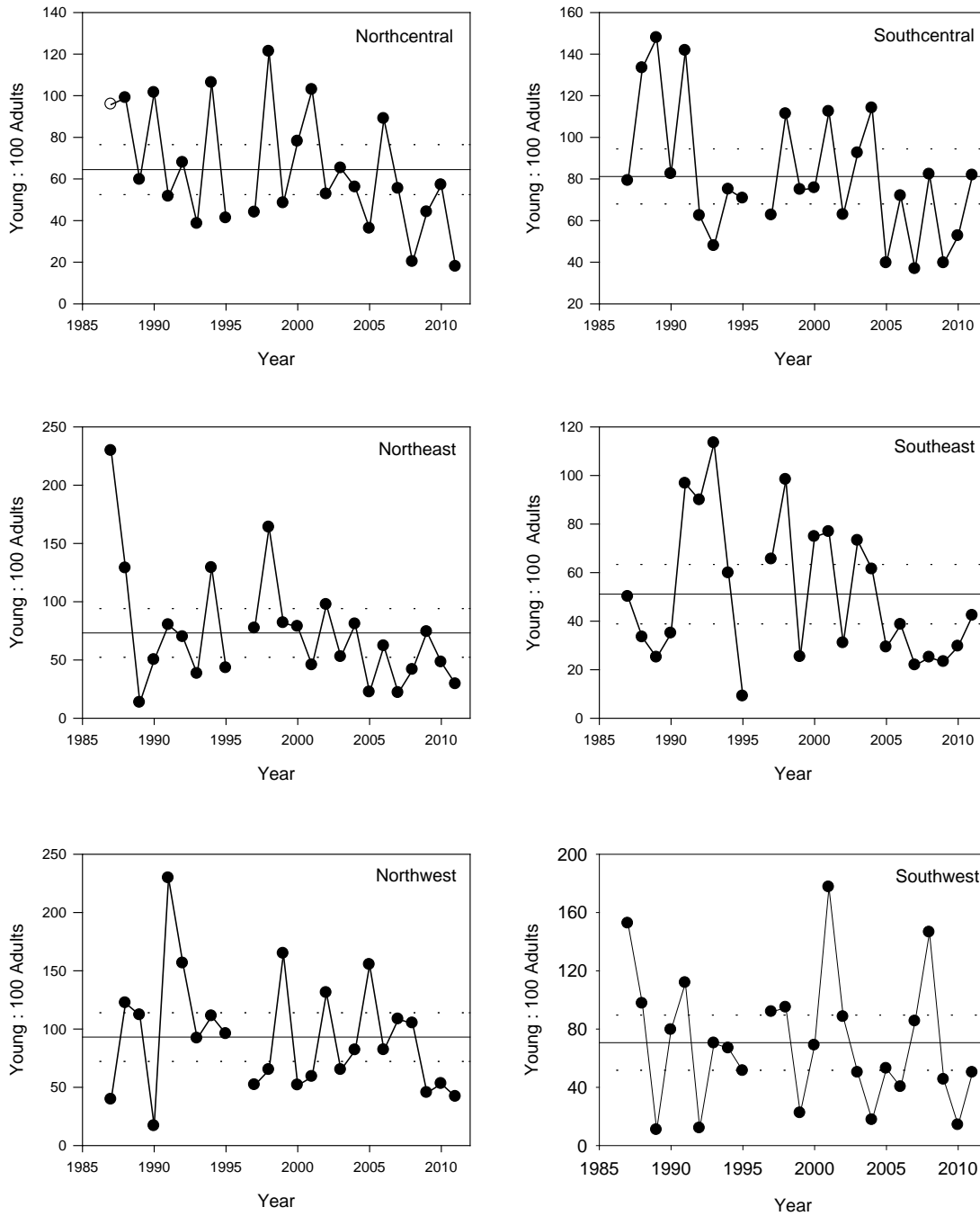


Figure 3. Wild turkey production indices (young : 100 adults) for the 6 Kansas turkey management regions, 1986-2011. The long-term mean production index is depicted as a solid line and the accompanying 95% confidence interval is shown by dashed lines.

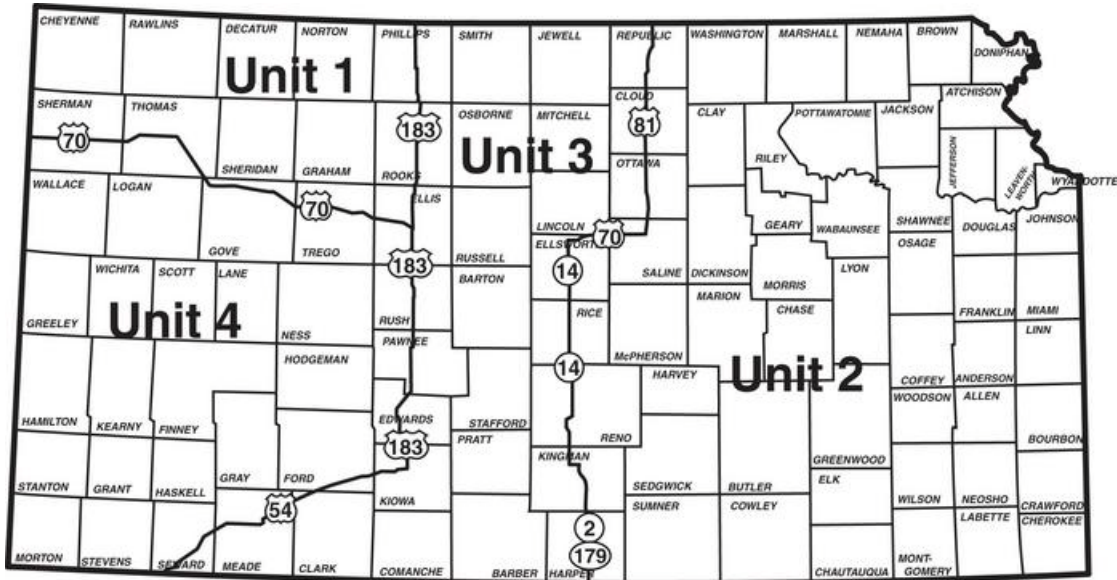
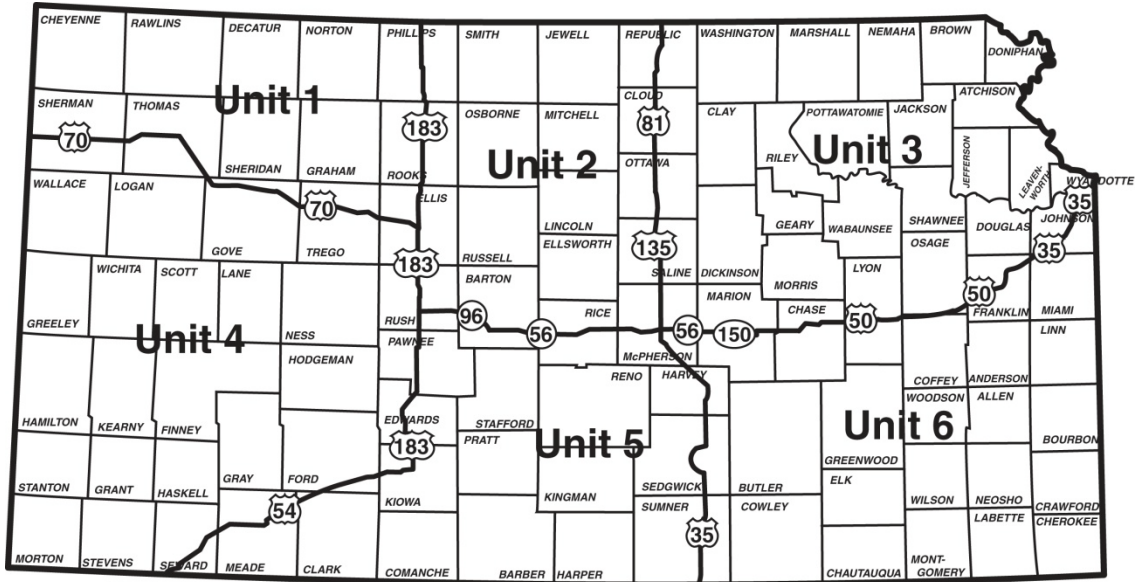
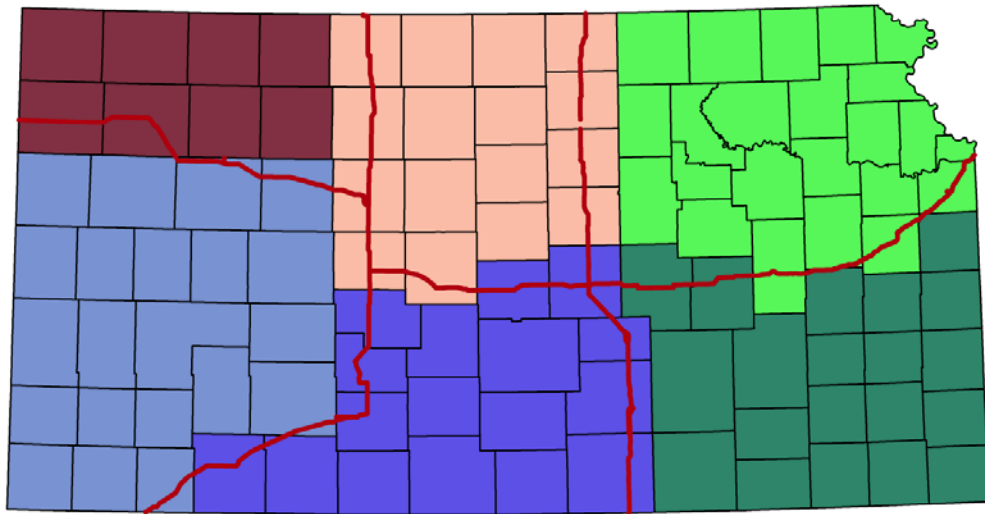


Figure 4. The map depicts the hunting units for Kansas’ fall 2010 and spring 2011 turkey seasons. A fall turkey permit could be purchased over-the-counter for Units 1, 2, & 3. Up to 3 additional fall turkey game tags could be purchased and were valid only in Unit 2. There was no fall turkey hunting allowed in Unit 4. A spring turkey permit could be purchased over-the-counter for Units 1, 2, & 3. Five hundred spring permits were issued for Unit 4 through a pre-season drawing. An additional spring game tag could be purchased over-the-counter and was valid only in Units 2 & 3.

Appendix 1. Draft harvest strategy being considered for Kansas.



Proposed wild turkey hunt units



Proposed_turkey_regions_2011

- Northcentral
- Northeast
- Northwest
- Southcentral
- Southeast
- Southwest

Proposed wild turkey management units

Possible Starting Regulation Packages

Hunt Unit	Package
Unit 1	D - 1 spring and 1 fall
Unit 2	C – 2 spring and 1 fall
Unit 3	B – 2 spring and 4 fall
Unit 4	E – Resident-only limited spring
Unit 5	C – 2 spring and 1 fall
Unit 6	C – 2 spring and 1 fall (reduction)

Triggers for Regulation Change:

1. The percentage of active resident hunters harvesting at least one bird must be $\geq 60\%$ for each of the previous three years and the percentage of the total harvest composed of jakes must average $<25\%$ over the same period before upward movement recommended
2. The percentage of active resident hunters who harvest at least one bird must be $\leq 55\%$ for 2 consecutive years before downward movement recommended

Regulation Package Hierarchy

A.)	3 spring and 4 fall
B.)	2 spring and 4 fall
C.)	2 spring and 1 fall (most liberal package for Units 1 & 2 spring and no fall
D.)	or 1 spring and 1 fall
E.)	1 spring and no fall
F.)	Resident-only limited draw spring (moving down) Quota Increase (moving up)
G.)	Quota Reductions (moving down) Resident-only limited draw spring

Regional and statewide estimates of the percentage of the spring harvest composed of jakes and the active hunt success for resident and non-resident Kansas spring turkey hunters, 2005-2011.

Percentage of total harvest composed of jakes

Year	STWD	NC	NE	NW	SC	SE	SW
2005							
2006	14	15.3	12.6	25.0	14.4	12.0	16.2
2007	18	21.6	15.8	17.7	14.2	19.2	16.6
2008	14	11.9	11.9	17.2	14.7	15.4	11.6
2009	15	19.7	13.3	14.3	13.7	14.9	14.3
2010	14	14.6	13.5	16.3	13.2	15.5	12.6
2011	15.4	13.1	15.7	13.1	14.9	20.4	12.7
3-year avg.	14.8	15.8	14.2	14.6	13.9	16.9	13.2

Resident Active Hunter Success (%)

	STWD	NC	NE	NW	SC	SE	SW
2005	65	63	68	71.8	61.1	64.4	65.7
2006	62.7	62	63.1	57.6	65	59.4	66.4
2007	58.7	57.1	62.5	61.3	56.5	56.3	62.7
2008	58.5	58.8	65.4	42.9	53.7	54.3	60.5
2009	56.1	59.7	57	68.6	55	52.5	56.3
2010	57.6	63.6	58	66	57.4	55.9	57.4
2011	55.7	58.8	53.6	54.9	54.5	49.9	63.4
Yrs >65% (of last 3)	0	0	0	2	0	0	0
Yrs <55% (of last 2)	0	0	1	1	1	1	0

Non-Resident Active Hunter Success (%)

	STWD	NC	NE	NW	SC	SE	SW
2005	75.3	77.2	75	70.4	75.3	78.2	73.3
2006	74.6	79.4	76.4	72.7	75.2	75.8	66.7
2007	68.8	73.6	75.4	76.5	69.8	63.4	60
2008	77	80.4	81.9	73.3	83.5	75.3	62.5
2009	70.1	76.5	74.1	67.6	68.2	67.3	66.1
2010	72	71.6	75.5	76.3	76.2	70.7	75.2
2011	69.3	72.7	69.2	68.3	69.2	66.5	67.9
Yrs >65% (of last 3)	3	3	3	3	3	3	3
Yrs <55% (of last 2)	0	0	0	0	0	0	0

MISSOURI WILDLIFE HARVEST AND POPULATION STATUS REPORT WILD TURKEY – 2011

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Population Status

Missouri's wild turkey population estimate during spring 2011 was approximately 280,000 birds. This population estimate is based on the assumption that 15% of the population was harvested during the 2011 spring season. Although turkey densities vary substantially throughout the state, an estimate of 280,000 birds equates to an average population density of approximately four turkeys per square mile of land area and approximately 13 turkeys per square mile of forested land.

Based on harvest and survey data, it is likely that Missouri's turkey population has declined by 25-30% during the last 10 years, with some regions of the state experiencing declines approaching 50%. Harvest and hunting permit sales have declined in recent years as well, although statewide spring turkey hunter success rates have stabilized since 2007, after declining markedly from 2000-2007. Reproduction has been extremely poor in recent years, with the statewide poult/hen ratio exceeding 1.5 only once from 2005-2010.

Fortunately, dry weather during June and July throughout much of the state this year provided ideal conditions for both reneating and brood-rearing. As a result, most of the state experienced a substantially better hatch than what has been experienced during the last several years. On a statewide basis, this year's poult/hen ratio of 1.7 is the highest since 2002, and is 44% and 20% higher than the previous 5-year and 10-year averages, respectively. This year's hatch should serve to bolster turkey numbers, especially in Northeast Missouri where some of the worst hatches and the largest declines in turkey numbers have been observed in recent years.

Reproduction

The Missouri Department of Conservation (MDC) has been conducting a wild turkey brood survey annually since 1959. Department staff and citizen volunteers record observations of hens and poults (and gobblers since 2008) during June, July, and August. Data are collected at the county-level and analyzed by Turkey Productivity Region (Fig. 1). In 2011, MDC staff and approximately 7,000 citizen volunteers recorded observations of over 50,000 turkeys during the 3-month survey, including over 3,400 broods (Table 1).

On a statewide basis, 45% of hens were observed with a brood. The percentage of hens observed with a brood ranged from a low of 29% in the West Prairie region to a high of 57% in the Lindley Breaks region (Table 2). On a statewide basis, the average brood size was 4.7 poults. The average brood size ranged from a low of 4.3 poults in the Mississippi Lowlands region to a high of 6.4 poults in the West Prairie region (Table 2).

The 2011 statewide poult/hen ratio of 1.7 was 55% higher than the 2010 ratio, and 44% higher, 20% higher, and 4% lower than the 5-, 10-, and 20-year statewide averages, respectively (Table 3). Across Turkey Productivity Regions, poult/hen ratios ranged from a low of 1.4 in the Northwest and West Prairie regions to a high of 2.3 in the Lindley Breaks region (Table 3). It should be noted that observations of more than two hens per brood were not included in poult/hen ratio calculations.

On a statewide basis, Missouri's poult/hen ratio peaked at 4.6 in 1971 and has steadily declined since the mid-1980s, other than a slight increasing trend that occurred during the late 1990's (Fig. 2). Reproduction has been extremely poor in recent years, with the statewide poult/hen ratio exceeding 1.5 only once from 2005-2010. This year's hatch represents a substantial improvement from the hatches that have been observed in the past several years, especially in Northeast Missouri where production has been especially poor, and the largest decline in turkey numbers has been observed in recent years.

Restoration

Turkey translocations have not occurred since the winter of 2006-07 when 100 birds were released in the Mississippi Lowlands region (Fig. 1). Missouri's primary efforts to establish turkey populations ended in 1979 after several thousand turkeys had been translocated to areas identified as having suitable habitat, but no turkey population. Recent attempts since 2000 to translocate turkeys into southwest and southeast Missouri, where turkeys already exist (at relatively low densities), have been only marginally successful. Because of the high cost of translocation and the marginal potential for long-term population increase in areas already containing turkeys, translocation of turkeys is currently a very low priority of the Department.

Harvest

Spring Season

Missouri has a 21-day regular spring turkey season, which begins on the third Monday in April. Two male turkeys or turkeys with visible beards may be taken during the season provided that only one turkey may be taken during the first week. If a hunter does not harvest a turkey during the first week of the season, they may harvest two turkeys during the second or third week, but may not take them both on the same day. Shooting hours during the regular spring season are from half an hour before sunrise to 1:00 PM.

Missouri has had a 2-day youth season since 2001. The season begins nine days prior to the regular spring season, unless the youth season would fall on Easter weekend. When this

occurs, the youth season is moved one week earlier. Youth hunters may harvest one male turkey or turkey with visible beard during the youth season. Youths who harvest a turkey during the youth season may not harvest a second bird until the second week of the regular season. This is because the bird taken during the youth season counts as the first bird for the first week of the regular season. Shooting hours during the youth season are from half an hour before sunrise to sunset.

2011 Spring Turkey Season

During the youth spring turkey season, which took place on the weekend of April 9-10, hunters harvested 3,893 turkeys. This harvest total represents a slight decline (1%) from last year's harvest of 3,941 turkeys, which was the highest harvest since the youth season was initiated in 2001. Hunters harvested 38,328 turkeys during the 21-day regular spring turkey season, which ran from April 18 – May 8. Juvenile male turkeys represented 20% of the harvest, which is identical to the previous 5-year average, and slightly below the previous 10-year average of 22%. The percentage of juvenile males in the spring harvest continues to track the poult/hen ratio from the previous year relatively well (Fig. 3).

The total spring harvest, including both the youth and regular seasons, was 42,221. This harvest total represents a 9% decline from the 2010 total harvest (Table 4). Counties with the highest total spring harvest were Franklin, Texas, and Bollinger, where 941, 757, and 737 turkeys were harvested, respectively. Regional spring harvest totals were 6,400 in the MDC Central Region, 6,459 in the Southwest Region, 5,327 in the Northwest Region, 5,376 in the Ozark Region, 4,914 in the Northeast Region, 5,152 in the Kansas City Region, 4,896 in the Southeast Region, and 3,697 in the St. Louis Region (Fig. 4, Table 5).

Most of the wild turkeys harvested during the 2011 spring season were shot in southern Missouri (Fig. 5). There were 26 counties in which hunters harvested more than 500 turkeys during the combined youth and regular seasons. This number represents a substantial decline from five years ago when over 500 birds were harvested in 53 counties. During the 2011 spring turkey season, only three counties in the 500-or-better category were located north of the Missouri River, compared to five years ago when this region had 18 counties in this category.

Spring turkey hunting in Missouri is a substantial recreational activity with more than 500,000 days spent afield annually. Total permit sales this spring (101,106; excluding resident landowner permits), however, declined by 4% from last year's spring permit sales total of 105,501. Spring turkey permit sales have declined by 22% from the peak year of 2003, when over 130,000 permits were sold (Fig. 6, Table 4). This year's spring turkey permit sales included 76,859 resident permits, 5,599 nonresident permits, 18,075 resident youth permits, and 573 nonresident youth permits. An additional 42,163 permits were distributed to resident landowners, which brought the total number of spring turkey hunters in Missouri to 143,269.

Spring turkey harvest in Missouri has declined by 30% since the record harvest of over 60,000 birds in 2004. Although low production and the resulting lower numbers of turkeys

on the landscape have impacted harvest, spring permit sale declines have impacted harvest as well. Spring permit sales have declined by 22% since 2003, contributing in part to a 23% reduction in the number of hunting trips. Spring turkey hunter success, which takes into account both harvest and effort, has stabilized since 2007 after declining markedly from 2000-2007 (Fig. 7).

Fall Season

Missouri has both a fall firearms and a fall archery turkey season. The fall firearms season runs from October 1-31. The fall archery season runs from September 15 – January 15, excluding the dates of the November portion of the firearms deer season. Two turkeys of either sex may be harvested at any time during each season.

2010 Fall Firearms Turkey Season

The 2010 fall firearms turkey harvest total of 5,928 represents a substantial decline from the 2009 fall firearms harvest of over 8,000 turkeys. The majority of the 2010 fall firearms harvest occurred south of the Missouri River (Fig. 8). Counties where hunters harvested more than 100 turkeys included Bollinger, Cape Girardeau, Cedar, Franklin, Greene, Laclede, Perry, Polk, St. Francois, Ste. Genevieve, Texas, Webster, and Wright. The top three counties in harvest were Greene, Franklin, and Webster, where 199, 157, and 154 turkeys were harvested, respectively.

Although the decline in harvest from 2009 was substantial, it was not unexpected considering that fall firearms turkey permit sales declined by nearly 21% from 2009 (Table 6). Of the permits sold in 2010, 13,533 were purchased by Missouri residents and 203 by nonresidents; an additional 59,846 permits were distributed to resident landowners. Fall firearms turkey hunting in Missouri has generally been declining in popularity since the late 1980s when over 50,000 permits were sold and over 28,000 turkeys were harvested during the 14-day season (Fig. 9, Table 6).

2010-11 Fall Archery Turkey Season

Hunters harvested 2,184 turkeys during the 2010-11 fall archery turkey season. This harvest total represents a 33% decrease from the 2009-10 archery harvest, which was the highest harvest since the season's inception in 1975. Unlike the fall firearms turkey harvest, which has steadily declined since the late 1980s (Fig. 9), the fall archery harvest has generally displayed an increasing trend (Fig. 10, Table 7). The decline in fall archery harvest during the 2010-11 season, however, was the most substantial single season decline since the archery turkey season was established. In a similar fashion, Missouri's archery deer harvest during the 2010-11 season declined by 17%, after a record-setting harvest during the previous year's season.

Most turkeys shot during the archery season in Missouri are taken opportunistically by archers hunting for deer. Both last year's archery turkey and deer harvest were likely negatively impacted by an abundant acorn crop, which generally restricts game movement, and decreases harvest opportunities. During the 2010-11 season, the south-central portion of

the state accounted for a substantial number of the counties in which over 30 turkeys were harvested (Fig. 11).

Population Index – Archer Observation Survey

Since 1983, MDC staff and citizen volunteers have recorded the number of wild turkeys, deer, and furbearers observed annually while bowhunting. On a statewide basis, the number of turkeys observed per 1,000 hours of bowhunting in 2010 was 342 (Fig. 12). On a regional basis, turkey observations per 1,000 hours bowhunting ranged from a low of 161 in the Ozarks East region to a high of 606 in the Northwest region. The statewide average of 342 represents an 18% decrease from 2009, and a 25%, 39%, and 38% decrease from the previous 5-, 10-, and 20-year averages, respectively (Fig. 12).

Recent Regulation Changes

In 2010, nonresident youths were permitted to hunt during the spring youth turkey season. In addition, all mentors (including landowners hunting on their own land), mentoring a firearms hunter who was not hunter-education certified, must have been at least 18 years old and hunter-education certified unless they were born before January 1, 1967.

Hunting Incidents

There were five hunting incidents that occurred during the 2011 spring turkey season in Missouri. One incident was self-inflicted and fatal; the other four were non-fatal shooter/victim incidents.

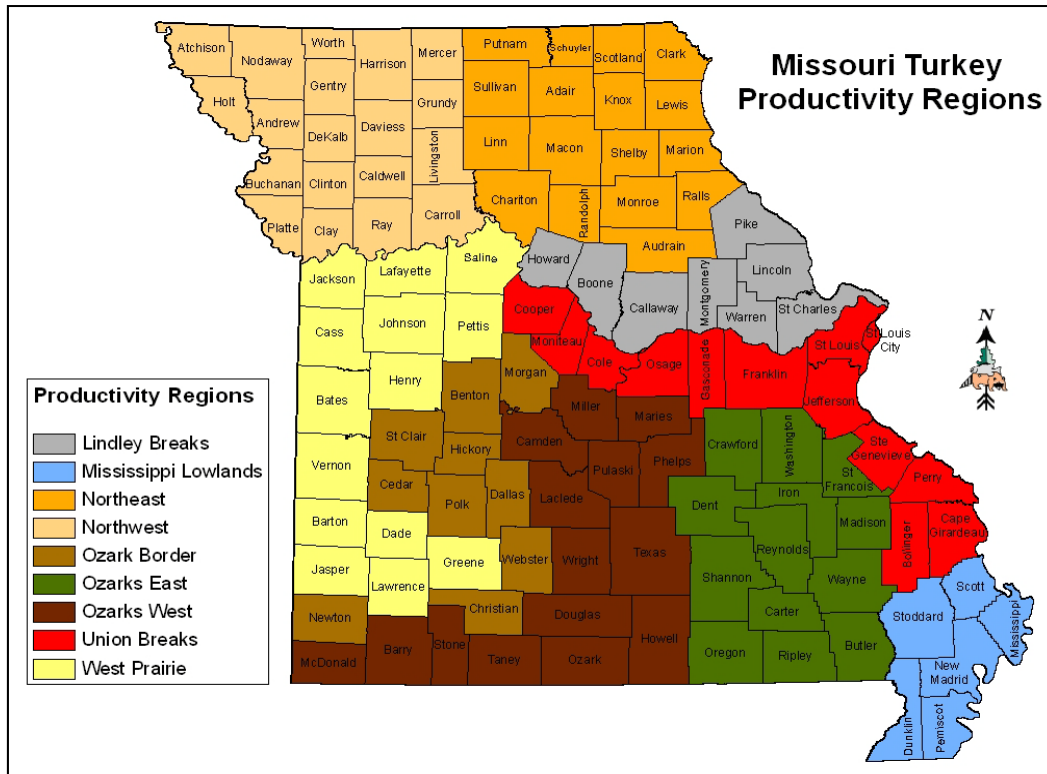


Figure 1. Turkey Productivity Regions in Missouri.

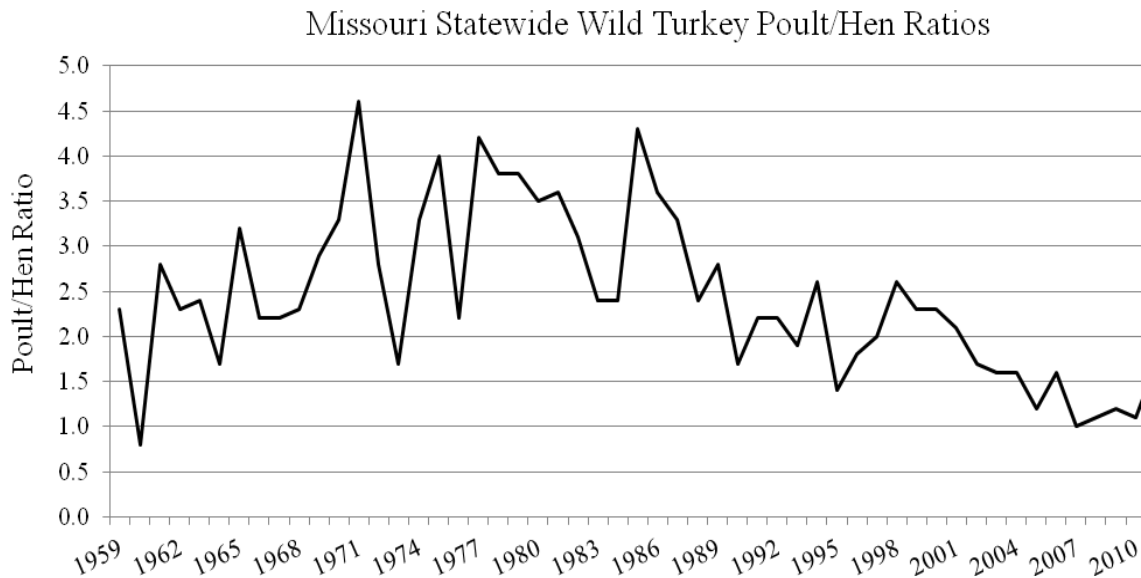


Figure 2. Missouri statewide poul/hen ratios derived from the wild turkey brood survey conducted in June, July, and August, 1959-2011.

