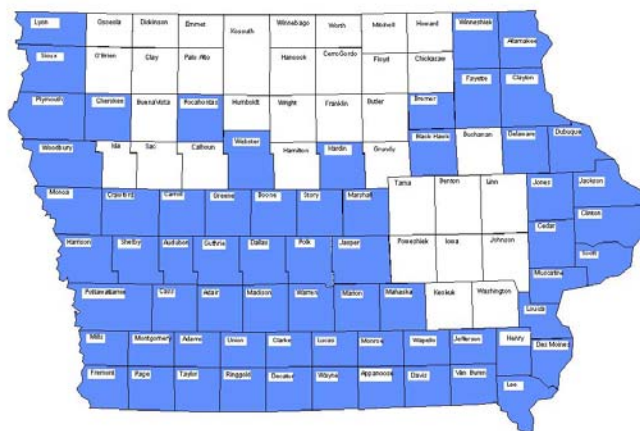


TRENDS IN IOWA WILDLIFE POPULATIONS AND HARVEST 2001



BOBCAT SIGHTINGS IN IOWA COUNTIES 1999 - 2001



***Iowa Department of Natural Resources
JEFFERY R. VONK, Director
October 2002***

TRENDS IN IOWA WILDLIFE POPULATIONS AND HARVEST 2001

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Waterfowl

Upland Wildlife

Wildlife Restoration

Wildlife Restoration

Wildlife Restoration

Wildlife Restoration

CONSERVATION & RECREATION DIVISION

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TABLE OF CONTENTS

WHITE-TAILED DEER

<i>Historical perspective</i>	1
<i>2001 Hunting Season Results</i>	2
<i>Population surveys</i>	5
<i>Outlook for 2002</i>	5
<i>Tables</i>	7
<i>Figures</i>	21

WILD TURKEYS

<i>Historical perspective</i>	29
<i>Spring harvest survey</i>	30
<i>Fall harvest survey</i>	31
<i>Brood survey</i>	34
<i>Tables</i>	37
<i>Figures</i>	49

FURBEARERS

<i>Historical perspective and current season results</i>	53
<i>Tables</i>	58
<i>Figures</i>	71

WATERFOWL

<i>Duck breeding populations</i>	74
<i>Giant Canada Goose Populations</i>	74
<i>Waterfowl harvests</i>	75
<i>Waterfowl seasons</i>	76
<i>Waterfowl banding</i>	76
<i>Tables</i>	77
<i>Figures</i>	90

UPLAND WILDLIFE

<i>Historical summary of populations and harvest</i>	93
<i>2001 results</i>	97
<i>Tables</i>	103
<i>Figures</i>	118

WILDLIFE RESTORATION

<i>Peregrine Falcons</i>	124
<i>River Otters</i>	143
<i>Greater Prairie Chickens</i>	148
<i>Ruffed Grouse</i>	160
<i>Wild Turkeys</i>	168
<i>Canada Geese</i>	180
<i>Trumpeter Swan</i>	184

<i>Osprey</i>	192
<i>Sandhill Cranes</i>	195
<i>Bald Eagle</i>	198
<i>Bobcats</i>	210
<i>Mountain Lion</i>	212
<i>Black Bear</i>	215

WHITE-TAILED DEER

Historical Perspective

White-tailed deer (*Odocoileus virginianus*) were reported to be quite abundant when European settlers arrived in Iowa in the early 1800's. Although the clearing and cultivating of land for agriculture may have initially improved the suitability of the landscape for deer, uncontrolled exploitation for food and hides rapidly reduced deer numbers. By 1880, deer were rarely sighted in much of the state and, in 1898, the deer season was legally closed. By this time deer had been virtually eliminated from all parts of the state.

Re-establishment of deer into the state can be traced to escapes and releases from captive herds and translocation and natural immigration from deer herds in surrounding states. A conservative estimate of the population in 1936 placed statewide numbers at between 500 and 700 animals. This small herd grew steadily. By 1950 deer were reported in most counties and the statewide estimate topped 10,000. Concentrations in some areas were beginning to cause problems by damaging agricultural crops. In response to these problems the first modern deer season was held in December of 1953 and 4,000 deer were killed. This spring the deer herd was estimated to be about 210,000 before the fawning season. The harvest in 1996 exceeded 100,000 for the first time ever.

Although deer are frequently associated with forested areas, deer will utilize many different types of habitat as long as the area provides adequate cover. Examples of these types of areas include brushy draws and fencelines, marshes, and grassy areas like those provided by

the federal Conservation Reserve Program (CRP). Standing corn also provides ideal habitat for part of the year since it provides food, cover and easy travel lanes. Deer utilize almost all plants for food at one time or another during the year. Deer feeding habits can best be described as being randomly selective as deer will sample many plants while feeding but often utilize a single source of food for the majority of their diet.

The whitetail's ability to thrive in Iowa is likely the result of an abundant, reliable food source and a winter climate where snow depths rarely exceed 12" for a prolonged length of time. These factors combine to allow deer to come through the "winter bottleneck" in excellent condition. The excellent nutrition also enables deer to have high reproductive rates. Many does in Iowa have a single fawn their first year and 2 fawns each subsequent year. Deer in the wild can probably maintain these high reproductive rates until they are well past 10 years of age. Past research in Iowa has found that 8 to 12% of adult does have 3 fawns.

Another reason that deer do so well in Iowa is that they are very mobile. Although many deer never move far from the area where they were born, a significant number (10-20% on average) leave and travel to new areas before establishing a core area. These core areas may change seasonally with deer shifting between wintering areas and fawning areas. These movements allow deer to fill voids left open due to deaths and changing habitat. Thus deer easily pioneer into new areas when habitat is suitable. The highest rates of movement occur during 2 periods of the year. The

first is in the spring when does move to their fawning areas. Many of the previous year's fawns are forced to find areas of their own at this time. The second period is in the fall during the breeding season. The breeding season or rut begins in mid-October and runs through mid-January, although the peak of activity occurs during early to mid-November.

Careful management of deer populations by man has also played an important role in allowing deer numbers to return to the levels enjoyed today. Management consists of carefully regulating the doe harvest since hunting provides the major source of mortality for deer in Iowa today. Unchecked, Iowa's deer herd could grow at a rate of 20% to 40% each year. At this rate, deer numbers would double in as few as 3 years. With Iowa's abundant agricultural crops providing food, densities could potentially reach 100 or more deer per square mile before natural regulatory mechanisms would begin to affect deer health and slow the rate of reproduction. Deer numbers this high would cause economic hardship to Iowa's landowners as well as alter the natural vegetative community. Maintaining a deer population in balance with the wants and needs of the people in the state is a difficult task and hunting is the only viable management option to achieve this goal.

2001 Hunting Season Results

A record number of deer were killed during the 2001 season. The estimated kill was 136,655 (Table 1.4) which was about 8% higher than in 2000 (Table 1.2). The previous record harvest was last year when an estimated 126,535 deer were taken. Almost all of the increase was due to an increased kill of antlerless

deer. The number of does killed increased by about 8,500 deer or 15% over 2000. The number of button bucks increased by about 2,100 deer or 13% over 2000. Most of the increased kill (7,600 of the 10,000 increase) was due to the extra antlerless licenses and the expanded number of counties open during the January season. The estimated number of antlered deer in the harvest stayed about the same, down about 600 from 2000.

The season framework was basically the same as last year (Table 1.1). This was the sixth year for the special January season. Landowners in these counties could get a free tag for this season in addition to the normal free license and the regular tags a deer hunter could legally obtain. Hunters in both shotgun seasons, the late muzzleloader season and the bow seasons were allowed to obtain a bonus antlerless license for all 99 counties in Iowa. These licenses were restricted to a specific county.

About 1,600 additional deer were taken during special management hunts in urban areas and state and county parks and another 1,250 deer were taken on special depredation tags issued to landowners with damage problems.

Seven of the top 10 counties for total kill were either in the northeast or southeast corner of the state. Clayton was the top county for total kill with 5,422 deer or about 7.0 per square mile of area (Table 1.5 & 1.6). Grundy county had the lowest kill with an estimate of 193 deer or only about 1 deer per 2 square miles.

The relative precision of the harvest estimates from the 9 separate postcard surveys ranged from $\pm 2\%$ for shotgun hunters to $\pm 12\%$ for the youth season. The relative precision for the doe harvest ranged from $\pm 4\%$ for shotgun hunters to $\pm 22\%$ for the archery season. The relative precision of the county

estimates averaged $\pm 24\%$ for total kill and $\pm 36\%$ for doe kill. A total of 50,723 license holders were sampled with 32,559 responses returned. This is a response rate of 64%.

Shotgun Season

The kill during the shotgun seasons was about 7% higher than what was recorded in 2000 (Table 1.2). The main reason for the increase was that more licenses were issued which resulted in more hunters. Success rates were down by 5% however.

Antlered bucks made up about 46% of the total kill, while does made up 42% and the rest were buck fawns.

There were nearly 71,802 hunters (paid licenses only) in the field during the first season and they killed 49,667 deer while 47,411 hunters tagged 29,997 deer during the second season. This translates to a 69% success rate for first season hunters and 63% for second season hunters. Antlered deer made up the largest proportion (53%) of the kill during the first season while does made up the largest proportion (51%) of the deer tagged during the second season.

Hunting pressure (Fig. 1.1) was generally higher in most counties during the first season. About 60% of the hunters with paid licenses hunted during the first season. This is similar to past few years. Highest hunter numbers were in eastern and southern Iowa during both seasons.

Deer kill (Fig. 1.2) was also highest in northeast and southeast Iowa during the first season and in the eastern parts of the state during the second season.

Success rates (Fig. 1.3) were good across most of the state in both seasons. Hunters in almost all counties had success rates greater than 60% especially during the first season.

Does made up less than 40% of the kill in most counties during the first season (Fig. 1.4). However does made up over 50% of the harvest in most counties during the second season. First season hunters averaged 2.8 days in the field, while second season hunters averaged 4.2 days in the field.

Although the lack of precision of the county estimates (Table 1.5 and 1.6) makes it difficult to evaluate the kill in individual counties and determine whether management objectives are being met, it is possible to make some generalizations at a larger scale. Overall, regulations appear to be very effective in allowing more deer to be taken in southern and eastern Iowa (Fig. 1.5). However the doe harvest (Fig. 1.6) is still below 50% in most counties outside of those counties open during the bonus January season.

Bonus January Season

A special January season was held in 11 counties in southern Iowa to help reduce deer numbers. A total of 4,847 licenses were issued, which is an increase of 136% from 2000 when only 2 counties were open. While 62% of the hunters with paid licenses were successful in taking an antlerless deer only 42% of those with free licenses were successful.

The kill during this season increased the total kill by 10% and doe kill by 17% in these 11 counties. An estimated 79% of the deer taken were does, 16% were buck fawns and 5% were bucks that had shed their antlers. This increased the number of antlered bucks taken in the 11 counties by only about 1%.

Archery

A record number of deer were taken by archers in 2001. The reported

harvest of 18,798 was 6% higher than the previous record kill reported in 2000 (Table 1.4). An increase in the number of licenses issued and the number of hunters in the field were the reasons for the increase. Success rates were lower, going from 44% in 2000 to 37% in 2001 (Table 1.7). Seventy five percent of the deer taken by archers were antlered bucks.

Archers averaged about 17 days in the field in 2001, 14.2 days before the shotgun season and 2.8 days after it. The average archer hunted 45 days to bag a deer. The timing of the harvest appeared to be similar to that reported in the past (Fig. 1.7). Seventy percent of the bowhunters reported shooting their deer in November with nearly 40% of the harvest occurring between November 4th and 17th. About 10% of the total harvest occurred during the late season after the shotgun seasons.

Muzzleloader

Kill during the early muzzleloader season was about the same as in 2000. Hunter numbers were slightly lower but success rates were slightly higher. About 51% of hunters reported that they tagged a deer. Antlered bucks made up about 52% of the kill (Table 1.8). Hunters averaged about 4.2 days in the field.

The kill during the late muzzleloader season was 23% higher than in 2000. The main reason was an increase in the number of licenses that were issued which resulted in more hunters in the field. Most of the extra licenses were the antlerless licenses that were issued for all 99 counties.

About 44% of the deer killed during the late muzzleloader season were antlered bucks. Hunters averaged about 8 days in the field.

Nonresident

Of the 6,019 any-sex licenses issued, 3,304 went to hunters during the shotgun season, 2,095 to bowhunters, and 620 to late season muzzleloader hunters. An additional 1,489 antlerless licenses were issued and 960 went to hunters during the shotgun season, 488 went to bowhunters and 41 went to late season muzzleloader hunters. About 61% of the shotgun hunters, 38% of the muzzleloader hunters and 36% of the archers were successful. Nonresidents spent an average of 3.8 days in the field. Nearly 57% of the nonresidents reported that they were hunting with an Iowa resident.

Special Youth Season

The number of young hunters in this special season increased by 26% from 2000. The hunt is restricted to youths 12 through 15 years old. The young hunter had to pass a hunter safety course and had to be accompanied into the field by an adult. About 44% were successful in bagging a deer. Nearly 60% of the deer taken were antlerless deer. These young hunters spent an average of 4.3 days in the field.

Special Deer Management Zones

Special management hunts were conducted at 18 locations in 2001 (Table 1.11) which is 2 more than in 2000. Another hunt planned for the IAAP near Burlington was cancelled due to safety concerns after the terrorist attacks. These hunts are designed to meet the management needs of areas such as state and county parks and urban areas that are not suitable to be opened up to general regulations. Most deer taken were antlerless and deer tagged did not count against the hunters regular bag limit. Most

hunts were very successful in removing deer in these problem areas. An additional 1,950 tags were issued for depredation situations which was nearly 200 more than in 2000.

Hunter Opinion

Hunters were asked to rate the quality of their hunt and the number of deer in the area where they hunt (Table 1.9). The proportion of hunters that were either satisfied or very satisfied ranged from a low of 76% for late season muzzleloader hunters to a high of 87% for non-resident hunters. Satisfaction ratings were similar or slightly lower than reported in 2000.

The proportion of hunters who felt the number of deer in their area was too high was 21% which is identical to 2000. Just over 60% of the hunters reported that the number of deer is about right and the number who think there are too few deer increased to 16%.

Population Surveys

Three techniques are used to monitor deer population trends in Iowa. These are 1) an aerial survey conducted in January and February after the deer seasons are complete, 2) a spotlight survey conducted in April, and 3) a record of the number of deer killed on Iowa's rural highways. All of these surveys correlate well with the reported harvest over the last 15 years and appear to provide reliable long-term trend indices. However, none of these surveys can be considered absolutely reliable predictors of annual changes in the population because of high variability in the survey conditions.

Deer populations for the state as a

whole appear to have increased during the past 3 to 4 years (Fig 1.8). All 3 surveys are higher than they were during the last time deer numbers peaked in the late 1980's (Table 1.10).

The aerial survey conducted after the 2001 season (Jan and Feb 2002) was down about 20%. Conditions for this survey were not as good as they were in 2000 in most areas.

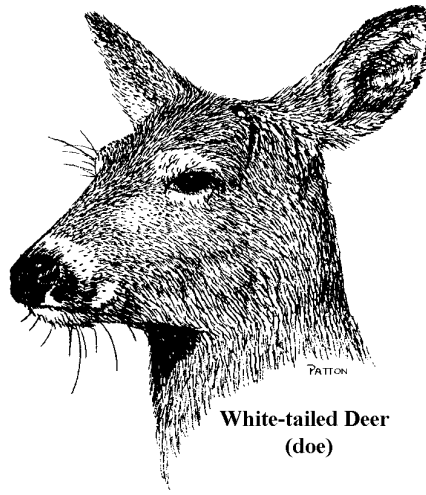
The number of deer killed on rural highways increased by about 19% in 2001. When this number is adjusted for the increase in vehicle miles driven (kill per billion miles), the increase was 17%.

The number of deer seen per 25 mile route on the spotlight survey decreased slightly after a big increase in 2000. The mean number of deer reported per route is over 60% higher than those recorded in the late 1980's. However part of this increase was due to a change in the placement of the routes between 1994 and 1995.

Outlook for 2002

Hunters will see few changes in the 2002 deer seasons. Regulations will again allow all hunters to take deer of either sex in both shotgun and muzzleloader seasons in all counties. These regulations may decrease the number of hunters that hunt during the second season in these counties. Also antlerless licenses will be available for hunters in the bow, second shotgun and late muzzleloader seasons in every county in the state. The objective of these regulations is to bring deer numbers back to the 1987-88 target level.

One change for 2002 extends the bonus antlerless zone to all of the counties in the southern 2 tiers of counties. In another change all landowners may purchase up to 2 antlerless licenses for their farm unit.



**White-tailed Deer
(doe)**

Table 1.1 The dates, hours and zones for shotgun, archery and muzzleloader seasons (1953-present).

Year	Zones	Shotgun		Archery		Muzzleloader	
		Dates	Hours	Dates	Hours	Dates	Hours
1953	45 Counties	Dec 10-14	9am-4pm	Dec 10-14 a	9am-4pm		
1954	51 1/2 Counties	Dec 10-12	9am-4pm	Dec 10-12 b	9am-4pm		
1955	Statewide	Dec 3-5	9am-4pm	Oct 29-Nov 20 c	6:30am-4pm		
1956	Statewide	Dec 8-9	8am-4pm	Oct 13-Nov 12	6:30am-5pm		
1957	Statewide	Dec 7-8	8am-4pm	Oct 26-Nov 25	6:30am-5pm		
1958	Statewide	Dec 13-14	8am-4pm	Nov 1- Nov 30	6:30am-5:30pm		
1959	Statewide	Dec 12-13	8am-4pm	Oct 31-Nov 30	6:30am-5:30pm		
1960	Statewide	Dec 17-19	8am-4pm	Oct 15-Nov 27	6:30am-5:30pm		
1961	Statewide	Dec 16-18	8am-4pm	Oct 14-Nov 30	6:30am-5:30pm		
1962	Statewide	Dec 15-17	8am-4pm	Oct 13-Dec 1	6:30am-5:30pm		
1963	Long	Dec 14-16	8am-4pm	Oct 12-Dec 1	1/2 hr before		
1963	Short	Dec 14-15	8am-4pm		sunrise to		
1964	Long	Dec 12-15	8am-4pm	Oct 17-Dec 6	1/2 hr after		
1964	Short	Dec 12-13	8am-4pm		sunset		
1965	Long	Dec 11-14	8am-4pm	Oct 16-Dec 5	"		
1965	Short	Dec 11-12	8am-4pm				
1966	Long	Nov 19-22	8am-4pm	Oct 15-Nov 13&	"		
1966	Short	Nov 19-20	8am-4pm	Nov 26-Dec 16	"		
1967	1-3	Dec 2-4	8am-4:30pm	Sep 30-Nov 30	"		
1967	4-6	Dec 2-3	8am-4:30pm				
1968	1-2	Dec 7-9	8am-4:30pm	Sep 28-Nov 28	"		
1968	3-4	Dec 7-8	8am-4:30pm				
1969	1,2,4	Dec 6-8	8am-4:30pm	Sep 27- Nov 27	"		
1969	3,5	Dec 6-7	8am-4:30pm				
1970	1,2,4	Dec 5-7	8am-4:30pm	Sep 26-Nov 26	"		
1970	3,5	Dec 5-6	8am-4:30pm				
1971	1-5	Dec 4-5	8am-4:30pm	Oct 16-Nov 28&	"		
1972	1,2,4	Dec 2-3	8am-4:30pm	Oct 6-Nov 26	1/2 hr before		
1972	3,5 d	Dec 2-5	8am-4:30pm		sunrise to		
1973	1-5 e	Dec 1-5	Sunrise to Sunset	Oct 13-Nov 25& Dec 8-16	1/2 hr after sunset		
1974	1-5	Dec 7-11	"	Oct 12-Dec 1	"		
1975	1-5	Nov 22-25	"	Oct 11-Nov 21&	"		
1975	1-5	Dec 6-12	"	Nov 26-Dec 5	"		
1976	1-10	Nov 27-30	"	Oct 2-Nov 26	"		
1976	1-10	Dec 4-10	"				
1977	1-10	Dec 3-6	"	Oct 8-Dec 2	"		
1977	1-10	Dec 10-16	"				
1978	1-10	Dec 2-5	"	Oct 7-Dec 1	"		
1978	1-10	Dec 9-15	"				
1979	1-10	Dec 1-4	"	Oct 6-Nov 30	"		
1979	1-10	Dec 8-14	"				
1980	1-10	Dec 6-9	"	Oct 11-Dec 5	"		
1980	1-10	Dec 13-19	"				
1981	1-10	Dec 5-8	"	Oct 10-Dec 4	"		
1981	1-10	Dec 12-18	"				
1982	1-10	Dec 4-7	"	Oct 9-Dec 3	"		
1982	1-10	Dec 11-17	"				

Table 1.1 The dates, hours and zones for shotgun, archery and muzzleloader seasons (1953-present).

Year	Zones	Shotgun		Archery		Muzzleloader	
		Dates	Hours	Dates	Hours	Dates	Hours
1983	1-10	Dec 3-6	"	Oct 8-Dec 2	"		
1983	1-10	Dec 10-16	"				
1984	1-10	Dec 1-4	"	Oct 6-Nov 30	"	Dec 15-21	Sunrise to
1984	1-10	Dec 8-14	"				Sunset
1985	1-10	Dec 7-11	"	Oct 12-Dec 6	"	Dec 21-27	"
1985	1-10	Dec 14-20	"				
1986	1-10	Dec 6-10	"	Oct 11-Dec 5	"	Oct 11-17	1/2 hr before
1986	1-10	Dec 13-19	"			Dec 20-Jan 4	sunrise to
1987	1-10	Dec 5-9	"	Oct 1-Dec 4 &	"	Oct 10-18	1/2 hr after
1987	1-10	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 11	sunset
1988	1-10	Dec 3-7	"	Oct 1-Dec 2 &	"	Oct 15-23	"
1988	1-10	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 11	"
1989	1-10	Dec 2-6	"	Oct 1-Dec 1 &	"	Oct 14-Oct 22	"
1989	1-10	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 11	"
1990	1-10	Dec 1-5	"	Oct 1-Nov 30	"	Oct 13- Oct 2	"
1990	1-10	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 11	"
1991	1-10	Dec 7-11	"	Oct 1-Dec 6 &	"	Oct 12- Oct 2	"
1991	1-10	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 11	"
1992	1-10	Dec 5-9	"	Oct 1-Dec 4&	"	Oct 10-Oct 18	"
1992	1-10	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 11	"
1993	2	Dec 4-8	"	Oct 1-Dec 3&	"	Oct 9-Oct 17	"
1993	2	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 11	"
1994	Statewide	Dec 3-7	"	Oct 1-Dec 2&	"	Oct 15-Oct 23	"
1994	Statewide	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 11	"
1995	Statewide f	Dec 2-6	"	Oct 1-Dec 1&	"	Oct 14-Oct 22	"
1995	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 11	"
1996	Statewide g	Dec 7-11	"	Oct 1-Dec 6&	"	Oct 12-Oct 20	"
1996	Statewide	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 11	"
1997	Statewide h	Dec 6-10	"	Oct 1-Dec 5&	"	Oct 11-Oct 18	"
1997	Statewide	Dec 13-21	"	Dec 22-Jan 10		Dec 22-Jan 11	"
1998	Statewide h	Dec 5-9	"	Oct 1-Dec 4&	"	Oct 17-Oct 25	"
1998	Statewide	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 11	"
1999	Statewide h	Dec 4-8	"	Oct 1-Dec 3&	"	Oct 16-Oct 24	"
1999	Statewide	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 11	"
2000	Statewide i	Dec 2-6	"	Oct 1-Dec 1&	"	Oct 14-Oct 22	"
2000	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 11	"
2001	Statewide h	Dec 1-5	j	Oct 1-Nov 30	"	Oct 13- Oct 2	"
2001	Statewide	Dec 8-16	j	Dec 17-Jan 10		Dec 17-Jan 11	"

a - Open for same counties as shotgun

b - Same counties as shotgun plus 5 1/2 counties from Dec 1-12 bow-only

c - Open statewide in all following years

d - Modified bucks-only, license quota

e - Unlimited bucks-only statewide in all following years

f - 34 counties were any-sex during 1st season and 74 were bucks only during first 7 days of the 2nd season

g - 35 counties were any-sex during 1st season and 26 were bucks only during the first 5 days of the 2nd season

h - all counties were any-sex during both seasons

i - 17 counties were buck-only during first 3 days of first season

j - 1/2 hour before sunrise to 1/2 hour after sunset

Table 1.2 A summary of the number of licenses issued, the number of hunters, the number of deer harvested and success rates for the 2001-2002 season.

Season	License Type	Licenses Issued	Number of Hunters	Harvest	Success Rate
REGULAR GUN					
Paid	Season 1	73,660	71,802	49,667	69%
	Season 2	48,686	47,411	29,957	63%
	Antlerless	5,695	5,394	3,097	57%
	Nonresident	4,256	4,020	2,448	61%
	Total	132,297 (+12%)	128,627 (+14%)	85,169 (+6%)	
Landowner Total		39,820 (+24%)	30,330 (+22%)	14,801 (+12%)	49%
GUN SEASON TOTAL		172,117 (+15)	158,957 (+16%)	99,970 (+7%)	63%
MUZZLELOADER					
Early	Paid	7,501	7,101	3,773	53%
	Landowner	2,536	1,927	820	43%
	Total	10,037 (-2%)	9,028 (-1%)	4,593 (NC)	51%
Late	Paid	10,505	9,442	4,129	44%
	Antlerless	5,517	5,084	2,477	49%
	Landowner	2,068	1,494	484	32%
	Nonresident	661	601	230	38%
	Total	18,751 (+23%)	16,621 (+29%)	7,320 (+23%)	44%
MUZZLELOADER TOTAL		28,788 (+13%)	25,649 (+17%)	11,913 (+13%)	46%
JANUARY SEASON					
	Paid	2,858	1,779	1,111	62%
	Landowner	1,989	1,021	428	42%
	Total	4,847 (+136%)	2,800 (+128%)	1,539 (+108%)	55%
YOUTH	Paid	3,565	3,448	1,567	45%
	Landowner	143	128	48	38%
	Total	3,708 (+23%)	3,576 (+26%)	1,615 (+18%)	45%
ARCHERY	Paid	37,355	35,416	13,134	37%
	Antlerless	7,862	7,483	3,526	47%
	Landowner	4,202	3,187	1,274	40%
	Nonresident	2,583	2,429	864	36%
ARCHERY TOTAL		52,002 (+16%)	48,515 (+20%)	18,798 (+6%)	39%
TOTAL b		265,939 (+16%)	243,974 (+17%)	136,655 (+8%)	

a - the numbers in parentheses are the percent change from 2000-2001, NC = < 0.5%

b - total include licensed hunters and kill from hunts in special deer management zones

Table 1.3 Historical data on deer license issue by license type (1953 - present). Totals include special IAAP licenses (1985-1990), 4074 special late season AS licenses for zone 6 (1985), nonresidents, special management unit hunts and special youth licenses.

Year	Regular Gun			Muzzleloader			Archery	Grand Total
	Paid	Landowner	Total	Early	Late	Total		
1953	3,772	a	3,772				10	3,782
1954	3,778	3,368	7,146				92	7,238
1955	5,586	a	5,586				414	6,000
1956	5,440	a	5,440				1,284	6,724
1957	5,997	a	5,997				1,227	7,224
1958	6,000	a	6,000				1,380	7,380
1959	5,999	a	5,999				1,627	7,626
1960	7,000	a	7,000				1,772	8,772
1961	8,000	a	8,000				2,190	10,190
1962	10,001	a	10,001				2,404	12,405
1963	12,001	a	12,001				2,858	14,859
1964	15,993	a	15,993				3,687	19,680
1965	17,491	a	17,491				4,342	21,833
1966	20,811	a	20,811				4,576	25,387
1967	20,812	21,121	41,933				4,413	46,346
1968	20,485	24,796	45,281				5,136	50,417
1969	18,000	23,476	41,476				5,465	46,941
1970	18,000	21,697	39,697				5,930	45,627
1971	18,000	10,522	28,522				6,789	35,311
1972	19,000	11,205	30,205				6,916	37,121
1973	27,530	9,686	37,216				10,506	47,722
1974	33,772	16,329	50,101				12,040	62,141
1975	56,003	17,821	73,824				12,296	86,120
1976	60,196	17,818	78,014				12,522	90,536
1977	58,715	16,289	75,004				12,994	87,998
1978	51,934	15,699	67,633				12,809	80,442
1979	55,718	10,504	66,222				13,378	79,600
1980	64,462	12,858	77,320				15,398	92,718
1981	69,530	14,068	83,598				17,258	100,856
1982	74,331	15,431	89,762				18,824	108,586
1983	75,918	15,067	90,985				19,945	110,930
1984	79,697	16,777	96,474		1,644	1,644	21,648	119,766
1985	82,218	20,674	102,892		1,522	1,522	22,830	127,244
1986	84,858	25,432	110,290	2,246	1,973	4,219	26,521	141,030
1987	91,804	26,780	118,584	3,091	2,710	5,801	28,910	153,295
1988	101,338	28,002	129,340	3,565	3,618	7,183	30,020	166,543
1989	107,171	33,798	140,969	5,995	12,201	18,196	34,745	194,611
1990	106,781	27,106	133,887	6,602	15,949	22,551	35,217	192,551
1991	100,587	30,834	131,421	7,064	11,458	18,522	33,359	184,041
1992	100,461	30,084	130,545	8,280	10,978	19,315	34,165	186,436
1993	96,577	21,887	118,464	7,306	8,926	16,232	30,938	168,017
1994	102,773	22,809	125,582	8,113	9,737	17,850	34,222	180,525
1995	101,053	18,157	119,210	7,193	8,059	15,463	34,434	177,441
1996	106,746	28,080	134,826	8,806	11,820	20,626	36,351	202,834
1997	109,169	24,423	133,592	8,979	15,049	24,028	37,106	211,118
1998	114,358	25,960	140,318	9,504	12,721	22,225	39,506	223,419
1999	113,695	31,196	144,891	10,246	13,260	23,506	43,687	233,690
2000	113,728	32,116	145,844	10,279	15,242	25,521	44,658	229,800
2001	128,041	38,820	166,861	10,037	18,751	28,788	52,002	265,939

a - license not required

Table 1.4 Historical data on deer harvest by license type (1953-present). Totals include IAAP harvest, special management unit hunts, nonresidents and youth.

Year	Regular Gun			Muzzleloader			Archery	Grand Total
	Paid	Landowner	Total	Early	Late	Total		
1953	2,401	1,606	4,007				1	4,008
1954	1,827	586	2,413				10	2,423
1955	2,438	568	3,006				58	3,064
1956	2,000	561	2,561				117	2,678
1957	2,187	480	2,667				138	2,805
1958	2,141	588	2,729				162	2,891
1959	1,935	541	2,476				255	2,731
1960	3,188	804	3,992				277	4,269
1961	4,033	964	4,997				367	5,364
1962	4,281	1,018	5,299				404	5,703
1963	5,595	1,017	6,612				538	7,151
1964	7,274	1,750	9,024				670	9,694
1965	6,588	1,322	7,910				710	8,620
1966	9,070	1,672	10,742				579	11,321
1967	7,628	2,764	10,392				791	11,183
1968	9,051	3,890	12,941				830	13,771
1969	6,952	3,779	10,731				851	11,582
1970	8,398	4,345	12,743				1,037	13,780
1971	7,779	2,680	10,459				1,232	11,691
1972	7,747	2,738	10,485				1,328	11,813
1973	10,017	2,191	12,208				1,822	14,030
1974	11,720	4,097	15,817				2,173	17,990
1975	15,293	3,655	18,948				2,219	21,167
1976	11,728	2,529	14,257				2,350	16,607
1977	10,737	2,051	12,788				2,400	15,188
1978	12,815	2,353	15,168				2,957	18,125
1979	14,178	1,971	16,149				3,305	19,454
1980	16,511	2,346	18,857				3,803	22,660
1981	19,224	2,354	21,578				4,368	25,946
1982	19,269	2,472	21,741				4,720	26,461
1983	27,078	3,297	30,375				5,244	35,619
1984	29,912	3,537	33,449		307	307	5,599	39,355
1985	32,613	5,344	37,957		457	457	5,805	44,219
1986	41,352	10,378	51,730	349	728	1,077	9,895	62,702
1987	53,230	10,270	63,500	1,509	1,027	2,536	9,722	75,758
1988	66,757	13,298	80,055	1,835	1,294	3,129	9,897	93,756
1989	67,606	12,963	80,569	2,619	3,715	6,334	11,857	99,712
1990	69,101	9,095	78,196	2,819	5,884	8,703	10,146	98,002
1991	56,811	11,575	68,386	3,120	2,766	5,886	8,807	83,635
1992	50,822	10,453	61,275	3,316	3,231	6,564	8,814	77,684
1993	52,624	8,354	60,978	2,219	2,883	5,102	9,291	76,430
1994	59,054	8,735	67,789	2,610	3,196	5,806	12,040	87,231
1995	65,206	7,917	73,123	2,831	3,408	6,363	13,372	97,256
1996	71,577	10,896	82,473	2,895	4,558	7,453	12,314	107,632
1997	77,169	10,588	87,757	4,062	5,508	9,570	14,313	118,404
1998	73,165	9,989	83,154	4,448	5,343	9,791	12,302	112,608
1999	74,362	12,966	87,328	5,277	5,329	10,606	15,266	121,635
2000	77,743	13,189	90,932	4,585	5,936	10,521	17,727	126,535
2001	82,721	14,801	97,522	4,593	7,320	11,913	18,798	136,655

Table 1.5 Harvest estimates and ranking for each season by county for total kill during the 2001-2002 deer season.

County	Harvest							Rank						
	Muzzleloader			Archery	Youth	Non-resident	Total	Muzzleloader			Archery	Youth	Non-resident	Total
	Shotgun	Early	Late					Shotgun	Early	Late				
Clayton	4,174	287	166	616	34	145	5,422	1	1	6	3	12	4	1
Allamakee	2,660	135	127	275	5	172	3,374	2	5	15	20	64	2	2
Jackson	2,455	110	133	516	29	48	3,291	3	6	10	4	20	23	3
Van Buren	1,957	152	209	352	9	200	3,250	8	3	2	9	54	1	4
Fayette	2,320	80	160	473	35	42	3,110	5	12	8	5	10	28	5
Dubuque	2,349	176	58	306	59	40	2,988	4	2	50	15	3	31	6
Johnson	1,965	76	131	623	77	55	2,927	7	14	11	2	2	22	7
Winneshiek	2,062	61	109	362	22	78	2,694	6	24	19	8	31	13	8
Linn	1,525	139	152	662	33	26	2,537	14	4	9	1	14	43	9
Jones	1,710	55	108	347	22	68	2,310	10	30	20	10	32	16	10
Lee	1,866	49	80	269	16	20	2,300	9	35	33	21	43	52	11
Davis	1,399	50	92	267	28	111	2,292	18	34	25	22	21	7	12
Iowa	1,612	96	194	200	26	23	2,151	12	8	4	39	26	48	13
Warren	1,683	69	58	171	5	47	2,033	11	17	51	41	65	24	14
Marion	1,453	96	99	323	34	18	2,023	16	9	21	14	13	55	15
Tama	1,540	32	128	227	41	24	1,992	13	53	14	32	7	45	16
Washington	1,485	51	188	210	24	18	1,976	15	33	5	35	28	57	17
Clinton	1,448	30	55	298	18	31	1,880	17	56	56	16	39	39	18
Delaware	1,357	64	90	291	46	15	1,863	19	21	26	17	4	62	19
Madison	1,258	15	61	423	-	66	1,823	21	86	45	7	81	19	20
Appanoose	1,186	78	162	151	13	159	1,749	26	13	7	46	47	3	21
Muscatine	1,267	65	54	342	9	10	1,747	20	20	57	12	55	73	22
Cedar	1,255	67	99	242	19	10	1,692	22	19	22	27	38	72	23
Hardin	1,190	59	72	249	88	21	1,679	25	26	36	25	1	50	24
Butler	1,192	83	83	232	28	-	1,618	24	10	32	30	22	96	25
Pottawattamie	1,105	35	129	278	24	30	1,601	35	51	12	19	27	41	26
Taylor	1,148	15	71	49	-	133	1,595	30	88	37	89	95	5	27
Monroe	1,115	82	94	150	10	132	1,583	34	11	24	47	51	6	28
Guthrie	1,138	59	123	120	35	66	1,541	32	27	16	55	11	17	29
Des Moines	1,210	15	62	238	-	12	1,537	23	87	44	28	83	68	30
Benton	1,142	44	31	266	33	6	1,522	31	39	82	23	15	76	31
Henry	1,037	68	86	257	-	69	1,517	39	18	29	24	82	15	32
Louisa	1,155	55	64	194	23	21	1,512	27	31	42	40	29	51	33
Black Hawk	954	70	88	328	41	3	1,484	44	15	28	13	6	81	34
Jasper	1,122	58	52	169	18	16	1,435	33	28	61	42	40	61	35
Keokuk	1,154	32	85	112	4	46	1,433	28	54	30	60	77	25	36
Bremer	1,038	98	53	204	30	6	1,429	38	7	60	38	19	77	37
Kossuth	984	37	250	136	6	11	1,424	42	49	1	52	61	71	38
Ringgold	911	17	32	234	2	95	1,421	46	83	80	29	79	9	39
Webster	1,007	60	56	227	22	39	1,411	40	25	54	33	33	32	40
Mahaska	1,154	31	95	77	18	30	1,405	29	55	23	78	42	42	41
Chickasaw	941	41	48	244	33	16	1,323	45	42	65	26	16	60	42
Wapello	1,052	35	60	115	-	42	1,304	37	52	48	57	87	30	43
Woodbury	895	62	89	205	10	34	1,295	47	23	27	36	49	35	44
Jefferson	1,061	12	66	108	14	32	1,293	36	91	40	66	45	37	45
Boone	823	53	128	231	27	11	1,273	55	32	13	31	25	69	46
Harrison	886	37	116	149	4	66	1,258	49	50	17	49	74	18	47
Union	836	27	66	150	-	82	1,254	53	61	39	48	86	11	48
Decatur	889	26	54	135	5	81	1,251	48	67	58	53	66	12	49
Floyd	981	28	51	115	46	19	1,240	43	59	62	58	5	54	50
Dallas	808	39	55	291	9	31	1,233	57	47	55	18	56	40	51
Lucas	994	40	37	77	6	70	1,224	41	46	76	80	62	14	52
Scott	686	45	27	431	20	3	1,212	65	38	88	6	36	86	53

Table 1.5 Harvest estimates and ranking for each season by county for total kill during the 2001-2002 deer season.

County	Harvest							Rank						
	Shotgun	Muzzleloader		Archery	Youth	Non-resident	Total	Shotgun	Muzzleloader		Archery	Youth	Non-resident	Total
		Early	Late						Early	Late				
Wayne	816	14	85	162	-	84	1,161	56	90	31	43	85	10	54
Howard	832	27	29	205	10	44	1,147	54	62	84	37	50	27	55
Crawford	873	24	76	91	28	42	1,134	51	71	35	70	23	29	56
Marshall	849	41	62	145	4	3	1,104	52	43	43	50	75	92	57
Montgomery	682	26	114	142	6	35	1,085	66	68	18	51	60	33	58
Clarke	874	18	57	84	-	34	1,067	50	80	52	72	92	36	59
Adams	713	39	48	17	-	98	1,053	62	48	66	96	99	8	60
Adair	801	-	32	69	4	24	1,019	58	98	81	82	78	46	61
Poweshiek	776	22	67	127	10	5	1,007	59	76	38	54	52	80	62
Buchanan	746	70	37	66	38	3	960	61	16	74	84	8	82	63
Monona	694	44	60	80	9	63	950	64	40	47	76	57	20	64
Cerro Gordo	578	23	196	115	5	15	932	74	73	3	56	67	63	65
Cherokee	774	18	36	44	28	3	903	60	81	79	91	24	85	66
Polk	453	24	59	343	6	6	891	85	72	49	11	59	78	67
Wright	696	29	38	82	15	22	882	63	57	72	75	44	49	68
Greene	614	29	39	159	18	18	877	70	58	70	44	41	58	69
Franklin	681	41	23	102	5	13	865	67	44	91	67	69	65	70
Fremont	616	3	61	110	-	20	836	69	96	46	63	89	53	71
Cass	607	21	54	62	23	61	828	71	79	59	85	30	21	72
Mitchell	645	47	38	85	-	13	828	68	37	71	71	91	66	73
Sac	581	15	37	109	13	44	799	73	89	78	65	48	26	74
Story	596	42	48	77	32	3	798	72	41	64	79	17	84	75
Mills	510	18	37	212	-	15	792	79	82	77	34	84	64	76
Page	527	27	42	75	6	25	729	76	63	69	81	63	44	77
Clay	488	56	64	66	22	31	727	82	29	41	83	35	38	78
Buena Vista	540	12	44	111	5	3	715	75	92	68	62	68	90	79
Worth	525	9	57	114	4	3	712	77	93	53	59	76	93	80
Plymouth	501	64	37	52	-	3	657	80	22	75	88	94	94	81
Hamilton	437	23	31	110	22	11	634	86	74	83	64	34	70	82
O'Brien	491	17	14	84	20	3	629	81	84	94	73	37	87	83
Palo Alto	515	27	13	48	-	24	627	78	64	96	90	96	47	84
Sioux	486	28	10	78	9	3	614	83	60	97	77	58	89	85
Shelby	437	22	25	112	-	6	602	87	77	89	61	88	79	86
Winnebago	309	23	28	152	36	3	551	93	75	86	45	9	83	87
Emmet	328	27	77	82	-	35	549	92	65	34	74	93	34	88
Ida	465	-	19	55	5	-	544	84	99	93	86	70	98	89
Lyon	420	48	21	38	-	9	536	88	36	92	92	97	75	90
Carroll	307	27	28	100	1	18	481	94	66	85	68	80	59	91
Audubon	400	9	28	11	5	12	465	89	94	87	97	72	67	92
Hancock	350	25	38	35	10	-	458	91	70	73	93	53	97	93
Pocahontas	370	9	25	11	5	3	423	90	95	90	98	73	91	94
Humboldt	278	41	13	53	14	3	402	95	45	95	87	46	88	95
Dickinson	226	22	45	98	-	9	400	97	78	67	69	90	74	96
Osceola	260	26	3	4	32	18	343	96	69	99	99	18	56	97
Calhoun	100	17	51	22	5	-	195	99	85	63	94	71	99	98
Grundy	161	3	8	18	-	3	193	98	97	98	95	98	95	99

Table 1.6 Harvest estimates by county for total kill during the 2001-2002 deer season.

County	Hunters	Antlered		Button	Total	Percent of kill		Hunters/ Sq. Mile	Kill/ Sq. Mile
		Bucks	Does	Bucks		Does	Antlered Bucks		
Adair	2,049	457	447	115	1,019	44%	45%	3.6	1.8
Adams	1,658	382	554	117	1,053	53%	36%	3.9	2.5
Allamakee	6,115	1,529	1,466	379	3,374	43%	45%	9.6	5.3
Appanoose	3,128	763	720	266	1,749	41%	44%	6.0	3.3
Audubon	714	220	169	76	465	36%	47%	1.6	1.0
Benton	3,051	617	671	234	1,522	44%	41%	4.2	2.1
Black Hawk	2,538	453	805	226	1,484	54%	31%	4.5	2.6
Boone	2,484	497	623	153	1,273	49%	39%	4.3	2.2
Bremer	2,514	484	776	169	1,429	54%	34%	5.7	3.3
Buchanan	2,253	467	373	120	960	39%	49%	4.0	1.7
Buena Vista	1,284	397	304	14	715	43%	56%	2.2	1.3
Butler	2,997	702	711	205	1,618	44%	43%	5.1	2.8
Calhoun	470	79	91	25	195	47%	41%	0.8	0.3
Carroll	1,164	170	280	31	481	58%	35%	2.0	0.8
Cass	1,591	494	208	126	828	25%	60%	2.8	1.5
Cedar	2,938	773	716	203	1,692	42%	46%	5.0	2.9
Cerro Gordo	1,710	391	501	40	932	54%	42%	3.0	1.6
Cherokee	1,611	368	398	137	903	44%	41%	2.8	1.6
Chickasaw	2,339	661	566	96	1,323	43%	50%	4.6	2.6
Clarke	1,981	450	510	107	1,067	48%	42%	4.6	2.5
Clay	1,427	423	231	73	727	32%	58%	2.5	1.3
Clayton	8,530	2,704	2,160	558	5,422	40%	50%	10.9	7.0
Clinton	3,580	876	813	191	1,880	43%	47%	5.2	2.7
Crawford	2,064	503	435	196	1,134	38%	44%	2.9	1.6
Dallas	2,369	501	527	205	1,233	43%	41%	4.0	2.1
Davis	4,145	774	1,136	382	2,292	50%	34%	8.1	4.5
Decatur	2,289	628	543	80	1,251	43%	50%	4.3	2.4
Delaware	3,229	951	742	170	1,863	40%	51%	5.6	3.3
Des Moines	2,569	863	528	146	1,537	34%	56%	6.3	3.8
Dickinson	768	230	133	37	400	33%	58%	2.0	1.1
Dubuque	5,241	1,278	1,316	394	2,988	44%	43%	8.6	4.9
Emmet	1,173	250	264	35	549	48%	46%	3.0	1.4
Fayette	5,142	1,392	1,259	459	3,110	40%	45%	7.1	4.3
Floyd	2,047	531	582	127	1,240	47%	43%	4.1	2.5
Franklin	1,547	349	419	97	865	48%	40%	2.6	1.5
Fremont	1,251	414	363	59	836	43%	50%	2.4	1.6
Greene	1,584	461	360	56	877	41%	53%	2.8	1.5
Grundy	459	98	69	26	193	36%	51%	0.9	0.4
Guthrie	2,807	816	482	243	1,541	31%	53%	4.7	2.6
Hamilton	1,429	377	214	43	634	34%	59%	2.5	1.1
Hancock	1,161	233	147	78	458	32%	51%	2.0	0.8
Hardin	2,352	785	700	194	1,679	42%	47%	4.1	2.9
Harrison	2,291	742	332	184	1,258	26%	59%	3.3	1.8
Henry	2,534	640	692	185	1,517	46%	42%	5.8	3.4
Howard	1,787	391	639	117	1,147	56%	34%	3.8	2.4
Humboldt	614	196	146	60	402	36%	49%	1.4	0.9
Ida	766	314	175	55	544	32%	58%	1.8	1.3
Iowa	3,451	1,034	887	230	2,151	41%	48%	5.9	3.7
Jackson	5,165	1,588	1,275	428	3,291	39%	48%	8.0	5.1
Jasper	2,812	744	534	157	1,435	37%	52%	3.8	2.0
Jefferson	1,974	489	602	202	1,293	47%	38%	4.5	3.0
Johnson	5,230	1,243	1,289	395	2,927	44%	42%	8.4	4.7
Jones	3,774	1,077	912	321	2,310	39%	47%	6.5	3.9
Keokuk	2,440	572	643	218	1,433	45%	40%	4.2	2.5

Table 1.6 Harvest estimates by county for total kill during the 2001-2002 deer season.

County	Hunters	Antlered			Total	Percent of kill		Hunters/ Sq. Mile	Kill/ Sq. Mile
		Bucks	Does	Button Bucks		Does	Antlered Bucks		
Kossuth	2,554	587	664	173	1,424	47%	41%	2.6	1.5
Lee	4,399	826	1,256	218	2,300	55%	36%	8.3	4.4
Linn	4,694	1,186	1,053	298	2,537	42%	47%	6.5	3.5
Louisa	2,470	539	747	226	1,512	49%	36%	6.1	3.8
Lucas	2,463	550	495	179	1,224	40%	45%	5.7	2.8
Lyon	1,206	181	255	100	536	48%	34%	2.1	0.9
Madison	3,124	913	651	259	1,823	36%	50%	5.5	3.2
Mahaska	2,491	744	522	139	1,405	37%	53%	4.4	2.5
Marion	3,703	1,086	648	289	2,023	32%	54%	6.5	3.6
Marshall	1,800	544	417	143	1,104	38%	49%	3.1	1.9
Mills	1,111	509	262	21	792	33%	64%	2.5	1.8
Mitchell	1,482	337	295	196	828	36%	41%	3.2	1.8
Monona	1,969	526	362	62	950	38%	55%	2.8	1.4
Monroe	3,196	712	807	64	1,583	51%	45%	7.3	3.6
Montgomery	1,659	559	388	138	1,085	36%	52%	3.9	2.6
Muscatine	3,100	643	796	308	1,747	46%	37%	7.0	3.9
O'Brien	1,259	335	241	53	629	38%	53%	2.2	1.1
Osceola	962	129	206	8	343	60%	38%	2.4	0.9
Page	1,340	346	280	103	729	38%	47%	2.5	1.4
Palo Alto	1,051	367	175	85	627	28%	59%	1.9	1.1
Plymouth	1,644	306	253	98	657	39%	47%	1.9	0.8
Pocahontas	983	183	200	40	423	47%	43%	1.7	0.7
Polk	1,802	549	237	105	891	27%	62%	3.0	1.5
Pottawattami	2,874	833	659	109	1,601	41%	52%	3.0	1.7
Poweshiek	1,884	513	433	61	1,007	43%	51%	3.2	1.7
Ringgold	2,702	645	629	147	1,421	44%	45%	5.0	2.6
Sac	1,085	409	306	84	799	38%	51%	1.9	1.4
Scott	2,629	611	481	120	1,212	40%	50%	5.8	2.7
Shelby	1,285	326	246	30	602	41%	54%	2.2	1.0
Sioux	1,404	271	175	168	614	29%	44%	1.8	0.8
Story	1,643	418	266	114	798	33%	52%	2.9	1.4
Tama	3,194	935	885	172	1,992	44%	47%	4.4	2.8
Taylor	2,584	798	623	174	1,595	39%	50%	4.9	3.0
Union	2,032	428	661	165	1,254	53%	34%	4.8	3.0
Van Buren	4,889	1,244	1,631	375	3,250	50%	38%	10.0	6.7
Wapello	2,424	620	461	223	1,304	35%	48%	5.5	3.0
Warren	3,831	1,024	729	280	2,033	36%	50%	6.7	3.6
Washington	3,406	810	969	197	1,976	49%	41%	6.0	3.5
Wayne	1,774	675	357	129	1,161	31%	58%	3.3	2.2
Webster	2,646	587	666	158	1,411	47%	42%	3.7	2.0
Winnebago	1,033	240	215	96	551	39%	44%	2.6	1.4
Winneshiek	4,946	1,447	1,052	195	2,694	39%	54%	7.2	3.9
Woodbury	3,021	701	496	98	1,295	38%	54%	3.5	1.5
Worth	1,694	340	287	85	712	40%	48%	4.2	1.8
Wright	1,465	408	369	105	882	42%	46%	2.5	1.5
Total	243,974	61,761	58,359	16,535	136,655	43%	45%	4.4	2.4

Table 1.7 A summary of archery season dates, hours, success rates and other information (1953 - present).

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
1953	Dec 10-14	9am-4pm		10		Open for same counties as shotgun. 40 lb draw limit. \$15 fee. Limit 1/day
1954	Dec 10-12	9am-4pm		11		Open for same counties as shotgun plus 5 1/2 others.
1955	Oct 29-Nov 20	6:30am-4pm		14		Open statewide 1955 - present. Limit 1/season. \$10 fee.
1956	Oct 13-Nov 12	6:30am-5pm		10		Separate archery license.
1957	Oct 26-Nov 25	6:30am-5pm		11		
1958	Nov 1- Nov 30	6:30am-5:30pm		12		
1959	Oct 31-Nov 30	6:30am-5:30pm		16		
1960	Oct 15-Nov 27	6:30am-5:30pm		16		
1961	Oct 14-Nov 30	6:30am-5:30pm		17		
1962	Oct 13-Dec 1	6:30am-5:30pm		17		
1963	Oct 12-Dec 1	1/2 hr before sunrise to		19		
1964	Oct 17-Dec 6	1/2 hr after sunset		19		30 lb minimum limit on draw weight.
1964	Oct 17-Dec 6	"				
1965	Oct 16-Dec 5	"		17		
1966	Oct 15-Nov 13& Nov 26-Dec 16	"		13		No draw limit.
1967	Sep 30-Nov 30	"		19		
1968	Sep 28-Nov 28	"		17		
1969	Sep 27- Nov 27	"		16		
1970	Sep 26-Nov 26	"		18	14	
1971	Oct 16-Nov 28& Dec 6-12	"		19	13	
1972	Oct 6-Nov 26	"	66	20	13	
1973	Oct 13-Nov 25& Dec 8-16	"	59	18	11	
1974	Oct 12-Dec 1	"				Licenses issued by county recorder.
1975	Oct 11-Nov 21& Nov 26-Dec 5	"				
1976	Oct 2-Nov 26	"	60	20	14	
1977	Oct 8-Dec 2	"	64	20	16	
1978	Oct 7-Dec 1	"	62	25	15	\$ 15 fee.
1979	Oct 6-Nov 30	"	63	26	16	
1980	Oct 11-Dec 5	"				
1981	Oct 10-Dec 4	"	68	26	17	

Table 1.7 A summary of archery season dates, hours, success rates and other information (1953 - present).

Year	Dates	Hours	Percent Buck in Harvest	Success Rate	Mean Days/Hunter	General Comments
1982	Oct 9-Dec	"	67	26	16	
1983	Oct 8-Dec	"	69	28	16	
1984	Oct 6-Nov	"	69	27	16	
1985	Oct 12-Dec	"	68	26	15	\$ 20 fee.
1986	Oct 11-Dec	"	72	38	17	Limit 1/Bow and 1/Gun
1987	Oct 1-Dec	"	68	35		Added late season.
	Dec 21-Jan	"				
1988	Oct 1-Dec	"	71	35	16	
	Dec 19-Jan	"				
1989	Oct 1-Dec	"	73	36	20	Bonus 2nd tag for antlerless deer statewide
	Dec 18-Jan	"				
1990	Oct 1-Nov	"	65	32	19	Bonus tag for antlerless early or anysex late, statewide
	Dec 17-Jan	"				
1991	Oct 1-Dec	"	73	28	17	Bonus tag for antlerless deer available only in zones 3a,4a,5a and 6. \$25 fee.
	Dec 23-Jan	"				
1992	Oct 1-Dec	"	69	28	15	Bonus tag for antlerless deer available only in bonus antlerless zone if no gun tag.
	Dec 21 -Jan	"				
1993	Oct 1-Dec	"	73	32	17	Bonus tag for antlerless deer available only in bonus antlerless zone if no gun tag.
	Dec 20-Jan	"				
1994	Oct 1-Dec	"	77	37	16	Bonus tag for antlerless deer available only in bonus antlerless zone if no gun tag.
	Dec 19-Jan	"				
1995	Oct 1-Dec	"	76	39	17	Bonus tag for antlerless deer available only in bonus antlerless zone if no gun tag.
	Dec 18-Jan	"				
1996	Oct 1-Dec	"	78	37	16	Bonus tag for antlerless deer available only in bonus antlerless zone if no gun tag.
	Dec 23-Jan	"				
1997	Oct 1-Dec	"	71	42	17	Bonus tag for antlerless deer available only in bonus antlerless zone. Could get firearm license also.
	Dec 22-Jan	"				
1998	Oct 1-Dec	"	76	34	15	Bonus tag for antlerless deer available only in bonus antlerless zone. Could get firearm license also.
	Dec 21-Jan	"				
1999	Oct 1-Dec	"	79	37	16	Bonus tag for antlerless deer available only in bonus antlerless zone. Could get firearm license also.
	Dec 20-Jan	"				
2000	Oct 1-Dec	"	80	44	17	Bonus tag for antlerless deer available only in bonus antlerless zone. Could get firearm license also.
	Dec 18-Jan	"				
2001	Oct 1-Nov	"	75	37	17	Bonus tag for antlerless deer available in every county. Could get firearm license also.
	Dec 17-Jan	"				

Table 1.8 A summary of muzzleloader season dates, hours, success rates and other information (1984 - present).

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
1984	Dec 15-21	Sunrise to Sunset	45	22	6	1500 A-S Quota. \$15 fee.
1985	Dec 21-27	"	44	34	4	2000 A-S Quota. \$20 fee.
1986	Oct 11-17	1/2 hr before	100	17	4	2500 B-O Quota.
	Dec 20-Jan 4	sunrise to	43	40	6	Unlimited A-S Quota.
1987	Oct 10-18	1/2 hr after	55	52	8	3000 A-S Quota
	Dec 21-Jan 10	sunset	46	42	6	Unlimited A-S Quota.
1988	Oct 15-23	"	55	55	4	3500 A-S Quota
	Dec 19-Jan 10	"	41	39	6	Unlimited A-S Quota.
1989	Oct 14-22	"	55	49	5	5000 A-S Quota
	Dec 18-Jan 10	"	28	39	9	Unlimited A-S Quota. Could hunt during shotgun & late muzzleloader seasons.
1990	Oct 13-21	"	53	46	5	5000 A-S Quota
	Dec 17-Jan 10	"	50	45	8	Could hunt shotgun & late muzzleloader season.
1991	Oct 12-20	"	54	47	5	5000 A-S Quota
	Dec 23-Jan 10	"	40	33	8	Could hunt shotgun & late muzzleloader season, but all 2nd tags valid for antlerless only in zones 3a,4a,5a&6.
1992	Oct 10-18	"	60	45	4	7500 Anysex license quota.
	Dec 21-Jan 10	"	40	36	8	All second licenses antlerless, Zones 4a,5a&6.
1993	Oct 9-17	"	71	34	5	7500 license quota, 65 counties buck-only.
	Dec 20-Jan 10	"	46	39	8	Antlerless in 14 counties, 35 counties buck-only.
1994	Oct 15-23	"	78	36	5	7500 license quota, 67 counties buck-only.
	Dec 19-Jan 10	"	52	39	8	Antlerless in 14 counties, 35 counties buck-only.
1995	Oct 14-22	"	73	43	5	7500 license quota, 69 counties buck-only.
	Dec 18-Jan 10	"	55	46	8	No antlerless tags, 29 counties modified buck-only.
1996	Oct 12-20	"	75	39	5	7500 license quota, 64 counties buck-only.
	Dec 23-Jan 10	"	49	46	7	Antlerless in 15 1/2 counties, 26 modified buck-only.
1997	Oct 11-19	"	55	62	4	7500 license quota, no counties buck only
	Dec 22-Jan 10	"	44	52	7	Antlerless in 19 1/2 counties, no counties buck-only.
1998	Oct 17-25	"	64	52	5	7500 license quota, no counties buck only
	Dec 21-Jan 10	"	54	50	7	Antlerless in 20 counties, no counties buck-only.
1999	Oct 16-24	"	60	57	4	7500 license quota, no counties buck only
	Dec 20-Jan 10	"	52	46	7	Antlerless in 21 counties, no counties buck-only.
2000	Oct 14-22	"	60	53	4	7500 license quota, 16 counties modified buck only
	Dec 18-Jan 10	"	50	47	7	Antlerless in 21 counties, no counties buck-only.
2001	Oct 13-21	"	54	53	4	7500 license quota, no counties buck only
	Dec 17-Jan 10	"	52	44	8	Antlerless in all counties, no counties buck-only.

Table 1.9 The results of the hunter opinion surveys on the quality of the hunt and the number of deer in the area the hunter hunted during the 2001-2002.

Season	License Type	Number of Respondents	Rating of Quality of Hunt				Number of deer in area		
			Very Satisfied	Satisfied	Unsatisfied	Very Unsatisfied	Too Few	About Right	Too Many
Shotgun	Statewide	14,045	23%	60%	13%	4%	15%	63%	22%
	Landowner	2,814	25%	59%	13%	4%	11%	52%	36%
Nonresident	Varies	1,465	42%	45%	10%	3%	14%	74%	12%
Youth	Any-sex	539	36%	45%	14%	5%			
Muzzleloader									
Early	Statewide	1,755	20%	57%	17%	6%	21%	69%	11%
Late	Statewide	1,729	19%	57%	18%	6%	23%	62%	15%
Antlerless	Antlerless	3,078	28%	56%	12%	5%	17%	61%	22%
Archery	Any-sex	1,906	22%	58%	16%	4%	22%	70%	8%
Weighted Total		25,907	24%	58%	14%	4%	16%	62%	21%

Table 1.10 The results of the deer population surveys (1976 - present).

Year	Spotlight Survey		Aerial Survey		Traffic Kill	Traffic Kill Per Billion Vehicle Mi.	
	Mean Count	Percent Change	Weighted Count a	Percent Change		Number	Percent Change
1976	-	-	-	-	2,537	225	-1%
1977	-	-	-	-	2,929	252	12%
1978	6.9	-	-	-	2,872	241	-4%
1979	6.8	-1%	-	-	3,005	259	7%
1980	7.1	4%	-	-	3,743	335	29%
1981	5.9	-17%	-	-	4,164	365	9%
1982	12.0	103%	-	-	4,805	412	13%
1983	13.3	11%	5,903	-	5,335	448	9%
1984	16.4	23%	6,387	8%	6,177	500	12%
1985	15.4	-6%	7,607	19%	5,925	495	-1%
1986	18.5	20%	9,790	29%	7,225	593	20%
1987	18.2	-2%	-	-	8,440	678	14%
1988	20.8	14%	10,289	5% b	9,248	707	4%
1989	26.8	29%	9,672	-6%	8,914	655	-7%
1990	24.0	-10%	7,070	-27%	8,799	607	-7%
1991	23.0	-4%	9,191	30%	8,428	590	-3%
1992	23.0	0%	8,235	-10%	9,135	616	4%
1993	30.0	30%	8,680	5%	9,576	624	1%
1994	25.8	-14%	10,483	21%	10,438	663	6%
1995	35.3	37%	10,877	4%	11,167	699	5%
1996	51.1	45%	12,051	11%	12,276	748	7%
1997	51.1	0%	13,902	15%	13,148	778	4%
1998	55.9	9%	12,651	-9%	12,427	714	-8%
1999	59.9	7%	14,928	18%	11,366	637	-11%
2000	57.2	-5%	15,375	3%	10,970	634	0%
2001	81.4	42%	15,793	3%	13,100	757	19%
2002	80.8	-1%	13,107	-17%			

a - adjusted for missing counts

b - change from 1986 to 1988

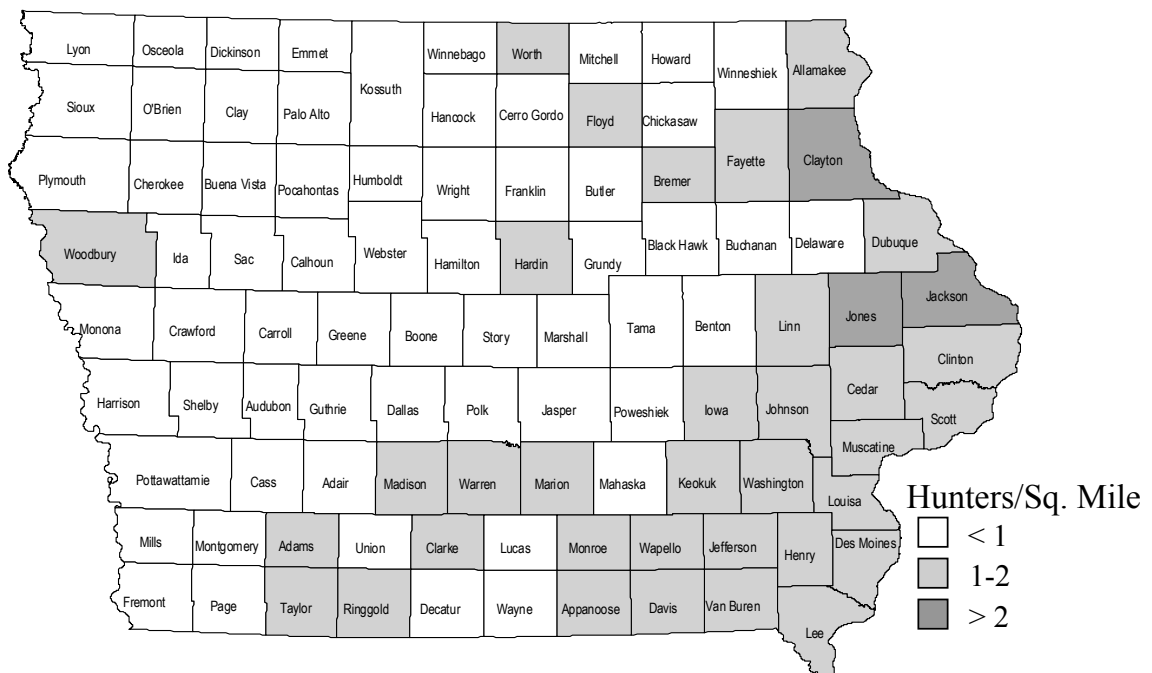
Table 1.11 Results from controlled hunts in the special deer management zones for 2001-2002.

Area	Weapon	Licenses	Hunters	Harvest
Springbrook State Park	Firearm	30	30	23
Lake Panorama	Archery	175	119	54
Lake of Three Fires	Shotgun	45	35	24
Kent Park	Shotgun	50	50	23
Coralville, City of	Archery	300	162	73
Johnson County Zone	Archery & Firearm	400	334	248
Waterloo/Cedar Falls Zone	Archery	290	201	86
Viking Lake	Shotgun	45	40	26
Lake Manawa State Park	Archery	45	45	16
Lake Darling	Shotgun	180	152	72
Elk Rock State Park	Shotgun	50	50	45
Scott County Park	Shotgun	50	48	34
Linn County Zone	Archery & Firearm	500	341	285
Squaw Creek Park	Archery	145	94	44
Marion, City of	Archery	50	50	41
Backbone State Park	Shotgun	120	117	86
Polk County Zone	Archery & Firearm	300	211	153
Dubuque County Zone	Archery & Firearm	625	448	240
Iowa Army Amunition Plant	Archery & Firearm	450	Cancelled	
Depredation & Shooting Permits	Archery & Firearm	1950	1950	1247
Total		5800	4477	2820

Fig 1.1 The average number of hunters/square mile in each county during the 2001 shotgun season. Hunters with free landowner/tenant licenses are not included since their licenses were valid for both seasons.



Season 1

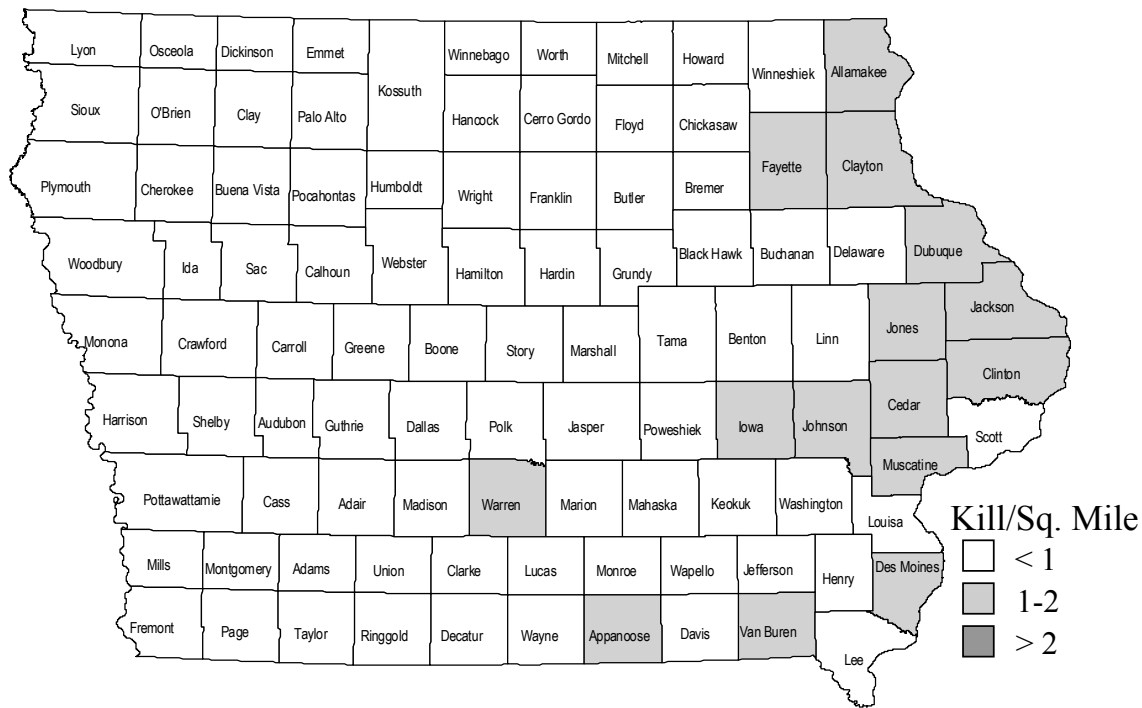


Season 2

Fig 1.2 The average number of deer killed/square mile in each county during the 2001 shotgun season. The kill by hunters with free landowner/tenant licenses was not included since their licenses were valid for both seasons.

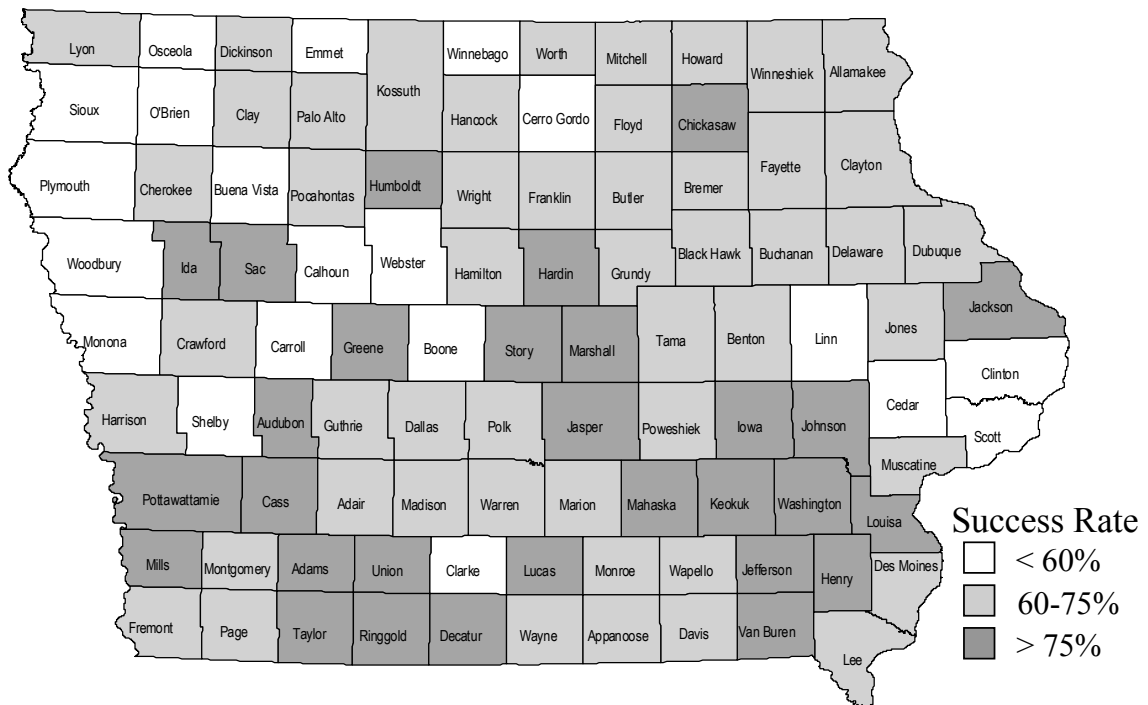


Season 1

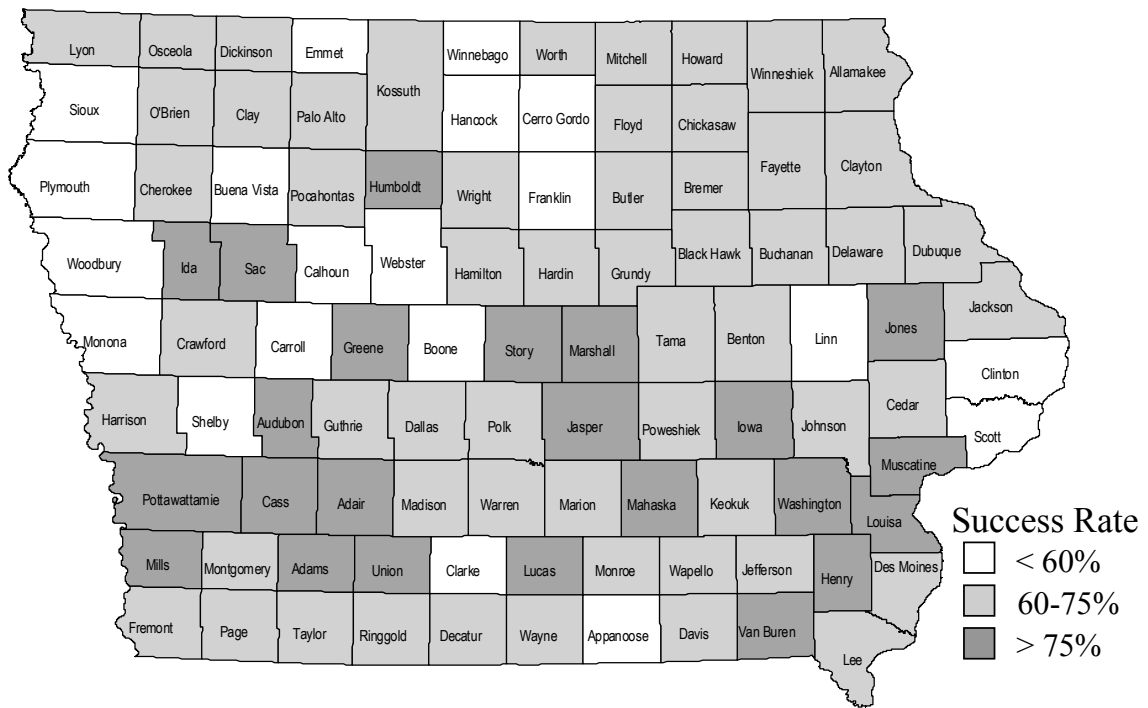


Season 2

Fig 1.3 The average success rate for hunters with paid licenses in each county during the 2001 shotgun season. Hunters with free landowner/tenant licenses are not included since their licenses were valid for both seasons.

