TRENDS IN IOWA WILDLIFE POPULATIONS AND HARVEST

2015-2016

Iowa Department of Natural Resources
Chuck Gipp, Director
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TRENDS IN IOWA WILDLIFE POPULATIONS AND HARVEST 2015-16

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CONSERVATION & RECREATION DIVISION

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WHITE-TAILED DEER

Historical Perspective

White-tailed deer (*Odocoileus virginianus*) were reported to be 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 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 addition to some complaints concerning deer-vehicle collisions. In response to these problems, the first modern deer season was held in December of 1953, and 4,000 deer were killed. The harvest in 1996 exceeded 100,000 for the first time ever.

Although deer are frequently associated with forested areas, they are very adaptable and 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 fence lines, 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 cover and food during portions of the growth cycle. Urban environments can also prove to be good habitat for deer, especially if there are green belts, parks or other natural spaces nearby.

Deer utilize almost all plants for food at one time or another during the year. Deer feeding habits can best be described as being widely selective as deer will sample many plants while feeding, but often utilize a single, palatable source of food for the majority of their diet seasonally. Preferred foods change throughout the year in response to changing metabolic demands and forage availability.

The whitetail's ability to thrive in Iowa is likely the result of abundant, reliable food sources and a winter climate where snow depths rarely exceed 12" for a prolonged length of time. Droughts are also rare, and do not impact the availability of food like they do in some areas of the United States. 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. Some one year old does can give birth to single fawn, and many will give birth to multiple fawns each subsequent year. Deer in the wild can maintain these high reproductive rates past 10 years of age. Research in Iowa has found that 8% 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 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 in 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 primarily of regulating the doe harvest since hunting provides the major source of mortality for deer in modern day Iowa. 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 long growing season and agricultural crops providing abundant food, densities could exceed 100 or more deer per square mile in year-round deer habitat before natural regulatory mechanisms would begin to affect deer health and slow the rate of growth. Deer numbers this high would cause severe economic hardship to Iowa's landowners as well as alter the natural vegetative community. Maintaining a deer population in balance with the differing and often competing 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.

2015-2016 Hunting Season Results

The reported kill for the 2015/16 season was 105,401 (Table 1.1) which is 4% higher than in 2014 (Table 1.2). There were 382 more deer licenses issued for the 2015/16 deer season compared to 2014/15. There were 1,239 more antlerless licenses and 857 fewer any-deer licenses issued in 2015/16. Antlerless licenses made up 32% of the deer licenses issued during the 2015/16 deer season (Table 1.1).

The increase in harvest is likely related to higher deer numbers. The number of hunters purchasing deer licenses in 2015/16 was essentially unchanged from 2014, but has been slowly trending down over the past decade.

The highest harvest estimate occurred in 2005, but was based upon a statistically designed post-season mail card survey. The new harvest reporting system is not directly comparable. Its comparability with the former system was discussed in detail in the 2006/07 annual deer report.

Antlerless deer represented 56% of the 2015/16 harvest and 46% of the total harvest was comprised of does (Table 1.1). This was a 3% increase in antlerless deer harvest compared to the 2014 season. The reported number of antlered deer in the harvest was 5% higher than in 2014 and represented 45% of the 2015/16 harvest (shed-antlered bucks are included in this statistic). There were 541 shed-antlered bucks reported which represented about 1% of the total antlered harvest.

Information (registration numbers, age and sex, county of kill, etc.) was collected from about 1,963 deer checked in the field and at lockers to determine what proportion of successful hunters reported their deer. Examination of these data indicated that 87% of the harvested deer that were encountered in the field were reported. There is likely a bias in the above rate since all of these situations require the hunter to take the deer to a locker or have contact with a DNR official or someone in an official capacity.

Figure 1.1 compares the harvest reporting system (a known minimum harvest level) with the post-season postcard survey harvest estimates conducted prior to the 2006 hunting season. The figure shows what the actual harvest might have looked like using the calculated relationship between the two systems. The reported harvest increased by 4% when compared to 2014 (Figure 1.2).