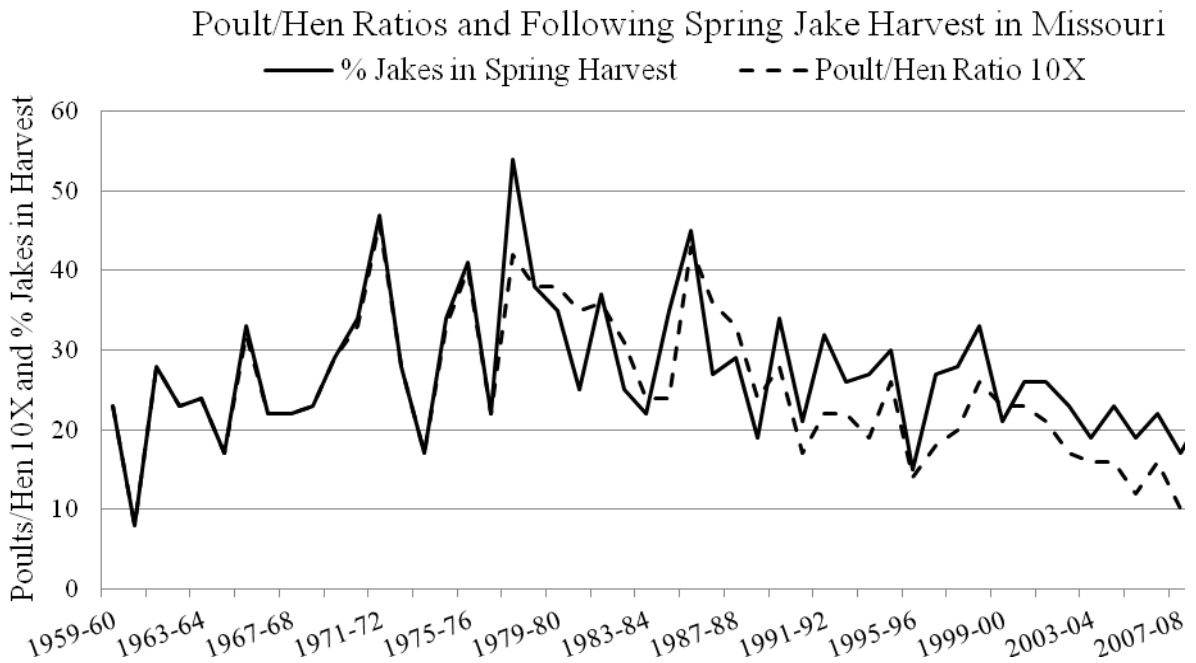


Figure 3. Missouri’s statewide poult/hen ratios multiplied by 10, compared with the percentage of jakes (juvenile males) in the following year’s spring harvest, 1959-2011.

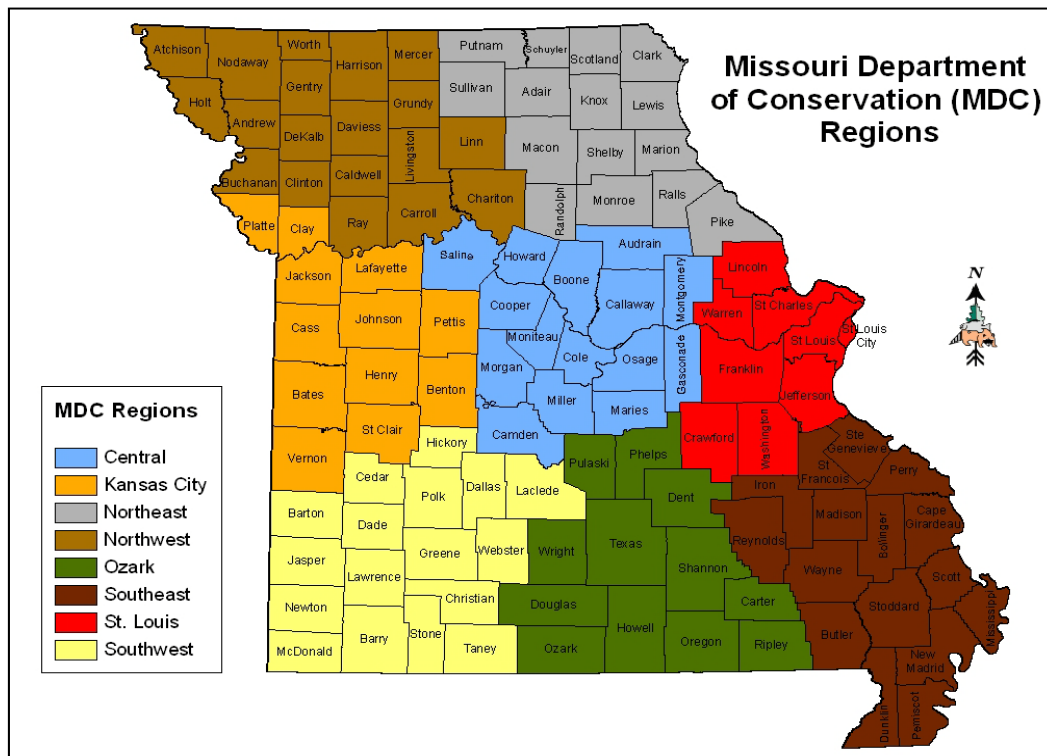


Figure 4. Missouri Department of Conservation Administrative regions.

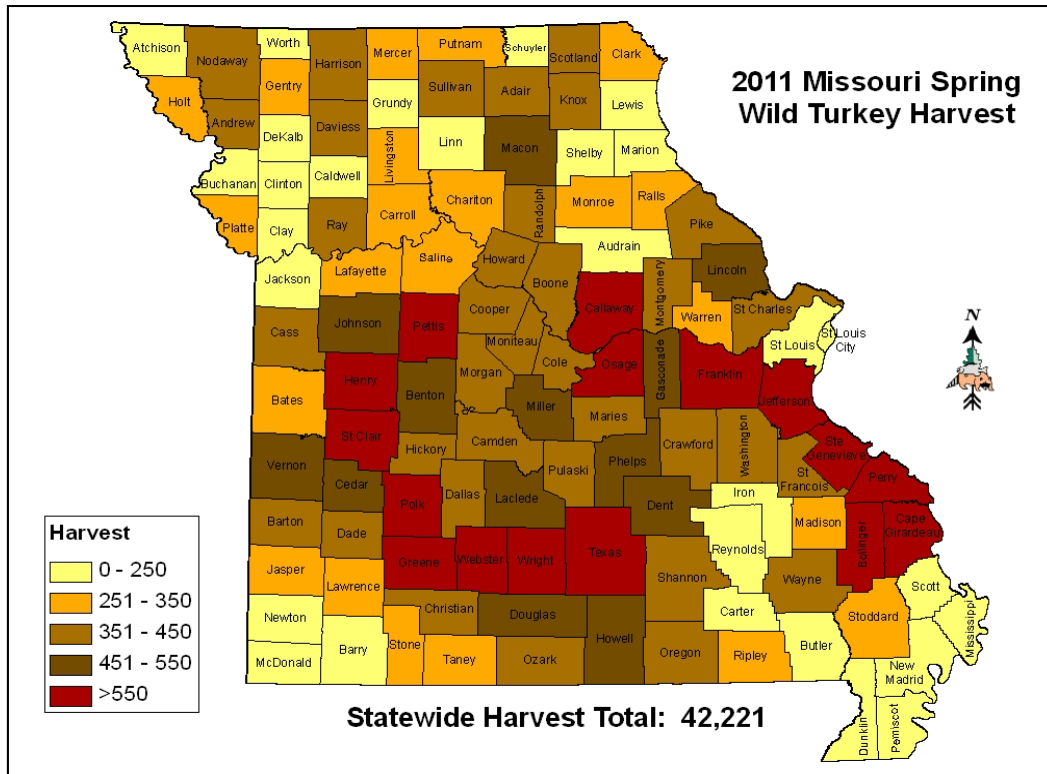


Figure 5. Spring wild turkey harvest in Missouri, 2011.

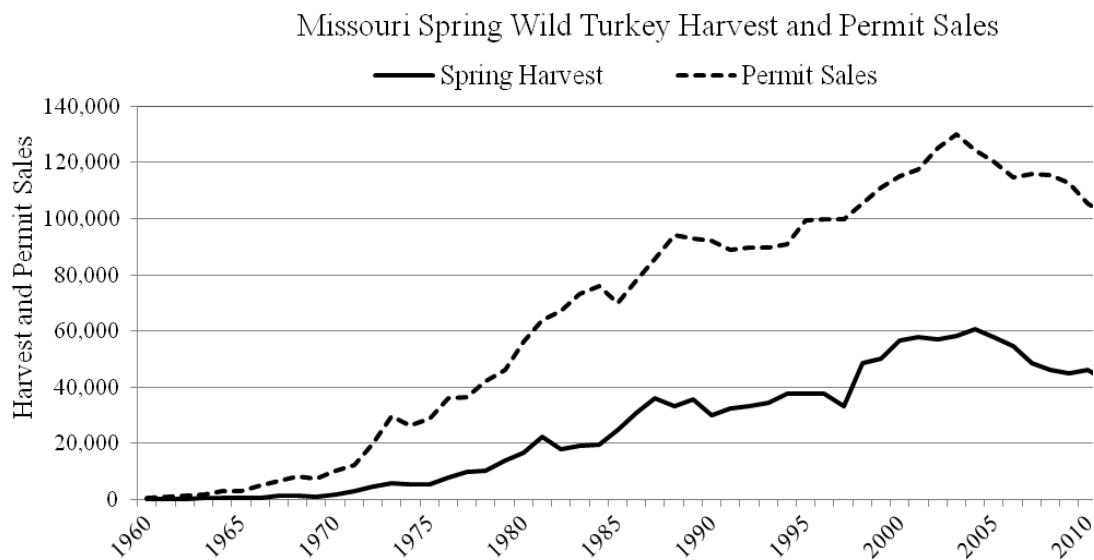


Figure 6. Number of wild turkeys harvested during the spring season in Missouri, and the number of turkey hunting permits sold for the spring season, 1960-2011. Permit sales do not include free landowner permits.

Spring Turkey Hunter Success in Missouri

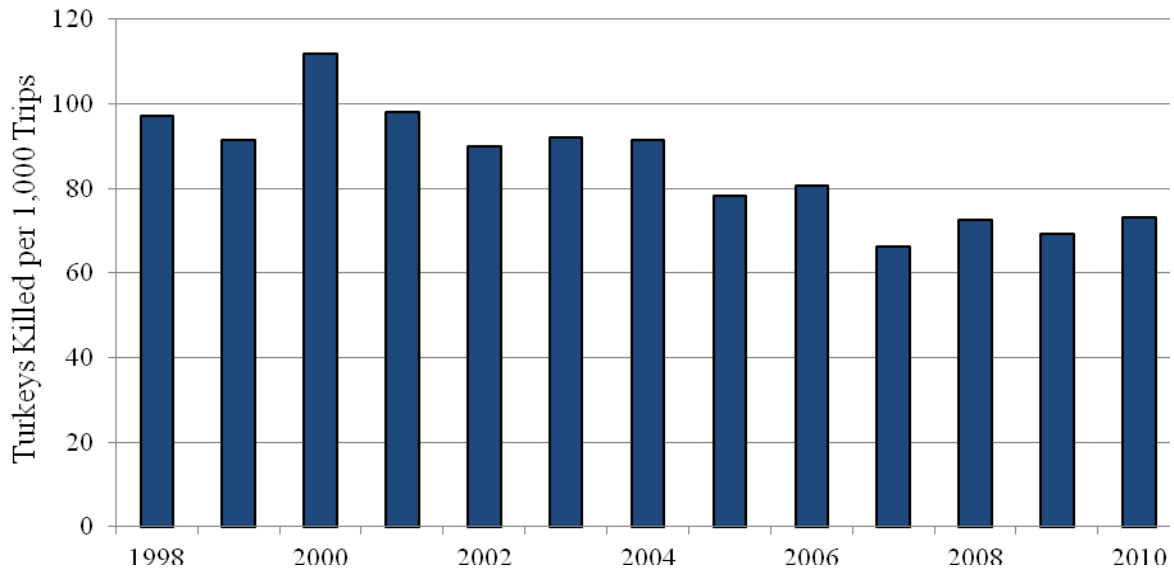


Figure 7. Statewide spring turkey hunter success in Missouri measured as the number of turkeys killed per 1,000 hunting trips, 1998-2011.

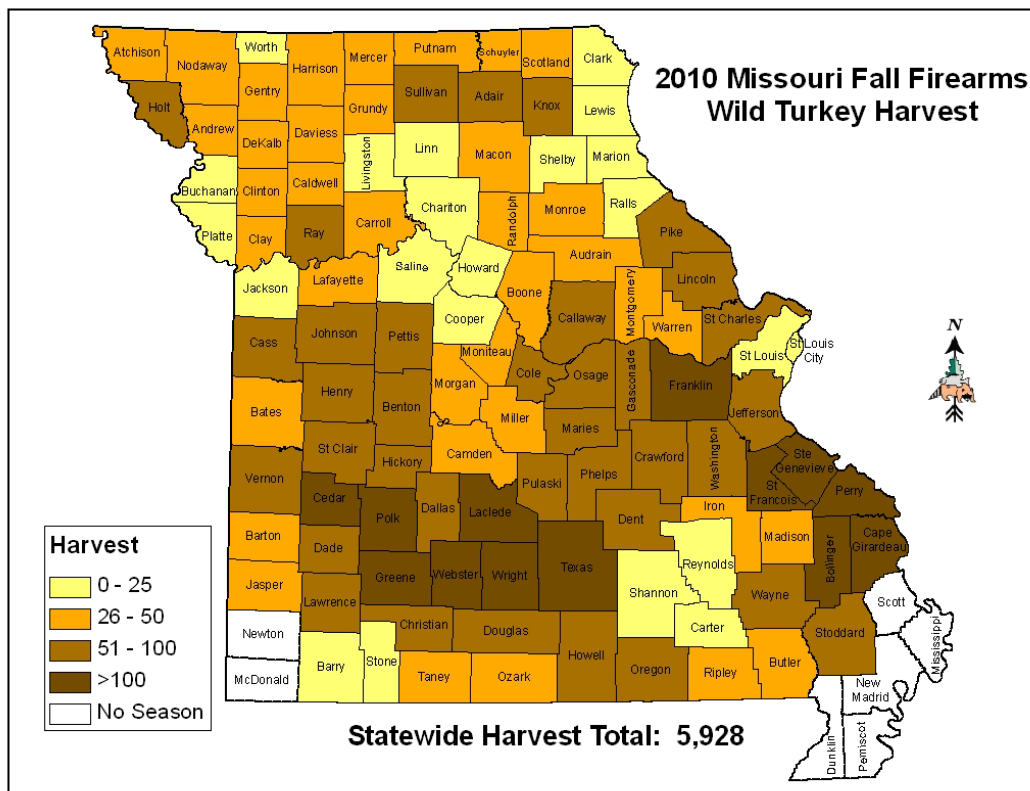


Figure 8. Missouri fall firearms wild turkey harvest, 2010.

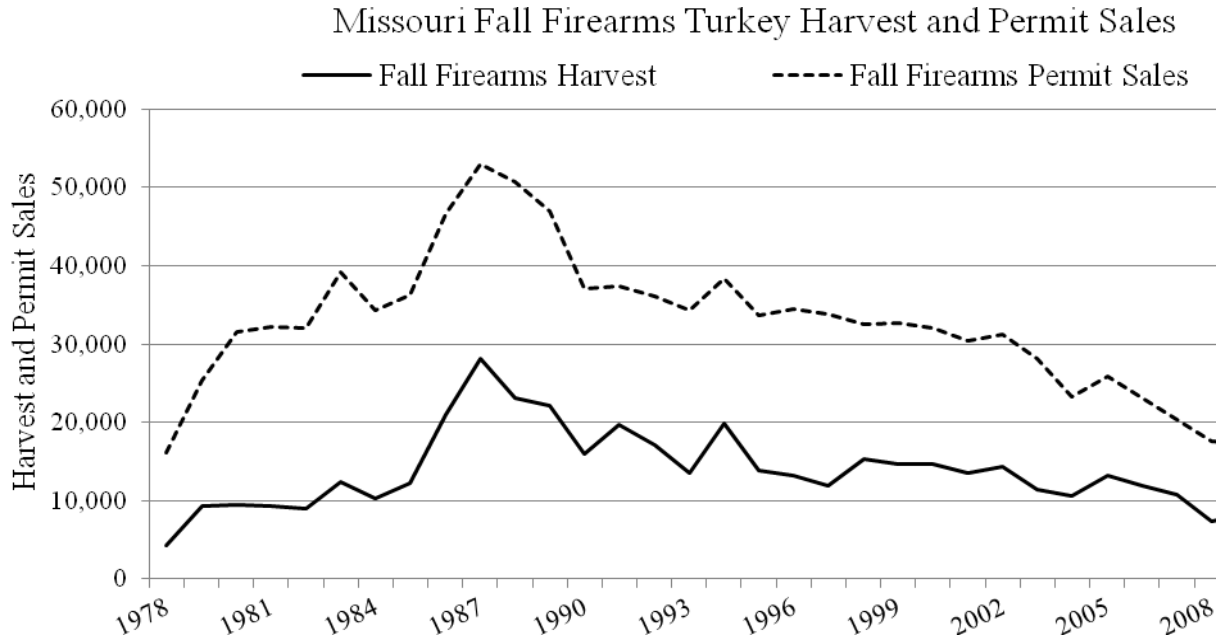


Figure 9. Number of wild turkeys harvested during the fall firearms turkey season in Missouri, and the number of fall firearms permits sold, 1978-2010. Permit sales do not include free landowner permits.

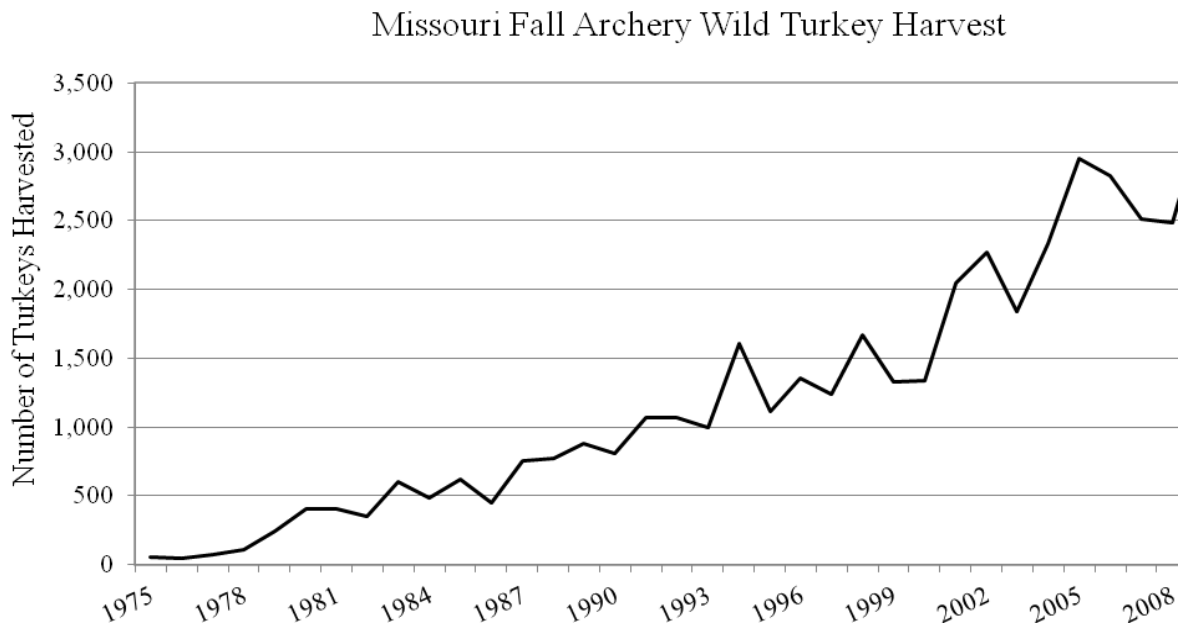


Figure 10. Harvest of wild turkeys during Missouri’s fall archery season, 1975-2010.

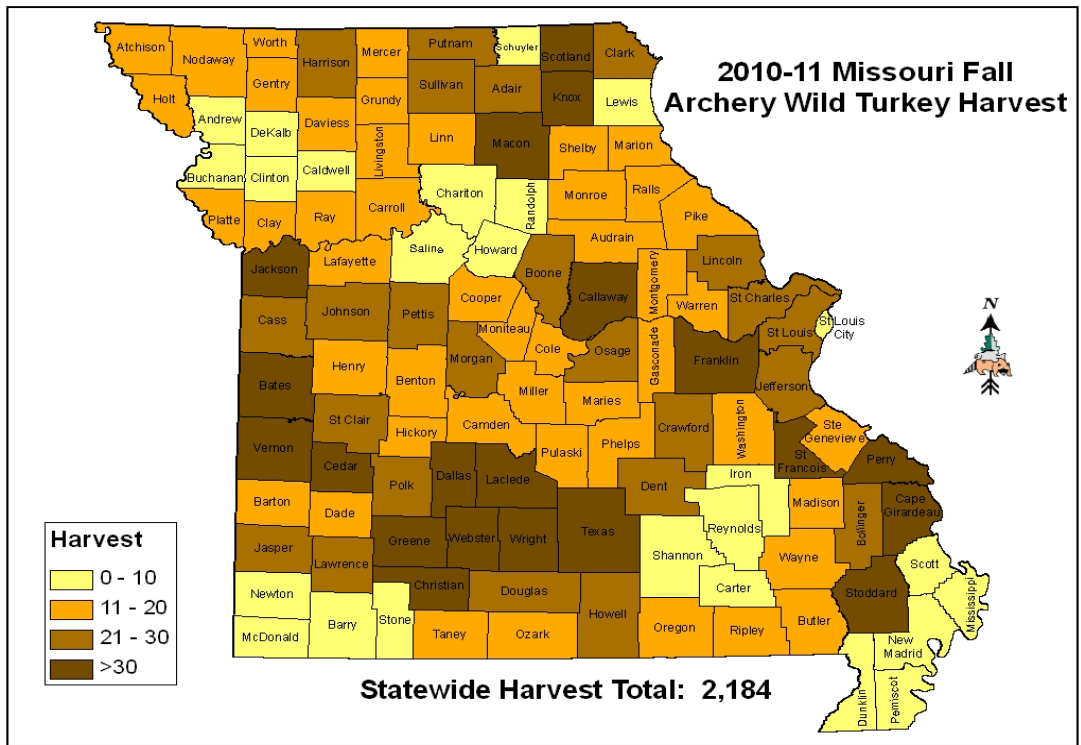


Figure 11. Missouri fall archery wild turkey harvest, 2010-11.

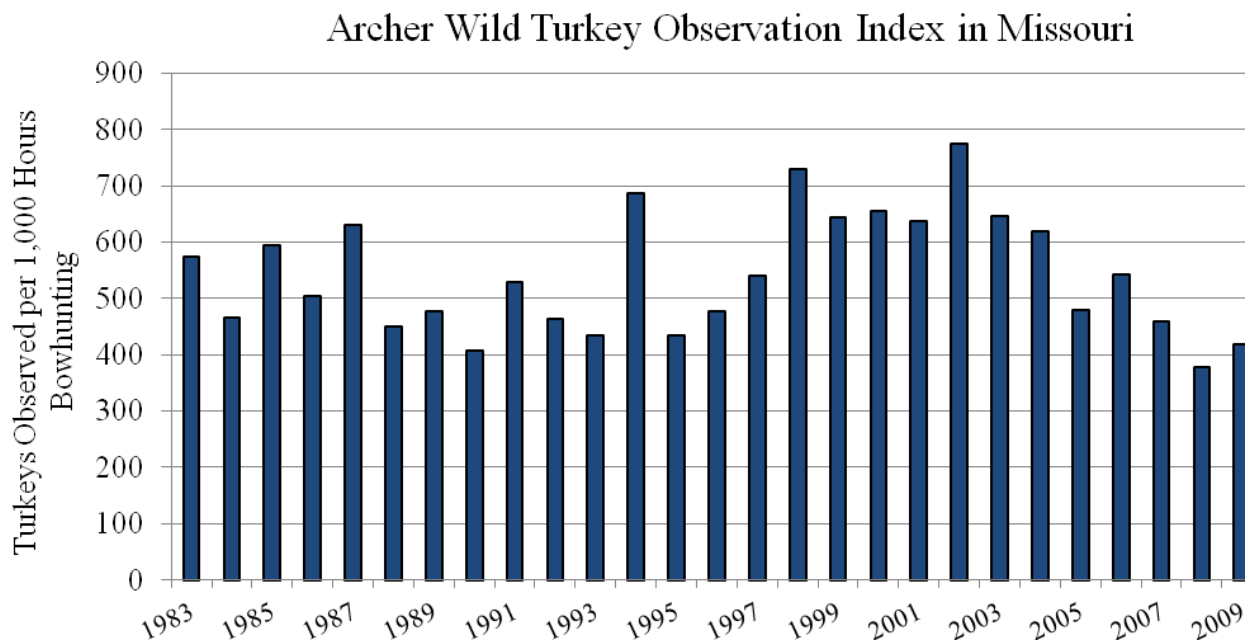


Figure 12. Observations of wild turkeys by bowhunters in Missouri, 1983-2010. Data represent the number of turkeys observed statewide per 1,000 hours bowhunting.

Table 1. Wild turkey observations by Turkey Productivity Region (Fig. 1) obtained during Missouri's annual wild turkey brood survey conducted in June, July, and August, 2011.

Productivity Region	Hens w/ Broods	Hens w/o Broods	Total Hens	Poults	Broods	Gobblers
Lindley Breaks	988	758	1,746	4,855	529	730
Mississippi Lowlands	69	85	154	299	38	128
Northeast	1,054	1,087	2,141	5,326	613	1,093
Northwest	424	810	1,234	2,073	255	980
Ozark Border	627	916	1,543	3,187	328	973
Ozarks East	586	544	1,130	2,679	322	352
Ozarks West	591	899	1,490	2,824	335	720
Union Breaks	1,424	1,615	3,039	6,026	763	1,632
West Prairie	599	990	1,589	2,622	304	1,241
Statewide	6,368	7,776	14,144	29,937	3,487	7,891

Table 2. Wild turkey brood survey data by Turkey Productivity Region (Fig. 1) obtained during Missouri's annual wild turkey brood survey conducted in June, July, and August, 2011.

^a Observations of more than two hens per brood were not included in poult/hen ratio

Productivity Region	% Hens w/ Poults	Average Brood Size	Poult/Hen ^a Ratio	Gobbler/Hen Ratio
Lindley Breaks	57%	4.9	2.3	0.42
Mississippi Lowlands	45%	4.3	1.7	0.83
Northeast	49%	5.1	2.1	0.51
Northwest	34%	4.9	1.4	0.79
Ozark Border	41%	5.1	1.6	0.63
Ozarks East	52%	4.6	2.2	0.31
Ozarks West	40%	4.8	1.5	0.48
Union Breaks	40%	5.5	1.6	0.60
West Prairie	29%	6.4	1.4	0.89
Statewide	45%	4.7	1.7	0.56

calculations.

Table 3. Index (poult/hen ratio) of Missouri turkey production by Turkey Productivity Region (Fig. 1) obtained from the 2011 brood survey, compared to previous years. For each interval value, the % change indicates how the 2011 index compares to the previous year, or the average for periodic intervals.