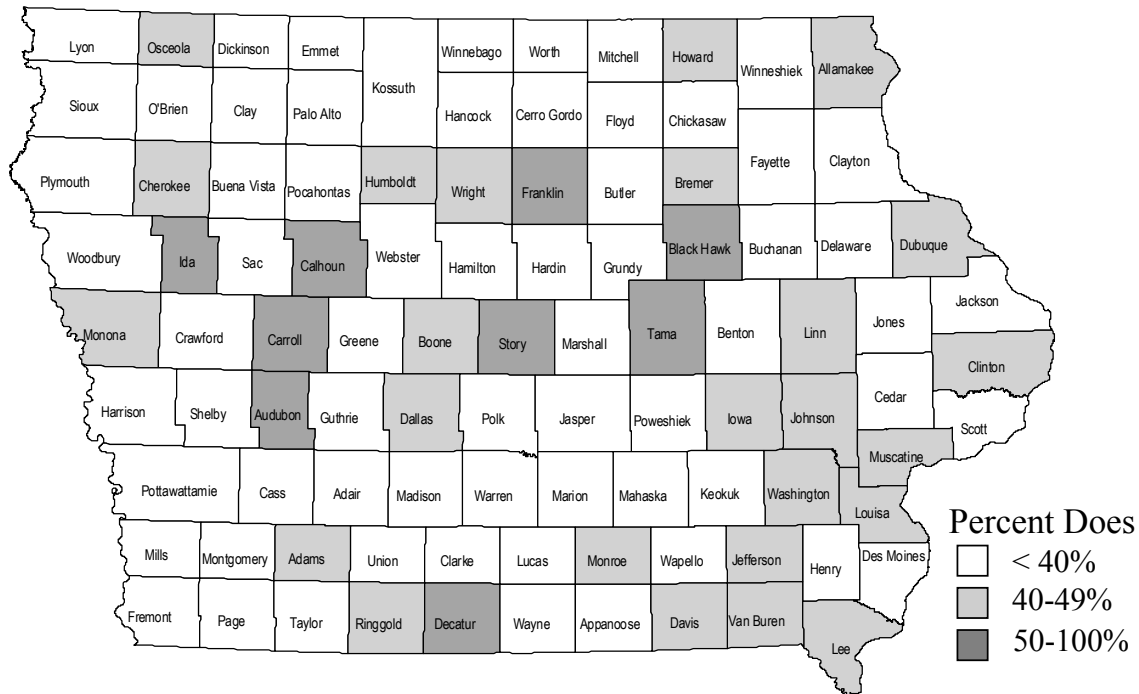


Season 1

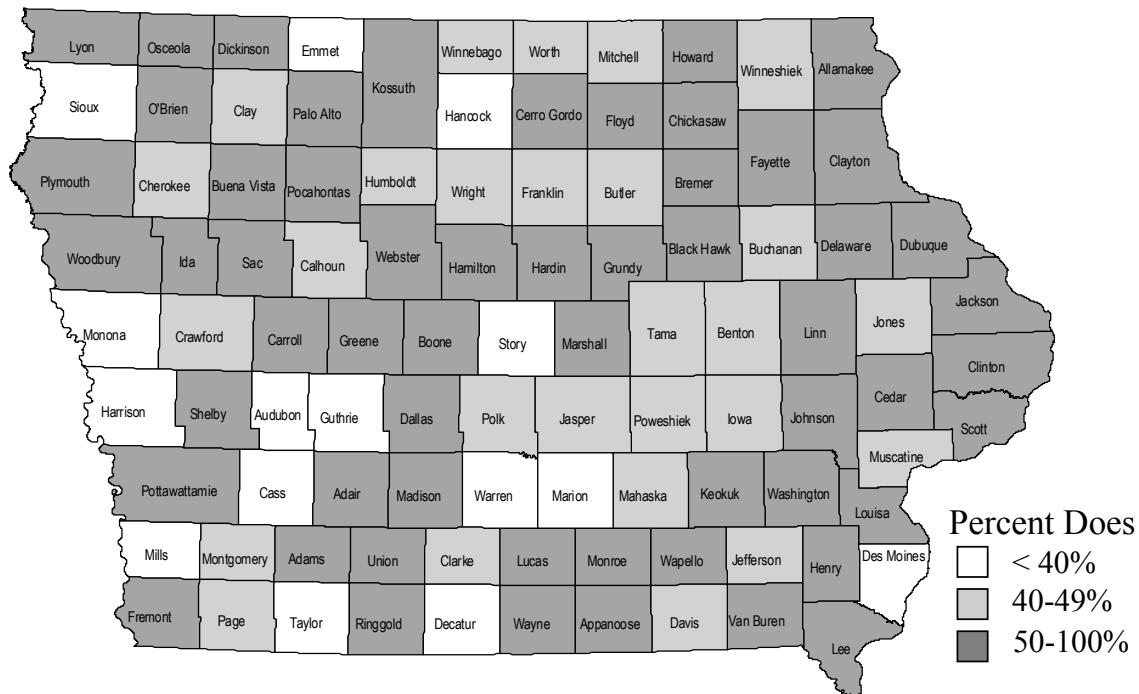


Season 2

Fig 1.4 The proportion of the harvest by hunters with paid licenses that were does during the 2001 shotgun season. The kill by hunters with free landowner/tenant licenses are not included since their licenses are valid for both seasons.



Season 1



Season 2

Fig 1.5 The average number of deer killed per square mile in each county during the 2001 deer season.

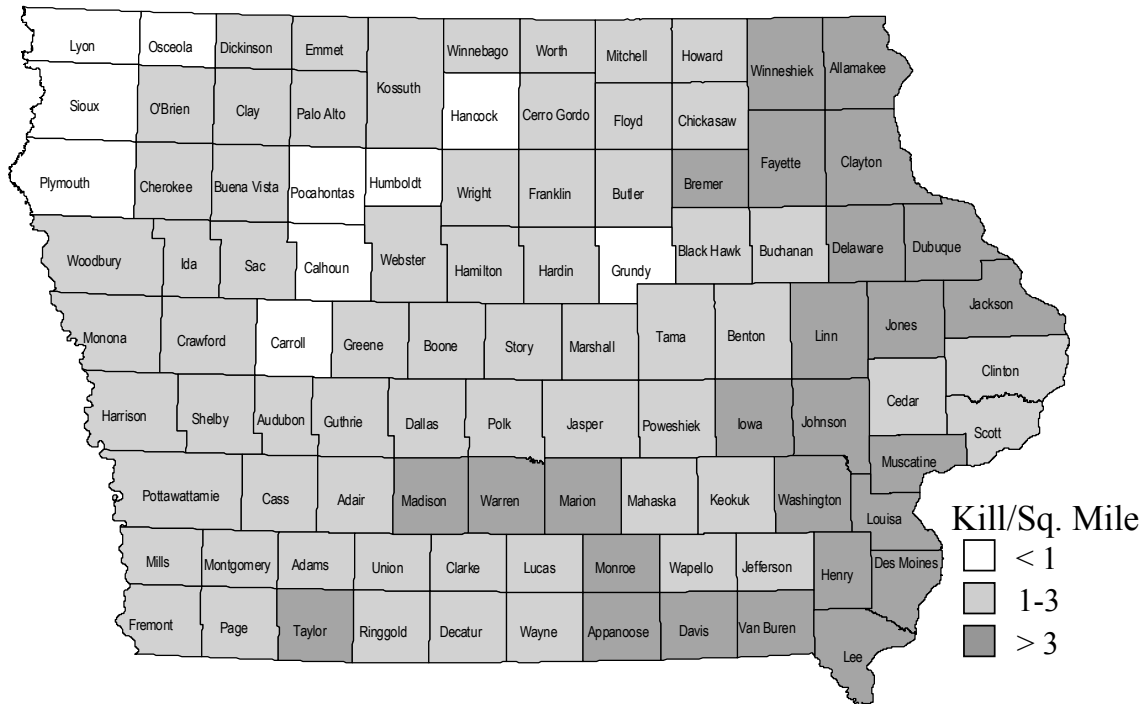


Fig 1.6 The proportion of the harvest that were does in each county during the 2001 deer season.

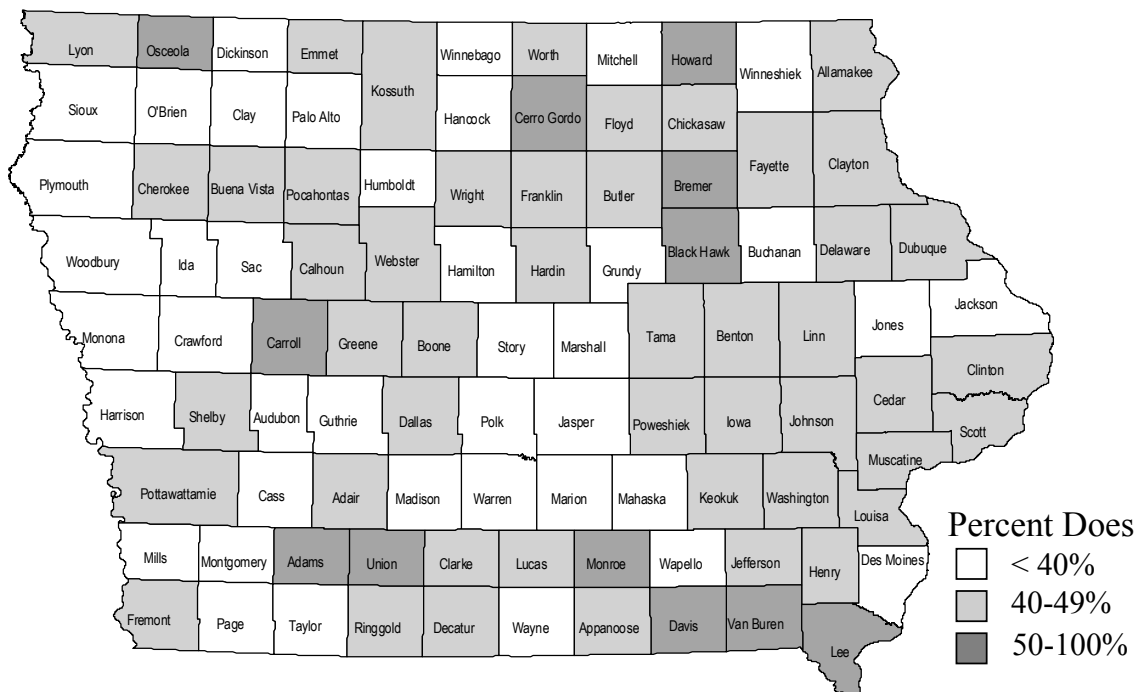


Fig 1.7 A comparison of the timing of the deer kill during the past 3 archery seasons.

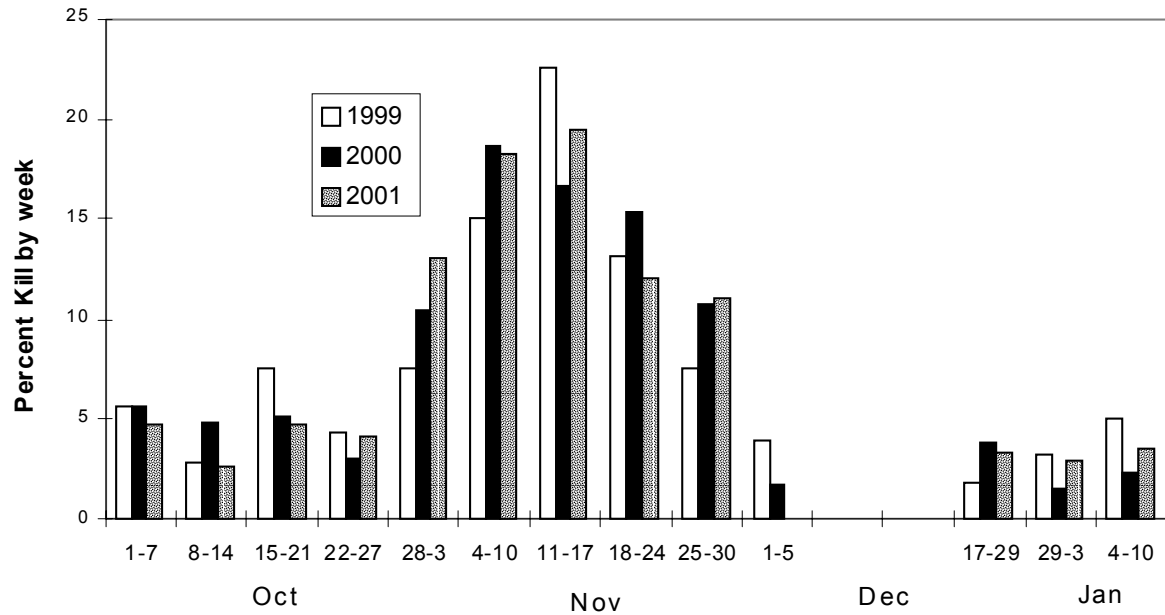


Fig 1.8 Deer population indices, 1976-present.

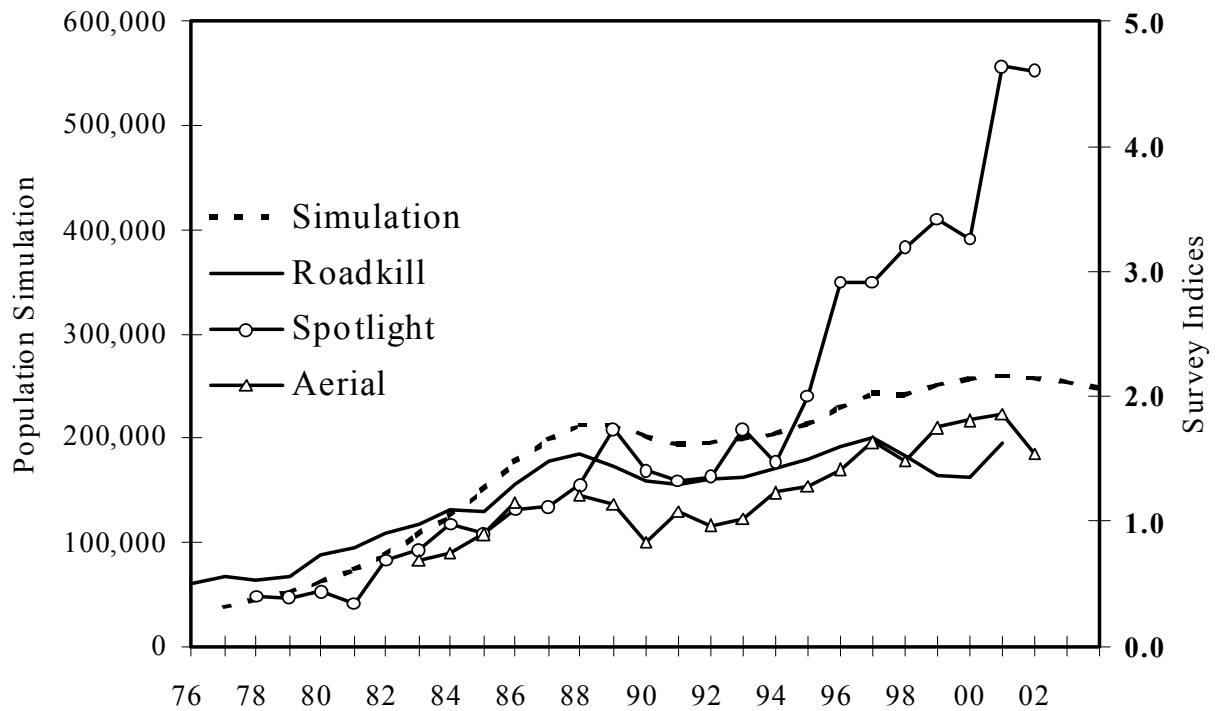
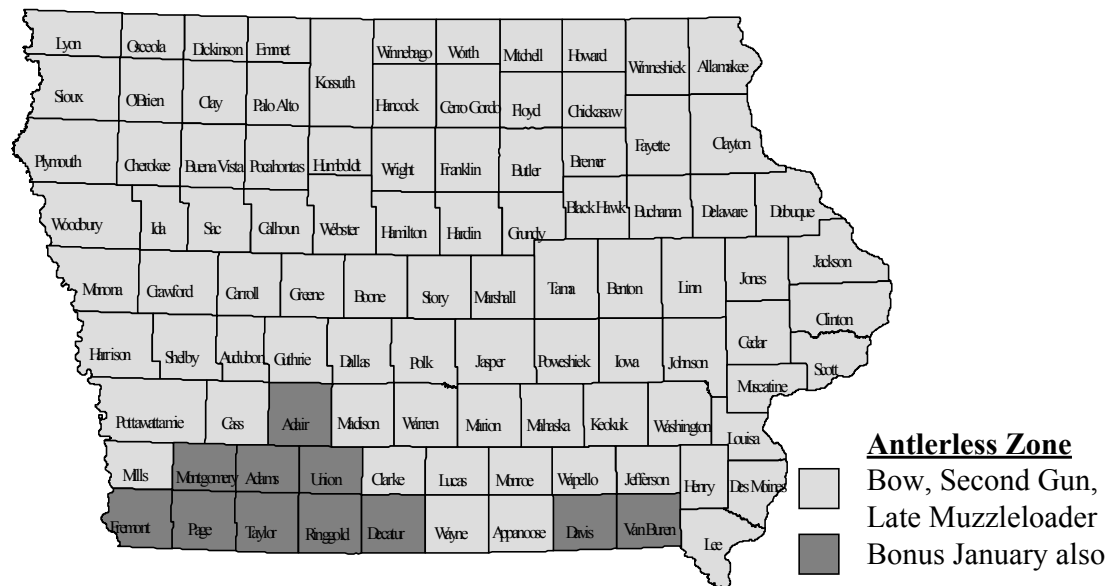


Fig 1.9 2001 Deer Hunting Zones



WILD TURKEYS

Historical Perspective

History: Iowa's primitive oak-hickory forests covered nearly 7 million acres (2.8 million ha) during the original land survey in 1859 (Thornton and Morgan 1959). Settlers' records indicate turkeys were associated with most of this timber. Although turkeys may not have been as numerous in Iowa as in their primary range east of the Mississippi River, they were still plentiful (Peterson 1943). Unfortunately, wild turkeys were eliminated from Iowa by the early 1900's due to habitat loss and partly because of uncontrolled subsistence hunting (Little 1980).

Habitat: Only 2.6 million acres (1.1 million ha) of forest remained when the second land survey was completed in 1956, a reduction of 63% in a century, and perhaps 50% of the remaining forest was badly mismanaged through overgrazing (Thornton and Morgan 1959). In 1974, Iowa had 1.6 million acres of forestland, which made up 4.3% of the State's land area. Iowa's remnant forests now total 2.1 million acres (850,202 ha), just 5.7% of the State and only 30% of pre-settlement forests (Leatherberry et al. 1990).

Forest types throughout Iowa are second or third growth oak-hickory on uplands and elm-ash-cottonwood on floodplains (Ostrom 1976). Oak types constitute 55% of all forest stands, with red oak - white oak - hickory (35% of all forests) dominant in all regions. Maple-basswood stands (10%) are found on mesic sites and are climax in the northeast and central regions, but are replaced by white oak (10%) and short, scrubby burr oak (10%) in the southern

and arid western regions, respectively. Aspen and other northern hardwoods (1%) are found occasionally in the Northeast. Statewide, 65% of all commercial stands are entering sawtimber and 20% are in poletimber (Leatherberry et al. 1990). Ninety-two percent of Iowa's forest land is privately owned, with nearly half of the remaining 8% in state ownership, 38% owned by other public agencies and 14% in park-refuges withdrawn from active management (Ostrom 1976, Leatherberry et al. 1990). Iowa has no national forests, parks or wildlife refuges devoted to forest land management.

Restoration: The Iowa Department of Natural Resources (IDNR) began experimenting with turkey restoration in 1920 using pen-reared birds. Releases were made over the next 18 years but all releases were uniform failures.

The first attempts at releasing transplanted wild turkeys were in the early 1960's. Rio Grande and Merriam's subspecies were released at several sites during the 1960's but ultimately their poor adaptation to Iowa's oak-hickory forest led to population failures for both subspecies.

The first release of eastern wild turkeys was in 1966 in Lee County. The population response of these turkeys was phenomenal – survival of released birds, reproduction, and poult survival were all excellent. The success of this eastern subspecies stocking led to an additional stocking that also proved successful. By 1971 it was obvious that the Eastern subspecies was the turkey to use in future restoration attempts.

Since the initial 1965 release,

3,578 Eastern wild turkeys have been trapped and released at 259 sites at a stocking rate of approximately 3 adult gobblers and 10 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. Restoration efforts ended in 2001 with the last release site occurring in Linn county.

Spring Harvest Survey

History: Spring bearded-turkey-only hunting seasons began in 1974. The objective of Iowa's spring season has been to maximize hunting opportunity while maintaining a quality hunting experience. Quality hunting is defined as the chance to hunt turkeys reasonably free of interference from other hunters. The primary method used to reduce interference is to control hunter densities through license quotas established for multiple zones and seasons.

Annual licenses issued, hunters, and harvest increased gradually from 1974-87 (Fig. 2.1). During 1988-99, there were dramatic increases in license issue and hunter numbers due to an unlimited license quota in the fourth season. The area open to spring turkey hunting in Iowa also increased dramatically from 2 small southern zones and 1 larger northeast zone in 1974 to the entire state during the 1999 spring season (Fig. 2.2, a and b). Hunter numbers and timber acres with huntable turkey populations have increased

proportionally, allowing hunter densities to remain at < 4 hunters/mi² of timber per season.

2001: Iowa's 28th modern spring hunting season increased in the number of active hunters, even though license sales decreased slightly (Table 2.1 and 2.2). Harvest decreased slightly in 2001 by a few hundred (Table 2.3). This was the thirteenth year the entire state was open to spring turkey hunting (Table 2.11). The 35-day season (16 April through 20 May, 2001) was partitioned into 4 separate seasons: 4, 5, 7, and 19-days in length, respectively. The 4-season format, with unlimited license quota an unlimited license quota for all the periods, resulted in 53,995 resident shotgun licenses issued. An additional 2,206 archery-only licenses were issued. In spring 2001, archers were allowed to purchase up to 2 permits. Archery-only harvest surveys have ceased because of poor survey response compliance by archery-only hunters. However, archery-only harvest and success rates varied little during the years with survey information.

Forty-three percent of the hunters were successful in harvesting a gobbler in 2001 (Table 2.4). 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. 2.3). Declines observed in spring hunter success rates during 1983 and 1984 (Fig. 2.3) can be partially explained by poor brood production during the summers of 1981 and 1982 (Fig. 2.4). 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 over the last five years averaged 43.5%.

This was the twelfth spring that

non-residents were allowed to hunt turkeys in Iowa. All available non-resident licenses were issued. Ninety-one percent of the non-resident hunters that were issued a license actually hunted and they harvested an estimated 941 wild turkeys (Tables 2.2 and 2.3). Non-residents were more successful than residents in harvesting a spring gobbler (51.6% versus 43.1%, respectively) (Table 2.4)

Fall Harvest Survey

History: Fall, any-sex turkey hunting was initiated in Iowa in 1981 to provide additional hunting recreation from the wild turkey resource. Because any-sex hunts are more controversial than male-only hunts and potential exists for overharvesting hens, carefully controlled fall hunts began in 1981 on an experimental basis. These hunts occurred in portions of southern Iowa which had established, stable turkey populations. Fall turkey hunting has changed dramatically since the initial experimental 1981 season. The area encompassed by fall hunting zones has increased from 2 small zones in southern Iowa during 1981 to 8 zones in 1999 that contain the majority of Iowa's turkey population (Fig. 2.5, a and b). Fall zone boundaries in 1990 encompassed 9.7 times more area than in 1981 (Table 2.12) and geographically different regions were added to open zones, notably the west and northeast portions of Iowa. Although zone boundaries did not change during 1991 - 1994, only zones 3 and 6 (northeast Iowa) had shotgun licenses available (residents only). The 5 remaining fall zones experienced 6 years of poor brood production and therefore did not have any licenses available. However in

1995, because of increased brood production in 1994, almost the entire state was opened to fall hunting. In 1999, the amount of land open to fall hunting increased slightly from 1998 with the addition of zone 8 (Fig. 2.5).

Results from a radio-telemetry study in southern Iowa and computer modeling of southern Iowa turkey mortality and hatching data suggest as much as 10% of the population could be removed during fall hunting without reducing long-term turkey populations. Past seasons' harvest have not approached this theoretical value. The present management objective is to increase fall hunting opportunities and harvest. A harvest of fall turkeys similar to the number of spring gobblers harvested is the present goal.

The number of fall licenses issued, hunter numbers and harvest increased steadily from 1981-89 (Fig. 2.6 and Tables 2.5-2.7).

As with spring seasons, fall turkey hunters have previously had exceptional Statewide success rates, averaging 51% during 1981-89 (Table 2.8). However fall success rates have had considerable annual variation, ranging from 40 - 60% (Fig. 2.3). Fall license quotas generally surpassed applications from 1981-84 and license quotas filled in only one zone in 1985. With the expansion of 2 hunting zones in 1986 a large increase in applications occurred. This resulted in rejecting a number of permit applications. License quota was increased in 1987 and in 1988. After 2 application periods in fall 1988, 51 licenses remained. Therefore license quota remained unchanged in 1989 although the hunting zone area increased (Table 2.12). Because of the documented poor poult production in 1988 and 1989, license quota remained

unchanged for 1990. Fall 1990 hunting zones were expanded to distribute (and hopefully reduce) hunting pressure on flocks. Continued poor statewide brood production warranted dramatic reductions in fall harvest for 1991 - 1994. Only the northeast corner (Zones 3 & 6) continued to have average brood production that allowed a fall shotgun season

Annual changes in hunter success, harvest and the age-sex composition of the fall harvest are at least partly explained by population events occurring in southern Iowa from 1981 to 1985. Excellent recruitment in the years of 1978 through 1980 produced very high turkey densities (100 wintering turkeys/mi² of forest on the southern Iowa Stephens Forest study area and region-wide densities of at least 40-50/mi²). A cool wet spring in 1981 led to essentially no recruitment just prior to the first fall season. A large carryover of adults from previous successful hatches meant that hunters had high success rates in the fall of 1981, but harvested almost no juvenile turkeys. A slightly better hatch in 1982, coupled with the reduction in available adult turkeys, led to proportionally more juveniles in the bag in 1982, but the harvest and success rates were reduced. A good hatch in 1983, produced more juveniles in the bag and an increased harvest, suggesting populations were recovering from a 2-year depression. Another good hatch in 1984 resulted in even more juveniles in the bag and again an increased harvest. Fall 1985 was similar to 1984. The greatest effect was felt in southern Iowa where spring weather was least favorable in both 1981 and 1982. Indications of overharvest on popular public hunting areas was greatest in the years when few juveniles

were present to buffer adult turkey harvest. Harvest rates of adult hens (> 2 years old), the most important age class reproductively, were greatest when few juveniles were produced and decreased to tolerable levels when recruitment was good.

A similar scenario developed during the recent 6-year (1988-93) decline in poult production. Climatic factors, i.e., 2 years of drought followed by floods in 1990, 1991, and 1993, are assumed responsible for the reduced poult production observed over that time period. Likewise, harvest and hunting success declined over the same period, presumably as a result of the decrease in poult production. Fall harvest and hunting success rate increased in 1995 following a slight increase in poult production in 1994. Harvest and hunter success increased slightly again in 1996, 1997, 1998 and 1999, but decreased slightly in 2000 and 2001. However, fall harvest levels continue to be well below the levels observed in the mid-1980's.

2001: Wild turkey brood production was down slightly in 2001, and fall turkey hunter success rates also decreased slightly. Since the IDNR's main objective for wild turkeys is to maintain populations in all suitable habitats and provide high quality recreational opportunity, a conservative fall turkey hunting season was established in 1992. Shotgun license quota was reduced from 7,600 licenses available in 1990 to only 1,530 in 1992, 1993, and 1994. An increase in poult production was observed in 1994, and shotgun license quota was increased in 1995 to 3,450. Quotas were increased slightly again in 1996 to 3,850, to 4,550 in 1997, to 5,650 in 1998, to 6,225 in 1999. In 1999, zone 8 was created in north central Iowa and zone 6 was

reduced east to Highway 63. All other zone boundaries remained the same as in 1998, and all zones had licenses available. In 2001, zones and quotas remained the same as 2000 and 1999. Shotgun license issue (paid and free combined) decreased from the 2000 level to 11,225 for the 47-day season that ran from 15 October through 30 November, 2001 (Table 2.12). Over 42% of the shotgun licenses were issued free to landowners. An additional 1,496 archery-only licenses were issued for a season that ran from 1 October through 30 November, 2001 and 18 December, 2001 through 10 January, 2002. Only 6,069 shotgun hunters actually hunted for turkeys during fall 2001. Forty-five percent of the active hunters harvested a turkey. Hunter success rates varied from 16% in zone 1 to 74% in zone 2 (Table 2.8). Nonresidents were not permitted to hunt fall turkeys in Iowa this year.

Discussion: Fall turkey hunting techniques are sufficiently different from spring hunting so that past experience with spring hunting seems to have little impact on success in the fall. If anything, reliance on camouflage, sitting still, and calling (the basic spring hunting method) may be less successful and less utilized than walking and flushing turkeys in the small woodlot situations which comprise the bulk of Iowa turkey habitat. Even though fall shotgun success rates are quite high, fall turkey hunting has not been popular. It doesn't seem to appeal to spring hunters and hunter numbers seem to be more related to zone size than anything else. Fall archery hunting has even fewer devotees.

In spite of these differences between spring and fall hunting, they have one important feature in common -- hunter concentrations on public hunting

areas. Hunter densities are much greater on public hunting areas than on private lands. By the nature of fall hunting this has less impact on perceived interference between hunters than it does in spring hunting. Crowding leads to lower success rates on public areas and, on the largest most popular areas, there are some indications of excessive harvest over theoretically desirable levels. Any area that the IDNR intends to manage for quality spring hunting may have to be zoned separately in the fall.

Even in years of documented poor reproduction, hunters can still find turkeys due to Iowa's limited forest habitat and high turkey densities. Although success rates have declined each year since 1987, success still remains high for hunters who actually hunt. Interference rates between hunters have not been documented in the fall since 1985. Interference rates have been lower during fall than in spring, which is probably due to the different techniques used for spring and fall hunting.

Fall turkey hunter densities on public areas (that were surveyed) have been nearly 50 times greater than the average hunter density for private land. Turkey harvest densities on 13 of 16 public areas surveyed equaled or exceeded the theoretical maximum allowable harvest of 2 turkeys/mi² of forest as determined from empirical population data gathered from Stephens State Forest (IDNR, unpubl. data). In 1986, only 4 counties sustained > 4 hunters/mi² of forest, combined with turkey harvests of > 2/mi² of forest. In 1987, with the large increase in licenses issued, 12 counties had both hunter densities > 4, and turkey harvest > 2/mi² of timber (out of 43 counties with reporting hunters). The high seasonal hunter densities were somewhat reduced

by a 28-day season during 1987. No more than 34% of the hunters and 39% of the eligible hunters (those who had not yet bagged a turkey) were afield on any day. The opening 2 days and 4 weekend days were the most popular hunting days. There were no evident relationships between daily hunting pressure and daily success rates. To reduce daily hunter densities, hunter interference rates and increase fall recreation days, the 1988 fall season was extended to 49 days (October 10 - November 27). However, a large increase in licenses issued in 1988 increased the number of counties exceeding allowable harvest and hunter density values to 16 (out of 53 counties with reported turkey harvest). Another record license issue in 1989 resulted in 24 counties (of 49 counties with reported turkey harvest) exceeding >4 hunters, and >2 turkeys harvested/mi² of timber. Fewer licenses were issued in 1990 and correspondingly only 16 counties exceeded hunter and harvest rate maximums. Due to continued poor brood production, both hunter numbers and harvest was dramatically reduced during 1991 - 1993 and increased only slightly throughout 1994-2000, but decreased slightly in 2001. Unfortunately, the present management concern is how to maintain turkey numbers instead of the enviable situation of being concerned about hunter densities.

Brood Survey

History: Information on annual variations in turkey productivity is needed to evaluate the status of turkey populations in various regions of the state. Because few reliable wild turkey census techniques have been developed,

hunter success rates, turkey harvest levels, and age ratios of harvested birds are the best available indicators of relative turkey populations between hunting zones. Lewis (1975a, b) found significant correlations between both August poult:hen ratios, percent juveniles in the harvest, and total gobbler harvests in the subsequent spring in Missouri, suggesting that an index to productivity would be useful in establishing hunting regulations.

Compared to the more formalized census procedures used for more visible wildlife species, indices to eastern wild turkey productivity are generally based on random observations of broods.

Methods: A list of cooperators has been established from IDNR personnel and rural residents living in selected portions of Iowa containing established turkey populations. All rural residents living in designated survey areas are sent a form to be returned if they are willing to participate in the survey. Each cooperator is sent return-addressed postcards which are to be completed and returned based on turkey broods sighted between 1 July and 31 August. Productivity indices are constructed from these returns.

Hanson (1988) compared the brood survey data with spring turkey harvest and data from a radio-telemetry study in southern Iowa. The poult:hen ratio (young/adult) was the variable that correlated best with the telemetry data. Results of additional analyses indicated that the brood survey did have some utility for forecasting turkey numbers available to the hunters in following springs. Additionally, Hanson concluded that in light of the correlations with harvest data the brood survey may also be useful for evaluating

the status of turkey populations in various regions of the state. Survey statistics for 1976-1999 are summarized in Tables 2.9 and 2.10.

2001: Statewide: Wild turkey poult production per hen during 2001 (4.7 poults) was slightly lower than 2000 based on 2,185 observations statewide (Table 2.9; Fig. 2.4). The percent of hens with broods was also lower than 2000 estimates (Table 2.10). Evidence of decreased production in 2001 was an observed decrease in average turkey flock size (Fig. 2.4). However, production values were only slightly below the statewide average for the past 5 years. The 2001 production index (which combines the number of poults per hen and the percent of hens with brood) also decreased slightly from 2000 and is still below 1983-87 levels.

Northeast Region: The northeast region's production index much higher than the values obtained for 2000. This region continues to maintain relatively high production index values compared to other areas of the state.

Southern Region: The southern region's poult/hen ratio decreased slightly from 2000 and the number of birds per flock decreased slightly. The percent of hens with brood also decreased from 2000 levels.

Central Region: The number of poults per hen and the number of birds per flock increased in 2001 in the central region from the values observed in 2000. However, the percent of hens with brood decreased.

Western Region: In 2001, the western region experienced increases in the birds/flock, but experienced decreases in poult/hen ratio and the percent of hens with brood.

East-Central Region: The east-

central region data indicated a slight decrease in poult production over 2000. Decreases occurred in the percent of hens with brood and the number of poults/hen increased. However, the number of birds per flock increased slightly.

Northwest Region: This region experienced the most decrease in turkey production from 2000, with decreases in all 3 categories. However, values were similar to previous year's records.

North-Central Region: The number of birds per flock and the number of poults/hen increased substantially in the north-central region over 2000 levels, but the percent of hens with broods decreased.

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Table 2.1 Number of Iowa spring turkey-hunting licenses issued by zone, 1974-present.
Archery-only licenses not included.

YEAR	ZONE					RESIDENT TOTAL	NON- RESIDENT
	1	2	3	4	5		
1974	105	113		82		300	
1975	168	184		248		600	
1976	143	273		558		974	
1977	235	276		494		1,005	
1978	280	323		1,212		1,815	
1979	195	298		2,662		3,155	
1980	195	225	357	3,227		4,004	
1981	195		420	4,374	67	5,056	
1982			297	6,592	135	7,024	
1983			300	7,231	165	7,696	
1984	259	416	325	9,849	277	11,126	
1985	259	449	320	9,379	277	10,684	
1986	273	493	339	11,032	356	12,493	
1987	289	507	357	11,828	404	13,385	
1988	268	471	324	16,438	632	18,133	
1989	268	505	338	20,091	736	21,938	
1990	261	500	322	25,331	1,030	27,444	184
1991	262	505	322	26,399	1,115	28,603	306
1992	260	487	320	28,220	1,083	30,370	445
1993	260	500	320	28,646	1,060	30,786	585
1994	262	508	324	30,714	-	31,808	602
1995	260	500	320	30,269	-	31,349	955
1996	260	487	302	35,740	-	36,789	1,124
1997	261	501	320	39,314	-	40,396	1,346
1998	260	500	320	39,783	-	40,863	2,005
1999	260	500	320	43,008	-	44,088	1,999
2000	257	392	242	55,290	-	56,181	2,013
2001	104	148	108	53,635	-	53,995	2,012

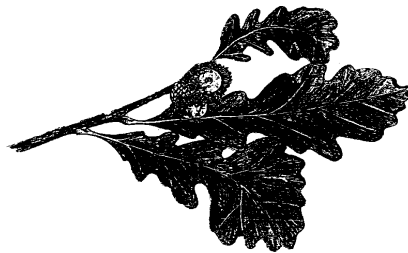


Table 2.2 Number of estimated active Iowa spring turkey hunters by zone 1974-present.
Archery-only licenses not included.

YEAR	ZONE					RESIDENT TOTAL	NON- RESIDENT
	1	2	3	4	5		
1974	92	99		92		283	
1975	149	168		223		540	
1976	124	237		484		845	
1977	202	251		435		888	
1978	255	289		1,078		1,622	
1979	174	272		2,381		2,827	
1980	176	213	307	2,909		3,605	
1981	176		379	3,956	61	4,572	
1982	493	447	270	4,911	123	6,244	
1983	447	441	263	5,523	161	6,835	
1984	233	371	260	8,676	243	9,783	
1985	232	403	292	8,395	249	9,571	
1986	232	445	308	9,581	319	10,885	
1987	236	440	327	10,283	355	11,641	
1988	246	429	298	14,152	547	15,672	
1989	225	442	319	15,193	588	16,767	
1990	231	456	301	21,085	862	22,935	174
1991	234	477	289	20,905	868	22,773	273
1992	200	351	213	24,321	919	26,004	418
1993	124	391	197	24,648	888	26,248	542
1994	157	365	217	26,561	-	27,300	527
1995	113	331	211	26,734	-	27,389	881
1996	178	331	169	31,591	-	32,269	1,057
1997	152	356	210	34,314	-	35,032	1,229
1998	174	395	226	35,759	-	36,554	1,858
1999	139	336	179	37,873	-	38,527	1,803
2000	183	287	159	46,705	-	47,334	1,841
2001	75	103	92	47,327	-	47,597	1,822



Table 2.3 Number of estimated spring turkeys harvested by zone, 1974-present.
Archery-only licenses not included.

YEAR	ZONE					RESIDENT TOTAL	NON- RESIDENT
	1	2	3	4	5		
1974	41	31		30		102	
1975	29	41		69		139	
1976	38	37		119		194	
1977	60	53		102		215	
1978	54	72		240		366	
1979	55	41		592		688	
1980	50	43	35	860		988	
1981	49	40	58	1,267	25	1,439	
1982	75	112	48	1,411	39	1,685	
1983	76	113	38	1,469	33	1,729	
1984	32	83	40	2,015	51	2,221	
1985	29	138	67	2,831	62	3,127	
1986	49	183	75	3,570	97	3,974	
1987	83	198	114	4,667	147	5,209	
1988	79	151	86	6,493	250	7,059	
1989	49	133	42	6,264	211	6,699	
1990	48	148	106	7,452	363	8,117	74
1991	58	144	78	7,414	274	7,968	128
1992	37	71	31	9,348	255	9,742	151
1993	26	97	39	8,638	293	9,093	217
1994	57	81	32	10,428	-	10,598	229
1995	20	81	32	10,275	-	10,408	459
1996	49	77	36	13,078	-	13,240	544
1997	8	68	28	14,647	-	14,751	605
1998	15	73	46	15,676	-	15,810	938
1999	30	71	28	17,231	-	17,360	930
2000	37	60	24	20,759	-	20,880	970
2001	34	49	29	20,383	-	20,495	941

Table 2.4 Estimated success rate of active Iowa spring turkey hunters by zone, 1974-present. Archery-only hunters not included.

YEAR	ZONE					RESIDENT	NON-
	1	2	3	4	5	TOTAL	RESIDENT
1974	44.6	31.3		32.6		36.0	
1975	19.5	24.4		30.9		25.7	
1976	30.6	15.6		24.6		23.0	
1977	29.7	21.1		23.4		24.2	
1978	21.2	24.9		22.3		22.6	
1979	31.6	15.1		24.9		24.3	
1980	28.4	20.2	11.4	29.6		27.4	
1981	27.8		15.3	32.0	41.0	31.5	
1982	15.2	25.1	17.8	28.7	31.7	27.0	
1983	17.0	25.6	14.4	26.6	20.5	25.3	
1984	13.7	22.4	15.4	23.2	21.0	22.7	
1985	12.5	34.2	22.9	33.7	24.9	32.7	
1986	21.1	41.1	24.4	37.3	30.4	36.5	
1987	35.2	45.0	34.9	45.4	41.4	44.7	
1988	32.1	35.2	28.9	45.9	45.7	45.0	
1989	21.8	30.1	13.2	41.2	35.9	40.0	
1990	20.8	32.9	35.0	35.3	42.1	35.3	40.0
1991	24.9	30.7	27.8	35.6	31.1	35.1	45.0
1992	19.1	21.0	16.0	38.5	27.9	37.4	36.0
1993	21.2	24.8	19.7	35.0	32.9	34.6	40.0
1994	36.3	22.2	14.7	39.3	-	38.8	43.5
1995	17.7	24.5	15.1	38.7	-	38.0	52.1
1996	27.5	23.2	21.3	41.4	-	41.0	51.5
1997	5.3	19.1	13.3	42.7	-	42.1	49.2
1998	8.6	18.5	20.4	43.8	-	43.3	50.5
1999	21.6	21.1	15.6	45.5	-	45.1	51.6
2000	20.2	20.9	15.1	44.4	-	44.1	52.7
2001	45.3	47.6	31.5	43.1	-	43.1	51.6

Table 2.5 Number of licenses issued to Iowa fall turkey hunters by zone, 1981-present.

In 1984 and 2001 landowners were not broken-down by zone but do appear in the total.

No non-resident licenses issued for fall turkey during 1991-2001.

YEAR	ZONE								RESIDENT		NON-RESIDENT
	1	2	3	4	5	6	7	8	BOW	TOTAL	
1981				1,946					193	2,139	
1982				1,995					353	2,348	
1983				1,873					529	2,402	
1984				1,999	214	612			552	3,414	
1985				2,143	295	784			540	3,762	
1986	121	190		2,403	296	1,206	74		663	4,953	
1987	107	149	105	3,934	340	2,264	148		877	7,924	
1988	103	203	106	4,861	524	4,054	282		1,243	11,376	
1989	102	200	100	6,194	891	5,792	554		1,022	14,855	157
1990	102	201	101	5,879	738	5,422	624		610	13,677	50
1991	0	0	50	0	0	4,575	0		942	5,567	0
1992	0	0	30	0	0	3,560	0		963	4,553	0
1993	0	0	30	0	0	3,118	0		488	3,636	0
1994	0	0	30	0	0	3,300	0		949	4,279	0
1995	50	50	50	2,593	330	3,518	320		715	7,626	0
1996	50	50	50	2,635	447	4,048	321		944	8,545	0
1997	50	50	50	2,156	425	4,287	224		768	8,010	0
1998	50	50	50	3,653	450	4,747	440		697	10,137	0
1999	50	50	50	3,778	433	4,894	422	212	1,317	11,206	0
2000	49	47	50	5,052	471	5,083	471	260	1,531	13,014	0
2001	44	29	38	2,500	300	2,401	200	75	1,496	11,225	0

Table 2.6 Number of estimated active turkey hunters in Iowa fall turkey seasons by zone, 1981-present. Same problem for 1984 and 2001 as in Table 2.5. No licenses in 1991-94 for zones other than 3 & 6. Bow hunters not surveyed after 1990. No non-resident licenses issued for fall turkey during 1991-2001.

YEAR	ZONE									RESIDENT		NON-RESIDENT
	1	2	3	4	5	6	7	8	UNK	BOW	TOTAL	
1981				1,710						136	1,846	
1982				1,807						290	2,097	
1983				1,650						425	2,075	
1984				1,763	185	530				473	2,981	
1985				1,906	250	699				445	3,300	
1986	89	168		1,953	251	1,025	68			543	4,097	
1987	76	137	92	2,966	264	1,702	87			738	6,062	
1988	100	203	91	3,576	418	3,173	249			1,066	8,876	
1989	83	187	82	4,679	585	4,572	374			846	11,408	139
1990	41	125	55	4,326	509	4,125	400			502	10,083	47
1991			35			3,064				?	3,099	0
1992			22			2,362				?	2,384	0
1993			12			2,157				?	2,169	0
1994			12			2,343				?	2,355	0
1995	30	11	33	1,943	245	2,740	234			?	5,236	0
1996	14	14	16	1,727	334	3,038	195			?	5,338	0
1997	21	18	11	1,572	336	3,293	218			?	5,469	0
1998	11	27	11	2,678	337	3,530	297			?	6,891	0
1999	22	29	21	2,701	347	3,605	300	161	79	?	7,265	0
2000	11	26	23	3,300	355	3,523	309	171	56	?	7,774	0
2001	19	20	10	1,835	221	1,809	157	67	234	?	6,069	0

Table 2.7 Estimated harvest for Iowa fall turkey hunting by zone, 1981-present. Same problem for 1984 and 2001 as in Table 2.5. Same comments about 1991-94 as in Table 2.6.

YEAR	ZONE									RESIDENT		NON-RESIDENT
	1	2	3	4	5	6	7	8	UNK	BOW	TOTAL	
1981				808						5	813	
1982				769						10	779	
1983				813						20	833	
1984				882	77	198				36	1,210	
1985				1,215	108	376				54	1,753	
1986	29	69		1,041	127	536	28			43	1,873	
1987	24	40	35	1,842	99	961	33			102	3,136	
1988	57	106	36	1,950	171	1,799	159			149	4,427	
1989	18	127	26	2,208	287	2,442	104			66	5,278	67
1990	0	33	39	2,052	190	2,084	135			41	4,574	14
1991			18			1,368				?	1,386	
1992			13			943				?	956	
1993			2			912				?	914	
1994			2			1,122				?	1,124	
1995	10	2	10	912	137	1,358	52			?	2,481	
1996	4	5	12	787	176	1,472	93			?	2,549	
1997	1	14	4	883	145	1,480	86			?	2,613	
1998	3	8	4	1,384	176	1,773	120			?	3,468	
1999	4	10	3	1,619	156	1,943	150	66	63	?	4,014	
2000	2	15	8	1,701	179	1,527	93	56	38	?	3,619	
2001	3	15	2	852	100	912	61	37	168	?	2,722	

Table 2.8 Success rate of active Iowa fall turkey hunters by zone, 1981-present. Bow hunters not included in mean. Same comment for 1991-94 as in Table 2.6.

YEAR	ZONE								BOW	RESIDENT MEAN	NON- RESIDENT
	1	2	3	4	5	6	7	8			
1974											
1975											
1976											
1977											
1978											
1979											
1980											
1981				47.3					3.7	47.3	
1982				42.6					3.5	42.6	
1983				49.3					4.7	49.3	
1984				50.0	41.6	37.4			7.6	48.2	
1985				63.7	43.2	53.8			12.2	59.5	
1986	32.6	41.1		53.3	50.6	52.3	41.2		8.0	51.5	
1987	31.6	29.2	38.0	62.1	37.5	56.5	37.9		13.9	57.0	
1988	57.0	52.2	39.6	54.5	40.9	56.7	63.9		14.0	54.8	
1989	22.6	68.1	32.5	47.2	49.1	53.4	28.0		7.9	49.3	48.0
1990	0.0	26.6	71.4	47.4	37.4	50.5	33.9		8.3	47.4	29.0
1991			53.2			44.7			?	44.8	
1992			62.2			39.9			?	40.1	
1993			16.7			42.3			?	42.1	
1994			17.0			48.1			?	47.9	
1995	33.3	18.2	30.3	46.9	66.3	49.6	20.2		?	47.4	
1996	28.6	35.7	75.0	45.6	53.9	48.5	47.6		?	47.7	
1997	4.8	77.8	36.4	56.2	43.2	44.9	39.4		?	47.8	
1998	27.3	29.7	36.4	52.0	52.2	50.1	40.4		?	50.3	
1999	18.1	35.5	14.6	59.2	45.1	52.8	49.9	40.7	?	54.4	
2000	18.2	57.7	34.1	51.3	50.5	42.1	30.2	32.9	?	45.9	
2001	16.1	73.7	20.0	46.4	45.3	50.4	39.3	55.7	?	44.8	

Table 2.9 Iowa wild turkey brood survey results by region for birds/flock and young/adult, 1976-present.
Y/A=young per adult and B/F=birds per flock.

YEAR	NORTHEAST		SOUTHERN		CENTRAL		WESTERN		EAST-CENTRAL		NORTH-WEST		NORTH-CENTRAL		STATEWIDE	
	Y/A	B/F	Y/A	B/F	Y/A	B/F	Y/A	B/F	Y/A	B/F	Y/A	B/F	Y/A	B/F	Y/A	B/F
1976			4.2	10.4											4.2	10.4
1977			7.3	10.3											7.3	10.3
1978			7.5	10.7											7.5	10.7
1979			7.1	13.1											7.1	13.1
1980			7.1	13.3											7.1	13.3
1981	8.2	15.5	7.3	10.7											7.5	11.9
1982	6.1	12.6	6.2	9.3	7.1	9.5	6.6	9.5							6.3	10.5
1983	6.0	13.2	6.3	11.3	6.2	11.4	6.6	11.7	6.0	11.7					6.3	12.1
1984	6.6	12.9	7.4	11.5	4.6	10.6	6.9	12.6	6.8	10.9					6.8	11.9
1985	7.2	16.7	7.4	14.3	6.1	11.4	7.1	11.3	6.8	14.2					7.1	14.4
1986	7.0	14.1	6.2	11.8	6.6	11.7	5.7	9.3	6.8	12.5					6.6	12.4
1987	7.0	17.3	6.5	12.2	7.4	13.5	5.9	12.5	7.0	14.5					6.8	14.2
1988	5.0	17.1	5.6	10.1	5.3	11.3	4.6	12.6	6.5	14.3					5.4	13.6
1989	4.1	16.1	5.1	10.0	4.4	10.7	5.5	13.0	5.3	14.5					4.7	13.3
1990	5.1	15.8	4.9	9.0	2.7	7.9	6.0	12.2	4.9	11.9	7.7	11.3	6.6	8.3	5.1	12.8
1991	4.7	14.0	4.1	9.7	3.3	9.5	4.8	14.5	5.1	11.5	6.8	10.2	4.3	7.4	4.5	11.8
1992	4.9	11.8	4.3	9.4	3.0	9.1	6.0	10.2	4.5	11.9	3.0	4.0	10.0	11.0	4.6	10.9
1993	5.2	11.8	5.1	9.1	5.0	10.1	4.4	9.6	4.6	11.1	2.5	10.5	4.6	6.9	4.8	10.5
1994	5.3	13.1	5.1	11.6	4.1	10.0	5.1	16.9	4.9	11.5	5.1	11.0	6.2	11.6	5.1	12.3
1995	5.1	12.8	4.9	10.0	4.1	10.1	5.7	13.9	3.9	10.3	4.5	10.4	4.5	9.3	4.7	11.2
1996	4.6	10.4	4.5	9.9	3.9	9.4	4.4	11.2	4.5	10.4	3.1	11.1	4.4	8.9	4.4	10.2
1997	5.2	12.3	6.0	11.9	5.6	11.4	5.8	14.5	5.4	11.0	3.2	7.2	4.9	7.5	5.6	11.7
1998	5.1	11.9	5.3	10.0	5.9	9.8	4.6	10.0	4.5	11.6	4.0	11.9	4.4	10.5	4.9	10.9
1999	3.9	10.1	5.0	10.3	3.8	8.5	4.7	13.7	5.0	10.3	6.9	13.1	3.1	6.5	4.7	10.5
2000	4.9	10.5	5.3	10.5	3.8	8.2	5.1	12.2	5.3	11.1	6.1	17.4	3.8	6.7	5.2	10.9
2001	5.1	11.9	4.6	9.3	5.0	10.3	4.6	13.0	4.5	11.5	3.9	10.9	4.5	9.3	4.7	10.8

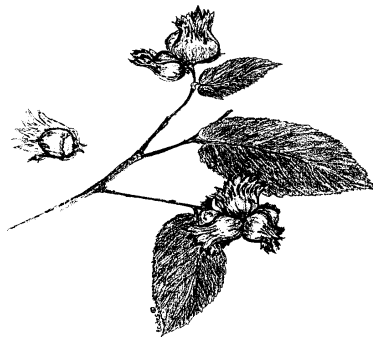


Table 2.10 Iowa wild turkey brood survey results by region for reports and percent hens with broods, 1976-present. #=total reports and %=% hens with broods.

YEAR	NORTHEAST		SOUTHERN		CENTRAL		WESTERN		EAST-CENTRAL		NORTHWEST		NORTH-CENTRAL		STATEWIDE	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1976			78													
1977			98													
1978			77	80												
1979			170	80												
1980			142	57												
1981	65	65	194	57											259	
1982	118	62	163	60	31	42	10	23							322	
1983	117	75	148	69	34	67	40	57	77	46					416	65
1984	106	78	134	78	13	84	41	54	76	53					370	70
1985	133	81	229	82	42	94	47	57	165	65					616	76
1986	191	74	236	63	42	55	65	64	137	55					671	64
1987	266	77	353	61	79	78	70	72	138	71					906	69
1988	379	72	394	45	138	79	90	69	278	60					1,279	62
1989	364	72	408	54	92	38	137	46	303	54					1,304	57
1990	421	66	257	46	38	59	118	38	303	49	18	46	28	14	1,183	54
1991	368	57	418	47	78	40	105	46	346	55	22	46	9	35	1,346	51
1992	344	59	431	44	49	28	68	25	387	44	18	5	9	14	1,306	45
1993	265	48	290	45	37	67	75	47	330	47	12	64	28	44	1,037	48
1994	403	53	425	49	56	61	95	62	338	56	35	42	36	46	1,388	53
1995	325	57	385	35	175	28	146	40	319	53	24	58	28	80	1,403	44
1996	425	48	428	38	134	25	68	43	371	46	37	43	68	48	1,531	42
1997	310	59	589	67	67	64	141	60	356	51	27	28	82	39	1,572	58
1998	474	59	783	49	76	37	158	48	504	53	49	78	97	61	2,141	53
1999	411	52	805	60	62	54	188	60	517	49	45	57	86	35	2,114	54
2000	293	53	759	56	74	50	210	59	350	51	41	84	59	53	1,786	55
2001	429	67	803	41	73	47	228	44	486	39	61	65	105	38	2,185	46

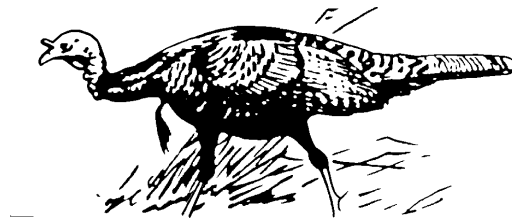


Table 2.11 Iowa's Spring turkey hunting seasons, 1974-present.

YEAR	BAG LIMIT	POSSESSION LIMIT	SEASON				SEASON SPLITS	# LENGTH	# ZONES	# SQ. MILES	MAJOR RULE CHANGES
			1	2	3	4					
1974	1	1/LICENSE	04 MAY-10 MAY	11 MAY-19 MAY				16	3	5,682	\$ 10 FEE
1975	1	1/LICENSE	26 APR-02 MAY	03 MAY-09 MAY	10 MAY-18 MAY			23	3	2,749	THIRD SEASON ADDED
1976	1	1/LICENSE	24 APR-28 APR	29 APR-05 MAY	06 MAY-16 MAY			23	4	2,884	NE IOWA CLOSED FOR RESTOCKING
1977	1	1/LICENSE	21 APR-27 APR	28 APR-04 MAY	05 MAY-15 MAY			25	4	3,200	
1978	1	1/LICENSE	20 APR-26 APR	27 APR-03 MAY	04 MAY-14 MAY			25	6	3,683	
1979	1	1/LICENSE	19 APR-25 APR	26 APR-02 MAY	03 MAY-13 MAY		ZONES 1-5	25			
			26 APR-02 MAY	03 MAY-09 MAY	10 MAY-20 MAY		ZONES 6-8	25	8	9,958	\$ 15, NE IOWA RE-OPENED
1980	1	1/LICENSE	24 APR-30 APR	01 MAY-07 MAY	08 MAY-18 MAY		ZONES 1-5	25			MUZZLELOADER LEGAL, W. IOWA OPEN,
			17 APR-23 MAY	24 APR-30 MAY	01 MAY-11 MAY		ZONES 6-9	25	9	12,942	STEPHENS SF SPECIAL ZONE
1981	1	1/LICENSE	14 APR-20 APR	21 APR-28 APR	29 APR-10 MAY			27	9	21,873	YELLOW RIVER SF SPECIAL ZONE,
											2ND CHOICE ON APP, 2 LICENSES AVAILABLE
1982	1	1/LICENSE	13 APR-19 APR	20 APR-27 APR	28 APR-09 MAY			27	8	21,506	
1983	1	1/LICENSE	12 APR-18 APR	19 APR-26 APR	27 APR-08 MAY			27	10	23,464	
1984	1	1/LICENSE	16 APR-19 APR	20 APR-24 APR	25 APR-01 MAY	02 MAY-13 MAY		28	12	25,172	ALL 3 SF SPECIAL ZONES, 4TH SEASON ADDED
1985	1	1/LICENSE	15 APR-18 APR	19 APR-23 APR	24 APR-30 APR	01 MAY-12 MAY		28	13	27,005	\$20 FEE, DECOYS LEGAL
1986	1	1/LICENSE	14 APR-17 APR	18 APR-22 APR	23 APR-29 APR	30 APR-11 MAY		28	15	39,211	COMBO GUN-BOW LICENSE, FREE
											LANDOWNER PERMIT, ARCHERY-ONLY PERMIT
1987	1	1/LICENSE	13 APR-16 APR	17 APR-21 APR	22 APR-28 APR	29 APR-10 MAY		28	13	40,202	
1988	1	1/LICENSE	11 APR-14 APR	15 APR-19 APR	20 APR-26 APR	27 APR-08 MAY		28	11	44,112	UNLIMITED 4TH SEASON PERMITS,
											ALL DAY HUNTING
1989	1	1/LICENSE	10 APR-13 APR	14 APR-18 APR	19 APR-25 APR	26 APR-07 MAY		28	5	56,043	ENTIRE STATE OPEN
1990	1	1/LICENSE	09 APR-12 APR	13 APR-17 APR	18 APR-24 APR	25 APR-06 MAY		28	5	56,043	NONRESIDENTS ALLOWED
1991	1	1/LICENSE	15 APR-18 APR	19 APR-23 APR	24 APR-30 APR	01 MAY-12 MAY		28	5	56,043	
1992	1	1/LICENSE	13 APR-16 APR	17 APR-21 APR	22 APR-28 APR	29 APR-10 MAY		28	5	56,043	\$22 FEE
1993	1	1/LICENSE	12 APR-15 APR	16 APR-20 APR	21 APR-27 APR	28 APR-09 MAY		28	5	56,043	
1994	1	1/LICENSE	18 APR-21 APR	22 APR-26 APR	27 APR-03 MAY	04 MAY-15 MAY		28	4	56,043	
1995	1	1/LICENSE	17 APR-20 APR	21 APR-25 APR	26 APR-02 MAY	03 MAY-14 MAY		28	4	56,043	
1996	1	1/LICENSE	15 APR-18 APR	19 APR-23 APR	24 APR-30 APR	01 MAY-12 MAY		28	4	56,043	
1997	1	1/LICENSE	14 APR-17 APR	18 APR-22 APR	23 APR-29 APR	30 APR-11 MAY		28	4	56,043	
1998	1	1/LICENSE	13 APR-16 APR	17 APR-21 APR	22 APR-28 APR	29 APR-10 MAY		28	4	56,043	
1999	1	1/LICENSE	12 APR-15 APR	16 APR-20 APR	21 APR-27 APR	28 APR-9 MAY		28	4	56,043	\$22.50 FEE, ARCHERS ALLOWED 2 PERMITS
2000	1	1/LICENSE	17 APR-20 APR	21 APR-25 APR	26 APR-02 MAY	03 MAY-21 MAY		35	4	56,043	
2001	1	1/LICENSE	16 APR-19 APR	20 APR-24 APR	25 APR-1 MAY	02 MAY-20 MAY		35	4	56,043	

Table 2.12 Iowa's Fall turkey hunting seasons, 1981-present.

YEAR	BAG LIMIT	POSSESSION LIMIT	SEASON	SEASON LENGTH	# ZONES	# SQ. MILES	MAJOR RULE CHANGES
1981	1	1/LICENSE	21 OCT-01 NOV	12	2	4,032	\$15 FEE
1982	1	1/LICENSE	19 OCT-31 OCT	13	2	5,254	1 GUN & 1 BOW, UNLIMITED BOW PERMITS IN SPRING ZONES
1983	1	1/LICENSE	18 OCT-30 OCT	13	2	5,254	HUNTER SAFETY REQUIRED IF BORN AFTER 1 JAN 1967
1984	1	1/LICENSE	16 OCT-28 OCT	13	3	13,685	DECOYS LEGAL; WESTERN, CENTRAL & NE IOWA OPEN
1985	1	1/LICENSE	15 OCT-27 OCT	13	3	13,685	\$20 FEE
1986	1	1/LICENSE	14 OCT-26 OCT	13	6	21,575	STEPHENS & SHIMEK SF SPECIAL ZONES, STATEWIDE BOW SEASON
1987	1	1/LICENSE	12 OCT-08 NOV	28	7	21,575	2 LICENSES POSSIBLE, YELLOW RIVER SF SPECIAL ZONE
1988	1	1/LICENSE	10 OCT-27 NOV	49	7	25,402	
1989	1	1/LICENSE	09 OCT-26 NOV	49	7	29,610	NONRESIDENTS ALLOWED
1990	1	1/LICENSE	15 OCT-30 NOV	47	7	39,191	
1991	1	1/LICENSE	14 OCT-30 NOV	48	2 OF 7	9,060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA), \$22 FEE
1992	1	1/LICENSE	17 OCT-29 NOV	44	2 OF 7	9,060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1993	1	1/LICENSE	11 OCT-28 NOV	49	2 OF 7	9,060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1994	1	1/LICENSE	10 OCT-30 NOV	52	2 OF 7	9,060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1995	1	1/LICENSE	16 OCT-30 NOV	46	7	39,191	
1996	1	1/LICENSE	14 OCT-30 NOV	48	7	39,191	
1997	1	1/LICENSE	13 OCT-30 NOV	49	7	39,191	
1998	1	1/LICENSE	12 OCT-30 NOV	50	7	39,191	
1999	1	1/LICENSE	11 OCT-30 NOV	51	8	44,056	ZONE 8 ADDED, \$22.50 FEE
2000	1	1/LICENSE	16 OCT-30 NOV	46	8	44,056	
2001	1	1/LICENSE	15 OCT-30 NOV	47	8	44,056	

Figure 2.1 Iowa spring turkey hunting statewide estimates, 1974-2001.

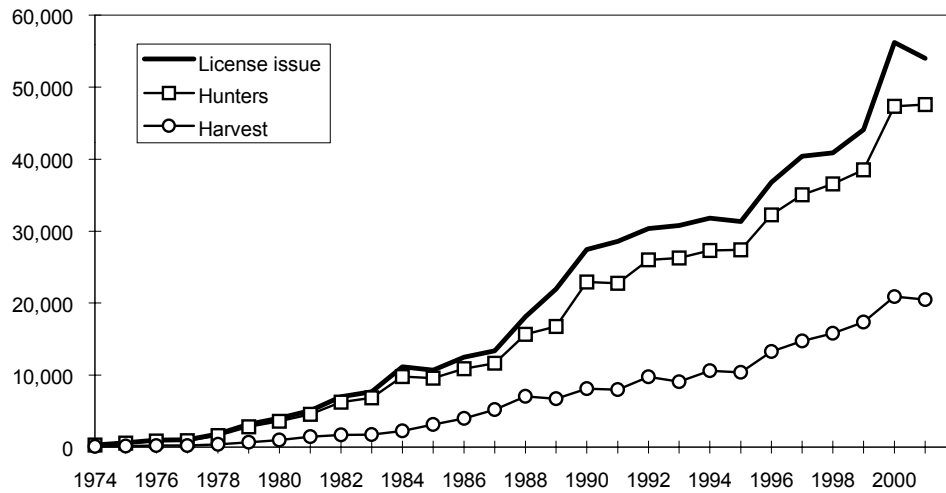


Figure 2.2 Spring turkey hunting zones, 1974 and the present.

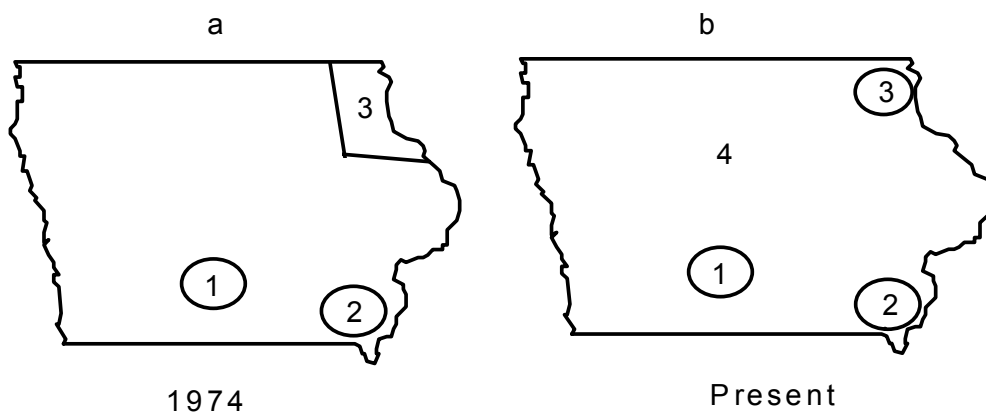


Figure 2.3 Iowa turkey harvest statewide success rates, 1974-2001.

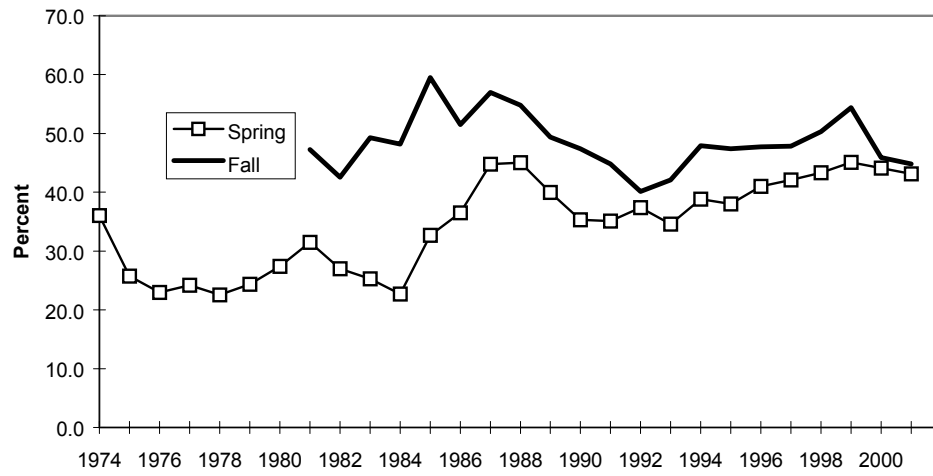


Figure 2.4 Iowa turkey brood survey statewide results, 1976-2001.

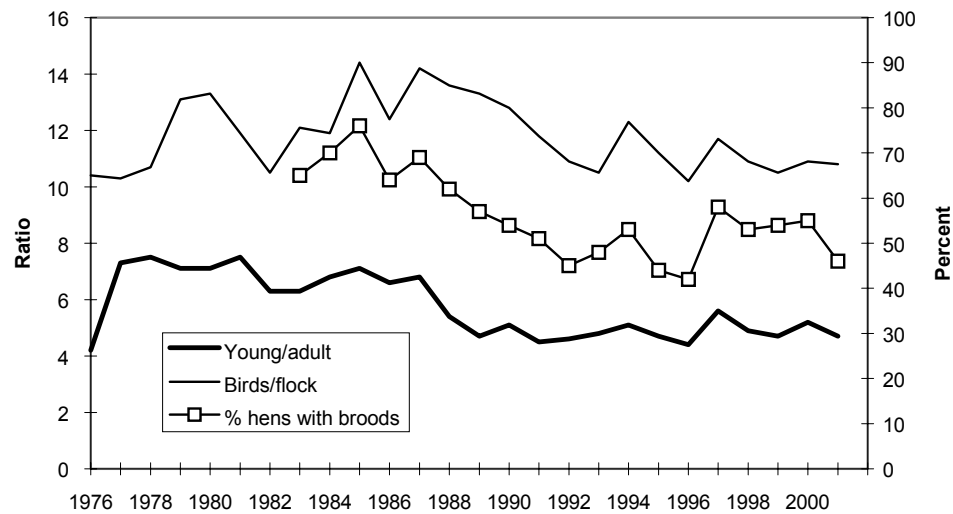


Figure 2.5 Fall turkey hunting zones, 1981 and the present.