Hunters were only allowed to shoot antlered bucks during the early muzzleloading season and first shotgun season in twenty-seven northwestern counties in 2015 (Table 1.6). The January Antlerless season was discontinued in 2014/15 as population indices indicated the additional days of harvest were no longer needed (Figure 1.1). Landowners could get 1 reduced price either-sex license and up to 4 reduced price antlerless licenses in addition to the regular tags a deer hunter could legally obtain. Sixty-five counties had additional antlerless licenses available. Thirty-four counties in northern and central Iowa had no antlerless quota. Resident hunters in all seasons could obtain an unlimited number of antlerless licenses before the county quota was met, but were limited to the purchase of one antlerless license prior to September 15th. Antlerless licenses were restricted to a specific county and season.

One-thousand eight-hundred and twenty deer were reported taken during special management hunts in urban areas, and in state and county parks (Table 1.7). One-thousand eight-hundred and eighty six deer were reported by hunters using special antlerless depredation licenses that were allotted to hunters on land where landowners were experiencing crop damage problems (Table 1.1).

Five of the top 10 counties for total kill were in the northeast portion of the state in 2015 with the remainder being in southern Iowa. Clayton was again the top county for total reported kill with 4,382 deer and antlered kill density at 2.35 deer harvested per square mile (Table 1.4). Calhoun County had the lowest kill with a reported 109 deer.

Shotgun Season

The reported kill during the shotgun seasons was about 1% higher than the reported harvest in 2015 (Table 1.2). The reported harvest increased in 2014 as well, but had declined for the previous 9 years before the increase in 2014. Overall, hunting conditions were fair.

Antlered bucks made up 41% of the total kill, while does made up 47% of the kill. Button bucks made up 11% of the reported harvest and shed-antlered bucks accounted for less than 0.5% (Table 1.1).

The reported antlered deer kill per square mile (Figure 1.4) was highest in northeastern and southern Iowa as would be expected due to deer densities and hunting opportunities.

Archery

The reported harvest for 2015/16 was about 22,489 deer including the deer killed on the senior cross bow license. The harvest was 6% higher than in 2014 (Table 1.1 and 1.2). The number of licenses issued increased by 4% from the previous year to 89,652.

Sixty-four percent of the deer taken by archers were male, and 57% were antlered bucks (includes shed-antlered bucks, Tables 1.1 & 1.9).

Muzzleloader

The reported kill during the early muzzleloader season was 4,042 (a 9% increase from 2014) and license sales were essentially unchanged from 2014 (Table 1.1 and 1.2). Thirty-four percent of the licenses purchased were reported to have been used to tag a deer. Bucks made up 62% of the kill, with antlered bucks making up about 55% of the total (Table 1.1).

The reported kill during the late muzzleloader season was 9,604 (Table 1.1 and 1.2) which represented an increase of 9% from the 2014 reported harvest. Forty-eight percent of the deer reported were bucks, and 39% of the deer killed during the late muzzleloader season were antlered bucks (includes shed-antlered bucks).

Nonresidents

Nonresidents were issued 6,053 any-deer licenses for the 2015/16 deer hunting seasons (Table 1.1). All of these nonresident hunters also received an antlerless-only license. Additional optional antlerless-only licenses were also available to nonresident hunters.

The reported success rate for the nonresident any-deer licenses was 46%, and 30% for the antlerless-only licenses held by these hunters (Table 1.1). In total, nonresidents reported harvesting 2,848 antlered bucks (including shed-antlered bucks) in 2014/15.

Special Youth/Disabled Hunter Season

The total number of youth season licenses issued (10,120) was 2% lower than in 2014 (Tables 1.1 and 1.2). Disabled hunters were issued 449 licenses which was a 2% decrease from 2014. Youth season hunters who did not take a deer during the youth deer hunting season were able to use the deer hunting license and unused tag during the early or late muzzleloader seasons or one of the two shotgun seasons. Also, an either-sex deer license purchased by either a youth or disabled season hunter did not count towards the maximum number of any-deer licenses allowed in Iowa.

The success rate for youth licenses was 36% with 3,640 deer registered. Fifty-five percent of the deer reported were antlered (including shed-antlered bucks). The success rate for disabled licenses was 35% with 157 deer registered. Forty-one percent of the deer reported were antlered (Table 1.1).