Productivity Region	2011 Index	1-year (2010) Change	5-year (2006-2010) Change	10-year (2001-2010) Change	20-year (1991-2010) Change
Lindley Breaks	2.3	+92%	+92%	+57%	+17%
Mississippi Lowlands	1.7	-26%	-8%	-33%	-23%
Northeast	2.1	+91%	+101%	+61%	+25%
Northwest	1.4	+17%	+21%	-2%	-29%
Ozark Border	1.6	+60%	+55%	+15%	-9%
Ozarks East	2.2	+100%	+48%	+34%	+13%
Ozarks West	1.5	+36%	+20%	+3%	-11%
Union Breaks	1.6	+45%	+24%	+9%	-7%
West Prairie	1.4	+27%	+48%	+14%	-24%
Statewide	1.7	+55%	+44%	+20%	-4%

^a Observations of more than two hens per brood were not included in poult/hen ratio calculations.

Table 4. Spring turkey harvest and permit sales^a in Missouri, 1985-2011.

Year	Spring Harvest	% Change From Previous Year	Spring Permit Sales	% Change From Previous Year
1985 ^b	24,770	+26.6	69,945	-8.0
1986	30,965	+25.0	77,972	+11.5
1987	35,951	+16.1	85,723	+9.9
1988	33,187	-7.7	94,301	+10.0
1989	35,618	+7.3	92,901	-1.5
1990	30,056	-15.6	92,093	-0.9
1991	32,237	+7.3	89,077	-3.3
1992	33,035	+2.5	89,803	+0.8
1993	34,354	+4.0	89,899	+0.1
1994	37,721	+9.8	90,810	0.0
1995	37,472	-1.2	99,412	+8.8
1996	37,708	+0.3	99,879	+0.5
1997	33,216	-12.4	99,933	+0.1
1998 ^c	48,462	+45.9	105,518	+5.6
1999	50,299	+3.8	110,939	+5.1
2000	56,841	+13.0	115,190	+3.8
2001 ^d	57,842	+1.7	117,736	+2.2
2002	57,034	-1.3	125,157	+6.3
2003	58,421	+2.4	130,021	+3.8
2004	60,744	+3.9	124,533	-4.2
2005	57,743	-5.2	120,215	-3.5
2006	54,712	-5.2	114,529	-4.8
2007	48,472	-11.0	115,897	+1.2
2008 ^e	46,134	-4.4	115,047	-0.7
2009	44,713	-3.5	112,579	-2.1
2010	46,194	+3.3	105,501	-6.3
2011	42,221	-8.6	101,106	-4.2

^a Does not include free landowner permits.

^b All 114 counties open to spring turkey hunting.

^c Season length increased from 14 to 21 days.

^d 2-day spring youth season initiated.

^e All-day hunting (until sunset) allowed during the youth season.

Table 5. Spring turkey harvest in Missouri by MDC Administrative Region (Fig. 4), 1985-2011.

Year	Central	Kansas City	Northeast	Northwest	Ozark	Southeast	Southwest	St. Louis
1985 ^a	4,695	1,251	4,528	2,142	4,262	3,045	1,716	3,131
1986	5,671	1,541	6,671	2,841	4,716	3,743	2,056	3,723
1987	6,564	1,836	7,296	3,268	5,683	4,333	2,796	4,175
1988	6,046	1,841	6,135	3,286	5,513	3,829	3,005	3,532
1989	6,693	2,249	6,304	3,520	6,091	3,710	3,454	3,596
1990	5,961	2,150	5,090	3,158	4,378	2,841	3,465	3,013
1991	6,136	2,202	5,086	3,315	5,121	3,671	3,403	3,303
1992	5,943	2,238	5,068	3,546	5,424	3,593	3,857	3,366
1993	6,379	2,679	5,328	4,455	5,318	2,943	4,176	3,064
1994	6,895	3,179	6,127	5,073	5,602	3,477	4,219	3,149
1995	6,847	3,280	6,243	5,189	5,105	3,631	4,013	3,164
1996	6,723	3,182	6,308	5,897	5,070	3,421	3,875	3,203
1997	5,999	3,160	6,346	5,223	3,979	2,436	3,543	2,509
1998 ^b	8,257	5,052	9,246	7,635	5,916	3,518	5,259	3,574
1999	8,602	5,624	8,930	7,881	5,933	3,701	5,820	3,796
2000	9,003	6,287	9,456	8,749	7,197	4,679	6,366	4,550
2001 ^c	9,352	6,247	10,253	8,764	7,026	4,563	6,773	4,522
2002	9,102	6,411	8,205	7,801	7,710	5,325	7,521	4,491
2003	8,920	6,737	8,700	8,498	8,352	5,629	7,412	4,439
2004	9,328	7,770	9,984	9,710	7,187	4,895	7,503	4,352
2005	8,491	7,387	9,070	8,473	6,790	4,860	7,228	4,075
2006	8,132	6,758	8,875	7,804	6,501	5,118	6,980	4,252
2007	7,380	5,977	6,920	6,943	5,797	4,402	6,537	3,685
2008 ^d	6,993	5,496	6,359	6,077	5,966	5,046	6,464	3,661
2009	6,783	5,062	5,715	6,073	5,984	4,493	6,522	3,698
2010	6,788	5,462	5,661	6,306	5,648	5,009	7,058	3,668
2011	6,400	5,153	4,914	5,328	5,380	4,898	6,460	3,697

^a All 114 counties open to spring turkey hunting.

^b Season length increased from 14 to 21 days.

^c 2-day spring youth season initiated.

^d All-day hunting (until sunset) allowed during the youth season.

Table 6. Fall firearms turkey harvest and permit sales^a in Missouri, 1986-2010.

Year	Fall Firearms Harvest	% Change From Previous Year	Fall Permit Sales	% Change From Previous Year
1986 ^b	21,019	+72.6	46,688	+28.9
1987	28,139	+33.9	52,922	+13.4
1988	23,080	-18.0	50,715	-4.2
1989	22,131	-4.1	46,946	-7.4
1990	16,015	-27.6	37,080	-21.0
1991	19,788	+23.6	37,469	+1.0
1992	17,061	-13.8	36,033	-3.8
1993	13,569	-20.4	34,379	-4.6
1994	19,869	+46.4	38,424	+11.8
1995	13,866	-30.2	33,642	-12.6
1996	13,207	-4.8	34,522	+2.6
1997	11,866	-10.2	33,765	-2.2
1998	15,343	+29.3	32,593	-3.5
1999	14,651	-4.5	32,606	0.0
2000	13,230	-9.7	31,968	-2.0
2001	13,596	+2.8	30,949	-3.2
2002	14,392	+5.9	31,329	+1.2
2003	11,436	-20.5	28,108	-10.3
2004	11,824	+3.4	23,215	-17.4
2005 ^c	13,233	+11.9	25,805	+11.2
2006	11,927	-9.9	23,141	-10.3
2007	10,859	-9.0	20,397	-11.9
2008	7,389	-32.0	17,533	-14.0
2009	8,351	+13.0	17,287	-1.4
2010	5,928	-29.0	13,736	-20.5

^a Does not include free landowner permits.

^b Bag limit increased from one to two birds.

^c Season length increased from 14 to 31 days.

Table 7. Fall archery turkey harvest and permit sales^a in Missouri, 1988-2010.

Year	Fall Archery Harvest	% Change From Previous Year	Fall Archery Permit Sales	% Change From Previous Year
1988 ^b	770	+2.3	82,612	+10.1
1989	878	+14.0	83,440	+1.0
1990	812	-7.5	84,018	+0.7
1991	1,073	+32.1	91,656	+9.1
1992	1,071	-0.2	94,835	+3.5
1993	999	-6.7	93,729	-1.2
1994	1,604	+60.6	97,441	+4.0
1995 ^c	1,113	-30.6	98,601	+1.2
1996	1,357	+21.9	97,417	-1.2
1997	1,241	-8.5	93,402	-4.1
1998	1,670	+34.6	96,374	+3.2
1999	1,331	-20.3	97,345	+1.0
2000	1,340	+0.7	96,980	-0.4
2001	2,043	+52.5	97,966	+1.0
2002	2,272	+11.2	99,630	+1.7
2003 ^d	1,840	-19.0	102,012	+2.4
2004	2,333	+26.8	94,693	-7.2
2005	2,949	+26.4	91,152	-3.7
2006	2,823	-4.3	97,302	+6.7
2007	2,513	-11.0	96,204	-1.1
2008	2,484	-1.2	100,860	+4.8
2009	3,263	+31.4	101,930	+1.1
2010	2,184	-33.1	100,491	-1.4

^a Does not include free landowner permits.

^b Bag limit increased from one to two turkeys.

^c Season expansion: October 1 – January 15.

^d Season expansion: September 15 – January 15.



2009 MICHIGAN FALL TURKEY HUNTER SURVEY

Brian J. Frawley

ABSTRACT

A survey of turkey hunters was conducted following the 2009 fall hunting season to determine turkey harvest and hunter participation. During the 2009 fall hunt, an estimated 16,431 hunters harvested about 3,984 turkeys. The number of people pursuing turkeys and their hunting effort did not change significantly from 2008. However, the number of turkey harvested, hunter success, and hunter satisfaction in 2009 declined significantly from 2008. The 2009 harvest declined 20% from 2008. Hunter success was 24% in 2009 (versus 31% success in 2008). About 58% of the hunters in 2009 rated their hunting experience as excellent, very good, or good (versus 62% satisfaction in 2008).

INTRODUCTION

Fall wild turkey (*Meleagris gallopavo*) hunting seasons were implemented in Michigan to help maintain turkey populations at levels matching biological and social carrying capacities. In 2009, 12 management units totaling about 34,976 square miles were open for fall turkey hunting during October 5-November 14 (Figure 1). The area and units open for hunting turkey were the same as in 2008.

A person could purchase only one license for the fall turkey hunting season. People interested in obtaining a hunting license for the fall season could enter into a random license drawing conducted by the Department of Natural Resources and Environment (DNRE). Applicants could choose one hunt area. Any licenses available after the drawing was completed were made available on a first-come, first-served basis to applicants unsuccessful in the drawing. Beginning one week after licenses were available to unsuccessful applicants, all remaining licenses were made available to nonapplicants. Leftover licenses were available for all management units (Table 1). Licenses for units HA, HB, Q, T, and WA were valid on private lands only, while licenses for units G, GB, GC, J, L, M, and W were valid on either land ownership types (i.e., public or private land). Hunters were allowed to take one turkey of either sex with the harvest tag issued with their license. Turkey could be harvested with a firearm, crossbow, or archery equipment. Hunters 12-years-old or older could use a crossbow to hunt turkeys. Hunters using a crossbow were required to obtain a free crossbow stamp, except hunters with a disability already hunting under a DNRE-issued crossbow permit did not need the stamp.

The Natural Resources Commission and DNRE have the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Harvest surveys are one of the management tools used to meet their statutory responsibility. Estimating harvest, hunting effort, and hunter satisfaction are among the primary objectives of these surveys.

METHODS

The DNRE provided hunters the option to voluntarily report information about their turkey hunting activity via the internet. This option was advertised in the hunting regulations booklet, on the DNRE website, and in an email message that was sent to licensees that had provided an email address to the DNRE (5,708 people). Hunters could report information anytime during the hunting season. Hunters reported whether they hunted, number of days spent afield, and whether they harvested a turkey. Successful hunters also were asked to report where their turkeys were taken (public or private land) and beard length of the harvested bird. Birds with a beard <4 inches long were classified as juveniles (<1 year old), while birds with longer beards were adults (≥ 1 year old) (Kelly 1975). In addition, hunters were asked what type of hunting equipment used to hunt turkeys and kill turkeys. Finally, hunters rated their overall hunting experience (excellent, very good, good, fair, or poor).

Following the 2009 fall turkey hunting season, a questionnaire was sent to 5,035 randomly selected people that had purchased a turkey hunting license (resident turkey, senior resident turkey, and nonresident turkey licenses) and had not already voluntarily reported harvest information via the internet. Hunters receiving the questionnaire were asked to report the same information that was collected from hunters that reported voluntarily on the internet.

Estimates were calculated using a stratified random sampling design that included 13 strata (Cochran 1977). Hunters were stratified based on the management unit where their license was valid (12 management units). Hunters that had voluntarily reported information about their hunting activity via the internet before the mail survey sample was selected were treated as a thirteenth stratum.

Because estimates were based on information collected from random samples of hunting license buyers, these estimates were subject to sampling errors (Cochran 1977). Thus, a 95% confidence limit (CL) was calculated for each estimate. In theory, this CL can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies the true value would be within this interval 95 times out of 100. Unfortunately, there are several other possible sources of error in surveys that are probably more serious than theoretical calculations of sampling error. They include failure of participants to provide answers (nonresponse bias), question wording, and question order. It is very difficult to measure these biases; thus, estimates were not adjusted for these possible biases.

Statistical tests are used routinely to determine the likelihood that the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating the difference between the means was larger than would be expected 995 out of 1,000 times, if the study had been repeated (Payton et al. 2003).

Questionnaires were mailed initially during mid-December 2009, and up to two follow-up questionnaires were mailed to nonrespondents. Although 5,035 people were sent the questionnaire, 34 surveys were undeliverable resulting in an adjusted sample size of 5,001. Questionnaires were returned by 3,895 people, yielding a 78% adjusted response rate. In addition, 1,210 people voluntarily reported information about their hunting activity via the internet.

RESULTS

In 2009, the DNRE offered 59,050 licenses for sale, and hunters purchased 20,758 licenses for the fall turkey hunting season (Table 1). Licensees included 10,066 people that were successful in the drawing for a license and 238 applicants that were unsuccessful in the drawing. In addition to the applicants, 10,454 people that had not entered into the drawing purchased a license.

The number of licenses sold in 2009 increased 1% from 2008. In 2009, about 16,431 hunters spent 97,064 days afield pursuing turkeys (\bar{x} = 5.9 days/hunter) (Table 2). The number of people pursuing turkeys in 2009 and their hunting effort did not change significantly from 2008. About 95% of the hunters that went afield were men ($15,631 \pm 277$), and 5% of the hunters were women (800 ± 119). The average age of the license buyers was 49 years (Figure 2). About 6% of the license buyers were younger than 17 years old ($1,217$).

About 24% of active hunters successfully harvested a turkey in 2009, and they harvested an estimated 3,984 turkeys (Table 2). Both harvest (-20%) and hunter success (6 percentage points lower) in 2009 declined significantly from 2008 (Figure 3). Harvest was greatest in Kent and Ottawa counties; both counties had more than 150 turkeys taken by hunters in 2009 (Table 3).

About 91% of turkey hunters hunted solely on private land, 6% hunted on public land only, and 2% hunted on both private and public lands (Table 4). Of the 3,984 turkeys harvested in 2009, 95% of these birds were taken on private land (3,785), while about 5% of the harvest (195) was taken on public land (Tables 5 and 6). Additionally, 4 birds were harvested from land of unknown ownership. About 57% of the harvested birds had a beard ($2,261 \pm 277$). Most of these bearded birds (82%) were adults ($1,846 \pm 178$); 17% were juvenile birds (394 ± 78).

Of the 16,431 turkey hunters in 2009, nearly $58 \pm 2\%$ rated their hunting experience as either excellent ($1,939 \pm 186$), very good ($2,782 \pm 216$), or good ($4,770 \pm 274$) (Table 7). About $21 \pm 1\%$ of the hunters rated their experience as fair ($3,457 \pm 241$ hunters), while $18 \pm 1\%$ of

the hunters rated their experience as poor ($2,999 \pm 222$ hunters). Additionally, about 3% of the hunters (483 ± 102 hunters) failed to rate their hunting experience. Changes in hunter satisfaction generally parallel changes in hunter success (Figure 4). Between 2008 and 2009, both hunter success (24% versus 31%) and satisfaction (58% versus 62%) declined significantly.

Most hunters (71%; $11,746 \pm 319$ hunters) used firearms while hunting turkeys, although 31% ($5,136 \pm 282$) of the hunters used either a compound, recurve, or long bow and 11% ($1,851 \pm 189$) used a crossbow (Table 8). Most hunters (84%; $3,343 \pm 226$ hunters) used a firearm to kill their turkey, while 10% (393 ± 85) used either a compound, recurve, or long bow and 6% (244 ± 66) used a crossbow to take their turkey (Table 9). About $73 \pm 5\%$ of the turkey hunters using a crossbow had obtained the crossbow stamp.

Acknowledgements

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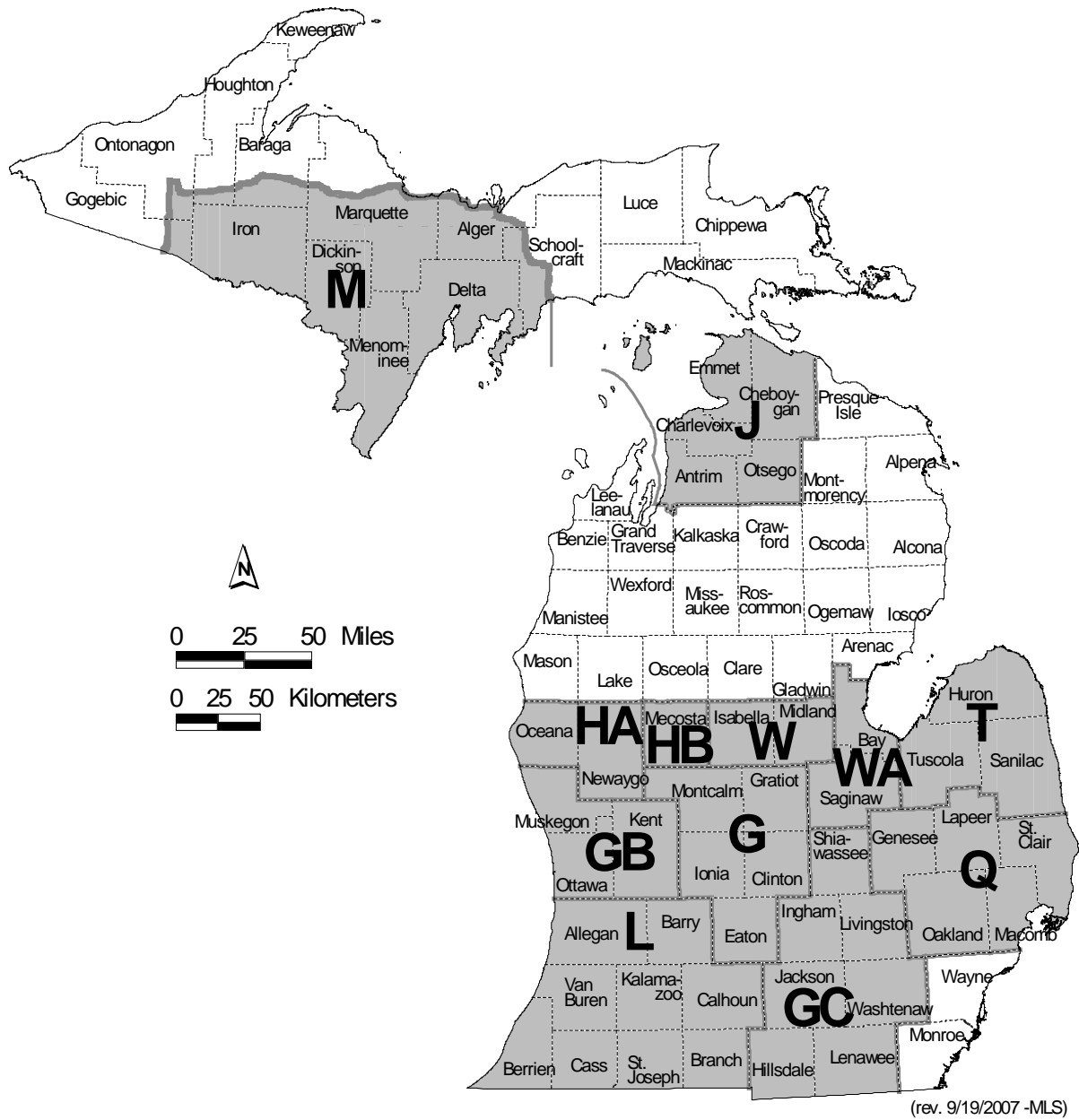


Figure 1. Management units open for fall turkey hunting in Michigan, 2009.

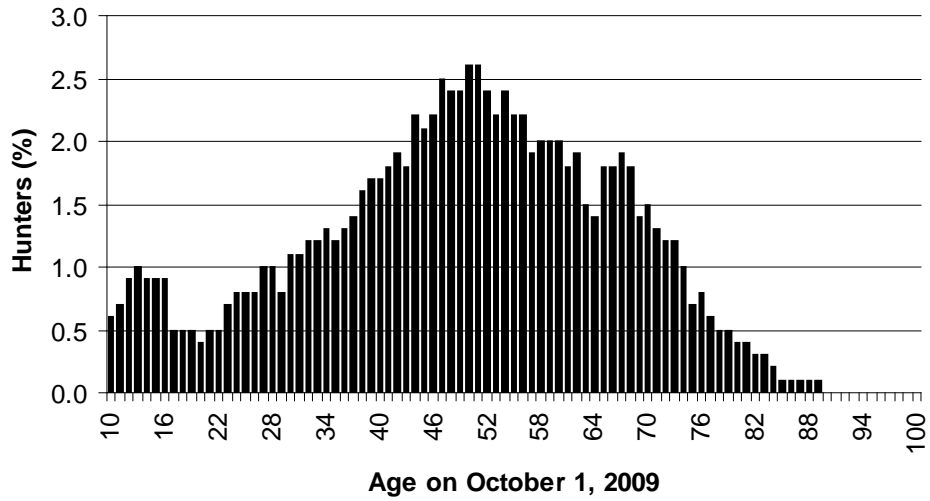


Figure 2. Age of people that purchased a turkey hunting license in Michigan for the 2009 fall hunting season ($\bar{x} = 49$ years). Licenses were purchased by 20,758 people.

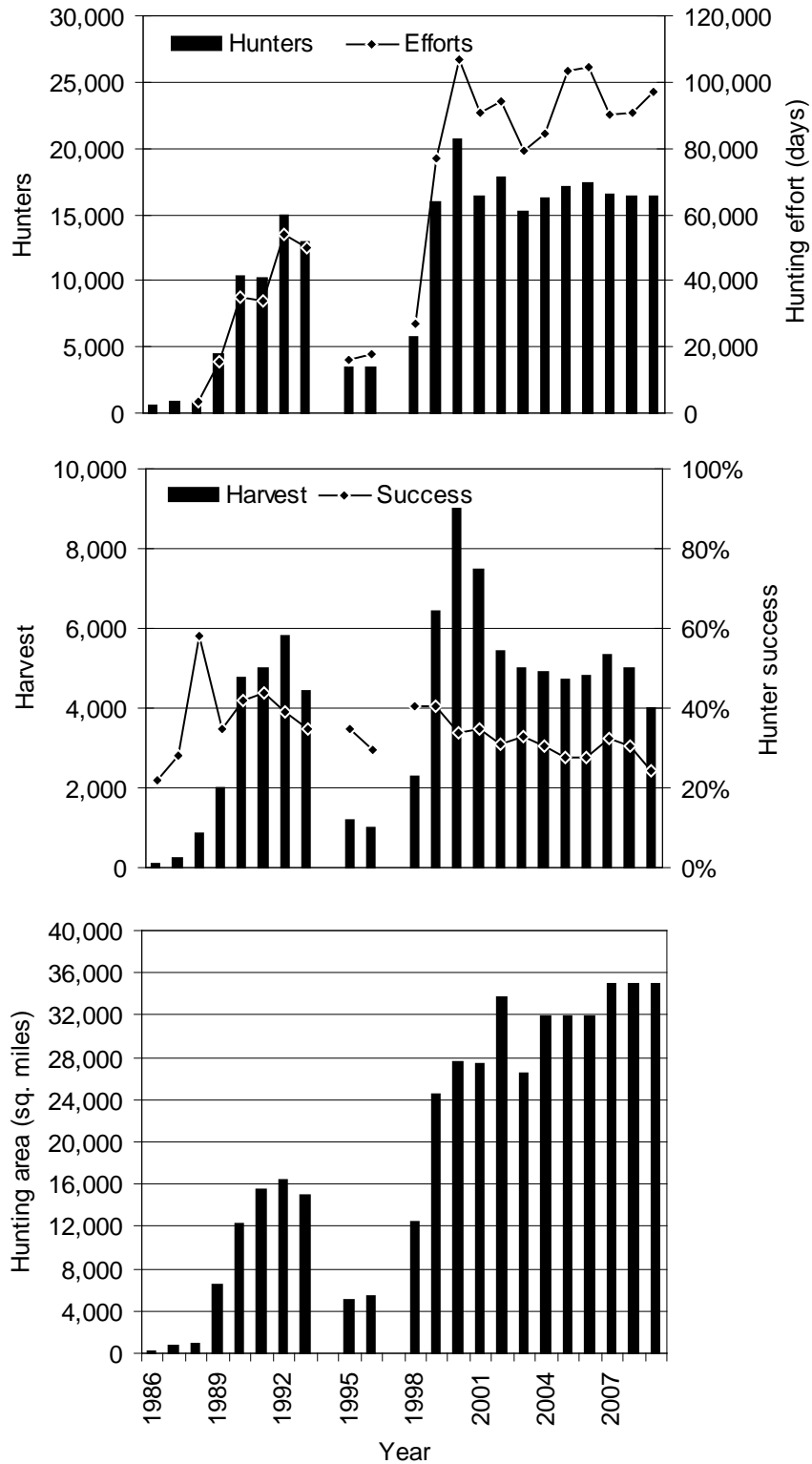


Figure 3. Number of hunters, hunting efforts (days), harvest, hunting success, and hunting area during the fall turkey hunting season, 1986-2009. Turkeys were not hunted during the fall in 1994 and 1997.

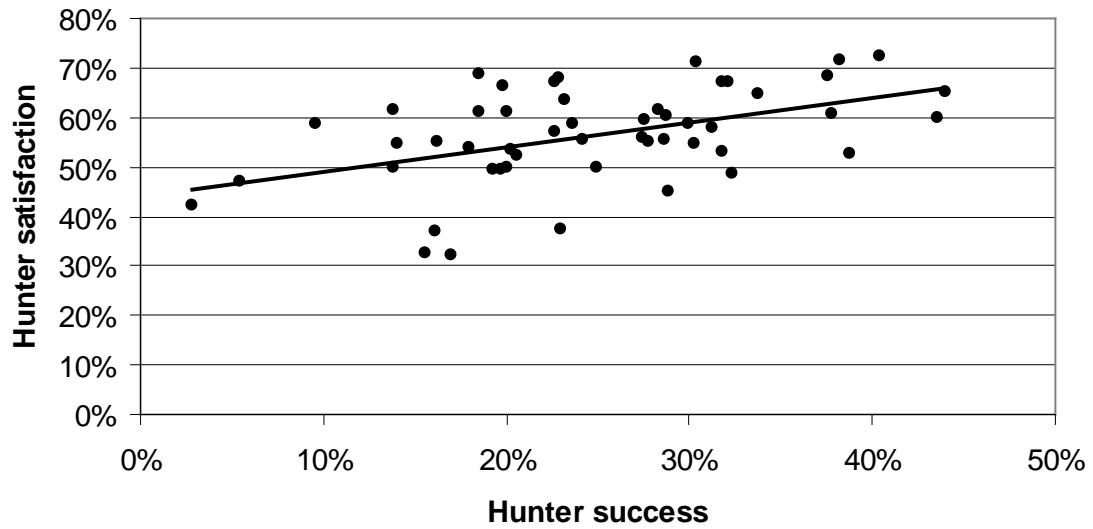


Figure 4. Hunter satisfaction (expressed as the percentage of hunters rating their hunting experience as excellent, very good, or good) associated with hunter success for each of 51 counties in Michigan during the 2009 fall turkey hunting season (included only counties with at least 20 hunters).

Table 1. Number of hunting licenses available and people applying for licenses during the 2009 Michigan fall turkey hunting season.

Management unit	Licenses available (quota) ^a	Number of eligible applicants	Number of applicants successful in drawing	Number of licenses remaining after drawing	Number of licenses purchased by successful applicants	Number of leftover licenses purchased by unsuccessful applicants	Number of leftover licenses	Licenses sold
G	7,200	1,238	1,064	6,136	702	35	1,162	1,899
GB	4,250	1,079	1,058	3,192	710	7	866	1,583
GC	6,200	2,800	2,149	4,051	1,461	157	2,341	3,959
HA ^b	1,100	1,060	1,060	40	712	0	34	746
HB ^b	600	388	388	212	269	3	154	426
J	2,000	1,138	1,138	862	734	6	400	1,140
L	21,000	2,177	2,177	18,823	1,504	18	2,997	4,519
M	8,500	631	631	7,869	406	1	938	1,345
Q ^b	3,000	2,629	2,629	371	1,702	6	323	2,031
T ^b	2,000	1,466	1,466	534	984	0	481	1,465
W	2,200	696	696	1,504	464	5	404	873
WA ^b	1,000	600	600	400	418	0	354	772
Statewide	59,050	15,902	15,056	43,994	10,066	238	10,454	20,758

^aQuotas were assigned by hunts within each management unit.^bLicenses were valid on private lands only.