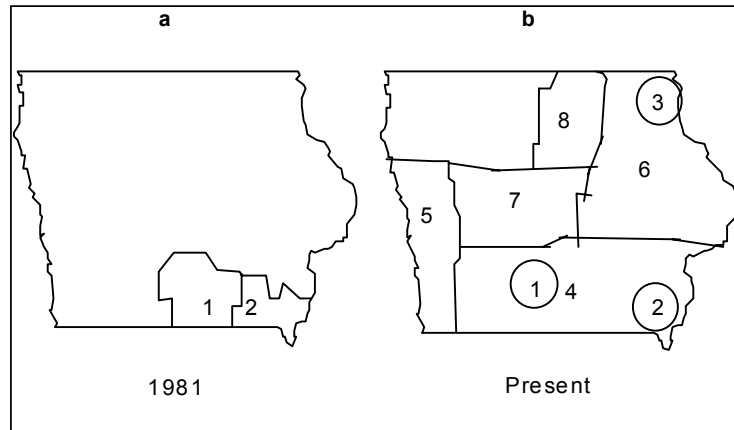
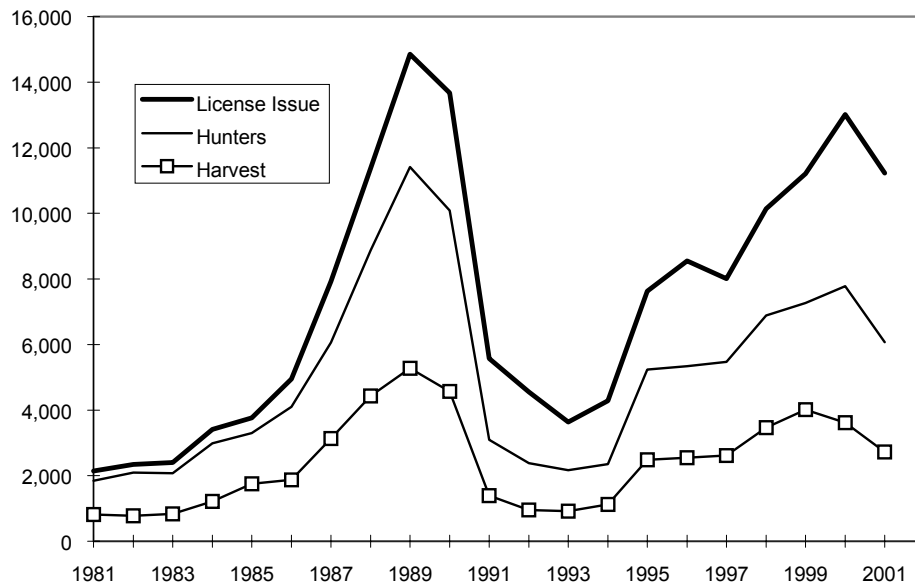


Figure 2.6 Iowa fall turkey hunting statewide estimates, 1981-2001.



FURBEARERS

According to Iowa Code 109.97, every fur dealer must report the number of raw furs purchased from Iowa trappers and hunters by May 15 of each year. Table 3.1 shows the number of raw furs purchased from the 1930-31 season through the present. This information gives a retrospective view of the status of various fur populations not only historically, but from year to year as well.

For example, the muskrat harvest data show that while muskrat harvests are cyclic, the harvests of the 30s are not much different from the 60s, 70s, and 80s. Drought cycles directly influenced muskrat populations and consequently harvest. During the droughts of the 30s, 50s and most recently 1988-89 and 1989-90 muskrat harvests were substantially reduced. The drought followed by extremely high water from 1990 through 1996, plus the reduced fur market are the main reasons why the last 8 years of harvest are the lowest since the 1960-61 season. The 1993-94 season did, however, see a 32 percent increase in the muskrat harvest while historically, the harvest was still low. The mere abundance of muskrats still allowed for this substantial increase in harvest. Because of the muskrat's prolific reproductive capability, populations responded quickly as adequate water conditions returned. In fact, 1993 brought modern day record muskrat populations back to the majority of Iowa's marshes. In 1997, after an extended high water period, "exploding" muskrat populations, and thus emergent vegetation disappeared due to muskrat "eat outs", the population has rapidly declined. In fact muskrats continue at modern day record low levels throughout most of the marsh country.

Extended natural droughts and/or managed water level drawdowns will allow marshes to revegetate and muskrats to increase accordingly.

Mink harvests were higher in the 30s and 40s then remained somewhat lower in the 50s and 60s with the 1986-87 harvest similar to the 30s once again. Low numbers for both species in 1939 reflect statewide season closure except for the Mississippi River. A similar situation occurred for muskrats in 1947. The 1989-90 through 1991-92 mink harvest was substantially reduced due to overall lower fur values and consequently less trapper effort. During 1994-95, mink harvest increased primarily because of the fact that fur value speculation increased trapping pressure on mink because muskrats populations were so low. Recent mink harvest trends generally show declines, likely due to overall reduced trapping effort that is occurring with most furbearer species, and especially the muskrat.

Raccoons have been an interesting species with comparatively low harvests until 1967 and then noticeably increased harvests through 1986-87 when a record 390,800 raccoon were taken (Fig. 3.1). A quarter million raccoons were harvested annually for 15 years (1973-1987) and yet the population remained very high. It is likely that the high raccoon harvest has kept raccoon populations at very healthy levels. Since 1989 the raccoon harvest has leveled off at near 100,000 pelts. This also is indicative of the suppressed raccoon fur values of the past several years. However, renewed interest and increasing pelt values were responsible for a slow increase in raccoon harvest in the late 1990s, with the 2001-02 harvest

approaching 1.5 raccoon pelts.

Spotted skunk (civet cat) harvest levels indicate that their numbers dropped off substantially before the season was closed in the mid-1970s. During recent years the DNR has not received more than 1 or 2 spotted skunk reports. Since 1992 the only recent spotted skunk report the DNR has received is a roadkill in 2001 in Ringgold County. Spotted skunks should at least be considered a threatened, if not, endangered species, and perhaps even extirpated.

Red fox harvests have increased significantly since the mid-1960s, stabilizing between 12,000 and 20,000 fox pelts over the past couple of decades. The red fox population is making a very slow comeback in the modern day traditional fox areas of northwest and north-central Iowa. Active fox dens, however, are a rarity compared to the 1970s and 1980s. An outbreak of mange in the early 1980s and the suppressed fur market greatly reduced the fox population as well as the harvest during the past 6 seasons.

Similar trends occurred with coyotes, with harvest figures ranging between 6,000 and 12,000 pelts. Nearly 10,300 coyote pelts were purchased during the 1992-93 fur season. That is not a record coyote harvest, but is double the previous season. The 1994-95, 1995-96 and 1996-97 seasons showed a decrease in the coyote harvest, but the population remains high statewide. The late 1990s harvest remained fairly stable.

Beaver seasons were closed in the 1930s and early 1940s. They reopened in the mid-1940s on a restricted basis and harvest has increased in the past decade to between 6,000 and 17,000 hides. About 50 percent fewer beaver were purchased from Iowa dealers during the 1991-92 season as compared to 1987-88. There has been a somewhat increasing beaver

market for the past few years but the hard work and difficult weather conditions for trapping keep the beaver harvest relatively low. Increasing interest in beaver fur did bring a noticeable increase in pelts purchased in 1992, but that increase was supplemented by beaver hides that were kept frozen from previous years and dumped on the market in hopes of capitalizing on a higher beaver pelt prices. The 1993 and 1994 beaver take decreased about 25 percent and it declined somewhat more in 1995. The beaver population is high and they continue to generate more complaints from landowners over beaver flooding and foraging on crops and blocking tiles.

Several factors need to be considered when reviewing these data. Water levels certainly affect the harvest of aquatic furbearers such as muskrats and beaver. Freeze-up and season opening dates also have some effect. Higher fur values usually mean higher harvest levels. Weather greatly impacts the harvest of many furbearing animals such as raccoon, fox, and coyotes. Mild weather and open winters are generally better for all trappers and coon hunters. Fox and coyote hunters harvest more animals when cold, snowy weather exists. Very notable to the entire furbearer season in 2000-2001 was the fact that cold weather froze marshes earlier and record cold and snows made this season one of the most difficult ever for fur pursuing enthusiasts. Weather conditions did, in fact, reduce the harvest of most furbearer species in 2000-2001. During 2001-2002 season weather conditions were nearly the opposite of the previous winter. These warm, mild, and comparatively dry conditions were conducive to better harvests of several species. With the exception of the spotted skunk and perhaps weasel, these harvest data and other qualitative information

indicate that most furbearers have adapted well to the changing environment that humans have created.

Because of the squabbles and debates that occur between hunters and trappers over their "rightful share" of the resource, the DNR in 1975 began asking fur buyers to estimate the percent of foxes, coyotes and raccoons taken by hunters versus that taken by trappers. The DNR believes the information is helpful in determining the impact of hunters and trappers on furbearer populations. The breakdown by year is shown in Table 3.2. Fox hunters historically have had greater impacts on the population in years when snow conditions make "spotting" foxes easier, while in mild open winters trappers do better. Because there are considerably more fox hunters than fox trappers, in years with more snowfall, hunters have a greater impact on the fox population than trappers. Cold and snowy weather favors the fox and coyote hunters and dry mild winter's favor trapping enthusiasts. An extensive outbreak of mange in foxes throughout the northern half of the state has greatly reduced fox numbers, and has also contributed to reduced fox harvest during the decade of the 90s and the early 2000s.

Mild open winters benefit both raccoon hunters and trappers, again because raccoon hunters outnumber raccoon trappers, they have the higher impact on the population. With the advent of the furharvester license, in 1986 it is likely that the demarcation between hunter and trapper harvests will become less distinct as one license allows them to pursue both activities.

Coyote hunters take substantially more coyotes than trappers, but this relates to the fact that there are considerably more coyote hunters than coyote trappers. Also, coyotes are

certainly more difficult to trap than foxes and raccoons, thus the generally lower percentage of coyotes trapped each year as compared to those hunted. This is supported by the information on Table 3.2.

In 1978 the Iowa DNR initiated a Raccoon and Deer Spotlight Survey in an effort to establish population trend index for raccoon and deer. Table 3.3 shows the results of the survey through 1998. Based on the mean number of raccoons observed per route it appears that the raccoon population has fluctuated considerably (Fig. 3.2). Low harvests appear associated with increased raccoons observed per route the subsequent spring. The spotlight survey index of the 1990's have been the highest ever recorded since the survey began in 1978. Reduced raccoon harvest since 1987 is most likely the major reason for the record high population of recent years.

The raccoon harvest accounts for nearly 60 percent of the total fur value (Table 3.4). A record harvest of 390,000 raccoons occurred during the 1986-87 season, but, by 1989-90, over a quarter of a million less raccoons have been harvested. During the last 3 years of the 1990s the raccoon market has softened considerably and this will likely reduce pressure on the raccoon population. However, since 2000 raccoon fur values are showing some increase.

Historically, pelt prices of mink peaked in the mid-1940s and have fluctuated since then between about \$10 and \$20 (Fig. 3.4). Red fox prices peaked in the late 1970s at about \$65. Iowa's total fur value reached a record \$15.5 million in 1979. During the past 6 years between \$1 and \$1.8 million of fur pelts have been harvested. Historical season dates are presented in Table 3.5

The European Union, EU

(formerly called the European Economic Community, EEC) has threatened to discontinue the importation of furs from countries still allowing the use of leg-hold/foot-hold traps. This has been scheduled to go into effect on January 1, 1995, 1996, and again in 1997. If this actually ever goes into effect it could mean the collapse of the U.S. commercial fur harvest and trade, as we currently know it. Oriental countries such Korea and China are trying to develop a fur economy/trade and that could considerably because currently the European countries account for over 75 percent of the U.S. fur market. International trade, tariff and governmental politics will determine what ultimately happens.

In late 1997, an “understanding” was reached with the European Union, the United States and other countries involved. The European markets would remain open to the U.S. fur trade. Over the next several years the U.S. would develop scientifically based best management practices (BMP’s) for trapping animals with restraining traps. The Iowa Department of Natural Resources, in cooperation with 3 local trappers, was involved in testing 4 types of traps for raccoons in 1998. These were 1.5 coil spring with offset jaws, the #11 longspring, the #11 longspring with offset

jaws, and the Tomahawk cage trap. Ohio, Wisconsin and Missouri did the same trap tests in their states.

Some controversies are now developing between the furharvester ranks and the Fur Resources Technical Committee of the International Association of Fish and Wildlife Agencies. Some of the most used traps of the past (particularly the 1 ½ coil spring trap) have not scored well under the BMP process, particularly for trapping raccoons. The self-mutilation of raccoons chewing their foot or leg when in certain foothold traps present challenges for trappers and the type of trapping systems they use. More information and research will have to occur before we can finalize the BMPs for raccoons. The BMP draft for trapping coyotes in the Eastern United States is currently being reviewed by professionals as well as the trapping public. Reception to that BMP has predominately been favorable.

While the “understanding” with the European Union is not a binding agreement, we see it as a victory for the continued legitimate use of the leg/foot hold trap into the 21st century. Hopefully the BMP process will also help us improve restraining foothold traps to allow their continued use long into the future.



Table 3.1 Furbearer harvest in Iowa listed by species (1930-present). Data for each year includes harvest for the winter of the succeeding year, eg. 1930=1930+1931(winter).

Year	Muskrat	Mink	Skunk	Raccoon	Civet	Red	Gray	Opossum	Weasel	Coyote	Badger	Beaver
						Fox	Fox					
1930	381,651	36,842	99,321	11,740	55,938	2,550	182	26,230	2,018		75	
1931	293,294	33,780	87,701	12,951	52,022	3,723	208	37,558	801	3	56	
1932	181,038	25,303	41,511	10,468	29,505	2,755	35	42,415	256	1	17	
1933	380,275	47,119	108,776	15,447	88,532	6,807	486	83,625	1,468		227	
1934	113,889	21,755	75,900	14,719	46,676	5,065	417	54,025	1,149		207	
1935	351,968	31,613	68,231	19,353	35,767	6,218		39,961	3,602		611	
1936	212,332	32,337	153,497	15,037	38,724	9,133	170	20,985	7,190	22	768	
1937	176,759	21,438	102,212	13,287	26,928	7,111	1,846	11,755	4,159	146	569	
1938	308,015	27,783	124,322	15,014	43,971	7,403	1,900	23,303	4,529	162	412	
1939	46,003	2,877	91,838	16,465	56,708	5,706	1,413	39,050	6,692	183	486	
1940	350,700	38,817	74,251	19,756	63,256	6,505	1,730	30,131	6,290	259	470	
1941	262,007	33,650	68,840	22,512	60,944	6,137	1,967	33,839	4,440	202	586	
1942	262,562	23,297	32,437	20,128	38,508	6,560	1,823	29,691	2,982	209	287	
1943	722,360	52,760	53,199	38,303	60,238	8,695	2,516	35,579	3,966	926	538	235
1944	457,573	47,040	35,737	36,803	41,235	9,785	2,332	27,513	2,905	388	354	259
1945	418,417	48,145	30,755	41,084	44,827	11,554	2,350	22,501	3,607	388	314	623
1946	387,614	60,397	32,458	61,880	40,661	12,259	2,223	26,960	4,334	915	553	494
1947	17,059	27,638	11,903	55,601	13,944	8,963						
1948	164,736	16,571	9,712	61,419	7,815	6,015	192	7,563	881	265	182	670
1949	171,820	17,973	6,136	58,527	4,532	4,826	983	6,681	433	57	136	2,489
1950	117,051	17,007	4,270	56,075	3,321	5,618	917	4,090	509	131	90	3,103
1951	67,211	23,257	2,558	67,211	1,842	3,703	443	2,600	412	34	81	2,465
1952	62,356	27,222	2,730	62,356	2,143	3,313	420	2,632	584	34	67	3,790
1953	335,451	30,459	4,511	79,939	1,892	2,573	399	3,203	470	17	82	6,565
1954	143,886	20,051	2,278	49,592	1,122	1,679	196	1,758	229	45	63	3,635
1955	80,414	10,548	2,677	50,849	1,480	1,678	156	1,774	304	6	57	4,336
1956	79,109	9,706	3,219	58,944	1,888	1,892	183	2,062	263	24	153	2,874
1957	65,969	9,838	2,690	48,134	1,778	1,389	90	1,494	149	9	47	1,938
1958	130,668	13,308	1,988	29,361	1,710	1,147	132	953	181	6	58	2,289
1959	164,485	16,942	1,789	59,814	1,171	4,162	262	2,065	113	61	77	2,980
1960	144,119	10,033	2,044	45,279	1,475	6,952	232	1,701	183	97	162	4,519
1961	351,822	16,365	1,307	49,659	918	5,486	223	1,979	89	113	317	4,790
1962	467,985	14,312	1,817	64,250	1,182	6,261	356	2,339	93	92	121	4,269
1963	555,055	21,032	1,940	77,428	1,835	6,610	232	3,052	203	61	99	9,294
1964	259,908	14,394	443	64,936	1,446	6,194	143	2,600	172	340	106	4,326
1965	261,459	13,105	1,097	80,801	1,121	10,853	303	3,559	52	732	147	4,273
1966	389,242	16,269	1,349	85,563	764	13,072	441	4,654	85	864	212	8,991
1967	231,811	13,509	830	77,435	376	10,195	393	2,331	66	512	201	7,334
1968	232,133	12,974	1,290	128,228	308	27,661	729	6,413	47	4,922	287	5,221
1969	306,967	12,616	1,146	137,453	197	17,993	702	5,891	48	3,678	502	4,905
1970	345,538	11,110	700	94,174	113	15,725	503	3,721	41	4,430	446	4,073
1971	449,442	15,855	756	131,247	109	14,978	780	6,157	22	5,240	373	7,138
1972	399,021	17,093	1,579	173,162	131	18,281	722	10,849	40	5,616	551	4,527
1973	638,317	23,269	2,779	255,212	188	24,145	1,624	26,947	52	8,713	1,121	5,834
1974	465,488	22,517	3,935	275,518	280	17,829	1,682	38,844	71	12,020	1,438	5,556
1975	386,679	18,406	1,937	292,064	106	15,838	1,574	26,485	50	9,444	1,267	5,154
1976	252,754	15,956	5,441	264,819	46	22,699	1,795	36,493	4	12,226	2,136	7,773

Table 3.1 Furbearer harvest in Iowa listed by species (1930-present). Data for each year includes harvest for the winter of the succeeding year, eg. 1930=1930+1931(winter).

Year	Muskrat	Mink	Skunk	Raccoon	Civet	Red Fox	Gray Fox	Opossum	Weasel	Coyote	Badger	Beaver
1977	257,237	13,037	3,588	264,367	7	22,831	1,640	36,186	36	12,011	1,900	3,432
1978	467,721	23,277	6,545	251,985		24,348	2,115	26,160	82	10,627	1,936	4,327
1979	741,403	31,270	10,022	308,277		17,629	3,093	10,978	122	7,745	3,274	12,498
1980	739,419	32,950	5,616	235,717		20,602	2,175	11,664	32	6,847	2,427	11,831
1981	521,945	28,455	1,913	291,227		22,385	1,710	18,730	16	9,860	1,946	5,705
1982	428,252	21,307	1,194	255,926		18,527	1,953	16,761	16	8,930	1,754	5,809
1983	464,793	22,245	1,152	261,875		21,257	1,185	16,179		9,636	1,298	8,563
1984	372,466	28,346	1,032	334,179		18,916	1,896	21,455		7,809	1,754	16,323
1985	254,412	17,116	1,861	270,805		16,346	1,114	16,296		7,858	975	14,931
1986	482,811	31,139	2,540	390,773		19,740	1,593	30,760		10,582	2,520	17,778
1987	515,611	27,712	1,198	307,587		19,666	1,091	27,623		10,348	1,642	13,509
1988	192,214	13,996	712	190,556		15,445	769	19,824		4,650	1,043	18,459
1989	73,415	8,293	245	118,653		13,359	374	8,114		4,073	468	8,706
1990	70,133	7,363	189	103,468		14,268	393	6,243		5,068	503	9,246
1991	91,206	8,469	211	110,342		15,463	429	7,411		5,213	572	8,943
1992	124,638	12,839	791	110,203		14,660	1,036	8,192		10,286	621	15,839
1993	163,842	13,946	643	118,463		12,986	836	6,243		7,313	571	11,788
1994	178,683	11,819	510	112,686		12,243	789	6,782		6,986	502	11,643
1995	158,241	20,392	786	118,136		14,136	948	9,781		8,462	614	10,678
1996	123,460	18,946	693	123,698		12,402	721	7,643		7,159	832	10,481
1997	113,621	16,832	649	149,492		12,896	768	6,012		6,992	796	11,122
1998	90,126	16,461	536	106,641		11,646	681	5,123		5,786	642	10,336
1999	86,998	15,931	528	101,233		11,968	631	4,649		5,231	597	10,108
2000	84,972	15,235	469	94,989		11,103	576	3,922		5,348	506	10,478
2001	78,867	14,162	398	143,206		12,349	529	3,361		6,702	487	11,287

Table 3.2 Percentage of foxes, raccoons and coyotes purchased from hunters and trappers determined from furbuyer reports (1975-present). Data for each year includes harvest from the succeeding year, eg. 1930=1930+1931(winter).

Year	Fox			Raccoon			Coyote		
	% by trapper	% by hunter	% by unknown	% by trapper	% by hunter	% by unknown	% by trapper	% by hunter	% by unknown
1975	45	48	7	28	60	12	18	72	10
1976	55	41	4	28	66	6	28	68	4
1977	36	55	9	24	68	8	18	72	10
1978	37	58	5	31	61	8	17	74	9
1979	53	32	15	30	58	12	30	59	11
1980	66	29	5	33	60	7	33	60	7
1981	38	46	16	42	46	12	20	74	6
1982	47	45	8	35	53	12	25	69	6
1983	33	59	8	37	50	13	17	67	16
1984	49	31	20	33	41	26	26	60	14
1985	39	54	7	37	52	11	23	65	12
1986	59	35	6	46	49	5	34	62	4
1987	53	43	4	49	47	4	32	62	6
1988	58	34	8	49	46	5	30	67	3
1989	48	28	24	35	45	20	24	61	15
1990	43	46	11	38	55	7	28	66	6
1991	44	49	7	41	51	8	25	67	8
1992	40	52	8	45	50	5	36	54	6
1993	43	50	7	43	52	5	34	57	9
1994	39	55	6	44	46	10	33	59	8
1995	41	52	7	47	45	8	30	65	5
1996	44	48	8	48	48	4	32	58	10
1997	40	47	13	48	46	5	29	62	9
1998	46	48	6	46	47	5	33	63	4
1999	45	46	9	42	53	5	34	61	5
2000	34	58	8	38	46	16	31	58	11
2001	52	43	5	43	47	10	36	56	8
Average	45.4	45.6	8.9	39.3	51.4	9.2	28.0	63.6	8.2

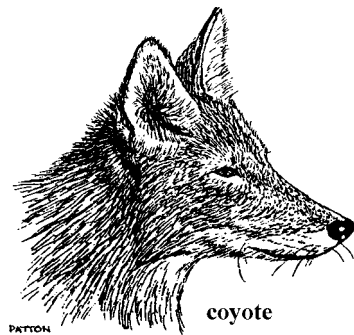


Table 3.3 Results of the Iowa raccoon spotlight survey with raccoon harvest and pelt price (1978-present). The spotlight survey is conducted in April each year. Harvest is from previous year.

Year	# Routes	Raccoon harvest	Mean # observed	Pelt Prices
1978	57	264,367	10.3	22.27
1979	83	251,985	11.2	31.18
1980	82	308,277	8.2	29.97
1981	85	235,717	8.9	21.47
1982	85	291,227	10.4	27.69
1983	84	255,926	12.8	16.54
1984	82	261,875	12.9	14.23
1985	84	334,179	11.5	18.94
1986	83	270,805	10.5	13.91
1987	80	390,773	11.3	18.22
1988	79	307,587	12.0	16.65
1989	83	190,556	14.8	7.96
1990	84	118,653	17.0	4.74
1991	86	103,468	16.7	4.62
1992	84	110,342	18.2	4.96
1993	82	110,203	21.5	5.36
1994	84	118,463	20.8	5.81
1995	89	112,686	21.1	6.89
1996	87	118,136	24.4	6.83
1997	89	123,698	23.5	8.26
1998	88	149,492	21.9	7.79
1999	88	106,641	23.3	7.21
2000	88	101,233	22.3	8.13
2001	88	94,989	24.3	9.26
2002	88	143,206	20.7	11.69



Table 3.4 Value of important furbearer species taken in Iowa (1930-present). Data for each year includes harvest from the winter of the succeeding year, e.g. 1930 = 1930 & 1931 (winter).

	Mink		Muskrat		Raccoon		Red Fox		All Species
	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Total Value
1930	3.50	128,947	0.42	160,293	4.50	52,830	6.85	17,467	534,409
1931	3.60	121,608	0.52	152,512	4.40	56,984	4.50	16,753	497,260
1932	3.00	75,909	0.30	54,311	2.60	27,216	3.25	8,953	213,186
1933	4.40	207,323	0.52	197,743	3.45	53,292	4.50	30,631	615,688
1934	4.40	95,810	0.70	79,722	3.50	51,516	4.00	20,260	348,843
1935	5.93	187,465	0.98	344,928	3.95	76,444	2.95	18,343	723,451
1936	9.00	291,033	1.25	265,440	4.00	60,148	3.00	27,399	842,666
1937	5.60	120,052	0.60	106,055	3.65	48,497	3.00	21,333	412,361
1938	7.25	201,426	0.75	231,011	2.80	42,039	3.50	25,910	723,099
1939	6.25	17,981	1.05	48,303	2.45	40,339	2.50	14,265	277,519
1940	7.30	283,364	1.21	424,347	3.71	73,294	2.70	17,563	979,482
1941	6.75	227,137	1.32	345,849	4.90	110,308	4.50	27,616	903,874
1942	6.15	143,276	1.47	385,966	3.65	73,467	5.40	35,424	741,621
1943	12.50	659,500	2.25	1,625,310	3.25	277,696	10.00	86,950	2,961,462
1944	6.75	317,520	1.32	603,966	4.90	180,334	4.50	44,032	1,267,151
1945	28.16	1,355,763	2.18	912,149	2.89	118,732	3.95	45,638	2,630,655
1946	18.14	1,095,601	1.71	622,819	1.97	121,903	2.03	24,885	2,003,965
1947	29.73	821,677	2.40	40,941	2.61	145,118	1.26	11,293	1,018,093
1948	18.30	303,249	1.62	266,872	2.23	136,964	0.88	5,293	737,577
1949	12.15	218,371	1.38	237,371	1.95	114,127	0.60	2,895	611,352
1950	23.50	399,664	1.81	211,862	2.95	165,421	0.75	4,213	828,250
1951	17.48	406,532	1.37	361,081	2.67	179,453	0.39	1,444	972,134
1952	16.40	446,440	1.13	444,587	1.72	107,252	0.42	1,391	1,026,952
1953	13.49	380,891	0.69	231,461	1.57	125,504	0.36	926	773,398
1954	17.59	352,697	0.93	133,813	1.71	84,802	0.36	604	594,635
1955	18.03	190,180	1.11	98,259	2.81	142,885	0.24	402	458,230
1956	15.09	146,463	0.83	65,657	1.81	106,688	0.20	378	339,464
1957	12.50	122,975	0.75	49,476	1.15	55,354	0.25	347	251,660
1958	14.31	190,437	0.77	100,614	1.78	52,262	0.51	584	363,240
1959	16.63	281,745	0.83	136,500	2.82	168,675	1.43	5,951	621,201
1960	10.38	104,142	0.61	87,912	1.96	88,746	1.24	8,620	327,976
1961	10.20	166,923	0.58	204,056	2.31	114,712	1.36	7,460	527,389
1962	11.08	158,576	0.83	388,427	2.42	155,485	1.81	11,332	743,506
1963	10.90	229,248	1.17	649,414	1.44	111,496	1.86	12,294	1,069,812
1964	8.73	125,659	1.02	265,106	1.51	98,053	1.84	11,396	536,544
1965	7.83	102,612	1.32	345,244	2.47	199,578	5.80	62,947	753,832
1966	7.84	127,548	0.98	381,457	2.17	185,671	3.02	39,477	815,957
1967	8.08	109,152	0.70	162,267	2.63	203,654	4.12	42,003	600,422
1968	11.44	148,422	0.92	213,562	4.62	592,413	10.39	287,397	1,355,639
1969	7.06	89,068	1.15	353,012	3.43	471,463	5.86	105,448	1,090,212
1970	4.93	54,772	0.88	311,993	2.35	211,308	6.05	95,136	736,023
1971	7.86	124,620	1.37	615,735	5.20	682,484	10.59	158,617	1,700,782
1972	13.50	230,755	2.05	817,993	8.50	1,471,877	21.87	399,805	3,061,442
1973	11.35	264,103	2.25	1,436,213	9.80	2,501,077	26.95	650,707	5,083,978
1974	8.67	195,222	2.40	1,117,171	10.60	2,920,490	19.56	348,735	4,818,166
1975	9.65	177,617	2.85	1,102,035	17.85	5,213,342	39.88	631,619	7,390,136
1976	14.06	224,341	4.31	1,089,369	22.51	5,961,075	46.33	1,051,644	8,976,168

Table 3.4 Value of important furbearer species taken in Iowa (1930-present). Data for each year includes harvest from the winter of the succeeding year, e.g. 1930 = 1930 & 1931 (winter).

	Mink		Muskrat		Raccoon		Red Fox		All Species
	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Total Value
1977	12.44	162,180	4.77	1,227,020	22.27	5,887,453	49.53	1,130,819	8,871,156
1978	14.48	337,050	4.49	2,100,067	31.18	7,856,892	64.65	1,574,098	12,516,946
1979	19.04	595,380	5.64	4,181,512	29.97	9,239,061	48.71	858,708	15,499,322
1980	18.20	599,690	5.88	4,347,783	21.47	5,060,843	42.88	883,413	11,269,768
1981	17.99	511,905	3.84	2,004,268	27.69	8,064,075	46.29	1,036,201	12,021,854
1982	11.18	238,212	2.18	933,589	16.54	4,233,016	28.85	534,503	6,235,053
1983	16.03	356,481	2.30	1,152,686	14.23	3,726,481	33.16	704,882	6,180,169
1984	14.22	403,080	2.88	1,072,702	18.94	6,329,350	25.24	477,439	8,574,748
1985	11.76	201,274	1.89	480,838	14.34	3,883,343	16.70	272,978	5,163,651
1986	20.79	647,379	3.39	1,636,729	18.22	7,119,884	20.73	409,210	10,335,629
1987	20.76	575,301	3.32	1,711,828	16.65	5,121,323	18.07	355,365	8,097,250
1988	22.06	308,751	2.05	394,038	7.96	1,516,825	12.15	187,656	2,602,695
1989	16.34	138,890	1.02	76,500	4.74	568,800	9.70	135,800	1,018,622
1990	18.26	134,448	2.08	145,876	4.96	513,201	10.22	145,898	1,074,761
1991	15.49	131,184	1.96	178,764	5.36	591,433	9.63	148,909	1,198,863
1992	19.46	249,846	1.58	196,928	6.36	700,891	8.43	123,078	1,579,821
1993	16.78	234,014	1.83	299,831	5.81	688,270	8.98	116,614	1,388,729
1994	14.13	167,003	1.95	348,432	6.89	706,686	9.86	120,716	1,409,848
1995	18.01	367,259	1.78	281,670	6.83	808,371	8.76	123,831	1,745,504
1996	19.36	336,795	1.56	182,598	8.92	1,103,386	8.43	104,549	1,661,687
1997	17.86	302,303	1.51	171,568	7.79	1,169,643	7.04	90,788	1,729,199
1998	16.05	264,199	1.66	149,609	7.21	768,882	8.21	95,637	1,203,362
1999	19.16	255,583	1.55	134,847	8.13	823,024	9.68	115,850	1,329,304
2000	15.46	235,533	2.09	177,591	9.26	879,598	9.86	109,476	1,378,689
2001	17.23	244,011	2.43	191,647	11.69	1,674,078	10.86	134,110	2,168,918

Table 3.5 Iowa's furbearer seasons

YEAR	SPECIES	OPENING START TIME	____TRAPPING____		____HUNTING____	
			SEASON DATES		SEASON DATES	
			OPENING	CLOSING	OPENING	CLOSING
1966-67	mi, mu	noon	Nov 12	Dec 31 *a		
	ra	noon	Nov 12	Feb 28	Oct 15	Feb 28
	be, ba, stsk, spsk, op	noon	Nov 12	Feb 28		
	rf, gf, co, we, wc,		cont open season		cont open season	
1967-68	mi, mu,	noon	Nov 10	Dec 31 *a		
	ra	noon	Nov 10	Dec 31	Oct 28	Feb 28
	be	noon	Dec 16	Feb 28		
	ba, stsk, spsk, op	noon	Nov 10	Feb 28		
	rf, gf, co, we, wc,		cont open season		cont open season	
1968-69	mi, mu	noon	Nov 9	Dec 31 *a		
	ra	noon	Nov 9	Feb 28	Oct 19	Feb 28
	ba, stsk, spsk, op	noon	Nov 9	Feb 28		
	be	noon	Dec 14	Feb 28		
	rf, gf, co, we, wc	noon	cont open season		cont open season	
1969-70	mi, mu	noon	Nov 15	Jan 11 *a		
	ra	noon	Nov 15	Feb 28		
	ba, stsk, spsk, op	noon	Nov 15	Feb 28		
	be	noon	unk	unk		
	rf, gf, co, we, wc	noon	cont open season			
1970-71	mi, mu					
	ra					
	ba, stsk, spsk, op					
	be					
	rf, gf,	6 a.m.			Sep 1	Feb 28
	co, we, wc		cont open season			
1971-72	mi, mu	6 a.m.	Nov 06	Dec 31 *d		
	ra	6 a.m.	Oct 30	Feb 13	Oct 30	Feb 13
	ba, sk, spsk, op, we	6 a.m.	Oct 30	Feb 13		
	be, zone 1 *b (trap only)	6 a.m.	Nov 06	Feb 29		
	be, zone 2 *b (trap only)	6 a.m.	Dec 11	Feb 29		
	rf, gf	6 a.m.	Oct 30	Feb 29	Sep 11	Feb 29
	wc				Sep 11	Dec 1
	co		cont open season		cont open season	
1972-73	mi, mu		Nov 11	Dec 31 *d		
	ra		Oct 28	Feb 15		
	ra, zone 1 *c (hunt only)	6 a.m.			Oct 14	Feb 15
	ra, zone 2 *c (hunt only)	6 a.m.			Oct 28	Feb 15
	ba, sk, spsk, op, we	6 a.m.	Oct 28	Feb 15		
	rf, gf	6 a.m.	Oct 28	Jan 31	Sep 09	Feb 15
	be, zone 1 *b (trap only)	6 a.m.	Nov 11	Feb 28		
	be, zone 2 *b (trap only)		Dec 16	Feb 28		
	wc	6 a.m.			Jun 15	Nov 30
	co		cont open season		cont open season	
	ot		cont closed seson		cont closed season	

Table 3.5 Iowa's furbearer seasons

YEAR	SPECIES	OPENING START TIME	____TRAPPING____		____HUNTING____	
			SEASON DATES		SEASON DATES	
			OPENING	CLOSING	OPENING	CLOSING
1973-74	mi, mu	6 a.m.	Nov 10	Dec 31 *d		
	be	6 a.m.	Nov 10	Apr 15		
	rf, gf	6 a.m.	Oct 27	Jan 31	Sep 1	Feb 15
	ra, ba, sk, spsk, op, we	6 a.m.	Oct 27	Feb 15	Oct 27	Feb 15
	ra, zone 1* (hunt only)				Oct 13	Feb 15
	ra, zone 2* (hunt only)				Oct 27	Feb 15
	ot		cont closed seson		cont closed season	
	wc				Jun 15	Nov 30
	co		cont open season		cont open season	
1974-75	mi, mu	6 a.m.	Nov 9	Dec 31 *d		
	be *e	6 a.m.	Nov 9	Apr 13		
	rf, gf	6 a.m.	Nov 2	Dec 31	Nov 2	Jan 31
	ra, ba, sk, spsk, op, we	6 a.m.	Nov 2	Jan 31		
	ra, zone 1 *c (hunt only)	6 a.m.			Oct 19	Jan 31
	ra, zone 2 *c (hunt only)	6 a.m.			Nov 2	Jan 31
	wc				June 15	Nov 30
	ot		cont closed seson		cont closed season	
	co		cont open season		cont open season	
1975-76	mi, mu	6 a.m.	Nov 8	Jan 7 *d		
	be *e	6 a.m.	Nov 8	Apr 11		
	rf, gf	6 a.m.	Nov 8	Nov 30	Nov 8	Jan 31
	ra ba, sk, ci, op, we	6 a.m.	Nov 8	Jan 31		
	ra				Oct 25	Jan 31
	wc				Jun 15	Nov 30
	ot		cont closed seson		cont closed season	
	co		cont open season		cont open season	
1976-77	mi, mu	6 a.m.	Nov 6	Dec 31 *d		
	be *e	6 a.m.	Nov 6	Apr 10		
	ra, ba, sk, op	6 a.m.	Nov 6	Jan 23		
	rf, gf	6 a.m.	Nov 20	Dec 19	Nov 20	Jan 30
	ra				Oct 30	Jan 23
	wc*				Jun 15	Oct 31
	spsk *f, ot, we *g		cont closed seson		cont closed season	
	co		cont open season		cont open season	
1977-78	mi, mu	6 a.m.	Nov 5	Dec 31 *d		
	be *e	6 a.m.	Nov 5	Mar 26		
	rf, gf	6 a.m.	Nov 26	Jan 22	Nov 26	Jan 22
	ra, ba, sk, op, we	6 a.m.	Oct 29	Jan 22		
	ra, op*				Oct 29	Jan 22
	wc				June 15	Oct 31
	spsk, ot		cont closed seson		cont closed season	
	co		cont open season		cont open season	

Table 3.5 Iowa's furbearer seasons

		____TRAPPING____			____HUNTING____	
		OPENING	SEASON DATES		SEASON DATES	
YEAR	SPECIES	START TIME	OPENING	CLOSING	OPENING	CLOSING
1978-79	mi, mu	6 a.m.	Nov 4	Dec 31 *d		
	be *e	6 a.m.	Nov 4	Mar 25		
	rf, gf	6 a.m.	Nov 25	Jan 14	Nov 25	Jan 14
	ra, ba, sk, op, we	6 a.m.	Nov 4	Jan 7		
	ra, op				Nov 11	Jan 1
	wc				Jun 15	Oct 31
	spsk, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
Permits required to trap state wildlife management areas were discontinued during the 1978-79 seasons.						
1979-80	mi, mu, ra ba, sk, op, we	8 a.m.	Nov 3	Jan 6		
	be *e	8 a.m.	Nov 3	Mar 31		
	rf, gf	8 a.m.	Nov 17	Jan 13	Nov 17	Jan 13
	ra, op	8 a.m.			Nov 3	Jan 6
	wc	8 a.m.			Jun 15	Oct 31
	spsk, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
First year with 8:00 a.m. opening for trapping and hunting.						
1980-81	mi, mu, ra, ba, sk, op, we	8 a.m.	Nov 8	Jan 4		
	be *e	8 a.m.	Nov 8	Mar 29		
	rf, gf	8 a.m.	Nov 15	Jan 18	Nov 15	Jan 18
	ra, op	8 a.m.			Nov 8	Jan 4
	wc	8 a.m.			Jun 15	Oct 31
	spsk, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
1981-82	mi, mu, ra, ba, sk, op, we	8 a.m.	Nov 7	Jan 3		
	be *e	8 a.m.	Nov 7	Mar 28		
	rf, gf	8 a.m.	Nov 14	Jan 24	Nov 14	Jan 24
	ra, op	8 a.m.			Nov 6	Jan 3
	wc	8 a.m.			Jun 15	Oct 31
	spsk, ot	8 a.m.	cont closed season		cont closed season	
	co		cont open season		cont open season	
1982-83	mi, mu, ra, ba, sk, op, we	8 a.m.	Nov 6	Jan 2		
	be *e	8 a.m.	Nov 6	Mar 27		
	rf, gf	8 a.m.	Nov 13	Jan 23	Nov 13	Jan 3
	ra, op	8 a.m.			Nov 6	Jan 2
	wc				Jun 15	Oct 31
	spsk, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	

Table 3.5 Iowa's furbearer seasons

		____TRAPPING____			____HUNTING____	
		OPENING	SEASON DATES		SEASON DATES	
YEAR	SPECIES	START TIME	OPENING	CLOSING	OPENING	CLOSING
1983-84	mi, mu, ra, sk, ba, op	8 a.m.	Nov 5	Jan 15		
	be *e	8 a.m.	Nov 5	Apr 15		
	rf, gf	8 a.m.	Nov 12	Jan 22	Nov 12	Jan 22
	ra, op	8 a.m.			Nov 5	Jan 15
	wc	8 a.m.			Jun 15	Oct 31
	spsk, we, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
1984-85	mi, mu, ra, sk, ba, op	8 a.m.	Nov 3	Jan 20		
	be *e	8 a.m.	Nov 3	Apr 14		
	rf, gf	8 a.m.	Nov 10	Jan 20	Nov 10	Jan 20
	ra, op	8 a.m.			Nov 3	Jan 20
	wc	8 a.m.			Jun 15	Oct 31
	spsk, we, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
1985-86	mi, mu, ra, sk, ba, op	8 a.m.	Nov 2	Jan 19		
	be *e	8 a.m.	Nov 2	Apr 13		
	rf, gf	8 a.m.	Nov 9	Jan 19	Nov 9	Jan 19
	ra, op	8 a.m.			Nov 2	Jan 19
	wc				Jun 15	Oct 31
	spsk, bo *h, we, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
Spring rat season option.						
1986-87	mi, mu, ra, sk, ba, op	8 a.m.	Nov 1	Jan 25		
	be *e	8 a.m.	Nov 1	Apr 12		
	rf, gf	8 a.m.	Nov 8	Jan 25	Nov 8	Jan 25
	ra, op	8 a.m.			Nov 1	Jan 25
	wc	8 a.m.			Jun 15	Oct 31
	spsk, bc, we, ot		cont closed season		cont closed season	
	co		cont open season		cont open season	
1987-88	mi, mu, ra, sk, ba, op	8 a.m.	Nov 7	Jan 24		
	be *e	8 a.m.	Nov 7	Apr 10		
	rf, gf	8 a.m.	Nov 7	Jan 24	Nov 7	Jan 24
	ra, op	8 a.m.			Nov 7	Jan 24
	wc	8 a.m.			Jun 15	Oct 31
	co *j	8 a.m.	Nov 7	Jan 24	cont open season	
	spsk, bc, we, ot		cont closed season		cont closed season	
1988-89	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 5	Jan 22		
	be	8 a.m.	Nov 5	Jan 22		
	rf, gf	8 a.m.	Nov 5	Jan 22		
	ra, op	8 a.m.			Nov 5	Jan 22
	wc				Jun 15	Oct 31
	co	8 a.m.	Nov 5	Jan 22	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	

Table 3.5 Iowa's furbearer seasons

YEAR	SPECIES	OPENING START TIME	____TRAPPING____		____HUNTING____	
			SEASON DATES		SEASON DATES	
			OPENING	CLOSING	OPENING	CLOSING
1989-90	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 4	Jan 21		
	be	8 a.m.	Nov 4	Apr 8		
	rf, gf	8 a.m..	Nov 4	Jan 21	Nov 4	Jan 21
	ra, op				Nov 4	Jan 21
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 4	Jan 21	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1990-91	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 3	Jan 20		
	be	8 a.m.	Nov 3	Apr 7		
	rf, gf	8 a.m..	Nov 3	Jan 20	Nov 3	Jan 20
	ra, op				Nov 3	Jan 20
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 3	Jan 20	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1991-92	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 2	Jan 26		
	be	8 a.m.	Nov 2	Apr 5		
	rf, gf	8 a.m..	Nov 2	Jan 26	Nov 2	Jan 26
	ra, op				Nov 2	Jan 26
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 2	Jan 26	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1992-93	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 7	Jan 31		
	be	8 a.m.	Nov 7	Apr 4		
	rf, gr	8 a.m.			Nov 7	Jan 31
	ra, op	8 a.m.			Nov 7	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 7	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1993-94	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 6	Jan 31		
	be	8 a.m.	Nov 6	Apr 4		
	rf, gr	8 a.m.	Nov 6	Jan 31	Nov 6	Jan 31
	ra, op	8 a.m.			Nov 6	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 6	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1994-95	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 5	Jan 31		
	be	8 a.m.	Nov 5	Apr 15		
	rf, gr	8 a.m.	Nov 5	Jan 31	Nov 5	Jan 31
	ra, op	8 a.m.			Nov 5	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 5	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	

Table 3.5 Iowa's furbearer seasons

YEAR	SPECIES	OPENING START TIME	____TRAPPING____		____HUNTING____	
			SEASON DATES		SEASON DATES	
			OPENING	CLOSING	OPENING	CLOSING
1995-96	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 4	Jan 31		
	be	8 a.m.	Nov 4	Apr 15		
	rf, gr	8 a.m.	Nov 4	Jan 31	Nov 4	Jan 31
	ra, op	8 a.m.			Nov 4	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 4	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1996-97	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 2	Jan 31		
	be	8 a.m.	Nov 2	Apr 15		
	rf, gr	8 a.m.	Nov 2	Jan 31	Nov 2	Jan 31
	ra, op	8 a.m.			Nov 2	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 2	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1997-98	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 1	Jan 31		
	be	8 a.m.	Nov 1	Apr 15		
	rf, gr	8 a.m.	Nov 1	Jan 31	Nov 2	Jan 31
	ra, op	8 a.m.			Nov 2	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 2	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1998-99	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 7	Jan 31		
	be	8 a.m.	Nov 7	Apr 15		
	rf, gr	8 a.m.	Nov 7	Jan 31	Nov 7	Jan 31
	ra, op	8 a.m.			Nov 7	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 7	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
1999-2000	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 6	Jan 31		
	be	8 a.m.	Nov 6	Apr 15		
	rf, gr	8 a.m.	Nov 6	Jan 31	Nov 6	Jan 31
	ra, op	8 a.m.			Nov 6	Jan 31
	wc	8 a.m.			Jun 15	Oct 31
	co	8 a.m.	Nov 6	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	

Table 3.5 Iowa's furbearer seasons

YEAR	SPECIES	OPENING START TIME	____TRAPPING____		____HUNTING____	
			SEASON DATES		SEASON DATES	
			OPENING	CLOSING	OPENING	CLOSING
2000-01	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 4	Jan 31		
	be	8 a.m.	Nov 4	Jan 31		
	rf, gr	8 a.m.	Nov 4	Jan 31		
	ra, op	8 a.m.			Nov 4	Jan 31
	wc	8 a.m.	Jun 15	Oct 31	Jun 15	Oct 31
	co	8 a.m.	Nov 3	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
2001-02	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 3	Jan 31		
	be	8 a.m.	Nov 3	Jan 31		
	rf, gr	8 a.m.	Nov 3	Jan 31		
	ra, op	8 a.m.			Nov 3	Jan 31
	wc	8 a.m.	Jun 15	Oct 31	Jun 15	Oct 31
	co	8 a.m.	Nov 3	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	
2002-03	mi, mu, ra, we, sk, ba, op	8 a.m.	Nov 2	Jan 31		
	be	8 a.m.	Nov 2	Jan 31		
	rf, gr	8 a.m.	Nov 2	Jan 31		
	ra, op	8 a.m.			Nov 2	Jan 31
	wc	8 a.m.	Jun 15	Oct 31	Jun 15	Oct 31
	co	8 a.m.	Nov 2	Jan 31	cont open season	
	spsk, bc, ot		cont closed season		cont closed season	

SPECIES ABBREVIATIONS: mi = mink, mu = muskrat, ra = raccoon, be = beaver, ba = badger

stsk = striped skunk, spsk = spotted skunk, op = opossum, rf = red fox, gf = gray fox

co = coyote, we = weasels, wc = woodchuck, ot = otter, bc = bobcat

*a) During 1966-67 through the 1970-71 seasons on state game management areas and the closed-to-hunting areas of Federal Refuges, the season will open at noon the day following the close of the duck season to 12:00 midnight Feb. 28.

*b) During 1971-72 and 1972-73 seasons, Zone 1A is bounded on the east by U.S. Highway 169 from the Minnesota border to its junction with U.S. Highway 20, west on Highway 20 Highway 59, and south on 59 to the Missouri Border. Zone 2A includes the remainder of the state.

*c) During 1972-73 through 1974-75 seasons, Zone 1b is north of U.S. Highway 20, the 2nd Saturday of October through February 15 in 1973 and 1974 and January 31 in 1975. Zone 2b is remainder of state.

*d) During 1971-72 through 1978-79 seasons except for beaver water sets were permitted only during the open mink and muskrat season.

*e) During 1974-75 through 1987-88 seasons a more restrictive beaver trapping season occurred on the Federal Upper Mississippi River Refuge north of Interstate 80.

*f) Weasel season was closed during 1976-77 season; reopened 1988-89 season.

*g) Spotted skunk season was continuous closed season from 1976-77 through the present.

*h) Bobcat season officially listed as closed in 1985-86 regulations, however, it was essentially protected in prior years.

*i) Permanent woodchuck hunting rule season dates of June 15 to October 31 established with 1976-77 season.

*j) First restricted coyote trapping season.

Figure 3.1 Iowa raccoon & red fox harvest, (1930 - present)

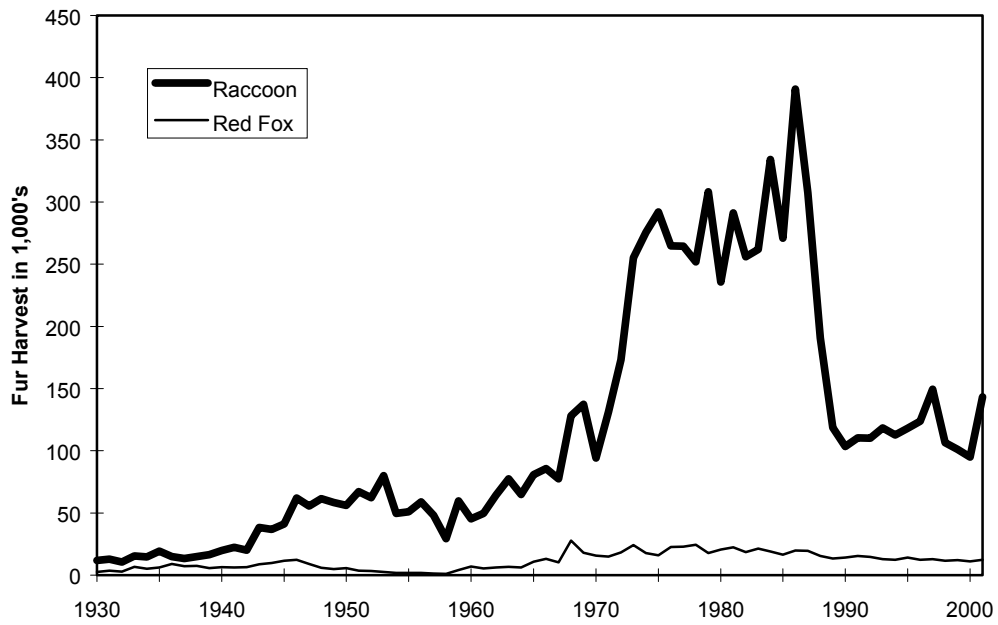


Figure 3.2 Relationship of the spotlight index and raccoon harvest.

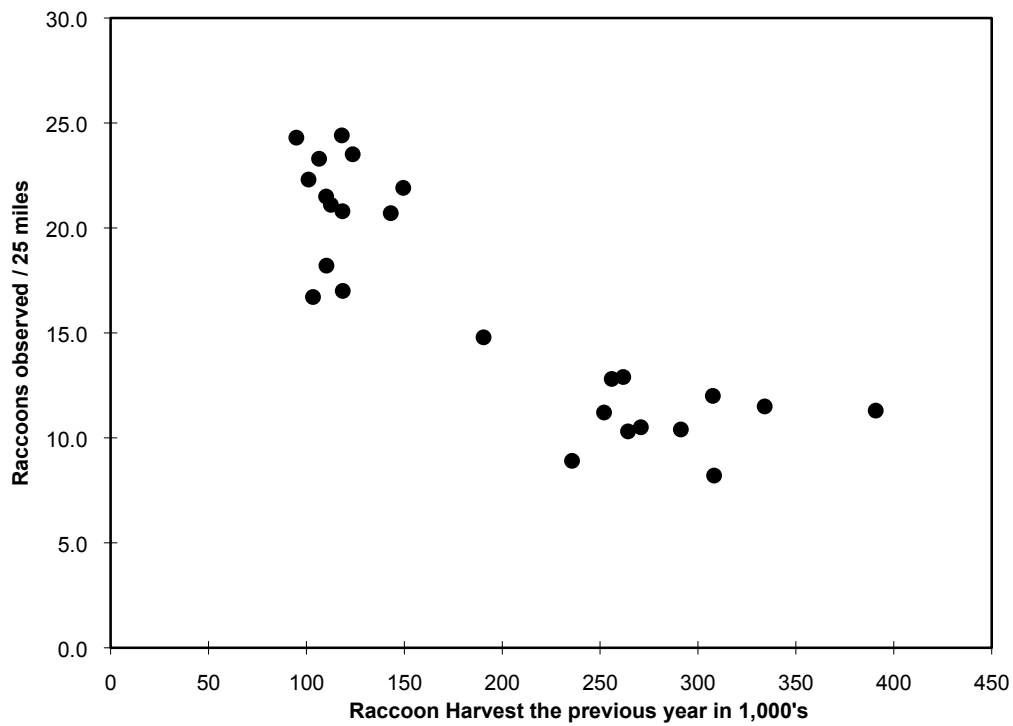


Figure 3.3 Pelt price fluctuations of important Iowa furbearers.

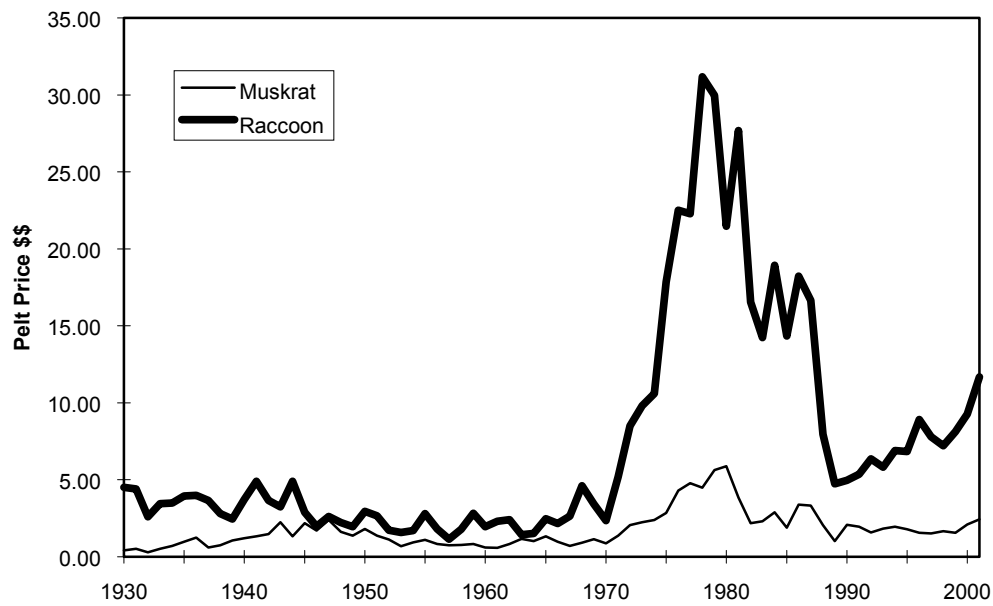
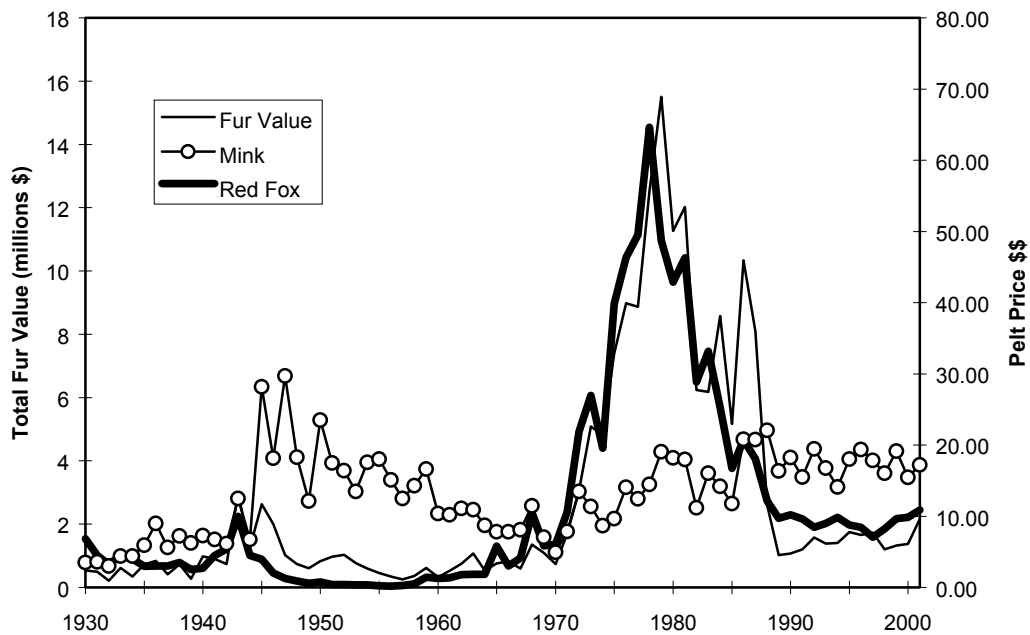


Figure 3.4 Pelt price fluctuations of mink and fox, and the value of Iowa furs.



WATERFOWL

Duck Breeding Populations

Breeding population estimates are made each year for 10 key species of ducks in the principal breeding areas of Alaska, Canada, and the northcentral United States (Table 4.1, Fig. 4.1). Surveys are conducted in May and early June by U.S. Fish and Wildlife Service (USFWS), Canadian Wildlife Service, provincial and state conservation agency personnel. Ducks are counted from fixed-wing aircraft on the same transects each year. Estimates of ducks and ponds seen from the air are corrected for visibility bias by conducting ground counts on a sample of the transects. The estimates in Table 4.1 are not the entire continental breeding populations of these ducks; a portion of each population (an estimated 20% for mallards) nests outside the surveyed areas.

Although numbers of breeding ducks have fluctuated substantially from year to year, trend analysis suggests that total duck numbers are stable. This stable trend, however, is the result of increasing numbers of some species (e.g., gadwall, green-winged teal, shovelers and blue-winged teal) and decreasing numbers of others (e.g., pintails and scaup). There is also a slight decreasing trend in numbers of breeding mallards, but this trend is less pronounced due to the large numbers of breeding mallards seen in the late 1990's. Despite the improvements in duck numbers in the 1990's, there are still concerns about the long-term loss of both wetland and upland habitat in the prairie pothole region and the long-term outlook for duck populations in the future.

Duck populations have fluctuated substantially over time. The drought of the 1980's pushed many populations to

near record low levels. The resiliency and adaptability of these birds, however, was dramatically illustrated when most duck populations rebounded after water returned to the prairies in the 1990's. Pintails and scaup were exceptions to this rule; pintails because drought continued to plague their primary nesting areas in Alberta and scaup for reason related to nutritional deficiencies on migration areas. Duck populations will continue to fluctuate in the future as numbers of wetlands across the landscape of north-central North America rise and fall with the vagaries of the weather

Giant Canada Goose Population

Giant Canada geese nested throughout Iowa prior to Euro-American settlement but were extirpated from most of the Midwest, including Iowa, by 1900. The giant Canada goose restoration program initiated by the IDNR in 1964 has succeeded in restoring this species to much of its former nesting range in Iowa (see Giant Canada Goose Restoration). The giant Canada goose population in Iowa has exhibited steady growth for the past 30 years (Fig. 4.2). Each summer, biologists and technicians estimate the numbers of adult Canada geese and young produced within their wildlife units. To obtain a statistically valid estimate of this population, an aerial survey is also periodically conducted. The results of the aerial survey in 2001 indicated that the population was unchanged from 2000: 53,839 (+ 9,653) in 2001 compared to 54,519 (+ 8,490) in 2000. The population estimates made by wildlife biologists have been very similar to the population estimates obtained from the aerial survey. This suggests that the biologists'

estimates accurately represented the growth rate and size of this population in past years.

Waterfowl Harvests

Waterfowl harvests and hunter activity in Iowa are estimated annually by the USFWS (Table 4.2). Harvest estimates are calculated by combining the results of 2 surveys: 1) a survey of randomly selected hunters from the Harvest Information Program (HIP) registrants to estimate total waterfowl killed, and 2) a survey that solicits duck wings and goose tails to determine the species composition of the harvest.

Iowa's duck harvests have fluctuated substantially since 1961. The lowest harvests of all ducks and mallards occurred in the early 1960's, years of low duck populations and restrictive regulations. The highest duck harvest was in 1979, a year with good duck numbers and, perhaps more importantly, excellent habitat conditions in Iowa due to above normal rainfall in late summer and early fall. Duck harvests began to decline in 1985, bottoming out in 1988 and 1989. Reasons for reduced harvests included smaller fall flights, shorter seasons, reduced bag limits, fewer hunters and poor local habitat conditions. Duck harvests have increased in recent years as a result of improvements in duck numbers, liberal hunting regulations and increases in numbers of active hunters.

Iowa's Canada goose harvest was relatively constant during 1967-85, but began to increase in 1986 as a result of the increased growth of Iowa's giant Canada goose population (Table 4.2). Canada goose harvests increased substantially after 1988, but were dampened in 1993 when restrictive Canada goose hunting regulations were implemented to reduce the harvest of Eastern Prairie Population

(EPP) Canada geese. EPP geese nest on the west coast of Hudson Bay and are one of the two principle migrant Canada goose populations that fly through Iowa (the others are small Canada geese commonly called "hutchies" that nest on Baffin Island in the Arctic). The combination of restrictive hunting regulations, receding floodwaters, and large-scale participation in the Farm Service Agency's 0/92 program, resulted in a substantial decrease in Iowa's Canada goose harvest in 1993. Canada goose harvests began increasing in the mid 1990's, peaking at 61,000 in 2000. In 1996, a special 2-day September Canada goose season was implemented in north-central and northwest Iowa. During 1996-2000, the Canada goose harvest ranged from 6,300 to 16,700 during this special 2-day hunt.

The snow goose harvest in Iowa has declined since the early 1970's, despite record high numbers of light geese in the Flyway in the 1990's. Declining harvests resulted from shifting snow goose migration patterns, increased use of refuges, and large numbers of older geese in the population. By the mid 1990's, the mid-continent light goose population was severely damaging Arctic breeding habitats. To increase harvests of light geese, more liberal hunting regulations were implemented (liberal bag limits, 107-day seasons) and a conservation order was implemented to permit taking light geese after March 10. The harvest during the conservation order period in Iowa has ranged from 12,000 to 20,000 during 1999-2002. During the 1998-2001 regular light goose seasons, the harvest ranged from 600 to 15,000.

Waterfowl Seasons

Iowa waterfowlers have experienced a wide range of duck and goose seasons since the USFWS began

regulating waterfowl hunting in 1918 (Tables 4.3 and 4.4). Nearly every conceivable season-date combination has been tried in the past 80+ years. Duck hunting regulations are inherently complex because they involve many species, but the general lack of consistency in regulations, both at the federal and state levels, has made interpretation of their effects on duck harvests very difficult. Goose hunting regulations, on the other hand, have been less complex and more consistent. The relative secure goose breeding habitat, along with consistently conservative seasons and bag limits, have enabled goose populations to generally prosper. The growing giant Canada goose population, however, has complicated traditional Canada goose harvest management. It is particularly challenging to develop hunting regulations that will increase harvests of local giant Canada geese while, at the same time, limit harvests of migrant geese.

Waterfowl Banding

Ducks and geese are captured and banded with leg bands to obtain information on survival rates, hunting mortality, migration patterns and timing, and relationships of harvest areas to production areas. Banding of some species is at the request of the USFWS, while others are banded for in-state programs. Both state and federal personnel band ducks in Iowa, but IDNR personnel band all the Canada geese and more than 90% of the wood ducks (Table 4.5). The USFWS, in concert with the Mississippi Flyway Council, determines banding priorities. In the 1960's emphasis was placed on banding blue-winged teal to evaluate special teal seasons. Winter mallard banding was conducted in the

1970's to supplement breeding grounds bandings and examine hen mortality during spring and summer. Wood duck bandings have been used to evaluate Iowa's September duck seasons. Wood duck banding is also important to measure the effects of hunting on wood duck populations, a necessity because direct counts are not feasible for wood ducks. The IDNR has consistently cooperated with USFWS and Mississippi Flyway Council banding programs and has one of the top wood duck banding programs in the nation.

Canada goose banding has increased with the growth of our local giant Canada population. Migrant Canada geese have also been banded as part of cooperative projects with other states and provinces. Canada goose banding will be increasingly important as states and the USFWS attempt to assess the impacts of special harvest regulations on giant and migrant Canada goose populations.

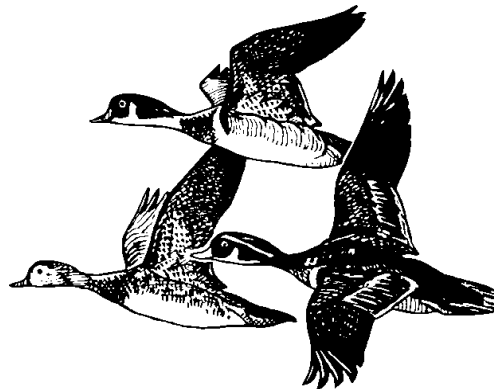


Table 4.1 Breeding population estimates for 10 species of ducks, 1955-present (in thousands).
Source is USFWS.

YEAR	MALLARD	GREEN -		BLUE -		NORTHERN SHOVELER	NORTHERN PINTAIL	RED- HEAD	CANVAS -	
		GAD- WALL	AMERICAN WIGEON	WINGED TEAL	WINGED TEAL				BACK	SCAUP
1955	8,356	663	3,067	1,823	5,381	1,571	9,387	572	599	5,609
1956	9,842	783	3,118	1,480	4,763	1,630	9,897	755	696	5,734
1957	9,151	691	2,852	1,053	4,312	1,459	6,311	542	615	5,745
1958	10,994	454	2,421	1,326	5,165	1,187	5,552	443	742	5,286
1959	8,746	527	3,703	2,601	5,046	1,456	5,483	493	481	6,961
1960	7,164	721	2,937	1,390	4,185	1,743	5,414	495	600	4,826
1961	6,912	594	2,817	1,709	3,655	1,256	3,676	319	428	5,335
1962	5,139	846	1,882	700	2,940	1,183	3,395	503	354	5,240
1963	6,723	1,092	1,706	1,155	3,681	1,278	3,622	413	499	5,396
1964	5,740	825	2,495	1,505	3,961	1,608	3,013	527	649	5,058
1965	5,101	1,270	2,312	1,237	3,570	1,372	3,549	599	520	4,652
1966	6,680	1,672	2,282	1,580	3,718	2,103	4,764	713	658	4,432
1967	7,470	1,385	2,320	1,588	4,509	2,291	5,270	734	500	4,932
1968	7,019	1,947	2,282	1,405	3,459	1,646	3,470	493	561	4,360
1969	7,536	1,573	2,919	1,468	4,133	2,145	5,900	633	501	5,131
1970	9,960	1,606	3,447	2,171	4,858	2,220	6,369	624	578	5,634
1971	9,306	1,603	3,281	1,881	4,607	2,005	5,874	534	444	5,063
1972	9,255	1,621	3,172	1,895	4,277	2,441	7,018	551	426	7,932
1973	8,060	1,247	2,864	1,936	3,334	1,624	4,351	498	617	6,222
1974	6,681	1,592	2,665	1,840	4,968	2,006	6,583	627	504	5,720
1975	7,494	1,641	2,692	1,667	5,829	1,962	5,878	829	591	6,427
1976	7,894	1,245	2,476	1,536	4,747	1,756	5,475	668	610	5,779
1977	7,396	1,312	2,560	1,291	4,589	1,475	3,935	637	667	6,247
1978	7,353	1,561	3,286	2,194	4,471	1,978	5,106	738	369	5,936
1979	7,816	1,751	3,087	2,019	4,861	2,386	5,382	695	573	7,540
1980	7,570	1,391	3,558	1,994	4,884	1,902	4,514	753	727	6,314
1981	6,367	1,402	2,924	1,851	3,726	2,325	3,472	596	610	5,918
1982	6,254	1,637	2,440	1,543	3,657	2,141	3,709	617	510	5,468
1983	6,313	1,517	2,606	1,836	3,366	1,870	3,506	709	523	7,136
1984	5,247	1,532	2,987	1,361	3,956	1,620	2,969	673	520	6,909
1985	4,754	1,304	2,040	1,435	3,459	1,697	2,511	579	373	5,038
1986	6,836	1,540	1,732	1,682	4,463	2,118	2,737	560	437	5,204
1987	5,613	1,311	1,982	2,003	3,518	1,951	2,629	502	451	4,837
1988	6,331	1,349	2,194	2,058	3,975	1,680	2,011	441	436	4,684
1989	5,650	1,416	1,974	1,843	3,128	1,540	2,113	511	478	4,344
1990	5,452	1,672	1,860	1,790	2,776	1,759	2,257	481	539	4,294
1991	5,444	1,584	2,254	1,558	3,764	1,716	1,803	446	491	5,255
1992	5,976	2,033	2,208	1,773	4,333	1,954	2,098	596	482	4,639
1993	5,708	1,755	2,053	1,695	3,193	2,047	2,053	485	472	4,080
1994	6,980	2,318	2,382	2,108	4,616	2,912	2,972	654	526	4,529
1995	8,269	2,836	2,615	2,301	5,140	2,855	2,758	889	771	4,446
1996	7,941	2,984	2,273	2,459	6,416	3,449	2,736	834	849	4,250
1997	9,940	3,897	3,118	2,507	6,124	4,120	3,558	918	689	4,112
1998	9,640	3,742	2,858	2,087	6,399	3,183	2,521	1,005	686	3,472
1999	10,806	3,236	2,920	2,631	7,150	3,890	3,058	973	716	4,412

Table 4.1 Breeding population estimates for 10 species of ducks, 1955-present (in thousands).
Source is USFWS.

YEAR	MALLARD	GAD- WALL	AMERICAN WIGEON	GREEN -	BLUE -	NORTHERN SHOVELER	NORTHERN PINTAIL	RED- HEAD	CANVAS - BACK	SCAUP
				WINGED TEAL	WINGED TEAL					
2000	9,470	3,158	2,733	3,194	7,431	3,521	2,908	926	707	4,026
2001	7,904	2,679	2,494	2,509	5,757	3,314	3,296	712	580	3,694
2002	7,504	2,235	2,334	2,334	4,207	2,138	1,790	565	487	3,524
<u>Percent Change in 2002 from:</u>										
2001	-5%	-17%	-6%	-7%	-27%	-35%	-46%	-21%	-16%	-5%
1955-01 Av.	-17%	-15%	-9%	-21%	-23%	-6%	13%	-23%	-18%	-8%
<u>1955-01 Statistics</u>										
Average	8,687	2,919	2,613	2,851	6,594	3,417	3,102	819	643	3,860
Maximum	9,470	3,158	2,733	3,194	7,431	3,521	3,296	926	707	4,026
Minimum	7,904	2,679	2,494	2,509	5,757	3,314	2,908	712	580	3,694
<u>NAWMP-</u>										
Goals	8,700	1,600	3,300	2,300	5,300	2,100	6,300	760	580	7,600
<u>Percent Difference from Goal</u>										
2002	-14%	40%	-29%	1%	-21%	2%	-72%	-26%	-16%	-54%

Table 4.2 Selected Iowa waterfowl statistics on harvest, duck stamp sales, days hunted and average seasonal bag per active adult hunter, (1961-present). Preliminary data for 2001. Source is USFWS.