Special Deer Management Zones

Special management hunts were conducted at 50 locations in 2015/16 and 1,908 deer were reported (Table 1.7). 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 to general regulations. Almost all deer taken were antlerless and deer tagged did not count against a hunter's regular licenses or bag limit. Most hunts were very successful in removing deer in these problem areas.

An additional 3,543 licenses and permits were issued to hunters/landowners in depredation situations which resulted in the reported harvest of 1,886 deer. This is a 13% increase in the depredation harvest from 2014/15 (Tables 1.1 and 1.2).

Population Trend Surveys

Four techniques are currently used to monitor trends in Iowa deer populations. These are (1) spotlight surveys conducted in March and April, (2) the number of deer killed on Iowa's rural highways throughout the year, coupled with annual highway use estimates, (3) the number animal-related accidents reported to the Department of Transportation, and (4) the bowhunter observation survey conducted during October–November. All of these surveys correlate well with the reported antlered harvest, and appear to provide reliable long-term trend indices. However, none of these surveys can be considered absolutely reliable indicators of annual changes in the population because of the high variability in the survey conditions, deer behavior, habitat conditions and weather.

Deer populations for the state as a whole have stabilized (Figure 1.7). This is due to the stabilized harvest pressure that has been applied to the female segment of the herd beginning in the 2013/14 hunting season. The goal was to return deer population levels to those that existed in the mid-to-late 1990s. This goal has been achieved on a statewide basis.

The number of deer killed on rural highways increased in 2015. The adjusted

road kill per billion miles driven (KPBM) was essentially unchanged from 2014 (Table 1.11). The trend in road kills (KPBM) declined since 2004 as the deer population was decreased by a concerted effort of hunters utilizing the antlerless licenses authorized by the IDNR.

New spotlight routes were initiated in 2006 and replaced the old spotlight routes in 2012. The new routes consist of 199 transects distributed among all counties for a total survey mileage of about 4,750 miles; more than double the transect length of the old spotlight routes. The new spotlight survey transects are also set up to be more representative of the available rural habitats within a county. The average number of deer observed per 25 miles was the same on the new routes in 2016 (Table 1.11).

The bowhunter observation data, which began to be collected during the 2004 season, has replaced the aerial deer survey as a trend index. This survey represents over 100,000 hours of observation distributed throughout the state and is conducted voluntarily by a randomly selected group of Iowa archers. The tactics typically used during this season (stand hunting) make easier for hunters to gather observational data. Deer observations per hour were essentially the same in 2015.

The estimated harvest from 2006-2014 was utilized in the population model and the resulting "best fit" simulation indicates a stable deer population statewide (Figure 1.6). The model has its best correlations with components of the road kill and bowhunter observation data.

The data indicate that, statewide, the deer herd has been declining since 2006, and has stabilized after the 2013 hunting season. All of Iowa's counties have reached or are close to the established goal.

Outlook for 2015

After 10 years of increased doe harvest from 2003 to 2013, the deer population declined from all-time highs in the early 2000's. The goal is a stable population at a level comparable to the mid-to-late 1990s. A population at this level should sustain an annual reported harvest of 100,000 to 120,000 deer.

To stabilize populations, the regulations for 2015 restrict the harvest to antlered deer during the early muzzleloader and first shotgun seasons in 27 north-central and northwestern counties.

Reductions were made to the county antlerless quotas in many counties beginning with the 2014 season, and similarly the January antlerless season was also eliminated beginning with the 2014/15 season.

These actions do not mean that areas of deer overabundance have been eliminated, only that hunters need to be judicious in their use of antlerless licenses or deer numbers may go below the department's goal. Conversely, there are areas in some counties that are at goal where deer numbers are still locally overabundant. Hunters need to work with landowners to find a desirable level of harvest.

Deer numbers are still higher than the department's goals in some areas. However, most of these areas are near urban areas, parks or private refuges and the special hunts and depredation licenses provide the best management opportunity to fine tune the harvest in these areas.