Table 2. Number of hunters, harvest, hunting success, and hunting efforts during the 2009 Michigan fall turkey hunting season.

Management unit	Hunters		Harvest		Hunting success		Hunting efforts (days)		Days per hunter (\bar{x})	
	Total	95% CL	Total	95% CL	%	95% CL	Total	95% CL	Mean	95% CL
G	1,566	64	366	66	23	4	9,158	874	5.8	0.5
GB	1,368	47	461	63	34	4	7,061	650	5.2	0.4
GC	3,052	150	754	138	25	4	19,413	2,348	6.4	0.7
HA ^a	557	28	147	25	26	4	2,934	289	5.3	0.4
HB ^a	325	16	93	15	29	4	1,513	152	4.7	0.4
J	845	44	235	40	28	5	4,890	596	5.8	0.6
L	3,625	160	642	137	18	4	22,766	2,216	6.3	0.5
M	1,068	49	340	53	32	5	6,203	701	5.8	0.6
Q ^a	1,602	69	340	62	21	4	9,791	977	6.1	0.5
T ^a	1,172	50	261	47	22	4	6,567	642	5.6	0.5
W	659	33	187	31	28	4	3,332	331	5.1	0.4
WA ^a	589	29	159	28	27	4	3,435	373	5.8	0.6
Statewide ^b	16,431	263	3,984	243	24	1	97,064	3,765	5.9	0.2

^aLicenses were valid on private lands only.^bColumn totals may not equal statewide totals because of rounding errors.

Table 3. Number of hunters, hunting effort, harvest, hunter success, and hunter satisfaction during the 2009 Michigan fall turkey hunting season, summarized by county.

County	Hunters ^a		Hunting efforts (days) ^a				Harvest ^a		Hunter success		Hunter satisfaction ^b	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL
	Alger	76	28	325	155	12	12	12	12	16	14	32
Allegan	667	141	4,052	1,186	94	56	94	56	14	8	55	11
Antrim	233	40	1,400	343	91	27	91	27	39	9	53	10
Baraga	4	7	4	7	0	0	0	0	0	0	0	0
Barry	506	124	2,959	1,006	48	39	48	39	10	7	59	13
Bay	115	25	633	213	43	16	43	16	38	11	61	11
Berrien	259	92	1,810	867	46	39	46	39	18	14	54	18
Branch	210	84	1,431	747	6	0	6	0	3	1	42	20
Calhoun	504	125	2,778	909	70	48	70	48	14	9	50	13
Cass	391	114	2,379	980	79	52	79	52	20	12	54	15
Charlevoix	147	33	606	198	56	21	56	21	38	12	71	11
Cheboygan	184	37	1,085	350	42	19	42	19	23	9	37	11
Clinton	298	61	1,797	541	82	34	82	34	28	10	59	11
Delta	292	50	1,315	327	93	31	93	31	32	9	53	10
Dickinson	192	42	1,246	385	55	25	55	25	29	11	45	12
Eaton	265	58	1,697	519	43	25	43	25	16	9	55	12
Emmet	70	24	311	131	11	10	11	10	16	13	37	17
Genesee	291	58	1,711	467	69	30	69	30	24	9	59	11
Gogebic	4	7	12	20	0	0	0	0	0	0	100	0
Gratiot	240	55	1,209	361	75	32	75	32	31	11	58	12
Hillsdale	307	94	1,588	825	17	18	17	18	5	6	47	16

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

Table 3 (continued). Number of hunters, hunting effort, harvest, hunter success, and hunter satisfaction during the 2009 Michigan fall turkey hunting season, summarized by county.

County	Hunters ^a		Hunting efforts (days) ^a				Harvest ^a		Hunter success		Hunter satisfaction ^b	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL
Houghton	0	0	0	0	0	0	0	0	0	0	0	0
Huron	269	47	1,452	378	55	23	55	21	8	52	10	10
Ingham	386	105	1,999	679	123	62	123	32	13	67	13	13
Ionia	282	59	1,587	448	39	23	39	14	8	61	11	11
Iron	171	40	898	283	74	27	74	44	12	60	12	12
Isabella	318	36	1,652	282	96	23	96	30	6	55	7	7
Jackson	601	127	4,094	1,409	119	59	119	20	9	66	11	11
Kalamazoo	418	115	2,392	830	127	65	127	30	13	71	13	13
Kent	532	65	2,887	522	179	44	179	34	7	65	7	7
Lapeer	447	70	3,043	710	83	33	83	18	7	61	9	9
Lenawee	353	101	2,032	931	132	64	132	38	15	68	14	14
Livingston	569	123	3,593	1,111	129	62	129	23	10	67	11	11
Macomb	108	37	458	177	21	17	21	19	14	50	18	18
Marquette	111	33	542	218	28	18	28	25	14	50	16	16
Mecosta	325	16	1,513	152	93	15	93	29	4	55	5	5
Menominee	202	43	1,195	342	65	26	65	32	11	49	12	12
Midland	290	35	1,454	244	87	23	87	30	7	59	7	7
Montcalm	382	66	2,258	534	106	38	106	28	9	55	10	10
Muskegon	361	58	2,076	473	116	36	116	32	9	67	9	9
Newaygo	365	32	1,883	257	100	21	100	27	5	56	6	6
Oakland	260	56	1,245	333	74	31	74	28	10	62	11	11

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

Table 3 (continued). Number of hunters, hunting effort, harvest, hunter success, and hunter satisfaction during the 2009 Michigan fall turkey hunting season, summarized by county.

County	Hunters ^a		Hunting efforts (days) ^a				Harvest ^a		Hunter success		Hunter satisfaction ^b	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL
	Oceana	162	26	866	192	47	16	47	16	29	8	60
Ontonagon	4	7	20	34	0	0	0	0	0	0	0	0
Otsego	206	38	1,298	408	35	17	35	17	17	8	32	9
Ottawa	366	58	1,691	378	161	42	161	42	44	9	65	9
Saginaw	400	34	2,179	281	97	22	97	22	24	5	55	6
St. Clair	446	70	2,911	695	90	34	90	34	20	7	61	9
St. Joseph	300	99	2,068	938	69	48	69	48	23	14	68	16
Sanilac	398	54	2,090	397	90	29	90	29	23	7	57	8
Schoolcraft	40	21	317	237	8	9	8	9	20	21	50	27
Shiawassee	362	102	2,178	971	146	66	146	66	40	15	72	13
Tuscola	425	56	2,671	528	99	31	99	31	23	7	63	8
Van Buren	348	106	1,906	782	69	48	69	48	20	13	49	16
Washtenaw	311	94	2,357	951	58	40	58	40	19	12	69	14
Unknown	1,358	159	5,908	1,116	137	54	137	54	10	4	49	6

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

Table 4. Number and proportion of hunters hunting on private and public lands during the fall 2009 Michigan turkey hunting season.

Management unit	Private lands only						Public lands only						Both private and public lands						Unknown ownership									
	95%		%		95%		95%		%		95%		95%		%		95%		95%		%		95%		95%			
	Total	CL	%	CL	%	CL	Total	CL	%	CL	%	Total	CL	%	CL	%	Total	CL	%	CL	%	Total	CL	%	CL	%		
G	1,491	68	95	2	2	73	30	5	2	2	<1	<1	<1	<1	<1	<1	0	0	0	0	0	0	0	0	0	0		
GB	1,305	52	95	2	4	49	23	4	2	10	10	1	1	1	1	1	4	7	<1	<1	<1	1	1	1	1	1		
GC	3,001	152	98	1	1	41	31	1	1	10	18	<1	<1	<1	<1	<1	0	0	0	0	0	0	0	0	0	0		
HA ^a	557	28	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
HB ^a	325	16	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
J	501	50	59	5	26	221	39	26	4	109	30	13	3	14	11	2	14	11	2	1	2	1	2	1	2	1	1	
L	3,209	181	89	3	8	303	98	8	3	103	59	3	2	11	20	<1	11	20	<1	<1	<1	1	1	1	1	1	1	
M	638	61	60	5	23	251	47	23	4	152	39	14	4	28	18	3	28	18	3	2	3	2	3	2	3	2	2	
Q ^a	1,602	69	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
T ^a	1,172	50	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	598	35	91	3	7	49	18	7	3	12	9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WA ^a	589	29	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide ^b	14,990	283	91	1	6	987	126	6	1	397	80	2	<1	56	30	<1	56	30	<1	<1	<1	30	<1	<1	<1	<1	<1	

^aLicenses were valid on private lands only.^bNumber of hunters may not equal statewide totals because of rounding errors.

Table 5. Statewide turkey harvest during the 2009 Michigan fall turkey hunting season, summarized by land ownership type and turkey sex and age.

Land ownership Turkey sex and age	Harvest	
	Total	95% CL
Private lands		
Males	2,189	190
Juveniles	375	76
Adults	1,794	176
Unknown	20	22
Females	1,565	160
Unknown sex	31	28
Subtotal – Private lands ^a	3,785	238
Public lands		
Males	72	36
Juveniles	20	14
Adults	52	33
Unknown	0	0
Females	123	48
Unknown sex	0	0
Subtotal – Public lands ^a	195	59
Unknown lands	4	7
Grand total ^a	3,984	243

^aColumn totals may not equal subtotals and grand total because of rounding errors.

Table 6. Number of turkeys harvested on private and public lands during the 2009 Michigan fall turkey hunting season.

Management unit	Private lands		Public lands		Unknown ownership	
	Total	95% CL	Total	95% CL	Total	95% CL
G	349	64	17	15	0	0
GB	455	62	5	7	0	0
GC	743	137	11	18	0	0
HA ^a	147	25	0	0	0	0
HB ^a	93	15	0	0	0	0
J	197	37	38	18	0	0
L	582	131	60	44	0	0
M	276	49	60	25	4	7
Q ^a	340	62	0	0	0	0
T ^a	261	47	0	0	0	0
W	184	31	3	4	0	0
WA ^a	159	28	0	0	0	0
Statewide ^b	3,785	238	195	59	4	7

^aLicenses were valid on private lands only.

^bColumn totals may not equal statewide total because of rounding errors.

Table 7. How hunters rated their hunting experience during the 2009 Michigan fall turkey hunting season.

Management unit	Satisfaction level (% of hunters)					
	Excellent	Very good	Good	Fair	Poor	No answer
G	11	20	28	21	17	3
GB	15	18	32	18	17	1
GC	14	20	30	20	14	3
HA ^a	10	16	29	18	22	5
HB ^a	13	19	23	22	17	5
J	8	17	22	24	27	2
L	10	14	31	23	18	4
M	9	15	27	23	24	3
Q ^a	13	17	30	20	18	2
T ^a	12	17	28	20	19	3
W	16	15	23	24	20	2
WA ^a	9	17	29	23	19	3
Statewide	12	17	29	21	18	3

^aLicenses were valid on private lands only.

Table 8. Hunting equipment used while hunting turkeys during fall turkey hunting season in Michigan, 2009.

Management unit	Hunting equipment							
	Firearms		Compound, recurve, or long bows		Crossbows		Unknown	
	%	95% CL	%	95% CL	%	95% CL	%	95% CL
G	63	5	38	5	12	3	0	0
GB	66	4	35	4	10	3	0	0
GC	65	5	38	5	12	3	0	0
HA	77	4	25	4	14	3	0	0
HB	71	4	29	4	10	3	1	1
J	88	3	15	4	3	2	2	1
L	71	4	34	5	13	3	1	1
M	89	3	13	3	7	3	0	0
Q	71	4	31	4	13	3	1	1
T	74	4	30	4	11	3	<1	1
W	73	4	29	4	10	3	0	0
WA	77	4	25	4	11	3	0	0
Statewide	71	2	31	2	11	1	<1	<1

^aRow totals equal more than 100% because hunters could use more than one type of equipment during season.

Table 9. Hunting equipment used to harvest turkeys during fall turkey hunting season in Michigan, 2009.

Management unit	Hunting equipment							
	Firearms		Compound, recurve, or long bows		Crossbows		Unknown	
	%	95% CL	%	95% CL	%	95% CL	%	95% CL
G	86	7	11	6	3	3	0	0
GB	78	7	13	5	10	5	0	0
GC	78	8	15	7	7	5	0	0
HA	85	7	5	5	9	6	0	0
HB	83	6	14	6	3	3	0	0
J	96	3	3	3	0	0	0	0
L	84	8	10	7	6	5	0	0
M	95	4	3	3	2	3	0	0
Q	85	7	8	5	7	5	0	0
T	84	7	6	4	9	6	1	2
W	78	8	14	7	8	5	0	0
WA	84	7	9	6	7	5	0	0
Statewide	84	2	10	2	6	2	<1	<1

Table 11. Hunting equipment used while hunting turkeys during fall turkey hunting season in Michigan, 2009.

Management unit	Hunting equipment							
	Firearms		Compound, recurve, or long bows		Crossbows		Unknown	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL
G	986	83	590	77	183	49	0	0
GB	909	68	477	63	138	39	0	0
GC	1,983	177	1,162	161	369	103	0	0
HA	431	32	140	24	80	20	0	0
HB	229	18	95	15	31	9	2	3
J	741	48	128	32	28	15	14	11
L	2,580	197	1,225	176	476	123	21	28
M	951	56	140	37	74	28	0	0
Q	1,134	84	495	72	204	50	10	12
T	867	60	349	51	133	35	4	7
W	483	38	189	31	68	20	0	0
WA	452	34	147	27	67	19	0	0
Statewide	11,746	319	5,136	282	1,851	189	51	33

^aRow totals equal more than 100% because hunters could use more than one type of equipment during season.

Table 12. Number of turkeys harvested during the 2009 fall turkey hunting season in Michigan, summarized by hunting equipment used to kill the turkey.

Management unit	Hunting equipment							
	Firearms		Compound, recurve, or long bows		Crossbows		Unknown	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL
G	316	62	39	23	11	12	0	0
GB	358	58	58	25	45	23	0	0
GC	587	125	115	56	52	40	0	0
HA	125	24	8	7	14	9	0	0
HB	77	14	13	6	3	3	0	0
J	226	40	8	8	1	0	0	0
L	542	128	62	44	38	34	0	0
M	323	52	9	9	8	9	0	0
Q	290	59	28	17	23	17	0	0
T	218	44	15	11	24	16	4	7
W	146	28	25	13	15	10	0	0
WA	134	26	14	9	11	8	0	0
Statewide	3,343	226	393	85	244	66	4	7



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2010 MICHIGAN SPRING TURKEY HUNTER SURVEY

Brian J. Frawley

ABSTRACT

A survey of turkey hunters was conducted following the 2010 spring hunting season to determine turkey harvest and hunter participation. In 2010, nearly 92,500 hunters harvested about 37,000 turkeys. Statewide, 40% of hunters harvested a turkey. Nearly 66% of the hunters rated their hunting experience as excellent, very good, or good in 2010. About 90% of the hunters reported they experienced no or only minor interference from other hunters. The number of hunters and their harvest declined significantly (declined 6% and 7%, respectively) between 2009 and 2010; however, hunter success and hunter satisfaction were unchanged.

INTRODUCTION

Michigan's spring turkey (*Meleagris gallopavo*) hunting season was based originally on an area and quota system. This system was set up primarily to distribute hunters across geographic areas (management units) and time (hunt periods). As the turkey population has expanded statewide, license types were created that allowed hunters to hunt in multiple management units. The goal of the current system has been to provide hunting opportunities while maintaining acceptable levels of hunter satisfaction (Luukkonen 1998).

In 2010, 80% of the state (48,147 square miles) was open for wild turkey hunting from April 19 through May 31 (Figure 1). The area open for turkey hunting was the same as in 2009. The hunting area was divided into 12 management units (Figure 1). Hunting licenses were available on these management units for three types of hunts: (1) quota [limited licenses available] hunts on both public and private lands in a specific management unit, (2) quota hunt on private lands in southern Michigan [Hunt 301 in Unit ZZ], and (3) a guaranteed hunt (no quota) that included all units [Hunt 234].

People interested in obtaining a turkey hunting license could enter into a random drawing (lottery) conducted by the Department of Natural Resources and Environment (DNRE) or purchase a license for Hunt 234 between January 1 and February 1 without going through the lottery. Each applicant in the lottery could select up to two hunt choices (any combination of quota and unlimited quota hunts). The lottery consisted of two drawings. The first drawing

was used to select applicants based on their preferred hunt choice. The second drawing was among applicants who were not successful in the first drawing, and was based on the hunter's second choice for a hunt. Any licenses available after the drawing was completed were made available on a first-come, first-served basis to applicants that were unsuccessful in the drawing. Unsuccessful applicants could purchase one leftover license or a license for Hunt 234. Beginning one week after licenses were available to unsuccessful applicants, all remaining licenses except licenses for Hunt 234 were made available to nonapplicants. Hunters were allowed to purchase one license and take one bearded turkey with the harvest tag issued with their license.

A limited number of licenses were available for quota hunts, and they were valid only in a certain management unit and only during a limited time period (7-43 days). Most quota hunts began before May 4 and lasted for seven days. A private land management unit (Unit ZZ) was created in 2002 that included all private lands in southern Michigan (Figure 1). Hunters who selected Hunt 301 could hunt the first two weeks of the season (April 19-May 2) anywhere on private lands in Unit ZZ. This unit and hunt period was created to provide additional hunting opportunity and increased flexibility for hunters who had difficulty finding time to hunt during shorter quota hunts.

Licenses for Hunt 234 could be used in any management unit. They were valid on public and private lands, except in Unit ZZ, where they were only valid on private lands or on Fort Custer military lands. Hunt 234 started later than most quota hunts but lasted for 29 days (May 3-31). An unlimited number of licenses were available for Hunt 234.

The Pure Michigan Hunt (PMH) was a unique multi-species hunting opportunity offered for the first time in 2010. Individuals could purchase an unlimited number of applications for the PMH. Three individuals were randomly chosen from all applications, and winners received elk, bear, spring turkey, fall turkey, and antlerless deer hunting licenses and could participate in a reserved waterfowl hunt on a managed waterfowl area. The turkey hunting licenses were valid for all areas open for hunting turkey and during all turkey hunting periods. Furthermore, the PMH license holder could hunt any season until their turkey harvest tag was filled.

Hunters could use a bow and arrow, crossbow, or firearm that fired a fixed shotgun shell (including a muzzleloading shotgun) to hunt turkeys. Hunters using a crossbow were required to obtain a free crossbow stamp, except hunters with a disability already hunting under a DNRE-issued crossbow permit, did not need the stamp.

The DNRE and the Natural Resources Commission have the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Harvest surveys are a management tool used by the Wildlife Division to accomplish its statutory responsibility. Estimating harvest, hunting effort, and hunter satisfaction are the primary objectives of this survey.

METHODS

The Wildlife Division provided all hunters the option to report voluntarily information about their turkey hunting activity via the internet. This option was advertised in the hunting regulation booklet and through a statewide news release. Hunters could report information anytime during the hunting season. Hunters reported whether they hunted, the days spent afield, whether they harvested a turkey, type of device used while hunting (i.e., firearm, crossbow, or bow and arrow), and whether other hunters caused interference during their hunt (none, minor, some irritation, or major problem). Successful hunters were also asked to report where their turkeys were taken (public or private land), date of harvest, and beard length of the harvested bird. Birds with a beard less than six inches were classified as juveniles (one year old), while birds with longer beards were adults (two years old or greater; Kelly, 1975). Finally, hunters rated their overall hunting experience (excellent, very good, good, fair, or poor).

Following the 2010 spring turkey hunting season, a questionnaire was sent to 12,015 randomly selected people that had purchased a turkey hunting license (resident turkey, senior resident turkey, and nonresident turkey licenses) and had not already voluntarily reported harvest information via the internet. Hunters receiving the questionnaire were asked to report the same information that was collected from hunters that reported voluntarily on the internet.

Estimates were calculated using a stratified random sampling design that included 16 strata (Cochran 1977). Hunters were stratified based on the management unit where their license was valid (12 management units). Hunters who purchased a license that could be used in multiple management units (PMH license holders and licenses for hunts 234 and 301) were treated as separate strata (strata 13-15). Moreover, people that had voluntarily reported information about their hunting activity via the internet were treated as a separate stratum (sixteenth stratum).

A 95% confidence limit (CL) was calculated for each estimate. This CL could be added to 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 the true value would be within this interval 95 times out of 100. Estimates were based on information collected from random samples of hunting license buyers. Thus, these estimates were subject to sampling errors (Cochran 1977). Estimates were not adjusted for possible response or nonresponse biases.

Statistical tests are used routinely to determine the likelihood that differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating the difference between the means was larger than would

be expected 995 out of 1,000 times ($P < 0.005$), if the study had been repeated (Payton et al. 2003).

Questionnaires were mailed initially during mid-July 2010, and nonrespondents were mailed up to two follow-up questionnaires. Although 12,015 people were sent the questionnaire, 159 surveys were undeliverable resulting in an adjusted sample size of 11,856. Questionnaires were returned by 7,830 people, yielding a 66% adjusted response rate. In addition, 6,238 people voluntarily reported information about their hunting activity via the internet before the random sample was selected.

RESULTS AND DISCUSSION

In 2010, licenses were purchased by 115,117 people, a decrease of nearly 5% from 2009 (Table 1). Most of the people buying a license were men (93%), and the average age of the license buyers was 44 years (Figure 2). Nearly 9% (10,719) of the license buyers were younger than 17 years old.

About 80% ($\pm 1\%$) of license buyers hunted turkeys (92,463 hunters). Most of these hunters were men ($85,850 \pm 1,036$), although nearly 7% ($\pm 1\%$) of the hunters were women ($6,613 \pm 566$). Estimated hunter numbers (Table 2) declined about 6% between 2009 and 2010 (97,956 versus 92,463 hunters). Counties listed in descending order with more than 2,500 hunters afield included Kent, Allegan, Montcalm, and Tuscola (Table 3).

Hunters spent an estimated 418,895 days afield pursuing turkeys (4.5 ± 0.1 days/hunter), and harvested approximately 37,051 birds (Figure 3). Counties listed in descending order with hunters taking more than 1,000 turkeys included Montcalm, Kent, Allegan, Jackson, Tuscola, Saginaw, and St. Clair (Table 3). Hunter effort decreased significantly by 7% from 2009, and statewide harvest also decreased significantly by 7% from 2009. Hunter success was 40% in 2010, which was similar to the 41% hunter success experienced in 2009.

About 21% ($\pm 2\%$) of the harvested birds were juvenile males ($7,738 \pm 599$); 78% ($\pm 2\%$) were adult males ($28,750 \pm 1,028$), and about 1% were bearded females (384 ± 140). Additionally, the age of a small number of harvested birds ($< 1\%$) was unknown (171 ± 95) because hunters failed to report a beard length.

Hunting effort and the number of turkeys harvested were generally highest during the earliest hunting periods (Figures 4-7). For turkeys that the harvest date was known, 46% of these birds were taken during the first seven days (April 19-25). Daily hunter success generally was more than 8% during April 19 through May 6. Daily hunter success was generally below 8% during May 7-31. Hunting effort and harvest generally was greater on the weekends than weekdays.

About 81% of turkey hunters hunted solely on private land; 14% hunted on public land only; and 5% hunted on both private and public lands (Table 4). Of the 37,051 turkeys harvested in 2010, $91 \pm 1\%$ were taken on private land ($33,841 \pm 1,076$ birds). About $9 \pm 1\%$ of the harvest ($3,197 \pm 370$ birds) was taken on public land.

Hunter satisfaction is one measure used to assess the turkey management program in Michigan. Of the estimated 92,463 people hunting turkeys in 2010, $66 \pm 1\%$ of the hunters rated their hunting experience as either excellent ($17,152 \pm 839$ hunters), very good ($19,319 \pm 894$), or good ($24,771 \pm 991$) (Table 5). Nearly $18 \pm 1\%$ of the hunters rated their experience as fair ($16,931 \pm 848$ hunters). Only $14 \pm 1\%$ of the hunters rated their experience as poor ($13,060 \pm 743$ hunters). About 1% of the hunters ($1,229 \pm 259$ hunters) failed to rate their hunting experience.

Hunter satisfaction is affected by many factors such as hunting success and whether hunting activities were completed without interference (Luukkonen 1998). In 2010, $69 \pm 1\%$ of the hunters reported no hunter interference; $21 \pm 1\%$ reported minor interference; $8 \pm 1\%$ reported some irritation caused by hunter interference; and $2 \pm 1\%$ reported hunter interference was a major problem (Table 6).

Although interference can affect hunter satisfaction, hunter satisfaction was more closely associated with hunter success (Figures 8 and 9). Hunter success was greater than 35% in all hunt periods, and hunter success and satisfaction varied little among the hunt periods (Table 7).

Compared to 2009, hunter numbers, hunter effort, and harvest decreased significantly statewide in 2010 (Table 8). However, hunter success and satisfaction did not change significantly in 2010 (Table 9).

Most hunters ($91 \pm 1\%$) used firearms while hunting turkeys, although $8 \pm 1\%$ of the hunters used archery equipment (compound, recurve, or long bows), and $3 \pm 1\%$ used a crossbow. Most hunters ($94 \pm 1\%$) used a firearm to harvest their turkeys, while $4 \pm 1\%$ used archery equipment, and $1 \pm 1\%$ used a crossbow. Hunters using a crossbow to hunt turkeys were required to obtain a crossbow stamp, unless they were a disabled hunter that already had a DNRE-issued crossbow permit. About $20 \pm 6\%$ of the turkey hunters using a crossbow had obtained the crossbow stamp.

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Table 1. Number of hunting licenses available and people applying for licenses during the 2010 Michigan spring turkey hunting season.

Management unit or hunt period	Licenses available (quota)	Number of eligible applicants ^a	Number of applicants successful in drawing ^b	Number of licenses remaining after drawing	Number of licenses purchased by successful applicants ^c	Number of leftover licenses purchased by unsuccessful applicants ^c	Number of licenses purchased by people not in the drawing ^c	Number of licensees ^d
A	5,500	3,161	3,219	2,281	2,367	20	1,012	3,399
E	1,700	2,294	1,701	0	1,252	0	0	1,252
F	5,000	4,496	4,296	704	3,133	35	555	3,723
J	4,000	2,084	2,116	1,884	1,551	21	864	2,436
K	8,500	11,325	8,496	0	6,503	0	0	6,503
M	8,000	1,571	1,578	6,422	1,212	7	3,164	4,383
ZA	4,800	3,233	3,088	1,712	2,224	45	1,431	3,700
ZB	1,750	1,597	1,286	464	919	49	328	1,296
ZC	2,000	2,167	1,569	431	1,049	109	254	1,412
ZD	40	120	40	0	21	0	0	21
ZE	2,000	2,566	1,689	311	1,210	118	157	1,485
ZF	5,600	3,474	3,395	2,205	2,609	23	1,894	4,526
Hunt 301	65,000	18,588	18,944	46,056	15,617	634	25,094	41,345
Hunt 234	NA	981	1,478	NA	1,254	1,151	37,228	39,633
Pure MI Hunt	NA	NA	NA	NA	NA	NA	NA	3
Statewide	113,890	57,657	52,895	62,470	40,921	2,212	71,981	115,117

^aNumber of eligible applicants selecting the management unit as their first choice to hunt.

^bNumber of successful applicants was sometimes larger than quota because of system processing errors.

^cIf a licensee purchased more than one license, only the latest purchase is included in the summary of licenses purchased.

^dLicenses sold between January 1 and February 1.

Table 2. Number of hunters, hunting efforts, harvest, hunter success, hunter satisfaction, and hunter interference during the spring 2010 Michigan turkey hunting season.