YEAR	DAYS AND HARVEST (1,000's)								FEDERAL	AVE.	ACTIVE
	MALLARD	WOOD DUCK	B-W TEAL	G-W TEAL	ALL DUCKS	CANADA GEESE	SNOW GEESE	DAYS HUNTED	DUCK STAMPS	SEASON BAG	ADULT HUNTERS
1961	88.5	6.8	0.5	16.3	139.4			230.4	41,147	3.88	33,500
1962	21.3	7.8	0.4	5.6	45.1	6.6	12.2	162.0	30,602	2.09	24,000
1963	43.0	29.0	27.9	14.9	139.2	7.2	10.4	228.2	37,166	4.68	29,700
1964	76.6	24.5	17.9	26.8	182.1	4.3	8.5	236.9	37,668	6.21	30,900
1965	79.8	15.4	43.8	22.3	174.6	6.6	26.3	271.6	39,941	5.95	34,000
1966	121.3	30.8	47.3	40.7	270.2	7.2	17.9	361.2	47,438	7.37	41,300
1967	124.9	12.4	43.3	38.4	229.4	12.4	16.8	394.6	52,269	6.63	44,300
1968	40.4	16.1	0.9	19.7	96.3	10.6	10.8	270.0	45,753	2.61	37,500
1969	89.9	21.1	53.3	22.3	183.7	15.5	43.2	397.3	54,807	5.09	47,500
1970	139.2	50.6	51.6	45.2	368.7	12.6	48.3	496.6	65,822	5.97	56,900
1971	160.9	59.3	49.6	26.6	376.2	10.4	46.1	536.5	68,401	6.32	58,700
1972	171.8	39.3	31.2	23.9	344.5	5.0	39.3	513.8	57,907	6.35	50,800
1973	99.9	31.0	18.5	18.1	211.9	11.6	32.5	401.1	57,196	3.94	48,700
1974	106.1	46.7	26.0	24.0	238.0	7.7	45.1	450.6	60,446	4.29	51,600
1975	117.4	57.5	51.0	38.6	313.6	13.5	41.2	446.1	58,791	5.93	49,700
1976	87.5	44.0	33.0	27.5	242.2	9.3	15.8	359.6	55,449	4.95	45,400
1977	138.7	37.9	17.0	38.7	280.0	7.8	29.1	407.3	57,143	5.32	46,200
1978	125.6	73.6	41.1	41.7	351.4	11.9	23.9	424.9	56,259	6.70	47,800
1979	183.3	77.8	69.2	38.0	441.0	10.0	43.2	496.7	49,845	9.49	44,400
1980	118.1	49.1	39.0	37.3	299.9	11.7	23.1	384.6	47,008	6.58	41,100
1981	130.2	54.3	34.6	27.7	301.1	10.2	23.1	371.5	41,648	7.89	35,900
1982	164.9	55.3	58.2	24.3	348.8	10.2	14.0	354.9	40,599	9.60	34,400
1983	115.2	47.3	74.0	27.8	324.2	11.5	16.5	310.4	40,381	8.49	34,000
1984	96.3	46.3	56.8	36.2	299.5	13.3	22.0	300.3	41,078	7.54	35,300
1985	62.0	37.4	41.5	22.6	199.8	10.4	8.5	241.4	33,304	6.83	27,900
1986	88.9	46.0	26.9	18.3	217.0	17.2	11.8	244.0	33,504	7.29	27,900
1987	64.8	36.1	14.2	20.1	161.1	15.1	3.6	207.0	30,248	6.04	25,500
1988	41.6	11.4	1.4	12.5	78.3	12.1	10.1	131.8	22,008	4.33	17,300
1989	32.2	17.0	2.9	17.9	87.8	20.2	4.4	127.5	21,686	4.68	16,600
1990	41.3	25.6	4.6	17.8	105.8	26.6	3.1	159.3	24,686	4.90	20,800
1991	63.1	39.4	6.6	13.3	154.2	29.3	8.1	196.7	24,989	6.78	21,400
1992	64.9	18.8	2.9	14.3	122.8	28.7	4.1	198.6	26,744	5.12	22,800
1993	52.7	22.2	4.1	7.9	100.9	17.3	9.5	176.5	25,640	4.69	21,092
1994	49.1	34.9	17.5	22.5	151.8	26.1	2.4	232.6	29,206	5.97	24,523
1995	86.1	49.2	38.9	23.7	242.3	48.0	4.6	280.2	30,282	8.19	25,792
1996	90.6	42.5	36.2	31.0	244.7	59.5	5.4	284.2	30,945	7.91	26,338
1997	71.2	52.1	54.5	32.7	272.0	52.2	15.2	338.3	36,062	8.29	30,737
1998	99.6	36.0	47.7	41.9	281.9	33.2	15.6	292.8	30,864	9.93	27,454
1999	55.9	35.8	41.9	17.4	176.7	33.0	12.5	271.9	32,419	7.17	27,024

Table 4.2 Selected Iowa waterfowl statistics on harvest, duck stamp sales, days hunted and average seasonal bag per active adult hunter, (1961-present). Preliminary data for 2001. Source is USFWS.

YEAR	DAYS AND HARVEST (1,000's)								FEDERAL	AVE.	ACTIVE
	MALLARD	WOOD DUCK	B-W TEAL	G-W TEAL	ALL DUCKS	CANADA GEESE	SNOW GEESE	DAYS HUNTED	DUCK STAMPS	SEASON BAG	ADULT HUNTERS
2000	74.2	39.9	25.3	25.4	209.6	61.0	0.6	288.4	30,951	8.18	26,693
2001	99.5	40.8	39.4	23.3	249.0	44.5	4.0	298.5	32,090	8.63	28,013
Percent Change in 2001 From:											
2000	34%	2%	55%	-8%	19%	-27%	599%	3%	4%	6%	5%
1961-00 Av.	8%	11%	25%	-9%	10%	158%	-79%	-4%	-23%	39%	-20%
1961-01 Statistics											
Average	92.4	36.9	31.5	25.5	225.6	17.3	19.2	312.6	41,471	6.2	35,045
Maximum	183.3	77.8	74.0	45.2	441.0	59.5	48.3	536.5	68,401	9.9	58,700
Minimum	21.3	6.8	0.4	5.6	45.1	4.3	2.4	127.5	21,686	2.1	16,600

Table 4.3 Iowa's duck and coot seasons, 1917 to present.

YEAR	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMITS	
				DUCK BAG/POSS	COOT BAG/POSS
STATEWIDE					
1917	227	Sep 1 - Apr 15	Unknown	?	?
1918	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1919	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1920	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1921	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1922	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1923	107	Sep 16 - Dec 31	SR to SS	25 / none	25 /none
1924	107	Sep 16 - Dec 31	1/2 SR to SS	15 /50 WF	25 /none WF = all waterfowl combined
1925	107	Sep 16 - Dec 31	1/2 SR to SS	15 /50 WF	25 /none
1926	107	Sep 16 - Dec 31	1/2 SR to SS	15 /50 WF	25 /none
1927	107	Sep 16 - Dec 31	1/2 SR to SS	15 /50 WF	25 /none
1928	107	Sep 16 - Dec 31	1/2 SR to SS	15 /50 WF	25 /none
1929	107	Sep 16 - Dec 31	1/2 SR to SS	15 /21 DC	25 /none DC = all ducks combined
1930	107	Sep 16 - Dec 31	1/2 SR to SS	15 /21 DC	25 /none
1931	30	Oct 20 - Nov 19	1/2 SR to SS	15 /21 DC	25 /none
1932	61	Oct 1 - Nov 30	1/2 SR to SS	15 /21 *a	25 /none *a) Closed season on Wd, Ru, & Bh.
1933	61	Oct 1 - Nov 30	1/2 SR to SS	12 /24 *a	25 /none
1934	30	Oct 10 - Nov 18	SR to SS	12 /24 *a	25 /none Live decoys limited to 25. Season included 10 rest days.
1935	30	Oct 21 - Nov 19	7 AM to 4 PM	10 /10 *a	15 /15 Use of live decoys prohibited.
1936	30	Nov 1 - Nov 30	7 AM to 4 PM	10 /10 *b	15 /15 *b) Closed sea. on Wd, Cb, Rh, Ru, & Bh.
1937	30	Oct 9 - Nov 7	7 AM to 4 PM	10 /10 *b	25 /25
1938	45	Oct 15 - Nov 28	7 AM to 4 PM	10 /20 *c	25 /25 *c) Only 1 Bh, 1 Cb, 1 Ru, and 1 Rh, & no more than 3 in aggregate
1939	45	Oct 22 - Dec 5	7 AM to 4 PM	10 /20 *c	25 /25
1940	60	Oct 16 - Dec 14	SR to 4 PM	10 /20 *c	25 /25
1941	60	Oct 16 - Dec 14	SR to 4 PM	10 /20 *d	25 /25 *d) Only 3 Rh or 3 Bh or 3 in aggregate & only 1 Wd in poss at any time.
1942	70	Oct 15 - Dec 23	SR to SS	10 /20 *d	25 /25
1943	70	Sep 25 - Dec 3	1/2 SR to SS	10 /20 *d	25 /25
1944	80	Sep 20 - Dec 8	1/2 SR to SS	10 /20 *e	25 /25 *e) Only 5 each or in comb.: Ma, Pt, or Wg & only 1 Wd. 25 Am or Rm or comb.
1945	80	Sep 20 - Dec 8	1/2 SR to SS	10 /20 *f	25 /25 *f) Only 1 Wd in poss. at any time 25 Cm or Rm or comb.
1946	45	Oct 26 - Dec 9	1/2 SR to 1/2 SS	7 /14 *f	25 /25
1947	30	Oct 21 - Nov 19	1/2 SR to 1 S	4 / 8 *f	15 /15
1948	30	Oct 29 - Nov 27	1/2 SR to 1 S	4 / 8 *f	15 /15
1949	40	Oct 21 - Nov 29	1/2 SR to 1 S	4 / 8 *f	15 /15
1950	35	Oct 20 - Nov 23	1/2 SR to 1 S	4 / 8 *f	15 /15
1951	45	Oct 12 - Nov 25	1/2 SR to 1 S	4 / 8 *f	10 /10
1952	55	Oct 8 - Dec 1	1/2 SR to 1 S	4 / 8 *g	10 /10 *g) Only 1 Wd in poss. at any time. 1 Hm or 25 Cm or Rm or comb.
1953	55	Oct 8 - Dec 1	1/2 SR to SS	4 / 8 *g	10 /10
1954	55	Oct 15 - Dec. 8	1/2 SR to 1 S	4 / 8 *h	10 /10 *h) Closed sea. on Wd. 1 Hm or 25 Cm or Rm or comb.
1955	70	Oct 8 - Dec 16	1/2 SR to 1/2 SS	4 / 8 *g	10 /10
1956	70	Oct 6 - Dec 14	1/2 SR to 1/2 SS	4 / 8 *h	10 /10

Table 4.3 Iowa's duck and coot seasons, 1917 to present.

YEAR	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMITS		
				DUCK	COOT	
				BAG/POSS	BAG/POSS	
STATEWIDE						
1957	70	Oct 5 - Dec 13	1/2 SR to SS	4 / 8 *i	10 /10	*i) Closed season on Wd. 5 mergansers, only 1 Hm.
1958	70	Oct 4 - Dec 12	1/2 SR to SS	4 / 8 *ii	10 /10	*ii) Only 2 Cb or 2 Rh or 2 in comb. No Wd season. 5 merg. only 1 Hm.
1959	50	Oct 20 - Dec 8	SR to SS	3 / 6 *j	3 / 6	*j) Only 1 Wd, 1 Cb, 1 Rh, or 1 Ru. 5 mergansers, only 1 Hm.
1960	50	Oct 15 - Dec 3	1/2 SR to SS	3 / 6 *k	8 /12	*k) Only 1 Wd. Closed sea. on Cb & Rh. 5 mergansers, only 1 Hm.
1961	30	Oct 21 - Nov 19	SR to SS	2 / 4 *k	6 / 6	
1962	25	Oct 27 - Nov 20	SR to SS	2 / 4 *l	6 / 6	*l) Only 1 Ma or Bd, 2 Wd. No Cb or Rh. 2 bonus Sc., 5 merg., only 1 Hm.
1963	35	Oct 5-13 Oct 26 - Nov 20	SR to SS	4 / 8 *m	8 / 8	*m) Only 2 Ma or Bd, 2 Wd. No Cb or Rh. 5 mergansers, only 1 Hm.
1964	35	Oct 3-4 Oct 24 - Nov 25	SR to SS	4 / 8 *n	10 /20	*n) Only 2 Ma or Bd, 2 Wd, 2 Cb or 2 Rh. 5 mergansers, only 1 Hm.
1965	40	Sep 11-19 (teal season) Oct 23 - Dec 1	SR to SS 1/2 SR to SS	4 / 8 *o	10 /20	*o) Only 1 Ma or Pt or Bd, 2 Wd, 2 Cb or Rh. 5 mergansers, only 1 Hm.
1966	45	Sep 17-25 (teal season) Oct 15 - Nov 28	SR to SS 1/2 SR to SS	4 / 8 *oo	10 /20	*oo) Only 2 Ma or Bd, 2 Wd, 2 Cb. 5 mergansers, only 1 Hm.
1967	40	Sep 16-24 (teal season) Oct 21 - Nov 29	SR to SS 1/2 SR to SS	4 / 8 *p	10 /20	*p) Only 2 Ma or Bd, 1 Wd, & 1 Cb. 5 mergansers, only 1 Hm.
1968	30	Oct 26 - Nov 24	1/2 SR to SS	3 / 6 *q	10 /20	*q) Only 1 Ma, 2 Bd, 2 Wd, 1 Cb or Rh. 5 mergansers, only 1 Hm.
1969	30	Sep 13-21 (teal season) Oct 25 - Nov 23	SR to SS 1/2 SR to SS	4 / 8 *r	10 /20	*r) Only 2 Ma, 2 Bd, 2 Wd, 1 Cb or Rh. 5 mergansers, only 1 Hm.
1970	55	Oct 3 - Nov 26	SR to SS	PS *s	15 /30	*s) 90 pt = Hn Ma, Bd, Wd, Rh, Cb, Hm. 20 pt= Dr Ma, Hn Pt, Rn. 10 pt= all other.
1971	50	Oct 2 - Nov 20	1/2 SR to SS	PS *t	15 /30	*t) 100 pt= Cb, Rh. 90 pt= Hn Ma, Bd, Wd, Hm. 20 pt= Dr Ma, Hn Pt, Rn. 10 pt= all other.
1972	50	Oct 7-12 Oct 21 - Dec 3	SR to SS	PS *u	15 /30	*u) 90 pt= Hn Ma, Bd, Wd, Hm. 20 pt= Dr Ma, Hn Pt, Rn. 10 pt= all other. Closed season on Cb & Rh.
1973	45	Oct 6-10 Oct 20 - Nov 28	SR to SS	PS *v	15 /30	*v) 100 pt= Cb, Rh. 90 pt= Hn Ma, Wd, Hm. 25 pt= Dr Ma, Pt, Bd, Rn & all others. 15 pt= Bt, Gt, Ga, Wg, Sh, Sc, Cm, Rm.
1974	45	Oct 5-12 Oct 26 - Dec 1	SR to SS	PS *w	15 /30	*w) 100 pt= Cb, Rh. 90 pt= Hn Ma, Bd, Wd, Hm. 35 pt= Dr Ma, Rn, Md. 15 pt= all others.
1975	45	Oct 4-11 Oct 25 - Nov 30	1/2 SR to SS	PS *x	15 /30	*x) 100 pt= Cb, Rh. 90 pt= Hn Ma, Bd, Wd, Hm. 35 pt= Dr Ma, Rn, Wg, & all others. 10 pt= Bwt, Gwt, Ga, Pt, Sh, Sc.
1976	50	Oct 2-7 Oct 23 - Dec 5	1/2 SR to SS	PS *y	15 /30	*y) 100 pt= Cb. 70 pt= Hn Ma, Bd, Wd, Rh, Hm. 25 pt= Dr Ma, Rn, Wg, & all others. 10 pt= Bt, Gt, Ct, Ga, Pt, Sh, Sc, Cm, Rm.
1977	45	Oct 8-15 Oct 22 - Nov 27	SR to SS	PS *y	15 /30	
1978	50	Oct 1-8 Oct 21-Dec 1	1/2 SR to SS	PS *z	15 /30	*z) 100 pt= Cb. 70 pt= Hn Ma, Bd, Wd, Rh, Hm. 35 pt= Dr Ma, Rn, & all others. 10 pt= Bt, Gt, Ct, Ga, Wg, Pt, Sh, Sc, Cm, Rm.
1979	50	Sep 22-26 Oct 20 - Dec 3	1/2 SR to SS	PS *aa	15 /30	*aa) 100 pt= Cb. 70 pt= Hn Ma, Bd, Wd, Rh, Hm. 25 pt= Dr Ma, Rn, & all others. 10 pt= Bt, Gt, Ct, Ga, Wg, Pt, Sh, Sc, Cm, Rm.

Table 4.3 Iowa's duck and coot seasons, 1917 to present.

YEAR	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMITS	
				DUCK	COOT
				BAG/POSS	BAG/POSS
STATEWIDE					
1980	50	Sep 20-24 Oct 18 - Dec 1	1/2 SR to SS	PS *aa	15 /30
1981	50	Sep 19-23 Oct 17 - Nov 30	1/2 SR to SS	PS *aa	15 /30
1982	50	Sep 18-22 Oct 23 - Dec 6	1/2 SR to SS	PS *aa	15 /30
NORTH ZONE (OUTH ZONE (1)					
1983	50	Sep 17-21 Sep 17-21 Oct 15 - Nov : Oct 22 - Dec 5	1/2 SR to SS	PS *ab	15 /30
*ab) 100 pt= Cb, Bd. 70 pt= Hn Ma, Wd, Rh, Hm. 25 pt= Dr Ma, Rn, & all others. 10 pt= Bt, Gt, Ct, Ga, Wg, Pt, Sh, Sc, Cm, Rm.					
1984	50	Sep 22-26 Sep 22-26 Oct 20 - Dec : Oct 27 - Dec 10	1/2 SR to SS	PS *ab	15 /30
1985	40	Sep 21-23 Sep 21-23 Oct 19 - Nov : Oct 26 - Dec 1	1/2 SR to SS	PS *ac	15 /30
*ac) 100 pt= Hn Ma, Cb, Bd. 70 pt= Wd, Rh, Hm. 35 pt= Dr Ma, Pt, Rn, & all others. 20 pt= Bt, Gt, Ct, Ga, Wg, Sh, Sc, Cm, Rm.					
1986	40	Sep 20-24 Sep 20-22 Oct 18 - Nov : Oct 25 - Nov 30	1/2 SR to SS	PS *ad	15 /30
*ad) 100 pt= Hn Ma, Bd. 70 pt= Wd, Rh, Hm. 35 pt= Dr Ma, Pt, Rn, & all others. 20 pt= Bt, Gt, Ct, Ga, Wg, Sh, Sc, Cm, Rm. Closed season on Cb.					
NORTH ZONE (OUTH ZONE (2)					
1987 (*SH)	40	Sep 19-23 Sep 19-21 Oct 17 - Nov : Oct 24 - Nov 29	1/2 SR to SS	PS *ad	15 /30
	1988	30	Oct 8 - 9 Oct 22 - 28 Oct 22 - Nov Nov 5 - 27	SR to SS	3 / 6 *ae
*ae) Only 2 Ma (1 Hn), 2 Wd, 1 Pt, 1 Rh, 1 Bd. 5 merg., only 1 Hm. Closed sea. on Cb.					
1989	30	Oct 7 - 8 Oct 21 - 27 Oct 21 - Nov Nov 4 - 26	SR to SS	3 / 6 *ae	15 /30
1990	30	Oct 6 - 7 Oct 20 - 26 Oct 20 - Nov Nov 3 - 25	1/2 SR to SS	3 / 6 *ae	15 /30
1991	30	Oct 5 - 6 Oct 19 - 25 Oct 19 - Nov Nov 9 - Dec 1	1/2 SR to SS	3 / 6 *ae	15 /30
1992	30	Oct 10 - 13 Oct 24 - 30 Oct 24 - Nov Nov 7 - 29	1/2 SR to SS	3 / 6 *ae	15 /30
1993	30	Oct 2 - 4 Oct 23 - 29 Oct 23 - Nov Nov 6 - 28	1/2 SR to SS	3 / 6 *ae	15 /30
1994	40	Sept 17 - 19 Oct 1 - 3 Oct 15 - Nov : Oct 22 - Nov 27	1/2 SR to SS	3 / 6 *af	15 /30
*af) Only 2 Ma (1 Hn), 2 Wd, 1 Pt, 1 Rh, 1 Bd, 1 Cb. 5 merg., only 1 Hm.					
1995	50	Sept 23 - 27 Sept 23 - 25 Oct 15 - Nov : Oct 21 - Dec 6	1/2 SR to SS	5 /10 *ag	15 /30
*ag) Only 4 Ma (1 Hn), 2 Wd, 1 Pt, 1 Rh, 1 Bd, 1 Cb. 5 merg., only 1 Hm.					
1996	50	Sept 21 - 25 Sept 21 - 23 Oct 19 - Dec : Oct 19 - Dec 4	1/2 SR to SS	5 /10 *ah	15 /30
*ah) Only 4 Ma (1 Hn), 2 Wd, 1 Pt, 2 Rh, 1 Bd, 1 Cb. 5 merg., only 1 Hm.					
	Youth Day	Oct 5 Oct 5	1/2 SR to SS	5 /10 *ah	
1997	60	Sept 20 - 24 Sept 20 - 24 Oct 11 - Dec : Oct 18 - Dec 11	1/2 SR to SS	6 /12 *ai	15 /30
*ai) Only 4 Ma (2 Hn), 2 Wd, 3 Pt, 2 Rh, 1 Bd, 1 Cb. 5 merg., only 1 Hm.					
	Youth Day	Sept 27 Sept 27	1/2 SR to SS	6 /12 *ai	15 /30
1998	60	Sept 19 - 23 Sept 19 - 23 Oct 10 - Dec : Oct 17 - Dec 10	1/2 SR to SS	6 /12 *aj	15 /30
*aj) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh, 1 Bd, 1 Cb. 5 merg., only 1 Hm.					
(*HIP)	Youth Day	Sept 26 Sept 26	1/2 SR to SS	6 /12 *aj	15 /30

Table 4.3 Iowa's duck and coot seasons, 1917 to present.

							LIMITS	
YEAR	SEASON	SEASON DATES		SHOOTING	DUCK	COOT		
	LENGTH			HOURS	BAG/POSS	BAG/POSS		
NORTH ZONE (OUTH ZONE (2)								
1999	60	Sept 18 - 22	Sept 18 - 22	1/2 SR to SS	6 /12 *ak	15 /30	*ak) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh, 1 Bd, 1 Cb & 3 Sc. 5 merg., only 1 Hm.	
		Oct 16 - Dec 1	Oct 16 - Dec 9					
2000	Youth Day	Oct 9	Oct 9	1/2 SR to SS	6 /12 *ak	15 /30		
	60	Sept 23 - 27	Sept 23 - 27	1/2 SR to SS	6 /12 *ak	15 /30		
		Oct 14 - Dec 1	Oct 14 - Dec 7					
2001	Youth Day	Oct 7 - 8	Oct 7 - 8	1/2 SR to SS	6 /12 *ak	15 /30		
	60	Sept 22 - 26	Sept 22 - 26	1/2 SR to SS	6 /12 *ak	15 /30		
		Oct 13 - Dec 1	Oct 13 - Dec 6					
		Canvasback	Oct. 27 - Nov 1	Nov 17 - Dec 6				
	Youth Day	Oct 6 - 7	Oct 6 - 7	1/2 SR to SS	6 /12 *ak	15 /30		

DUCK SPECIES: Ma = Mallard, Wd = Wood duck, Bd = Black duck, Cb = Canvasback, Rh = Redhead, Ru = Ruddy duck, Bu = Bufflehead, Pt = Pintail, Wg = Wigeon, Sc = Scaup, Rn = Ring-necked duck, Bt = Blue-winged teal, Gt = Green-winged teal, Ga = Gadwall, Sh = Shoveler, Ct = Cinnamon teal, Md = Mottled duck, (Hn = Hen, Dr = Drake) Cm = Common merganser, Rm = Red-breasted merganser, Hm = Hooded merganser

SHOOTING HOURS: SR to SS = sunrise to sunset, 1/2 SR to SS = 1/2 hour before sunrise to sunset, 1/2 SR to 1/2 SS = 1/2 hour before sunrise to 1/2 hour before sunset, 1/2 SR to 1 SS = 1/2 hour before sunrise to 1 hour before sunset. Shooting hours began at 12:00 noon on opening day for hunting seasons 1931-33, 1947-54, & 1959-63. Iowa set daily shooting hours at sunrise or later during 27 of the 72 hunting seasons between 1918-89. Federal regulations set daily shooting hours at sunrise or later during 16 of the 72 hunting seasons between 1918-89.

LIMIT: BAG = Daily bag limit, POSS = Possession limit

POSS LIMIT = Twice the daily bag limit unless otherwise noted.

PS = Point System used to determine bag limit; daily bag obtained when the point value of the last duck taken, added to the point values of the previous ducks bagged, reaches or exceeds 100 points.

SPEC. REGULATIONS: Wood duck season closed by Fed. regulation from 1918 through the 1940 season.

Canvasback and redhead season were closed on the Mississippi River from 1975 thru 1979.

Canvasback season was closed on the Mississippi River in 1980-82.

Canvasback season closed on Pools 9 & 19 on the Mississippi River from 1983-85.

Canvasback season closed statewide 1936-37, 1960-63, 1972, 1986-93.

DUCK ZONE BOUNDARY (1) = a line running from the Nebraska-Iowa border along I-80 to the Iowa-Illinois border.

DUCK ZONE BOUNDARY (2) = a line running from the Nebraska-Iowa border along State Hwy 175, east to State Hwy 37,

southeast to U.S. Hwy 59, south to I-80 and along I-80 to the Iowa-Illinois border.

(*SH) Steel shot required statewide for hunting all migratory gamebirds except woodcock.

STEEL SHOT REGULATIONS HISTORY:

In 1977, no person could hunt waterfowl on all waters and a 150 yard zone thereto in Fremont and Mills Counties while possessing 12 gauge shotshells loaded with any shot other than steel. Drainage ditches, temporary sheet water and the Missouri River were exempt.

During 1978 & 1979, no person could hunt waterfowl on all waters and a 150 yard zone thereto in Fremont and Mills Counties and on the Upper Mississippi Wildlife Refuge while possessing 12 gauge shotshells loaded with any shot other than steel.

Drainage ditches, temporary sheet water, and the Missouri River in Mills and Fremont Counties were exempt.

In 1980, Sweet Marsh in Bremer County, Big Marsh in Butler County, and the Princeton Area in Scott County, were added to the areas previously described in the steel shot regulations and the rule now applied to all shotgun gauges.

In 1981, Green Island in Jackson County was added to the list of areas previously described where steel shot was required.

During the 1982 through 1984 seasons, the previously described list of areas for steel shot remained the same.

During the 1985 & 1986 seasons, no person could hunt migratory game birds except woodcock on any lands or waters under the jurisdiction of the State Conservation Commission, the U.S. Government, or any county conservation board, or on all waters and a 150 yard zone adjacent to these waters, including reservoirs, lakes, ponds, marshes, bayous, swamps, rivers, streams, and seasonally flooded areas of all types, while possessing shotshells loaded with shot other than steel shot.

Temporary sheet water, farm ponds less than 2 acres in size, and streams with water less than 25 feet in width where the hunting was occurring were exempt. In addition, no person could hunt waterfowl in the zone bounded on the west by the Missouri River, on the south by I-680, on the east by I-29 and on the north by the Soldier River, while possessing any shotshells loaded with shot other than steel shot.

From 1987 to the present, no person could hunt migratory game birds except woodcock on all lands and waters within the State of Iowa while possessing any shotshell loaded with shot other than steel shot, or copper or nickle coated steel shot.

In 1998, nontoxic shot was required for any shotgun shooting (except turkey hunting) on most DNR managed wildlife areas in Iowa's prairie pothole region that had waterfowl production potential.

(*HIP) First year migratory bird hunters in Iowa registered (by phone) for the federal Harvest Information Program (HIP).

Table 4.4 Iowa's goose seasons, 1917 present.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMIT BAG/POSS	COMMENTS
STATEWIDE						
1917	Ca/Sn/Wf	227	Sep 1 - Apr 15	Unknown	?	
1918	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1919	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1920	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1921	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1922	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1923	Ca/Sn/Wf	107	Sep 16 - Dec 31	SR to SS	8 / none	
1924	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	WF = all waterfowl combined
1925	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	
1926	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	
1927	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	
1928	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	
1929	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	8 / 50 WF	
1930	Ca/Sn/Wf	107	Sep 16 - Dec 31	1/2 SR to SS	4 / 8	
1931	Ca/Sn/Wf	30	Oct 20 - Nov 19	1/2 SR to SS	4 / 8	
1932	Ca/Sn/Wf	61	Oct 1 - Nov 30	1/2 SR to SS	4 / 8	
1933	Ca/Sn/Wf	61	Oct 1 - Nov 30	1/2 SR to SS	4 / 8	
1934	Ca/Sn/Wf	30	Oct 10 - Nov 18	SR to SS	4 / 8	(included 10 rest days)
1935	Ca/Sn/Wf	30	Oct 21 - Nov 19	7 AM to 4 PM	4 / 4	
1936	Ca/Sn/Wf	30	Nov 1 - Nov 30	7 AM to 4 PM	4 / 4	
1937	Ca/Sn/Wf	30	Oct 9 - Nov 7	7 AM to 4 PM	5 / 5	
1938	Ca/Sn/Wf	45	Oct 15 - Nov 28	7 AM to 4 PM	5 / 10	
1939	Ca/Sn/Wf	45	Oct 22 - Dec 5	7 AM to 4 PM	4 / 8	
1940	Ca/Sn/Wf	60	Oct 16 - Dec 14	SR to 4 PM	3 / 6	
1941	Ca/Sn/Wf	60	Oct 16 - Dec 14	SR to 4 PM	3 / 6	
1942	Ca/Sn/Wf	70	Oct 15 - Dec 23	SR to SS	2 / 4	
1943	Ca/Sn/Wf	70	Sep 25 - Dec 3	1/2 SR to SS	2 / 4	
1944	Ca/Sn/Wf	80	Sep 20 - Dec 8	1/2 SR to SS	2 / 4 *a	*a) Sn goose poss. limit = 8.
1945	Ca/Sn/Wf	80	Sep 20 - Dec 8	1/2 SR to SS	2 / 4 *a	
1946	Ca/Sn/Wf	45	Oct 26 - Dec 9	1/2 SR to 1/2 SS	4 / 4 *b	*b) Closed Ca goose season.
1947	Ca/Sn/Wf	30	Oct 21 - Nov 19	1/2 SR to 1 SS	4 / 4 *c	*c) Only 1 Ca or 1 Wf goose in bag.
1948	Ca/Sn/Wf	30	Oct 29 - Nov 27	1/2 SR to 1 SS	4 / 4 *c	
1949	Ca/Sn/Wf	40	Oct 21 - Nov 29	1/2 SR to 1 SS	4 / 4 *c	
1950	Ca/Sn/Wf	35	Oct 20 - Nov 23	1/2 SR to 1 SS	4 / 4 *c	
1951	Ca/Sn/Wf	45	Oct 12 - Nov 25	1/2 SR to 1 SS	5 / 5 *d	*d) Only 2 Ca or 2 Wf, or 1 Ca & 1 Wf.
1952	Ca/Sn/Wf	55	Oct 8 - Dec 1	1/2 SR to 1 SS	5 / 5 *d	
1953	Ca/Sn/Wf	55	Oct 8 - Dec 1	1/2 SR to SS	5 / 5 *d	
1954	Ca/Sn/Wf	55	Oct 15 - Dec 8	1/2 SR to 1 SS	5 / 5 *d	
1955	Ca/Sn/Wf	70	Oct 8 - Dec 16	1/2 SR to 1/2 SS	5 / 5 *d	
1956	Ca/Sn/Wf	70	Oct 6 - Dec 14	1/2 SR to 1/2 SS	5 / 5 *d	
1957	Ca/Sn/Wf	70	Oct 5 - Dec 13	1/2 SR to SS	5 / 5 *d	
1958	Ca/Sn/Wf	70	Oct 4 - Dec 12	1/2 SR to SS	5 / 5 *d	
1959	Ca/Sn/Wf	70	Oct 7 - Dec 15	SR to SS	5 / 5 *d	
1960	Ca/Sn/Wf	70	Oct 8 - Dec 16	1/2 SR to SS	5 / 5 *d	
1961	Ca/Sn/Wf	70	Oct 7 - Dec 15	SR to SS	5 / 5 *d	
1962	Ca/Sn/Wf	70	Oct 6 - Dec 14	SR to SS	5 / 5 *d	
1963	Ca/Sn/Wf	70	Oct 5 - Dec 13	SR to SS	5 / 5 *d	
1964	Ca/Sn/Wf	70	Oct 3 - Dec 11	SR to SS	5 / 5 *d	
1965	Ca/Sn/Wf	70	Oct 2 - Dec 10	1/2 SR to SS	5 / 5 *d	

Table 4.4 Iowa's goose seasons, 1917 present.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMIT BAG/POSS	COMMENTS
STATEWIDE						
1966	Ca/Sn/Wf	70	Oct 1 - Dec 9	1/2 SR to SS	5 / 5 *d	
1967	Ca/Sn/Wf	70	Sep 30 - Dec 8	1/2 SR to SS	5 / 5 *d	
1968	Ca/Sn/Wf	70	Sep 28 - Dec 6	1/2 SR to SS	5 / 5 *d	
1969	Ca/Sn/Wf	70	Oct 4 - Dec 12	1/2 SR to SS	5 / 5 *d	
1970	Ca	23	Oct 3 - Nov 26	SR to SS	1 / 1 *e	*e) Bag & pos. lim.= 5 w/ only 1 Ca,
	Sn/Wf	70	Oct 3 - Dec 11		5 / 5 *e	1 Ca + 1 WF, or 2 Wf.
1971	Ca	23	Oct 9 - Oct 31	1/2 SR to SS	1 / 1 *e	
	Sn/Wf	70	Oct 2 - Dec 10		5 / 5 *e	
1972	Ca	23	Oct 1 - Nov 9	SR to SS	1 / 2 *f	*f) Bag lim.= 5 w/ only 1 Ca,
	Sn/Wf	70	Oct 7 - Dec 15		5 / 5 *f	1 Ca + 1 WF, or 2 Wf.
						Pos. lim.= 5 w/ only 2 Ca,
						1 Ca + 1 WF, or 2 Wf.
1973	Ca	40	Oct 1 - Nov 9	SR to SS	1 / 2 *g	*g) Bag lim.= 5 w/ only 1 Ca & 2 Wf.
	Sn/Wf	70	Oct 1 - Dec 9		5 / 5 *g	Pos lim.= 5 w/ only 2 Ca & 2 Wf.
1974	Ca	45	Oct 1 - Nov 14	SR to SS	1 / 2 *g	
	Sn/Wf	70	Oct 1 - Dec 9		5 / 5 *g	
1975	Ca	45	Oct 1 - Nov 14	1/2 SR to SS	2 / 2 *h	*h) Bag lim.= 5 w/ only 2 Ca & 2 Wf.
	Sn/Wf	70	Oct 1 - Dec 9		5 / 5 *h	Pos lim.= Bag lim.
1976	Ca	45	Oct 1 - Nov 14	1/2 SR to SS	2 / 4 *h	
	Sn/Wf	70	Oct 1 - Dec 9		5 / 10 *h	
1977	Ca	45	Oct 1 - Nov 14	SR to SS	2 / 4 *h	
	Sn/Wf	70	Oct 1 - Dec 9		5 / 10 *h	
1978	Ca/Sn/Wf	70	Oct 1 - Dec 9	1/2 SR to SS	5 / 10 *h	
1979	Ca/Sn/Wf	70	Sep 29 - Dec 7	1/2 SR to SS	5 / 10 *h	
1980	Ca/Sn/Wf	70	Oct 4 - Dec 12	1/2 SR to SS	5 / 10 *i	*i) Bag lim.= 5 w/ only 2 Ca & 2 Wf.
						Pos lim.= 10 w/ only 4 Ca & 4 Wf.
1981	Ca/Sn/Wf	70	Oct 3 - Dec 11	1/2 SR to SS	5 / 10 *i	
1982	Ca/Sn/Wf	70	Oct 2 - Dec 10	1/2 SR to SS	5 / 10 *i	
1983	Ca/Sn/Wf	70	Oct 1 - Dec 9	1/2 SR to SS	5 / 10 *i	
MOST OF ST SW ZONE (1)						
1984	Ca/Sn/Wf	70	Sep 29 - Dec Oct 13 - Dec ;	1/2 SR to SS	5 / 10 *i	
1985	Ca/Sn/Wf	70	Sep 28 - Dec Oct 12 - Dec ;	1/2 SR to SS	5 / 10 *i	
1986	Ca/Sn/Wf	70	Oct 4 - Dec 1; Oct 18 - Dec ;	1/2 SR to SS	5 / 10 *i	
1987	Ca	45	Oct 3 - Nov 1; Oct 17 - Nov ;	1/2 SR to SS	2 / 4 *i	
(*SH)	Sn/Wf	70	Oct 3 - Dec 1 Oct 17 - Dec 25		5 / 10 *i	
1988	Ca	45	Oct 1 - Nov 1; Oct 15 - Nov ;	SR to SS	2 / 4 *i	
	Sn/Wf	70	Oct 1 - Dec 9 Oct 15 - Dec 23		5 / 10 *i	
MOST OF ST SW ZONE (2)						
1989	Ca	45	Sep 30 - Nov Oct 14 - Nov ;	SR to SS	2 / 4 *j	*j) Bag lim.= 7 w/ only 2 Ca & 2 Wf.
	Sn/Br	80	Sep 30 - Dec Oct 14 - Jan 1		7 / 14 *j	Pos lim.= 14 w/ only 4 Ca & 4 Wf.
	Wf	70	Sep 30 - Dec Oct 14 - Dec 22		2 / 4 *j	
1990	Ca/Wf/Br	70	Sep 29 - Dec Oct 13 - Dec ;	1/2 SR to SS	2 / 4 *j	
	Sn	80	Sep 29 - Dec Oct 13 - Dec 31		7 / 14 *j	
1991	Ca/Wf/Br	70	Sep 28 - Dec Oct 12 - Dec ;1/2 SR to SS/1		2 / 4 *j	
	Sn	80	Sep 28 - Dec Oct 12 - Dec 30		7 / 14 *j	
1992	Ca/Wf/Br	70	Oct 3 - Dec 1 Oct 10 - Dec 1/2 SR to SS/1		2 / 4 *j	
	Sn	80	Oct 3 - Dec 2 Oct 10 - Dec 28		7 / 14 *j	

Table 4.4 Iowa's goose seasons, 1917 present.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMIT BAG/POSS	COMMENTS
NORTH ZON SOUTH ZONE						
1993	Ca/Wf/Br	55	Oct 9 - Dec 2	Oct 23 - Dec	1/2 SR to SS	2 / 4 *j
	Sn	80	Oct 9 - Dec 2	Oct 23 - Jan 10, 1994		7 / 14 *j
1994	Ca/Wf/Br	55	Oct 8 - Dec 1	Oct 22 - Dec	1/2 SR to SS	2 / 4 *j
	Sn	102	Oct 1 - Dec 1	Oct 1 - Jan 10, 1995		7 / 14 *j
1995	Ca/Wf/Br	70	Sep 30 - Dec	Oct 14 - Dec ;	1/2 SR to SS	2 / 4 *k *k) Bag lim.= 10 w/ only 2 Ca & 2 Wf.
	Sn	107	Sep 30 - Jan	Oct 14 - Jan 10, 1996		10 / 20 *k Pos lim.= 20 w/ only 4 Ca & 4 Wf.
			None	Feb 24 - Mar 10, 1996	south of Interstate 80.	
1996	Ca	2	Sep 14 - 15	None	1/2 SR to SS	2 / 4 *l *l) Bag lim.= 2 Ca.
	Ca/Wf/Br	70	Sep 28 - Dec	Oct 5 - Oct 1;	1/2 SR to SS	2 / 4 *m *m) Bag lim.= 2 Ca , 2 Wf, & 2 Br .
			Oct 19 - Dec 18			Pos lim.= 4 Ca, 4 Wf, & 4 Br.
	Sn	107	Oct 12 - Jan 10, 1997		1/2 SR to SS	10 / 30
			Feb 22 - Mar 9, 1997			
1997	Ca	2	Sep 13 - 14	None	1/2 SR to SS	2 / 4 *l
	Ca/Wf/Br	70	Oct 4 - Dec 1;	Oct 4 - Oct 1;	1/2 SR to SS	2 / 4 *m
			Oct 18 - Dec 17			
	Sn/Ro	107	Oct 4 - Dec 31		1/2 SR to SS	10 / 30
			Feb 21 - Mar 10, 1998			
1998	Ca	2	Sep 12 - 13	None	1/2 SR to SS	2 / 4 *l
(*HIP)	Ca/Wf/Br	70	Oct 3 - Dec 1	Oct 3 - Oct 11	1/2 SR to SS	^a 2 / 4 *m
			Oct 17 - Dec 16			
	Sn/Ro	107	Oct 3 - Dec 31		1/2 SR to SS	20 / none
			Feb 20 - Mar 10, 1999			
	Sn/Ro	^b Cons. Or.	March 11-April 16, 1999		1/2 SR to SS 1/2	20 / none

Table 4.4 Iowa's goose seasons, 1917 present.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMIT BAG/POSS	COMMENTS
NORTH ZONE/SOUTH ZONE						
1999	Ca	2	Sep 11 - 12	None	1/2 SR to SS	2 / 4 *l
	Ca/Wf/Br	70	Oct 2 - Dec 1	Oct 2 - Oct 10	1/2 SR to SS	2 / 4 *m
			Oct 16 - Dec 15			
	Sn/Ro	107	Oct 2 - Dec 26	1/2 SR to SS	20 / none	
			Feb 19 - Mar 10, 2000			
	Sn/Ro	^b Cons. Or.	March 11-April 16, 2000	1/2 SR to SS 1/2	20 / none	
2000	Ca	2	Sep 9 - 10	None	1/2 SR to SS	2 / 4 *l
	Ca/Wf/Br	70	Sep 30 - Dec	Sep 30 - Oct	1/2 SR to SS	2 / 4 *m
			Nov 4 - Dec 27			
	Sn/Ro	107	Sep 30 - Jan 14, 2001	1/2 SR to SS	20 / none	
	Sn/Ro	^b Cons. Or.	Feb 15 - April 15, 2001	1/2 SR to SS 1/2	20 / none	
2001	Ca/Wf/Br	70	Sep 29 - Dec	Sep 29 - Oct	1/2 SR to SS	2 / 4 *m
			Nov 10 - Dec 26			
	Sn/Ro	107	Sep 29 - Jan 13, 2002	1/2 SR to SS	20 / none	
	Sn/Ro	^b Cons. Or.	Feb 2 - April 15, 2002	1/2 SR to SS 1/2	20 / none	

GOOSE SPECIES: Ca = Canada goose, Sn = Snow goose, Wf = White-fronted goose, Br = Brant

SHOOTING HOURS: SR to SS = sunrise to sunset, 1/2 SR to SS = 1/2 hour before sunrise to sunset, 1/2 SR to 1/2 SS = 1/2 hour before sunrise to 1/2 hour before sunset, 1/2 SR to 1 SS = 1/2 hour before sunrise to 1 hour before sunset. 1/2 SR to SS/1 = 1/2 hour before sunrise to sunset in all of state except SW Zone where shooting hours were 1/2 hour before sunrise to 1:00 PM until Dec. 1 in 1991 and until Nov. 29 in 1992, then 1/2 hour before sunrise to sunset thereafter. 1/2 SR to SS 1/2 = 1/2 hour before sunrise to 1/2 hour after sunset.

LIMIT: BAG = Daily bag limit, POSS = Possession limit

SW ZONE (1) = that portion of the state south and west of a line running from the Iowa-Missouri state line along US Hwy 71 to state Hwy 92 and west on Hwy 92 to the Nebraska-Iowa border.

SW ZONE (2) = that portion of the state south and west of a line running from the Iowa-Missouri state line along U.S. Hwy 71 to I-80, west on I-80 to U.S. Hwy 59, north on U.S. Hwy 59 to State Hwy 37, then NW on Hwy 37 to State Hwy 175, and west on Hwy 175 to the Nebraska-Iowa border.

NORTH/SOUTH GOOSE ZONE BOUNDARY = a line running from the Nebraska-Iowa border along state Hwy 175, southeast to State Hwy 37, east to U.S. Hwy 59, south to I-80, and along I-80 to the Iowa-Illinois border. This was the same border used to divide the north and south duck zones in 1993.

(*SH) Steel shot required statewide for hunting all migratory gamebirds except woodcock.

See Iowa's Duck and Coot Seasons for a complete history of steel shot regulations in Iowa.

(*HIP) First year migratory bird hunters in Iowa registered (by phone) for the federal Harvest Information Program (HIP).

SPECIAL REGULATIONS: Ross's goose season closed by Fed. regulations from 1942-61.

^a The daily limit was 2 Canada geese through Oct. 31 and 1 thereafter except in the south zone where it was 2 after Nov. 30.

^b A conservation order was issued by the USFWS to permit the taking of light geese (snow + ross) after March 10.

Hunters could use electronic calls and unplugged shotguns and hunt until 1/2 hour after sunset.

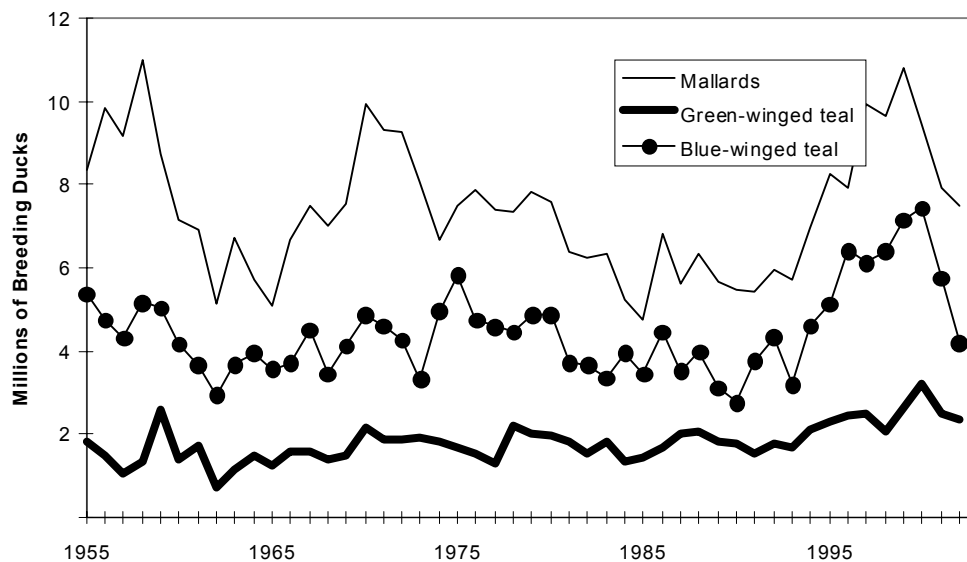
Hunters had to be fully licensed to hunt waterfowl in Iowa (no Fed. Mig. Bird stamp) and registered with HIP.

Table 4.5 Waterfowl banded in Iowa, 1964 to the present.
(Numbers include both state and federal bandings.)

Year	Canada Geese	Mallards	Wood Ducks	Blue- winged Teal	Trumpeter Swans	Other species	Total
1964	51	440	488	6,046		273	7,298
1965	32	533	571	4,485		120	5,741
1966	61	504	564	3,836		172	5,137
1967	66	1,928	410	4,022		113	6,539
1968	91	1,809	315	3,716		63	5,994
1969	53	2,282	414	1,634		135	4,518
1970	143	2,368	935	2,649		236	6,331
1971	301	1,901	1,644	1,395		330	5,571
1972	148	672	1,381	1,000		127	3,328
1973	410	1,022	1,665	601		115	3,813
1974	268	522	1,333	638		34	2,795
1975	222	563	2,026	248		164	3,223
1976	544	3,165	1,620	334		19	5,682
1977	799	678	1,261	223		25	2,986
1978	633	4,418	1,765	1,022		98	7,936
1979	409	4,683	1,490	509		3	7,094
1980	775	2,175	1,302	1,880		85	6,217
1981	736	350	1,523	919		86	3,614
1982	975	99	2,747	26		1	3,848
1983	1,444	446	2,411	35		3	4,339
1984	1,293	110	2,489	38		6	3,936
1985	1,710	389	1,953	30		1	4,083
1986	1,847	383	2,623	18		3	4,874
1987	2,127	380	2,199	98		8	4,812
1988	2,421	349	2,115	37		2	4,924
1989	1,712	70	2,636	0		0	4,418
1990	1,556	13	1,908	64		0	3,541
1991	1,880	151	4,874	0		0	6,905
1992	2,043	392	3,776	0		13	6,224
1993	2,538	130	2,931	0		1	5,600
1994	3,737	146	3,631	0		0	7,614
1995	3,671	221	6,717	0		0	10,609
1996	3,809	263	4,188	0		0	8,260
1997	4,852	77	4,375	0		0	9,304
1998	4,462	292	4,837	0	58	0	9,649
1999	6,073	229	4,669	0	46	0	10,971
2000	2,971	133	2,380	0	90	0	5,574
2001	2,942	60	3,711	0	78	0	6,791

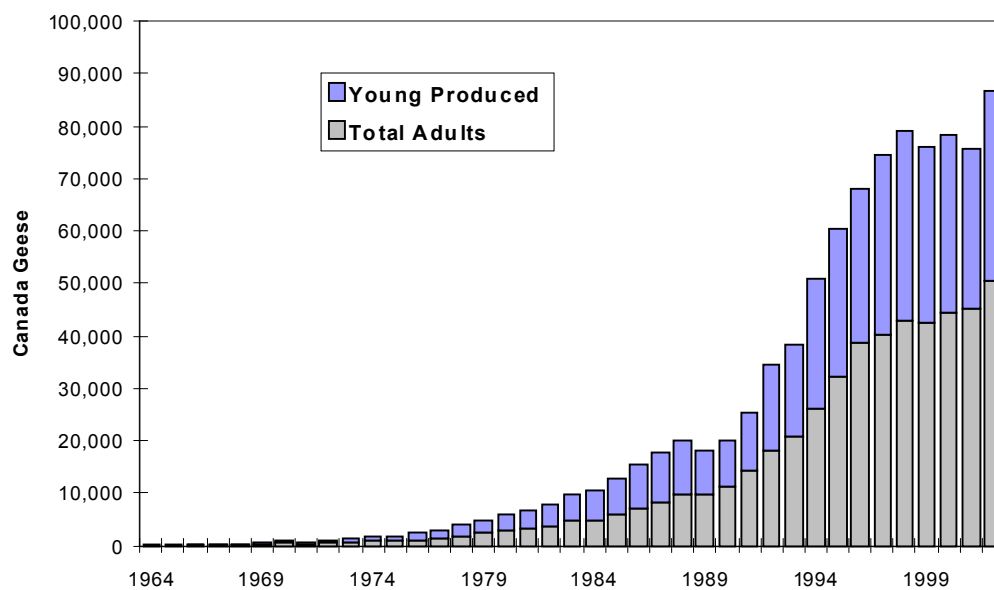
^a Trumpeter swans

Figure 4.1 Breeding populations of important ducks to Iowa.



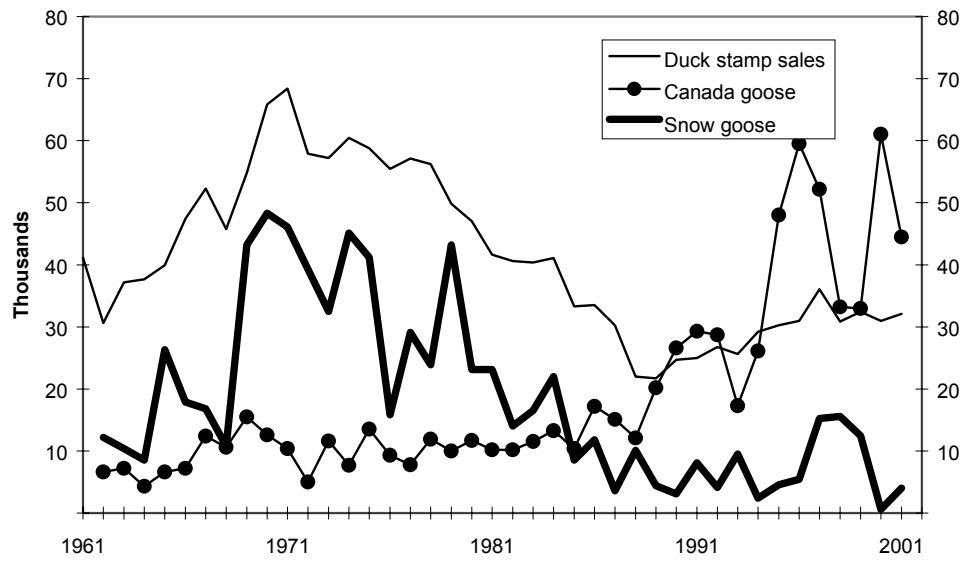
Source: USFWS

Figure 4.2 Iowa's giant Canada goose population.



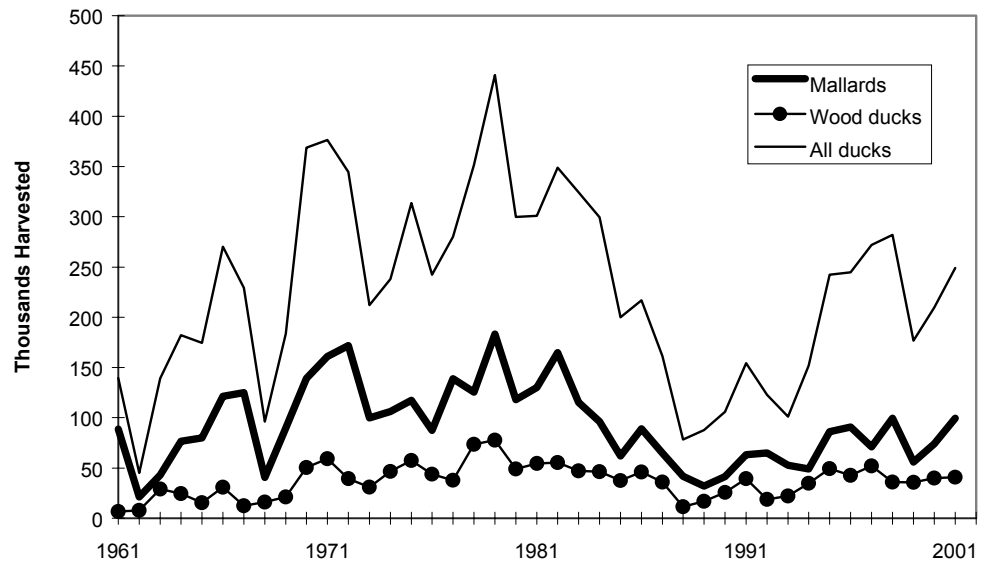
Source: Iowa DNR

Figure 4.3 Goose harvest & duck stamp sales in Iowa (1961 -present).



Source: USFWS

Figure 4.4 Duck harvest in Iowa (1961 - present)



Source: USFWS

UPLAND WILDLIFE

HISTORICAL SUMMARY OF POPULATIONS AND HARVEST

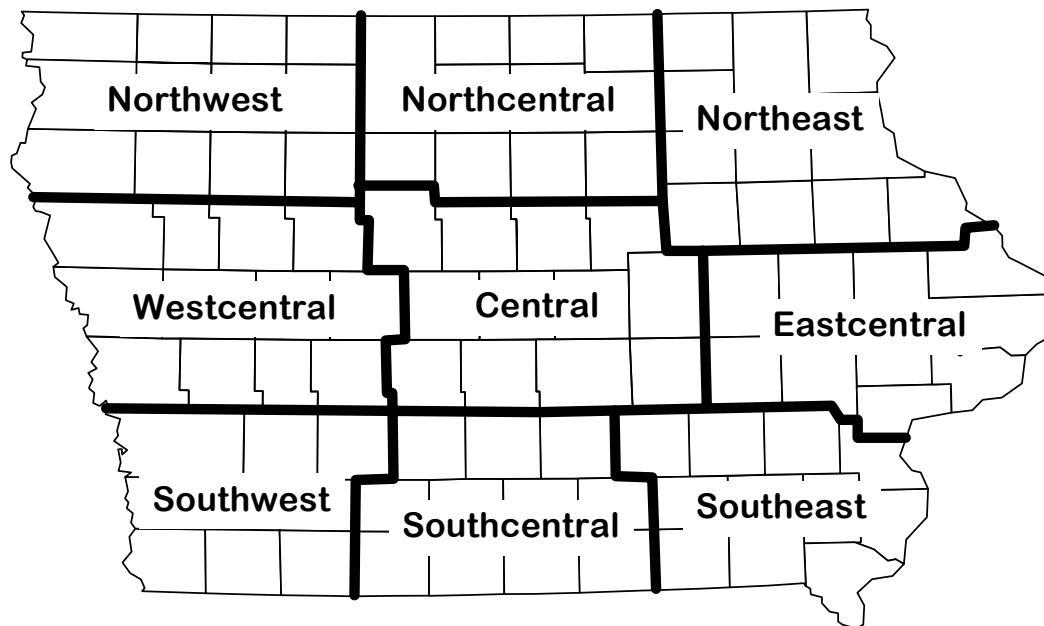


Ring-necked Pheasant

The ring-necked pheasant now found in Iowa has been classified as (*Phasianus colchicus torquatus*). This name suggests a cross between 2 of the true Asiatic pheasants. One the Rion Caucasian (Black-necked) pheasant (*Phasianus colchicus colchicus*) native to the area between the Black and Caspian Seas and the true Chinese ring-necked pheasant (*Phasianus torquatus torquatus*) found in eastern China and northwestern Indo-China. Pheasant were first introduced into Iowa in September of 1900 or 1901 when a severe windstorm wrecked the pens of a game breeder named William Benton of Cedar Falls releasing approximately 2,000 birds. Benton's birds spread west and north and constitute the foundation stock of Iowa's north-central counties. In 1904 an unsuccessful planting was made in Keokuk county. In 1907 a successful stocking was made in Kossuth county and in 1908 successful stockings were made in O'Brien county. Private individuals made all of these early stockings. It is uncertain just when the state began stocking pheasants. Department records only date back to 1921,

but it is certain by 1913 large state stockings were being made annually. Records show Butler county received 500 state birds in 1913 and 400 in 1915. The first state game farm was authorized in 1913, probably at Spirit Lake, because records show 200 state birds escaped from that game farm in 1915. Between 1915-18 all northeastern Iowa counties received plantings of 200-800 birds, with 1 large stocking of 2,500 at Pilot Knob State Park in Winnebago county. Stockings were usually made on timbered land leased by the state from private individuals. In 1915 the state established 2 more game farms at Clive and Lansing. Both game farms remained in operation until 1931. Between 1913-32 the state released an estimated 100,000 to 150,000 pheasants, both wild trapped and pen-raised birds. Virtually all of the original releases made in the northern half of the state were a success. Widespread abundance was first attained in Winnebago county in 1916, Dickinson in 1917, Floyd by 1919, Humboldt by 1920, Hardin and Hamilton counties by 1924, and Sac by 1927. In 1925, pheasants had become so abundant in Iowa's north-central counties that the state began to trap and gather eggs for southern Iowa. In 1925 farmers collected 60,000 wild eggs and trapped 7,000 birds from Butler and Winnebago counties. Most southern Iowa counties received large stockings in 1905-17, 1924-25, and 1928-30, but all were considered a failure. In 1905, it was generally assumed that southern Iowa had better pheasant habitat than northern Iowa. The existence of this belief is supported by the fact that up until 1913 it was customary to make stockings in timber.

Figure 5.1. Survey regions for the August Roadside Survey.



It is interesting to note Iowa's pheasant populations reached their highest abundance in the Des Moines Lobe landform. The early success, 1920-40's, of pheasants in north central Iowa was undoubtedly due to the abundance of grassy habitats (tame and native hay, oats, flax, and prairie pothole wetlands) interspersed with weedy crop fields. Iowa's first pheasant season was held October 20-22, 1925 in Kossuth, Humboldt, Winnebago, Hancock, Wright, Cerro Gordo, Franklin, Mitchell, Floyd, Butler, Grundy, Blackhawk and Bremer counties. The hunting season opened 1/2 hour before sunrise and ended at noon with a bag limit of 3 cocks. It appears the decision to open counties to hunting in these early years was based largely on pheasant crop depredation complaints as annual pheasant censuses, predecessor to the August Roadside Survey, were not begun until 1935. Flush count records show 7 men flushed 850 pheasants in 5 hours in Hancock county in 1931. By 1945 most of northern Iowa was open to hunting and by 1965 all of

Iowa, except a few southeastern counties, was open to pheasant hunting. The entire state was opened to hunting in 1976.

Historically (1930-50's), the NW, NC, and C regions had Iowa's highest pheasant densities (Fig. 5.1). However, intensified agriculture has led to a decline in pheasant populations since the 1960's (Fig. 5.2). Regionally, the greatest declines have occurred in the NC, C, and SW regions (Fig. 5.7). By the early 1970's southern Iowa had become the states premiere pheasant range. Populations have declined following severe winter weather in 1964-65, 1966-67, 1978-79, and 1981-82 with recoveries occurring in years with milder winters (Table 5.1). While the number of broods sighted/30-mile route has also fluctuated with the severity of the winter (Fig. 5.3), the all-time lows recorded in 1983, 1984, 1993, and 1999 were the results of very cool, wet conditions during spring and early summer (Table 5.2; Fig. 5.3). Observed brood sizes have declined slightly since 1962, with the 1992 and 1998 estimates (4.6 chicks/brood) the lowest ever

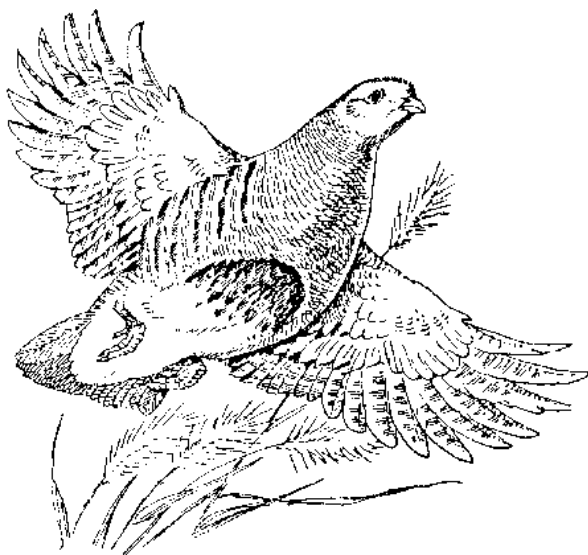
recorded (Table 5.2; Fig. 5.3). Modest recoveries of all survey parameters occurred between 1984 and 1996 with the enrollment and seeding down of 2.2 million acres of row crops in the 10-year federal Conservation Reserve program (CRP). Pheasant populations in historical ranges, northern and central regions, have rebound since the inception of CRP (Fig. 5.7). Populations in the southern regions initially responded to CRP the same way northern and central populations did, but recently have declined. Declines in SW and SC regions, in particular, are likely related to persistent wet weather during the nesting season since 1992. The pheasant season opens the last Saturday in October and runs through January 10th, statewide with a bag/possession limit of 3/12 roosters (Table 5.10). Shooting hours are 8 a.m. to 4:30 p.m. Iowa's first youth pheasant season was held during the 1997-98 hunting season. Youth hunting was allowed statewide for resident hunter's 15 years or younger whom a licensed adult accompanied. The youth pheasant season opens the weekend proceeding the regular season. Bag limit is 1 rooster/day with 2 in possession after the first day (Table 5.10).

Bobwhite Quail

Our native bobwhite was probably never very abundant on Iowa's virgin prairie; most populations were likely restricted to the prairie-timber edges of Iowa. Early settlement changed Iowa's landscape forever. However, at least initially these changes proved to be a boom to Iowa's quail population. Between 1860-90 settlers began carving up Iowa a 1/4 section at a time, but early settlers lacked timber and wire to make fences, so they planted Osage hedges instead. Three to 6 miles of some of the finest quail cover ever grown in ever 1/4 section, all within spitting distance of newly planted "weedy" grain

fields. Quail populations exploded like never seen before or likely to be seen again. Quail could be found in every county, but these conditions could not last. By 1920 reports show quail populations beginning to decline as farming practices improved and hedgerows were replaced with barbed wire fence. The 1931-32 winter quail survey reported population densities of 1 quail per 20-40+ acres in the northern third of the state, 1 quail/6-20 ac. in the central third and 1 quail/1-6 ac. in the southern third of the state. However, quail populations have declined steadily, both nationally and in Iowa since the 1930's. Large scale landscape changes and clean farming practices are considered the major factors in this decline. Since survey procedures were standardized in the early 1960's the mean number of quail/30 miles sighted on the August roadside survey has fluctuated over the years with significant declines occurring since 1977 (Fig. 5.6). This decline, along with the severe fluctuations in SW and SC Iowa in recent years, are related to losses in woody habitat and clean farming practices that have occurred since row-crop agriculture expanded in the mid 70's and early 80's (Fig. 5.8). The severe winter of 1995-96 decimated populations in SC and SE Iowa (Fig. 5.8).

Quail have been hunted in Iowa since settlement. The first bag limit was set in 1878 at 25 birds/day, it was reduced to 15/day in 1915. The season was closed in 1917 and a limited season reopened in 1933. Currently the season opens the last Saturday in October and runs through January 31st, statewide, with a bag/possession limit of 8/16 birds. Shooting hours are 8 a.m. to 4:30 p.m. (Table 5.11).



Gray Partridge

Senator H.W. Grant of Waterloo made the first release of Hungarian or gray partridge in Iowa in Blackhawk county in 1902, but all 50 birds died. The first successful release of Huns in Iowa occurred in Palo Alto county in 1905. This release constitutes Iowa's first wild stock. Successful releases were made in Humboldt county in 1906, O'Brien in 1909, and in Kossuth in 1910. By 1914 most northern Iowa counties had received standardized releases of 20 pairs each. All releases, similar to pheasants, were made on leased timbered lands. Reports show many local farmers were surprised when the bird promptly moved to the nearest prairie upland. By 1932 it is estimated the state conservation commission had stocked 20,000+ partridge in Iowa. Most plantings were in northern Iowa, although a few were attempted in south central Iowa; all southern attempts failed. The birds gained their strongest hold in northwest Iowa in Osceola, O'Brien, Dickinson, and Clay counties and were generally present in most northern Iowa counties by 1940.

While numbers of other upland game birds have decreased over time, the number of gray partridge sighted on roadside counts had been increasing until 1990 (Fig. 5.6).

Not only had the mean number partridge per 30-mile route increased statewide, but partridge populations had expanded their range from the NW and NC regions to all other regions of the state by 1986 (Fig. 5.9). While losses of woody cover and nesting cover have created less favorable conditions for pheasant and quail, partridge have been more adept at coping with row-crop expansion. The statewide increase in partridge numbers between 1983-89 might be partially attributed to mild winters, drought conditions, and improved nesting conditions on land enrolled in CRP. Five wet and cold nesting seasons during the last 6 years have caused partridge numbers to decline significantly (Fig. 5.6). Huns were imported to this country from the arid, steppe region of southeastern Europe and northern Asia, and research has shown they do not reproduce well in this country during years with wet springs.

Iowa's first partridge season was held in 11 northwestern counties in 1937-39. Standardized hunting seasons were established in 1963. Partridge season opens the second Saturday in October and runs through January 31st, statewide, with a bag/possession limit of 8/16 birds. Shooting hours are 8 a.m. to 4:30 p.m. (Table 5.12).

Eastern Cottontail

Little is known about the presettlement distribution of cottontail rabbits in Iowa. Cultivation by man no doubt favored rabbits much the same way it favored quail at the turn of the century. Cottontails prefer habitats similar to quail, favoring shrubby-grassy edge habitats. Cottontails may have up to 6 litters a year in Iowa and reproduce best during warm moderately wet springs. Numbers of cottontail rabbits observed on the August roadside survey have fluctuated with changing land use and weather conditions (Fig. 5.6). Hunter interest has declined in recent years (Fig. 5.12).

Cottontails have been hunted in Iowa since settlers first arrived. The cottontail season was standardized in 1978 and opens the first Saturday in September and runs through February 28th, statewide, with a bag/possession limit of 10/20 rabbits. Shooting hours are sunrise to sunset (Table 5.13). The rule regarding the opening day of the cottontail season was changed in 1997 to open the 1997-98 season on Sept. 1st. This change in date allows inclusion of the Labor day weekend in all years.

White-tailed Jackrabbit

Before settlement white-tailed jackrabbits could be found everywhere in Iowa, except for a few southeastern counties. They appear in greatest abundance on the glaciated soils of the Des Moines Lobe and the Missouri Loess soils of northwestern Iowa. They are most at home on the wide-open expanses of prairie/wetland/pasture habitat types, although moderate cultivation favors the species. Dry growing seasons appear conducive to hare abundance as population's decline in wet years. Jackrabbit counts have declined greatly over time, closely paralleling the losses of pasture, hay, and small grain acreage's. Increases in the late 1980's can be attributed to increases in grass habitats from the CRP and dry springs.

Jacks have been hunted in Iowa since the time of settlement. Conservation officers reported hunters killing 180+ jacks on two circle hunts in Carroll and Buena Vista counties during the winter of 1960. The jackrabbit season opens the last Saturday in October and runs through December 1st, statewide, with a bag/possession limit of 2/4 rabbits. Shooting hours are sunrise to sunset (Table 5.13). Harvests have tended to decline (Fig. 5.6) with the decline in jackrabbit numbers and declining hunter interest.



2001

August Roadside and Small Game Harvest Survey Results

The Iowa Department of Natural Resources (IDNR) conducts 2 statewide surveys to monitor upland game populations in Iowa, the August Roadside survey (ARS) and the Small Game Harvest survey (SGHS).

AUGUST ROADSIDE SURVEY

The ARS is conducted each year by IDNR Enforcement and Wildlife Bureau personnel throughout the state of Iowa during the first half of August. The survey generates data from 210 30-mile routes on ring-necked pheasants, bobwhite quail, gray partridge, cottontail rabbits, and white-tailed jackrabbits. Counts are conducted on sunny, cool mornings with heavy dew. All comparisons are based on total routes run.

2000-01 Iowa Weather Summary

The winter of 2000-01 was one of the most severe in state history. Statewide the cumulative snowfall from December through March was 42.4 inches. This ranks as the 3rd highest total in 129 years of state records. In addition, most of this snowfall (25+") came in December and persisted on the ground

until March. Many areas across the state set new records for continuous snow cover at more than 130+ days with an inch or more of measurable snow. Research with radioed pheasants in Iowa shows winter survival declines the longer snow cover persists. From this year's survey it appears that most upland game species suffered significant losses this past winter. Such a significant loss of adult breeding stock severely limited the reproductive effort this year for most upland game species.

Conditions during the spring 2001 nesting period (April-May) were warmer than normal but very wet. As a general rule, warm and drier than normal springs are conducive to good upland game reproduction, whereas cool, wetter than normal springs are detrimental to reproduction. The January - May 2001 period ranks as the 7th wettest in 129 years of state records. Temperatures for April averaged 3.8 degrees above normal, while precipitation totals varied from about normal across the southern two-thirds of Iowa to over 2 inches above normal in NW Iowa. May temperatures were average across the entire state, but precipitation was 2.8 inches above normal. Precipitation in May averaged from 2+ inches above normal in NW Iowa to over 4 inches above normal in SE Iowa. Rainfall totals in May varied from 5.5 inches in NW Iowa to over 8 inches in SE Iowa.