Chronic Wasting Disease (CWD)

The DNR actively monitors diseases affecting deer in the state. Chronic Wasting Disease (CWD) is a neurological disease affecting primarily deer and elk. An abnormal protein, called a prion, attacks the brains of infected animals causing them to lose weight, display abnormal behavior and lose bodily functions. Signs of CWD in deer include excessive salivation, thirst and urination, loss of appetite, weight loss,

listlessness and drooping ears and head. It is always fatal to the infected animal.

Iowa has tested more than 57,000 wild deer and more than 3,500 captive deer and elk as part of CWD surveillance efforts since 2002. Samples are collected from all 99 counties in Iowa; however, the majority have been taken in the counties nearest to areas where CWD has been detected in other states. Samples are collected voluntarily from hunter-harvested deer at check stations and meat lockers.

In April 2014, the DNR was notified that a deer harvested south of Harpers Ferry in Yellow River State Forest during the 2013 regular gun season tested positive for CWD. This was the first known case of CWD in a wild deer in the state. Three more CWD positives were reported for deer harvested in 2014, and two in 2015, all from Allamakee County.

The DNR is implementing a special CWD surveillance plan in Allamakee County while continuing to implement its existing CWD testing protocols statewide.

As a result of public meetings on February 17, 2015 in Harper's Ferry and Waukon, the DNR and local constituents agreed to begin an intensive sample collection effort in the surveillance area, defined as the sections adjacent to, and including, the sections where the four positive animals were found. The goal of this intensive surveillance is to provide more information on the extent and prevalence of CWD in this area. This information will then be used to guide decisions for future surveillance efforts and hunting seasons.

Epizootic Hemorrhagic Disease (EHD)

Epizootic Hemorrhagic Disease (EHD), is spread be a biting midge that causes high fever in infected deer and also causes the cell walls in their heart, lungs and diaphragm to weaken and burst. In dry, drought years it can be worse as deer are more concentrated around water. The deer are attracted to the water to combat the fever and dehydration due to the hemorrhaging. Most deer die in one to four days after being infected with EHD.

Iowa experienced outbreaks of epizootic hemorrhagic disease (EHD) in 2012 and 2013, but only a few scattered reports of EHD were reported in 2014 and 2015.

Figure 1.1 Post-season reported harvest and estimates from 1995-1996 to 2015-2016.