Management unit	Hunters ^a		Hunting efforts (days) ^a		Harvest ^a		Hunter success		Hunter satisfaction ^b		Noninterfered hunters ^c	
	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL	%	95% CL
Hunt periods with quotas (General limited quota hunt periods)												
A	2,777	153	11,696	1,146	601	145	22	5	37	6	90	4
E	812	68	3,224	548	254	55	31	6	56	7	92	4
F	3,207	139	12,507	1,055	756	158	24	5	49	6	87	4
J	2,148	91	8,595	815	589	118	27	5	53	6	91	4
K	5,932	199	20,234	1,432	2,353	327	40	5	67	5	93	3
M	3,579	198	22,265	2,876	1,382	233	39	6	58	6	91	4
ZA	3,051	170	11,989	1,285	1,166	202	38	6	68	6	83	5
ZB	1,038	60	3,725	404	374	66	36	6	73	6	92	3
ZC	1,193	61	4,693	451	372	71	31	6	69	6	88	4
ZD	18	2	87	17	3	2	17	13	75	15	92	9
ZE	1,273	60	5,095	539	360	69	28	5	63	6	86	4
ZF	3,634	217	16,920	2,237	1,362	244	37	6	67	6	86	5
Pure MI Hunt	3	0	48	0	3	0	100	0	100	0	100	0
Subtotal	28,664	471	121,077	4,585	9,576	582	33	2	60	2	89	1
Hunt period 301 with quota (Private lands in Management Unit ZZ, April 19-May 2, 2010)												
ZA	9,350	627	36,353	3,213	4,742	475	51	4	75	3	90	2
ZB	3,825	437	15,303	2,204	1,662	294	43	6	78	5	90	4
ZC	4,845	480	19,493	2,470	2,261	338	47	5	75	5	84	4
ZD	289	124	1,144	652	123	80	43	21	67	21	88	14
ZE	9,148	622	35,392	3,193	4,575	466	50	4	76	3	90	2
ZF	7,534	580	31,096	3,292	3,640	424	48	4	76	4	89	3
Unknown	774	207	2,649	979	82	67	11	8	52	13	77	11
Subtotal	35,178	543	141,431	4,842	17,086	739	49	2	75	2	89	1

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one unit for hunts 234 and 301. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

Table 2 (continued). Number of hunters, hunting efforts, harvest, hunter success, hunter satisfaction, and hunter interference during the spring 2010 Michigan turkey hunting season.

Management unit	Hunters ^a		Hunting efforts (days) ^a		Harvest ^a		Hunter success		Hunter satisfaction ^b		Noninterfered hunters ^c	
	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL	%	95% CL
Unlimited quota hunt period (Guaranteed Hunt 234; May 3-31, 2010)												
A	738	180	4,146	1,323	106	68	14	9	30	11	90	7
E	1,508	257	7,464	1,837	478	147	32	8	57	9	97	3
F	2,032	294	9,982	1,927	240	103	12	5	37	7	94	3
J	1,384	245	7,597	1,885	356	125	26	8	47	9	89	6
K	7,219	516	40,317	4,380	2,311	311	32	4	51	4	89	3
M	238	99	936	467	77	57	32	20	79	17	94	10
ZA	5,317	459	25,808	2,997	2,142	301	40	5	70	4	90	3
ZB	1,667	270	9,323	1,921	498	149	30	8	69	8	94	4
ZC	2,501	326	13,029	2,275	964	206	39	7	76	6	91	4
ZD	132	77	663	498	44	45	33	28	57	29	99	0
ZE	3,454	374	17,488	2,625	1,501	251	43	6	75	5	96	2
ZF	3,689	389	17,994	2,841	1,612	262	44	5	72	5	91	3
Unknown	321	117	1,641	749	60	51	14	13	50	18	86	13
Subtotal	28,621	609	156,387	6,705	10,388	587	36	2	62	2	92	1
Statewide	92,463	943	418,895	9,456	37,051	1,109	40	1	66	1	90	1

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one unit for hunts 234 and 301. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

Table 3. Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunter interference during the 2010 Michigan spring turkey hunting season. Estimates combined quota and unlimited quota hunts in each county.

County	Hunters ^a		Hunting efforts (days) ^a				Harvest ^a		Hunter success		Hunter satisfaction ^b		Noninterfered hunters ^c	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL	%	95% CL
Alcona	1,260	220	4,939	981	235	97	19	7	37	9	94	4		
Alger	108	77	631	652	3	0	3	2	51	36	100	0		
Allegan	2,998	386	13,190	2,399	1,115	242	37	7	68	6	88	4		
Alpena	881	180	3,993	1,020	232	98	26	10	34	11	90	7		
Antrim	970	173	4,390	1,226	274	96	28	9	53	10	92	5		
Arenac	462	128	2,621	1,049	181	79	39	14	52	14	92	7		
Baraga	0	0	0	0	0	0	0	0	0	0	0	0		
Barry	2,058	321	9,431	2,280	690	186	34	8	71	8	88	6		
Bay	670	183	2,877	1,029	263	114	39	13	57	14	89	9		
Benzie	439	160	1,625	703	128	91	29	17	61	18	94	9		
Berrien	973	225	4,854	1,464	404	145	42	11	69	11	89	7		
Branch	952	220	4,528	1,335	555	169	58	11	82	9	88	8		
Calhoun	1,921	310	6,466	1,491	869	209	45	8	75	7	91	5		
Cass	1,311	265	5,472	1,435	670	187	51	10	76	9	88	7		
Charlevoix	566	135	1,912	504	235	91	42	12	68	12	90	7		
Cheboygan	583	141	2,794	926	87	54	15	9	42	12	87	9		
Chippewa ^d	0	0	0	0	0	0	0	0	0	0	0	0		
Clare	843	167	3,274	860	288	104	34	10	58	10	97	3		
Clinton	1,795	301	7,769	1,655	748	195	42	8	74	8	88	5		
Crawford	986	194	3,968	951	172	83	17	8	44	10	82	8		
Della	953	207	5,338	1,732	273	119	29	11	55	12	95	6		

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

^dNot open for turkey hunting.

Table 3 (continued). Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunter interference during the 2010 Michigan spring turkey hunting season. Estimates combined quota and unlimited quota hunts in each county.

County	Hunters ^a		Hunting efforts (days) ^a				Harvest ^a		Hunter success		Hunter satisfaction ^b		Noninterfered hunters ^c	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL	%	95% CL
Dickinson	653	179	3,525	1,276	265	119	265	119	41	14	64	14	87	10
Eaton	1,529	275	6,786	1,584	680	186	680	186	44	9	70	8	92	5
Emmet	550	135	2,762	1,003	126	65	126	65	23	11	48	13	93	6
Genesee	1,628	275	6,957	1,466	752	189	752	189	46	9	78	7	88	6
Gladwin	843	174	4,113	1,377	230	88	230	88	27	9	57	10	96	4
Gogebic	1	0	6	0	0	0	0	0	0	0	100	0	100	0
Gd. Traverse	849	211	3,966	1,177	278	121	278	121	33	12	61	12	92	7
Gratiot	1,419	264	5,571	1,265	603	172	603	172	43	9	69	9	86	7
Hillsdale	1,559	275	5,806	1,335	767	192	767	192	49	9	70	8	93	5
Houghton	1	0	3	0	1	0	1	0	100	0	100	0	0	0
Huron	1,714	276	7,447	1,473	635	174	635	174	37	8	74	7	88	5
Ingham	1,529	266	5,893	1,312	786	195	786	195	51	9	87	6	94	4
Ionia	1,710	289	6,823	1,427	894	212	894	212	52	9	78	7	83	7
Iosco	822	179	3,251	952	175	83	175	83	21	9	38	11	89	7
Iron	644	179	3,251	1,188	234	112	234	112	36	14	64	14	95	7
Isabella	1,472	269	5,444	1,237	497	154	497	154	34	9	65	9	87	6
Jackson	2,449	334	10,362	1,776	1,081	228	1,081	228	44	7	70	6	89	4
Kalamazoo	1,379	268	5,173	1,201	636	182	636	182	46	10	88	6	93	5
Kalkaska	890	225	3,756	1,195	297	137	297	137	33	12	52	13	89	8
Kent	3,149	392	12,974	2,086	1,176	242	1,176	242	37	6	74	6	92	3
Keweenaw ^d	0	0	0	0	0	0	0	0	0	0	0	0	0	0

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

^dNot open for turkey hunting.

Table 3 (continued). Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunter interference during the 2010 Michigan spring turkey hunting season. Estimates combined quota and unlimited quota hunts in each county.

County	Hunters ^a		Hunting efforts (days) ^a		Harvest ^a		Hunter success		Hunter satisfaction ^b		Noninterfered hunters ^c	
	Total	95% CL	Total	95% CL	Total	95% CL	%	95% CL	%	95% CL	%	95% CL
Lake	1,321	264	5,940	1,543	303	130	23	9	56	10	91	6
Lapeer	2,392	331	10,229	1,915	945	210	39	7	74	6	90	4
Leelanau	361	145	1,903	1,022	146	91	41	20	75	18	71	19
Lenawee	1,081	227	4,259	1,104	498	157	46	11	79	9	92	6
Livingston	1,637	265	6,880	1,460	627	167	38	8	73	7	89	5
Luce ^d	0	0	0	0	0	0	0	0	0	0	0	0
Mackinac	0	0	0	0	0	0	0	0	0	0	0	0
Macomb	870	203	3,625	1,151	327	127	38	11	78	10	87	8
Manistee	936	220	5,868	2,009	284	123	30	11	37	12	89	7
Marquette	399	146	2,239	1,211	121	83	30	18	52	19	91	11
Mason	947	228	4,691	1,677	357	146	38	12	55	12	83	10
Mecosta	1,469	277	5,241	1,211	603	180	41	10	61	10	92	5
Menominee	1,139	223	6,399	1,668	491	158	43	11	62	11	91	7
Midland	1,304	253	5,744	1,467	571	169	44	10	69	9	89	6
Missaukee	614	174	2,879	1,053	131	82	21	12	37	14	97	4
Monroe	336	128	1,424	686	152	86	45	19	63	19	89	12
Montcalm	2,741	366	10,297	1,738	1,407	266	51	7	75	6	89	4
Montmorency	825	178	3,925	1,102	102	61	12	7	37	11	86	8
Muskegon	1,687	295	7,136	1,583	719	196	43	9	69	8	88	6
Newaygo	2,448	353	9,012	1,691	939	224	38	7	68	7	91	4
Oakland	1,447	236	5,062	973	556	155	38	8	72	8	83	7

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

^dNot open for turkey hunting.

Table 3 (continued). Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunter interference during the 2010 Michigan spring turkey hunting season. Estimates combined quota and unlimited quota hunts in each county.

County	Hunters ^a			Hunting efforts (days) ^a			Harvest ^a			Hunter success			Hunter satisfaction ^b			Noninterfered hunters ^c		
	Total	95% CL		Total	95% CL		Total	95% CL		%	95% CL	%	95% CL	%	95% CL	%	95% CL	
Oceana	1,447	282	1,411	6,016	1,411	552	179	38	10	61	10	92	5					
Ogemaw	1,169	210	1,174	4,432	1,174	243	101	21	8	54	10	94	5					
Ontonagon	1	0	0	3	0	0	0	0	0	0	0	100	0					
Osceola	1,141	248	1,030	4,047	1,030	409	156	36	11	58	11	95	5					
Oscoda	860	187	1,088	4,021	1,088	96	65	11	7	38	11	90	7					
Otsego	861	175	948	3,581	948	190	84	22	9	41	10	85	8					
Ottawa	2,330	346	1,767	9,232	1,767	995	227	43	7	75	7	88	5					
Presque Isle	748	167	1,101	3,489	1,101	188	89	25	11	43	12	90	7					
Roscommon	919	188	1,079	4,077	1,079	193	87	21	9	37	10	86	7					
Saginaw	2,166	325	1,737	8,786	1,737	1,053	229	49	8	76	7	87	5					
St. Clair	2,322	328	1,853	10,221	1,853	1,013	222	44	7	79	6	86	5					
St. Joseph	746	196	1,006	2,804	1,006	417	147	56	13	72	12	88	9					
Sanilac	2,059	307	1,573	8,197	1,573	834	195	40	7	78	6	91	4					
Schoolcraft	143	87	520	747	520	37	45	26	27	39	30	88	21					
Shiawassee	1,367	262	1,310	5,486	1,310	696	188	51	10	74	9	90	6					
Tuscola	2,688	345	2,019	11,967	2,019	1,053	219	39	6	74	6	92	4					
Van Buren	1,865	313	1,622	7,493	1,622	911	220	49	9	79	7	92	5					
Washtenaw	1,434	246	1,218	5,433	1,218	543	157	38	9	71	8	90	5					
Wayne	82	66	370	440	440	18	30	22	33	62	39	100	0					
Wexford	897	221	1,310	4,440	1,310	236	115	26	11	53	13	86	8					
Unknown	4,154	445	2,359	17,356	2,359	558	163	12	4	47	5	83	4					

^aNumber of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.

^bProportion of hunters that rated their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

^dNot open for turkey hunting.

Table 4. Estimated number and proportion of hunters hunting on private and public lands during the spring 2010 Michigan turkey hunting season.^a

Management unit	Private land only			Public land only			Both private and public lands			Unknown land						
	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	
Hunt periods with quotas (General limited quota hunt periods)																
A	2,037	191	73	6	534	141	19	5	193	91	7	3	13	25	0	1
E	508	68	63	7	272	58	34	6	31	21	4	3	0	0	0	0
F	1,315	189	41	6	1,593	196	50	6	260	101	8	3	38	42	1	1
J	1,296	138	60	6	598	118	28	5	234	83	11	4	19	26	1	1
K	3,477	342	59	5	1,817	307	31	5	573	192	10	3	64	71	1	1
M	2,208	253	62	6	779	193	22	5	524	164	15	5	67	63	2	2
ZA	1,623	218	53	6	1,161	202	38	6	237	106	8	3	31	41	1	1
ZB	474	72	46	6	503	72	48	6	61	31	6	3	0	0	0	0
ZC	540	81	45	6	532	79	45	6	96	42	8	3	26	23	2	2
ZD	11	3	58	17	3	2	17	13	5	3	25	15	0	0	0	0
ZE	452	77	35	6	757	83	59	6	58	31	5	2	6	11	0	1
ZF	1,913	266	53	7	1,371	244	38	6	294	132	8	4	55	61	2	2
PMH	3	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	15,856	642	55	2	9,921	570	35	2	2,567	349	9	1	321	134	1	0
Hunt 301 with quota (Private lands in Management Unit ZZ, April 19-May 2, 2010)																
ZA	9,350	627	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ZB	3,825	437	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ZC	4,845	480	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ZD	289	124	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ZE	9,148	622	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ZF	7,534	580	100	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	774	207	100	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	35,178	543	100	0	0	0	0	0	0	0	0	0	0	0	0	0

^aRow totals may not equal 100% because of rounding errors.

Table 4 (continued). Estimated number and proportion of hunters hunting on private and public lands during the spring 2010 Michigan turkey hunting season.^a

Management unit	Private land only			Public land only			Both private and public lands						Unknown land					
	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%	Total	95% CL	%
Unlimited quota hunt period (Guaranteed Hunt 234; May 3-31, 2010)																		
A	527	153	71	139	77	19	72	57	10	7	0	0	0	0	0	0	0	0
E	1,162	227	77	274	112	18	59	51	4	3	14	26	1	2	1	2	1	2
F	1,008	212	50	818	187	40	192	93	9	4	14	26	1	1	1	1	1	1
J	817	191	59	338	120	24	215	99	16	7	14	26	1	2	1	2	1	2
K	4,983	444	69	1,387	243	19	794	189	11	2	41	45	1	1	1	1	1	1
M	132	73	56	62	51	26	44	45	18	17	0	0	0	0	0	0	0	0
ZA ^b	5,317	459	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ZB ^b	1,667	270	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ZC ^b	2,501	326	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ZD ^b	132	77	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ZE ^b	3,454	374	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ZF ^b	3,689	389	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	199	93	62	40	36	13	0	0	0	0	82	63	25	17	0	0	0	0
Subtotal	24,154	659	84	2,571	327	9	1,732	272	6	1	164	89	1	0	0	0	0	0
Statewide ^c	75,175	1,069	81	12,492	657	14	4,299	443	5	0	498	163	1	0	0	0	0	0

^aRow totals may not equal 100% because of rounding errors.

^bLicenses for the unlimited quota hunt were valid only on private lands in Management Unit Z.Z. in southern Michigan (Figure 1).

^cNumber of hunters does not add up to statewide total because hunters can hunt in more than one unit for the unlimited quota hunts.

Table 5. How hunters rated their hunting experience during the spring 2010 Michigan turkey hunting season.

Management unit	Satisfaction level (% of hunters) ^a					
	Excellent	Very good	Good	Fair	Poor	No answer
Hunt periods with quotas (General limited quota hunt periods)						
A	7	10	21	23	39	1
E	16	18	23	23	20	1
F	11	13	25	19	30	2
J	7	17	28	26	21	1
K	16	18	33	15	16	2
M	14	19	25	22	20	0
ZA	18	23	27	18	11	3
ZB	19	28	26	15	12	0
ZC	23	18	27	21	9	1
ZD	8	25	42	8	17	0
ZE	21	19	23	23	12	2
ZF	14	22	31	21	12	1
Pure MI Hunt	0	0	100	0	0	0
Mean	14	18	27	20	19	1
Hunt 301 with quota (Private lands in Management Unit ZZ; April 19-May 2, 2010)						
ZA	24	24	26	16	7	1
ZB	21	24	32	13	7	2
ZC	25	26	24	15	8	2
ZD	20	24	23	22	11	0
ZE	26	25	24	16	7	2
ZF	25	27	25	15	6	2
Unknown	8	15	29	19	21	8
Mean	24	25	26	16	7	2

^aRow totals may not equal 100% because of rounding errors.

Table 5 (continued). How hunters rated their hunting experience during the spring 2010 Michigan turkey hunting season.

Management unit	Satisfaction level (% of hunters) ^a					
	Excellent	Very good	Good	Fair	Poor	No answer
Unlimited quota hunt period (Guaranteed Hunt 234; May 3-31, 2010)						
A	2	8	20	21	49	0
E	16	19	22	23	19	1
F	5	9	23	30	33	0
J	10	13	24	18	34	1
K	11	17	24	25	24	0
M	8	26	44	14	7	0
ZA	19	22	29	18	11	1
ZB	13	21	35	21	9	2
ZC	19	18	39	16	6	1
ZD	12	33	13	32	11	0
ZE	27	21	26	16	9	0
ZF	20	24	28	16	11	1
Unknown	1	18	31	15	31	4
Mean	16	19	27	20	17	1
Statewide ^b	19	21	27	18	14	1

^aRow totals may not equal 100% because of rounding errors.

^bStatewide mean satisfaction levels (all hunts and periods).

Table 6. Estimated amount of hunter interference experienced by turkey hunters during the spring 2010 Michigan turkey hunting season.

Manage-ment unit	Interference level (% of hunters) ^a				
	None	Minor	Some irritation	Major problem	No answer
Hunt periods with quotas (General limited quota hunt periods)					
A	70	19	7	2	1
E	76	16	5	2	1
F	66	21	9	3	1
J	68	23	7	2	0
K	67	26	7	1	0
M	75	17	7	2	0
ZA	60	23	12	3	2
ZB	67	25	5	2	1
ZC	63	25	10	0	2
ZD	67	25	8	0	0
ZE	58	28	10	3	1
ZF	65	22	12	0	1
Pure MI Hunt	100	0	0	0	0
Mean	67	22	8	2	1
Hunt 301 with quota (Private lands in Management Unit ZZ; April 19-May 2, 2010)					
ZA	69	20	8	2	1
ZB	68	22	8	2	1
ZC	69	15	13	1	2
ZD	70	18	12	0	0
ZE	72	18	8	1	1
ZF	66	23	7	2	2
Unknown	63	15	16	2	4
Mean	69	20	8	2	1

^aRow totals may not equal 100% because of rounding errors.

Table 6 (continued). Estimated amount of hunter interference experienced by turkey hunters during the spring 2010 Michigan turkey hunting season.

Management unit	Interference level (% of hunters) ^a				
	None	Minor	Some irritation	Major problem	No answer
Unlimited quota hunt period (Guaranteed Hunt 234; May 3-31, 2010)					
A	76	14	8	2	0
E	73	24	1	2	0
F	78	16	5	1	0
J	65	24	9	1	1
K	66	22	8	2	1
M	87	7	6	0	0
ZA	70	19	8	1	1
ZB	75	19	4	2	0
ZC	74	17	7	1	1
ZD	36	63	1	0	0
ZE	77	19	4	0	0
ZF	70	21	6	2	1
Unknown	64	23	9	0	4
Mean	72	20	6	1	1
Statewide ^b	69	20	8	2	1

^aRow totals may not equal 100% because of rounding errors.

^bStatewide mean interference levels (all hunts and periods).

Table 8. Comparison of the estimated number of hunters, hunting effort, and harvest between 2009 and 2010 Michigan spring turkey hunting seasons, summarized by regions.

Region ^a	Hunters (No.) ^b						Hunting efforts (days)						Harvest (No.)				
	2009		2010		Change		2009		2010		Change		2009		2010		Change (%)
	Total	95% CL	Total	95% CL	95% CL	95% CL	Total	95% CL	Total	95% CL	95% CL	Total	95% CL	Total	95% CL		
UP	4,504	323	3,682	232	-18*	23,214	3,006	22,142	2,860	-5	1,857	315	1,425	239	-23		
NLP	29,077	760	26,249	710	-10*	132,358	6,298	120,926	5,866	-9	8,900	625	7,910	556	-11		
SLP	62,529	1,003	59,386	944	-5*	280,180	8,469	258,470	7,664	-8*	28,639	1,038	27,158	952	-5		
Unknown	3,035	413	4,154	445		14,411	2,732	17,356	2,359		337	136	558	163			
Total	97,956	1,019	92,463	943	-6*	450,163	10,367	418,895	9,456	-7*	39,733	1,227	37,051	1,109	-7*		

^aRegions included the Upper Peninsula (UP), the Northern Lower Peninsula north of Management Unit ZZ (NLP), and Management Unit ZZ in the Southern Lower Peninsula (SLP).

^bNumber of hunters did not add up to statewide total because hunters can hunt in more than one unit for the unlimited quota hunt.

*P<0.005.

Table 9. Comparison of estimated hunter success, hunter satisfaction, and hunt interference between 2009 and 2010 Michigan spring turkey hunting season, summarized by regions.

Region ^a	Hunter success						Hunter satisfaction ^b						Noninterfered hunters ^c				
	2009		2010		Differ-		2009		2010		Differ-		2009		2010		Differ-ence (%)
	%	95% CL	%	95% CL	ence (%)	%	95% CL	%	95% CL	%	95% CL	%	95% CL	%	95% CL		
UP	41	6	39	6	-3	65	6	60	6	-5	96	3	92	3	-4		
NLP	31	2	30	2	<1	51	2	53	2	2	90	1	91	1	1		
SLP	46	1	46	1	<1	71	1	74	1	3*	89	1	89	1	1		
Total	41	1	40	1	<1	64	1	66	1	2	89	1	90	1	0		

^aRegions included the Upper Peninsula (UP), the Northern Lower Peninsula north of Management Unit ZZ (NLP), and Management Unit ZZ in the Southern Lower Peninsula (SLP).

^bHunters rating their hunting experience as excellent, very good, or good.

^cProportion of hunters that indicated they experienced no or only minor interference from other hunters.

*P<0.005.

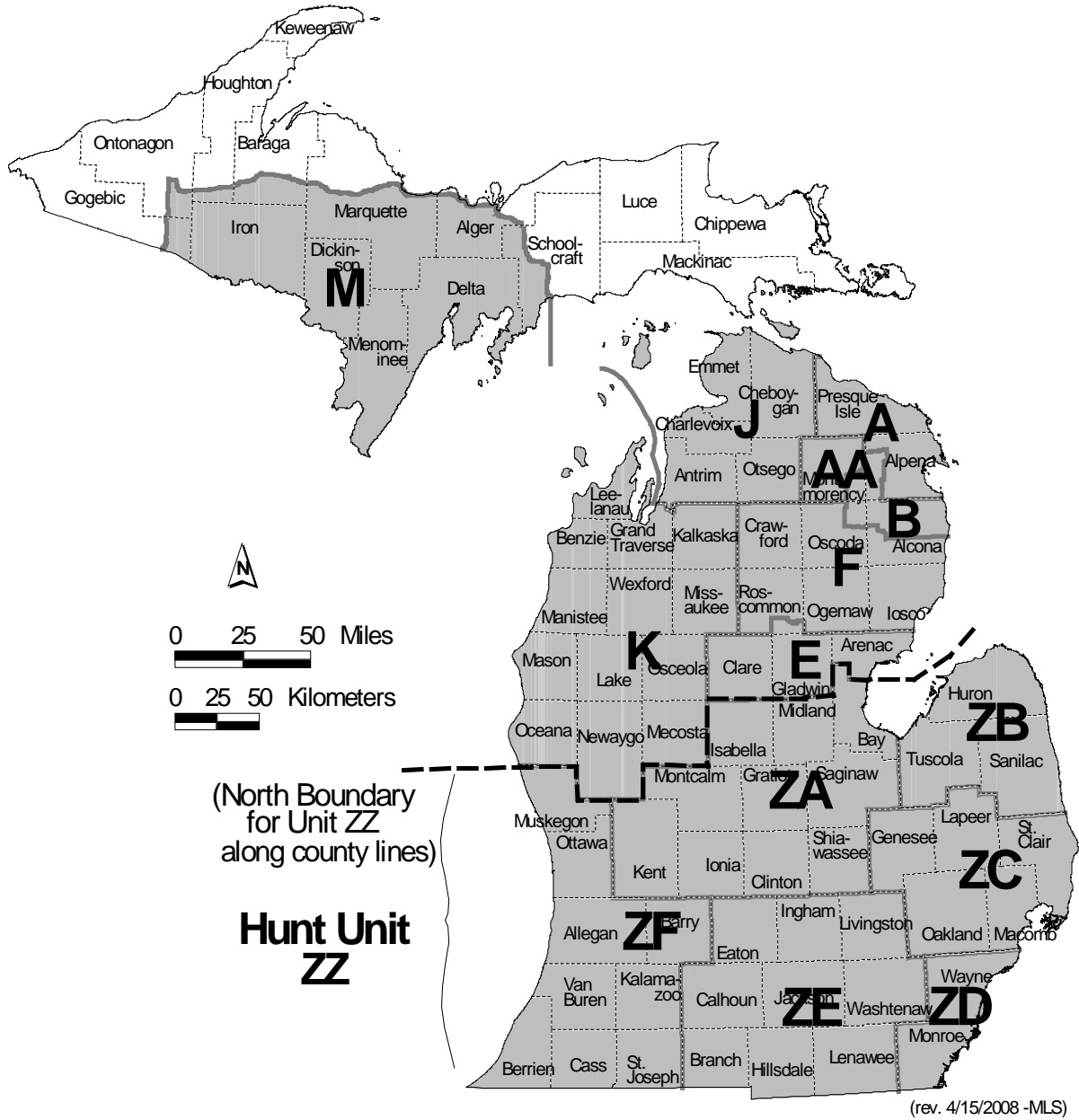


Figure 1. Management units in Michigan open to spring turkey hunting in 2010.

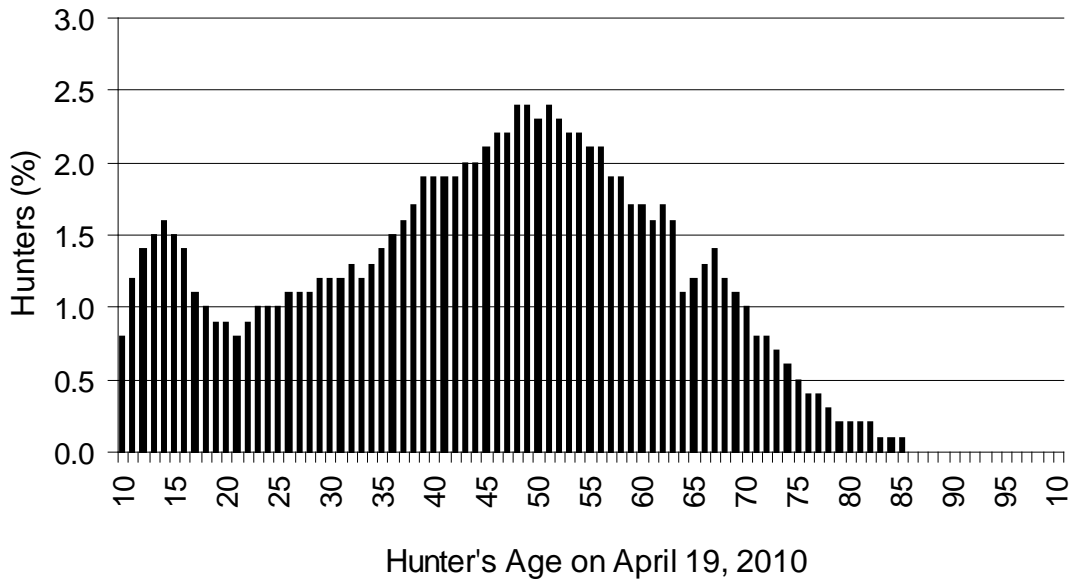


Figure 2. Age of people that purchased a turkey hunting license in Michigan for the 2010 spring hunting season (\bar{x} = 44 years). Licenses were purchased by 115,117 people.