2001 Roadside Survey Conditions

Weather conditions during the 2001 survey were drier, warmer, and less overcast than in 2000. Only 78% of routes were started under ideal dew conditions in 2001 versus 85% in 2000. Mean temperatures were also higher at the start of routes in 2001 versus 2000. The sun was shining on 85% of the routes started in 2001 versus 78% last year. Most routes were started under clear skies in 2001; 86% versus 67%

in 2000. Warmer mornings with little dew tend to decrease the accuracy of the roadside index, but we are confident the numbers reported on this year's survey do represent actual trends in upland game populations.

SMALL GAME HARVEST SURVEY

The SGHS is a random mail survey of Iowa small game hunters conducted following the 2001-02 small game season to determine the size and distribution of Iowa's small game harvest. In 2001, 3,503 of the 8,186 hunters surveyed, returned survey cards for a response rate of 43%. Based on these returns approximately 61% of Iowa's 226,684 (sum of resident, non-resident, and lifetime license holders) licensed hunters pursued small game during the 2001-02 season. This marks the fourth year in a row resident license sales have declined and the fifth year in a row non-resident license sales have declined (Table 5.8; Figure 5.11).

RING-NECKED PHEASANT

Populations This year's index averaged 13.9 birds per 30-miles and represents a 59% decline from the 2000 population index (Table 5.1; Figure 5.2). This is Iowa's lowest statewide pheasant count since survey procedures were standardized in 1962 (Table 5.1). The average number of pheasants observed per route is 63% below the 10-year and 70% below the long-term averages (Table 5.1). Populations declined 50-80% in all regions of the state this year (Table 5.1). Counts in the NE, WC, EC, SW, SC, and SE represent all time lows for those regions (Table 5.1; Figure 5.7).

Most of this year's decline in pheasant populations can be attributed to the severe winter. Iowa has not suffered any major winter losses of pheasants since the winters of 1982-83 and 1983-84. Blizzards in December and January simply froze birds in marginal habitats, and the prolonged white

background left the birds highly visible to predation for over 130+ days in many regions of the state. The very wet conditions that persisted through the early nesting season limited any good reproductive effort of the surviving brood stock. Populations are very low in many regions, but populations have recovered from similar low levels in the past (winters of 1982-83 in northern regions; Table 5.1). How fast our populations recover will depend upon weather this winter and next spring and any changes in habitat that many come about as a result of the new 2002 Farmbill.

Northern Regions. Counts in the NW region declined significantly (-63%) from 2000 (Table 5.1). This year's population estimate is 46% and 41% below the 10-year and long-term averages, respectively (Table 5.1; Figure 5.7). Hens with broods declined 64% from 2000 and total broods declined 71% (Tables 5.2, 5.7). Persistent snow cover with several ice storms reduced winter survival even in good habitats, and a severe hail storm centered over Spirit Lake this June reduced recruitment of young significantly. This year's index of 22 birds/30-miles, while low, does not approach the low of 9 birds/30-miles reported in 1984 (Table 5.1). Some of the better counts in the NW region came from Emmet, Dickinson, Plymouth, and Sioux counties.

Counts in the NC region declined 52% from last year (Table 5.1). This year's average of 16 birds/30-mile route is 66% and 69% below the 10-year and long-term averages, respectively (Table 5.1). Similar to the NW region, this year's index in the NC region is still higher than the all time low set back in 1984 (Table 5.1; Figure 5.7). Staff also reports the loss of CRP acreage has greatly reduced nesting habitat in the region. Some of the better counts in this

region came from Butler, Hancock, and Franklin counties.

Counts in the NE region set a new all time low for the region for the second year in a row with an average of only 6 birds observed on survey routes in 2001 (Tables 5.1). The counts declined 59% from 2000 (Figure 5.7). The NE region has suffered through persistent wet springs since 1998. This has reduced recruitment each year. Over 45 inches of snowfall this winter reduced hen survival and brood stock even further. The 2001 count was 77% below the 10-year and 87% below the long-term averages, respectively (Table 5.1).

Central Regions. The harsh winter and wet spring also significantly reduced (-71%) populations in the WC region (Table 5.1; Figure 5.7). This year's index of 8 birds/30-miles is an all time new low for the region (Table 5.1). Total hens, hens with and without broods, chicks, and broods all declined by greater than 40% in the WC region in 2001 (Table 5.1, 5.2, 5.7). This year's counts are 79% and 85% below the 10-year and long-term averages, respectively (Table 5.1).

Similar to all other regions, the counts in the Central region declined 56% when compared to last year (Table 5.1). However, this year's average is still above the all time low set in 1983 (Table 5.1). The number of hens with and without broods, and total broods all declined more than 60%. The 2001 count was 50% below the 10-year and 55% below the long-term averages (Table 5.1). Parts of Jasper, Poweshiek, Story, and Webster counties with good habitat should have decent bird numbers this fall.

Pheasant numbers in the EC region declined 49% compared to 2000 (Table 5.1). This year's index of 19 birds/ 30-miles set a new all time low for the region (Table 5.1; Figure 5.7). This year's counts are 57% below the 10-year average and 63% below the long-term averages. Counties reporting

better numbers this year were Cedar, Iowa, Johnson, Jones, and Scott.

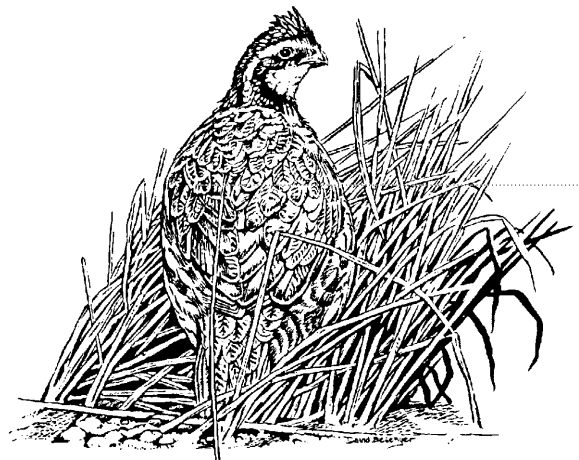
Southern Regions. Snowfall in the SW region was the lowest of any region in the state this past winter but still topped 38 inches. The roadside pheasant index dropped to 12 birds/30-miles, the lowest count ever for the region (Table 5.1; Figure 5.7). This year's count is 59% and 82% below the 10-year and long-term averages, respectively (Table 5.1). Pheasant populations had rebounded in this region last year following 2 years of wet springs in 1998 and 1999.

The pheasant index in the SC region also set an all time new low with 7 birds/30-miles, a decline of 62% from 2000 (Table 5.1; Figure 5.7). The SC region recorded the highest Dec.-Mar. snowfall total of any region in state last winter with a total of 48.4 inches. The pheasant population is 68% and 83% below the 10-year and long-term means, respectively (Table 5.1). The SC region has suffered through 6 wet springs in the past 9 years. A return to a more normal spring weather pattern is needed for populations to recover in this region.

The SE region reported the largest decline (-79%) in pheasant numbers of any region in 2001 (Table 5.1). The average of 5 birds/30-mile survey route was an all time new low for the region (Table 5.1; Figure 5.7). The SE region recorded 39+ inches of snow this past winter, which is very high for SE Iowa. The SE region also had over 8 inches of rainfall in May or 2 inches per week during the peak of nest initiation and incubation. This year's index is 86% and 84% below the 10-year and long-term means, respectively (Table 5.1).

Harvest An estimated 122,906 pheasant hunters (61% of licensed hunters) took to Iowa's fields last fall and harvested 470,116 roosters, a 53% decline compared to 2000 harvest estimate of 1,001,867 (Table

5.6, 5.9). Resident and non-resident hunter numbers both declined 27% from last year. Resident hunters hunted an average of 7 days last fall and harvested 4 birds during the season. Nonresident pheasant hunters averaged 5 days afield and harvested 5 birds for the season. Hunter success (harvest/trip) was highest during the first 9 days of the season. Approximately 72% of the total pheasant harvest occurred in the first 31 days of the 2001 season. Ninety percent of pheasant hunters reported hunting 15 days or less and over 50% hunted 4 days or less. In addition to the regular pheasant season, an estimated 7,121 pheasant hunters took 11,172 youth hunters (under the age of 16) hunting during Iowa's special 2-day youth pheasant season. These young hunters harvested an estimated 6,595 roosters.



BOBWHITE QUAIL

Populations Similar to pheasant numbers, bobwhite quail numbers also declined significantly (-49%) from 2000 (Table 5.3). This year's statewide index of 0.3 birds/30-mile survey route sets a new low for the species in Iowa (Table 5.3; Figure 5.6). This year's index is 66% and 82% below the 10-year and long-term averages, respectively. All regions, except the EC region, reported lower quail populations, but only the decline in the SW region was statistically significant. Iowa's quail

population remains in a long-term decline (Figure 5.6). Changing land-use, mainly intensified agriculture, is a leading factor in the decline. Unfortunately, this a trend that is likely to continue in the future, unless programs like CRP can be modified to provide for the habitat needs of quail. The best prospects for quail hunters this fall will be the SW and SC regions.

Harvest Approximately 24,591 quail hunters (12% of licensed hunters) harvested 32,226 quail during the 2001-02 quail season. This is a 77% decrease from the 2000 harvest estimate of 140,828 (Table 5.6; Figure 5.6). Resident hunter numbers declined 38%, while nonresident hunter numbers declined 40% compared to 2000. Quail hunters averaged 6 days afield and harvested 1 bird for the season. Hunters afield in November reported the best hunting with few birds harvested after January 10th. Sixty-seven percent of the harvest occurred in the first 31 days of the season. Over 90% percent of quail hunters hunted 13 days or less and over 50% hunted 4 days or less.

GRAY PARTRIDGE

Populations Unfortunately, the winter was no kinder to Iowa's gray partridge population, as this year's statewide index of 1.9 partridge/30-miles was significantly lower (-25%) than last year (Table 5.4; Figure 5.6). Regionally, partridge populations declined in the NW, NC, C, and EC. Only the declines reported in the NW and NC regions were statistically significant, indicating some routes in the C and EC were lower than in 2000, but some were also higher. Gray partridge numbers increased in the NE and WC regions in 2001, but the changes were not significant (Table 5.4; Figure 5.9). The fact the changes were not significant suggests that while many of the survey routes in the NE and WC regions reported more partridge, a

good number also reported fewer. Populations in these regions will be higher in some areas and lower in others compared to 2000. Statewide, the gray partridge index is 44% below the 10-year average and 58% below the long-term average (Table 5.4). Some of the better counts for partridge in 2001 came from Lyon, O'Brien, Sioux, Cerro Gordo, Winnebago, Bremer, Sac, Dallas, Hamilton, and Webster counties.

Harvest Some 5,757 partridge hunters (3% of licensed hunters) harvested 5,814 partridge in 2001-02 (Tables 5.6, 5.9). The harvest was 70% lower than the 2000-01 estimate of 19,258 and represents a new all time low for partridge harvest in Iowa, the previous low was the 1995 harvest of 6,700. Total hunter numbers only declined 5% from last year, but the average harvest per hunter declined 69%. Partridge are usually harvested incidental to pheasant hunting and encounters with partridge were the highest in the northwest region of Iowa.

COTTONTAIL RABBIT

Populations The winter of 2000-01 also took its toll on Iowa's cottontail rabbit population as counts declined 41% compared to last year (Table 5.5; Figure 5.6). This year's index of 3.9 rabbits/30-mile survey route is the third lowest count since survey procedures were standardized in 1962 (Table 5.5). This year's cottontail index is 33% below the 10-year and 38% below the long-term averages (Table 5.5). The fact that cottontails usually produce 4-5 litters per year and wet springs usually do not impact reproduction suggests the severe winter was the major culprit in the decline of Iowa's upland game populations this year, including rabbits. Field staff reported good rabbit numbers in Lucas, Wayne, Monroe, Ringgold, Davis, and Page counties.

Harvest Some 36,125 cottontail rabbit hunters (14% of licensed hunters) harvested 196,483 rabbits last fall, a 44%

decline from 2000 harvest estimate (Tables 5.6, 5.9). Resident hunter numbers declined 22% compared to last year, while nonresident numbers declined 28%. The average rabbit hunter harvested 5 rabbits last fall compared to 8 rabbits in 2000. Almost 20% of rabbit hunters hunted only 1 day last fall, while greater than 50% reported hunting 3 days or less. Similar to the harvest of other small game species, the 2001-02 cottontail harvest was a new all time low for Iowa. Previous low was 237,000 in 1999.

WHITE-TAILED JACKRABBIT

Populations The 2001 statewide jackrabbit index doubled when compared to the 2000 index, but the change was not

significant statistically (Table 5.3; Figure 5.6). This years index is 34% and 71% below the 10-year and long-term averages, respectively (Table 5.3). Jackrabbit populations likely fared better than most upland game species this past winter because they actively snow burrow and molt to a white pelage in winter, which gives them perfect camouflage on a snow white landscape. Most jackrabbits were observed in the NW, NC, and C survey regions.

Harvest According to this year's survey 2,933 small game hunters also harvested 3,840 jackrabbits in 2001 (Tables 5.6, 5.9). Less than 1% of Iowa's licensed hunters stated they hunted jackrabbits, and most of this hunting is likely incidental to other types of hunting. The average jackrabbit hunter harvested 1 jackrabbit for the season.

Table 5.1. Mean number of pheasants counted/30-mile route on the August roadside survey regionally and statewide (1962-present). Severe winter weather preceded the August counts in 1965, 69, 75, 79, and 82. Abnormally wet weather occurred during the 74, 83, 84, 93, and 99 nesting seasons. Winter sex ratio and cock harvest data are statewide estimates. Sex ratio counts were done the year succeeding the year listed.

YEAR	NORTH WEST	NORTH CENTRAL	NORTH EAST	WEST CENTRAL	CENTRAL	EAST CENTRAL	SOUTH WEST	SOUTH CENTRAL	SOUTH EAST	STATEWIDE	SEX RATIO	COCK HARVEST
1962	84.7	95.5	85.3	85.0	74.6	32.3	44.4		12.8	65.9		
1963		200.4	40.8		60.3		200.4		19.8	52.6	2.9	66%
1964	99.9	138.0		101.6	54.4	53.9	92.6	26.3	18.3	79.4	4.3	77%
1965	46.0	67.5	47.8	64.7	36.2	43.9	97.6	44.6	22.8	49.9	3.2	69%
1966	43.5	75.3	57.5	58.4	49.3	63.9	144.1	40.7	17.1	56.6	3.1	68%
1967	31.0	56.8	57.2	42.4	53.2	58.6	108.3	38.8	21.1	49.1	4.2	76%
1968	38.0	56.0	56.6	53.5	52.2	64.3	127.4	38.7	19.7	52.7	3.6	72%
1969	18.8	44.7	62.5	42.2	57.6	57.2	77.9	44.2	25.2	45.5	3.5	71%
1970	39.2	53.0	59.6	56.1	87.8	91.7	129.1	63.8	40.5	66.2	3.5	71%
1971	34.6	45.2	49.0	66.2	82.6	104.3	101.6	49.7	48.4	62.0	3.6	72%
1972	37.9	44.6	61.0	61.4	73.2	88.6	112.3	54.3	25.8	59.6	2.0	50%
1973	47.0	56.9	65.4	66.3	88.7	103.5	72.4	54.3	30.2	65.8	3.7	73%
1974	46.6	53.2	52.5	60.5	40.0	55.9	90.1	49.6	16.8	49.7	4.5	78%
1975	10.5	28.7	52.3	34.3	43.2	64.3	51.0	45.4	27.4	38.8	4.8	79%
1976	14.8	42.2	68.1	44.8	54.9	75.4	61.7	49.2	28.7	48.2	4.0	75%
1977	26.9	44.2	86.7	56.9	50.8	78.5	75.1	44.3	24.4	51.7	3.6	72%
1978	36.3	26.1	68.8	67.8	50.5	63.2	76.7	45.5	30.5	49.7	3.9	74%
1979	40.1	29.6	44.8	49.4	39.2	39.6	80.9	51.5	21.8	42.4	3.5	71%
1980	51.2	61.7	81.2	98.7	72.2	63.5	82.1	68.9	37.2	67.0	3.7	73%
1981	66.4	53.5	83.6	92.9	57.8	72.9	97.1	57.8	35.2	65.9	3.4	71%
1982	26.7	27.9	38.9	55.5	23.1	20.9	41.6	47.7	19.3	32.3	2.9	65%
1983	9.6	12.8	21.7	21.6	13.3	25.3	42.6	51.1	27.5	23.7	2.9	65%
1984	8.8	11.1	19.2	22.1	14.4	24.5	23.8	38.5	26.4	20.6	2.6	62%
1985	21.6	28.0	36.4	40.0	32.7	26.0	59.2	72.6	42.0	38.9	2.1	52%
1986	27.5	20.4	48.2	31.2	24.8	29.0	49.7	65.2	27.2	34.8	2.0	51%
1987	40.2	36.8	59.7	61.4	41.1	33.2	58.5	64.2	39.0	46.8	2.9	65%
1988	33.6	35.0	45.1	60.8	29.6	26.0	45.7	49.8	29.8	38.1	3.3	70%
1989	25.3	36.5	52.1	69.9	57.1	35.3	38.6	40.0	39.0	43.2	2.9	66%
1990	34.3	49.4	63.9	57.9	44.3	24.7	44.5	31.7	27.3	41.2	5.5	82%
1991	37.3	45.3	48.8	77.6	41.6	33.3	61.2	49.4	41.6	46.8	Discontinued	
1992	24.4	50.5	30.5	44.0	42.1	37.8	29.4	23.6	34.2	35.8		
1993	15.8	21.4	15.2	55.2	23.8	25.0	34.3	24.0	28.1	25.9		
1994	45.0	74.1	33.3	83.3	55.6	67.8	47.3	46.0	56.7	56.9		
1995	26.0	63.2	37.6	44.7	54.3	54.3	43.7	27.8	43.2	44.6		
1996	54.7	61.8	29.5	45.2	49.8	59.4	29.8	19.5	28.2	43.4		
1997	46.1	62.0	41.2	37.3	54.7	47.4	31.7	28.8	41.3	44.8		
1998	74.2	56.7	43.1	33.9	49.6	53.9	18.1	15.7	41.7	44.6		
1999	42.7	33.6	21.6	19.5	37.9	36.0	17.5	12.9	27.0	29.1		
2000	60.6	33.3	14.9	29.0	50.3	37.0	25.5	19.3	22.0	34.3		
2001	22.4	16.0	6.2	8.4	22.0	19.0	12.0	7.3	4.6	13.9		
Statistics:												
10 Year Avg.	41.2	47.3	27.3	40.0	44.0	43.8	28.9	22.5	32.7	37.3		
Long-term Avg	38.2	51.2	48.4	53.9	48.5	51.1	66.9	42.2	29.2	46.5	3.4	69%
Percent Change from:												
2000	-63.1	-51.8	-58.7	-71.2	-56.3	-48.5	-52.9	-62.3	-79.2	-59.4		
10 Year Avg.	-45.7	-66.1	-77.4	-79.2	-50.1	-56.5	-58.5	-67.6	-86.0	-62.7		
Long-term Avg	-41.4	-68.7	-87.3	-84.5	-54.7	-62.7	-82.1	-82.7	-84.3	-70.1		

Table 5.2. Mean number of broods counted/30-mile route and chicks/brood observed on the August roadside survey, regionally and statewide (1962-present). Severe winter weather preceded the August counts in 1965, 69,75,79, and 82. Abnormally wet weather occurred during the 83, 84, 93, and 99 nesting seasons.

YEAR	NORTH WEST		NORTH CENTRAL		NORTH EAST		WEST CENTRAL		CENTRAL		EAST CENTRAL		SOUTH WEST		SOUTH CENTRAL		SOUTH EAST		STATEWIDE	
	BROODS		CHICKS		BROODS		CHICKS		BROODS		CHICKS		BROODS		CHICKS		BROODS		CHICKS	
	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER	PER
	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD	30 MI	BROOD
1962	10.1	5.1	11.5	5.7	10.1	6.3	9.6	7.7	8.0	7.5	4.2	5.4	5.5	5.8			1.0	7.3	7.7	6.3
1963	17.2		16.6		11.7	5.2	12.3		8.4	5.9	5.8		15.4	5.4	3.4		2.6	5.4	10.4	5.4
1964	12.1	5.2	17.0	6.1	22.7	7.3	13.0	5.8	7.3	5.3	6.5	6.2	12.1	6.4	3.1	8.7	1.8	6.3	9.8	6.1
1965	5.9	5.9	8.0	6.2	5.7	5.7	8.7	5.0	4.7	5.8	4.8	7.6	13.3	5.8	5.9	6.0	2.5	6.0	6.2	6.0
1966	5.5	5.6	9.2	5.9	7.7	4.5	8.1	5.9	6.2	6.4	7.7	6.3	19.0	6.3	5.1	6.2	1.8	7.4	7.2	6.0
1967	3.9	4.6	6.7	5.3	7.1	5.4	5.3	4.8	7.0	5.0	7.5	5.5	13.9	5.4	6.0	5.6	2.3	5.1	6.3	5.2
1968	5.2	5.1	6.4	6.2	6.3	6.3	7.3	5.1	7.1	5.8	8.5	5.6	16.8	5.8	5.5	5.9	2.3	6.4	6.8	5.8
1969	2.3	4.9	5.4	6.0	7.5	6.7	5.2	5.8	7.0	5.6	8.7	5.0	10.8	5.4	6.4	5.5	3.3	5.4	6.0	5.5
1970	5.4	5.9	7.0	5.7	7.7	6.1	7.4	5.7	12.3	5.9	11.7	6.2	18.0	6.4	8.8	5.9	4.6	6.4	8.8	6.0
1971	4.2	5.5	6.3	5.4	6.8	5.0	9.6	4.9	10.7	6.2	14.0	5.8	15.0	5.7	7.4	5.4	6.8	5.8	8.5	5.5
1972	5.2	5.3	5.9	5.7	8.6	5.4	8.1	5.0	9.8	5.9	11.2	6.0	15.1	6.1	7.7	5.7	3.8	4.8	8.0	5.6
1973	6.4	4.6	7.2	5.6	8.8	5.5	8.6	4.7	11.8	5.1	13.0	5.6	9.7	5.4	7.5	5.9	4.1	5.5	8.6	5.3
1974	6.7	4.6	7.3	4.8	6.9	5.5	8.5	5.0	5.4	4.7	8.3	4.4	12.1	5.4	7.8	5.0	2.2	5.2	7.0	4.9
1975	1.4	5.4	4.1	5.0	8.3	4.9	4.7	5.3	6.4	4.8	9.1	5.1	7.4	5.4	6.5	5.8	4.4	5.2	5.7	5.2
1976	2.3	5.1	6.0	5.1	9.7	5.1	6.3	5.2	8.9	4.6	11.3	5.3	9.7	5.2	7.8	5.4	3.9	4.9	7.2	5.1
1977	4.6	4.9	6.4	5.7	12.8	5.6	10.7	4.6	7.7	4.7	13.1	4.8	12.3	5.2	7.1	5.1	4.1	4.7	8.3	5.0
1978	5.9	5.2	3.5	5.4	9.1	5.4	9.9	5.0	6.9	5.4	8.8	5.5	11.1	5.5	7.4	5.5	4.0	5.8	7.1	5.4
1979	6.7	4.5	4.0	5.7	5.5	5.3	7.3	5.4	5.4	5.9	6.1	5.0	11.1	5.8	8.7	5.2	3.3	5.0	6.3	5.3
1980	8.1	4.9	9.4	5.2	12.1	5.2	16.6	4.9	11.3	5.0	9.9	4.8	13.5	4.5	11.6	5.3	5.8	5.2	10.7	5.0
1981	11.4	4.4	8.7	4.9	11.2	5.4	15.5	4.8	10.0	4.6	11.5	5.0	16.9	4.4	8.8	5.2	5.5	4.7	10.7	4.8
1982	4.4	4.3	4.1	5.3	6.2	4.9	8.9	4.7	3.6	5.6	3.0	4.5	6.9	4.3	6.8	5.4	2.9	4.2	5.0	4.9
1983	1.6	4.7	1.9	4.9	3.1	5.2	2.8	4.9	1.8	5.4	3.6	5.4	5.9	5.3	7.5	5.9	3.8	5.8	3.4	5.3
1984	1.3	5.9	1.5	5.7	2.8	5.3	3.5	5.2	2.3	5.0	3.6	5.1	3.6	4.4	5.8	5.2	4.1	4.8	3.1	5.2
1985	3.5	5.4	4.2	5.3	4.9	6.1	5.8	5.3	5.4	5.5	3.9	5.4	8.9	5.7	12.2	5.3	5.7	6.1	6.0	5.5
1986	3.9	5.9	2.9	5.0	7.1	5.5	5.6	3.8	4.1	4.7	4.9	4.4	8.1	4.9	10.3	5.3	3.8	4.9	5.4	5.0
1987	5.8	6.2	5.0	6.2	8.5	5.8	9.3	5.1	6.3	4.9	4.8	5.6	9.9	5.0	10.5	5.4	5.7	5.4	7.1	5.5
1988	5.3	5.1	5.0	5.6	5.8	6.6	9.7	5.1	4.0	6.1	3.5	5.8	7.8	4.9	8.5	4.9	4.3	5.5	5.7	5.5
1989	3.8	5.2	5.0	5.9	8.2	5.1	10.9	5.3	8.1	5.4	5.5	5.4	6.9	4.6	6.5	5.2	5.5	5.9	6.5	5.4
1990	5.2	5.0	6.9	5.4	9.6	5.4	9.8	4.5	6.6	4.9	3.9	4.7	7.3	4.9	5.8	4.4	4.1	5.2	6.4	4.9
1991	5.8	4.7	6.4	5.4	7.7	5.4	12.5	4.8	7.1	4.3	4.9	5.0	11.5	4.2	7.9	5.1	6.6	5.2	7.5	4.9
1992	4.3	4.0	7.1	5.6	4.6	4.9	6.9	4.4	6.8	4.4	5.7	5.2	5.1	4.1	4.2	3.9	5.6	4.7	5.7	4.6
1993	2.4	4.8	3.4	5.4	2.3	4.9	8.9	5.1	3.8	5.2	3.6	5.4	5.8	4.3	3.7	5.5	4.2	5.2	4.0	5.1
1994	7.5	4.6	11.2	5.5	5.7	4.5	14.2	4.5	9.4	4.8	10.0	5.4	8.9	4.1	6.8	5.4	8.7	5.4	9.1	5.0
1995	4.8	4.6	10.1	5.0	5.7	5.4	8.1	4.5	9.4	4.5	7.4	6.1	7.3	4.6	4.3	5.5	6.1	5.6	7.2	5.1
1996	9.1	4.6	9.6	5.0	4.8	4.5	7.4	4.6	8.5	4.9	8.9	5.6	5.6	4.0	3.7	3.7	4.0	4.8	7.1	4.7
1997	6.8	5.7	9.1	5.1	6.7	5.1	5.9	5.0	8.6	5.1	7.0	5.4	5.7	3.7	3.8	6.9	6.1	6.3	6.8	5.4
1998	14.1	4.2	9.6	4.7	6.7	5.4	6.1	4.7	8.3	4.6	8.8	5.2	4.3	3.2	2.7	4.3	6.3	5.1	7.7	4.6
1999	7.2	4.5	5.5	4.1	3.5	4.6	3.5	4.2	6.1	4.6	4.7	5.8	3.1	3.8	1.9	5.2	4.1	5.9	4.6	4.7
2000	11.3	4.7	5.5	4.9	2.4	4.7	4.7	5.3	8.8	4.2	5.7	5.2	4.4	4.3	3.5	3.7	3.3	5.2	5.8	4.7
2001	3.3	4.6	2.7	4.6	0.9	5.4	1.6	3.2	3.3	4.9	2.9	5.6	2.3	3.8	1.2	4.4	0.7	3.4	2.2	4.5
Statistics:																				
10 Year Avg.	7.1	4.6	7.4	5.0	4.3	5.0	6.7	4.5	7.3	4.7	6.5	5.5	5.2	4.0	3.6	4.9	4.9	5.2	6.0	4.8
Long-term Avg.	6.1	5.0	6.8	5.4	7.3	5.4	8.2	5.0	7.1	5.2	7.2	5.4	9.7	5.0	6.4	5.4	4.1	5.4	6.8	5.3
Percent Change from:																				
2000	-71.2	-1.5	-49.8	-5.9	-61.0	14.8	-66.0	-40.3	-61.8	17.7	-49.0	6.5	-48.9	-11.8	-65.1	18.9	-77.8	-34.7	-62.0	-3.4
10 Year Avg.	-53.9	0.2	-62.8	-7.5	-78.3	9.8	-76.2	-29.9	-54.2	3.9	-55.0	1.3	-57.1	-4.7	-66.2	-9.0	-85.2	-34.1	-63.1	-6.5
Long-term Avg.	-46.0	-7.4	-59.8	-14.5	-87.1	0.4	-80.5	-36.2	-53.0	-6.1	-59.6	2.7	-76.8	-23.8	-81.1	-17.6	-82.5	-37.3	-67.6	-13.7

Table 5.3 Mean number of bobwhite quail and white-tailed jackrabbits counted/30-mile route on the August roadside survey, regionally and statewide (1962 - present).

YEAR	QUAIL PER ROUTE										JACK- RABBITS STATEWIDE
	NORTH WEST	NORTH CENTRAL	NORTH EAST	WEST CENTRAL	CENTRAL	EAST CENTRAL	SOUTH WEST	SOUTH CENTRAL	SOUTH EAST	STATEWIDE	
1962	0.00	0.00	0.00	2.22	0.25	0.18	0.88		2.00	0.62	0.45
1963	0.00	0.29	0.08	0.50	0.47	0.13	0.54	5.58	3.20	1.12	0.41
1964	0.00	0.00	0.29	0.64	0.50	0.60	0.83	4.69	4.47	1.39	0.53
1965	0.81	0.04	0.32	0.28	0.25	0.81	2.08	6.76	8.27	2.21	0.35
1966	0.22	0.00	0.12	0.11	0.44	3.05	2.58	6.65	7.59	2.29	0.35
1967	0.38	0.00	0.16	0.56	0.20	1.81	2.17	5.48	8.09	2.10	0.60
1968	0.00	0.00	0.28	0.17	0.65	2.68	3.46	5.81	5.55	2.06	0.28
1969	0.00	0.00	0.00	0.06	1.68	3.00	6.83	8.58	5.40	2.60	0.31
1970	0.00	0.00	0.00	0.00	0.17	1.64	10.75	10.15	7.36	2.95	0.15
1971	0.00	0.00	0.00	0.06	0.52	1.35	11.42	6.82	6.79	2.64	0.35
1972	0.00	0.00	0.00	0.26	0.25	1.13	10.27	6.84	3.80	2.26	0.30
1973	0.00	0.00	0.00	0.21	1.24	1.29	13.31	6.58	5.55	2.54	0.20
1974	0.00	0.00	0.11	0.25	0.13	1.00	8.07	6.39	5.13	2.11	0.07
1975	0.00	0.00	0.00	2.00	0.30	0.92	7.64	3.78	5.64	1.98	0.11
1976	0.00	0.00	2.00	2.21	0.16	2.04	2.40	7.39	4.68	2.19	0.11
1977	0.00	0.00	0.41	0.21	0.68	1.55	5.40	12.63	3.96	2.69	0.08
1978	0.00	0.00	1.06	1.37	0.17	0.50	2.73	8.42	3.40	1.87	0.14
1979	0.04	0.00	0.88	0.00	0.35	0.32	2.75	2.00	0.30	0.66	0.16
1980	0.36	0.00	0.00	0.68	1.39	1.00	5.27	7.88	2.61	2.05	0.15
1981	0.40	0.00	1.00	0.21	0.10	1.64	7.00	11.84	2.43	2.60	0.31
1982	0.00	0.00	0.67	0.05	0.00	0.14	0.87	2.64	2.83	0.79	0.10
1983	0.08	0.08	0.28	0.16	0.50	0.57	1.64	7.32	1.87	1.44	0.05
1984	0.00	0.00	0.22	0.80	0.03	0.00	1.13	2.40	1.57	0.66	0.08
1985	0.00	0.00	1.44	0.00	0.10	0.00	1.27	6.24	3.30	1.37	0.07
1986	0.00	0.00	0.00	0.37	0.03	0.14	1.73	8.16	2.09	1.42	0.12
1987	0.00	0.00	0.33	0.47	0.00	0.74	3.93	14.52	4.17	2.70	0.12
1988	0.00	0.00	0.44	0.94	0.00	0.00	4.87	8.46	4.13	1.96	0.17
1989	0.04	0.00	0.33	1.06	0.10	0.70	6.07	7.67	3.17	1.91	0.22
1990	0.00	0.00	1.00	0.72	0.13	1.04	2.93	6.25	2.21	1.48	0.19
1991	0.08	0.00	0.47	0.72	0.13	0.52	3.13	5.54	2.33	1.34	0.07
1992	0.12	0.00	0.22	1.50	0.07	0.96	2.43	2.83	2.71	1.07	0.14
1993	0.00	0.00	0.37	0.50	0.03	0.78	5.07	2.13	1.61	0.96	0.03
1994	0.08	0.00	0.00	0.65	0.00	0.87	9.19	3.21	3.04	1.58	0.15
1995	0.08	0.00	0.63	0.17	0.06	0.86	2.53	5.54	3.22	1.37	0.06
1996	0.08	0.00	0.21	0.28	0.09	0.71	2.73	0.88	0.65	0.51	0.09
1997	0.00	0.00	0.00	0.00	0.07	1.24	4.27	2.25	0.50	0.77	0.10
1998	0.00	0.00	0.00	0.00	0.07	1.48	1.20	2.30	1.81	0.72	0.09
1999	0.00	0.00	0.05	0.00	0.00	0.13	1.07	2.50	1.50	0.57	0.06
2000	0.00	0.00	0.00	0.20	0.47	0.17	4.40	0.83	0.41	0.57	0.03
2001	0.00	0.00	0.00	0.00	0.09	0.76	1.31	0.50	0.32	0.29	0.05
Statistics:											
10 Year Avg.	0.04	0.00	0.15	0.33	0.10	0.80	3.42	2.30	1.58	0.84	0.08
Long-term Avg.	0.07	0.01	0.33	0.51	0.30	0.96	4.20	5.81	3.49	1.61	0.19
Percent Change from:											
2000	0.0	0.0	0.0	-100.0	-80.0	337.9	-70.2	-40.0	-22.2	-49.4	82.8
10 Year Avg.	-100.0	0.0	-100.0	-100.0	-1.1	-4.4	-61.6	-78.2	-79.8	-66.0	-34.1
Long-term Avg.	-100.0	-100.0	-100.0	-100.0	-68.3	-20.7	-68.8	-91.4	-90.9	-82.2	-71.4

Table 5.4 Mean number of gray partridge counted/30-mile route on the August roadside survey, regionally and statewide, (1963-present).
Approximately 20 routes were added statewide in 1972.

YEAR	NORTH WEST	NORTH CENTRAL	NORTH EAST	WEST CENTRAL	CENTRAL	EAST CENTRAL	SOUTH WEST	SOUTH CENTRAL	SOUTH EAST	STATEWIDE
1962	6.27	0.82	0.00	1.00	0.08	0.00	0.00		0.00	1.13
1963	4.67	2.71	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.92
1964	4.93	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
1965	2.38	1.52	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.48
1966	2.70	4.96	0.00	0.00	0.76	0.00	0.00	2.05	0.00	1.30
1967	3.33	1.13	0.00	1.11	0.20	0.00	0.00	0.00	0.00	0.66
1968	4.13	1.30	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.68
1969	1.25	1.14	0.00	0.17	0.32	0.00	0.00	0.00	0.00	0.38
1970	8.43	4.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	1.66
1971	7.09	3.55	0.00	0.29	0.00	0.00	0.00	0.00	0.00	1.44
1972	8.92	5.44	0.00	0.47	0.61	0.00	0.00	0.00	0.20	1.92
1973	6.57	7.08	0.22	0.32	0.52	0.00	0.00	0.00	0.00	1.87
1974	9.00	4.79	0.00	0.30	0.33	0.00	0.00	0.00	0.00	1.82
1975	8.50	6.73	0.00	0.00	0.19	0.00	0.00	0.00	0.00	1.98
1976	9.50	7.20	0.00	0.84	0.23	0.00	0.00	0.00	0.00	2.14
1977	22.04	13.88	0.00	1.58	0.55	0.00	0.00	0.00	0.00	4.70
1978	17.23	7.68	0.11	1.42	2.43	0.00	0.00	0.00	0.00	3.73
1979	20.28	19.32	0.18	1.58	2.90	0.77	0.00	0.00	0.00	5.59
1980	35.04	28.08	0.11	3.00	4.03	0.82	0.00	0.00	0.00	8.81
1981	31.44	23.60	1.78	5.00	4.19	0.32	0.00	0.00	0.00	8.08
1982	18.48	10.16	0.94	3.37	1.87	0.00	0.00	0.00	0.00	4.21
1983	8.04	8.88	0.72	1.84	1.87	0.65	0.00	0.00	0.00	2.65
1984	14.16	13.24	2.11	1.05	3.03	1.05	0.00	0.00	0.00	4.22
1985	26.84	25.23	8.06	10.68	9.26	1.18	0.00	0.00	0.00	9.75
1986	29.48	21.04	10.00	5.79	11.13	2.41	0.13	0.00	0.00	9.62
1987	36.88	35.08	10.56	17.00	20.32	3.17	0.00	0.00	0.61	14.93
1988	42.84	48.65	15.61	17.83	25.07	4.48	0.20	0.38	1.39	19.00
1989	36.54	31.82	14.39	12.06	37.48	0.96	2.07	0.38	0.70	17.27
1990	18.40	20.12	16.68	5.89	6.93	5.52	1.00	0.38	0.88	8.75
1991	13.88	7.52	4.16	3.17	4.23	4.00	0.87	0.54	0.58	4.59
1992	5.15	4.76	6.67	2.61	3.77	4.17	0.07	1.46	2.05	3.58
1993	1.33	1.39	0.84	2.00	1.19	0.17	0.00	0.13	0.17	0.85
1994	7.92	14.48	4.47	10.41	8.29	5.39	0.13	0.29	0.35	6.17
1995	3.72	4.86	4.11	1.28	2.52	3.18	0.00	0.29	0.78	2.47
1996	4.42	6.64	3.00	2.61	1.81	1.24	0.00	0.00	0.00	2.37
1997	9.00	7.33	6.47	3.16	10.77	3.95	0.00	0.00	0.36	5.10
1998	23.00	13.96	9.17	3.58	3.36	1.24	0.07	0.00	0.05	6.42
1999	11.41	2.75	2.11	1.84	3.68	0.52	0.00	0.00	0.09	2.83
2000	6.54	4.75	0.90	2.05	4.00	1.74	0.00	0.00	0.00	2.53
2001	3.23	1.30	3.44	2.75	3.94	1.33	0.13	0.00	0.00	1.90
Statistics:										
10 Year Avg.	7.6	6.2	4.1	3.2	4.3	2.3	0.0	0.2	0.4	3.4
Long-term Avg.	13.4	10.8	3.2	3.2	4.6	1.2	0.1	0.2	0.2	4.5
Percent Change from:										
2000	-50.6	-72.7	284.8	34.1	-1.6	-23.3	0.0	0.0	0.0	-24.8
10 Year Avg.	-57.3	-79.2	-16.4	-14.8	-9.1	-41.9	221.8	-100.0	-100.0	-44.4
Long-term Avg.	-75.8	-88.0	8.6	-14.7	-13.7	10.5	7.4	-100.0	-100.0	-57.6

Table 5.5 Mean number of cottontail rabbits counted/30-mile route on the August roadside survey, regionally and statewide, (1962-present).

	NORTH	NORTH	NORTH	WEST		EAST	SOUTH	SOUTH	SOUTH	
YEAR	WEST	CENTRAL	EAST	CENTRAL	CENTRAL	CENTRAL	WEST	CENTRAL	EAST	STATEWIDE
1962	3.6	1.5	4.3	10.1	5.3	6.2	6.0		5.6	5.2
1963	8.9	4.8	4.2	10.8	5.0	6.9	8.0	9.9	12.7	7.9
1964	2.3	2.3	1.7	11.1	6.6	3.1	10.2	19.4	13.7	7.9
1965	3.1	3.0	3.7	7.9	2.8	4.0	16.2	24.3	11.2	8.1
1966	2.0	3.2	6.5	9.7	5.9	5.0	30.2	31.7	9.5	10.3
1967	2.8	2.4	4.4	6.9	6.1	4.0	18.8	16.3	10.9	7.5
1968	1.9	3.3	4.0	6.9	5.3	5.7	17.7	17.5	8.5	7.4
1969	2.0	2.2	5.0	3.4	2.5	5.6	16.6	18.0	6.8	6.3
1970	1.4	2.0	4.3	2.7	1.7	3.6	12.5	11.3	4.7	4.4
1971	1.9	1.4	3.9	3.7	2.8	4.2	14.8	16.5	5.6	5.4
1972	2.8	1.7	2.7	3.9	2.3	6.4	11.7	14.8	4.7	5.5
1973	2.2	2.6	3.7	3.9	4.2	6.0	13.8	14.3	6.1	5.8
1974	2.1	1.9	4.4	3.6	2.0	3.9	5.8	8.4	6.0	4.1
1975	1.3	1.2	2.5	2.6	1.4	3.6	5.1	7.0	5.2	3.2
1976	1.3	1.6	5.9	7.3	4.2	5.5	9.3	16.4	8.9	6.4
1977	1.4	1.2	4.0	2.2	1.9	5.1	7.9	11.7	5.4	4.3
1978	3.8	2.0	6.9	4.7	3.7	5.5	12.7	14.0	5.2	6.2
1979	3.2	1.7	3.3	4.1	2.7	2.3	5.6	8.2	2.5	3.6
1980	2.3	3.0	2.1	4.2	4.2	1.8	5.5	9.8	4.9	4.2
1981	3.4	4.6	6.4	5.2	3.2	7.4	11.1	21.1	9.0	7.8
1982	2.4	2.3	2.7	4.4	2.5	4.9	7.7	19.5	11.7	6.4
1983	3.1	2.5	6.4	4.2	3.1	5.0	7.2	17.6	12.7	6.8
1984	2.0	1.4	3.0	4.2	2.6	4.0	3.5	14.7	14.0	5.6
1985	3.2	2.7	3.9	3.8	4.4	5.5	7.1	22.9	12.0	7.4
1986	3.0	2.6	4.6	4.3	3.8	3.8	9.7	25.2	12.7	7.7
1987	4.1	3.5	3.2	6.3	4.4	4.3	8.1	34.4	7.7	8.6
1988	3.1	1.8	2.0	4.8	2.6	2.5	4.6	12.8	6.7	4.5
1989	2.4	2.4	4.6	5.2	2.9	4.3	6.3	13.5	8.5	5.4
1990	2.7	3.9	7.0	7.7	5.5	7.3	9.2	26.0	14.7	9.2
1991	2.4	1.8	3.4	5.1	2.5	3.3	7.0	16.3	9.1	5.5
1992	2.6	3.8	4.0	4.8	4.1	3.6	7.1	13.7	12.4	6.0
1993	1.3	1.8	3.9	6.5	2.2	5.0	6.7	15.4	10.1	5.5
1994	2.2	1.9	5.4	5.4	3.3	7.4	8.9	14.4	10.4	6.3
1995	3.2	4.0	3.8	5.5	4.8	6.5	13.0	15.7	9.5	7.0
1996	3.6	3.7	5.8	5.2	3.7	6.3	6.4	13.8	8.5	6.2
1997	2.1	2.4	5.2	2.9	3.4	6.2	6.0	11.8	5.1	4.9
1998	2.0	2.7	5.1	3.1	3.7	6.3	5.8	10.4	7.5	5.1
1999	4.1	2.3	5.1	5.0	4.7	9.1	7.9	10.6	6.0	5.9
2000	2.4	2.0	4.9	4.2	4.9	6.9	7.4	19.3	7.2	6.4
2001	1.6	1.6	1.3	2.1	3.0	3.5	5.3	12.0	4.1	3.8
Statistics:										
10 Year Avg.	2.5	2.6	4.5	4.5	3.8	6.1	7.5	13.7	8.1	5.7
Long-term Avg.	2.7	2.5	4.2	5.1	3.6	5.0	9.7	16.2	8.5	6.2
Percent Change from:										
2000	-34.9	-20.4	-73.1	-49.4	-38.2	-48.7	-29.1	-37.4	-43.4	-40.8
10 Year Avg.	-37.2	-39.2	-70.1	-52.9	-19.9	-42.0	-29.6	-12.1	-49.4	-33.4
Long-term Avg.	-40.6	-36.1	-68.5	-58.9	-15.9	-29.6	-45.9	-25.5	-51.9	-38.3

Table 5.6 Small game harvest estimates from the Iowa small-game survey (1963-present).

YEAR	PHEASANT	QUAIL	COTTON- TAIL	JACK- RABBIT	SQUIRREL	HUNS	RUFFED GROUSE	DUCKS	CANADA GEESE	OTHER GEESE	RACCOON	FOX	COYOTE
1963	1,935,000	327,977	2,066,472	75,015	1,440,576	8,000					347,168	121,124	
1964	1,737,400	291,030	2,260,090	97,785	1,111,290	7,000		434,590	27,575		268,560	91,550	
1965	1,117,500	513,760	1,602,060	133,000	1,236,400	11,500		394,680	55,660		254,360	88,330	
1966	1,449,400	1,051,630	2,180,525	91,690	1,370,250	12,000		594,605	62,075		301,600	113,100	
1967	1,212,200	736,520	1,548,035	55,660	1,196,810	11,300		525,060	58,725		301,725	68,475	
1968	1,393,900	777,685	1,761,370	62,405	1,014,940	21,600		244,075	49,410		349,600	177,155	
1969	1,642,899	1,144,700	1,722,280	98,930	1,164,030	20,900	2,110	558,950	116,020		300,630	142,100	
1970	1,788,500	1,178,685	1,725,535	71,705	1,115,410	28,300	4,085	554,283	79,427		281,890	60,000	6,000
1971	1,817,000	1,037,957	1,305,083	41,468	1,172,742	31,100	3,880	560,770	87,300		617,990	45,450	6,800
1972	1,396,900	657,300	1,148,100	31,200	1,048,000	16,800	8,500	597,500	9,100	50,100	374,600	66,100	19,400
1973	1,905,086	791,242	1,424,927	30,863	1,105,271	45,284		358,955	9,823	51,051	524,496	81,344	32,408
1974	1,672,500	727,300	1,271,600	36,900	1,119,000	35,300		374,500	79,800				
1975	1,230,100	544,000	996,200	19,000	1,046,600	26,400					557,500	32,500	23,800
1976	1,425,500	1,080,500	1,136,300	20,700	1,377,500	54,800	24,400	846,300	71,100		635,400	56,800	34,800
1977	1,357,862	849,183	1,322,263	19,975	1,283,043	48,991	17,022	721,824	50,228		539,000	53,426	37,547
1978	1,428,708	660,625	856,999	26,077	815,562	108,473	9,166	701,014	23,391	40,791	396,616	60,539	28,195
1979	1,200,709	312,410	461,285	13,713	696,363	55,414	7,717	848,849	27,646	60,239	425,528	25,544	36,231
1980	1,429,617	524,450	588,363	7,932	844,999	70,764	17,305	543,282	13,984	30,149	310,414	30,825	21,401
1981	1,447,969	563,569	1,134,781	22,860	949,681	69,698	23,940	543,541	26,532	44,376	320,934	50,021	33,660
1982	972,556	302,648	712,227	5,237	759,438	52,782	9,279	659,172	25,842	24,427	381,616	43,259	31,774
1983	1,047,027	270,690	720,012	8,845	669,490	91,035	5,894	591,483	21,350	16,230	257,105	59,048	36,022
1984	724,192	190,708	636,209	6,376	529,316	33,306	13,308	626,868	29,975	31,174	295,650	22,215	25,268
1985	852,716	189,236	717,631	2,108	673,665	62,931	8,336	362,951	23,167	22,399	"-----Discontinued-----"		
1986	855,894	339,000	472,585	6,082	506,769	60,018	12,701	412,571	26,960	19,086			
1987	1,412,082	397,633	690,091	8,830	532,001	109,061	5,254	300,159	20,597	23,204			
1988	1,139,599	289,592	424,561	3,907	510,065	104,094	13,039	132,514	32,400	16,023			
1989	1,441,990	426,302	435,791	3,025	583,183	118,282	13,335	183,990	28,967	12,373			
1990	1,407,002	321,493	608,805	4,463	466,140	147,922	9,338	173,006	25,592	11,375			
1991	1,138,463	231,818	437,144	3,171	407,172	45,541	5,764	206,938	42,099	12,288			
1992	925,123	179,825	311,607	2,113	328,644	37,328	3,794	242,395	54,160	16,350			
1993	1,226,010	201,461	334,667	3,212	439,477	24,577	1,606	190,800	49,716	19,075			
1994	1,245,580	178,589	288,982	262	395,232	22,331	2,189	190,122	33,349	5,013			
1995	1,443,010	220,999	335,862	6,280	377,714	6,677	2,630	374,490	79,256	14,670			
1996	1,367,060	81,039	331,047	2,666	302,908	36,358	3,011	313,134	83,218	12,786			
1997	1,340,050	181,025	340,661	5,063	265,874	38,045	3,402	371,746	123,029	27,356			
1998	1,237,980	100,594	255,149	10,008	319,081	25,613	0	535,949	79,101	14,564			
1999 ^a	899,174	110,128	237,409	8,777	242,224	20,200	1,373	"-----Discontinued-----"					
2000 ^b	1,001,867	140,828	350,739	1,626	217,116	19,258	489						
2001	470,116	32,226	196,483	3,840	248,833	5,814	903						
Statistics:													
10 Year Avg.	1,115,597	142,671	298,261	4,385	313,710	23,620	1,940						
Long-term Avg.	1,300,929	465,548	906,408	26,994	766,226	44,738	7,792	449,149	47,840	25,004	382,971	70,900	26,665
Percent Change from:													
2000	-53.1	-77.1	-44.0	136.2	14.6	-69.8	84.7						
10 Year Avg.	-57.9	-77.4	-34.1	-12.4	-20.7	-75.4	-53.4						
Long-term Avg.	-63.9	-93.1	-78.3	-85.8	-67.5	-87.0	-88.4						

^a Small Game Harvest Survey changed from a single to a double mailing. Harvest estimates from 1999-present are more conservative than pre-1999 estimates.^b Survey methodology changed account for unrealistic harvest (e.g. reports of 1 bird harvested for 60 days effort).

Table 5.7 Mean number of hens with broods and hens without broods counted/30-mile route on the Iowa August roadside survey, regionally and statewide, (1962 - present). Severe winter weather preceded the August counts in 1965, 69,75,79, and 82. Abnormally wet weather occurred during the 83, 84, 93, and 99 nesting seasons.

YEAR	NORTH WEST		NORTH CENTRAL		NORTH EAST		WEST CENTRAL		CENTRAL		EAST CENTRAL		SOUTH WEST		SOUTH CENTRAL		SOUTH EAST		STATEWIDE	
	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH	HENS W/O	HENS WITH
	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS	BROODS
1962	4.5	9.5	4.8	10.2	2.9	9.0	2.3	7.7	3.3	7.0	1.1	2.8	1.0	3.9			1.8	0.8	2.8	6.5
1963	7.9	15.7	15.9	13.8	5.0	10.6	4.6	8.6	2.2	5.6	1.7	4.7	1.6	11.2	0.8	1.8	1.1	1.7	4.5	8.1
1964	7.9	10.4	6.4	14.4	2.1	20.1	3.7	10.4	2.8	4.8	1.5	5.5	2.3	7.5	0.8	2.2	1.9	1.5	3.4	7.8
1965	2.2	5.2	3.1	7.0	3.7	4.6	3.2	7.4	3.4	3.3	3.3	4.1	4.7	9.8	1.5	4.5	1.4	1.9	2.9	5.0
1966	2.2	4.7	3.3	8.7	4.5	6.9	2.7	5.7	3.1	4.7	3.9	7.0	7.4	15.8	2.9	3.9	1.2	1.3	3.2	6.0
1967	2.3	3.2	6.1	6.0	5.1	6.5	4.9	4.8	4.5	5.8	4.4	6.8	5.6	12.3	2.0	4.9	1.9	2.0	4.0	5.5
1968	2.5	4.5	4.8	5.8	4.9	5.6	3.0	5.8	2.7	5.7	2.4	7.1	5.8	13.3	1.6	3.6	1.0	1.5	3.0	5.5
1969	1.4	1.8	2.9	4.4	2.0	6.4	2.1	4.0	2.9	5.6	2.1	6.9	5.3	8.6	1.2	4.7	1.4	2.3	2.2	4.7
1970	1.3	4.3	2.2	5.5	2.9	6.6	2.9	5.3	1.9	10.0	4.1	9.9	3.1	11.7	1.8	5.3	1.3	3.6	2.3	6.7
1971	1.8	3.1	2.5	5.1	2.6	6.1	3.1	6.3	2.3	9.4	3.9	11.6	4.8	9.6	1.7	4.4	2.2	4.9	2.6	6.5
1972	2.0	3.9	2.7	4.9	3.7	7.1	2.8	6.3	3.7	8.3	4.9	10.0	3.9	11.6	2.9	5.9	1.9	3.0	3.1	6.5
1973	3.2	5.0	2.7	6.8	3.4	7.7	5.1	7.1	4.9	9.6	7.3	11.1	3.1	8.1	2.2	5.2	1.7	3.2	3.8	7.2
1974	3.2	5.3	3.8	6.1	4.3	5.8	5.4	6.7	5.9	3.8	5.0	6.7	4.4	9.1	2.4	5.3	1.7	1.9	4.0	5.5
1975	0.5	1.3	1.3	3.3	2.8	6.1	1.7	3.3	2.7	4.8	3.8	7.4	1.7	5.0	1.3	4.2	1.0	3.0	1.9	4.2
1976	0.7	1.5	2.0	4.9	4.7	8.4	2.2	5.1	3.2	6.0	5.1	10.0	2.5	7.0	1.7	3.8	2.3	3.5	2.7	5.5
1977	1.1	2.7	1.2	5.0	2.1	9.1	0.9	4.8	4.2	6.1	4.0	9.7	1.9	6.1	2.0	3.3	1.2	2.6	2.1	5.3
1978	1.4	3.7	1.0	2.8	2.3	7.8	3.0	5.8	3.0	5.5	3.1	6.7	1.3	6.4	1.7	3.8	1.7	2.9	2.1	4.9
1979	1.7	4.6	1.1	2.8	3.1	4.9	2.4	4.8	1.0	3.2	1.7	5.0	2.1	6.9	1.8	4.3	1.0	2.3	1.7	4.1
1980	2.6	5.3	2.8	6.2	2.8	9.4	2.9	10.5	3.6	8.6	2.4	8.2	4.5	7.7	2.4	5.8	0.9	3.8	2.7	7.1
1981	3.1	8.0	2.2	5.4	3.3	9.6	2.9	10.0	2.9	6.8	3.3	9.9	4.5	10.7	2.4	6.4	1.4	3.6	2.8	7.5
1982	1.4	2.8	1.4	3.2	1.5	5.1	2.4	6.3	1.0	2.3	1.5	2.3	2.2	5.0	1.2	5.4	1.2	2.5	1.5	3.7
1983	0.9	0.8	0.8	1.1	1.3	2.0	1.3	1.8	0.6	1.5	1.0	2.7	2.3	5.1	2.0	6.1	1.3	2.8	1.2	2.5
1984	0.3	0.9	0.7	0.8	1.2	1.9	0.8	2.0	0.7	1.5	1.0	2.9	0.7	2.1	1.9	4.8	0.9	2.7	0.9	2.2
1985	0.4	1.8	1.0	2.4	1.1	2.8	1.2	4.0	0.9	2.8	1.0	2.7	0.9	5.5	1.2	6.3	0.8	3.9	0.9	3.5
1986	0.5	2.2	1.0	1.8	1.4	4.2	0.8	3.3	1.1	2.5	1.3	3.5	1.7	4.5	2.0	6.5	1.8	2.9	1.3	3.4
1987	1.1	3.0	1.0	3.4	1.6	3.6	1.1	6.1	1.4	4.4	1.3	3.2	1.3	5.9	2.2	6.1	1.4	3.6	1.4	4.2
1988	1.1	3.2	0.8	3.0	2.3	4.4	1.4	5.1	0.8	2.8	1.4	2.3	1.5	5.3	1.2	5.2	1.7	3.1	1.3	3.7
1989	0.8	2.9	1.4	3.5	0.9	6.4	2.5	7.1	1.4	5.6	1.0	3.5	1.1	4.5	1.3	4.0	1.7	4.2	1.3	4.5
1990	1.6	4.0	2.2	5.4	2.3	7.2	3.0	6.8	2.8	5.4	2.2	2.5	1.6	5.2	1.2	3.3	1.4	3.0	2.0	4.6
1991	1.9	4.4	2.0	5.0	2.5	5.2	2.7	7.9	2.0	4.5	2.7	3.2	3.1	6.9	1.3	5.4	0.9	4.8	2.0	5.1
1992	1.3	3.2	1.7	5.3	1.8	3.2	3.6	4.7	2.5	4.6	1.9	4.1	3.9	3.9	1.1	3.4	1.7	3.6	2.0	4.1
1993	0.8	1.5	1.3	2.1	0.9	1.4	1.4	6.1	0.8	2.8	1.4	2.3	1.2	4.2	0.6	2.3	0.7	3.0	1.0	2.7
1994	0.8	5.8	2.5	7.3	1.2	3.9	4.1	9.2	2.0	6.3	3.1	8.0	1.8	5.0	1.1	5.0	2.3	7.0	2.1	6.4
1995	1.2	3.2	2.2	7.6	1.2	3.8	2.5	4.9	1.9	6.6	2.6	5.5	1.6	5.8	0.5	3.0	1.6	4.8	1.7	5.1
1996	1.9	7.0	2.7	7.7	1.8	3.8	2.9	6.0	2.2	5.8	1.9	7.1	1.4	4.1	1.3	2.5	1.6	3.4	2.0	5.4
1997	1.6	4.3	2.0	7.1	1.2	5.2	1.7	3.8	2.5	7.1	2.4	5.0	1.4	4.4	1.0	2.2	1.3	4.2	1.7	5.0
1998	1.9	7.3	2.1	6.6	1.7	4.9	1.2	4.3	2.4	5.8	1.5	5.4	1.6	2.0	0.9	1.5	2.6	4.8	1.8	4.9
1999	3.2	5.5	2.8	3.9	0.8	2.8	1.1	2.3	1.9	4.5	2.5	4.0	0.6	2.2	0.4	1.5	1.0	2.9	1.7	3.5
2000	3.6	7.3	2.9	4.0	0.8	1.7	1.8	3.3	2.1	6.3	2.6	4.4	1.2	3.1	1.0	2.5	0.7	2.4	2.0	4.1
2001	1.8	2.6	0.5	1.9	0.2	0.6	0.4	1.1	0.6	2.4	1.2	1.9	0.7	1.2	0.4	0.7	0.5	0.4	0.7	1.5
Statistics:																				
10 Year Avg.	1.8	4.8	2.1	5.4	1.2	3.1	2.0	4.6	1.9	5.2	2.1	4.8	1.5	3.6	0.8	2.4	1.4	3.6	1.7	4.3
Long-term Avg.	2.0	4.4	2.6	5.3	2.4	5.8	2.5	5.7	2.4	5.2	2.6	5.7	2.6	6.7	1.5	4.1	1.4	3.0	2.2	5.0
Percent Change from:																				
2000	-48.9	-64.4	-83.2	-51.9	-73.6	-67.0	-77.1	-67.7	-70.6	-61.6	-53.6	-57.0	-42.7	-62.1	-60.0	-71.2	-33.3	-82.7	-63.1	-63.1
10 Year Avg.	2.1	-45.2	-76.7	-64.0	-81.1	-82.2	-80.5	-77.0	-67.1	-53.3	-43.5	-60.1	-55.2	-66.9	-50.0	-71.0	-67.5	-88.8	-56.8	-64.3
Long-term Avg.	-9.3	-41.0	-81.8	-63.7	-90.7	-90.4	-83.9	-81.4	-74.0	-53.5	-54.3	-66.5	-73.3	-82.3	-72.3	-82.8	-67.9	-86.5	-67.3	-69.6

Table 5.8 Sales of hunting-related licenses and stamps in Iowa (1942-present).

YEAR ^a	FUR- HARVEST over 16	RESIDENT HUNTING	RESIDENT COMBINATION	FUR, FISH, GAME	TOTAL RESIDENT LICENSE ^b	LIFETIME HUNTING +65	NR over 18	NR under 18	TOTAL NR LICENSE ^c
1942		118,252	107,794		226,046				447
1943		84,671	108,599		193,270				612
1944		94,361	117,296		211,657				1,163
1945		105,651	139,958		245,609				998
1946		133,284	192,844		326,128				1,646
1947		121,200	152,042		273,242				632
1948		173,297	158,722		332,019				1,727
1949		193,280	156,454		349,734				2,256
1950		187,079	151,032		338,111				2,393
1951		187,838	141,482		329,320				2,371
1952		190,669	150,266		340,935				2,391
1953		192,026	151,956		343,982				3,115
1954		196,327	150,108		346,435				3,203
1955		214,210	155,283		369,493				3,936
1956		217,095	147,890		364,985				4,544
1957		175,256	164,133		339,389				4,422
1958		211,742	143,916		355,658				5,521
1959		179,564	140,682		320,246				4,535
1960		174,924	138,927		313,851				5,352
1961		167,519	134,290		301,809				5,448
1962		174,319	113,768		288,087				5,470
1963		194,962	112,513		307,475				7,531
1964		189,060	112,904		301,964				8,370
1965		165,063	110,577		275,640				6,505
1966		174,904	117,841		292,745				9,638
1967		169,819	125,457		295,276				11,244
1968		184,345	125,079		309,424				12,223
1969		166,857	136,745		303,602				17,326
1970		174,074	148,435		322,509				21,898
1971		171,530	157,012		328,542				30,264
1972		159,145	118,172		277,317				28,559
1973		173,764	117,991		291,755				34,497
1974		173,049	145,881		318,930				42,224
1975		162,612	139,824		302,436				36,382
1976		164,434	142,055		306,489				41,849
1977		164,496	132,444		296,940				39,032
1978		161,295	134,401		295,696				32,848
1979	17,602	148,341	109,335		257,676				27,302
1980	19,366	161,596	105,059		266,655				30,793
1981	19,116	158,551	107,502		266,053				31,379
1982	17,505	139,044	106,925		245,969				24,002
1983	14,964	134,140	103,711		237,851				23,206
1984	14,537	120,341	101,178		221,519				21,927
1985	25,156	118,163	90,281		208,444				22,977
1986	23,646	121,640	83,653	63	205,356				27,254
1987	20,689	134,155	78,285	8,234	220,674				35,676
1988	13,406	130,547	77,342	10,699	218,588				35,023
1989	8,976	134,894	81,795	9,435	226,124				40,197
1990	6,059	131,601	80,241	7,794	219,636				41,500
1991	6,417	127,432	81,977	7,791	217,200				45,792
1992	6,851	142,059	54,028	7,421	203,508				39,211
1993	6,611	137,489	52,416	8,061	197,966				29,231
1994	7,477	148,770	54,185	8,334	211,289				45,610
1995	6,480	146,497	55,367	8,863	210,727				48,028
1996	8,132	137,724	62,834	9,105	209,663				53,058
1997	8,208	135,010	66,398	10,122	211,530				52,730
1998	7,664	133,000	65,129	10,661	208,790				50,511
1999**	"-----Discontinued-----"				206,210	2,885	42,379	2,086	44,465
2000					200,995	1,642	39,067	1,901	40,968
2001					194,051	1,515	26,748	1,090	27,838

Statistics:

10 Year Avg.	205,473	2,014	36,065	1,692	43,165
Long-term Avg.	273,387	2,014	36,065	1,692	21,354

Table 5.8 Sales of hunting-related licenses and stamps in Iowa (1942-present).

YEAR ^a	HABITAT STAMP ^d	IOWA DUCK STAMP ^e	FUR- HARVEST over 16 ^f	FUR- HARVEST under 16	TOTAL FUR- HARVEST ^g	HUNT PRESERVE ^h
1972		70,446				
1973		67,323				
1974		70,797				
1975		70,814				
1976		66,120				
1977		69,023				
1978		67,041				
1979	279,621	52,865	17,602	4,813	22,415	768
1980	296,667	50,202	19,366	5,529	24,895	822
1981	297,297	45,751	19,116	4,990	24,106	742
1982	269,290	44,391	17,505	4,248	21,753	751
1983	261,340	42,981	14,964	3,699	18,663	766
1984	243,154	44,445	14,537	3,329	17,866	696
1985	233,779	37,681	25,156	3,519	28,675	729
1986	236,219	40,157	23,709	3,064	26,773	882
1987	259,350	43,357	28,923	3,338	32,261	1,112
1988	257,702	34,799	24,105	2,380	26,485	1,696
1989	271,342	32,920	18,411	1,530	19,941	1,499
1990	263,530	31,468	13,853	973	14,826	1,786
1991	266,845	32,537	14,208	719	14,927	1,454
1992	247,673	34,304	14,272	793	15,065	1,810
1993	232,298	31,741	14,672	829	15,501	2,137
1994	260,815	33,232	15,811	952	16,763	1,870
1995	263,531	34,903	15,343	903	16,246	2,467
1996	265,653	43,060	17,237	1,021	18,258	2,317
1997	269,443	38,275	18,330	1,066	19,396	2,516
1998	266,519	40,349	18,325	1,078	19,403	3,107
1999**	253,943	42,588	15,804	1,004	16,808	2,772
2000	245,351	40,913	12,793	1,936	14,729	2,898
2001	237,407	40,378	14,665	658	15,323	2,963
Statistics:						
10 Year /	254,263	37,974	15,725	1,024	16,749	2,486
Long-term	259,946	46,495	17,770	2,277	20,047	1,677

^a Change to ELSI electronic licensing system in 1999. First four license types modified or eliminated under ELSI.

^b Total resident licenses is sum of resident hunt, resident combination, and fur/fish/game, until ELSI system implementation in 1999.

^c Total NR licenses combines NR over and under 18 sales after 1999 ELSI implementation for comparisons to previous years.

^{deh} Totals combine resident and non-resident sales.

^f Furharvester (over 16) sales combines discontinued furharvester (over 16) and fur/fish/game licenses, until ELSI system implementation in 1999.

^g Total furharvester licenses sales is the sum of the furharvester over and under 16 sales columns. Total does not include non-resident sales.

Table 5.9 Estimated hunter numbers from the Iowa small-game survey (1963-present). Prior to 1978 Canada geese = all geese.

YEAR	PHEASANT	QUAIL	COTTON- TAIL	JACK- RABBIT	SQUIRREL	HUNS	RUFFED GROUSE	DUCKS	CANADA GEESE	OTHER GEESE	RACCOON	FOX	COYOTE
1963	277,400	47,028	169,994	30,494	150,932						26,745	54,135	
1964	271,285	46,535	179,585	31,815	136,415			55,270	9,225		27,975	58,685	
1965	225,735	46,450	138,379	26,080	123,640			50,225	26,250		17,420	40,150	
1966	240,400	63,785	154,647	20,355	130,500			63,265	31,340		23,200	43,500	
1967	244,300	62,485	150,050	20,615	138,520			64,900	32,450		21,400	48,910	
1968	247,100	70,367	147,380	20,131	120,790			54,065	33,075		23,000	63,270	
1969	259,100	81,100	159,000	24,810	133,600		1,540	75,035	40,025		18,220	54,650	
1970	283,400	87,665	167,190	26,460	136,150		2,660	68,880	34,440		30,640	28,620	4,370
1971	301,150	80,250	134,470	16,326	118,059		1,663	73,196	53,826		36,140	26,740	4,700
1972	230,000	63,900	137,000	12,800	105,000	6,400	3,000	61,000	20,000		25,500	19,000	6,400
1973	307,974	106,150	201,560	23,209	159,473	22,374		63,006			44,655	59,849	34,547
1974	307,200	101,101	192,100		159,000								
1975	280,019	102,668	175,850										
1976	289,592	125,575	173,125	11,600	143,474	22,054	8,198	86,763	57,598		52,097	61,874	42,721
1977	279,689	103,776	170,074	11,302	141,596	17,691	5,668	87,493	56,405		57,985	57,264	40,638
1978	270,413	101,916	142,809	14,268	120,503	34,329	8,306	82,758	36,104	33,726	46,487	56,769	40,726
1979	241,972	73,461	114,642	10,029	111,434	23,465	4,931	74,989	28,779	30,735	45,432	44,884	34,240
1980	252,440	86,816	119,901	8,526	111,425	27,554	9,281	65,206	25,348	25,441	39,900	39,666	34,125
1981	254,803	97,430	150,881	11,106	117,942	28,731	7,059	55,394	24,277	22,266	36,108	43,985	35,443
1982	214,263	68,479	118,994	4,862	105,262	21,532	8,317	56,335	27,211	22,149	33,321	39,754	32,852
1983	203,014	63,060	118,535	7,331	98,553	25,366	5,701	53,446	20,728	16,761	27,631	39,401	28,652
1984	176,312	58,630	102,993	5,543	86,380	21,179	7,573	53,187	26,681	22,702	25,977	35,144	33,322
1985	175,225	54,427	107,500	6,568	88,849	25,956	5,949	39,832	21,629	15,234	"-----Discontinued-----"		
1986	184,759	63,985	92,727	5,193	84,082	30,822	6,874	44,184	24,646	16,331			
1987	212,118	83,754	103,199	7,298	77,819	40,878	6,053	36,805	18,391	14,201			
1988	204,659	74,584	84,529	4,376	74,783	44,154	8,353	25,657	16,309	9,348			
1989	211,586	79,971	89,054	5,634	80,937	48,785	9,611	24,032	16,275	11,253			
1990	210,845	72,886	87,437	4,679	70,539	49,220	7,095	23,568	14,792	6,900			
1991	202,319	62,684	83,200	4,001	63,601	25,165	4,884	26,261	17,073	6,828			
1992	176,430	56,287	66,967	5,802	60,443	22,949	4,378	34,270	23,538	10,485			
1993	166,260	49,345	65,704	1,547	62,175	14,920	2,197	28,292	19,839	10,164			
1994	189,664	50,258	68,840	1,239	57,381	18,294	2,521	29,843	25,544	10,107			
1995	200,302	50,839	68,499	4,361	57,495	15,954	3,940	41,620	31,795	10,034			
1996	205,592	44,974	75,870	2,623	56,382	21,914	2,525	35,670	29,743	7,076			
1997	205,203	35,473	51,785	2,872	43,632	12,330	2,031	46,831	35,781	10,360			
1998	184,585	32,378	54,588	1,604	53,859	13,502	152	41,165	30,258	9,992			
1999 ^a	181,673	41,117	50,254	2,456	46,994	11,390	1,481	"-----Discontinued-----"					
2000	167,521	39,957	46,311	1,572	35,395	6,043	960						
2001	122,906	24,591	36,125	2,933	36,760	5,757	3,227						
Statistics:													
10 Year Avg.	180,014	42,522	58,494	2,701	51,052	14,305	2,341						
Long-term Avg.	227,159	68,106	116,711	10,876	97,362	23,525	4,871	52,195	28,418	15,338	32,992	45,813	28,672
Percent Change from:													
2000	-26.6	-38.5	-22.0	86.6	3.9	-4.7	236.1						
10 Year Avg.	-31.7	-42.2	-38.2	8.6	-28.0	-59.8	37.8						
Long-term Avg.	-45.9	-63.9	-69.0	-73.0	-62.2	-75.5	-33.7						

^a Small Game Harvest Survey changed from a single to a double mailing. Hunter estimates from 1999-present are more conservative than pre-1999 estimates.