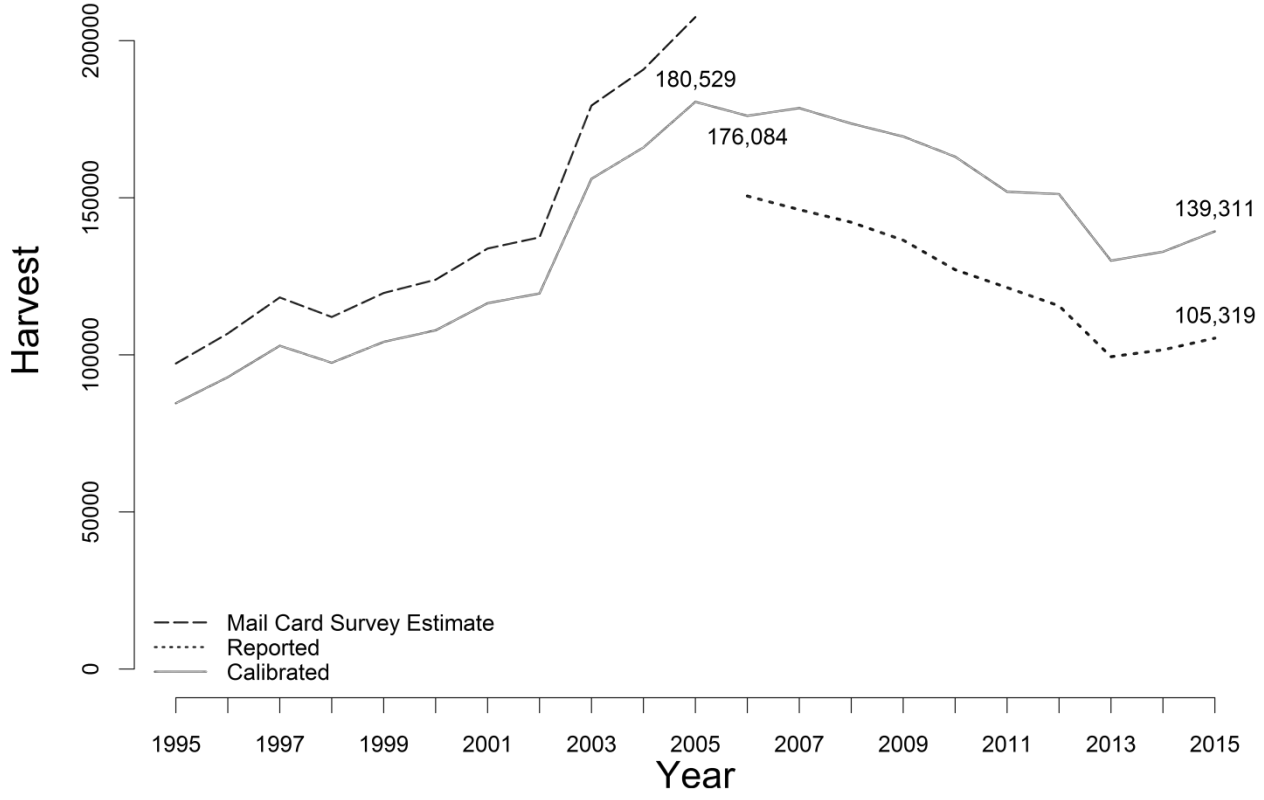


Figure 1.2 Number of does, button bucks, and antlered bucks harvested from 1995-1996 to 2015-2016. Since 2006, harvest was reported and is not directly comparable to previous estimates from mail card survey.