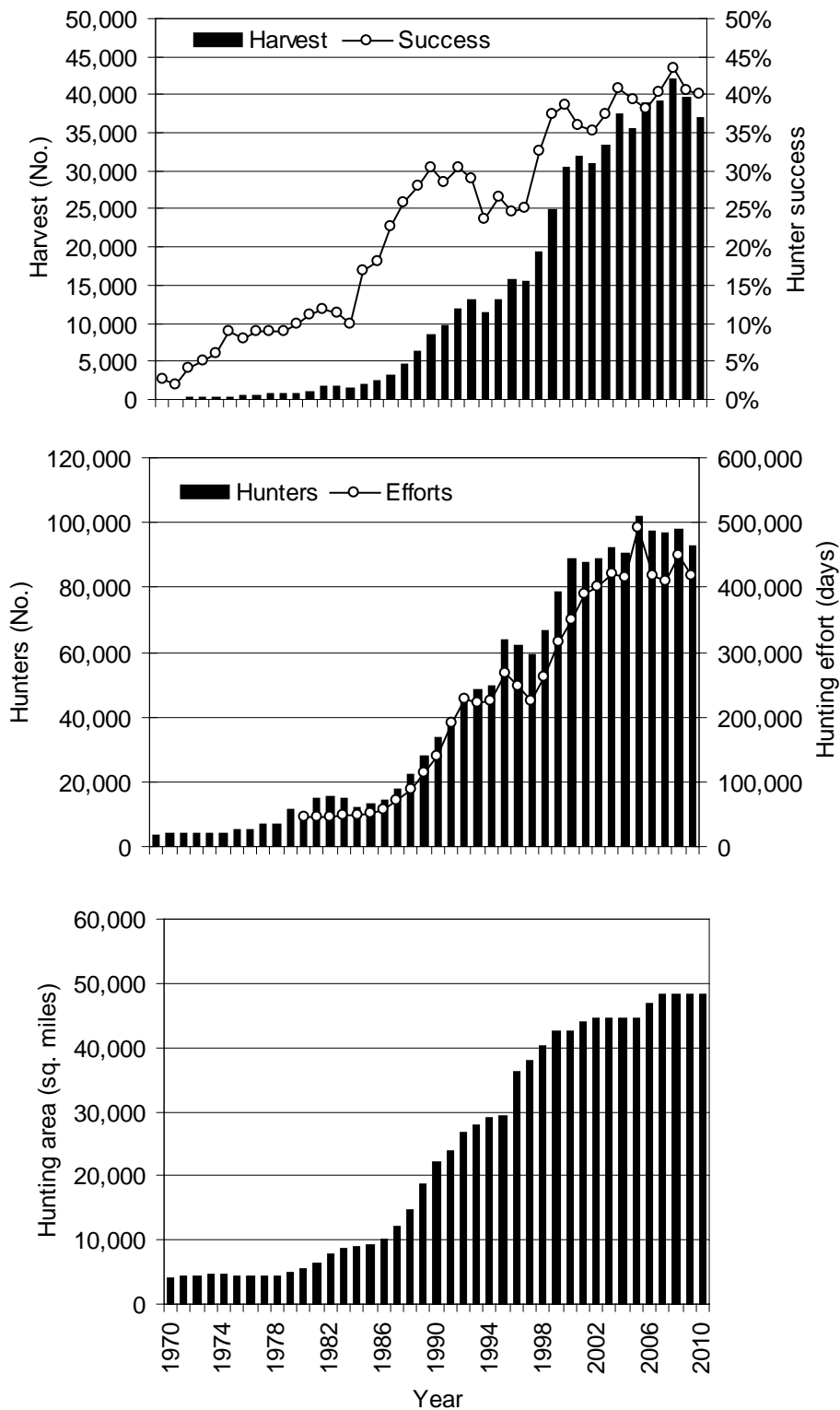


Figure 3. Estimated number of hunters, harvest, hunting efforts, hunter success, and area open to hunting during the Michigan spring turkey hunting season, 1970-2010. Estimates of hunting effort generally were not available before 1981.

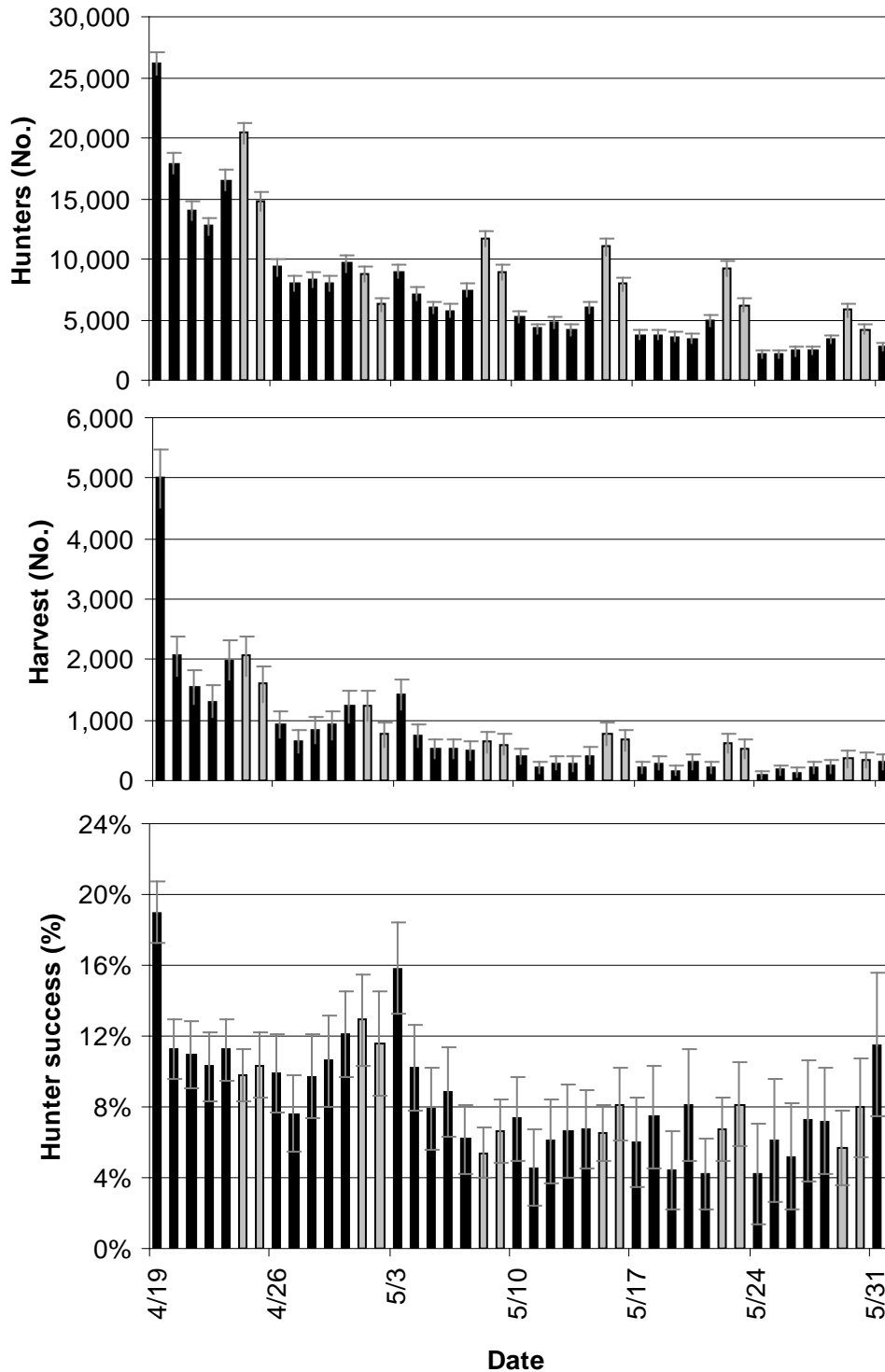


Figure 4. Estimated number of hunters, harvest, and hunter success by date during the 2010 Michigan spring turkey hunting season (includes all hunts). An additional $2,736 \pm 382$ birds were taken on unknown dates. Gray-shaded bars indicate weekends. Vertical bars represent the 95% confidence interval.

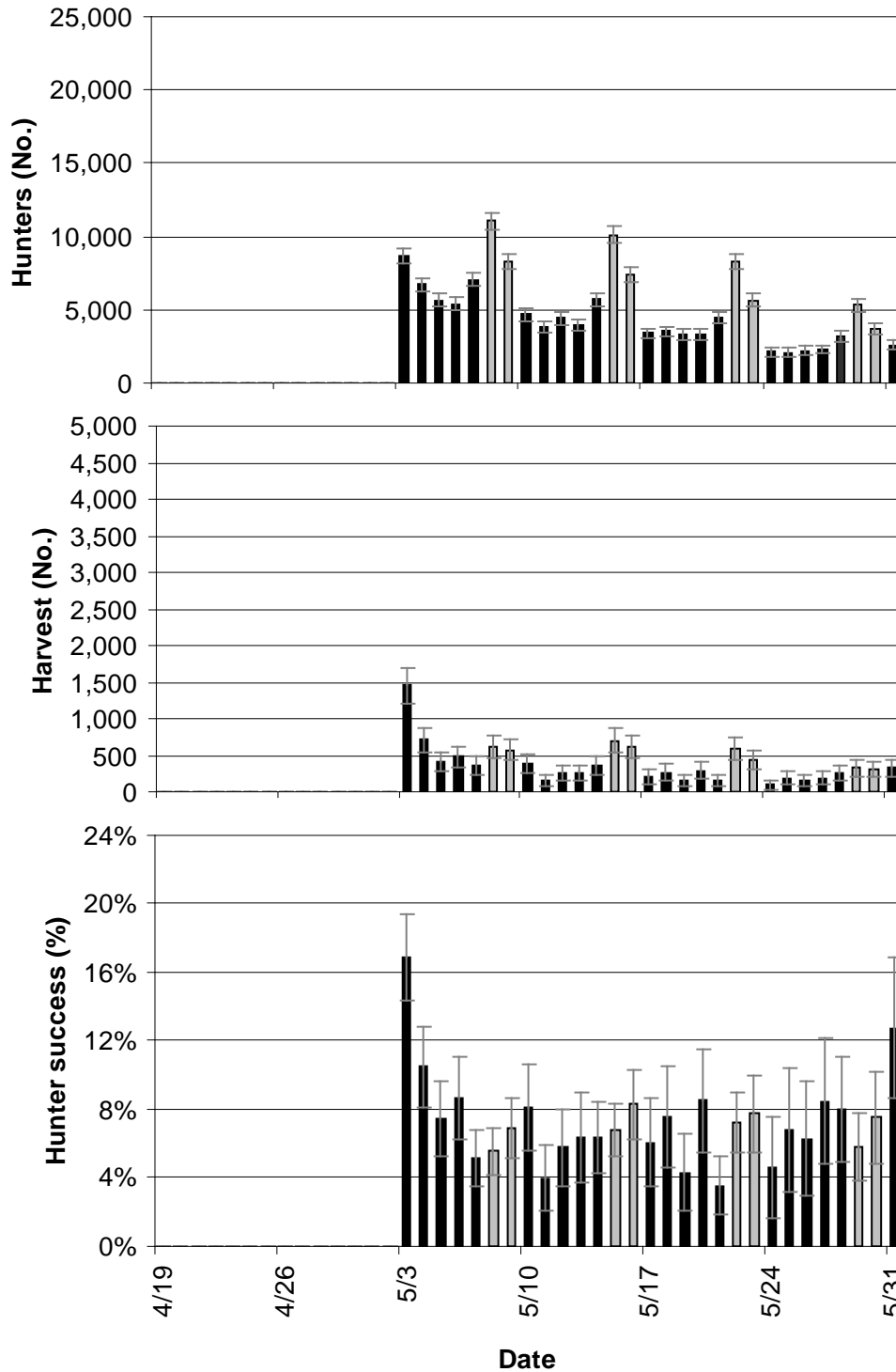


Figure 5. Estimated number of hunters, harvest, and hunter success by date during Hunt 234 of the 2010 Michigan spring turkey hunting season (May 3-31). An additional 625 ± 171 birds were taken on unknown dates. Gray-shaded bars indicate weekends. Vertical bars represent the 95% confidence interval.

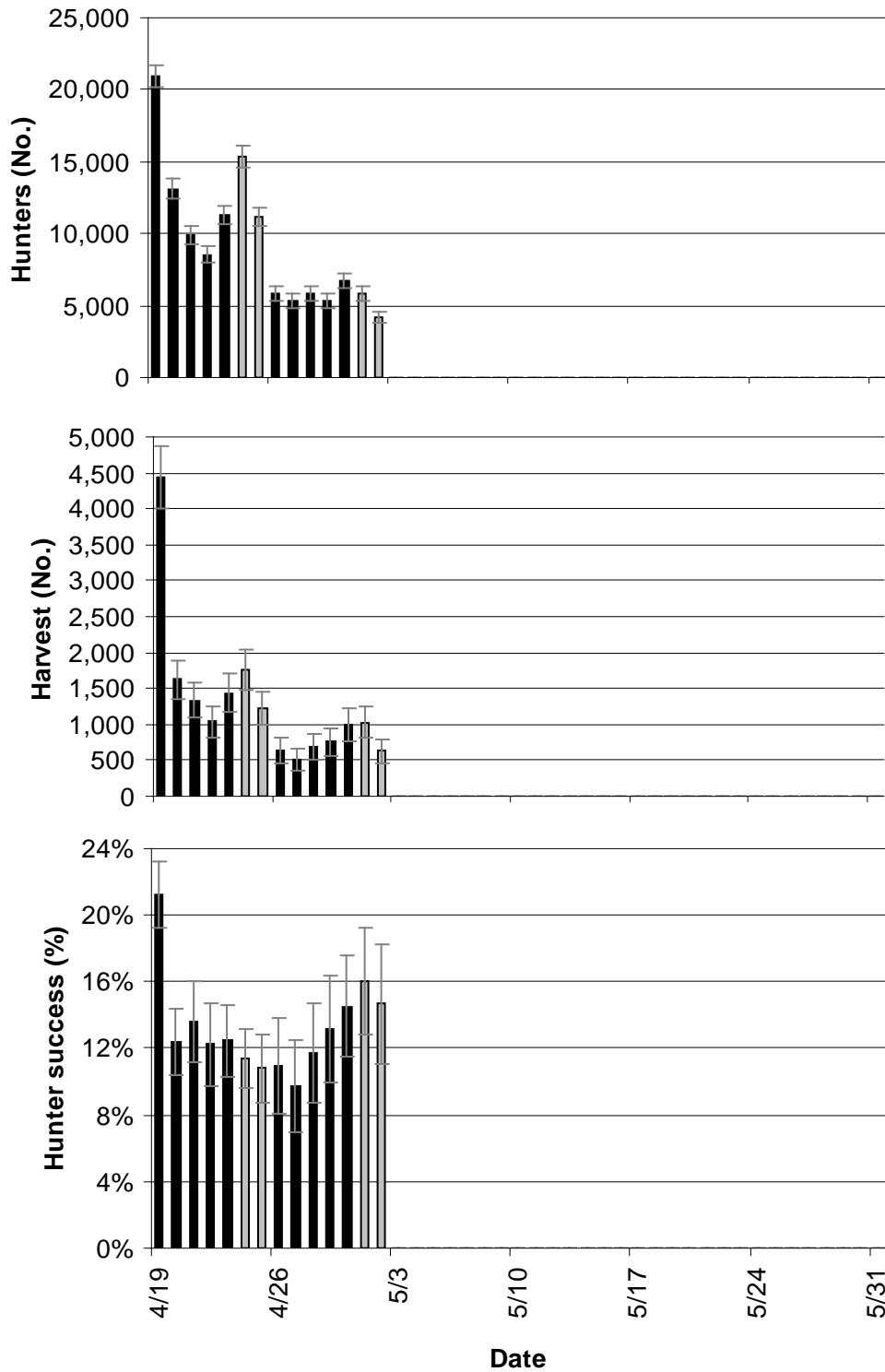


Figure 6. Estimated number of hunters, harvest, and hunter success by date during Hunt 301 of the 2010 Michigan spring turkey hunting season (April 19-May 2). An additional 1,657 ± 295 birds were taken on unknown dates. Gray-shaded bars indicate weekends. Vertical bars represent the 95% confidence interval.

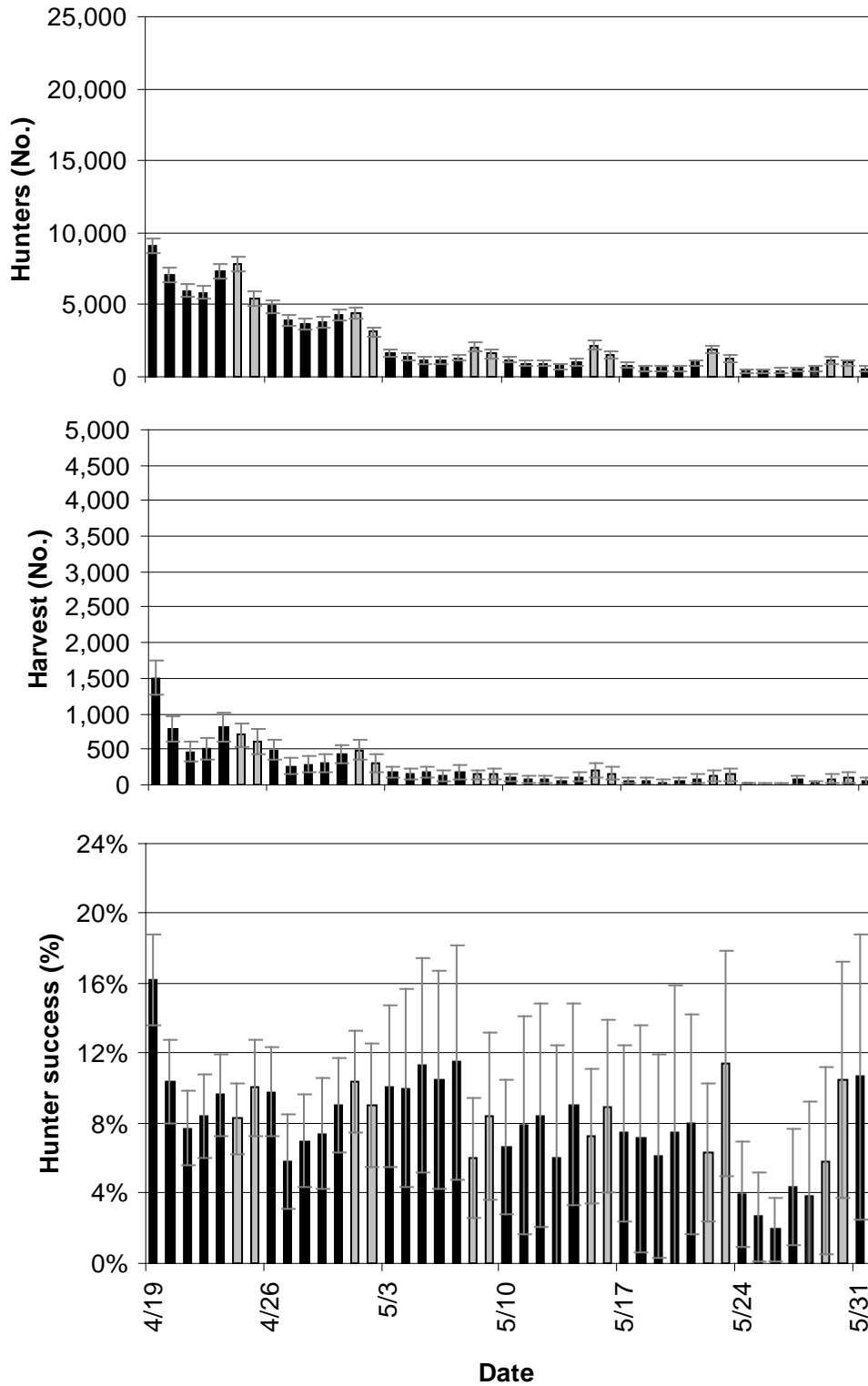


Figure 7. Estimated number of hunters, harvest, and hunter success by date during all hunts, except hunts 234 and 301 of the 2010 Michigan spring turkey hunting season. An additional 522 ± 174 birds were taken on unknown dates. Gray-shaded bars indicate weekends. Vertical bars represent the 95% confidence interval.

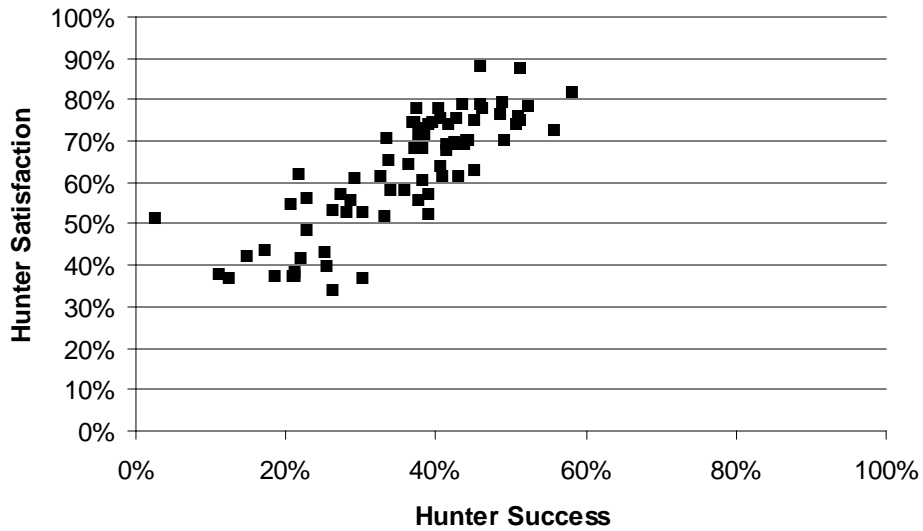


Figure 8. Relationship between hunter satisfaction (expressed as the percentage of hunters rating their hunting experience as excellent, very good, or good) and hunter success for each of 75 counties in Michigan during the 2010 spring turkey hunting season (included only counties with at least 30 hunters).

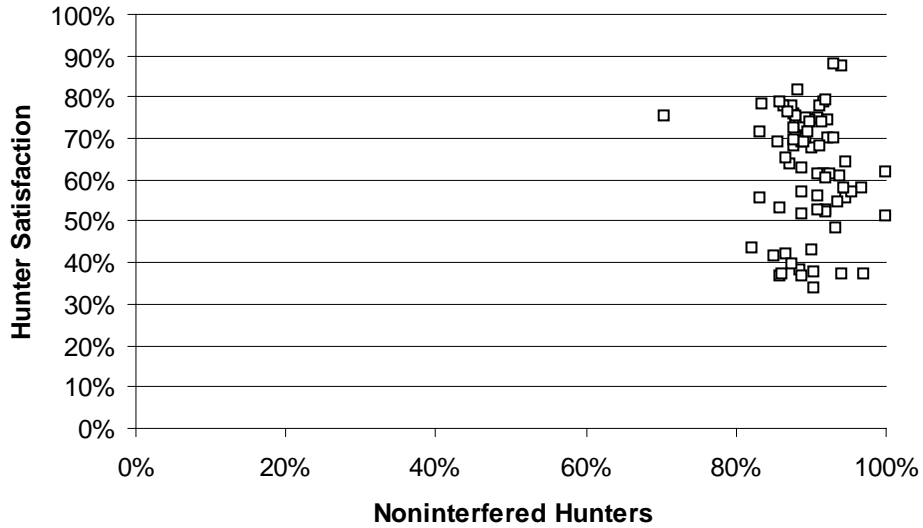


Figure 9. Relationship between hunter satisfaction (expressed as the percentage of hunters rating their hunting experience as excellent, very good, or good) and hunter interference for each of 75 counties in Michigan during the 2010 spring turkey hunting season (included only counties with at least 30 hunters). Noninterfered hunters were the proportion of hunters that indicated that they experienced no or only minor interference from other hunters.



Wild Turkey Status Report
2011 Midwest Deer & Turkey Group Meeting
MacMullen Conference Center, Higgins Lake,
Michigan
25-28 September 2011

Dr. Jeffrey J. Lusk
Upland Game Program Manager

Population Assessment

The relative abundance of the wild turkey population in Nebraska is assessed each year with the three Rural Mail Carrier Surveys conducted in April, July, and October. Survey results are summarized by management zone (Figure 1). The 2011 April Rural Mail Carrier Survey was conducted 4-7 April and resulted in 471 usable survey cards of 487 returned. Rural carriers made observations while traveling 188,394 miles along rural roads in 87 of Nebraska's 93 counties. Compared to results from the 2010 survey, statewide turkey indices were down by 2%. Regionally, there were declines in the Panhandle, Sandhills, Southeast, and Southwest regions, but increases in the Central and Northeast regions (Table 1, Figure 2).

The 2011 July Rural Mail Carrier Survey was conducted during 5-8 July 2011 and resulted in 455 usable survey cards of the 477 returned. Rural carriers made observations while traveling 187,263 miles along rural roadways in 87 of Nebraska's 93 counties. Compared to results from 2010, turkey indices were mixed (Table 2, Figure 3). Indices were down statewide, as well as regionally in the Central, Sandhills, and Southeast regions.

Figure 1. Management zones for summarizing results from the Rural Mail Carrier Surveys.

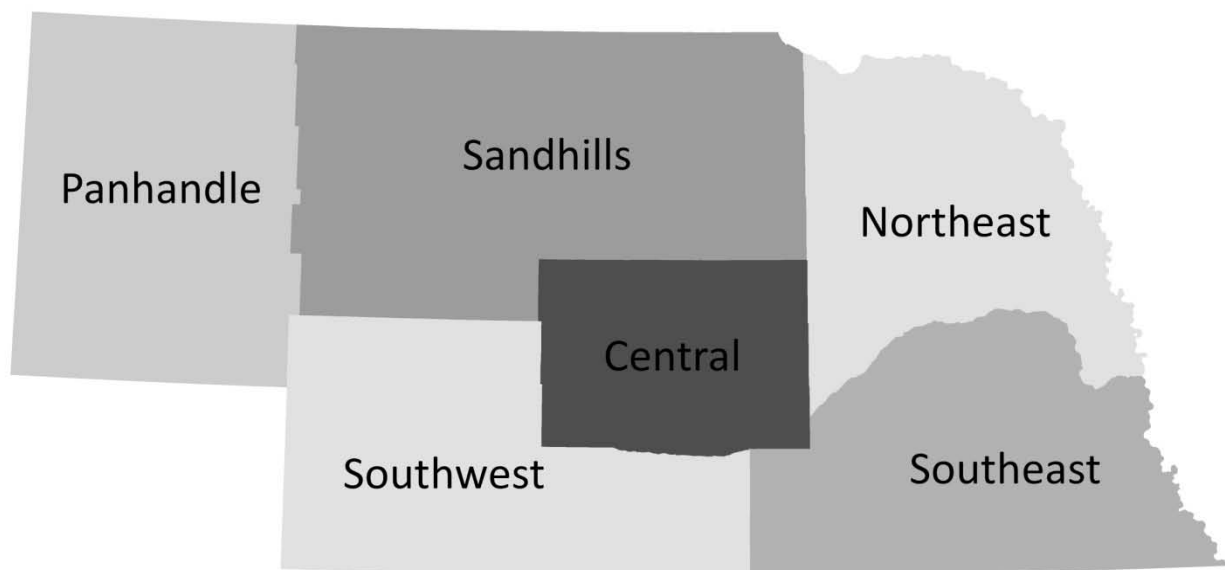


Table 1. Wild turkey indices from the 2011 April Rural Mail Carrier Survey by management region (Figure 1). Carrier means are weighted by miles traveled per carrier.

Region	Mean turkey per 100 miles & 90% Confidence Limits	Percent Difference from:		
		2010	Mean 2006-2010	Mean 2001-2010
Central	11.1 (6.54-15.6)	22	49	104
Northeast	2.55 (1.52-3.58)	29	3	32
Panhandle	1.39 (0.41-2.36)	-56	-12	15
Sandhills	12.0 (5.49-18.5)	-32	3	46
Southeast	3.60 (2.84-4.36)	-12	-1	35
Southwest	15.1 (7.20-22.9)	-1	47	103
Statewide	6.46 (5.19-7.73)	-2	28	75

Figure 2. Regional and statewide time series (2000-2011) of wild turkey population indices from the April Rural Mail Carrier Survey by management region (Figure 1).