Table 5.10 Iowa's ring-necked pheasant hunting seasons.

YEAR	DATES	SEASON	SHOOTING	LIMIT - BAG/POSS		# COUNTIES
	REGULAR / YOUTH	LENGTH	HOURS	REGULAR	YOUTH	OPEN
1946	28 OCT-17 NOV	21	1000-1600	3/6		59
1947	11 NOV-20 NOV	10	1200-1600	2/2		64
1948	11 NOV-30 NOV	20	1200-1600	2/4		68
	11 NOV- 5 DEC	25	1200-1630	2/4		68
1949	11 NOV-17 NOV	7	1200-1630	2/4		11
1950	11 NOV- 5 DEC	25	1200-1630	3/3		70
	11 NOV-20 NOV	10	1200-1630	3/3		13
1951	11 NOV- 5 DEC	25	1200-1630	3/3		65
	11 NOV-22 NOV	12	1200-1630	3/3		27
1952	18 NOV-12 DEC	25	1200-1630	3/3		65
	18 NOV-29 NOV	12	1200-1630	3/3		27
1953	11 NOV- 5 DEC	25	1200-1630	3/3		69
	11 NOV-22 NOV	12	1200-1630	3/3		23
1954	11 NOV- 5 DEC	25	1200-1630	3/3		70
	11 NOV-22 NOV	12	1200-1630	3/3		22
1955	12 NOV- 5 DEC	24	1200-1630	3/3		70
	12 NOV-24 NOV	13	1200-1630	3/3		22
1956	10 NOV- 3 DEC	24	1200-1630	3/3		70
	10 NOV-22 NOV	13	1200-1630	3/3		22
1957	9 NOV- 2 DEC	24	1200-1630	3/3		70
	9 NOV-21 NOV	13	1200-1630	3/3		22
1958	8 NOV- 1 DEC	24	1000-1630	3/6		70
	8 NOV-23 NOV	16	1000-1630	3/6		22
1959	14 NOV- 7 DEC	24	0900-1630	3/6		70
	14 NOV-29 NOV	16	0900-1630	3/6		22
1960	5 NOV-28 NOV	24	0900-1630	3/6		92
1961	11 NOV-15 DEC	35	0900-1630	3/6		92
1962	10 NOV-14 DEC	35	0900-1630	3/6		92
1963-64	9 NOV- 1 JAN	54	0830-1700	3/9		92
1964-65	7 NOV- 3 JAN	58	0830-1700	3/9		92
1965-66	13 NOV- 2 JAN	51	0830-1600	2/6		92
1966-67	12 NOV- 2 JAN	52	0800-1630	3/6		92
1967-68	11 NOV- 1 JAN	52	0800-1630	3/6		94
1968-69	9 NOV-31 DEC	53	0800-1630	3/6		94
1969-70	8 NOV-31 DEC	54	0800-1630	3/6		94
1970-71	14 NOV- 3 JAN	51	0800-1630	3/6		94
1971-72	13 NOV- 2 JAN	51	0800-1630	3/6		96
1972-73	11 NOV- 1 JAN	52	0800-1630	3/12		96
1973-74	10 NOV- 6 JAN	58	0800-1630	3/12		96
1974-75	9 NOV- 5 JAN	58	SUNRISE-SUNSET	3/12		97
1975-76	8 NOV- 4 JAN	58	0800-1630	3/6		97
1976-77	6 NOV- 2 JAN	58	0800-1630	3/6		STATEWIDE
1977-78	5 NOV- 1 JAN	58	0800-1630	3/6		STATEWIDE
1978-79	4 NOV- 1 JAN	60	0800-1630	3/6		STATEWIDE
1979-80	3 NOV- 6 JAN	65	0800-1630	3/6		STATEWIDE

Table 5.10 Iowa's ring-necked pheasant hunting seasons.

YEAR	DATES		SEASON LENGTH	SHOOTING HOURS	LIMIT - BAG/POSS		# COUNTIES OPEN
	REGULAR / YOUTH				REGULAR	YOUTH	
1980-81	1 NOV- 4 JAN		65	0800-1630	3/6		STATEWIDE
1981-82	7 NOV- 3 JAN		58	0800-1630	3/6		STATEWIDE
1982-83	6 NOV- 2 JAN		58	0800-1630	3/6		STATEWIDE
1983-84	5 NOV- 1 JAN		58	0800-1630	3/6		STATEWIDE
1984-85	3 NOV- 1 JAN		60	0800-1630	3/6		STATEWIDE
1985-86	2 NOV- 5 JAN		65	0800-1630	3/9		STATEWIDE
1986-87	1 NOV- 4 JAN		65	0800-1630	3/9		STATEWIDE
1987-88	31 OCT- 3 JAN		65	0800-1630	3/12		STATEWIDE
1988-89	29 OCT- 8 JAN		72	0800-1630	3/12		STATEWIDE
1989-90	28 OCT-10 JAN		75	0800-1630	3/12		STATEWIDE
1990-91	27 OCT-10 JAN		76	0800-1630	3/12		STATEWIDE
1991-92	26 OCT-10 JAN		77	0800-1630	3/12		STATEWIDE
1992-93	31 OCT-10 JAN		72	0800-1630	3/12		STATEWIDE
1993-94	30 OCT-10 JAN		72	0800-1630	3/12		STATEWIDE
1994-95	29 OCT-10 JAN		74	0800-1630	3/12		STATEWIDE
1995-96	28 OCT-10 JAN		75	0800-1630	3/12		STATEWIDE
1996-97	26 OCT-10 JAN		77	0800-1630	3/12		STATEWIDE
1997-98 ¹	26 OCT-10 JAN / 18-19 OCT	78/2	0800-1630	3/12		1/2	STATEWIDE
1998-99	31 OCT-10 JAN / 23-24 OCT	72/2	0800-1630	3/12		1/2	STATEWIDE
1999-00	30 OCT-10 JAN / 22-23 OCT	73/2	0800-1630	3/12		1/2	STATEWIDE
2000-01	28 OCT-10 JAN / 21-22 OCT	75/2	0800-1630	3/12		1/2	STATEWIDE
2001-02	27 OCT-10 JAN / 20-21 OCT	76/2	0800-1630	3/12		1/2	STATEWIDE

¹ Iowa's first youth pheasant season, open to resident hunters 15 years or younger.

Table 5.11 Iowa's Bobwhite quail hunting seasons.

YEAR	DATES	SEASON LENGTH	SHOOTING HOURS	LIMIT BAG/POSS	AREA OPEN
1963-64	2 NOV- 1 JAN	61	0830-1700	6/12	STATEWIDE
1964-65	31 OCT- 3 JAN	65	0830-1700	8/16	STATEWIDE
1965-66	6 NOV-31 JAN	86	0830-1600	8/16	STATEWIDE
1966-67	22 OCT-31 JAN	102	0800-1630	8/16	STATEWIDE
1967-68	21 OCT-28 JAN	103	0800-1630	8/16	STATEWIDE
1968-69	26 OCT-31 JAN	98	0800-1630	8/16	STATEWIDE
1969-70	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
1970-71	24 OCT-31 JAN	100	0800-1630	8/16	STATEWIDE
1971-72	23 OCT-31 JAN	101	0800-1630	8/16	STATEWIDE
1972-73	28 OCT-31 JAN	96	0800-1630	8/16	STATEWIDE
1973-74	27 OCT-31 JAN	97	0800-1630	8/16	STATEWIDE
1974-75	26 OCT-31 JAN	98	SUNRISE-SUNSET	8/16	STATEWIDE
1975-76	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
1976-77	6 NOV-31 JAN	86	0800-1630	8/16	STATEWIDE
1977-78	5 NOV-31 JAN	87	0800-1630	8/16	STATEWIDE
1978-79	4 NOV-31 JAN	88	0800-1630	8/16	STATEWIDE
1979-80	3 NOV- 6 JAN	64	0800-1630	6/12	STATEWIDE
1980-81	1 NOV-31 JAN	92	0800-1630	8/16	STATEWIDE
1981-82	7 NOV-31 JAN	86	0800-1630	8/16	STATEWIDE
1982-83	6 NOV-31 JAN	87	0800-1630	8/16	STATEWIDE
1983-84	5 NOV-31 JAN	88	0800-1630	8/16	STATEWIDE
1984-85	3 NOV-31 JAN	90	0800-1630	8/16	STATEWIDE
1985-86	2 NOV-31 JAN	91	0800-1630	8/16	STATEWIDE
1986-87	1 NOV-31 JAN	92	0800-1630	8/16	STATEWIDE
1987-88	31 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
1988-89	29 OCT-31 JAN	95	0800-1630	8/16	STATEWIDE
1989-90	28 OCT-31 JAN	96	0800-1630	8/16	STATEWIDE
1990-91	27 OCT-31 JAN	97	0800-1630	8/16	STATEWIDE
1991-92	26 OCT-31 JAN	98	0800-1630	8/16	STATEWIDE
1992-93	31 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
1993-94	30 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
1994-95	29 OCT-31 JAN	95	0800-1630	8/16	STATEWIDE
1995-96	28 OCT-31 JAN	96	0800-1630	8/16	STATEWIDE
1996-97	26 OCT-31 JAN	98	0800-1630	8/16	STATEWIDE
1997-98	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
1998-99	31 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
1999-00	30 OCT-31 JAN	94	0800-1630	8/16	STATEWIDE
2000-01	28 OCT-31 JAN	96	0800-1630	8/16	STATEWIDE
2001-02	27 OCT-31 JAN	97	0800-1630	8/16	STATEWIDE

Table 5.12 Iowa's Hungarian partridge hunting seasons.

YEAR	DATES	SEASON LENGTH	SHOOTING HOURS	LIMIT BAG/POSS	AREA OPEN
1963-64	9 NOV- 1 JAN	54	0830-1700	2/4	16 NW COUNTIES
1964-65	7 NOV- 3 JAN	58	0830-1700	2/4	W US 65, N US 20
1965-66	13 NOV- 2 JAN	51	0830-1600	2/4	W US 65, N US 20
1966-67	12 NOV- 2 JAN	52	0800-1630	2/4	W US 65, N US 20
1967-68	11 NOV- 1 JAN	52	0800-1630	2/4	W US 65, N US 20
1968-69	9 NOV-31 DEC	53	0800-1630	4-Feb	?
1969-70	8 NOV-31 DEC	54	0800-1630	2/4	?
1970-71	14 NOV- 3 JAN	51	0800-1630	2/4	W. US 65; N. US 30, I29, STATE 141
1971-72	13 NOV- 2 JAN	51	0800-1630	2/4	W. US 65; N. US 30, I29, STATE 141
1972-73	11 NOV- 1 JAN	52	0800-1630	4/8	W. US 65; N. US 30, I29, STATE 141
1973-74	10 NOV- 6 JAN	58	0800-1630	4/8	N. US 30
1974-75	9 NOV- 5 JAN	58	SUNRISE-SUNSET	4/8	N. US 30
1975-76	8 NOV- 4 JAN	58	0800-1630	4/8	N. US 30
1976-77	6 NOV- 2 JAN	58	0800-1630	4/8	N. US 30
1977-78	5 NOV- 1 JAN	58	0800-1630	6/12	N. US 30
1978-79	4 NOV- 1 JAN	60	0800-1630	6/12	N. US 30
1979-80	3 NOV- 6 JAN	65	0800-1630	6/12	N. US 30
1980-81	1 NOV-31 JAN	92	0800-1630	6/12	N. I-80
1981-82	7 NOV-31 JAN	86	0800-1630	6/12	N. I-80
1982-83	6 NOV-31 JAN	87	0800-1630	6/12	N. I-80
1983-84	5 NOV-31 JAN	88	0800-1630	6/12	N. I-80
1984-85	3 NOV-31 JAN	90	0800-1630	6/12	N. I-80
1985-86	2 NOV-31 JAN	91	0800-1630	6/12	N. I-80
1986-87	1 NOV-31 JAN	92	0800-1630	6/12	STATEWIDE
1987-88	31 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
1988-89	29 OCT-31 JAN	94	0800-1630	8/16	STATEWIDE
1989-90	7 OCT-31 JAN	117	0800-1630	8/16	STATEWIDE
1990-91	6 OCT-31 JAN	118	0800-1630	8/16	STATEWIDE
1991-92	5 OCT-31 JAN	119	0800-1630	8/16	STATEWIDE
1992-93	10 OCT-31 JAN	114	0800-1630	8/16	STATEWIDE
1993-94	9 OCT-31 JAN	115	0800-1630	8/16	STATEWIDE
1994-95	8 OCT-31 JAN	116	0800-1630	8/16	STATEWIDE
1995-96	14 OCT-31 JAN	109	0800-1630	8/16	STATEWIDE
1996-97	12 OCT-31 JAN	112	0800-1630	8/16	STATEWIDE
1997-98	11 OCT-31 JAN	113	0800-1630	8/16	STATEWIDE
1998-99	10 OCT-31 JAN	114	0800-1630	8/16	STATEWIDE
1999-00	9 OCT-31 JAN	115	0800-1630	8/16	STATEWIDE
2000-01	14 OCT-31 JAN	110	0800-1630	8/16	STATEWIDE
2001-02	13 OCT-31 JAN	111	0800-1630	8/16	STATEWIDE

Table 5.13 Iowa's cottontail and jackrabbit seasons.

YEAR	DATES	SEASON LENGTH	SHOOTING HOURS	LIMIT - BAG/POSS		AREA OPEN
	COTTONTAILS / JACKRABBITS			COTTONTAILS	JACKRABBITS	
1963-64	14 SEP-23 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1964-65	12 SEP-21 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1965-66	12 SEP-21 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1966-67	10 SEP-19 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1967-68	15 SEP-17 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1968-69	14 SEP-16 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1969-70	13 SEP-15 FEB	163	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1970-71	12 SEP-28 FEB	170	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1971-72	11 SEP-29 FEB	171	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1972-73	9 SEP-28 FEB	173	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1973-74	8 SEP-28 FEB	174	0600-1800	AGGREGATE - 10/NONE		STATEWIDE
1974-75	7 SEP-28 FEB	175	SUNRISE-SUNSET	AGGREGATE - 10/NONE		STATEWIDE
1975-76	6 SEP-28 FEB	176	SUNRISE-SUNSET	AGGREGATE - 10/NONE		STATEWIDE
1976-77	11 SEP-28 FEB	171	SUNRISE-SUNSET	AGGREGATE - 10/NONE		STATEWIDE
1977-78	3 SEP-28 FEB	179	SUNRISE-SUNSET	AGGREGATE - 10/NONE		STATEWIDE
1978-79	2 SEP-28 FEB/4 NOV-7 JAN	180/65	SUNRISE-SUNSET	10/NONE	3/6	STATEWIDE
1979-80	1 SEP-29 FEB/3 NOV-6 JAN	182/65	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1980-81	6 SEP-28 FEB/1 NOV-4 JAN	176/65	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1981-82	5 SEP-28 FEB/7 NOV-3 JAN	177/58	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1982-83	4 SEP-28 FEB/6 NOV-2 JAN	178/58	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1983-84	3 SEP-29 FEB/5 NOV-18 DEC	180/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1984-85	1 SEP-28 FEB/3 NOV-16 DEC	181/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1985-86	31 AUG-28 FEB/2 NOV-15 DEC	182/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1986-87	30 AUG-28 FEB/1 NOV-14 DEC	183/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1987-88	5 SEP-29 FEB/31 OCT-13 DEC	178/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1988-89	3 SEP-28 FEB/28 OCT-10 DEC	179/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1989-90	2 SEP-28 FEB/29 OCT-11 DEC	180/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1990-91	1 SEP-28 FEB/27 OCT-9 DEC	181/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1991-92	31 AUG-29 FEB/26 OCT-8 DEC	183/44	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1992-93	5 SEP-28 FEB/31 OCT-6 DEC	177/37	SUNRISE-SUNSET	10/20	3/6	STATEWIDE
1993-94	4 SEP-28 FEB/30 OCT-5 DEC	176/37	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1994-95	3 SEP-28 FEB/29 OCT-4 DEC	177/37	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1995-96	2 SEP-28 FEB/28 OCT-1 DEC	178/35	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1996-97	7 SEP-28 FEB/26 OCT-1 DEC	174/37	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1997-98	1 SEP-28 FEB/25 OCT-1 DEC	181/38	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1998-99	1 SEP-28 FEB/30 OCT-1 DEC	181/33	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
1999-00	1 SEP-28 FEB/30 OCT-1 DEC	181/33	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2000-01	1 SEP-28 FEB/28 OCT-1 DEC	181/35	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2001-02	1 SEP-28 FEB/27 OCT-1 DEC	181/36	SUNRISE-SUNSET	10/20	2/4	STATEWIDE

1963-1977 SEASONS AND LIMITS ARE AN AGGREGATE OF COTTONTAILS AND JACKRABBITS.

Figure 5.2 Statewide trends in pheasant harvest and August roadside survey counts

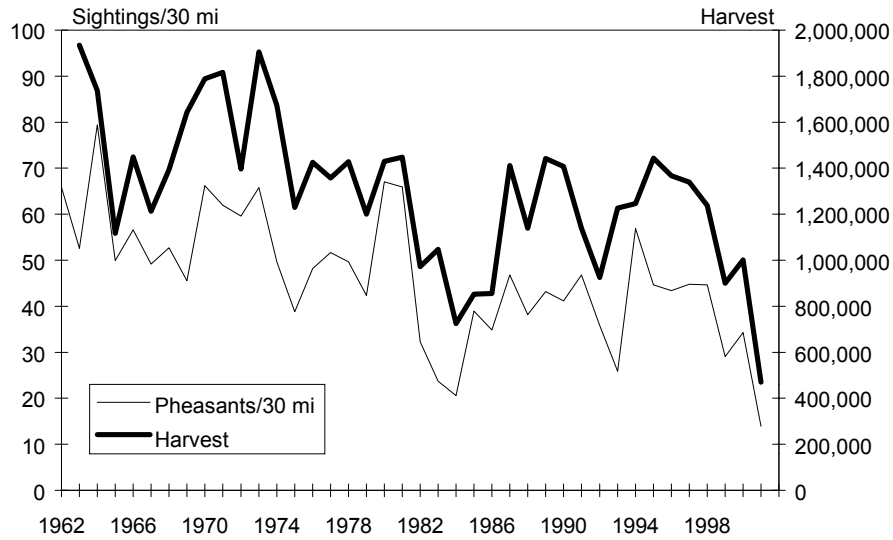


Figure 5.3 Statewide trends in pheasant broods and average brood size from August roadside survey

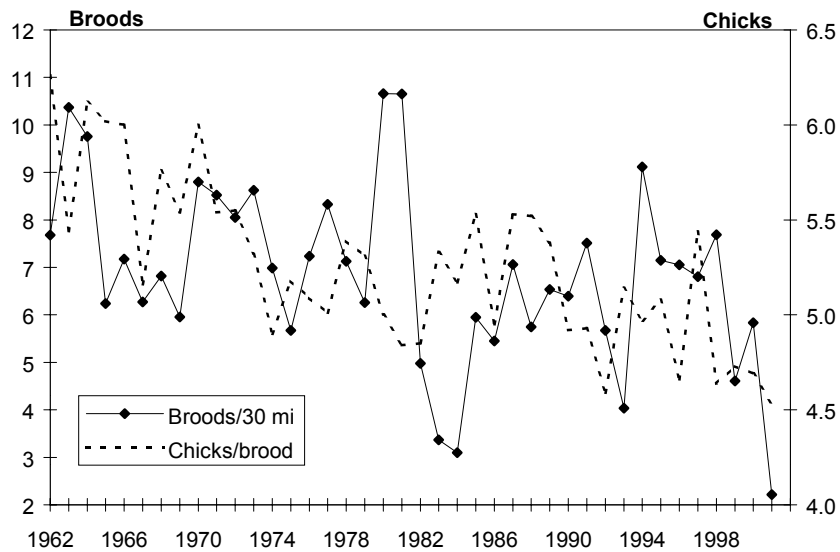


Figure 5.4 Statewide sex ratio and estimated cock harvest from winter pheasant surveys

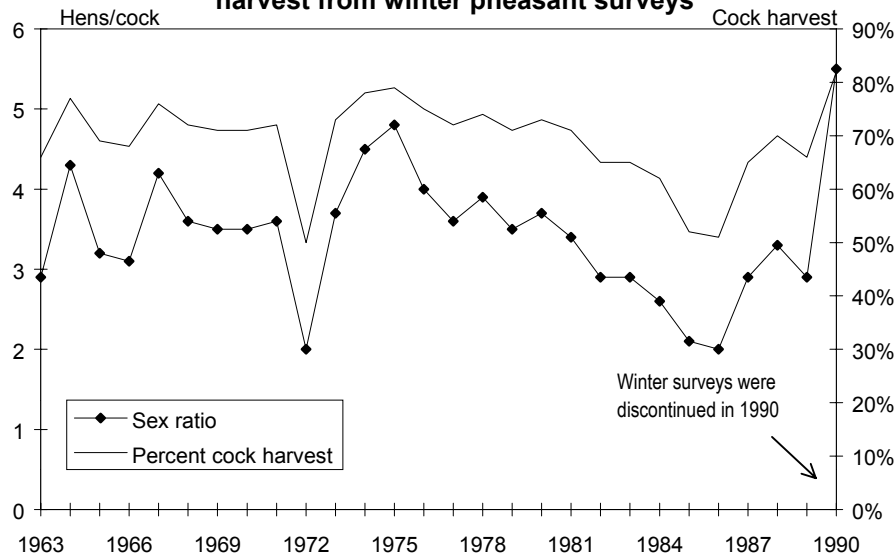


Figure 5.5 Statewide trends in pheasant hens with and without broods from August roadside survey

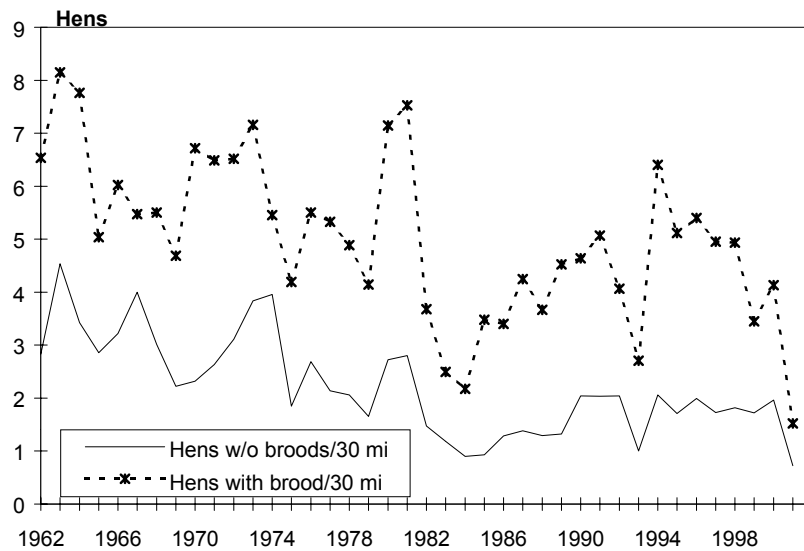
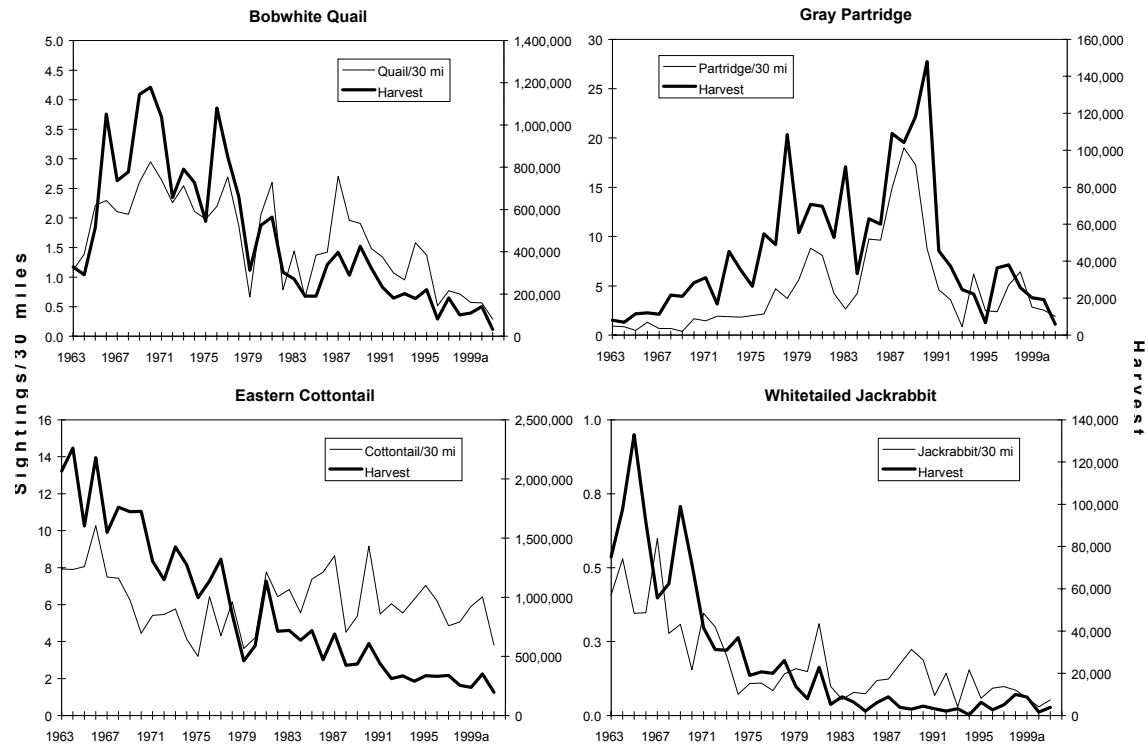


Figure 5.6 Statewide trends in small game harvests and August roadside survey counts



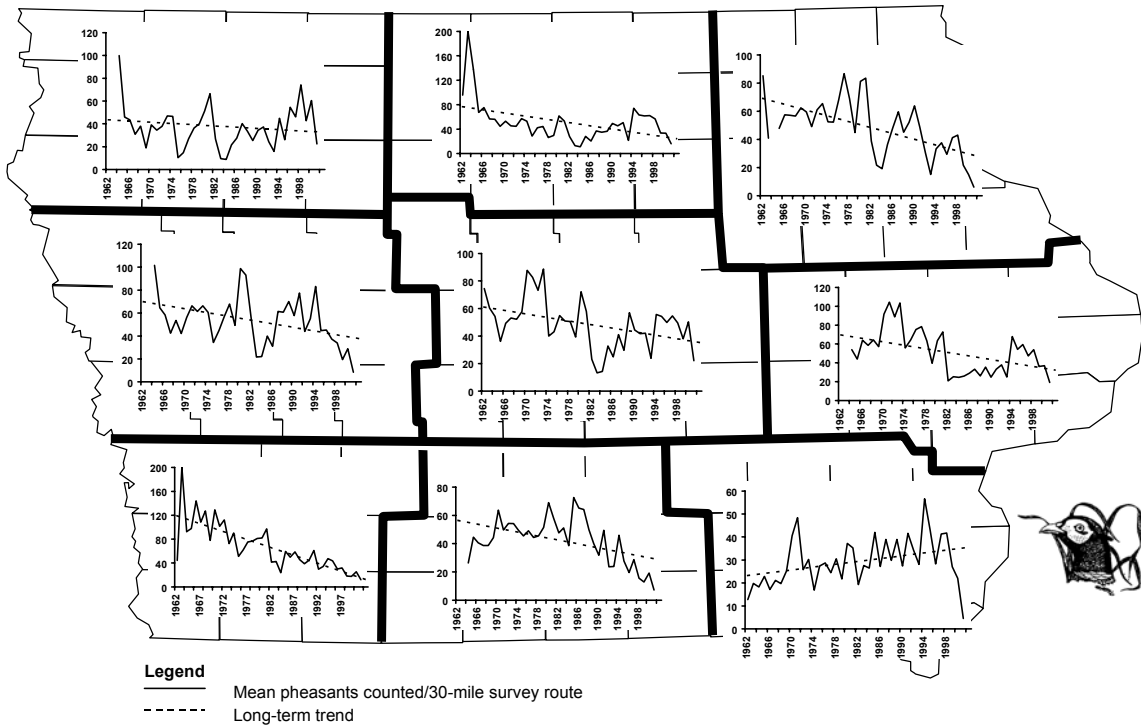


Figure 5.7 Regional trends in ring-necked pheasant numbers from the August roadside survey (1962-present).

Note: Because of variation in historical counts, vertical axes among survey regions are not to the same scale.

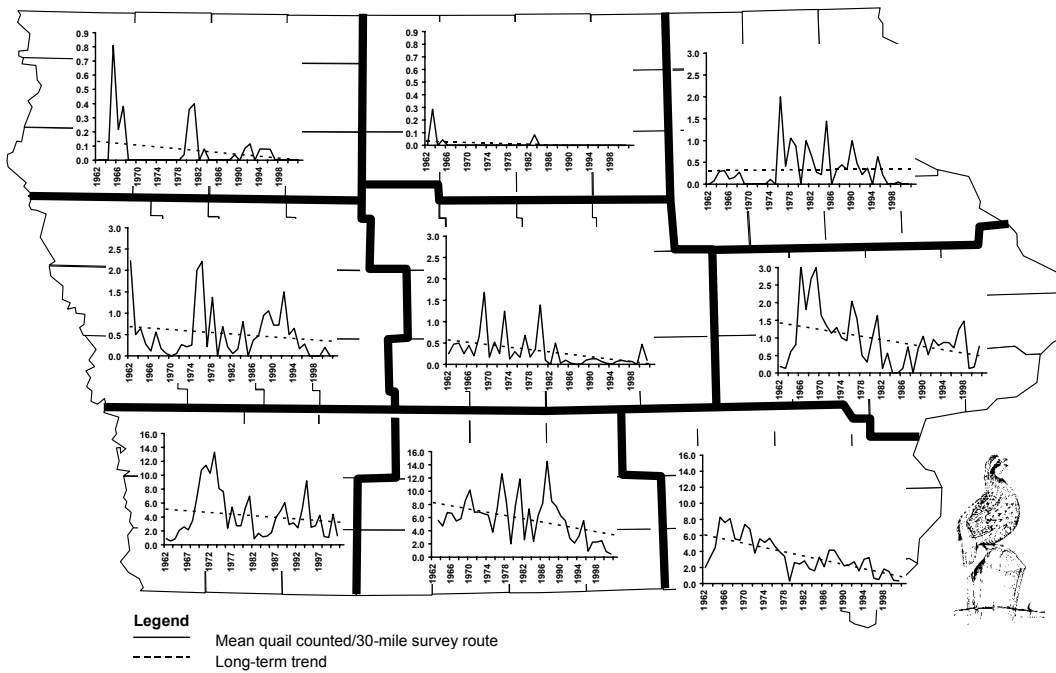


Figure 5.8 Regional trends in bobwhite quail numbers from the August roadside survey (1962-present).

Note: Because of variation in historical counts, vertical axes among survey regions are not to the same scale.

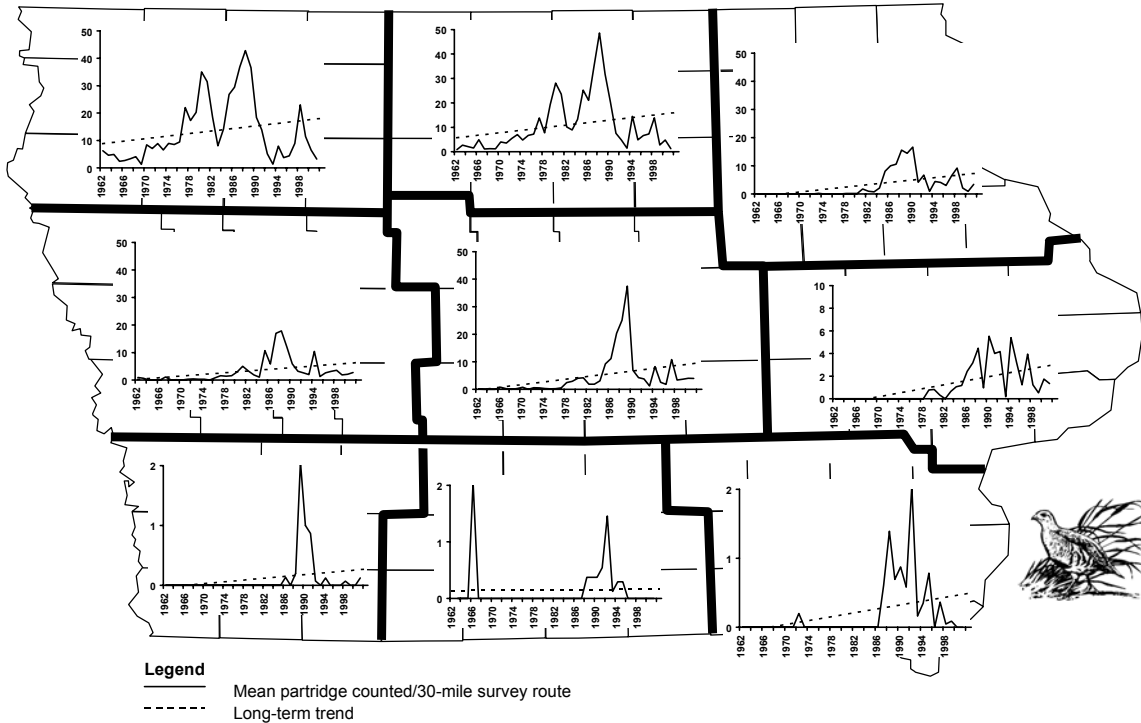


Figure 5.9 Regional trends in gray partridge numbers from the August roadside survey (1963-present).

Note: Because of variation in historical counts, vertical axes among survey regions are not to the same scale.

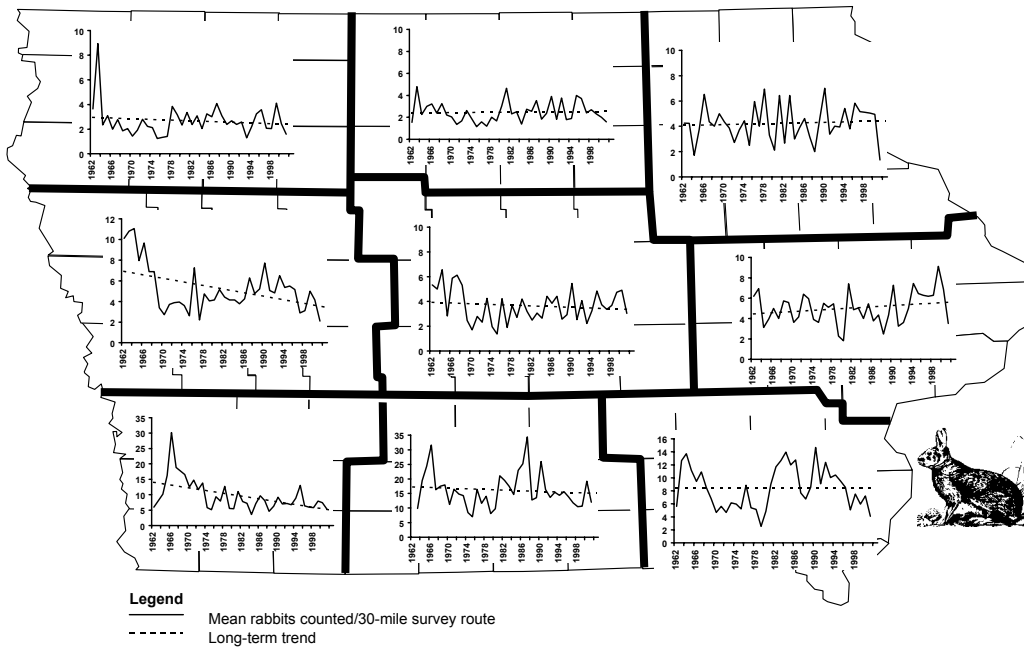


Figure 5.10 Regional trends in cottontail rabbit numbers from the August roadside survey (1962-present).

Note: Because of variation in historical counts, vertical axes among survey regions are not to the same scale.

Figure 5.11 Sales of Iowa hunting licenses

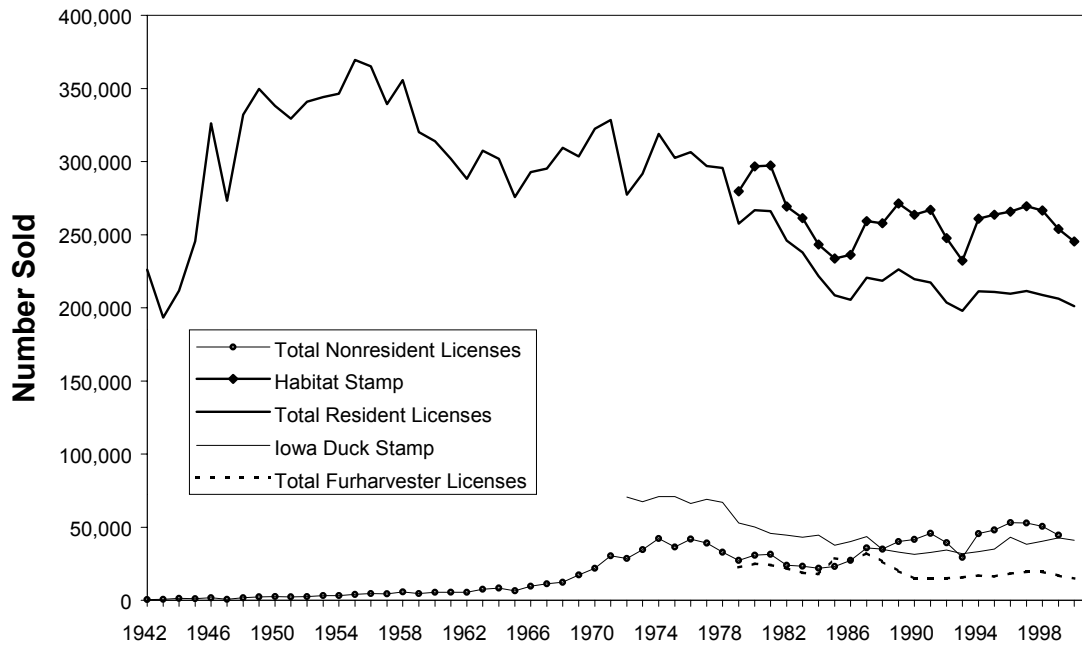
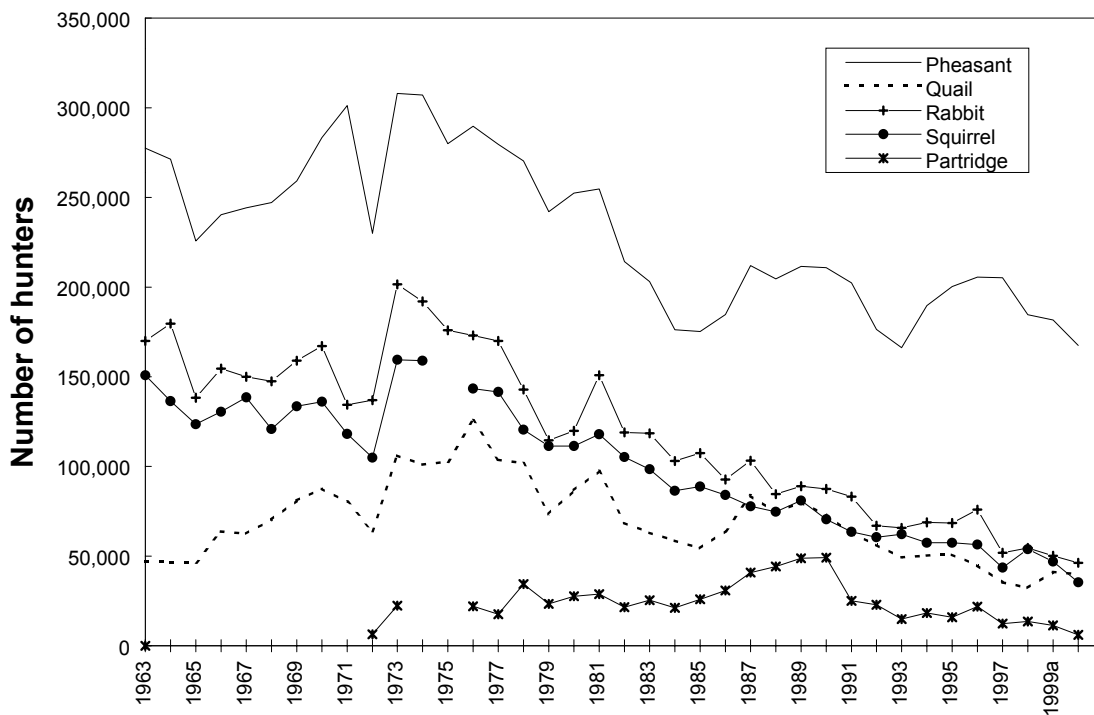


Figure 5.12 Estimated number of Iowa small-game hunters



RIVER OTTER RESTORATION

1800

Prior to Iowa settlement, the river otter was common along major rivers and streams throughout the state. However, otter populations were reduced by a combination of factors including unregulated trapping, stream pollution, and agricultural activities. By the early 1900s there were few otter sightings on Iowa's interior streams. The species was extirpated from most of the state, except for a small remnant otter population along and adjacent to the Mississippi River in northeastern and east central Iowa.

1985

Efforts to restore the river otter to other parts of Iowa began in 1985 when 16 otters (8F,8M) from Louisiana were released at the upper end of Red Rock Reservoir in Marion County. These otters were obtained through a three-way trade in which Iowa DNR provided wild turkeys to Kentucky who, in turn, bought 16 otters from Louisiana to be released in Iowa. Two turkeys were traded for each otter received. Each otter was tagged on both ears and both hind feet for future identification. Radio transmitters were implanted in the otters at Red Rock to monitor movements, mortality, and habitat use.

1989-90

After the apparent success of the initial release, additional otters were released at sites throughout Iowa (Fig. 7.1). Otters were obtained through the same 3-way trade mentioned earlier until 1989. In 1989, the Mitchell County Conservation Board and local schools provided the funds to purchase 8 animals. In 1990, 38 additional otters were released

on the Cedar River in Mitchell County as well as on the Winnebago River in Cerro Gordo County. These releases were funded through local fund-raising efforts and T-shirt sales from the Iowa Trappers Association, Furtakers of Iowa, ISU Fisheries and Wildlife Biology Club and the Iowa DNR.

Between 1985 and 1990, 222 otters were released at 11 sites (Table 7.1). To help reduce trapping mortality, at each release site a portion of the stream was closed to trapping within 10 yards of a beaver lodge or den, since these areas are commonly used by otters. In 1997, this restriction was deemed outdated and, consequently, removed. However, many trappers voluntarily maintained the 10-yard rule.

1997

Two additional sites received otters in 1997. Indian Creek Nature Center in Linn County provided funding for 17 animals, and Chichaqua Wildlife Area in Polk County where the Polk CCB provided funding for 10 animals. Two release sites were added in 1998, both in Cedar Falls. The Black Hawk CCB provided funds for 12 animals. Half were released on the Cedar River at Hartman Reserve Nature Center and the remaining 6 were released on the other side of the Cedar River at George Wyth State Park. In 1999, no animals were purchased from Louisiana for release. From 1985-1999, 261 Louisiana River Otters have been released into Iowa's rivers and lakes.

1999-2000

Otter populations in several localized sites across the state are experiencing roadkills and incidental

trappings. The Iowa DNR wanted to determine the viability of these localized “hot spots” by trapping some of the animals and monitoring the population changes at both site of capture and the site of release. In 1999, 5 otters were translocated from the Des Moines River in Boone County to Peterson Pits along the Skunk River in Story County. An additional 3 otters were translocated from the Little Sioux River in Buena Vista County to the Boyer River in Sac County.

2000-2001

During the fall and winter of 2000-2001, 5 additional otters were released to Buena Vista County Boyer River Site. Five were captured and released on the East Nishnabotna River near Audubon. Three were captured and released at Miami Lakes in Monroe County. Two were released on Cedar Creek east of Albia. During the fall and winter of 2001-2002, 5 more otters were captured and released on the East Nishnabotna River near Audubon. The Iowa River Greenbelt Trust also funded the release of 11 river otters to the Iowa River at the Hardin City Access near Steamboat in 2000-01. The DNR delisted the river otter from the threatened list in 2001.

2001-2002

In 2001-02, a record 32 additional river otters were trapped and released at other sites across the state. (Table 7.1)

During the winter of 2000-2001, otter teeth to determine population age

structure and otter reproductive tracts have been collected from nearly 150 river otter carcasses. Evaluation of these and continued collections will take place in 2001-2004. The documentation request for a river otter season has currently been requested from the Scientific Authority of the U.S. Fish and Wildlife Service. Our goal is to have a limited river otter harvest season by no later than 2005.

Otter releases have been monitored by searching for tracks, mudslides, snow slides, and by soliciting observations from DNR and CCB personnel, and the public. Thus far, the results are encouraging; otters have been observed at all release sites and in over 90 counties across the state. Reproduction has been documented in over 75 of Iowa's 99 counties (figure 7.1). Major mortality causes are incidental trapping and roadkills. The goal of the otter restoration project is to have statewide distribution and ultimately some type of regulated otter harvest season.

As the otter population increases, we are beginning to get a few otter depredation complaints, particularly in farm ponds. Some fishery interests are also showing mild concern of otter predation on certain localized rivers and streams.

Areas in southern Iowa have apparently benefited from otter releases in Missouri. Areas in southern Minnesota are benefiting from Iowa releases. Nearly everyone closely associated with furbearer resources in Iowa believe the Iowa River Otters are doing extremely well.

Table 7.1 River otter release sites in Iowa, 1985 – 1999.

Year	Males	Females	County	Nearest Town	River / Area
1985	8	8	Marion	Runnells	Red Rock Reservoir
1986	10	10	Tama	Chelsea	Otter Creek WMA
1986	10	10	Hamilton	Stratford	Boone River
1986	10	10	Guthrie	Guthrie Center	Springbrook Park
1987	10	10	Clay	Peterson	Little Sioux River
1987	10	10	Lucas	Russell	Rathbun Reservoir
1988	10	10	Bremer	Tripoli	Sweet Marsh WMA
1988	10	10	Linn	Waubeek	Wapsipinicon River
1988	10	10	Montgomery	Morton Mills	Nodaway
1989	5	3	Mitchell	Otranto	Cedar River
1990	7	8	Mitchell	Otranto	Cedar River
1990	13	10	Cerro Gordo	Mason City	Winnebago River
1997	9	8	Linn	Cedar Rapids	Indian Creek
1997	6	6	Polk	Chichaqua	Skunk River
1998	7	5	Black Hawk	Cedar Falls	Cedar River
1999	5 sex unknown		Story	Ames	Skunk River
*					
1999	3 sex unknown		Sac	Reiff Park	Boyer River
2000	5 sex unknown		Sac	Reiff Park	Boyer River
2000	5 sex unknown		Audubon	Audubon	Nishnabotna River
2000	3 sex unknown		Monroe	Miami Lake	Miami Lake
2000	2 sex unknown		Wapello	Cedar Creek	Cedar Creek
2001	5 sex unknown		Audubon	Audubon	Nishnabotna River
2001	11 sex unknown		Hardin	Steamboat Rock	Iowa River
2002	3 sex unknown		Hardin	Steamboat Rock	Iowa River
2002	2 sex unknown		Clayton	Eldorado	Turkey River
2002	4 sex unknown		Pottawattamie	Oakland	W. Nishnabotna River
2002	2 sex unknown		Marion	Hamilton	North Cedar Creek
2002	2 sex unknown		Cass	Atlantic	E. Nishnabotna River
2002	5 sex unknown		Poweshiek	Brooklyn	English River
2002	14 sex unknown		Worth	Northwood	Shellrock River

Grand Total Males and Females = 334

*To coincide with the capture of otters to translocate during the trapping season succeeding years as listed.

Figure 7.1 Status and distribution of river otters in Iowa as of 2001.



GREATER PRAIRIE CHICKEN RESTORATION



HISTORICAL REVIEW

Greater prairie chickens (*Tympanuchus cupido pinnatus*) commonly nested throughout Iowa from the time of European settlement in the mid-nineteenth century until about 1900. Numbers peaked about 1880 when most of Iowa was a mosaic of small grainfields, hayfields, pasture, and native prairie, which provided ideal habitat conditions (Ehresman 1996). During the late nineteenth century, prairie chickens were the most abundant gamebird on Iowa prairies. Hunting and trapping them for food and market were very important to settlers. Bags of 25 to 50 a day were common, and some hunters took up to 200 per day.

By 1878, Iowa lawmakers were concerned that prairie chickens were being over-harvested. The Iowa Legislature passed a law that year limiting the daily bag of prairie chickens to 25 birds per person. This is believed to be the first time that bag limits were used as a tool to regulate the harvest of game in the United States. Additional restrictions

followed, and the last open season for prairie chickens in Iowa was held in 1915 (Stempel and Rodgers 1960).

As agricultural land use intensified, populations of prairie chickens started to decline. By the 1930's, most prairie chickens found in the northwestern part of the state were migrant winter flocks. Small numbers continued to nest along the northern, northeastern, and southern borders of the state. By the 1950's, the only known nesting prairie chickens were in Appanoose, Wayne, and Ringgold Counties in southern Iowa. The last verified nesting prior to reintroduction attempts was in Appanoose County in 1952 (Stempel and Rodgers 1960).

RESTORATION

First Reintroduction Attempt

In the early 1980's, the Iowa Conservation Commission, now the Iowa Department of Natural Resources (IDNR), attempted to restore prairie chickens to west central Iowa. The IDNR negotiated with the Kansas Fish and Game Commission (KFGC), now Kansas Department of Wildlife and Parks (KDWP), to trade wild turkeys for 100 prairie chickens (Table 8.1). The release site was located in the Loess Hills east of Onawa, Monona County (Fig. 8.1). This is an area of steep to moderately rolling bluffs and hills bordering the Missouri River valley. These hills have large expanses of grassland interspersed with brush and small crop fields.

Fifty-three prairie chickens were released in 1980. Results from the first release were mixed. A large number of chickens were observed in the release area

the following day; however, sightings thereafter were sporadic and often at a distance from the release area. During 1980, reliable sightings were reported both near the release area and up to 19 miles away. The KFGC was unable to secure additional birds for stocking in 1981; however, observations continued. In 1981, single birds occurred near the release area and groups of birds were reported 20 and 60 miles from the release site. No spring leks were located in the 2 years following the release, and no reproduction was reported.

Following mild winters in 1981 and 1982, KFGC personnel decided to attempt a different trapping approach. Chickens were rocket-netted on leks in April as they displayed. This trapping method proved successful, and 48 chickens were transported to Iowa for release at the same area in the Loess Hills in 1982. Rather than simply turning the birds loose from transport crates, as was done during the first release, the birds were banded and put in a large holding pen with separate cells for each sex. The objective was to give the chickens a chance to settle down after transport and to acclimate to the new area. Males were held overnight and released the next morning. Females were released 24 hours later. It was hoped that males would be stimulated to remain near the release site by holding the females a day longer.

Taped lek calls were played through speakers located near the pen about 45 minutes prior to releasing males. This was an attempt to induce chickens to establish a lek in the area. The release was made by slowly raising the pen door from a distant location. Most males simply walked out of the pen, moved randomly about for a few minutes, and then wandered near the females' side of the pen. They remained there for 15 to 45

minutes before walking or flying off. Females were released under similar conditions the following morning. Most walked from the pen and flew short distances to taller grass cover.

Two prairie chicken broods were reported near the release site in 1982, and up to six adults were observed near the Missouri River bottom the same year. Two leks consisting of only a few displaying males were located in 1983 and 1984. Most sightings were in the heavily agricultural Missouri River valley instead of the hills where they were released. The birds appeared to prefer the level valley to the hilly region where they were released. Suitable grassland habitat was lacking in the valley. Only an occasional sighting has been reported in this region since 1984, leading to the conclusion that this reintroduction effort failed (Ron Munkel, IDNR, *pers. comm.*).

Second Reintroduction Attempt

1987-1989 Stockings: In 1987, the IDNR made a second restoration attempt. The release site was on the Ringgold Wildlife Area located two miles north of the Missouri border in Ringgold County in south central Iowa (Fig 8.1). Wildlife personnel considered this region to be the best potential prairie chicken habitat in Iowa. The immediate vicinity was one of the last strongholds of prairie chickens in southern Iowa and northern Missouri (Christisen 1985, Stempel and Rodgers 1960). The surrounding portions of Ringgold County and adjacent Harrison County, Missouri, are cattle country, with 60% or more of the land in permanent grass. Donald Christisen (1985) concluded that the demise of prairie chickens in this area was due to heavy utilization of grasslands by livestock, resulting in poor quality habitat. Recent years had brought some positive changes

in the grasslands of the area. It was hoped that these changes would again provide suitable habitat for prairie chickens. A major change was restoration of around 200 ha of prairie on the Ringgold Wildlife Area. Other changes were better pasture management by some area farmers and the Conservation Reserve Program (CRP). CRP converted thousands of hectares of cropland into a diversity of mostly undisturbed grasslands for at least 10 years.

The birds for this reintroduction were again obtained from Kansas through a three-way trade in which IDNR supplied wild turkeys to the Michigan Department of Natural Resources (MDNR) while a MDNR crew trapped prairie chickens in Kansas for translocation to Iowa. Prairie chickens were captured in the spring with funnel traps set on booming grounds in the Flint Hills region of Kansas. Every few days the captured birds were transported to Iowa and released the next morning utilizing a soft release box and artificial lek technique, which had been successfully used in Kansas to reintroduce sharptail grouse (Rodgers 1987). A total of 254 prairie chickens were translocated to the Ringgold Wildlife Area from Kansas during 1987, 1988, and 1989 (Table 8.1).

By the spring of 1988, leks had been established at the release site and a site 15 km south in Missouri. The Missouri site was on the Dunn Ranch, a cattle ranch operated by Forrest and Maury Meadows of Bethany, Missouri. The ranch included about 500 ha of well-managed native prairie pasture in addition to several hundred hectares of cool season pasture. This ranch contained a major lek before the disappearance of prairie chickens in the 1960's. The lek established in 1988 was on the same site as the historic lek, and the birds using it

were verified as Iowa release birds by the bands on their legs (Maury Meadows, *pers. comm.*).

No prairie chickens were released in 1990 or 1991. Reproductive conditions for gallinaceous birds were poor in this area throughout that time; however, brood sightings were made each year. By 1991, prairie chickens appeared to be firmly established on the Dunn Ranch, but only one lek of six males could be located in Iowa that year. The success of the reintroduction of prairie chickens to the Dunn Ranch was the bright spot of the project thus far. It was evident that reintroductions in this region could succeed.

1992-94 Stockings: Based on the success of the Dunn Ranch, the IDNR continued the restoration program with more translocations from Kansas. An agreement with KDWP allowed IDNR crews to trap and translocate 100 prairie chickens a year. Instead of releasing all of the birds at one site, it was decided to release significant numbers on large grassland tracts in the region, while releasing a smaller number at the original Ringgold Wildlife Area. Birds were translocated to two new sites in 1992, Mount Ayr and Kellerton (Fig. 8.1). The Mount Ayr site is 28 km northwest and the Kellerton site is 24 km northeast of the Ringgold Wildlife Area. The Mount Ayr site was dropped in 1993, and the Orient site was added. Orient is 90 km northwest of the Ringgold Wildlife Area. All of the sites contained high quality grasslands and open landscapes. Most land use at all three sites was a mixture of pasture, hay, and CRP.

A total of 304 prairie chickens were released in this three-year period (Table 8.1). Gentle releases were made onto either artificial leks or actual leks.

Subsequent Stocking:

No additional stockings were anticipated following releases in 1994. However, while live trapping Sharp-tailed Grouse for IDNR's restoration project in the Loess Hills, South Dakota Game Fish and Parks (SDGFP) employees incidentally trapped three prairie chickens in 2001. Rather than release these birds at the trap site, SDGFP offered them to IDNR. The offer was accepted, and one male and two female chickens were released at the Kellerton lek in April 2001. This additional release results in a total of 561 prairie chickens translocated to Iowa since 1987.

Missouri Reintroduction: The Missouri Department of Conservation (MDC) has been reintroducing prairie chickens in north central Missouri since 1993. Approximately 100 birds have been released each year through 1997 and again in 2000. They have released birds at eight sites located 60 to 100 km southeast of the Ringgold Wildlife Area and 10 to 40 km south of the Iowa border (Larry Mechlin, MDC, *pers. comm.*).

There were sightings of prairie chickens immediately south of the Iowa border in the spring of 1998, and it is probable that adjacent areas in Iowa have prairie chickens as a direct result of Missouri's stocking efforts. Jeff Telleen and Bruce Fistler picked up a road-killed prairie chicken in Monroe County just south of Melrose on June 7, 1998. The bird was not banded and was mostly likely a pioneering bird from one of Missouri's latest releases. Thunderbird Lake, Missouri, is the release site closest to Melrose. Missouri's releases at Thunderbird Lake are very close to the Iowa border and may act as repayment for Iowa's 1987 releases that reestablished

birds on the Dunn Ranch (Larry Mechlin, MDC, *pers. comm.*).

BOOMING GROUND SURVEY

Methods

Attempts are made each spring by IDNR personnel and volunteers to locate leks and count booming males. Counts of known leks are made on sunny mornings with winds <10 mph throughout the month of April. Leks sites are glassed or flushed to determine the number of booming males. New leks are located by driving gravel roads and stopping periodically to listen for booming. Because of the large area of potential habitat and limited manpower, the number of booming males observed is considered minimal. It is highly probable that a number of booming grounds have not been located. MDC personnel make similar counts on and around the Dunn Ranch, where the birds are part of the same regional population.

Results

1995: The number of booming grounds increased from three in 1994 to seven in 1995 with 40 males present (Table 8.2). These seven lek sites are found in five different counties. Two of these counties are release site counties (Ringgold, Adair). The lek sites in Adams, Decatur, and Union Counties are birds pioneering new areas. Adult males have a strong affinity for established leks, whereas young males may actively look for new areas to establish a lek. Young females may also wander in the spring in search of a lek. A mosaic of leks across a large area may prove to be an important component of prairie chicken biology.

1996: In the spring of 1996, six leks from 1995 still showed some activity.

Note in table 8.2 that 18 males were observed on four leks, but no legal description was taken. The number of booming males declined 38% from 40 to 25 birds (Table 8.2). Similar to prairie chickens, pheasant numbers in the southern pasture region declined 31% during this same time. Nesting conditions during the spring and summer of 1995 were abnormally wet. Southern Iowa experienced rainfall totals for April and May 6 inches above normal. This likely reduced nest success in 1995, leading to the reduced number of booming males in 1996.

1997: Only Ringgold and Decatur Counties had active leks during the spring of 1997, which is a significant decrease from the five counties with active leks in 1996. The decline in lek sites may have been a result of land coming out of CRP. One lek site in Adair County was plowed in 1996. There was still activity at this site in 1996; however, no birds were observed booming at this location in 1997. In addition to Adair, there were observations of non-booming chickens in Adams, Warren, and Union Counties during spring 1997. Warren was a new county for prairie chicken reports and is somewhat isolated from source populations. This may be indicative that more birds are out there than are being reported.

Final counts showed the number of booming males had declined even further in 1997 (-28%), with 18 males counted on four active leks (Table 8.2). Another abnormally wet spring in 1996, combined with the loss of CRP, contributed to decreasing prairie chicken numbers. Rainfall across the prairie chicken restoration area averaged 5 inches above the long-term average. Pheasant counts across southern Iowa also declined >30%

during this time. The decline in booming males could again be attributed to poor reproductive success during 1996, with the loss of several leks sites in Adair County aggravating the problem of poor recruitment.

1998: Department personnel observed booming activity in Adair, Decatur, and Ringgold Counties in 1998. Forty-three males were observed on nine leks (Table 8.2). This represents a 139% increase in the number of booming males and a 125% increase in active leks over 1997. Upland bird nesting conditions greatly improved across southern Iowa in 1997, as evidenced by a 60% increase in pheasant numbers during 1997. Mel Moe reported the first prairie chicken brood on June 6, 1998: a brood of 12 in Section 33, Monroe Township, Ringgold County

1999: Department personnel observed booming activity in Adams, Decatur, and Ringgold Counties in 1999. Thirty-nine males were observed on eight leks (Table 8.2). This represents a 9% decrease in the number of booming males and 11% decrease in active leks over 1998. Due to the abnormally wet nesting season in south central Iowa last year, pheasant counts were at an all time low for the region. The fact that prairie chicken numbers remained essentially unchanged from 1998 is a very positive sign for Iowa's population. The location of known active leks is shown in Figure 8.2.

2000: Booming prairie chicken males were observed in Decatur, Ringgold, and Wayne Counties in 2000 (Table 8.2). This was the first time a lek was recorded in Wayne County. Forty-four males were active on six booming grounds. This was the highest number of

booming males recorded in Iowa and the highest total number of males per lek. The number of booming males increased 13% over 1999, but the number of active leks decreased from eight to six (-25%). The six-year mean total number of booming males is 34.8; therefore, the number observed in 2000 is 26% above the mean. The same trend was observed for total number of males per lek; 7.3 is 28% above the six-year mean of 5.7. Known active lek locations are shown in Figure 8.2.

2001: Booming activity was observed by department personnel again in Decatur, Ringgold and Wayne Counties in 2001 (Table 8.2). Birds were active on seven booming grounds, an increase of one site (16.6%) from the previous year. However, the number of booming males dropped to 28 in 2001, a 36.4% decline from 2000 and a 16.7% decline from the seven-year mean total of 33.6. The 2001 mean of four males per lek represented a 45.2% decline from 2000. Known active lek locations are shown in figure 8.2.

2002: This year personnel witnessed a direct loss of one lek in Ringgold Co. (69N, 29W, Sec 3) from previous years due to CRP conversion to rowcrop, but yet maintained seven active leks as in 2001. This is the third year for Decatur, Ringgold, and Wayne counties. Three new locations were found. However, the number of booming males fell again this year (21.4%) to 22, bringing the mean total to 37.0 (Table 8.2). This also continues a two year trend of declining males per lek to 3.1 in 2002. This year the number of leks is near average, but the count of booming males and mean males per lek is below the eight year mean at 59.5% and 52.5% respectfully. Current and prior lek

locations are shown in figure 8.2. There were no releases or relocates done in 2002.

DISCUSSION

Prairie chicken reintroduction efforts initiated in Iowa in 1987 and in Missouri in 1993 have resulted in a small, somewhat stable population of prairie chickens across a wide area of southern Iowa and northern Missouri. Large areas of habitat in this area still lack prairie chickens, and additional stocking may help fill in the gaps and augment existing local populations. Proposed stockings in Iowa would include releasing additional hens onto all known booming grounds and establishing new release sites in suitable habitat.

Pasture and hay are still primary land uses in this region. This land use, coupled with a high sign-up in recent CRP programs, should assure adequate grassland habitat for several years. A positive aspect of recent CRP programs was the emphasis on establishing cover beneficial to wildlife instead of grass monocultures. The Wildlife Habitat Incentives Program (WHIP) of the USDA also targets improvement of prairie chicken habitat in south central Iowa and should be beneficial to improving prairie chicken populations. Intensive management of large blocks of grassland by public agencies will help insure adequate habitat into the future. The Ringgold Wildlife Area has 300 ha which is managed as grasslands with open landscapes. Although no booming grounds have been located on this area in recent years, broods have been sighted nearly every summer.

Kellerton Bird Conservation Area/Grand River WHIP Update

A model for landscape-level grassland bird conservation was developed by research biologists in the Midwest and serves as the basic design for Partners in Flight (PIF) grassland Bird Conservation Areas (BCA). The Kellerton Bird Conservation Area (KBCA) was formally designated in 2001 and is PIF's first attempt to put the habitat objectives of the Dissected Till Plains Bird Conservation Plan into action. The KBCA is a 10,000-acre area of public and private lands located in extreme south central Iowa.

In 1998, the KBCA consisted of 70% grassland, 25% cropland, and 5% woodland. At least three current or recently used booming grounds are located within the boundaries. All the land was privately owned, and the grasslands were either pasture, hayfields, or land entered in CRP. Within this 10,000-acre area, a contiguous block of 2,100 acres of grassland was identified as a priority acquisition tract. The total estimated cost of this acquisition based on 1998 prices was \$2,000,000. For this reason, acquisition of the 2,100-acre core area was proposed to occur in increments.

A 680-acre parcel was the first desired purchase aimed to protect Iowa's largest greater prairie chicken lek. The cost was \$530,000. Unfortunately, the IDNR could not move quickly enough to acquire the 680 acres, and the land was bought by Kellerton Farms, a corporate farming group. However, because of a slump in commodity prices, Kellerton Farms decided to offer the property to the IDNR. The IDNR acquired the initial 680-acre KBCA tract in December 1998. The IDNR, the National Fish and Wildlife Foundation, Pheasants Forever, Iowa Audubon, and numerous private donations provided funds for the initial acquisition. An additional 58-acre tract was acquired

in 2001, bringing public lands in KBCA to 738 acres.

In 2001, two broods of prairie chickens, with at least a dozen young per brood, were observed 1.5 miles north of the core public lands, and within the larger designated KBCA.

In addition to the proposed 2,000 acre publicly-owned core area, IDNR and the Natural Resource Conservation Service (NRCS) promote conservation efforts on nearby private land. WHIP and CRP programs can be used to enhance wildlife management on an additional 2,500 acres of land within the KBCA by encouraging farmers to use rotational grazing, cutting trees, and planting native grasses. IDNR's Upland Wildlife Biologist and Area Wildlife Manager work with local NRCS staff to promote WHIP and CRP among area farmers, with emphasis specifically given to the aforementioned land practices. Approximately 100 acres has been improved under WHIP in 2001-2002, employing tree removal, local ecotype prairie seedings and prescribed burning.

The KBCA is the first grassland implementation of the PIF-BCA concept in the country. Wildlife Biologist Mel Moe implemented a management plan that includes a viewing area for prairie chickens. An old osage orange hedge row was cut in the spring of 1999 to open the vista of the new area, and a viewing platform and spotting scope were added in 2000. Large portions of the area continue to be managed for native grasses. Approximately 100 acres of cropland were converted to mixed native seedings in 2000 and 2001, with additional conversions planned for the future.

In addition to the KBCA acquisition, the Missouri Nature Conservancy (TNC) purchased the 2,200-acre Dunn Ranch in the spring of 1999.

The MDC also acquired Pawnee Prairie, a large grassland tract west of the Dunn Ranch. The Missouri TNC and MDC may create the second BCA in the country with these acquisitions.

Acquisition of core grasslands in Iowa and Missouri has led to the development of the Grand River WHIP project. Under the original PIF-BCA concept, approximately 2,500 of private grasslands must also be manipulated to benefit grassland birds. The Grand River WHIP project is a joint proposal between

the IDNR, MDC, and NRCS to target \$6 million dollars over 5 years into the 70,000-acre core area surrounding the KBCA and Dunn Ranch grasslands. The funding will be used to assist producers implement rotational grazing systems, seed pastures to native species, and remove trees. Funds can also be used to supply materials for fencing and watering systems. The project is contingent upon Congress reauthorizing WHIP in the Agriculture Appropriations bill.

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Table 8.1. Dates, numbers, and locations of greater prairie chicken releases in Iowa, 1980-2001.

Release Date	No. Released	Source*	Release Location
February 1980	29 ♂ 24 ♀	KFGC	Loess Hills Wildlife Area, Monona Co. ¹
April 1982	31 ♂ 18 ♀	KFGC	Loess Hills Wildlife Area, Monona Co.
April 1987	20 ♂ 9 ♀	KFGC	Ringgold Wildlife Area, Ringgold Co. ²
April 1988	48 ♂ 75 ♀	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1989	40 ♂ 62 ♀	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1992	18 ♂ 21 ♀	KDWP (IDNR trapping crew)	Mount Ayr, Ringgold Co., Price Twp., Sec. 13. ³
April 1992	31 ♂ 20 ♀	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8. ⁴
April 1992	9 ♂ 9 ♀	KDWP (IDNR trapping crew)	Ringgold Wildlife Area, Ringgold Co., Lotts Creek Twp., Sec. 24. ²
April 1993	13 ♂ 33 ♀	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8. ²
April 1993	24 ♂ 24 ♀	KDWP (IDNR trapping crew)	Orient, Adair Co., Lee Twp., Sec. 36. ⁵
April 1994	10 ♂ 17 ♀	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8. ⁴
April 1994	31 ♂ 34 ♀	KDWP (IDNR trapping crew)	Orient, Adair Co., Lee Twp., Sec. 36. ⁵
April 2001	1 ♂ 2 ♀	SDGFP	Kellerton, Ringgold Co., Athens Twp., Sec. 16. ⁴

* KFGC = Kansas fish and Game Commission, KDWP = Kansas Department of Wildlife and Parks, SDGFP = South Dakota Game Fish and Parks Department, IDNR = Iowa Department of Natural Resources.

¹⁻⁵ Release sites indicated on county map (Figure 8.1)

Table 8.2. Location and number of greater prairie chickens observed on active leks in Iowa, 1995-2002.

County	Township Name	Legal Description			Number of Booming Males ^a							
		Twp.	Rge.	Sec.	1995	1996	1997	1998	1999	2000	2001	2002
Adair	Orient	74N	31W	3	8	4	<u>2</u>					
Adair	Orient	74N	31W	11	3		<u>3</u>					
Adair	Lee	75N	31W	26				1				
Adams	Union	72N	32W	24	1				3			
Decatur	High Point	69N	24W	1				8				
Decatur	High Point	69N	24W	2	5	3	4 ^b					4
Decatur	High Point	69N	24W	11				1	1			
Decatur	Franklin	70N	25W	9				2				
Decatur	Franklin	70N	25W	20	2	<u>2</u>	1					
Decatur	Garden Grove	70N	24W	36				10	6	7	4	
Ringgold	Athens	68N	28W	4	14	18 ^c	8	5	5	3	1	2
Ringgold	Athens	68N	28W	16	7		5	12	11	14	11	10
Ringgold	Athens	68N	28W	2								1
Ringgold	Poe	68N	29W	?					2			
Ringgold	Rice	68N	30W	24				1				
Ringgold	Rice	68N	30W	13							3	2
Ringgold	Liberty	69N	29W	3					4		5	
Ringgold	Liberty	69N	29W	10						8		
Ringgold	Monroe	69N	28W	2							1	
Ringgold	Monroe	69N	28W	12						7		
Ringgold	Monroe	69N	28W	28					7			
Ringgold	Monroe	69N	28W	33				3				
Ringgold	Monroe	69N	28W	15								1
Union	Spaulding	73N	31W	?	<u>1</u>							
Wayne	Jackson	68N	21W	18						5	3	
Wayne	Jackson	68N	21W	14								2
Total Booming Males ^d		mean=	37.0		40	25	18	43	39	44	28	22
Total Active Leks		mean=	7.6		8	3	5	9	8	6	7	7
Total Males/Lek		mean=	5.9		5.0	8.3	3.6	4.8	4.9	7.3	4.0	3.1

^a underlined numbers indicate birds were observed, but not booming.^b Four males were confirmed booming, but may be as many as 7.^c Total of 18 males observed on 4 leks but no legal descriptions reported.^d Males not observed booming are not included in totals.

Figure 8.1 Location of release sites and total number of prairie chickens released in Iowa, 1980-2001.

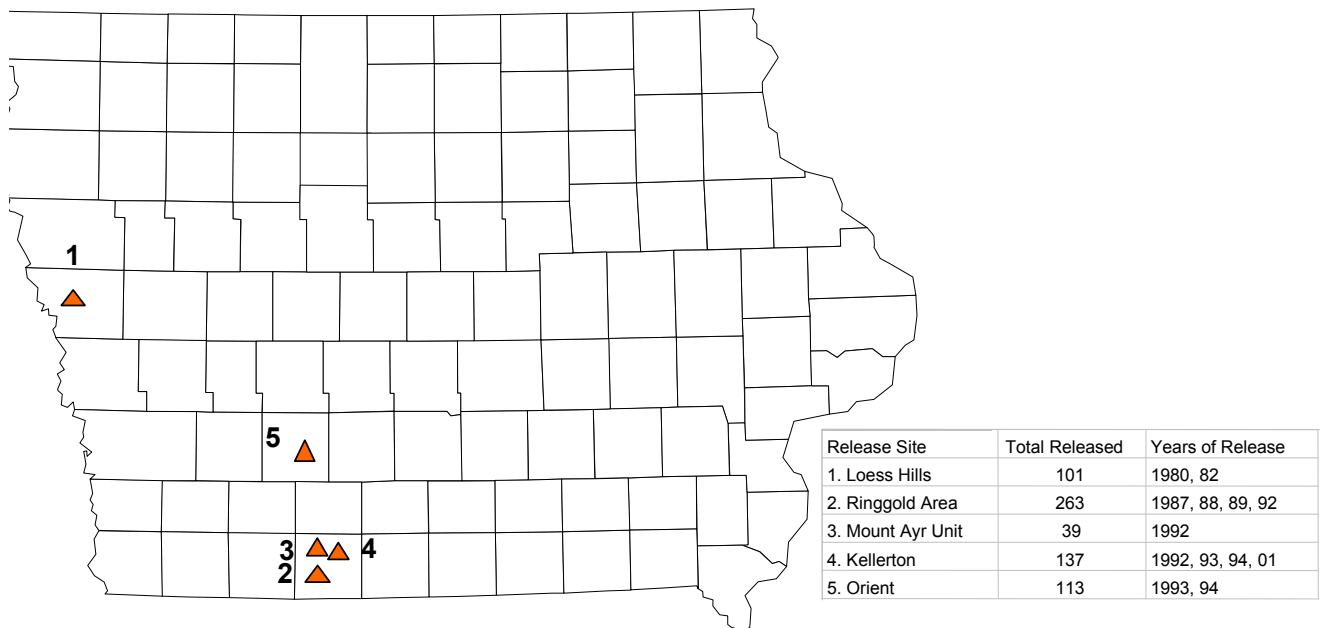
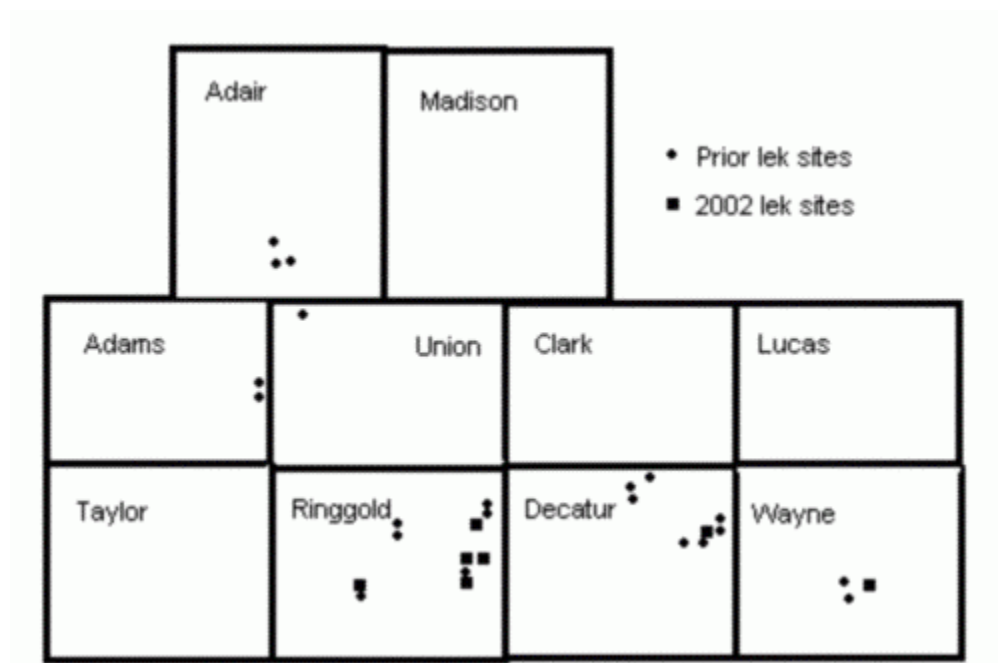


Figure 8.2. Locations of past and active prairie chicken leks in Iowa.



RUFFED GROUSE RESTORATION

Ruffed grouse (*Bonasa umbellus*) were found nearly statewide in Iowa during the mid-19th century but deforestation and grazing of timber caused a dramatic decline of grouse populations (Klonglan and Hlavka 1969). Ruffed grouse had disappeared from southwest Iowa by 1900 and further population declines occurred in the south and east-central portions prior to the 1920's.

Grouse were restricted to their present range in the northeast 6 counties by 1930 (Fig. 9.1). Between 1930 and the early 1960's there was an increase in available and potential grouse habitat in southern and eastern Iowa primarily from secondary succession of private forests and the acquisition and removal of state lands from grazing.

1962 & 1965

Initial attempts by the Iowa Department of Natural Resources (IDNR) to restore extirpated ruffed grouse populations in southeast Iowa were in 1962 and 1965 with the release of 7 and 12 grouse, respectively (Table 9.1). The grouse were captured in northeast Iowa and released into Shimek State Forest (release site #1a,b Fig. 9.2). The last documented sighting of a grouse associated with these releases was in 1969 (IDNR, unpubl. data).

1971 & 1972

An intensified second attempt to restore grouse in southern Iowa occurred nearly 10 years later, in 1971 and 1972. The Lick Creek Unit of Shimek State Forest received 43 grouse trapped in northeast Iowa in 1971 and Stephens State Forest received 40 grouse from northeast Iowa in 1972 (Table 9.1). Additionally, 9 grouse were released at Ledges State Park in central Iowa. Little and Sheets (1982) evaluated the Shimek State

Forest release 7 years post-release and concluded that there was potential for restoring ruffed grouse to southern Iowa. Natural events (windthrow, fire, and tree diseases) provided sufficient early seral stage habitats to maintain the grouse at low densities despite little or no forest management for grouse. There were no post-release observations of grouse associated with the Ledges State Park release and this stocking is assumed to have failed.

1979 & 1980

Potential habitat in east-central Iowa that would expand the existing grouse distribution was stocked during 1979 and 1980. Forty grouse were caught in northeast Iowa and moved 3 counties south and released on a state-owned wildlife management area (WMA), release site #3.5. Limited information exists on the outcome of this release, although a banded grouse released in 1979 was harvested during the 1983 hunting season.

1982 & 1983

Although the potential for a successful restoration program in southern Iowa had been documented, it wasn't until 1982 that a third release of ruffed grouse occurred. A wildlife trade in 1982 and 1983 allowed the IDNR to acquire 224 Michigan ruffed grouse which were released at 1 north-central and 3 southern sites, release sites #4, 5, 6, and 7, respectively (Fig. 9.2 and Table 9.1). Twenty-one grouse at Sand Creek WMA and 17 grouse at the Whitebreast Unit of Stephens State Forest were marked with radio transmitters and monitored sporadically. Radio-marked grouse survived poorly at both sites. Surviving, radio-marked grouse at Sand Creek moved considerable distances,

apparently not preferring the habitat at the release site (IDNR, unpubl. data).

1985

Restoration continued in 1985 with the release of 33 northeast Iowa grouse in Jones County at the periphery of their current range (release #8, Fig. 9.2).

1986

In spring 1986, 22 drumming count surveys of the 1982-83 release sites found 9 males and 43 drumming count survey routes conducted at the 1971-72 release sites found 4 males. In 1986, encouraged by at least marginal success of the 1982-83 releases, the IDNR released another 208 grouse into 4 units of Stephens State Forest (release sites #5, 7, 9, and 11) and surrounding private land (release site #10). The grouse were from 3 sources, 41 from northeast Iowa, 136 from Indiana and 31 from Wisconsin. Sex ratio of the grouse released was unfortunately male dominated (1.6 males:1 female).

1987

In 1987 the IDNR supplemented the 1986 releases with 199 additional grouse onto the same units of Stephens State Forest and nearby private lands (release sites #13 and 16). Five new sites in major timber areas (release sites #12, 14, 15, 17, and 18) also received grouse. In total, 405 grouse were released, 66, 131, and 208 from northern Iowa, Indiana, and Wisconsin, respectively. Primary goals of the 1987 releases were to increase the number of females at the Stephens State Forest release sites and to start restoration efforts at the 5 other sites.

1988

Grouse restoration efforts during 1988 resulted in the release of 163 grouse at 6 new sites (sites #19 - 24) and 2 sites that had received grouse in 1987. Grouse for the 1988 releases came from 3 sources, 42 grouse from

northeast Iowa, 53 from Indiana, and 68 from Wisconsin. Fifty-three grouse were released onto 5 private land sites in Lucas and Monroe counties near Stephens State Forest and 1 unit of Stephens State Forest. Two sites that received grouse in 1987, #12 and 18, received 104 additional grouse in 1988 to complete the stocking at these sites. One site in northeast Iowa, site #24, received 6 grouse that were "not suitable" for shipment to other restoration sites.

1989

Eighty-seven grouse released in 1989 were put at 3 new southern Iowa sites (sites #25, 26, and 27). These sites are just now becoming acceptable grouse habitat and fortunately are located between other previous release sites. This string of releases across the southeast portion of Iowa was made in hope that established and dispersing birds would start encountering each other.

1990

Completion of interstate wildlife trades limited the number of grouse available for release in 1990. However, 72 ruffed grouse were released at 3 different sites (site #27, 28, and 29). Grouse from Indiana were used to complete a state land stocking (site #27), which was started in 1989, and a stocking on private land within the same drainage (#28). Eighteen Wisconsin grouse were used to stock site #29 in Lee County, not far from the initial 1962 release.

1998

During spring 1998, the IDNR conducted drumming surveys for presence/absence of grouse on or near all but 2 of the past release sites in southern and southeastern Iowa. Grouse were found on 16 sites in Lucas, Clark and Monroe counties. Grouse were absent on 11 sites including sites in Decatur (Sand Creek WMA), Lee (Shimek

State Forest) and Monroe (Tyrone WMA) counties.

1999

In 1999, 15 grouse (10 males, 5 females) were captured in northeast Iowa and released in the Amana Colonies in Iowa County (site #30). The success of this transplant is still being evaluated.

2000

Releases of ruffed grouse ceased in 2000.

FUTURE

Unfortunately, it may be futile to continue to attempt to re-establish grouse in southern and southeastern Iowa since the conditions that caused initial declines of grouse populations still exist and may actually be becoming more unfavorable. The IDNR has released grouse into the "best" grouse habitat available in southern and southeastern Iowa, yet it may not be suitable for long-term survival of re-introduced grouse. Drumming

counts with less than 1 drumming male per 30 acres indicates poor habitat in Minnesota (G. Gullion, pers. commun.). Even with all the restoration efforts completed thus far, the best drumming male density documented in a recently stocked state forest unit has been only 0.3 male per 30 acres (1 male/95 acres). Drumming counts in northeast Iowa in the mid-1960's gave density estimates of over 4 males/100 acres. Without a more intensive conversion of mature (maturing) forest stands in southern Iowa to early second growth stands with 3000-6000 stems/acre, additional releases can not be justified.

HUNTING SEASONS

Although limited in distribution the existing populations in northeast Iowa have persisted and provided limited hunting opportunity. The first modern-day hunting season was in 1968, after a 44-year continuously closed season (Table 9.2). Current hunting season format was established in 1981 and has varied only to assure the season opens on a Saturday.

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Table 9.1 Ruffed grouse restoration efforts for Iowa, 1962-present.

SITE	YEAR	GROUSE	COUNTY	LOCATION AND SITE NAME	MALE	FEM	UNK
NUMBER	STOCKED	SOURCE	STOCKED				
1A	1962	NE IOWA	LEE	SHIMEK SF			7
1B	1965	NE IOWA	LEE	SHIMEK SF			12
1C	1971	NE IOWA	LEE	SEC 16, T-67N R-07W LICK CREEK UNIT	26	17	
2	1972	NE IOWA	BOONE	LEDGES STATE PARK	4	5	
3	1972	NE IOWA	LUCAS	STEPHENS SF	25	15	
3.5	1979	NE IOWA	JACKSON	SEC 8, T-86N R-04E BIG MILL WMA	9	7	
	1980	NE IOWA	JACKSON	SEC 18, T-86N R-04E BIG MILL WMA	13	11	
4	1982	MICHIGAN	HAMILTON	SEC 30, T-89N R-26W BOONE FORKS	17	27	10
5A	1982	MICHIGAN	MONROE	1000 ACRE UNIT	27	24	
6	1982	MICHIGAN	DECATUR	SAND CREEK WMA	23	11	
7A	1983	MICHIGAN	LUCAS	WHITEBREAST UNIT	42	39	3
8	1985	NE IOWA	JONES	SEC 28, T-85N R-04W ANAMOSA	16	17	
5B	1986	IA/WI/IN	MONROE	SEC 20, T-73N R-19W 1000 ACRE UNIT	44	27	
7B	1986	IA/IN	LUCAS	SEC 04, T-71N R-23W WHITEBREAST UNIT	32	18	
7C	1986	IA/IN	LUCAS	SEC 34, T-72N R-23W WHITEBREAST UNIT	15	8	
9	1986	INDIANA	LUCAS	SEC 26, T-72N R-23W LUCAS UNIT	6	5	
10	1986	INDIANA	LUCAS	SEC 19, T-72N R-22W PRIVATE	24	7	
11A	1986	WISCONSIN	LUCAS	SEC 35, T-73N R-20W CHARITON UNIT	4	10	
11B	1986	WISCONSIN	LUCAS	SEC 26, T-73N R-20W CHARITON UNIT	5	3	
12	1987	WISCONSIN	DES MOINES	SEC 18, T-69N R-03W AMMO PLANT	47	29	4
13	1987	WISCONSIN	LUCAS	SEC 36, T-72N R-20W PRIVATE	12	10	1
14	1987	NE IOWA	HANCOCK	SEC 03, T-97N R-23W GABRIELSON WMA	21	19	
15	1987	NE IOWA	WINNESHIEK	SEC 06, T-98N R-10W CARDINAL MARSH	2	4	
16	1987	INDIANA	MONROE	SEC 16, T-72N R-19W PRIVATE	16	11	
17	1987	WIS./IOWA	BREMER	SEC 11, T-92N R-12W SWEETS MARSH WMA	29	19	6
18	1987	WISCONSIN	CEDAR	SEC 12, T-82N R-01W MASSILLON	11	15	
	1987	IND/WIS	LUCAS/MONR	LUCAS - MONROE CO.	79	68	2
19	1988	INDIANA	LUCAS	SEC 04, T-72N R-20W PRIVATE	5	4	
20	1988	INDIANA	LUCAS	SEC 03, T-72N R-20W PRIVATE	3	5	
21	1988	INDIANA	LUCAS	SEC 07, T-72N R-20W CEDAR CREEK UNIT	5	5	
22	1988	INDIANA	LUCAS	SEC 09, T-72N R-20W PRIVATE	7	5	
23B	1988	INDIANA	MONROE	SEC 17, T-72N R-19W PRIVATE	7	4	
24	1988	NE IOWA	WINNESHIEK	SEC 33, T-100N R-7W S. BEAR CREEK WMA	6	0	
12	1988	WISCONSIN	DES MOINES	SEC 18, T-69N R-03W AMMO PLANT	32	36	
18	1988	NE IOWA	CEDAR	SEC 12, T-82N R-01W MASSILLON	27	9	
25	1989	WISCONSIN	HENRY	SEC 36, T-70N R-05W GEODE STATE PARK	29	21	
26	1989	NE IOWA	CLARKE	SEC 17, T-71N R-24W PRIVATE	15	10	
27	1989	NE IOWA	MONROE	SEC 03, T-71N R-18W TYRONE UNIT	6	6	
	1990	INDIANA	MONROE	SEC 03, T-71N R-18W TYRONE UNIT	11	18	
28	1990	INDIANA	MONROE	SEC 14, T-71N R-18W PRIVATE	11	14	
29	1990	WISCONSIN	LEE	SEC 04, T-69N R-05W PRIVATE	8	10	
30	1999	NE IOWA	IOWA	SEC 24, T-81N R-10W AMANA COLONIES	10	5	
					731	578	45

Table 9.2 Ruffed grouse hunting seasons, 1856-present.

YEAR	SEASON DATES	BAG LIMIT *	SEASON LENGTH	SHOOTING HOURS
PRE-1856	Continuously open	None	365	None
1856-1878	16 July-31 January	None	200	None
1878-1904	16 July-31 January	25/none**	200	None
1904-1923	1 November-15 December	25/none**	45	None
1924-1967	##Continuously closed##	---	0	----
1968	01 November-17 November	2/4	17	8:00 a.m.-4:30 p.m.
1969	31 October-29 November	2/4	30	8:00 a.m.-4:30 p.m.
1970	31 October-29 November	2/4	30	8:00 a.m.-4:30 p.m.
1971	30 October-28 November	2/4	30	8:00 a.m.-4:30 p.m.
1972	21 October-1 December	2/4	42	8:00 a.m.-4:30 p.m.
1973	20 October-25 November	2/4	37	Sunrise-Sunset
1974	12 October-6 December	3/6	56	Sunrise-Sunset
1975	11 October-4 January 1976	3/6	86	Sunrise-Sunset
1976	09 October-1 January 1977	3/6	85	Sunrise-Sunset
1977	08 October-1 January 1978	3/6	86	Sunrise-Sunset
1978	14 October-8 January 1979	3/6	87	Sunrise-Sunset
1979	13 October-6 January 1980	3/6	86	Sunrise-Sunset
1980	11 October-11 January 1981	3/6	93	Sunrise-Sunset
1981	10 October-31 January 1982	3/6	114	Sunrise-Sunset
1982	09 October-31 January 1983	3/6	115	Sunrise-Sunset
1983	08 October-31 January 1984	3/6	116	Sunrise-Sunset
1984	13 October-31 January 1985	3/6	111	Sunrise-Sunset
1985	12 October-31 January 1986	3/6	112	Sunrise-Sunset
1986	11 October-31 January 1987	3/6	113	Sunrise-Sunset
1987	10 October-31 January 1988	3/6	114	Sunrise-Sunset
1988	08 October-31 January 1989	3/6	116	Sunrise-Sunset
1989	07 October-31 January 1990	3/6	117	Sunrise-Sunset
1990	13 October-31 January 1991	3/6	111	Sunrise-Sunset
1991	12 October-31 January 1992	3/6	112	Sunrise-Sunset
1992	10 October-31 January 1993	3/6	114	Sunrise-Sunset
1993	09 October-31 January 1994	3/6	115	Sunrise-Sunset
1994	08 October-31 January 1995	3/6	116	Sunrise-Sunset
1995	14 October-31 January 1996	3/6	110	Sunrise-Sunset
1996	12 October-31 January 1997	3/6	112	Sunrise-Sunset
1997	04 October-31 January 1998	3/6	120	Sunrise-Sunset
1998	03 October-31 January 1999	3/6	121	Sunrise-Sunset
1999	02 October-31 January 2000	3/6	122	Sunrise-Sunset
2000	07 October-31 January 2001	3/6	117	Sunrise-Sunset
2001	06 October-31 January 2000	3/6	118	Sunrise-Sunset

* = Daily bag and possession limits.

** = No bag limit was in effect for hunting on one's own land.

Figure 9.1 Present ruffed grouse distribution in Iowa.

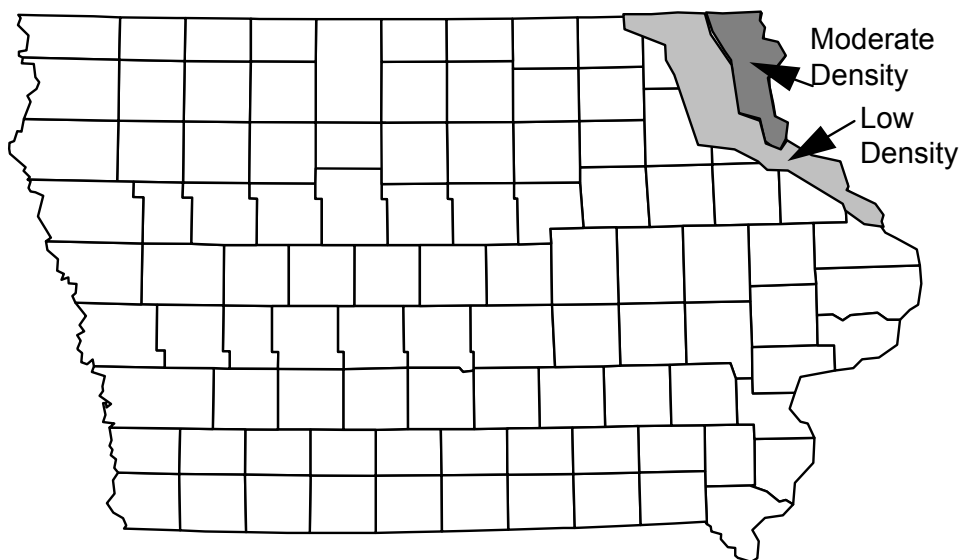
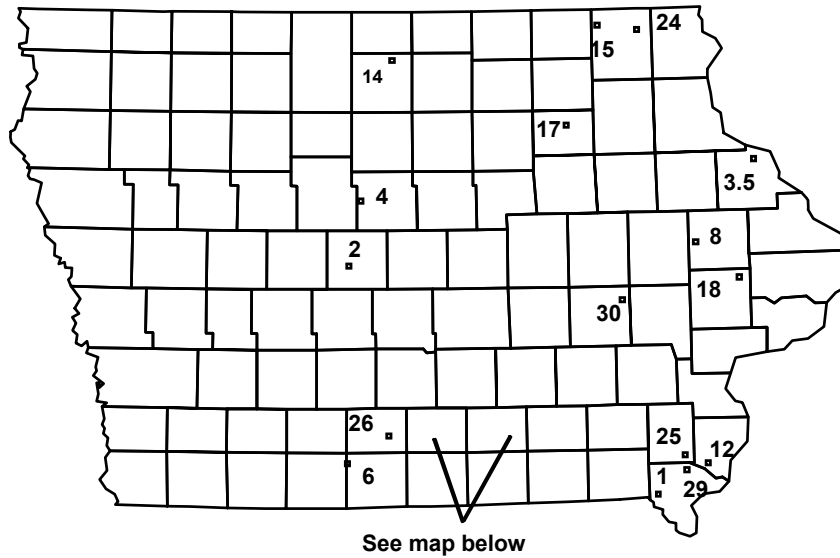
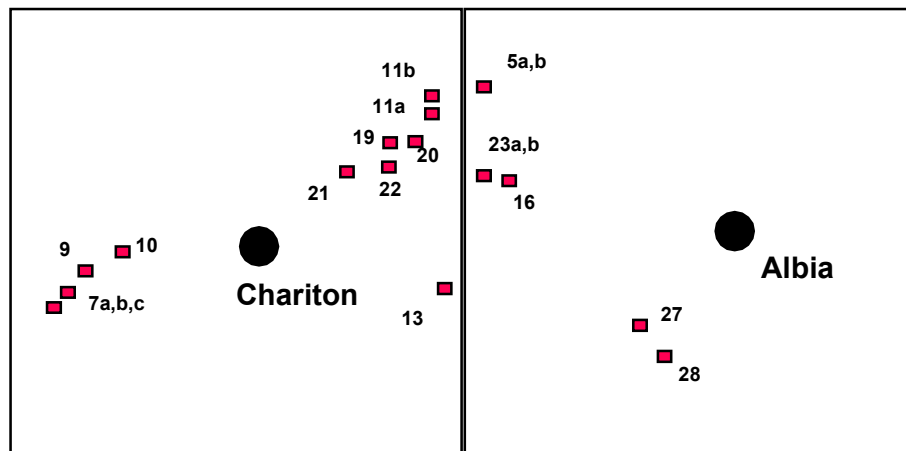


Figure 9.2 Ruffed grouse restoration sites in Iowa, 1962-present



Lucas County

Monroe County



WILD TURKEY RESTORATION

The Eastern wild turkey was found throughout Iowa when the first settlers crossed the Mississippi River in the 1830's. Oak-hickory forests covered nearly 7 million acres and settler's records indicate turkeys occurred wherever timber existed. Turkeys may not have been as numerous in Iowa as in their primary range east of the Mississippi River, but they were plentiful enough to be used as table fare and appeared in markets for 50 cents apiece.

Uncontrolled hunting and habitat loss led to the elimination of turkeys from Iowa. By 1956, the primitive forests had been reduced to only 2.6 million acres and most likely a majority of the remaining forest was badly mismanaged through overgrazing. Turkeys were eliminated from some northeast Iowa counties by 1854, only 20 years after the first settlers arrived, and turkey populations were badly depleted in southern Iowa by 1900. Rugged topography protected some timbered parcels in northeast and south-central Iowa from mechanized clearing and turkeys may have survived had indiscriminate hunting been controlled. Unfortunately, hunting was not controlled and the last wild turkey harvested was in Lucas County in 1907. The last verified sighting of a wild turkey was in 1910, also in Lucas County.

1920-38

As with many other midwestern states, the initial attempts to restore turkeys to available habitat were made with pen-reared turkeys. Although records are incomplete, they do show at least 6 releases made at several scattered locations across the state between 1920-38. All releases are assumed to have

failed and by 1960 there were still no wild turkeys existing in Iowa.

1960-66

In the 1950's the rocket net, a new capture technique, was developed and allowed state agencies to capture and transplant native wild turkeys. The Iowa Department of Natural Resources (IDNR), encouraged by success in other states with transplanted wild stock, attempted releases of non-Eastern subspecies in the 1960's. Thirty-nine Rio Grande turkeys from Texas were released in Allamakee County (release site A, Table 10.2) in 1960-61. Thirteen Merriam's turkeys were released in Lucas County and 8 Merriam's turkeys were released in Monona County in 1966 (releases B and C, respectively). Both subspecies failed to establish thriving populations or expand their distribution. Neither subspecies was adapted to Iowa's climate or habitat and experienced poor survival and no brood production.

1966

Eleven wild turkeys caught in Missouri in 1966 were the first Eastern subspecies released in Iowa. They were released into Iowa's largest contiguous remaining timber block (Shimek State Forest, release site #1). Reproduction and poult survival of these turkeys was excellent and winter flock size increased dramatically reaching 400-500 turkeys by 1974.

1968

The success of the Shimek Forest release led to a second stocking of another 19 Missouri turkeys (Eastern subspecies) into Stephens State Forest (SSF). The

turkeys did equally well in SSF and grew to a 400-500 bird flock by 1974. Within 3 years, turkeys at both forest sites began expanding onto adjacent private forests and by 1971 it was obvious that this was the correct subspecies to be used for all future restoration attempts.

1969

In 1969, 10 supposedly Eastern lineage turkeys from North Dakota were released along the Upper Iowa River (release site D). Although the turkeys survived and reproduced their population growth was minimal compared to the turkeys released in Shimek and Stephens Forests.

1971

In 1971, 10 additional North Dakota turkeys were released in Yellow River State Forest (release site E). The combined population growth of the turkeys from the 1969 and 1971 releases reached only 140 turkeys by 1974 and then declined. Apparently these turkeys were better adapted to North Dakota's open brushy habitat and were unable to adapt to Iowa's oak-hickory forest.

1972-2000

Turkey numbers had grown rapidly enough at Shimek and Stephens Forests that by the winter of 1971-72 the IDNR was able to trap turkeys in-state and transplant to other potential habitats. Since 1965, 3,583 Eastern wild turkeys have been trapped and released at 260 different sites scattered across the state. Generally, turkeys have been released at the rate of 10 hens and 3 adult gobblers per site. Table 10.1 summarizes turkey releases by county including the 5 unsuccessful initial attempts (denoted by A - E on Table 10.2). Table 10.2 lists each release chronologically and the site

numbers correspond to the numbers on Figure 10.5.

OUT-OF-STATE SHIPMENTS

Eastern turkeys adapted so well to habitat conditions in Iowa that by 1980 the DNR 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. Table 10.3 summarizes wild turkey trades from 1980-2000. No out-of-state-shipments occurred in 2001.

FUTURE

The restoration of wild turkeys in Iowa is complete. Almost all suitable habitat has received at least 1 release of Eastern wild turkeys and all (since 1965) have been successful. Any additional releases will be coordinated by district management biologists within their own district. Most sites that will be stocked are very small parcels of timber or are marginal habitat. The goal now is to maintain and to wisely manage existing turkey populations.



Table10.1 Wild turkey releases in Iowa, 1960-Present.

COUNTY	RELEASES	HENS	TOMS	TOTAL BIRDS	COUNTY	RELEASES	HENS	TOMS	TOTAL BIRDS
ADAIR	3	31	11	42	JEFFERSON	1	10	2	12
ADAMS	5	39	19	58	JOHNSON	10	46	45	91
ALLAMAKEE	9	102	33	135	JONES	2	17	10	27
APPANOOSE	2	10	10	20	KEOKUK	6	47	30	77
AUDUBON	1	10	4	14	KOSSUTH	1	10	2	12
BENTON	2	15	6	21	LEE	3	20	10	30
BLACK HAWK	2	15	15	30	LINN	2	21	10	31
BOONE	4	33	21	54	LOUISA	5	43	21	64
BREMER	3	23	9	32	LUCAS	6	31	29	60
BUCHANAN	3	28	11	39	LYON	2	21	5	26
BUTLER	2	20	18	38	MADISON	4	39	18	57
CEDAR	6	23	27	50	MAHASKA	1	10	8	18
CERRO GORDO	1	7	8	15	MARION	6	47	40	87
CHEROKEE	1	8	4	12	MARSHALL	4	30	20	50
CHICKASAW	2	13	10	23	MILLS	2	20	6	26
CLAY	1	10	3	13	MITCHELL	3	29	16	45
CLAYTON	5	49	16	65	MONONA	4	33	13	46
CLINTON	5	53	20	73	MONROE	4	42	18	60
CRAWFORD	2	17	6	23	MONTGOMERY	1	10	4	14
DALLAS	6	72	30	102	MUSCATINE	2	25	6	31
DAVIS	3	29	18	47	PAGE	3	32	12	44
DELAWARE	2	20	6	26	PALO ALTO	2	20	6	26
DES MOINES	6	19	26	45	PLYMOUTH	2	20	6	26
DICKINSON	1	10	5	15	POLK	4	29	19	48
DUBUQUE	4	40	16	56	POTTAWATTAMIE	3	29	10	39
EMMET	6	48	34	82	POWESHIEK	4	28	14	42
FAYETTE	2	20	9	29	RINGGOLD	2	16	16	32
FLOYD	4	41	21	62	SAC	3	28	25	53
FRANKLIN	2	16	9	25	SHELBY	1	10	9	19
FREMONT	2	21	7	28	STORY	2	20	9	29
GREENE	2	20	10	30	TAMA	2	16	10	26
GUTHRIE	5	56	24	80	TAYLOR	1	11	2	13
HAMILTON	1	13	6	19	UNION	2	10	2	12
HANCOCK	2	20	9	29	VAN BUREN	2	13	11	24
HARDIN	3	32	11	43	WAPELLO	2	21	10	31
HARRISON	4	40	13	53	WARREN	7	59	34	93
HENRY	3	32	23	55	WASHINGTON	8	71	31	102
HOWARD	3	27	21	48	WEBSTER	1	11	2	13
HUMBOLT	1	11	3	14	WINNEBAGO	2	20	13	33
IDA	1	10	3	13	WINNESHIEK	6	46	36	82
IOWA	3	24	13	37	WOODBURY	3	29	5	34
JACKSON	7	64	20	84	WORTH	1	11	4	15
JASPER	6	49	42	91	WRIGHT	1	10	3	13
TOTAL					271 2351 1232 3583				

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
A	YELLOW RIVER FOREST	ALLAMAKEE	60-NOV;61-MAR	6	96N	3W	RIO GRANDE	TEXAS	29	10	39
B	STEPHENS FOREST	LUCAS	66-JAN	24	73N	20W	MERRIAMS	NEBRASKA	9	4	13
C	LOESS HILLS	MONONA	66-FEB	21	84N	44W	MERRIAMS	NEBRASKA	6	2	8
D	UPPER IOWA RIVER	ALLAMAKEE	69-JAN	32	100N	5W	EASTERN-GF	NORTH DAKOTA	7	3	10
E	YELLOW RIVER FOREST	ALLAMAKEE	71-FEB	32	97N	3W	EASTERN-GF	NORTH DAKOTA	7	3	10
1	SHIMEK FOREST	LEE	65-OCT;66-MAR	17	67N	7W	EASTERN	MISSOURI	8	3	11
2	STEPHENS FOREST	LUCAS	68-JAN,MAR,OCT	32	72N	23W	EASTERN	MISSOURI	12	7	19
3	LACEY-KEOSAUQUA PARK	VAN BUREN	72-JAN	9	68N	10W	EASTERN	SHIMEK SF	9	7	16
4	UNIONVILLE	DAVIS	72-JAN,FEB	19	70N	15W	EASTERN	SHIMEK SF, STEPHENS SF	9	5	14
5	STEPHENS FOREST	MONROE	72-DEC;73-DEC	20	73N	19W	EASTERN	SHIMEK SF, STEPHENS SF	12	3	15
6	PREPARATION CANYON	MONONA	73-OCT,DEC	33	82N	44W	EASTERN	SHIMEK SF, STEPHENS SF	6	5	11
7	GRAND RIVER	RINGGOLD	73-DEC;74-FEB	1	70N	28W	EASTERN	SHIMEK SF, STEPHENS SF	6	8	14
8	ORDINANCE PLANT	DES MOINES	73-DEC;74-MAR	24	69N	4W	EASTERN	SHIMEK SF	9	4	13
9	AMANA COLONY	IOWA	74-JAN	36	81N	9W	EASTERN	SHIMEK SF, STEPHENS SF	15	4	19
10	BOONE STUDY AREA	BOONE	73-DEC;74-FEB;75-JAN,FEB	22	84N	27W	EASTERN	SHIMEK SF, STEPHENS SF	4	13	17
11	GEODE STATE PARK	HENRY	74-DEC;75-JAN	25	70N	5W	EASTERN	SHIMEK SF	12	10	22
12	VAN BUREN WILDLIFE AREA	VAN BUREN	74-DEC;77-FEB	29	70N	10W	EASTERN	SHIMEK SF	4	4	8
13	BROWN'S SLOUGH	LUCAS	74-NOV,DEC	35	71N	20W	EASTERN	STEPHENS SF	10	7	17
14	LAHART WILDLIFE AREA	MONROE	74-NOV;75-JAN	20	73N	18W	EASTERN	STEPHENS SF	11	7	18
15	TRURO	MADISON	74-DEC;75-FEB	14	74N	27W	EASTERN	STEPHENS SF	10	4	14
16	ALBIA, TYRONE UNIT	MONROE	75-FEB;78-FEB	2	71N	18W	EASTERN	STEPHENS SF	9	6	15
17	BUCK CREEK	CLAYTON	75-FEB,MAR	25	93N	3W	EASTERN	MISSOURI	9	3	12
18	TURKEY RIVER	CLAYTON	75-FEB,MAR	9	92N	4W	EASTERN	MISSOURI	10	3	13
19	YELLOW RIVER	ALLAMAKEE	75-JAN,MAR	22	96N	4W	EASTERN	MISSOURI	10	3	13
20	HIGHLANDVILLE	ALLAMAKEE	74-DEC;75-MAR	18	99N	6W	EASTERN	MISSOURI	10	3	13
21	SNY MAGILL	CLAYTON	75-JAN,MAR	20	94N	3W	EASTERN	MISSOURI	10	3	13
22	VOLGA RECREATION AREA	FAYETTE	75-FEB,MAR,DEC	14	93N	8W	EASTERN	MISSOURI	10	4	14
23	WHITE PINE HOLLOW	DUBUQUE	75-FEB,DEC	8	90N	2W	EASTERN	MISSOURI	10	3	13
25	APPANOOSE CO.	APPANOOSE	75-DEC;76-FEB	18	70N	16W	EASTERN		0	5	5
26	NEW ALBIN	ALLAMAKEE	76-JAN	8	99N	4W	EASTERN	MISSOURI	10	2	12
27	SILVER CREEK	ALLAMAKEE	76-JAN	4	99N	5W	EASTERN	MISSOURI	10	3	13
28	YELLOW RIVER FOREST	ALLAMAKEE	76-JAN	31	97N	2W	EASTERN	MISSOURI	11	3	14
29	DELHI	DELAWARE	76-FEB	25	88N	5W	EASTERN	MISSOURI	10	3	13
30	MATSELL BRIDGE	LINN	76-JAN,FEB	36	85N	5W	EASTERN	MISSOURI	11	3	14
31	CATFISH CREEK	DUBUQUE	76-FEB	20	88N	2E	EASTERN	MISSOURI	10	3	13
32	INDIAN BLUFFS	JONES	76-JAN,FEB	34	86N	2W	EASTERN	MISSOURI	10	3	13
33	BOONE STUDY AREA	BOONE	76-JAN,FEB	15	84N	27W	EASTERN	SHIMEK&STEPH SF,MISSOURI	11	0	11
34	WAUBONSIE STATE PARK	FREMONT	76-FEB,MAR	21	68N	42W	EASTERN	MISSOURI	10	3	13
35	FORNEY'S LAKE	FREMONT	76-FEB,MAR	24	70N	43W	EASTERN	MISSOURI	11	4	15
36	CAMP NEYATI	MILLS	76-FEB,MAR	16	73N	43W	EASTERN	MISSOURI	10	3	13
37	MORAVIA	APPANOOSE	75-DEC;76-FEB	24	70N	17W	EASTERN	SHIMEK SF, STEPHENS SF	10	5	15
38	ELDON GAME AREA	DAVIS	75-DEC;76-JAN	9	70N	12W	EASTERN	SHIMEK SF, STEPHENS SF	10	7	17
39	LAKE FOREST BAPTIST CAMP	WAPELLO	75-DEC;76-JAN	20	71N	13W	EASTERN	SHIMEK SF, STEPHENS SF	11	7	18
40	CEDAR CREEK	JEFFERSON	76-JAN,FEB	33	71N	9W	EASTERN	SHIMEK SF, STEPHENS SF	10	2	12
41	SOAP CREEK	DAVIS	76-JAN,FEB	14	70N	14W	EASTERN	SHIMEK SF, STEPHENS SF	10	6	16
42	YELLOW SPRINGS	DES MOINES	76-JAN	17	71N	2W	EASTERN	SHIMEK SF	10	5	15
43	LAKE DARLING	WASHINGTON	76-JAN;77-JAN	12,13	74N	9W	EASTERN	SHIMEK SF, STEPHENS SF	14	8	22

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
44	LEDGES STATE PARK	BOONE	76-MAR;77-MAR	21	83N	26W	EASTERN		10	2	12
45	LOESS HILLS WILDLIFE AREA	MONONA	77-JAN	16	84N	44W	EASTERN	MISSOURI	11	3	14
46	PREPARATION CANYON II	MONONA	77-JAN	24	82N	44W	EASTERN	MISSOURI	10	3	13
47	MONDAMIN	HARRISON	77-FEB,MAR	15	80N	44W	EASTERN	MISSOURI	10	2	12
48	SMITHLAND-OTO	WOODBURY	77-FEB,MAR	14	86N	44W	EASTERN	MISSOURI	10	2	12
49	DAYTON OAKS BAPTIST	WEBSTER	77-FEB,MAR	18	86N	27W	EASTERN	STEPHENS SF	11	2	13
50	UPPER CEDAR RIVER	BENTON	77-FEB,MAR	16	85N	9W	EASTERN	SHIMEK SF, MISSOURI	10	3	13
51	TORONTO, LOWER WAPSI RIVER	CLINTON	77-JAN	35	82N	1E	EASTERN	SHIMEK SF	16	8	24
52	LOWER CEDAR RIVER	MUSCATINE	77-JAN,FEB	26	77N	4W	EASTERN	SHIMEK SF	15	3	18
53	MIDDLE RACCOON RIVER	GUTHRIE	77-JAN,MAR	16	79N	30W	EASTERN	STEPHENS SF	10	4	14
54	ELK GROVE WILDLIFE AREA	GUTHRIE	77-MAR;80-JAN	9	80N	33W	EASTERN	MISSOURI, STEPHENS SF	17	9	26
55	NORTH BUENA VISTA	CLAYTON	78-JAN,FEB	23	91N	2W	EASTERN	SHIMEK SF	10	4	14
56	NORTH BEAR CREEK	WINNESHIEK	78-JAN	25	100N	7W	EASTERN	SHIMEK SF	12	8	20
57	AGENCY	WAPELLO	78-JAN,MAR	13	71N	13W	EASTERN	SHIMEK SF	10	3	13
58	BLAKESBURG, MOER RANCH	MONROE	78-JAN,MAR	1	71N	16W	EASTERN	SHIMEK SF	10	2	12
59	FT. MADISON	LEE	78-JAN,MAR	29	68N	5W	EASTERN	SHIMEK SF	12	4	16
60	VILLAGE CREEK	ALLAMAKEE	77-DEC;78-JAN	22	98N	4W	EASTERN	MISSOURI, SHIMEK SF	8	3	11
61	BACKBONE STATE PARK	DELAWARE	79-FEB	16	90N	6W	EASTERN	MISSOURI	10	3	13
62	WAPSIPINICON RIVER	BREMER	79-FEB,MAR	2	92N	12W	EASTERN	MISSOURI	12	3	15
63	HARDIN CO. GREENBELT	HARDIN	79-FEB;80-FEB	32	89N	19W	EASTERN	MISSOURI, SHIMEK SF	17	5	22
64	BUCK CREEK, ELKADER	CLAYTON	79-FEB,MAR	25	94N	6W	EASTERN	MISSOURI	10	3	13
65	BLUFFTON	WINNESHIEK	79-JAN,FEB	5	99N	9W	EASTERN	MISSOURI	12	3	15
66	HINKE TIMBER, BELLEVUE	JACKSON	79-JAN,FEB	24	87N	4E	EASTERN	MISSOURI	12	3	15
67	GREEN ISLAND	JACKSON	79-JAN,FEB	28	85N	6E	EASTERN	MISSOURI	11	3	14
68	EMELINE	JACKSON	79-JAN,FEB	34	85N	1E	EASTERN	MISSOURI	10	3	13
69	WENTWORTH	JACKSON	79-JAN,FEB	8	84N	4E	EASTERN	MISSOURI	10	3	13
70	HUBBELL WILDLIFE AREA	HARRISON	79-DEC	30	81N	44W	EASTERN	MISSOURI	10	3	13
71	ROCKFORD TWP	POTTAWATTAMIE	79-DEC	11	77N	44W	EASTERN	MISSOURI	9	3	12
72	WINTERSET	MADISON	80-JAN	11	76N	26W	EASTERN	STEPHENS SF	10	8	18
73	PETERSON	CLAY	80-JAN	33	94N	38W	EASTERN	MISSOURI	10	3	13
74	LAKE ODESSA	LOUISA	80-JAN	3	73N	2W	EASTERN	SHIMEK SF, STEPHENS SF	11	6	17
75	SALEM	HENRY	80-JAN	3	70N	7W	EASTERN	SHIMEK SF, STEPHENS SF	10	4	14
76	WAPSI BOTTOMS	CLINTON	80-JAN	16	80N	5E	EASTERN	SHIMEK SF, STEPHENS SF	10	3	13
77	MIDDLE CEDAR RIVER	CEDAR	80-JAN,FEB	20	80N	3W	EASTERN	SHIMEK SF, STEPHENS SF	11	3	14
78	PILOT KNOB	HANCOCK	80-FEB	4	97N	23W	EASTERN	SHIMEK SF, STEPHENS SF	10	3	13
79	STIMES WOODS	WORTH	80-FEB,MAR	1	99N	21W	EASTERN	SHIMEK SF, STEPHENS SF	11	4	15
80	DES MOINES RIVER	HUMBOLT	80-FEB,MAR	14	92N	28W	EASTERN	SHIMEK SF	11	3	14
81	SPRINGBROOK STATE PARK	GUTHRIE	80-FEB,MAR	4	80N	31W	EASTERN	SHIMEK SF, STEPHENS SF	9	4	13
82	ALGONA	KOSSUTH	80-FEB,MAR	19	96N	28W	EASTERN	SHIMEK SF, STEPHENS SF	10	2	12
83	STONE STATE PARK	WOODBURY	80-MAR;90-FEB	2	89N	48W	EASTERN	STEPHENS SF	9	0	9
84	LUCAS CO	LUCAS	80-FEB	11	73N	21W	EASTERN	STEPHENS SF	0	1	1
85	HARDIN CO.	HARDIN	80-FEB	3	88N	20W	EASTERN	SHIMEK SF	3	2	5
86	RED ROCK NORTH	MARION	80-OCT;81-MAR;85-JAN	20	77N	20W	EASTERN	SHIMEK&STEPH. SF, LACEY-KEO SP	22	15	37
87	NORTH RACCOON RIVER	DALLAS	81-FEB,MAR	30	80N	27W	EASTERN	SHIMEK&STEPH. SF, LACEY-KEO SP	15	9	24
88	SOUTH RACCOON	DALLAS	81-FEB,MAR;82-JAN	7	78N	26W	EASTERN	STEPH. SF, BOONE & GUTH	13	4	17
89	SKUNK RIVER	HENRY	81-FEB;82-JAN	27	72N	7W	EASTERN	SHIMEK SF	10	9	19
90	PLEASANT VALLEY	DALLAS	82-JAN	7	78N	28W	EASTERN		16	7	23

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
91	CEDAR, SHELLROCK	BLACKHAWK	82-JAN,FEB,MAR	27	90N	14W	EASTERN	ALLAMAKEE, LEE, V.BUREN	11	6	17
92	CARDINAL MARSH	WINNESHIEK	82-JAN	6	98N	10W	EASTERN	ALLAM.,LEE, V.BUREN, GUTH	11	6	17
93	TURKEY RIVER, SPILLVILLE	WINNESHIEK	82-JAN,FEB,MAR	32	97N	9W	EASTERN	ALLAMAKEE, BOONE, GUTH	7	3	10
94	BIG MARSH	BUTLER	82-JAN,MAR	23	91N	17W	EASTERN	ALLAM., LEE, V.BUREN, GUTH	10	6	16
95	BEAR GROVE	GUTHRIE	82-FEB,MAR	18	79N	32W	EASTERN	RINGGOLD, GUTHRIE	10	4	14
96	WHITE ROCK	GUTHRIE	82-FEB	14	81N	33W	EASTERN	GUTHRIE, BOONE	10	3	13
97	MIDDLE RIVER	ADAIR	82-FEB	12	77N	32W	EASTERN	ALLAMAKEE, GUTHRIE	9	3	12
98	PAMMEL STATE PARK	MADISON	82-MAR	16	75N	28W	EASTERN	LEE, VAN BUREN, GUTHRIE	9	3	12
99	RIPPEY ACCESS	GREENE	82-JAN,MAR	19	82N	29W	EASTERN	ALLAMAKEE, BOONE	10	4	14
100	CEDAR-RACCOON RIVER	GREENE	82-JAN,MAR	4	84N	32W	EASTERN	BOONE, ALLAMAKEE	10	6	16
101	MT. AYR WMA	RINGGOLD	82-FEB	16	68N	30W	EASTERN	DECATUR	10	8	18
102	SOUTH SKUNK RIVER	KEOKUK	82-DEC	7	74N	12W	EASTERN	LEE, VAN BUREN, DECATUR	12	7	19
103	WHISKEY HOLLOW	LOUISA	82-JAN	10	75N	3W	EASTERN	LEE, VAN BUREN	10	4	14
104	IOWA RIVER - GLADWIN	LOUISA	82-JAN	28	76N	5W	EASTERN	LEE, VAN BUREN	10	3	13
105	MUSCATINE CO.	MUSCATINE	82-JAN,FEB	17	77N	1E	EASTERN	LEE, VAN BUREN	10	3	13
106	ELK RIVER	CLINTON	82-JAN,FEB	12	83N	6E	EASTERN	LEE, VAN BUREN	6	3	9
107	PALISADES KEPLER PARK	LINN	83-JAN,FEB	14	82N	6W	EASTERN	LEE, VAN BUREN	10	7	17
108	N MAQUOKETA RIVER	DUBUQUE	83-DEC;84-JAN	18	87N	2W	EASTERN	LEE, VAN BUREN	10	7	17
109	PUFFER TIMBER	CEDAR	83-FEB	28	82N	4W	EASTERN	LEE, VAN BUREN	0	2	2
110	BEAR CREEK, CAMP WYOMING	JONES	83-JAN,FEB	28	84N	1W	EASTERN	LEE, VAN BUREN	7	7	14
111	INDIAN CREEK	STORY	83-JAN;84-JAN;85	27	83N	22W	EASTERN	BOONE	10	4	14
112	SOUTH BEAR, HIGHLANDVILLE	WINNESHIEK	83-JAN;84-JAN;89-FEB	28	100N	7W	EASTERN	ALLAMAKEE	4	10	14
113	SOPER'S MILL	STORY	84-JAN,FEB	7	84N	23W	EASTERN	BOONE	10	5	15
114	RYERSON PROPERTY	CEDAR	84-JAN	29	82N	4W	EASTERN	VAN BUREN, DAVIS	7	5	12
115	EAST NODAWAY RIVER	ADAMS	84-JAN	26	73N	32W	EASTERN	RINGGOLD	7	5	12
116	RED ROCK SOUTH	MARION	84-JAN	22	77N	21W	EASTERN	LEE, VAN BUREN, LUCAS	8	4	12
117	OTTER CREEK	JACKSON	84-JAN	21	86N	5W	EASTERN	LUCAS, VAN BUREN	10	4	14
118	ENGLISH RIVER	WASHINGTON	84-FEB,MAR	6	77N	9W	EASTERN	LEE, VAN BUREN, DAVIS	7	4	11
119	FOX FOREST	POWESHIEK	84-FEB	11	78N	15W	EASTERN	LEE	7	3	10
120	TROY MILLS	BUCHANAN	84-JAN	25	87N	8W	EASTERN	ALLAMAKEE	9	3	12
121	OTTERVILLE	BUCHANAN	84-JAN	13	89N	10W	EASTERN	ALLAMAKEE	10	4	14
122	BOONEVILLE	DALLAS	85-JAN	33	78N	26W	EASTERN	RIVERTON WMA	10	3	13
123	EARLHAM	MADISON	85-JAN	21	77N	28W	EASTERN	RIVERTON WMA, LEE	10	3	13
124	NORTH CEDAR PARK	BREMER	85-FEB,MAR	8	93N	14W	EASTERN	DELAWARE, CLAYTON	11	5	16
125	NELSON PARK	CRAWFORD	85-FEB,MAR	2	82N	41W	EASTERN	DELAWARE, CLAYTON	11	2	13
126	EPWORTH	DUBUQUE	85-FEB	2	88N	1W	EASTERN	CLAYTON	10	3	13
127	IDLEWILD	FLOYD	85-JAN,FEB	5	96N	16W	EASTERN	ALLAMAKEE	11	5	16
128	BELLEVUE STATE PARK	JACKSON	85-FEB,MAR	19	86N	5E	EASTERN	ALLAMAKEE, CLAYTON	11	3	14
129	SUGAR BOTTOMS	JOHNSON	85-FEB	4	80N	6W	EASTERN	LEE, VAN BUREN	12	6	18
130	BIG SIOUX	LYON	85-FEB	9	98N	48W	EASTERN	RIVERTON WMA	10	3	13
131	EDDYVILLE	MAHASKA	85-JAN,FEB	9	74N	16W	EASTERN	LEE	10	8	18
132	GRAMMER GROVE	MARSHALL	85-JAN,FEB	22	85N	19W	EASTERN	LUCAS, FAYETTE	10	5	15
133	LEGRAND	MARSHALL	85-JAN	1	83N	17W	EASTERN	LEE, FAYETTE	11	4	15
134	ST. ANSGAR	MITCHELL	85-FEB	11	99N	18W	EASTERN	ALLAMAKEE	10	5	15
135	BROKEN KETTLE	PLYMOUTH	85-FEB	21	91N	48W	EASTERN	LEE, VAN BUREN	10	3	13
136	NEW MARKET	TAYLOR	85-FEB	4	68N	35W	EASTERN	RIVERTON WMA, DECATUR	11	2	13
137	AQUABI STATE PARK	WARREN	85-JAN,MAR	23	75N	24W	EASTERN	LEE, VAN BUREN, CLAYTON	12	7	19

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
138	OTTER CREEK, WOODLAND MOUNDS	WARREN	85-JAN,MAR;88-	5	74N	23W	EASTERN	VAN BUREN, CLAYTON	21	14	35
139	MIDDLE RIVER	WARREN	85-MAR	9	77N	22W	EASTERN	CLAYTON	2	0	2
140	ENGLISH RIVER	WASHINGTON	85-MAR	2,3	77N	9W	EASTERN	CLAYTON	9	1	10
141	CORRECTIONVILLE	WOODBURY	85-FEB	7	88N	42W	EASTERN	LEE, VAN BUREN, RIVERTON WMA	10	3	13
142	COUNTY LINE	ADAIR	85-FEB	35	76N	30W	EASTERN	ALLAMAKEE, RIVERTON WMA	10	2	12
143	WARREN CO.	WARREN	85-MAR	32	76N	22W	EASTERN		2	0	2
144	WILSON ISLAND	HARRISON	86-FEB	28	78N	45W	EASTERN	LEE, VAN BUREN	10	4	14
145	VIKING LAKE	MONTGOMERY	86-FEB	6	71N	36W	EASTERN	LEE, VAN BUREN	10	4	14
146	FLORENCEVILLE	HOWARD	86-JAN,FEB	12	100N	11W	EASTERN	ALLAMAKEE	9	9	18
147	SALT CREEK	TAMA	86-JAN,FEB	15	83N	13W	EASTERN	LEE	9	5	14
148	ELDORADO	FAYETTE	86-JAN,MAR	3	94N	9W	EASTERN	ALLAMAKEE, CLAYTON	10	5	15
149	BIG SIOUX RIVER	LYON	86-JAN,FEB	33	99N	48W	EASTERN	ALLAMAKEE	11	2	13
150	FONTANELLE, NODAWAY RIVER	ADAIR	86-FEB;87-JAN	23	75N	33W	EASTERN	LEE, VAN BUREN, TAYLOR	12	6	18
151	REASNOR, SEVERS CREEK	JASPER	85-DEC;87-JAN,FEB	29	79N	19W	EASTERN	STEPH. SF, LINN, LUCAS	11	5	16
152	JAKEWAY CO. FOREST	BUCHANAN	86-FEB	24	90N	8W	EASTERN	DELAWARE, CLAYTON	9	4	13
153	TIPTON CREEK	HARDIN	86-FEB	30	87N	20W	EASTERN	LINN, CLAYTON	12	4	16
154	BELMOND	WRIGHT	86-JAN,FEB	32	93N	23W	EASTERN	LINN, CLAYTON	10	3	13
155	WAPSIPINICON RIVER	MITCHELL	87-JAN,MAR	24	99N	15W	EASTERN	ALLAMAKEE, FAYETTE	9	5	14
156	HEERY WOODS	BUTLER	86-DEC;87-MAR,DEC	24	92N	16W	EASTERN	ALLAM, CLAYTON, DEL, FAY	10	12	22
157	MAYNES CREEK	FRANKLIN	86-DEC;87-MAR,DEC	29	91N	20W	EASTERN	ALLAM, DELAWARE, FAY	10	6	16
158	WILLOW SLOUGH	MILLS	87-JAN,FEB	29	73N	40W	EASTERN	FREMONT	10	3	13
159	DEER ISLAND	HARRISON	87-JAN,FEB	17	81N	45W	EASTERN	FREMONT	10	4	14
160	TROUBLESOME CREEK	AUDUBON	87-JAN,FEB	36	78N	35W	EASTERN	FREMONT	10	4	14
161	BUCHANAN CREEK	PAGE	87-JAN	20	67N	36W	EASTERN	FREMONT	10	3	13
162	ASHTON PARK	JASPER	87-JAN,MAR,DEC	22	81N	21W	EASTERN	LUCAS, LINN, FREM,FAY, V.B.	12	10	22
163	SOUTH RIVER	WARREN	87-JAN,FEB	1	74N	25W	EASTERN	LUCAS, FREMONT	10	5	15
164	WEST FORK DES MOINES RIVER	PALO ALTO	87-JAN,FEB	35	94N	31W	EASTERN	ALLAMAKEE, FAYETTE	10	3	13
165	DEEP RIVER	POWESHIEK	87-DEC;88-FEB	3	78N	13W	EASTERN	VAN BUREN	6	4	10
166	LITTLE SIOUX RIVER	CHEROKEE	88-JAN,FEB	32	91N	40W	EASTERN	DELAWARE, LUCAS	8	4	12
167	DES MOINES RIVER	EMMET	88-JAN,FEB	7	100N	34W	EASTERN	LUCAS, VAN BUREN	11	7	18
168	OLD MAN'S CREEK	JOHNSON	88-JAN,FEB;89-JAN	30,31	79N	7W	EASTERN	ALLAM, CLAY, DEL, LUCAS, WINN	12	9	21
169	NEW HAVEN	MITCHELL	88-JAN,FEB	13	98N	16W	EASTERN	ALLAM, BREMER, IOWA, WINN	10	6	16
170	NORTH RACCOON RIVER	SAC	88-JAN,FEB	3	88N	36W	EASTERN	LINN, LUCAS	11	7	18
171	MARBLE ROCK	FLOYD	88-JAN,FEB	6	94N	4E	EASTERN	FAY, LINN, IOWA, WINN	11	5	16
172	CEDAR VALLEY	CEDAR	88-FEB;89-JAN	3	80N	3W	EASTERN	IOWA, LEE	0	12	12
173	BENNETT, SPRINGFIELD	CEDAR	88-FEB	21	81N	1W	EASTERN		0	4	4
174	LITTLE TURKEY RIVER	CHICKASAW	88-FEB	29	96N	11W	EASTERN	ALLAMAKEE	6	4	10
175	LITTLE CEDAR	CHICKASAW	88-JAN	31	97N	14W	EASTERN	ALLAMAKEE	7	6	13
176	SUGAR CREEK	CLINTON	88-FEB	6	83N	4E	EASTERN	LEE, LUCAS	11	3	14
177	FLOOD CREEK	FLOYD	88-FEB	36	95N	17W	EASTERN	LINN, BREMER, WINNESHIEK	10	7	17
178	GOODELL	HANCOCK	88-FEB	21	94N	23W	EASTERN	LINN, DELAWARE, WINNESHIEK	10	6	16
179	BEAR CREEK	IOWA	88-FEB	3	80N	11W	EASTERN	LINN, LUCAS, LEE, VAN BUREN	9	5	14
180	COLYN	LUCAS	88-FEB	24	71N	20W	EASTERN	LUCAS, FREMONT	0	9	9
181	HOGSBACK	WINNEBAGO	88-FEB	25	100N	23W	EASTERN	LINN, WINNESHIEK	10	7	17
182	BOONE RIVER	HAMILTON	88-DEC;89-MAR	19	89N	25W	EASTERN	LINN, LUCAS, FAY, DEL, APP	13	6	19
183	NORTH RACCOON RIVER	SAC	89-JAN,MAR;90-JAN	2	88N	36W	EASTERN	LUCAS, GUTHRIE	11	14	25
184	LITTLE SIOUX RIVER	DICKINSON	89-FEB,MAR	16	98N	37W	EASTERN	JONES, FAY, ALLAM, DEL	10	5	15

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
185	EAST FORK DES MOINES RIVER	EMMET	89-FEB,MAR	36	99N	31W	EASTERN	JONES, FAYETTE, DELAWARE	10	6	16
186	CHESTER	HOWARD	89-FEB,MAR	7	100N	13W	EASTERN	ALLAMAKEE, IOWA	8	4	12
187	LOWDEN SOUTH, BENNETT	CEDAR	89-FEB	22	81N	1W	EASTERN	LUCAS, FAYETTE, ALLAMAKEE	5	1	6
188	HICKORY HILLS	TAMA	89-FEB,MAR	14	86N	13W	EASTERN	IOWA, ALLAMAKEE	7	5	12
189	RHODES AREA	MARSHALL	89-FEB,MAR	8	82N	20W	EASTERN	ALLAM, CLAYTON, JONES, IOWA	9	6	15
190	SQUAW CREEK	BOONE	89-FEB	1	84N	25W	EASTERN	LINN, IOWA, LUCAS, FAYETTE	8	6	14
191	KELLOGG	JASPER	89-FEB,90-JAN	8	80N	18W	EASTERN	DELAWARE	12	9	21
193	CARNFORTH	POWESHIEK	89-FEB	27	80N	13W	EASTERN	DELAWARE, ALLAMAKEE	6	4	10
194	KENDALLVILLE	HOWARD	86-	12	99N	11W	EASTERN		10	8	18
195	ROSENOW TIMBER	SHELBY	90-FEB,91-JAN	25	81N	40W	EASTERN	?, MONONA	10	9	19
196	BEAVER CREEK	POLK	90-FEB	18	81N	25W	EASTERN	LUCAS	4	3	7
197	KNOXVILLE TWP.	MARION	90-FEB	24	76N	19W	EASTERN	WAPELLO WMA	4	5	9
198	LAKE PRAIRIE TWP.	MARION	90-JAN	18	76N	18W	EASTERN	VAN BUREN	4	6	10
199	ROSENOW TIMBER	CRAWFORD	90-FEB,MAR	25	84N	39W	EASTERN	CLAYTON	6	4	10
200	SUMMIT TWP.	MARION	91-JAN	33	77N	19W	EASTERN	CLAYTON	6	6	12
201	BAXTER AREA	JASPER	91-FEB,MAR	25	81N	20W	EASTERN	CEDAR, WINNESHIEK	5	5	10
202	NASHUA RESERVOIR	FLOYD	93-JAN,FEB	21	95N	15W	EASTERN	WINNESHIEK	9	4	13
203	CHICHAQUA	POLK	93-JAN	29	81N	22W	EASTERN	APPANOOSE, WINNESHIEK	9	7	16
204	HAWKEYE WILDLIFE AREA	JOHNSON	93-JAN,FEB	21	81N	7W	EASTERN	APPANOOSE, LINN	1	3	4
205	ELKHART	POLK	94-JAN,FEB	22	81N	23W	EASTERN	CLAYTON, MUSCATINE, JACKSON	6	4	10
206	DE SOTO	DALLAS	94-FEB	35	78N	28W	EASTERN	FAY, BUCHANAN, JACK, CLAY	6	4	10
207	DEEP CREEK	CLINTON	94	19	83N	5E	EASTERN		10	3	13
208	MILLGROVE ACCESS	POWESHIEK	94-FEB	34	78N	16W	EASTERN	BUCHANAN, JACK, CLAYTON	9	3	12
209	GEODE STATE PARK	DES MOINES	94-DEC, 98-JAN	1	69N	5W	EASTERN	DES MOINES	0	11	11
210	ROCK CREEK STATE PARK	JASPER	95-JAN	17	80N	17W	EASTERN	CLAYTON	0	4	4
211	HAGGE PARK	SAC	95-JAN	24	87N	36W	EASTERN	CLAYTON, LINN	6	4	10
212	SOUTH AMANA	IOWA	95-JAN	35	81N	10W	EASTERN	IOWA	0	4	4
213	TROUT RUN	WINNESHIEK	95-JAN	27	98N	8W	EASTERN	WINNESHIEK	0	6	6
214	BELVA-DEER REC AREA	KEOKUK	95-FEB	21	78N	11W	EASTERN	LINN, LUCAS	6	3	9
215	ROCK CREEK STATE PARK	JASPER	96-JAN	8	80N	17W	EASTERN	FAY, WINN, HOW, JACKSON	9	9	18
216	BELVADEER COUNTY PARK	KEOKUK	96-JAN,FEB	24	76N	11W	EASTERN	APP, BUCHANAN, LUCAS	5	6	11
217	KESWICK	KEOKUK	96-JAN,FEB	22	77N	12W	EASTERN	ALLAM, DES MOINES	9	7	16
218	FORT DEFIANCE STATE PARK	EMMET	96-JAN,FEB	30	77N	23W	EASTERN	JONES, BENT, ALLA, VAN B	9	8	17
219	HILLS	JOHNSON	96-JAN,FEB, 97-FEB	22	79N	6W	EASTERN	BUCHANAN, CLAYTON, FAY	4	6	10
220	INGHAM FOREST	EMMET	96-JAN,FEB, 98-JAN	1	98N	33W	EASTERN	BEN, FAY, JONES, HOW,BUT	13	8	21
221	BANNER WEST	WARREN	96-JAN	30	77N	23W	EASTERN	CLAYTON, HOWARD	6	5	11
222	ENGLISH RIVER WILDLIFE AREA	WASHINGTON	96-FEB	5	77N	9W	EASTERN	ALLAM, JONES, VAN BUREN	0	6	6
223	PRESCOTT	ADAMS	97-FEB	18	72N	32W	EASTERN	BUCH, FAY, JACK, ALLAM	6	3	9
224	CORNING	ADAMS	97-FEB,99-JAN	33	72N	33W	EASTERN	TAMA, FAY, JACK, ALLAM, WINN, LEE	13	8	21
225	MAQUOKETA WILDLIFE UNIT	JACKSON	97-JAN	29	85N	2E	EASTERN	JACKSON	0	1	1
226	CORALVILLE WILDLIFE UNIT	JOHNSON	97-JAN	20	81N	7W	EASTERN	LINN	0	1	1
227	UNDERWOOD	POTTAWATTAMIE	97-FEB	1	75N	42W	EASTERN	IOWA, JACKSON, FAYETTE	10	3	13
228	HANCOCK	POTTAWATTAMIE	97-FEB	2	76N	39W	EASTERN	V. B., DES M, JACK, IOWA, FAY	10	4	14
229	GREEN VALLEY STATE PARK	UNION	97-FEB	22	73N	31W	EASTERN	FAY, BUCH, IOWA. ALLAM	10	2	12
230	KLUM LAKE	LOUISA	97-FEB	31	74N	2W	EASTERN	LEE	1	1	2
231	COLYN	LUCAS	97-JAN	30	71N	20W	EASTERN	WAPELLO	0	1	1

Table10.2 Turkey release sites in Iowa, 1960-present. Release sites 24 & 192 were cancelled.

SITE #	RELEASE SITE NAME	COUNTY	RELEASE DATE	SECT	TWNSHP	RANGE	SPECIES	SOURCE	HENS	TOMS	TOTAL
232	SHAMBAUGH	PAGE	97-JAN	34	68N	37W	EASTERN	V. B., HOWARD, WINN, FAY	10	6	16
233	PRAIRIE GOLD WILDLIFE AREA	PALO ALTO	97-FEB	1	96N	33W	EASTERN	DES M, JACK, FAY, WINN, BUCH	10	3	13
234	ACKLEY	FRANKLIN	97-FEB	35	90N	19W	EASTERN	JACK, DES M, BUCH, FAYETTE	6	3	9
235	RED BIRD FARMS	JOHNSON	98-JAN	25	79N	7W	EASTERN	UNKNOWN	0	1	1
236	IAAP	DES MOINES	98-JAN	2	69N	4W	EASTERN	LEE	0	3	3
237	SWEET MARSH	BREMER	98-JAN	21	93N	12W	EASTERN	CLAYTON	0	1	1
238	OWENS GROVE	CERRO GORDO	99-JAN	31	96N	19W	EASTERN	JACKSON, CLAYTON	7	8	15
239	STANSKY	WASHINGTON	99-JAN	30	77N	7W	EASTERN	CLAYTON, LEE	0	5	5
240	HAWKEYE	JOHNSON	99-JAN	28	80N	7W	EASTERN	LINN, WINNESHIEK	8	11	19
241	PERRY	BENTON	99-JAN	23	85N	12W	EASTERN	CLAYTON, DAVIS, IOWA	5	3	8
242	RED ROCK HEADQUARTERS	MARION	99-JAN	4	76N	20W	EASTERN	CLAYTON, DAVIS	3	4	7
243	INDIANOLA ACRES	WARREN	99-JAN	14	76N	24W	EASTERN	CLAYTON, DAVIS	6	3	9
244	WATER WORKS PARK	POLK	99-JAN	4	78N	24W	EASTERN	CLAYTON	10	5	15
245	TOOLESBORO	LOUISA	99-JAN	10	74N	2W	EASTERN	HENRY	11	7	18
246	BELL	WASHINGTON	99-JAN	12	75N	8W	EASTERN	HENRY, LEE	23	5	28
247	BLACK HAWK CREEK GREENBELT	BLACK HAWK	99-JAN	14	88N	14E	EASTERN	BUTLER, CLAYTON	4	9	13
248	EAST NODAWAY	ADAMS	00-FEB	19	71N	35W	EASTERN	DELAWARE, JACKSON, CLAYTON	13	3	16
249	BOONEVILLE	DALLAS	00-FEB	30	78N	26W	EASTERN	IOWA, DELAWARE, LINN	12	3	15
250	IOWA ARMY AMMUNITION PLANT	DES MOINES	00-JAN	2	69N	3W	EASTERN	DES MOINES	0	5	5
251	BRUSH CREEK	DES MOINES	00-FEB	16	68N	3W	EASTERN	DES MOINES	0	1	1
252	INGHAM HIGH	EMMET	00-JAN, 00-FEB	12	98N	33W	EASTERN	FAYETTE	5	5	10
253	MOOREHEAD PARK	IDA	00-JAN, 00-FEB	10	87N	40W	EASTERN	LINN	10	3	13
254	PICYUNE CREEK	JOHNSON	00-JAN, 00-FEB	19	78N	6W	EASTERN	DES MOINES, JACKSON, CLAYTON	9	3	12
255	HIGHWAY V45	KEOKUK	00-FEB	14	76N	12W	EASTERN	CEDAR, LINN, ALLAMAKEE, CLAYTON	7	4	11
256	ROCK CREEK DRAINAGE	KEOKUK	00-FEB	29	76N	12W	EASTERN	ALLAMAKEE	8	3	11
257	MIDDLE TARKIO RIVER	PAGE	00-FEB	6	70N	37W	EASTERN	DELAWARE, DES M, JACK, CLAYTON	12	3	15
258	NORTH HINTON	PLYMOUTH	00-JAN, 00-FEB	5	90N	46W	EASTERN	LINN, CEDAR	10	3	13
259	DAVIS CREEK DRAINAGE	WASHINGTON	00-JAN, 00-FEB	6	76N	6W	EASTERN	DES MOINES, CLAYTON	10	4	14
260	NORTH WEST CHESTER	WASHINGTON	00-FEB	29	76N	8W	EASTERN	ALLAMAKEE, CLAYTON	8	3	11
261	RUSS WILDLIFE AREA	WINNEBAGO	00-FEB	35	98N	25W	EASTERN	CLAYTON, LINN	10	6	16
262	WICKERSHAM FMA #2	MARSHALL	01-FEB	24	83N	19W	EASTERN	LINN	0	5	5
TOTAL									2351	1232	3583

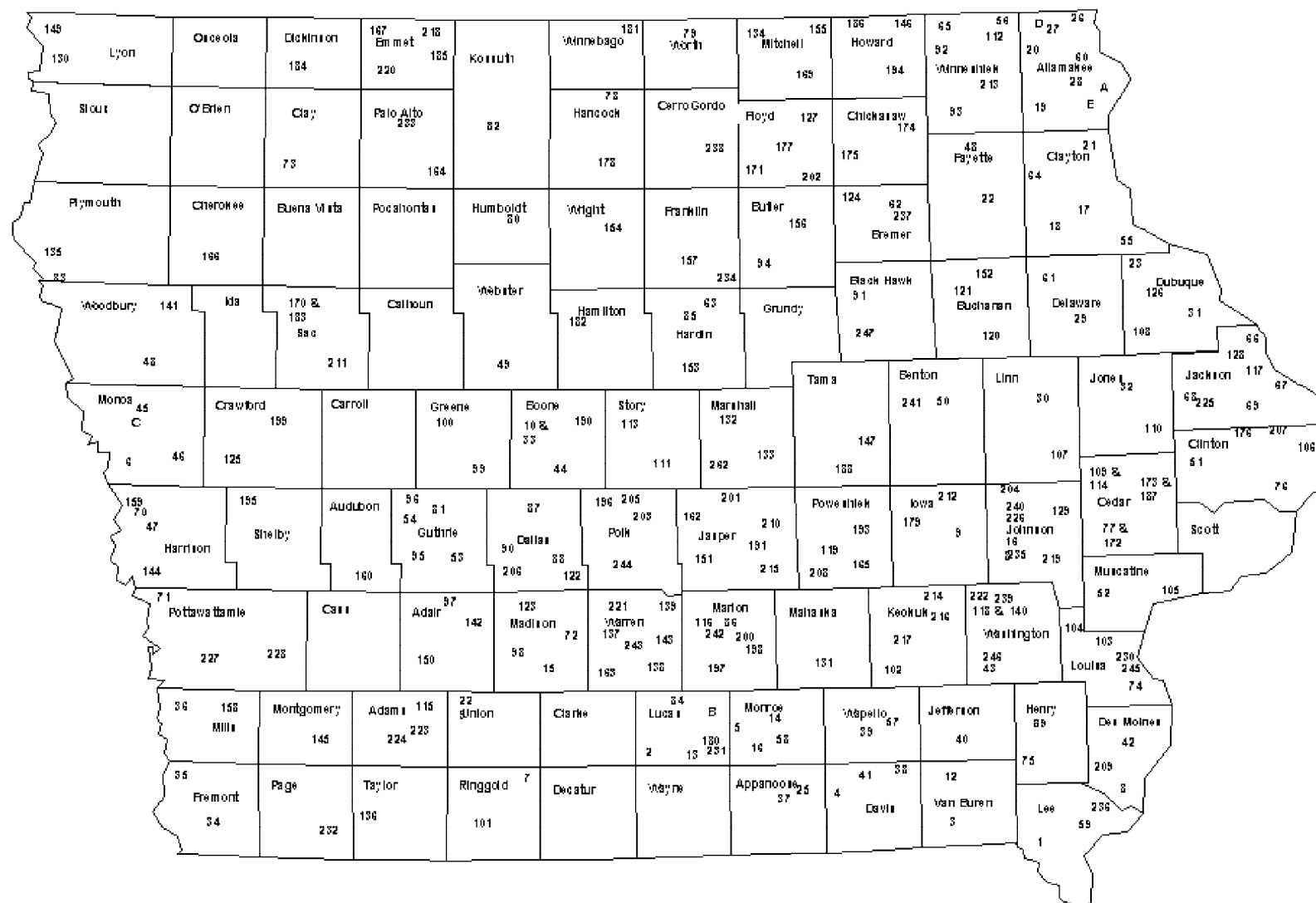
Table 10.3 Wild turkeys shipped out-of-Iowa, 1980-99 (No out-of-state shipments in 2000).