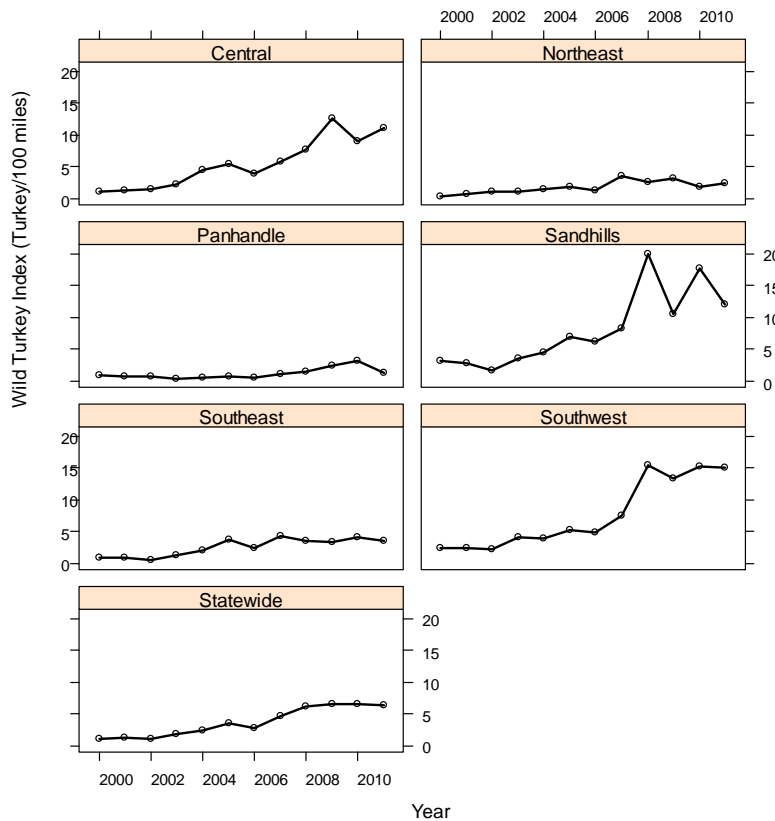
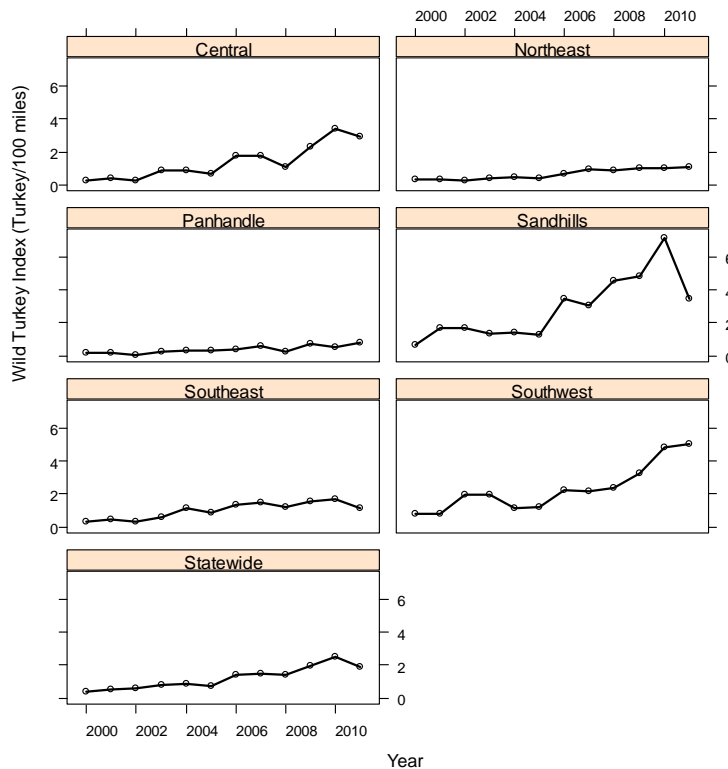


Table 2. Wild turkey indices by management region from the 2011 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean turkeys per 100 miles & 90% Confidence Limits	Percent Difference from:		
		2010	Mean 2006-2010	Mean 2001-2010
Central	2.92 (0.86-4.99)	-14	41	118
Northeast	1.08 (0.75-1.40)	4	18	67
Panhandle	0.79 (0.33-1.26)	55	61	118
Sandhills	3.49 (1.48-5.50)	-52	-24	14
Southeast	1.12 (0.80-1.45)	-33	-22	6
Southwest	5.06 (2.30-7.82)	5	71	131
Statewide	1.92 (1.44-2.40)	-22	11	58

Figure 3. Regional (Figure 1) and statewide time series (2000-2011) of wild turkey abundance indices from the July Rural Mail Carrier Survey.



Harvest Assessment

Fall 2010. The bag limit remained at two birds per permit with a limit of 2 permits per person, as occurred for the first time in 2007. A separate archery permit is no longer required to hunt with archery equipment; hunters may hunt with either shotgun or archery equipment during the fall season. The Commission will consider an extension of the fall season through the end of January and taking effect fall 2012 at the October 2011 Commission meeting.

Permit sales decreased slightly (-3.9%) from 12,738 in 2009, to 12,241 in 2010. The fall 2010 season was the first fall season that \$5.00 youth permits were available to hunters, and 18.9% of permit sales (2,289 permits) were youth permits. The season extended from 15 September through 31 December. The season was open during the November firearm deer season (13-22 November 2010), and hunters were required to wear at least 400 square inches of hunter orange on head, chest, and back during this time.

Harvest is assessed annually using an email survey sent to fall turkey permit holders who provided email addresses at the time of purchase. Among the 12,241 hunters purchasing turkey permits for the fall 2010 season, 6,617 provided email addresses, of which 6,314 were valid. An invitation to participate in the survey was emailed to turkey hunters on 9 May 2011, and a follow-up email was sent on 17 May 2011. The survey was closed to participants on 10 June 2011, at which time 1,208 hunters had responded (19.7% raw response rate). Seven respondents indicated that they did not purchase a turkey permit. Further, only 1,004 of the 1,208 respondents answered the question regarding number of permits purchased, so estimates are based on these 1,004 respondents. The total number of permits represented by the respondents was 1,197 (19.0% permit response rate), and reported harvest was 1,013 (84.6% success rate). Total estimated harvest for the fall 2010 season was 10,356 turkeys (Tables 3 & 4, Figure 4).

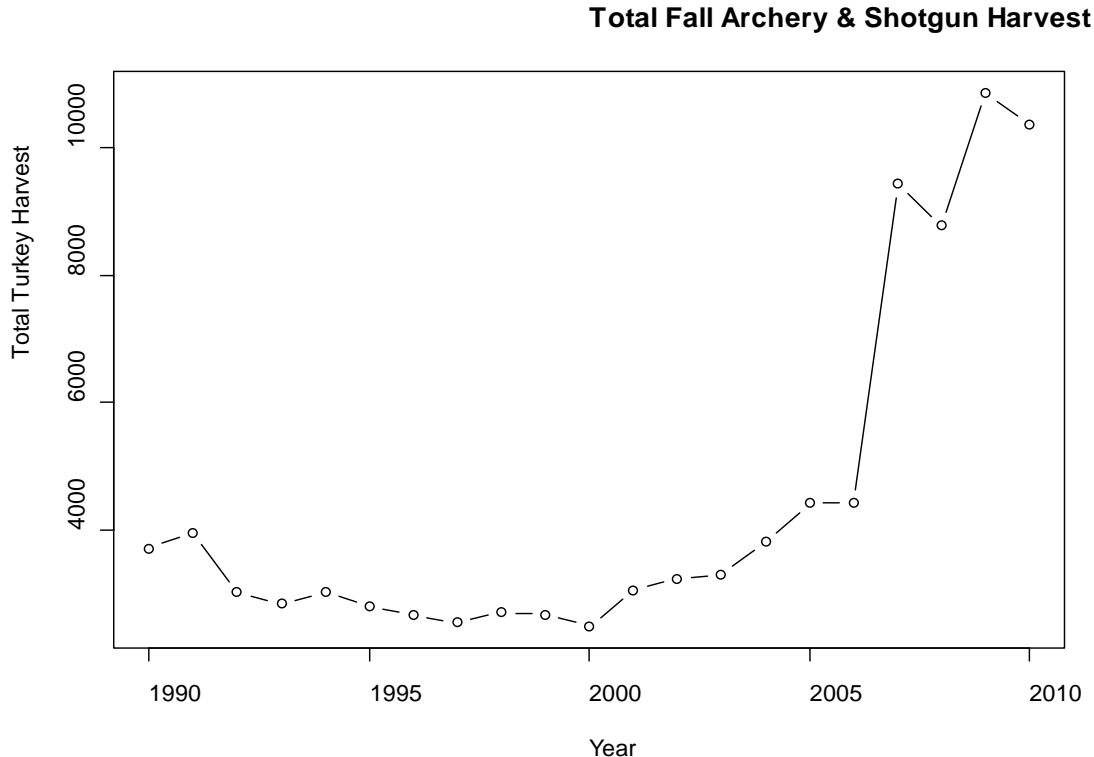
Table 3. Summary of the 2010 fall turkey hunter survey.

Type	Permits	Surveys		Returns*		Successful		Estimated Harvest
		Mailed	No.	%	No.	%		
Statewide	12,241	6,314	1,208	19.1	1,013	84.6	10,356	

Table 4. Historical (2002-2010) permit sales, harvest, and harvest success.

Type		Year								
		2002	2003	2004	2005	2006	2007	2008	2009	2010
Shotgun	Permits	5,671	6,030	7,199	7,415	8,373	10,784	9,855	12,738	12,241
	Harvest	3,013	3,076	3,691	3,565	4,092	8,857	8,236	10,853	10,356
	%	53	51	51	48	49	82	84	85.2*	84.6
	Success									
Archery	Permits	911	1,041	1,125	1,022	1,269	1,499	1,480		
	Harvest	229	229	255	251	334	572	539		
	%	25	22	23	25	26	38	36		
	Success									

* In 2009, permits were valid for both the archery and shotgun seasons, so results are reported in aggregate.

Figure 4. Long-term (1990-2010) total fall harvest (archery and shotgun).

Spring 2011. Spring bag limits remained at 1 male or bearded female turkey per permit with a limit of 3 permits per person. A separate archery permit is no longer required to hunt with archery equipment. Beginning in spring 2011, crossbows are now considered legal archery equipment for hunting resident wildlife in Nebraska.

Permit sales were similar (-0.48%) between 2010 (36,903 permits) and 2011 (36,726 permits). Spring 2011 was the second spring season for which \$5.00 youth permits were available to hunters, and 17.4% of permit sales (6,385 permits) were youth permits. Youth permit sales in 2011 increased by 2.8% compared to spring 2010 sales. The youth archery and regular archery season ran between 25 March and 31 May 2011, youth shotgun season began 9 April through 31 May 2011, and the regular shotgun season ran from 16 April through 31 May.

Harvest is assessed annually using an email survey sent to spring turkey permit holders who provided email addresses at the time of purchase. Among the 36,726 hunters who purchased turkey permits for the spring 2011 season, 20,999 provided email addresses, of which 16,667 were valid. An invitation to participate in the survey was emailed to prospective participants on 28 July 2011 and a follow-up email was sent on 8 August 2011. The survey was closed to participants on 29 August 2011, at which time we had received 4,087 responses (24.5% raw response rate). These respondent provided harvest and satisfaction information related to 5,850 permits (35.1% permit response rate). Harvest reported by respondents was 3,785 (64.7% success rate). Total estimated harvest for the spring 2011 season was 23,302 turkeys (Tables 5 & 6, Figure 5).

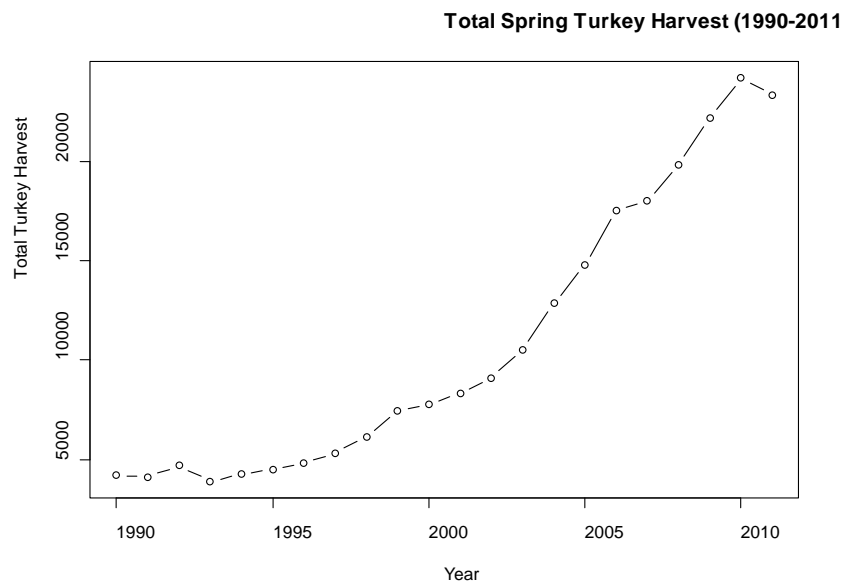
Table 5. Summary of the 2011 spring turkey hunter survey.

Unit	Permits Sold	Mailings	Permits Reported		Reported Harvest	Estimated Harvest	Harvest Success
			No.	%			
Youth	6,385			9.9	303	3,065	48.0%
			631				
Regular	30,341		5,219	17.2	3,482	20,237	66.7%
Total	36,726	16,667	5,850	15.9	3,785	23,302	64.7%

Table 6. Historical (2004-2011) permit sales, harvest, and harvest success.

Type	Statistic	Year							
		2004	2005	2006	2007	2008	2009	2010*	2011
Archery	Permits	4,759	5,349	5,902	6,830	6,792	7,637		
	Harves	1,837	2,340	2,424	2,601	2,888	3,688		
	† Success	39%	44%	41%	38%	43%	48%		
Shotgun / Regular	Permits	22,89	21,70	22,71	25,43	24,65	24,88	30,69	30,34
	Harves	1	7	6	2	0	0	3	1
	† Success	48%	54%	56%	56%	62%	68%	69.3%	66.7%
Youth	Permits	0	1,525	1,394	1,490	2,480	2,776	6,210	6,385
	Harves	0	801	750	1,130	1,548	1,485	2,912	3,065
	† Success	NA	53%	54%	76%	62%	53%	46.9%	48.0%

Figure 5. Long-term (1990-2011) spring total turkey harvest (archery, youth, regular).



MIDWEST DEER/TURKEY STUDY GROUP MEETING

Higgins Lake
Grayling, MI
September 26 - 28, 2011

NORTH DAKOTA WILD TURKEY REPORT

Stanley C. Kohn
North Dakota Game and Fish Department
Bismarck, N.D. 58501

POPULATION ESTIMATES, 2011

The Department uses several population techniques to obtain trends on our wild turkey population. We have a landowner survey that is sent to most landowners who have turkeys winter on their land (Figure 1). We also obtain population estimates from rural mail carriers who count upland game birds four times of year, January, April, July and October. Finally, our district biologists and game wardens annually record observations of wild turkey hens, broods and poults on standardized pheasant brood routes during July and August. Incidental turkey brood data was formerly collected during the summer in conjunction with brood surveys of sharp-tailed grouse but we no longer record this information. Results of the 2011 statewide brood survey showed number of turkeys, number of broods, and young per adult hen to be all down from 2010 and down over the past five years (Table 1). Broods per 100 miles were down 75% statewide and total number of birds per 100 miles down 56% from 2010. Average brood size was 5.23 poults per adult hen, down 32% from 2010. Age ratio was 0.55 poults per adult. Other population surveys, like our midwinter landowner survey and rural mail carrier survey, showed similar trends in number of birds observed over the past five years. Our 2010 winter landowner survey of turkeys showed numbers to be down over 30% from 2009. Many landowners in the western part of the state are reporting low turkey numbers and very few poults. Turkey production has been rather poor the last three years, especially in western one-third of the state primarily due to cool, wet springs, causing poor nesting success and poor young survival.

FALL HUNTING SEASON, 2010

The state is divided into twenty-two hunting units and these areas include all of North Dakota's 53 counties (Figure 2). During the fall of 2010, twenty of 22 counties were open for wild turkey hunting (units 53 in the northwestern part of the state and unit 21 in the southwest were closed). These two units have been closed for the past three fall hunting seasons because of low turkey numbers.

Licenses are issued by weighted lottery after the number of gratis licenses is deducted from the total available. Only North Dakota residents are eligible to apply in the first lottery. If licenses remain after the first lottery, then nonresidents can apply.

North Dakota has no specific youth hunting season for wild turkeys in the fall. We also do not have a specific bow season for turkeys. We provide only a one time period for hunting wild turkeys in the fall, and you can choose your weapon from shotguns, muzzle loading rifles, handguns and bow/arrows. During the fall of 2010, the season was held from October 9, 2010 through January 9, 2011. There were 5,755 permits available and 5,901 were issued (402 gratis and 5,499 general permits). This was a decrease of 1,050 permits available (-15 percent) over 2009.

From the wild turkey questionnaire, it was determined that 3,702 license holders (63 percent) hunted during the fall. Hunters harvested 1,551 wild turkeys for a success of 42 percent. A summary of the fall hunting statistics for ND since 1958 can be found in Table 2. Figure 3 is a graph of fall harvest statistics from 1980 – 2010. Data regarding sex and age of the harvest was determined by a voluntary sample of wing tips and breast feathers sent in by hunters. Based upon a sample of 325 harvested birds, 43 percent of the 2010 fall harvest were females and 52 percent were juveniles.

SPRING 2011 HUNTING SEASON

As with the fall hunting season for turkey, the state uses the same twenty-two hunting units during the spring season. These units include all of North Dakota's 53 counties. During the spring of 2010, the entire state was open for wild turkey hunting except for unit 53 in the northwestern part of the state and unit 21 in the southwestern part of the state. These two areas have been closed for the past three spring hunting seasons because of low turkey numbers in these units.

Licenses are issued by weighted lottery after the number of gratis licenses is deducted from the total available. Only residents are eligible to apply for spring licenses, although one spring license is provided to the NWTF for auction.

First time spring turkey hunters ages 15 or younger receive one spring license valid for the regular hunting season for a specific unit. We provide only a one time period for hunting wild turkeys in the fall, and you can choose your weapon from shotguns, muzzle loading rifles, handguns and bow/arrows.

The season opened April 9 and closed May 15 (30 days). Only bearded wild turkeys were legal to be harvested. A total of 7,077 applicants (up 4 percent from 2010) were received for the 6,720 permits (down 1 percent from 2010) that were available. This included 241 gratis, 211 youth and 6,625 general permits.

Data from the spring hunter questionnaire showed that 4,783 of the license holders (72%) hunted. Hunters harvested 1,698 wild gobblers (down 27 percent from 2010) for a hunter success of 36 percent (Table 3, Figure 4).

FALL HUNTING SEASON, 2011

For the 2011 fall hunting season, there are 4,630 permits available, 1,095 less than available during fall 2010. Two hunting units, one in the northwest and one in the southwest, will be closed this fall due to low turkey numbers. The season will open on October 8 and close on January 8, 2012 (100 days). This is the same season length as in the past several years. Only residents are eligible to apply for the first drawing of licenses. If licenses are left after the first drawing, then both residents and nonresidents can apply for the remaining licenses on a first come basis. This will be the eleventh year that the entire state will be open to wild turkey hunting.

TRAP/TRANSPLANT PROGRAM

During the 2010-2011 wild turkey trapping period, 48 wild turkeys were trapped at two locations. One location was in the center of the state and the other in the southwest. The trapped turkeys were released at a wildlife management area in the northwest and a wildlife management area in the south-central part of the state. Of the total birds trapped and released, the age ratio was 16A:32J and the sex ratio was 20M:28F. The drop-net was used in both trapping operations. All birds were Eastern turkeys.

FUTURE RESEARCH

There has never been any research work done on turkeys in North Dakota. Turkeys are not native to North Dakota but have been in the state for about 50 years, and they have been hunted during most of this time. There are many biological and ecological factors we would like to look at with our birds, but we have decided to evaluate our various population techniques first. We have initiated a research project with Dr. Scott Lutz at the Univ. of Wisconsin – Madison to evaluate our population sampling techniques plus try a gobbler survey to see which technique works the best in our habitat. The student is on board now and taking course work this fall. He will begin field work this spring.

DIVISION OF WILDLIFE
Ohio Department of Natural Resources

Publication 175
(R311)

TURKEY SEASON RESULTS, FALL 2010

Waterloo Wildlife Research Station
Athens, Ohio 45701

A total of 1,425 wild turkeys, 37% less than in 2009, was harvested in 48 counties during the 2010 Ohio fall wild turkey season (Table 1; Fig.1). Research has demonstrated that acorn availability strongly influences fall turkey hunting success. Harvest and hunting success was likely reduced in 2010 because turkeys were more dispersed and in smaller flocks to take advantage of an abundant acorn crop across eastern Ohio. Lower fall turkey permit sales also may have contributed to the reduced harvest in 2010.

Ashtabula County had the highest reported fall harvest ($n = 77$), followed by Coshocton ($n = 68$), Knox ($n = 62$), Trumbull ($n = 60$), and Tuscarawas ($n = 56$) counties. The top 5 counties collectively accounted for 23% of the 2010 fall turkey harvest.

Adult females ($n = 512$) comprised 39.6% of the harvest with a known age and sex, followed by adult males ($n = 370$, 28.6%), juvenile females ($n = 230$, 17.8%), and juvenile males ($n = 182$, 14.1%).

The majority of turkeys were harvested on private land (53%) or the hunter's own land (36%). Most successful hunters used a shotgun (76%), but 13% of hunters used crossbows and 11% used longbows to harvest a fall turkey.

The fall turkey harvest was highest during the first few weeks of the 7-week season with 10% of turkeys harvested during opening weekend, 21% harvested during the first week, and 18% harvested during the second week of the season. Each of the remaining 5 weeks of the season accounted for 9-11% of the total harvest.

Fall turkey permit sales ($n = 6,801$) decreased 11% from 2009 sales and were 56% below the record fall turkey permit sales of 2002. Youth fall turkey permit sales ($n = 922$) decreased 12% in 2010. Resident reduced-cost senior fall turkey permit sales ($n = 871$) increased 3% and have steadily increased since being introduced in 2004. Resident free senior fall turkey permits ($n = 11,017$) declined (-16%) for the seventh consecutive year.

Success rates of fall turkey permit holders were lower in 2010 (12.1%) than in the 2009 season (15.5%). Success rates for youth fall turkey permits (5.7% vs. 7.4%), resident reduced cost senior permits (3.9% vs. 7.2%), and resident free senior fall turkey permits (0.3% vs. 0.6%) were also lower in 2010 than in the 2009 season. Success rates are likely conservative because participation rates for each permit type are unknown.

Table 1. Fall 2010 either-sex wild turkey harvest in 48 Ohio counties and comparisons with 2009 and 2008.

County	Number of turkeys harvested, 2010					Total harvest		
	Adult male	Adult female	Juvenile male	Juvenile female	Unknown age/sex	2010	2009	2008
Adams	4	11	6	4	4	29	73	98
Ashland	12	12	7	2	5	38	28	44
Ashtabula	18	25	10	20	4	77	124	165
Athens	7	5	1	5	0	18	45	26
Belmont	1	7	1	0	2	11	26	39
Brown	6	13	1	3	5	28	59	81
Carroll	4	12	8	3	1	28	45	47
Clermont	13	19	5	5	2	44	56	69
Columbiana	8	12	4	7	4	35	48	55
Coshocton	13	25	9	13	8	68	77	79
Cuyahoga	0	1	1	0	0	2	1	1
Defiance	8	7	3	5	2	25	56	
Gallia	12	11	2	8	1	34	59	53
Geauga	18	17	5	10	3	53	79	71
Guernsey	12	11	3	8	5	39	74	63
Harrison	8	14	4	4	4	34	57	85
Highland	20	12	8	7	4	51	53	65
Hocking	1	10	3	2	1	17	61	20
Holmes	6	15	3	2	3	29	40	30
Jackson	4	11	2	5	0	22	63	28
Jefferson	1	11	3	7	3	25	31	35
Knox	14	24	7	12	5	62	63	69
Lake	2	0	1	1	0	4	18	13
Lawrence	6	4	1	0	5	16	41	34
Licking	9	25	5	3	11	53	62	60
Lorain	3	6	4	2	0	15	38	33
Mahoning	8	7	2	5	5	27	34	31
Medina	12	3	2	5	2	24	25	31
Meigs	4	15	7	6	1	33	48	33
Monroe	1	6	2	3	3	15	44	35
Morgan	5	5	5	4	1	20	34	23
Morrow	1	6	4	1	1	13	18	29
Muskingum	11	17	2	1	1	32	25	35
Noble	15	9	2	5	3	34	36	39
Perry	5	13	2	4	1	25	61	34
Pike	3	2	2	1	2	10	28	30
Portage	4	5	7	5	2	23	47	35
Richland	8	8	4	8	3	31	37	55
Ross	13	5	5	5	4	32	53	47
Scioto	2	5	2	3	0	12	37	41
Stark	4	9	0	3	3	19	31	30
Summit	6	1	0	0	1	8	8	7
Trumbull	25	11	8	14	2	60	78	66
Tuscarawas	11	28	10	6	1	56	86	75
Vinton	5	0	8	3	3	19	42	42
Washington	3	8	7	4	3	25	48	43
Wayne	2	2	0	3	1	8	5	15
Williams	5	11	1	2	3	22	33	
Totals	370	512	182	230	131	1,425	2,255	2,139

DIVISION OF WILDLIFEPublication 5
(R1011)

Ohio Department of Natural Resources

TURKEY SEASON RESULTS, SPRING 2011Waterloo Wildlife Research Station
Athens, OH 45701

In 2011, 18,162 gobblers were harvested during the Ohio spring wild turkey season, a decline of 22% compared to 2010 (Table 1). The total was composed of 1,471 turkeys harvested during the 2-day youth spring wild turkey season on April 16 and 17, and 16,691 turkeys harvested during the 4-week spring wild turkey season open from April 18 through May 15. Wild turkey abundance was expected to be lower in 2011 than in the previous year as the 2009 statewide reproductive index was the lowest on record.

Ashtabula County, with a reported harvest of 700 gobblers, ranked first in the State in the 2011 spring turkey season (Fig. 1). Rounding out the top 5 counties, which collectively accounted for 15% of the 2011 harvest, were Tuscarawas ($n = 571$), Adams ($n = 502$), Guernsey ($n = 498$) and Knox county ($n = 498$). Compared to the 2010 spring turkey season, the 2011 harvest increased in 8 counties, decreased in 79 counties, and remained the same in 1 county (Table 1). Most hunters reported harvesting a turkey on private land (89%); only 11% reported harvesting a gobbler on public land. Landowners reported a harvest of 3,699 gobblers representing 20% of the statewide total harvest.

The distribution of the spring turkey harvest was slightly atypical of recent years – 8.1% of the harvest occurred in the 2-day youth season while 42.0%, 19.6%, 15.8%, and 14.6% of the harvest occurred during the first, second, third, and fourth weeks of the spring turkey season, respectively. A higher percentage of the harvest may have occurred during the final 2 weeks of the season due to record rainfall totals received during April. However, a slightly lower percentage of turkeys (20%) were harvested during the afternoon hours in the final 2 weeks of the season than in 2010 (25%), the first season in which hunting hours were extended from 12:00 pm until sunset.

Licensed hunters purchased 48,870 spring turkey permits, 10,594 youth spring turkey permits, 3,620 senior reduced-cost spring turkey permits, and 11,873 senior free spring turkey permits for the 2011 season. The 74,957 spring turkey permits sold in 2011 declined 4.4% below spring turkey permit sales for 2010 (Table 2). Success rate by permit type in the 2011 spring season was 22.9% for spring turkey permits, 20.3% for youth spring turkey permits, 17.2% for senior reduced cost spring turkey permits, and 3.8% for senior free spring turkey permits. These success rates may be conservative (especially for the senior free spring turkey permits) because participation rates may be <100%.