YEAR	# HENS	# TOMS	TOTAL TURKEYS	RECEIVING STATE	IOWA RECEIVED
1980-81	41	9	50	KANSAS	Prairie Chickens (102)
1981-82	0	0	0		
1982-83	16	8	24	MICHIGAN	Ruffed Grouse (139)
1983-84	46	15	61	MICHIGAN	Ruffed Grouse (83)
1984-85	24	8	32	KENTUCKY	River Otters (16)
	11	3	14	ONTARIO	No Trade
1985-86	102	45	147	KENTUCKY	River Otters (60)
	12	5	17	ONTARIO	River Otters
1986-87	34	12	46	INDIANA	Ruffed Grouse (136)
	85	19	104	KENTUCKY	River Otters (40)
	6	13	19	MICHIGAN	Prairie Chickens (29)
1987-88	38	12	50	INDIANA	Ruffed Grouse (131)
	61	20	81	KENTUCKY	River Otters (60)
	17	7	24	MICHIGAN	Prairie Chickens (123)
	236	68	304	TEXAS	HABITAT \$ (150,000)
1988-89	12	4	16	ILLINOIS	HABITAT \$ (8,000)
	38	12	50	INDIANA	Ruffed Grouse (107)
	156	47	203	KENTUCKY	HABITAT \$ (100,000)
	99	25	124	MICHIGAN	Prairie Chickens (102)
	337	88	425	TEXAS	HABITAT \$ (212,000)
1989-90	141	51	192	KENTUCKY	HABITAT \$ (100,000)
	9	4	13	S. DAKOTA	Sharp-tailed grouse (36)
	216	53	269	TEXAS	HABITAT \$ (134,500)
1990-91	294	85	379	KENTUCKY	HABITAT \$ (189,500)
	139	48	187	TEXAS	HABITAT \$ (88,500)
1991-92	19	28	47	KENTUCKY	HABITAT \$ (23,500)
	203	25	228	TEXAS	HABITAT \$ (143,000)*
1992-93	156	50	206	KENTUCKY	HABITAT \$ (103,000)
	19	2	21	MICHIGAN	HABITAT \$ (10,500)
	120	31	151	N. CAROLINA	HABITAT \$ (75,500)
	15	5	20	S. DAKOTA	Sharp-tailed grouse (40)?
	321	80	401	TEXAS	HABITAT \$ (300,500)**
1993-94	161	49	210	KENTUCKY	HABITAT \$ (105,000)
	0	4	4	MICHIGAN	HABITAT \$ (2,000)
	317	83	400	TEXAS	HABITAT \$ (200,000)
1994-95	297	104	401	TEXAS	HABITAT \$ (193,750)
	130	42	172	KENTUCKY	HABITAT \$ (78,000)
1995-96	83	26	109	LOUISIANA	HABITAT \$ (54,500)
	300	104	404	TEXAS	HABITAT \$ (202,000)
	66	26	92	KENTUCKY	HABITAT \$ (46,000)
1996-97	458	140	598	TEXAS	HABITAT \$ (299,000)
	30	8	38	WASHINGTON	HABITAT \$ (19,000)
1997-98	269	75	344	TEXAS	HABITAT \$ (172,000)
	76	24	100	WASHINGTON	HABITAT \$ (50,000)
1998-99	198	25	223	TEXAS	HABITAT \$ (111,500)
	12	4	16	OKLAHOMA	HABITAT \$ (8,000)
	46	15	61	S. DAKOTA	Sharp-tailed grouse
1999-00	290	73	363	WASHINGTON	HABITAT \$ (181,500)
	45	16	61	S. DAKOTA	Sharp-tailed grouse
TOTAL	5801	1700	7501		

* Includes \$29,000 from Texas for turkeys shipped to Texas from Wisconsin for pheasants shipped to Wisconsin from Iowa.

** Includes \$100,000 from Texas for Wisconsin turkeys.

Figure 10.5 Wild turkey release sites in Iowa, 1960-present



GIANT CANADA GOOSE RESTORATION

Giant Canada geese (*Branta canadensis maxima*) nested throughout Iowa in the 1800's but were extirpated from the state by 1907 as a result of habitat destruction and unregulated subsistence hunting (Hanson 1965, Bishop 1978). The Iowa Conservation Commission, now the Iowa Department of Natural Resources (IDNR), initiated a giant Canada goose restoration program in 1964 with the goal of restoring giant Canada geese to their former nesting range in Iowa (Bishop and Howing 1972). The initial restoration strategy consisted of having clipped geese reproduce in pens that were surrounded by large areas that were closed to Canada goose hunting. Initially, 16 pairs of pinioned giant Canada geese, whose origins could be traced to geese or eggs taken from the wild in northern Iowa, southern Minnesota, and South Dakota, were placed in a 14-acre pen on the Ingham Lake Wildlife Management Area (WMA) (Fig. 11.1) (Bishop and Howing 1972). Goslings were initially wing-clipped to increase numbers of reproductive captive geese. To protect free-flying geese, all public and private lands in a 120 mi² area around Ingham Lake were closed to Canada goose hunting in 1967 (Table 11.1). The first nest of a free-flying goose was found on East Slough near Ingham Lake in 1967.

Using the same procedure, and geese from the Ingham flock, new flocks were started on the Smith Slough, Hogsback and Rice Lake WMA's in northern Iowa during 1971-72 (Bishop 1978). During 1977-79, flocks were also started at Rathbun Reservoir, Bays Branch, and Lake Icaria WMA's in southern Iowa. To accelerate growth of the Rathbun flock, 275 and 1,717 Canada geese were translocated from Toronto, Ontario, to Rathbun Reservoir and surrounding farm ponds in 1980 and 1981, respectively. Additional flocks were started

during 1980-90 at Red Rock Reservoir in central Iowa, Badger Lake WMA near the Missouri River, and Green Island WMA on the Mississippi River (Fig. 11.1) (Zenner and LaGrange, 1998). Flightless wild giant Canada geese were also translocated to the Lake Sugema Reservoir (1992-98), Big Marsh WMA (1994-99), Sweet Marsh WMA (1994-96), 3-mile Lake (1995-99) and Forney Lake WMA (1996-98) after closing large areas around these WMA's and reservoirs to Canada goose hunting. In 2000, 15 areas were closed to Canada goose hunting, ranging in size from 18-240 mi².

Table 11.1 Initial and present size (mi.²) of areas closed to Canada goose hunting around restoration sites, 1967-2000.

Restoration Site	Year Estab. ¹	Size	
		Initial	Present
Ingham Lake	1967	120	18
Smith Slough	1971	63	20
Hogsback	1971	57	33
Rice Lake	1972	113	28
Rathbun	1977	2	23
Bays Branch	1978	150	26
Lake Icaria	1979	88	45
Red Rock	1981	3	155
Badger Lake	1987	32	182
Green Island	1990	39	39
Lake Sugema	1992	322	240
Big Marsh	1994	68	68
Sweet Marsh	1994	130	130
Three-mile Lake	1995	69	69
Forney Lake	1996	66	66

¹Year the closed area was established.

To accelerate the expansion of nesting Canada geese into unoccupied habitat, as well as alleviate goose depredation complaints, the IDNR translocated 18,600 geese to 38 sites during 1983-99. Flightless goslings and adult geese, in a 9:1 ratio, were moved to most

sites prior to 1995. Beginning in 1995, goslings captured in the Twin Cities metropolitan area of Minnesota were also released at several sites across the state.. Geese were not translocated to urban sites despite requests to do so in some cases. Neck-collar observations of translocated geese confirmed that successful nesting occurred within 3 years at most release sites.

Estimates of Iowa's giant Canada goose population are made annually. Geese are counted by IDNR personnel from the ground during April and May on all major WMA's and estimates of geese on private lands are obtained by direct observation or consulting landowners. Goose production is estimated by counting goslings in mid-late June. These estimates indicate that Iowa's giant Canada goose population grew at average annual rates of 25%, 18%, 15%, 22%, and 4% during 1972-81, 1982-86, 1987-91, 1992-96 and 1997-2000 respectively (see Table 4.2 and Fig. 4.4).

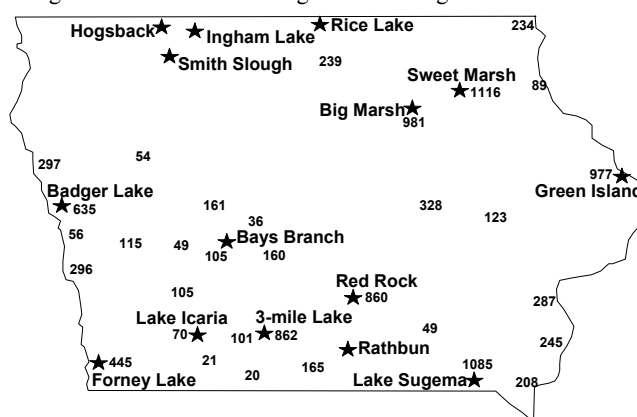
No giant Canada goose were found nesting in the wild in Iowa between 1907 and 1967 when a wild Canada goose's nest was found near Ingham Lake. In 1975, giant Canada geese nested in 8 counties in northern Iowa. By 1985, they nested in 55 of Iowa's 99 counties. In 1993, Canada geese nested in all Iowa counties. The highest densities of nesting pairs continue to be found on the natural prairie wetlands in northwest and northcentral Iowa.

Complaints of goose activities and depredations began in the late 1970's. Most depredations have involved flightless geese, both goslings and adults, grazing on newly germinated crops. Only a few urban goose depredation or nuisance situations have developed. In 1982, a depredation control program was implemented using IDNR labor and materials. Numbers of complaints in northern Iowa peaked in 1986, declined in the late 1980's, but rose again in the mid 1990's and declined in recent years (Zenner and LaGrange 1998). In addition to

technical assistance, IDNR personnel attempt to help alleviate depredation situations using 7 practices: 1) permanent fences with standard woven wire, 2) temporary fences of 2-3 ft high chicken wire supported by electric fence posts, 3) lure crops, 4) scare devices, 5) land acquisition, 6) translocation, and 7) reducing the sizes of areas closed to Canada goose hunting.

In 1996, a special 2-day early September Canada goose season was opened in the north waterfowl-hunting zone. This special harvest opportunity continued through 1999 with the area opened to hunting in 1997 and thereafter restricted to the north zone west of state highway 63, excluding the Big Marsh WMA. Translocating geese did not reduce depredations on a regional basis, but it did appear to reduce complaints and population growth on wetlands where geese were removed annually.

Figure 11.1 Locations of giant Canada goose flocks and



numbers of translocated geese by release site, 1964-96.

Canada geese have been banded annually at all restoration sites during late June and early July. During 1980-89, 9,666 Canada geese (status code 300) were banded in the Northwest (4,295), Rice Lake (3,313), Bays Branch (733), Rathbun (1,028), and Lake Icario (297) flocks. Mean annual direct recovery rates of giant Canada geese banded in the Northwest, Rice Lake, Bays Branch, Rathbun, and Lake Icario flocks during 1980-89 were 0.052, 0.018, 0.012,

0.046, and 0.005, respectively (Zenner and LaGrange 1998). Mean annual direct recovery rate for 2,577 (status 200) geese translocated between 1983-88 was 0.056. Iowa goose hunters accounted for the majority of reported recoveries of giant

Canada geese banded in Iowa, but 45% of the recoveries also occurred outside the state (LaGrange and Zenner 1998). Minnesota and Missouri goose hunters reported 22% and 11% of these recoveries, respectively.

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TRUMPETER SWAN RESTORATION

Prior to the settlement of Iowa, trumpeter swans nested throughout the state. However, wetland drainage and unregulated hunting of trumpeters soon brought their demise. Prior to 1998, the last wild nesting trumpeter swan in Iowa occurred in 1883 on the Twin Lakes Wildlife Area southwest of Belmond, Iowa in Hancock County. In 1998, three cygnets hatched from a wild nesting trumpeter pair in Dubuque County. This pair hatched 5 in 1999, 5 again in 2000, 4 in 2001, and 5 in 2002.

In 2000, a second pair nested on a Winnebago County Conservation Board wetland (Russ Tract at Thorpe Park) 7 miles west of Forest City. This pair had 5 eggs. Unfortunately none hatched. We did, however, add a sixth egg and it hatched providing this pair with a young cygnet to help bond the pair to the wetland nest site.

Trumpeter swans were first given nationwide protection in 1918 when the United States, Canada, and Mexico signed the International Migratory Bird Treaty. A nationwide swan count in the early 1930s showed that only 69 existed in the continental United States with all those occurring in Red Rock Lakes National Wildlife Refuge in southwest Montana.

In 1993 the Iowa Department of Natural Resources developed a plan to restore trumpeter swans to the state. Our goals are to: (1) establish 15 wild nesting pairs to the state by the year 2003 and (2) use the swans to promote the many values of wetlands not only for wildlife habitat but for water quality and flood reduction.

Iowa swans are being obtained from zoos, private propagators, other

state swan projects, and any other sources that might have swans available. Figure 12.1 shows the 25 states from which we have obtained trumpeter swans. We are also establishing flightless breeder pairs at appropriate sites, the young of which will be allowed free flight. Fifty-five partnership breeding pair sites are established. All trumpeter swans released in Iowa will be marked with plastic green or red neck collars and leg bands, as well as, U.S. Fish and Wildlife Service bands. The plastic neck and leg bands are marked with alpha letters F, H, P, J, C, T, and numbers 00 through 99.

We are trying to obtain as much outside funding as possible and we are the fortunate recipients of \$165,000 in memory of David A. and Robert Luglan Sampson, formerly of Webster City. Numerous individuals, organizations, and corporations have contributed significant smaller dollar amounts. Considerable soft match in-kind contributions have also been made and are estimated at over \$350,000.

Table 12.1 and Fig 12.2 show the trumpeter swans released and release sites in Iowa since 1994. After five years of migration observations, most migrating Iowa swans that migrate are wintering in northeast and east central Kansas and northwest and west-central Missouri. One Iowa trumpeter swan did winter as far south as Oklahoma during the winter of 1998-99. Also, one swan wintered near Heber Springs, Arkansas in 1999-2000. In 2001, the swans that nested at Union Slough NWR and Mallard Marsh wintered in southwest Arkansas. The mild winter of 2001-2002 indicated that swans did not need

to move as far south as they had in normal winter conditions. A record 25 free flying trumpeter swans from Iowa, Minnesota, and Wisconsin wintered near Woolstock, Iowa. If swans can find open water many of them will remain throughout the state of Iowa. Figure 12.3 shows what appears to be the beginning of “traditional” swan wintering sites in Iowa.

Migration movements “out of that norm” included 3 swans released at Union Slough NWR that migrated to and wintered in southeast Colorado near Ft Lyon. Two of these were observed at Monticello, Minnesota in the spring of 1997. The straight-line round trip mileage for these birds is over 1300 miles.

A review of the last 7 years of swan sightings indicates, most areas of state are now seeing swans at sometime during the year. This is another indication that the restoration effort, although slow, is moving forward. During 2002, 33 of our partnership pairs produced a record 141 young. Four additional nests failed to hatch and 3 to 4 dozen of the 141 cygnets have died of various causes. The invasion of West Nile Virus into Iowa has us cautiously concerned, but at this point we have not seen any impact of this virus in trumpeter swans. Unless we have unfortunate luck, we should be able to release nearly 90 swans during the spring of 2003. The DNR is excited about what the future holds for trumpeter swan in the state.

Known mortality to date includes the following: 19 have died in power line collisions, 31 were shot, 5 died of apparent malnutrition, and 17 died of unknown causes. Several other mortalities have likely occurred from completely unknown causes as we have

not had many mortality reports from unmarked swans. Mortality rates are somewhat higher than anticipated and will likely slow our trumpeter swan restoration efforts. Iowa currently has the dubious distinction of having the highest shooting mortality of any state in the Midwest. We hope that with enough publicity, on the swan poaching in Iowa and with additional enforcement efforts and public scrutiny, we will see the illegal shooting greatly reduced. Shooting trumpeter swans will cost \$1500 in liquidated damages, court costs, and perhaps hunting license revocation.

A major milestone was reached in 1998, 1999, and again in 2000, when the first and second free-flying trumpeters nested in Iowa since 1883. Four free flying females have bonded and mated with 5 captive/pinioned males and have produced eggs. Besides these, we apparently have several pairs of Iowa swans nesting in Southern Minnesota and Wisconsin. The one near Mankato, MN and the one near Potosi, WI are the southern most nesting swans in the respective states. At least one Iowa bird, a male, was part of a nesting pair on the north shore of Lake Ontario. In 2001, 9 trumpeter swan nest attempts occurred in Iowa. Six of these hatched and produced 19 young. Figure 12.3. Seventeen of these were surviving as of September 1, 2001. High mortality of adults from illegal shootings had us greatly concerned that we would not have very many wild nesting swans in the spring of 2002. We have, however, had 8 trumpeter swans nest attempts in 2002 and an additional 2 Iowa pairs successfully nested on the Wisconsin side of the Mississippi River producing a record 39 young in the wild. Figure 12.3. Twenty-eight of these were

surviving as of September 1. Since 1998, twenty-three trumpeter swan nests

have occurred in Iowa, 19 of which at least hatched at least one egg.

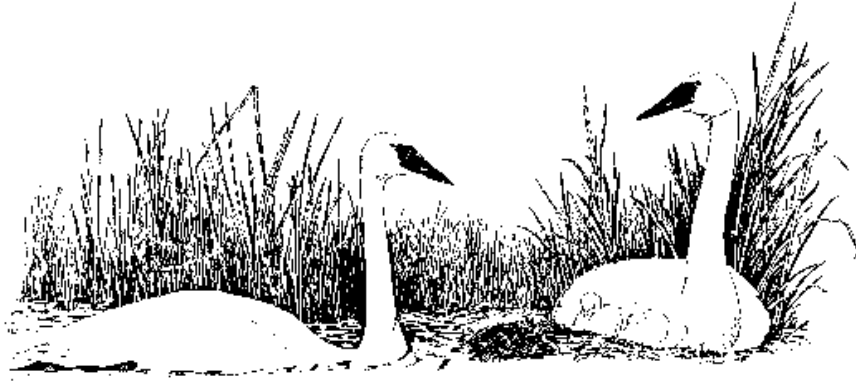


Table 12.1. Trumpeter swans released in Iowa, 1994 - present.

Site	Year	Area	County	Males	Females	Total
1	1994	Ventura Marsh	Cerro Gordo	Unk.	Unk.	4
2	1995	Kattleson's WPA	Dickinson	5	5	10
3		Jim Foreman's	Dubuque	2	2	4
2	1996	Kattleson's WPA	Dickinson	7	4	11
4		Union Slough NWR	Kossuth	5	5	10
5		Spencer	Clay	3	1	4
6		Anderson Lake	Hamilton	2	2	4
7		Harold Brun's	Lee	0	2	2
1	1997	Ventura Marsh	Cerro Gordo	3	6	9
2		Kattleson's WPA	Dickinson	3	5	8
8		Lost Island Marsh	Palo Alto	4	4	8
9		Eagle Lake	Hancock	4	4	8
10		Goose Lake	Greene	1	1	2
2	1998	Kattleson's WPA	Kossuth	5	3	8
4		Union Slough	Kossuth	5	5	10
5		Spencer	Clay	1	2	3
6		Anderson Lake	Hamilton	3	3	6
11		Bill Colwell	Black Hawk	1	3	4
12		Goose Lake	Clinton	1	5	6
13		Bjorkboda Marsh	Hamilton	1	1	2
14		Cheever Lake	Emmet	4	4	8
15		Cone Marsh	Louisa	3	3	6
16		Don Holzer	Dubuque	2	1	3
17		Jim Foreman	Dubuque	0	1	1
2	1999	Kattleson's WPA	Dickinson	3	3	6
4		Union Slough NWR	Kossuth	2	2	4
18		Green Island	Jackson	3	3	6
19		Henry Bohlen	Des Moines	1	1	2
20		Union Hills	Cerro Gordo	3	3	6
21		Myre Slough	Winnebago	3	3	6
22		East Twin Lake	Hancock	3	3	6
23		Mallard Marsh	Cerro Gordo	3	3	6
2	2000	Kattleson's WPA	Dickinson	6	6	12
4		Union Slough NWR	Kossuth	2	4	6
11		Bill Colwell	Black Hawk	3	7	10
12		Goose Lake	Clinton	2	4	6
14		Cheever Lake	Emmet	2	4	6
16		Don Holzer	Dubuque	2	1	3
23		Mallard Marsh	Cerro Gordo	1	1	2
24		Cherokee County	Cherokee	2	1	3
25		Little Storm Lake	Buena Vista	1	1	2
26		Four Mile WPA	Emmet	2	4	6
27		Joice Slough	Worth	3	3	6
28		Lake Sugema	Van Buren	5	2	7
29		Muskrat Slough	Jones	3	3	6
30		Pickeral Lake	Clay	4	3	7
31		Pin Oak Bottoms	Lucas	1	1	2
32		Rock Creek	Clinton	3	3	6
33		Thorpe Park	Winnebago	1	0	1

Site	Year	Area	County	Males	Females	Total
2	2001	Kattleson's WPA	Dickinson	5	3	8

11		Bill Colwell	Black Hawk	2	2	4
13		Bjorkboda Marsh	Hamilton	1	1	2
15		Cone Marsh	Louisa	2	2	4
20		Union Hills	Cerro Gordo	3	3	6
24		Cherokee County	Cherokee	1	2	3
30		Pickeral Lake	Clay	2	2	4
31		Pin Oak Bottoms	Lucas	1	1	2
33		Thorpe Park	Winnebago	1	1	2
34		Big Wall Lake	Wright	4	1	5
35		Dick Block	Clinton	1	1	2
36		Blue Wing Marsh	Palo Alto	4	2	6
37		Colyn Marsh	Lucas	2	2	4
38		Crawford Creek	Ida	2	2	4
39		Dunbar Slough	Greene	1	0	1
40		East Slough	Emmet	5	1	6
41		Killen Wetland	Steele, MN	1	1	2
42		Kiowa Marsh	Sac	3	1	4
43		Lake Wapello	Davis	1	1	2
44		Kirby Roberts	Calhoun	1	2	3
45		Princeton WMA	Scott	3	4	7
46		Buena Vista WMA	Scott	1	1	2
47	2002	Amana Forestry	Iowa	3	1	4
48		Atlantic Quarry	Cass	1	4	5
49		Big Mill Pond WMA	Jackson	1	1	2
50		Center Lake	Dickinson	1	1	2
51		Clark Lake	Cerro Gordo	1	1	2
52		Virgil Cole's WRP	Van Buren	2	2	4
40		East Slough WMA	Emmet	2	2	4
53		Elmer Kettleson	Clinton	0	2	2
2		Kettleson's WPA	Dickinson	3	3	6
54		Hurstville Marsh	Jackson	1	1	2
17		Duane Kennedy	Dubuque	1	1	2
43		Lake Wapello	Davis	1	1	2
55		Lizard Lake	Pocahontas	1	1	2
23		Mallard Marsh	Cerro Gordo	1	1	2
56		New Hartford	Butler	1	0	1
57		Ralph Steines Marsh	Clinton	1	1	2
32		Rock Creek Park	Clinton	0	1	1
58		Smith Slough	Clay	2	2	4
59		South Twin Lake	Calhoun	3	2	5
33		Thorp Recreation Area	Winnebago	1	1	2
60		Richard Baack Wetland	Cerro Gordo	1	1	2
4		Union Slough NWR	Kossuth	2	2	4
1		Ventura Marsh	Cerro Gordo	1	1	2
61		White's Pond	Clinton	2	0	2
Grand Total						423

The 1994 Ventura Marsh swans escaped captivity.

Figure 12.1. Trumpeter swan release sites, 1994 - present. Numbers are referenced in Table 12.1.

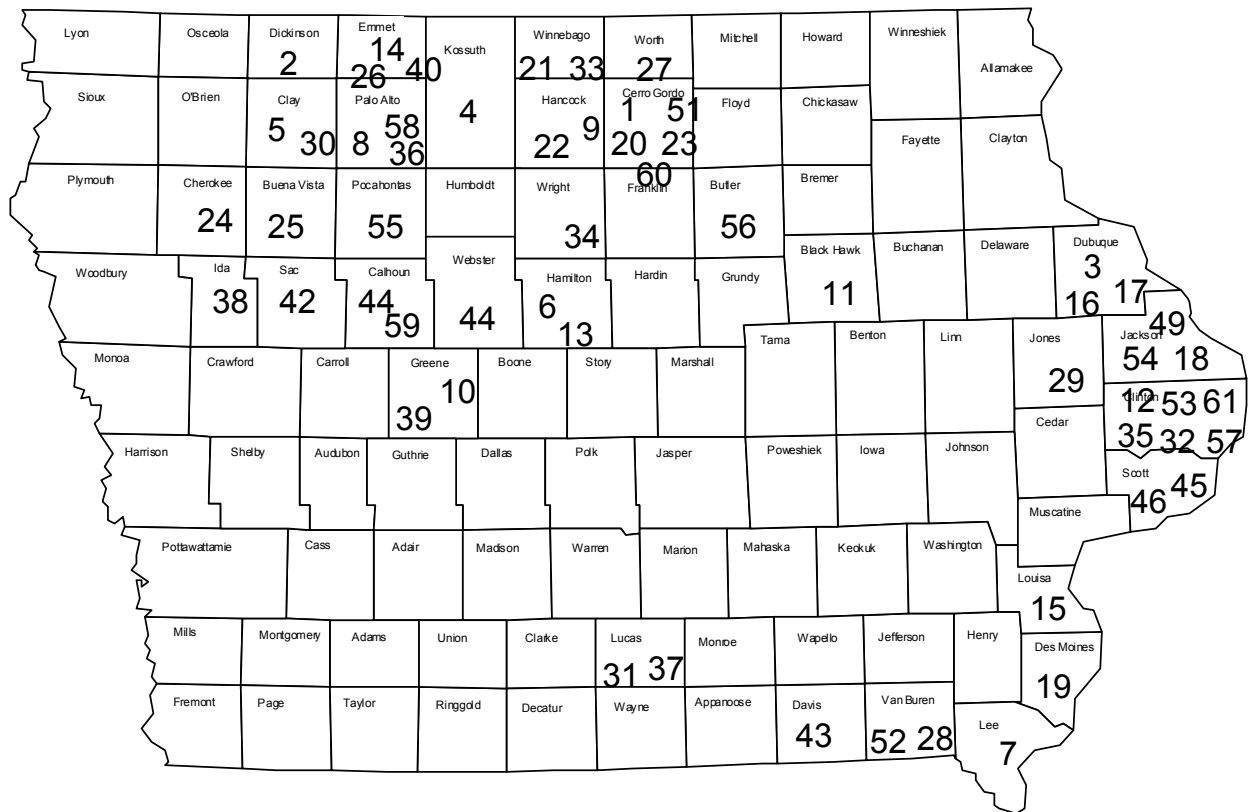
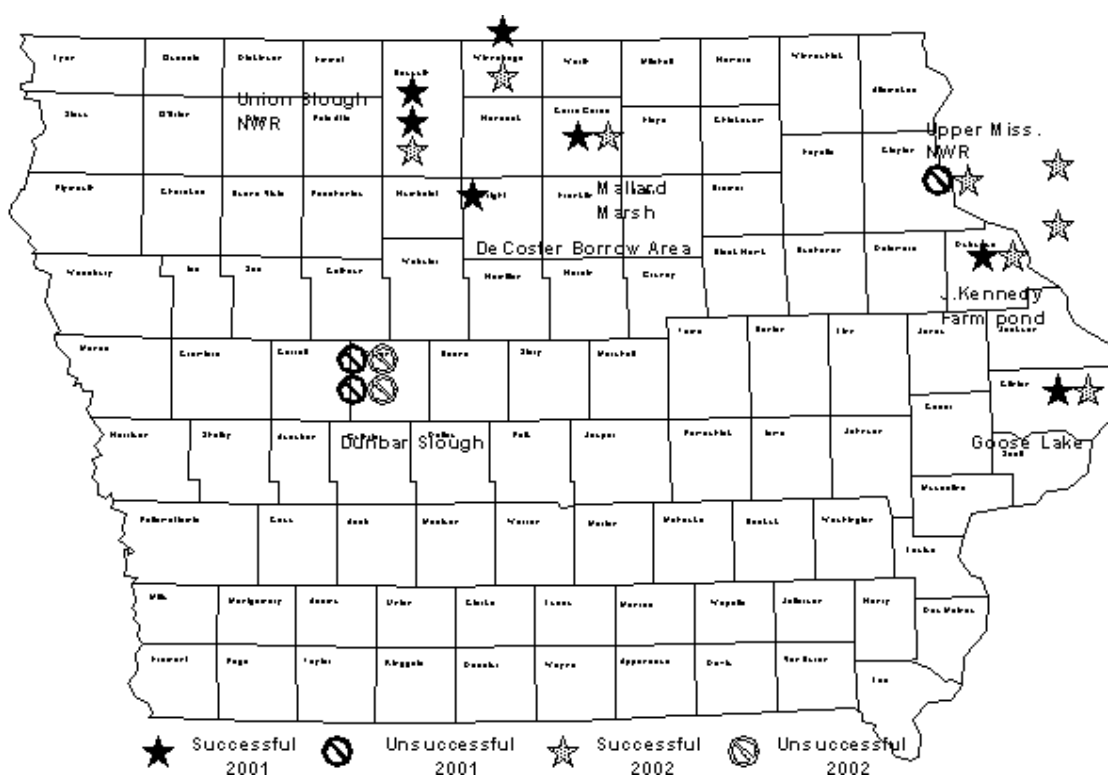


Figure 12.3 Wild Trumpeter Swan Nest Attempts (2001 & 2002).



OSPREY RESTORATION

Osprey, commonly called the fish hawk or fish eagle, is neither a true hawk nor eagle. Ospreys are cosmopolitan and occur worldwide with the exception of Antarctica. The species is of ancient lineage and presently is classified near the kite family. There are four subspecies presently recognized, two occurring in North America, P.L. carolinenses and P.L. ridgwayi. Ridgwayi is found in the Bahamas and Caribbean, while carolinensis is the Midwestern species. Carolinensis is migratory in its northern range and resides in south Florida and possibly part of the Gulf coast and northwest Mexico.

Ospreys were never confirmed to historically nest in Iowa, but were probably here given the abundance of lakes and wetlands that dotted the prairie. Ospreys are very unwary birds and territorially appear weak. Pairs will nest colonially. Nests may be upon structure, manmade or natural, that provides a platform, but Ospreys have been known to nest on the ground. Nests are generally at least one-foot deep and four to five feet wide, are made of sticks and lined with grass. Highest productivity is attained on power poles and nesting platforms.

Ospreys were heavily affected by the biocide crash of the 1950s. Populations were severely reduced throughout the range but hardest hit in the Great Lakes and Atlantic coast. A strong fidelity to ancestral breeding areas slowed range expansion into vacant and newly created habitat since the DDT era.

With construction of lakes by Department of Natural Resources and reservoirs by U.S. Army Corps of

Engineers, potential osprey habitat exists that was previously not available. There are numerous osprey summer sightings in Iowa, but apparently these young, non-breeding ospreys return to northern areas for mating and nesting. Despite this population growth, ospreys have demonstrated little breeding range expansion. Minnesota and Wisconsin DNR officials suggest that ospreys, in our lifetime, do not readily pioneer new breeding ranges. Instead they experience suppressed reproduction as density of breeders increases. To address this issue, young ospreys from Wisconsin and Minnesota are being relocated to areas with suitable habitat in southern Minnesota, Iowa, Kansas, Missouri and Ohio.

The Iowa Department of Natural Resources has assisted conservation partners with technical assistance, encouragement, and fish to successfully release ospreys in Iowa. The Macbride Raptor Project located near Coralville Reservoir has spearheaded this work. Beginning in 1997 four or five young ospreys have been released annually at their facility. Since that time, personnel at the Hartman Reserve Nature Center in Cedar Falls initiated a release at their facility in 1998. Staff of Boone County Conservation Board and Polk County Conservation Board coordinated a release at Saylorville Reservoir in 2000. The U.S. Army Corps of Engineers has provided distinguished service for releases at Coralville and Saylorville Reservoir respectively. Assisted by literally hundreds of volunteers, these conservation organizations have devoted their efforts to bring ospreys to Iowa as a nesting species. A four-year minimum

commitment of releasing ospreys is required at each site. Project fundraising is the responsibility of the conservation organizations doing the releases. Ospreys cost about \$500 per bird.

In Iowa, ospreys have two bands, a silver U.S. Fish and Wildlife Service band and a numbered, lavender band on separate legs. Forty-eight ospreys have been released at the three sites since 1997.

Beginning in 2000 Osprey released at Heron Lake in SW Minnesota by Minnesota DNR, built a nest atop a microwave tower near Cayler Prairie in NW Iowa. In late winter Great-horned Owls were seen at the nest and tending young, however by April the Ospreys were once again nesting at the site. Incubation appeared to be progressing, but ultimately the nesting attempt failed. It was believed extremely violent storms were a factor in the demise of the nesting attempt. A second pair was also observed nest building in the Spirit Lake area. At Coralville reservoir a 1998 released Osprey was nest building with two other unidentified adult Osprey. The adults were seen feeding the year-class of 2001.

In 2002 the Spirit Lake pair nested on a platform at the outdoor classroom area of Spirit Lake school. In early July a single egg was discovered. This is the first osprey egg documenting osprey nesting since European settlement. Also on a pole/platform near Cayler Prairie a nest was constructed at that site.

At Coralville reservoir a nest was constructed by A5 (Macbride 1998) and an unbanded female. These birds were joined by H2 (2000 Saylorville) feeding young hacked birds. Four Wisconsin osprey were placed at the site. However, two young died from heat stress prior to release.

At Saylorville a pair of wild birds E4 (Hartman 2000) and E1 (Macbride 2000) appeared at the site, causing excitement and strafing released birds. Five additional osprey were hacked from the site.

At Hartman Reserve Nature Center four additional Osprey were hacked.

This project is in keeping with the IA DNR mission to protect, propagate, increase, and preserve the wildlife of the state (Section 456A.23, Code of Iowa, 1997). Establishing as Osprey population will improve the state's wildlife diversity and increase the public's appreciation of wetland ecology. There is a goal of five nesting pairs with the potential for another five breeding pairs located the state by 2006.



Table 13.1 Osprey releases in Iowa commencing in 1997

Year	Location	USFWS #	Color	
			Band	Comments
1997	Macbride	60848727		
		60848728		
		60848729		
		60848730		
		60848735		
1998	Macbride	60848745	A8	
		60848746	A6	
		60848747	A5	returned to Coral ville 2001, 2002
		60848748	A7	
1998	Hartman	60848741	A1	
		60848742	A2	
		60848743	A3	
		60848744	A4	
1999	Macbride	78823203	C1	
		78823205	C3	
		78823207	C5	
		78823208	C6	
1999	Hartman	78823204	C2	
		78823206	C4	
		78823209	C7	
		78823210	C8	Died in hack box
2000	Macbride	78823212	E1	returned to Saylorville 2002
		78823217	E6	
		78823218	E7	
		78823220	E0	
2000	Hartman	78823213	E3	Fractured wing released at MRP
		78823214	E2	
		78823215	E4	
		78823216	E5	
2000	Saylorville	78823219	E8	Died in hack box
		78823221	H4	
		78823222	H2	returned to Coralville 2002
		78823223	H0	died impact
		78823224	H3	
2001	Macbride	78823225	H1	
		78823228	H6	
		78823229	H7	
		78823232	K0	
2001	Hartman	78823234	K2	
		78823227	H5	
		78823230	H8	
		78823231	H9	
2001	Saylorville	78823233	K1	
		78823235	H5	
		78823236	H8	
		78823237	H9	
2002	Macbride	78823238	K1	
		78823243	K3	
		78823245	K5	
		78823246	K6	Died heat stress
2002	Hartman	78840802	J3	Died heat stress
		78840844		Rehabbed bird from The Raptor Cen
		78823244	K4	
		78823247	K7	
2002	Saylorville	78823250	K9	
		78823248	K8	
		78823241	J4	
		78823242	J5	
2002	Saylorville	78823249	J1	
		78840801	J2	
		78840803	J0	

BALD EAGLE RESTORATION

HISTORICAL REVIEW

When Euro-Americans first arrived in Iowa, it is likely that bald eagles nested throughout the state, particularly in the wooded edges of rivers, streams, and fish infested lakes. As forests were cut and the woodland habitat occupied by eagles was altered, eagle numbers declined. Direct persecution (mostly shooting) and changes in eagle habitat, particularly nesting habitat, appear to have eliminated the bald eagle as an Iowa nester by the early 1900s. Early records for the bald eagle in Iowa do not give us a good idea of how many nests there once were for this species, but we do know that eagles were “formerly common in Iowa and frequently nested in favorable localities” (Anderson 1907). Certainly early records reflected that notion, since there were records for nests in many counties throughout the state. There were four nests recorded for Allamakee County by Ellison Orr, with the last known active nest in 1864 (Allert 1939, Orr 1937). Spurrell (1917) reported that the last known active nest in Sac County was in 1871. At a long-occupied nest near Rowan in Wright County, the adult eagles were killed and two young were taken from the nest in May 1877 (Birdsall 1915). Perhaps the last nest documented near the turn of the century was in Jasper County in 1905, where two young eaglets were taken from a nest near Kellogg (Anderson 1907).

The passage of the Federal Bald Eagle Protection Act of 1940 was the first real effort to protect eagles, especially from shooting. The use of organochlorine pesticides, such as DDT,

after World War II also severely devastated eagle populations (Broley 1958, Carson 1962). It was only after the banning of organochlorine pesticide use in this country in 1972 and the listing of the bald eagle for protection on the Endangered Species Act in 1978 that this species began to recover. The bald eagle was considered an extirpated species on Iowa’s first threatened and endangered species list in 1977 (Roosa 1977), and it was not again expected to be seen nesting in Iowa.

RECENT IOWA NESTING RECORDS

As improbable as it seemed, the bald eagle did nest in Iowa again. The first nest noted in over 70 years was located near New Albin on the Mississippi River floodplain in 1977 (Roosa and Stravers 1989). Two young were produced that first year (Table 15.1), but it was not until 1980 that another eaglet was produced from that nesting territory. In 1984, Dinsmore et al. (1984) considered the bald eagle a rare summer resident. It was in 1985 that a second Iowa eagle nest appeared, just three miles downstream from the first. That nest produced three young. During 1986, a third nesting territory appeared in Allamakee County on the Mississippi River, and a fourth occurred in Jackson County. The first documented nest away from the Mississippi River was found in 1987 along the Skunk River near Coppock in Jefferson County (Table 15.1). The following year there were eight active nests reported. Two more new nests were discovered away from the Mississippi River, one in Allamakee County and one in Fremont County near

Forney's Lake. A new nest was also found in Clayton County along the Mississippi River, and a nest in a huge cottonwood tree was reported by towboat captain, Pat Flippo, for Des Moines County near the mouth of the Skunk River.

As part of the USF&WS regional plan for bald eagle recovery, in 1981 Iowa established a goal of 10 active Bald Eagle nests by the year 2000 (Grier 1988). This goal was surpassed in 1991 when the number of active nests jumped to 13 (Table 15.1). Nest numbers climbed to 21 in 1992: Allamakee County now had 11 active nests; Clayton County had three; Jackson County had two; and five additional counties -- Jones, Benton, Iowa, Mahaska, and Winneshiek -- each now held one nest. Iowa's steady upward nesting trend continued. In 1993, the 32 active nests recorded quadrupled the number of nests found just five years earlier. During 1994, nesting progressed westward in the state into Blackhawk, Howard, Webster, Sac, and Buena Vista counties (Figure 15.1). Nesting pairs also continued to establish themselves in the southeastern portion of the state and frequented Linn, Clinton, Washington, and Lucas counties.

Each year more eagle pairs continued to adapt to Iowa's fragmented and highly used landscape. In 1995, the number of active nesting pairs climbed to 43 (Table 15.1), and eagle pairs had now nested in 23 counties on 14 river systems. The largest boost in eagle nesting numbers occurred during 1998, when 84 active nests were recorded in 33 counties. This increase of 22 nests from 1997 followed a mild winter in which a record of 1,737 bald eagles was tabulated in January 1998 during the Midwinter Bald Eagle Survey

(Ehresman 1998). It appeared that some eagle pairs opted to nest in areas in which they were wintering, particularly in western Iowa. Nests were reported in eight new counties in 1998 and included Lyon, Sioux, Mills, Calhoun, Humboldt, Butler, Bremer, and Buchanan counties. With this latest tally, eagles had now nested in 42 counties (Figure 15.2) in association with 30 rivers and creeks (Table 15.2).

PRODUCTION OF EAGLE YOUNG

As the number of active nests increased from 1977 to 1998, so did the number of young produced each year (Table 15.1). From zero to three eaglets were produced for each of the years from 1977 through 1985. For the next several years, a slow but steady increase in the number of nests occurred until 1990, when seven of the eight active nests successfully fledged 13 youngsters. For several years, there was an increase of about seven active nests per year, and in 1995, 58 young fledged from 31 successful nests. A significant increase was seen in the number of eaglets produced during the next year (Figure 15.3). Then, in 1997, a drop in the number of eagle young produced was noted, even though the number of active nests increased. Eagle pairs were back on track production-wise in 1998, and 47 successful nests fledged at least 82 young. There were 15 nests for which the nesting outcome was unknown in 1998, so it is likely that there were a number of fledglings that went unrecorded. For the years 1999-2001, recording eagle nesting activity for every nest became less of a priority for the Iowa Department of Natural Resources (IA DNR). Records were still kept for all nests reported, with an emphasis placed on documenting new eagle nests.

However, data for nest activity and nest success is not nearly as complete as for years prior to 1999. Projected eagle nest numbers (based on number of new nests reported each year and average nest increase rate since 1995) is shown in Figure 15.3 for 1999-2002.

Iowa eagles are very productive. Beginning in 1985, from the first time that there were at least two nests known, the average number of young per successful nest has never fallen below 1.5 eaglets (Table 15.1). The average for this same category for all 22 years is 1.7 young per successful nest. This compares well to data from four districts of the Upper Mississippi River National Wildlife and Fish Refuges. On the Mississippi River from 1986 through 1997, the number of young per active nest with known production averaged 1.4 eaglets (Nelson 1998). Iowa production is also higher than a compilation of several studies which indicated that a successful nest, on average, produced 1.6 eaglets (Stalmaster 1987). Of further interest is the fact that 13.6% of Iowa nests produced three young each. This is a high percentage if one considers that, according to Stalmaster (1987), for 3,893 occupied nests throughout North America in the 1960s and 1970s, only two percent produced three young each. In 1996 alone, 10 of the 40 (25%) successful Iowa nests produced three young each.

STREAMS WITH NESTS

Iowa Bald Eagles have nested along 30 different rivers and creeks since 1977, and 29 of those riparian corridors held active nests in 1998 (Table 15.2). The Mississippi River is still by far the most important waterway in Iowa to the survival of the Bald Eagle.

It contained 32 active nests in 1998. Next in importance were the Upper Iowa and Cedar rivers with six nests each and the Missouri River with four nests. All other waterways held three or fewer nests, with the majority having one nest each. It will be interesting to see which river systems might gain in importance to nesting eagles in future years.

PREFERRED NEST TREES

Another aspect of bald eagle nesting which is of importance is the type of trees in which these majestic birds choose to nest (Table 15.3). Nest trees are typically stout for their height and have large crowns with an open canopy. The large crown provides an optimum site to build a large nest, and the open canopy allows these birds with seven-foot wingspans to land and take off without being impeded. The nest tree is usually alive, but the top of the tree is often dead or dying. Nest tree data presented here are from 1998 only, but they include both active and inactive Iowa nests. Data were not included for nests located on the Mississippi River floodplain in northeastern Iowa. It appears that the favored tree used for nesting in Iowa is the cottonwood (*Populus deltoides*). White pine (*Pinus strobus* L.) was next in importance. Perhaps the white pine would be even more significant as a nest tree if it were more abundant and if it occurred naturally in places other than northeastern Iowa. In Chippewa National Forest in northern Minnesota, the white pine is the favored nest tree holding 53% of all nests (Mathisen 1983). Several types of oak trees (*Quercus* sp.) contained a significant portion of Iowa's eagle nests. Since oak trees, in general, are more abundant on upland sites, it might be that, as eagles

nest away from river bottomlands, there will be an increase in use of these trees as nest sites.

RECOVERY EFFORT

Bald Eagle Nest Survey: The Iowa Conservation Commission's (ICC), now IA DNR, first effort to enhance bald eagle recovery was the purchase of the property, near New Albin, where the first eagle nest in 70 years occurred. As eagle nests increased, IA DNR staff kept records of these nests to monitor nesting success. Until about 1995, most eagle nests reported on private land were visited by Wildlife Bureau staff in order to establish a good relationship with eagle nest landowners and assure the security of each nest site. Similarly, USF&WS employees have documented records for bald eagles nesting within the Mississippi River floodplain since the first Iowa nest was confirmed in 1977.

Midwinter Bald Eagle Survey: Beginning in 1983, ICC staff cooperated on a national Midwinter Bald Eagle Survey to assess the health of the greater bald eagle population. In cooperation with the National survey coordinator, USGS Raptor Research and Technical Assistance Center in Boise, Idaho, IA DNR Wildlife Diversity Staff continue to coordinate this survey today. Data from this survey indicate a dramatic increase in Iowa winter bald eagle numbers from 1983-200 (Figure 15.4). This data is used for evaluating the delisting of bald eagles in the United States, and information derived from this survey across the country has been used for the upgrade of the bald eagle national status from Endangered to Threatened in 1995.

DISCUSSION

Undoubtedly there are several reasons why nesting Bald Eagles have staged a comeback in Iowa. One reason for the recovery may be related to this species' ability to pioneer into suitable nesting habitat. This was not only true of Iowa's first nest in seven decades, which appeared in Allamakee County, but it also became obvious in 1987 when a pair of eagles nested in Jefferson County along the Skunk River. It was further evidenced in 1988 when an eagle pair nested in extreme southwestern Iowa in Fremont County near the Missouri River. Another key element helping eagle recovery appears to be Iowa's close proximity to one of the more stable nesting populations of bald eagles in the continental United States. Three states to the north, including Minnesota, Wisconsin, and Michigan, presently have a combined total of approximately 2000 nesting pairs, which is about one-third of all nesting eagles in the lower 48 states. There is little doubt that Iowa's eagle population is benefitting from its neighbor states to the north. Even in 1998, when eagle nests occurred in 42 counties, over half of all Iowa's eagle nests could be found in four counties in the northeastern corner of the state (Figure 15.2).

An unanticipated factor that has helped bald eagle numbers recover is their adaptability. It appears that eagles nesting in the Mississippi River floodplain may be somewhat tolerant of boat traffic (McKay et al. 1995). Other instances indicate that some eagles are more tolerant of disturbance than others. There are now numerous nests located within several hundred yards of buildings, roads, and farm fields. One nest along the Upper Iowa River in Howard County is only about 100 yards from the bedroom window of very

interested eagle nest watchers. The nest is located across the river and, so far, human activities have not negatively affected the nest's success. Grier (1988) explained that eagles' ability to tolerate human activity and nest close to buildings has . . . "broadened their amount of available habitat and living space."

THE FUTURE

Although the outlook for Iowa's eagle population is favorable, there are still factors which affect eagle numbers. Unmanaged logging continues to pose a threat to eagles, and the removal of large, mature cottonwoods along Iowa streams will limit where eagles can nest and find foraging perches.. Two central Iowa eagle winter roost sites have been severely logged within recent years, and fewer eagles are being seen at both of these sites. Logging in the vicinity of eagle nests also can affect the nesting outcome. Even though there are strict federal laws protecting eagle roost and nest sites against disturbance during their occupancy, cutting of roost trees of bald eagles during the time of year that eagles are not using them is not prohibited.

Lead poisoning is still a concern, as several eagles are found in Iowa each year, either dead or suffering from this problem. Five out of eight bald eagles found sick in Iowa and brought to wildlife rehabilitators between November 1998 and January 1999 suffered from lead poisoning. Where this lead is coming from is yet to be determined.

LITERATURE CITED

Despite current problems that face the bald eagle, its numbers continue to recover. In 1963, an Audubon Society survey found only 417 remaining bald eagle nests in the continental United States. It was a species headed for extinction. In 2000, that number was over 6,500 active nests. Although the bald eagle is still listed as an Iowa endangered species, it soon will be removed from the Iowa Endangered/Threatened Species list. Iowa, which had no nests for over 70 years, in 2002 has at least 140 active nests (and perhaps as many as 160 active nests). The enforcement of protective laws and a change in the public's attitude toward eagles have helped bring back this species.

Bald Eagle Appreciation Days:

Iowa DNR staff have been involved with promoting the appreciation of bald eagles since helping establish the first event in Keokuk in 1985. There are presently at least 13 Bald Eagle Appreciation Days held in Iowa each winter to celebrate the existence of eagles, and between 12,000 and 15,000 people gather at these events annually. With the continuation of public support for bald eagle recovery, this bird's population should continue to increase.

ACKNOWLEDGMENTS

Our thanks to the many Iowans who have watched over our eagle nests, helped with winter eagle surveys, and provided information that better helps the different agencies protect this species.

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Table 15.1. Annual bald eagle production for Iowa from 1977 through 1998.

Year	No. of Active Nests	No of Successful Nests	No. of Nests with 3 Young	No. of Known Young	No. of Young / Successful Nest	No. of Counties With Active Nests
1977	1	1	0	2	2.00	1
1978	0	0	0	0	0	0
1979	1	0	0	0	0	1
1980	1	1	0	1	1.00	1
1981	1	0	0	0	0	1
1982	1	1	0	1	1.00	1
1983	1	1	0	1	1.00	1
1984	1	1	0	2	2.00	1
1985	2	1	1	3	3.00	1
1986	3	3	1	6	2.00	2
1987	4	3	1	6	2.00	3
1988	8	6	0	9	1.50	6
1989	9	7	1	11	1.57	5
1990	8	7	2	13	1.86	6
1991	13	9	4	21	2.33	8
1992	21	14	2	25	1.79	8
1993	32	18	0	27	1.50	13
1994	36	24	2	44	1.83	16
1995	43	31	5	58	1.87	16
1996	54	40	10	71	1.78	20
1997	62	42	1	64	1.52	26
1998	84	47	5	82	1.75	33
Total	386	257	35	447	1.74	42

Table 15.2. 30 rivers and creeks associated with Iowa bald eagle nest sites in 1998

Name of river or creek	Number of active nests	Name of river or creek	Number of active nests
Mississippi River	32	North Raccoon River	1
Upper Iowa River	6	Raccoon River	1
Cedar River	6	Little Sioux River	1
Missouri River	4	Rock River	1
Yellow River	3	Boone River	1
Turkey River	3	Grand River	1
Volga River	3	Chariton River	1
Iowa River	3	English River	1
Maquoketa River	2	Robert's Creek	1
North Fork Maquoketa River	2	Buck Creek	1
Skunk River	2	Canoe Creek	1
Wapsipinicon River	1	Lytle's Creek	1
Shell Rock River	1	Bear Creek	1
Des Moines River	1	Whitewater Creek	1
East Branch Des Moines River	1	Crooked Creek (not active in 1998)	

Table 15.3. Tree species used by bald eagles for nest sites in Iowa (from 1998 data)*

Species	No. of Active Nests	No. of Inactive Nests	Total Nests	Percent of Total Nests
Cottonwood	33	11	44	67.7
White Pine	7	2	9	13.8
Oak (sp.)	3	4	7	10.8
Ash (sp.)	1	1	2	3.1
Big Tooth Aspen	2	0	2	3.1
Silver Maple	1	0	1	1.5
Total	47	18	65	100

*Does not include nests on the Mississippi River in northeastern Iowa

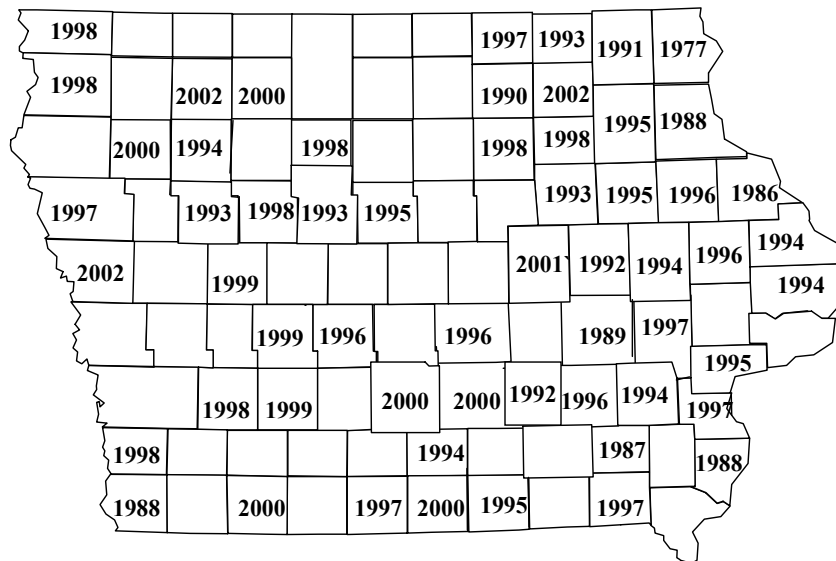


Figure 15.1. First year in which a bald eagle nest was reported for 59 counties, 1977 through 2002.

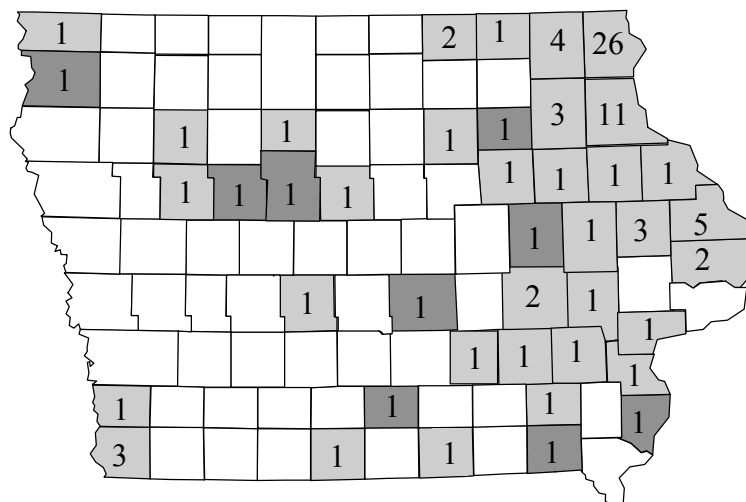


Figure 15.2. 33 counties in which 84 active Bald Eagle nests were found in 1998 (□), and 9 counties with inactive nests (■)

Figure 15.3 Number of active Bald Eagle nests and known reproduction in Iowa 1977 – Present.

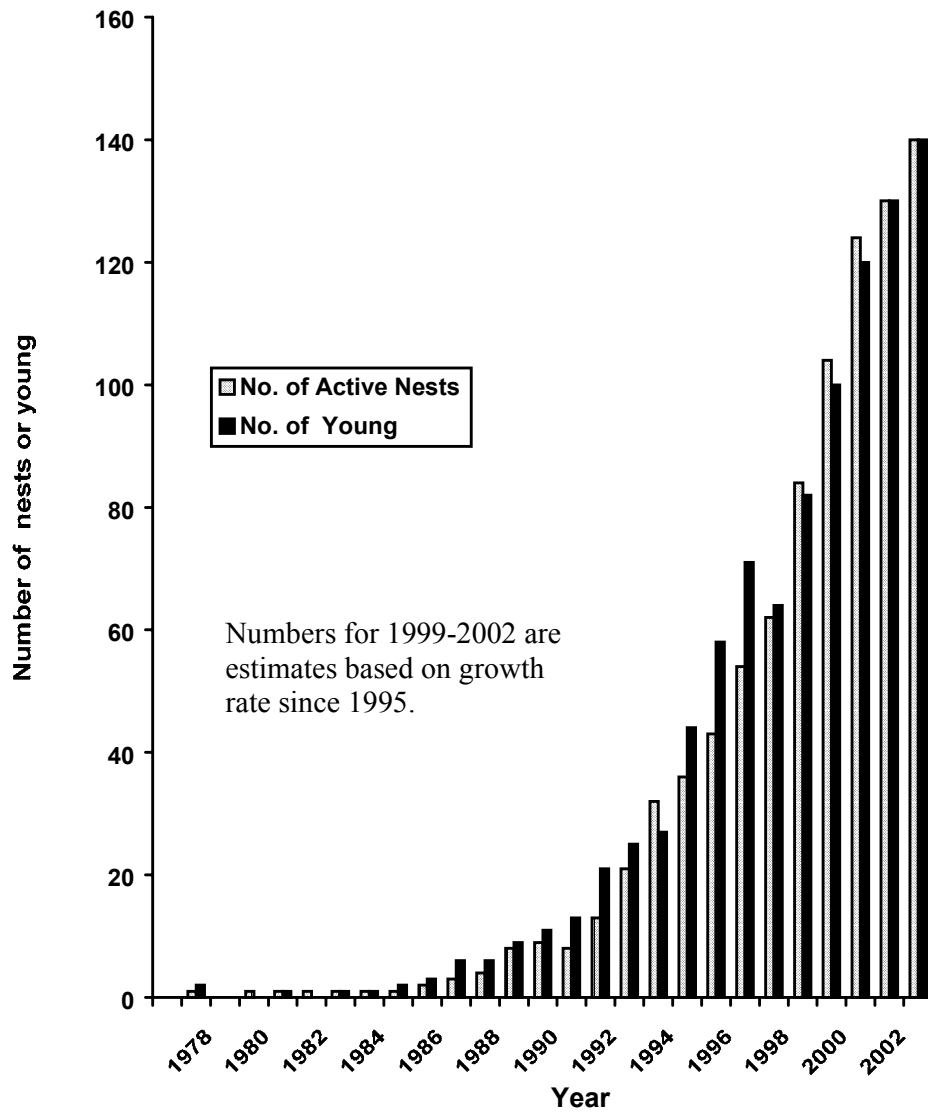
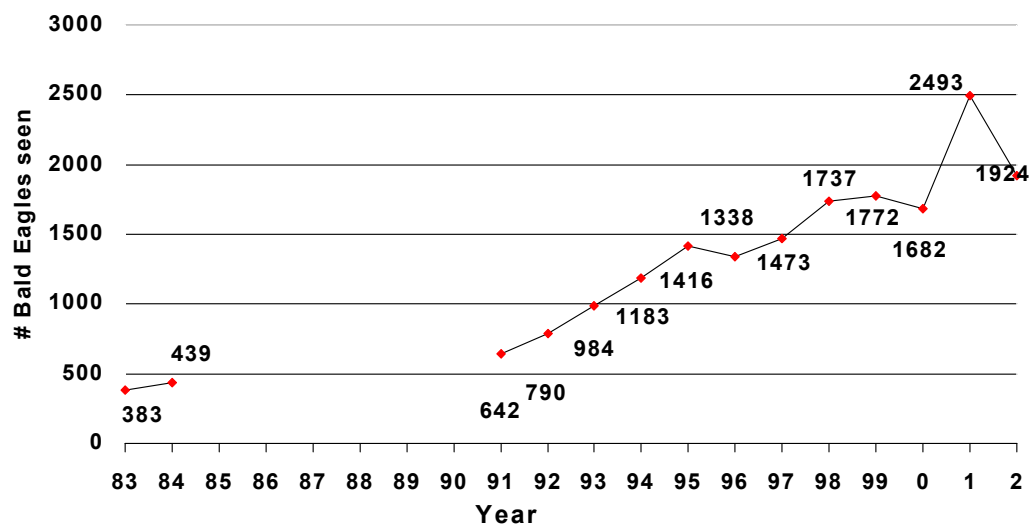


Figure 15.4 Number of Bald Eagles seen during Iowa mid-winter survey 1983-Present



BOBCAT STATUS IN IOWA 2001

Prior to settlement, bobcats were found throughout Iowa. Historically they were the most abundant of Iowa's three native cat species - the bobcat, lynx and mountain lion. By the late 1800's historical records mention little of bobcats in Iowa.

In the 1930's and 1940's small numbers of bobcats were reported from all corners of Iowa, although they were most numerous in the northeast corner of the state. Between the 1940's and mid-1980's bobcats were infrequent in the western, southern and eastern portions of Iowa.

During the past decade and a half a number of bobcat sightings, roadkills, and occasional trap captures have occurred. In 1999, Pat Schlarbaum, DNR Wildlife Diversity Technician, mailed out an informal questionnaire to County Conservation Boards across the state.

In early 2001 a second, more detailed questionnaire, was sent to a larger sample of outdoor professionals. Figure 13.1 shows that 62 counties now have bobcats present within their boundaries. Nebraska, Kansas and Missouri show similar bobcat expansion and increases near Iowa's southern and western borders.

Dr. Larkin Powell, Biology professor at the University of Dubuque, has been working with an Honor's student to develop a bobcat habitat model for Iowa.

Dr. Jim Pease, Extension Wildlife Specialist at Iowa State University, is also working with M.S. student, Anne Avery, on a more elaborate survey of bobcat sightings and the public's perception of predators in the state. That project is scheduled for completion in 2003.

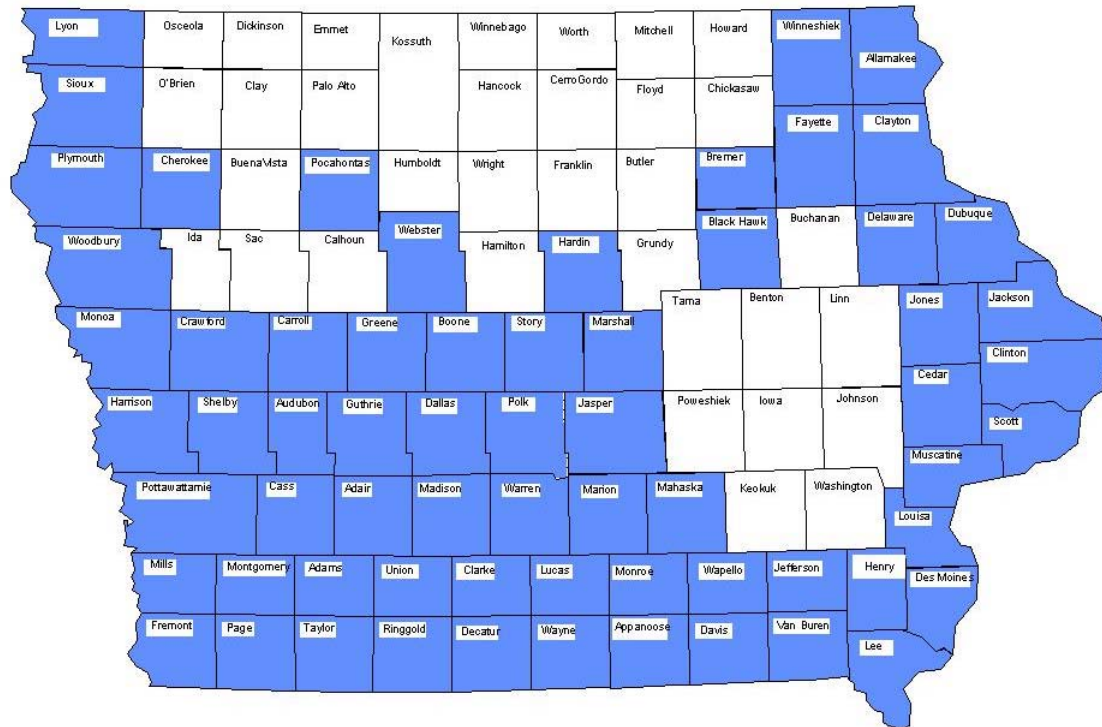
The Iowa DNR is currently working on a process to delist the bobcat from threatened status.

Reproductive and population age structure data will be collected from all bobcat carcasses obtained and we will continue to monitor the increase and modern day expansion of bobcats in Iowa.

The Iowa DNR is currently developing a research study to monitor bobcat movements and habitat use in south-central Iowa. A small sample of bobcats will be captured and neck collared with GPS and standard radio tracking devices during the fall and winter of 2002-2003. After evaluating the success of this effort, the project will be expanded, over the next few years, to with the hope of obtaining enough data to delist the bobcat from Iowa's threatened list. Once the bobcat is delisted, consideration will also be given to implement very conservative, regulated harvest in portions of the state. I would project that a harvest season would not occur before 2006 at the earliest.

Figure 16.1 Counties with Bobcat sightings 1999-2001.

BOBCAT SIGHTINGS IN IOWA COUNTIES 1999 - 2001



MOUNTAIN LION STATUS IN IOWA 2000 – 2002

The mountain lion (or puma, panther, and various other names) is the largest of the three wildcats documented in Iowa. They probably occurred throughout the state, but nowhere in great numbers. The last historical record of a mountain lion in Iowa appears to be near Cincinnati, in Appanoose County, where one was shot in 1867.

Since the mid-1990's the DNR has received several reports of large "cat" like sightings that lead us to believe that "free ranging" mountain lions may be occurring in some portions the state. These "free ranging" mountain lions could be either escapees, or released animals, under private ownership or animals moving in from western and southern states. **THE IOWA DNR HAS NOT 'STOCKED' OR INTRODUCED MOUNTAIN LIONS IN THE STATE.** Southeast South Dakota, eastern Nebraska, northeast Kansas, and northern Missouri have reported increasing mountain lion sightings during the past 5 years.

Figure 1 is a map showing reported observations that appear to be credible, confirmed mountain lion tracks, a visual sighting, and a roadkill near Harlan, which could possibly indicate that a wild mountain lion has roamed into the state. The roadkilled animal in Jasper County was not reported to the DNR until after the roadkill near Harlan. This animal was exhumed and a close inspection of the remains showed the animal had been declawed, indicating that it must have been a captive animal at one time. The confirmed sighting in Ringgold County was observed by DNR personnel, and

mountain lion scat was collected at that observation site. We have several instances of deer hunters seeing partially eaten deer covered by grass and other debris. This is somewhat typical of how mountain lions cache their prey but some bobcats will similarly cover their prey.

Currently the mountain lion has no legal status in the Iowa Code thus they are not given any sort of protection by Iowa law. The DNR requested that the 2002 legislative session consider legislation to designate the mountain lion as a furbearer, thus allowing the DNR to properly manage this species should their numbers increase. It was also requested that indiscriminate killing of these animals should not be allowed unless they are about to cause damage or injury to property or persons. The legislation passed the Senate with little controversy, knowing full well that the House would not even consider the issue.

Professor James Mahaffy of Dordt College has created a website (<http://defender5.dordt.edu/~mahaffy/mtlion/mtlionshort.htm>) listing mountain lion sightings in Northwest Iowa. He has recorded several sightings along the Big Sioux and Doon Rivers and into the eastern edge of South Dakota. Numerous other mountain lion sightings have been generated from these reports. We attempted to map only those most credible reports. However, since the spring of 2002, we have received so many reports, which agency personnel and others believe to be credible, that it is becoming increasingly difficult to sort out which reports are reliable. Although

the DNR does not advocate indiscriminate killing of mountain lion, another roadkill or a shooting would help add credibility and confidence to all the mountain lion sightings that we are currently receiving.

It is very difficult to validate authentic livestock losses or injury. We have had reports of horses with claw

marks (scratches) on the hind flank and a few reports of sheep that some property owner believes were taken by mountain lions. However, mountain lion researchers believe that white-tailed deer and other wild animals are the preferred prey. We will continue to monitor and attempt to sort and map reliable sightings.

Reported Sightings **Confirmed Tracks** **Confirmed Sightings**

BLACK BEAR STATUS IN IOWA

Black bears were one of the most recognizable and noticeable mammals encountered by Europeans as they settled North America. As settlers moved west, they generally killed any bears they encountered. Thus, bear numbers declined rapidly in many areas, and bears disappeared from much of their former range. Most present-day Iowans probably associate black bears with some of our large national parks and do not realize that they once occurred in Iowa. When the settlers reached Iowa, they found them widespread throughout the state but higher numbers occurred where there were more woodlands. Bears were killed because they would damage crops and harass and kill livestock and because they were valuable both as food and for their hide. Several stories of the exploits of early-day “Davy Crocketts” in Iowa have been recorded in journals and diaries.

There are pre-1900 records of black bears from forty-eight Iowa counties, two-thirds of them from counties in the eastern half of Iowa. The

last recorded bear in the 1800s was one found near Spirit Lake in 1876. In the 1960s, black bear reports begin to reoccur in the state. Several of these reports were from captive bears that were either turned loose or escapees. In the 1990s to the present we began to field more reports of what appeared to be wild free ranging bears in the state. Currently, the nearest established wild populations of black bears are in northern Wisconsin, northern Minnesota, and southern Missouri. These populations are moving towards Iowa from both directions. Figure 18.1 shows the most recent sightings of bears in Iowa. Black bear sightings are usually more reliable than Mountain lion sightings because they do not necessarily flee when sighted, the tracks are very distinct, and they are not readily mistaken for other animals.

Much of the historical information in this report was paraphrased from Dr. James J. Dinsmore’s book “A Country So Full Of Game—The Story Of Wildlife in Iowa”.

Figure 18.1 Sightings and evidence of Black bear in Iowa.