County	2010	2011	% Change	County	2010	2011	% Change
Adams	745	502	-33	Licking	429	425	-1
Allen	36	45	25	Logan	240	159	-34
Ashland	276	224	-19	Lorain	221	182	-18
Ashtabula	1030	700	-32	Lucas	55	43	-22
Athens	435	367	-16	Madison	8	4	-50
Auglaize	43	36	-16	Mahoning	268	226	-16
Belmont	563	435	-23	Marion	57	53	-7
Brown	615	428	-30	Medina	157	116	-26
Butler	216	200	-7	Meigs	501	396	-21
Carroll	377	349	-7	Mercer	24	17	-29
Champaign	128	87	-32	Miami	16	26	63
Clark	23	17	-26	Monroe	558	440	-21
Clermont	590	420	-29	Montgomery	18	15	-17
Clinton	79	75	-5	Morgan	364	338	-7
Columbiana	458	394	-14	Morrow	271	205	-24
Coshocton	522	443	-15	Muskingum	623	455	-27
Crawford	102	85	-17	Noble	424	305	-28
Cuyahoga	6	4	-33	Ottawa	12	2	-83
Darke	46	43	-7	Paulding	120	82	-32
Defiance	325	227	-30	Perry	324	257	-21
Delaware	160	131	-18	Pickaway	52	28	-46
Erie	57	52	-9	Pike	403	270	-33
Fairfield	123	90	-27	Portage	285	224	-21
Fayette	4	5	25	Preble	92	71	-23
Franklin	16	23	44	Putnam	66	58	-12
Fulton	112	90	-20	Richland	426	408	-4
Gallia	640	370	-42	Ross	554	344	-38
Geauga	423	300	-29	Sandusky	21	17	-19
Greene	21	23	10	Scioto	422	260	-38
Guernsey	635	498	-22	Seneca	184	162	-12
Hamilton	139	139	0	Shelby	54	39	-28
Hancock	34	31	-9	Stark	246	219	-11
Hardin	87	74	-15	Summit	44	28	-36
Harrison	581	474	-18	Trumbull	584	405	-31
Henry	55	35	-36	Tuscarawas	664	571	-14
Highland	540	438	-19	Union	33	37	12
Hocking	375	283	-25	Van Wert	20	21	5
Holmes	283	215	-24	Vinton	356	256	-28
Huron	219	158	-28	Warren	111	123	11
Jackson	391	296	-24	Washington	472	402	-15
Jefferson	447	374	-16	Wayne	110	107	-3
Knox	528	498	-6	Williams	353	242	-31
Lake	96	58	-40	Wood	29	21	-28
Lawrence	446	262	-41	Wyandot	123	105	-15
				Total	23,421	18,162	-22

Table 2. Ohio's spring turkey season dates, permits sold, and harvest, 1966-2010.

Year	Season Dates	Open Counties	Bag Limit	Permit Fee	Permits Sold^a	Total Harvest^b
1966	05/04 – 05/07	9	1	Free	500	12
1967	05/03 – 05/06	9	1	Free	898	18
1968	05/08 – 05/11	9	1	Free	914	20
1969	05/07 – 05/10	9	1	Free	945	37
1970	04/29 – 05/02	14	1	Free	909	30
	05/06 – 05/09				896	36
1971	04/28 – 05/01	14	1	Free	1,000	37
	05/05 – 05/08				1,000	17
1972	05/03 – 05/06	14	1	\$5.35	917	32
	05/10 – 05/13				881	25
1973	05/02 – 05/05	14	1	\$5.35	1,034	39
	05/09 – 05/12				1,034	32
1974	05/01 – 05/04	14	1	\$10.50	999	61
	05/08 – 05/11				184	10
1975	04/28 – 05/03	14	1	\$10.50	996	75
	05/05 – 05/10				267	19
1976	04/26 – 05/08	14	1	\$10.50	1,471	139
1977	05/02 – 05/14	14	1	\$10.50	1,751	137
1978	05/01 – 05/13	18	1	\$10.50	2,000	147
1979	04/30 – 05/12	18	1	\$10.50	2,000	265
1980	04/21 – 05/03	20	1	\$10.75	2,097	387
1981	04/27 – 05/09	20	1	\$10.75	3,458	577
1982	04/26 – 05/08	20	1	\$10.75	4,262	651
1983	04/25 – 05/07	21	1	\$10.75	5,141	764
1984	04/23 – 05/12	31	1	\$10.75	6,935	1,233
1985	04/22 – 05/11	31	1	\$10.75	10,084	1,583
1986	04/28 – 05/17	31	1	\$10.75	11,913	1,816
1987	04/27 – 05/16	32	1	\$10.75	13,396	2,268
1988	04/25 – 05/14	32	1	\$11.00	16,208	2,629
1989	04/24 – 05/13	36	1	\$11.00	18,887	3,171
1990	04/23 – 05/12	37	1	\$16.00	19,613	4,096
1991	04/22 – 05/11	38	1	\$16.00	22,898	5,009
1992	04/27 – 05/16	38	1	\$16.00	28,974	5,678
1993	04/26 – 05/15	42	1	\$16.00	29,538	7,470
			2	\$32.00	4,106	
1994	04/25 – 05/14	44	1	\$16.00	29,334	9,098
			2	\$32.00	5,187	
1995	04/24 – 05/13	44	1	\$20.00	30,837	10,892
			2	\$40.00	6,136	
1996	04/22 – 05/11	46	1	\$20.00	31,003	12,098
			2	\$40.00	7,700	
1997	04/28 – 05/17	47	1	\$20.00	30,511	12,393
			2	\$40.00	8,130	
1998	04/27 – 05/16	50	1	\$20.00	31,037	13,251
			2	\$40.00	8,133	
1999	04/26 – 05/16	57	1	\$20.00	42,363	14,419
			2	\$40.00	7,846	

Table 2. Continued.

Year	Season Dates	Open Counties	Bag Limit	Permit Fee	Permits Sold^a	Total Harvest^b
2000	04/24 – 05/14	88	1	\$20.00	49,982	20,276
			2	\$40.00	9,720	20,276
2001	04/23 – 05/13	88	1	\$20.00	54,841	26,156
			2	\$40.00	11,092	
2002	04/22 – 05/19	88	1	\$20.00	48,821	22,190
			2	\$40.00	24,633	
2003 ^c	04/28 – 05/25	88	2	\$20.00	94,989	20,368
2004	04/26 – 05/23	88	2	\$24.00	74,119	16,927
2005	04/18 – 05/15	88	2	\$24.00	85,053	18,833
2006	04/24 – 05/21	88	2	\$24.00	85,248	20,023
2007	04/23 – 05/20	88	2	\$24.00	75,408	18,584
2008	04/21 – 05/18	88	2	\$24.00	79,962	20,389
2009	04/20 – 05/17	88	2	\$24.00	81,049	20,710
2010	04/19 – 05/16	88	2	\$24.00	78,388	23,421
2011	04/18 – 05/15	88	2	\$24.00	76,956	18,162

^aIncludes youth and senior spring turkey permits (Ohio residents 66 years of age and older).

^bTotal recorded harvest by all hunter types (paid, youth, senior, and exempt).

^cThe special bonus wild turkey permit was eliminated in 2003 and hunters no longer could be classified as 1-bird or 2-bird permit holders.



Photo courtesy of Rick Stankiewicz

2011 Spring Turkey Hunt

Ontario's 2011 spring turkey hunt ran from April 25 to May 31. Hunters were allowed to purchase up to two turkey licences/seals and hunt in any open WMU for the duration of the season. Spring hunting hours were from ½ hour before sunrise to 7:00 pm. Only bearded birds could be harvested.

Reported spring turkey harvest in 2011 was 8,560 birds, down from 9,086 in spring 2010 (the provincial record harvest was 10,492 in 2008). The further decline in harvest this past spring can be explained in part by cool and wet weather during parts of the season. Thirty four percent of males harvested this spring were jakes. Harvest by time of day has been very consistent since afternoon hunting was first permitted in 2005, with approximately 80% of harvest occurring in the morning and the remainder between noon and 7:00 pm.

A 2011 turkey license in Ontario costs \$26.93 and turkey hunters must also have a small game license which costs \$22.89 for residents and \$109.63 for non-residents. Spring license sales have stabilized at around 55,000.

Ontario requires all individuals wishing to hunt turkeys to take the Ontario Wild Turkey

Hunter Education Course and pass a written exam. In previous years hunters had to take this course and complete the

exam in person. In 2011 Ontario produced a turkey hunter education course DVD that allows hunters to complete the course at their leisure and complete the proctored exam in person or by Skype.

2010 Fall Turkey Hunt

Ontario's fall turkey season begins the day after Canada's Thanksgiving Day (October 12, 2010) and runs for 13 days. Hunters may purchase one fall licence/seal, hunt in any open WMU, and harvest one turkey of either-sex. Hunting hours for the fall turkey season are the same for all other fall hunting in Ontario from ½ hour before sunrise to ½ hour after sunset.

Hunter interest in Ontario's fall turkey hunt continues to be much lower than the spring hunt, in part due to a variety of other hunting options in mid-October (e.g. moose, bear, archery deer, small game, and waterfowl). The reported 2010 fall harvest in Ontario was 361 birds, and 56% of the harvested birds were hens (adult and juvenile). Approximately 3,800 licenses were sold for the 2010 fall season, a significant decline from just over 5,300 sold in fall 2009.

Management Challenges

- Declining harvest reporting rates
- Apparent population declines in some areas
- Agricultural conflicts
- Illegal release of pen-raised birds resulting in urban and suburban conflicts

TURKEY REPORT

SOUTH DAKOTA

MIDWEST DEER AND TURKEY WORKSHOP

Higgins Lake, MI

2011



SPRING PRAIRIE TURKEY

In 2010, license sales totaled 7,691 (6,445 residents and 1,246 nonresidents) compared to 7,479 in 2009. There were 8,488 licenses available and overall tag sales totaled 12,655.

The survey sample size was 4,073 (56% of all hunters) and the response rate was 86.2%. Approximately 53% of responding hunters used the Internet response site. The reported overall success rate for hunters was 52% and the projected harvest was 6,564 turkeys.

Spring prairie turkey hunters averaged 2.93 days hunting for a projected total of 21,155 hunting days for the April 10 through May 23 season.

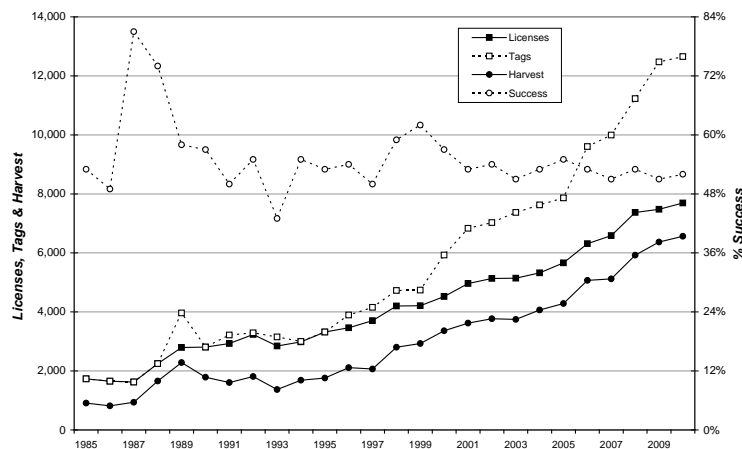
Double tag any-turkey licenses were available again this year and have been since 2001. An estimated 755 hens were harvested (11.5% of the total harvest) compared to 600 in 2009.

Respondents were asked to gauge their satisfaction of the season (1 being least satisfied, 7 being most satisfied) and the average response was 5.81.

Comparison of the 2001-2010 Spring Prairie Turkey Seasons

Year	Res Lic	NR Lic	Tags	Harvest			Avg Days Hunted	Avg Satisf
				Toms	Hens	Success		
2001	4,357	606	6,831	3,473	147	53%	2.49	4.47
2002	4,470	666	7,028	3,567	199	54%	2.65	4.64
2003	4,451	692	7,370	3,440	304	51%	2.74	4.76
2004	4,502	821	7,627	3,713	355	53%	2.71	4.69
2005	4,787	876	7,864	3,988	297	55%	2.87	4.78
2006	5,308	1,004	9,605	4,583	487	53%	2.77	4.59
2007	5,477	1,108	9,993	4,595	524	51%	2.73	5.58
2008	6,118	1,252	11,228	5,333	588	53%	2.73	5.64
2009	6,284	1,195	12,472	5,769	600	51%	2.93	5.81
2010	6,445	1,246	12,655	5,809	755	52%	2.93	5.81

Spring Firearm Prairie Turkey 1985-2010



SPRING BLACK HILLS TURKEY

An unlimited number of licenses were available and 5,244 licenses were issued for the 2010 Spring Black Hills Turkey season (3,199 residents, 2,045 nonresidents), a significant decrease from 2009. All licenses consisted of single tags for male turkeys only.

The survey sample size was 796 (16% of the total number of licensees) and the response rate was 84.8%. Approximately 57% of responding hunters used the Internet response site. The reported success rate was 42% and the projected harvest was 2,195 male turkeys.

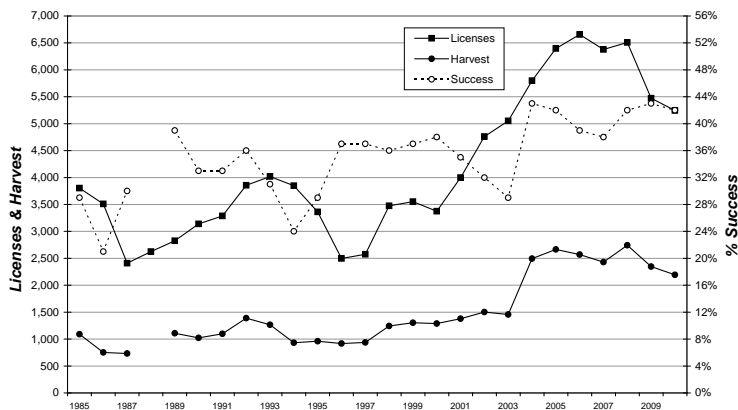
The season was open from April 10 through May 23, a total of 44 days. Hunters averaged 3.97 days of hunting for a projected total of 19,604 days of recreation for the season.

Resident hunters purchased 495 licenses for the BH2 unit, where tags were only valid between May 1 and May 23. Of those, 189 did not have a unit BH1 license; therefore, only 306 hunters purchased two licenses for the season. Reported success for unit BH2 for those hunters who purchased two licenses was 32%.

Comparison of the 2001-2010 Spring Black Hills Turkey Seasons

<i>Year</i>	<i>Licenses Issued</i>	<i>Tom Harvest</i>	<i>Avg Days Hunted</i>	<i>Success</i>	<i>Average Satisfaction</i>
2001	3,998	1,379	3.78	35%	-
2002	4,761	1,503	3.81	32%	4.52
2003	5,053	1,456	3.49	29%	4.63
2004	5,798	2,494	3.58	43%	4.67
2005	6,397	2,666	3.53	42%	4.66
2006	6,656	2,570	3.65	39%	4.95
2007	6,378	2,430	3.45	38%	5.57
2008	6,508	2,743	3.39	42%	5.52
2009	5,474	2,346	3.46	43%	5.69
2010	5,244	2,195	3.97	42%	5.36

**Black Hills Spring Turkey
1985-2010**



SPRING ARCHERY TURKEY

There were 2,085 resident and 463 nonresident licenses sold for a total of 2,548 licensed spring archery turkey hunters in 2010, a slight decrease from 2009.

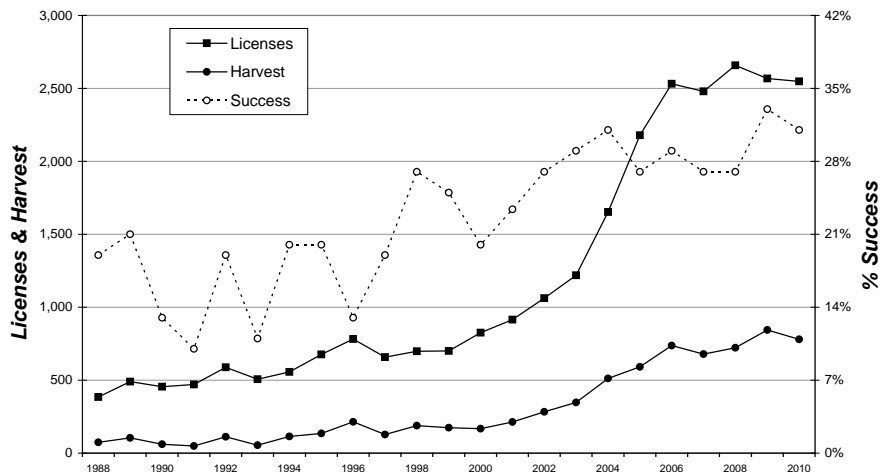
To obtain harvest estimates, 39% of the license holders were sampled for an overall sample size of 993. The response rate was 81.9%. Approximately 55% of responding hunters used the Internet response site.

The projected harvest based on survey responses was 780 male turkeys, a decrease of 8% from 2009, for a success rate of 31%. The season was open from April 10 through May 23, a total of 44 days. The projected total number of days hunted was 10,906, an average of 4.28 days per hunter.

Comparison of the 2001-2010 Spring Archery Turkey Seasons

Yea	Licenses Sold		Tom Harevst	Success	Avg Days Hunted	Satisfaction
	Resident	Nonresident				
2001	702	213	219	23%	4.37	4.12
2002	825	237	283	27%	4.53	4.47
2003	954	265	347	29%	4.26	4.72
2004	1,330	322	512	31%	4.62	4.61
2005	1,778	401	591	27%	4.46	4.61
2006	2,072	460	737	29%	4.52	4.63
2007	2,079	400	679	27%	4.25	5.42
2008	2,199	459	722	27%	4.34	5.45
2009	2,124	443	844	33%	4.42	5.51
2010	2,085	463	780	31%	4.28	5.41

**Spring Archery Turkey
1988-2010**



MENTORED SPRING TURKEY

There were 535 Mentored Spring Turkey licenses sold in South Dakota for the 2010 season. All were single tag licenses valid for a male turkey. A total of 199 mentors/hunters were sampled and 148 responses (74%) were received. Approximately 32% of responding mentors/hunters used the Internet response site.

The spring season ran from April 10 through May 23, a total of 44 days. Respondents reported hunting an average of 3.14 days, which projected to a total of 1,680 recreation days for the season.

An estimated 228 toms were harvested. The overall projected success rate for this season was 43%. The mean satisfaction score reported by hunters/mentors was 5.83 (1 representing "very dissatisfied" and 7 representing "very satisfied").

The five counties with the highest reported harvest were Clay, Bon Homme, Pennington, Gregory and Yankton.

Summary of the 2009-2010 Spring Mentored Youth Turkey Seasons

YEAR	Licenses Sold	HARVEST				Avg Days Hunted	Average Satisfaction
		Toms	Hens	Total	%Success		
2009	422	171	0	171	41%	2.88	5.81
2010	535	228	0	228	43%	3.14	5.83

FALL PRAIRIE TURKEY

There were 5,995 licenses (5,532 resident, 463 nonresident) sold for the 2010 Fall Prairie Turkey season in South Dakota, for a total of 11,276 tags. All tags were valid for either a tom or a hen.

A random sample of 2,965 hunters was taken (49% of hunters), and 2,346 responded for a 79% response rate. Approximately 56% of responding hunters used the Internet response site.

The fall season ran from October 1 through January 31, a total of 123 days. Respondents reported hunting an average of 2.87 days, which projected to a total of 14,465 recreation days for the season.

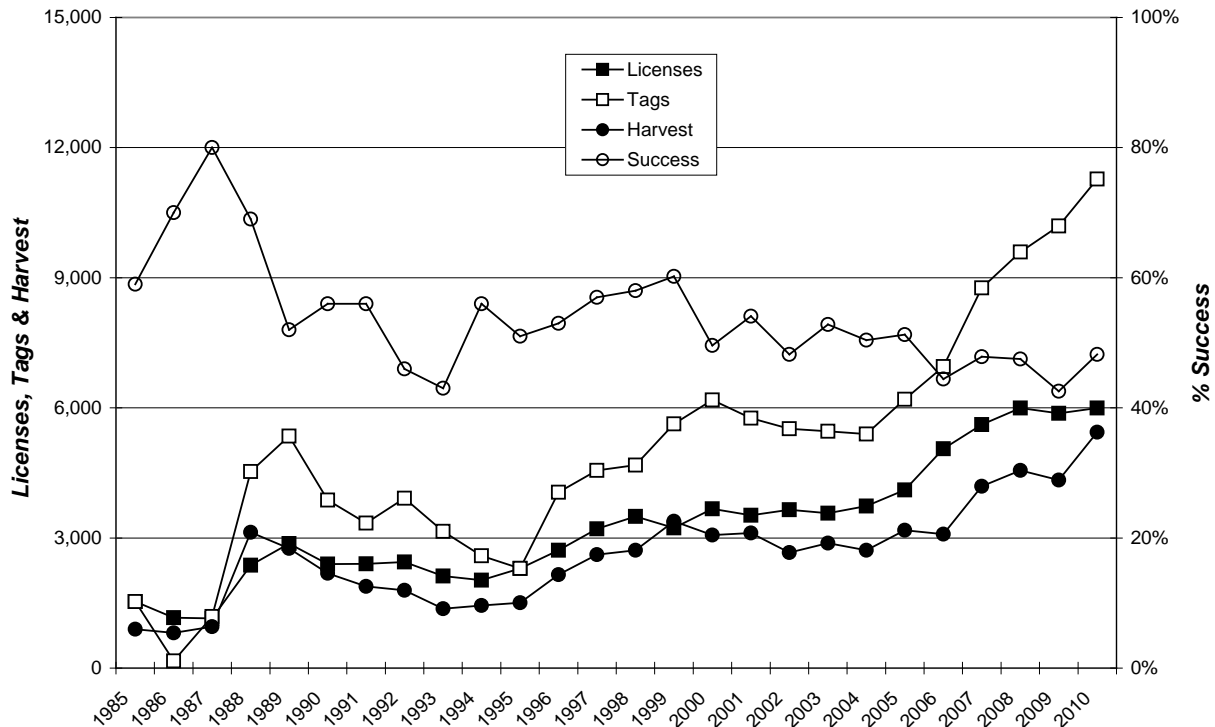
Harvest projections indicated 3,019 toms were taken along with 2,419 hens for a total of 5,438 turkeys. The estimated success rate for the season was 48%. The mean satisfaction score reported by hunters was 5.36 (1 representing "very dissatisfied" and 7 representing "very satisfied").

The four West River Unit counties with the highest reported harvests were Mellette, Gregory, Tripp, and Meade. Roberts and Grant counties had the highest reported harvests in the Northeast Unit.

Summary comparison of the 2001-2010 Fall Prairie Turkey seasons

<i>Year</i>	<i>Licenses Sold</i>	<i>Tags Sold</i>	<i>HARVEST</i>				<i>Avg Days Hunted</i>	<i>Average Satisfactn</i>
			<i>Toms</i>	<i>Hens</i>	<i>Total</i>	<i>%Success</i>		
2001	3,524	5,761	1,604	1,512	3,116	54%	2.69	5.59
2002	3,649	5,520	1,545	1,116	2,661	48%	2.77	5.61
2003	3,572	5,458	1,555	1,339	2,894	53%	2.66	5.81
2004	3,734	5,394	1,568	1,150	2,718	50%	3.05	5.68
2005	4,105	6,196	1,788	1,384	3,172	51%	2.60	5.62
2006	5,055	6,949	1,645	1,442	3,087	44%	3.15	5.02
2007	5,614	8,764	2,315	1,879	4,194	48%	3.07	5.22
2008	5,996	9,593	2,606	1,949	4,556	47%	2.86	5.43
2009	5,876	10,191	2,335	2,002	4,337	43%	2.92	5.22
2010	5,995	11,276	3,019	2,419	5,438	48%	2.87	5.36

Fall Prairie Turkey 1985-2010



FALL BLACK HILLS TURKEY

There were 3,312 Fall Black Hills Turkey licenses (3,198 resident, 114 nonresident) sold in South Dakota for the 2010 season. All were single tag licenses valid for either a tom or a hen.

Of the 498 license-holders that were sampled, 370 responded for a 74% response rate. Approximately 54% of responding hunters used the Internet response site.

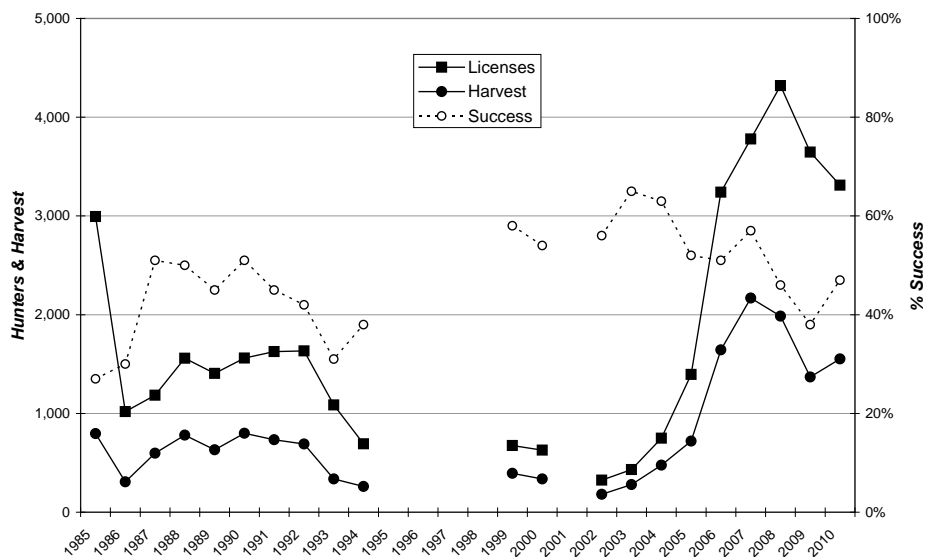
The fall season ran from October 1 through January 31, a total of 123 days (92 days in 2006, 31 days in 2005, 16 days in 2004, 9 days in 2003). Respondents reported hunting an average of 3.05 days, which projected to a total of 7,753 recreation days for the season.

An estimated 907 toms were harvested along with 646 hens, a total of 1,553 turkeys. The overall estimated success rate for the season was 47%. The mean satisfaction score reported by hunters was 5.22 (1 representing “very dissatisfied” and 7 representing “very satisfied”).

Summary comparison of the 2000-2010 Fall Black Hills Turkey seasons

YEAR	LICENSES SOLD		HARVEST				Avg Days Hunted	Average Satisfaction
	Resident	Nonres	Toms	Hens	Total	%Success		
2000	595	33	123	210	333	54%	2.21	NA
2001	No Season							
2002	300	25	104	78	182	56%	2.22	5.91
2003	400	32	114	165	279	65%	1.84	5.95
2004	708	42	206	270	476	63%	2.12	5.97
2005	1,312	83	321	399	720	52%	2.51	6.04
2006	3,081	159	681	962	1,643	51%	3.50	5.34
2007	3,641	138	1,130	1,039	2,169	57%	3.24	5.49
2008	4,155	164	806	1,179	1,986	46%	3.39	5.40
2009	3,506	140	658	711	1,369	38%	3.77	4.78
2010	3,198	114	907	646	1,553	47%	3.05	5.22

Black Hills Fall Turkey 1985-2010



FALL MENTORED YOUTH TURKEY

There were 423 Fall Mentored Youth Turkey licenses sold in South Dakota for the 2010 season. All were single tag licenses valid for either a tom or a hen. All mentors/hunters were sampled and 304 responses (72%) were received. Approximately 24% of responding mentors/hunters used the Internet response site.

The fall season ran from October 1 through January 31, a total of 123 days. Respondents reported hunting an average of 1.91 days, which projected to a total of 808 recreation days for the season.

An estimated 88 toms were harvested along with 68 hens, a total of 156 turkeys. The overall projected success rate for this season was 37%. The mean satisfaction score reported by hunters was 5.59 (1 representing “very dissatisfied” and 7 representing “very satisfied”).

The two counties with the highest reported harvest were Pennington and Lawrence.

Summary comparison of the 2008-2010 Fall Mentored Youth Turkey seasons

<i>YEAR</i>	<i>Licenses Sold</i>	<i>HARVEST</i>				<i>Avg Days Hunted</i>	<i>Average Satisfaction</i>
		<i>Toms</i>	<i>Hens</i>	<i>Total</i>	<i>%Success</i>		
2008	236	59	43	101	43%	2.75	5.91
2009	353	65	45	110	31%	2.63	5.55
2010	423	88	68	156	37%	1.91	5.59