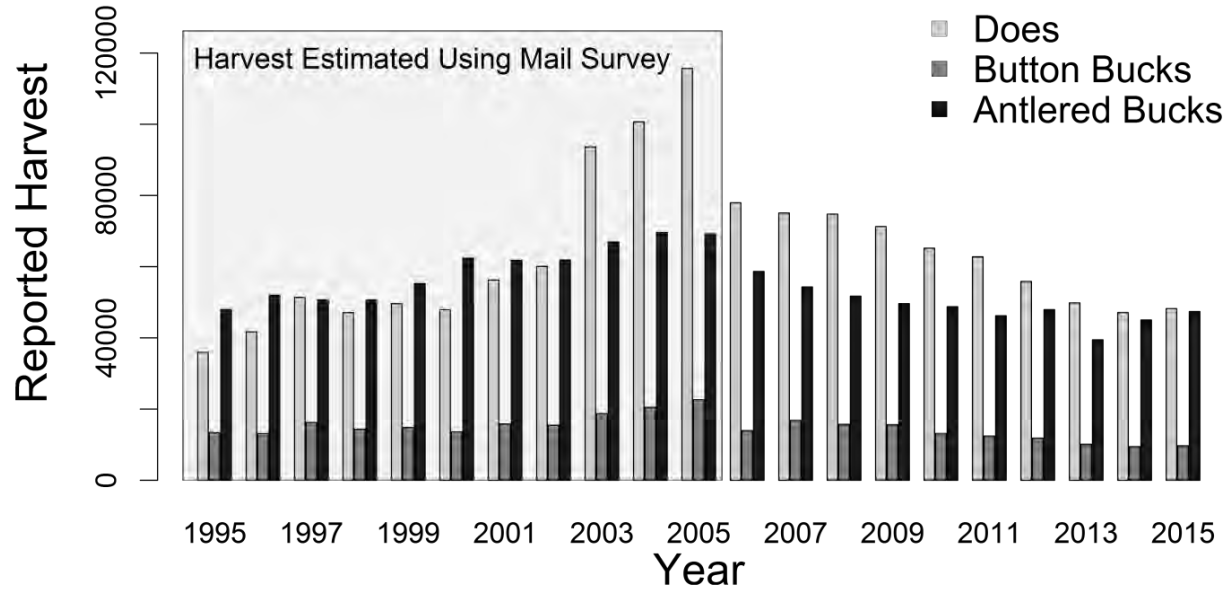
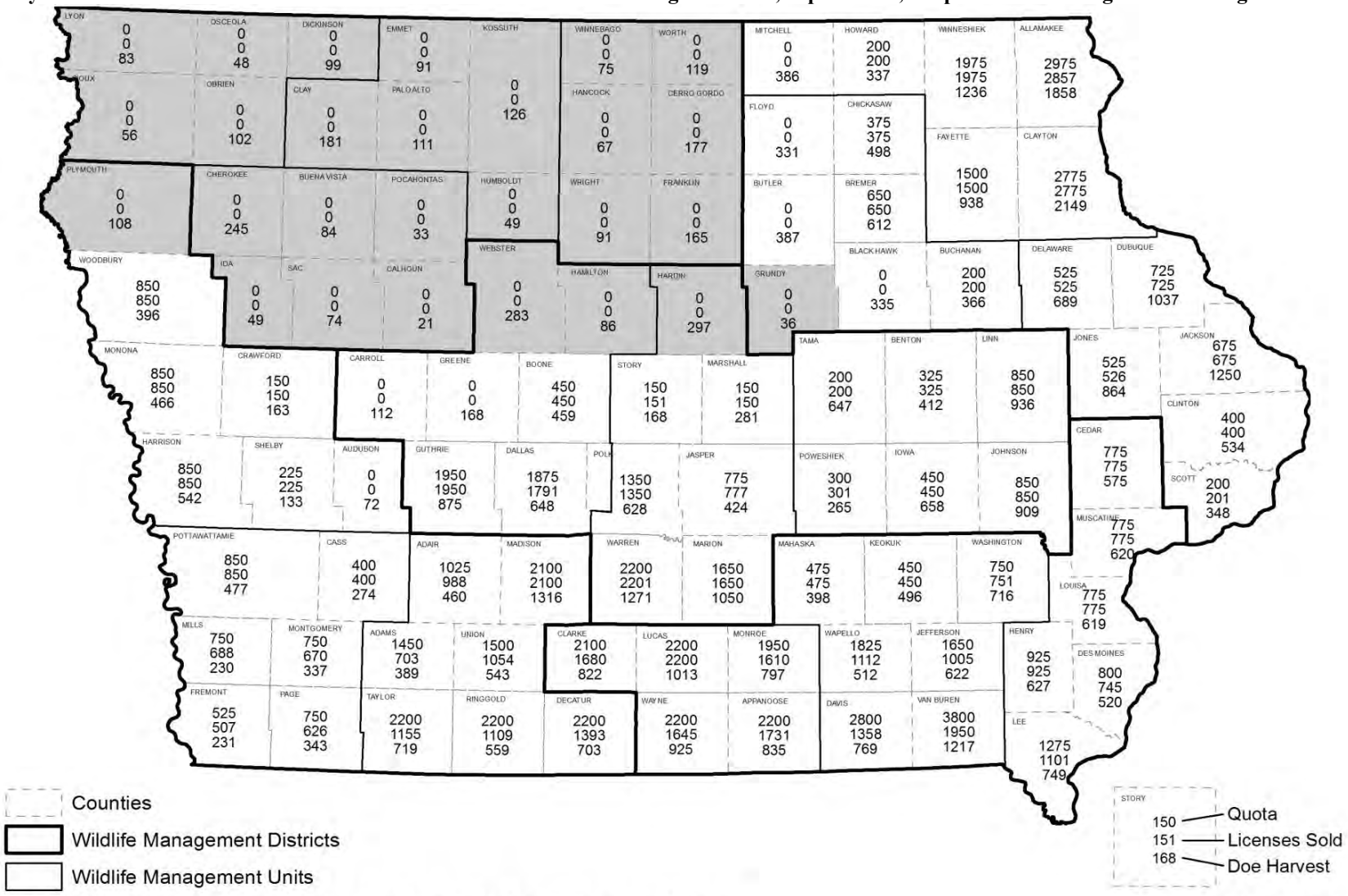


Figure 1.3 Resident antlerless-only deer quota, resident antlerless-only deer licenses sold, and total doe harvest in each county 2015-2016. Doe harvest may exceed licenses sold because antlerless deer could be harvested using either-sex, depredation, or special deer management unit tags.



Shaded Counties: Antlered deer only during first shotgun and early muzzleloader seasons.

Updated 3/28/16

Figure 1.4 Average reported antlered deer harvest/mi^2 in each county during 2015-2016.

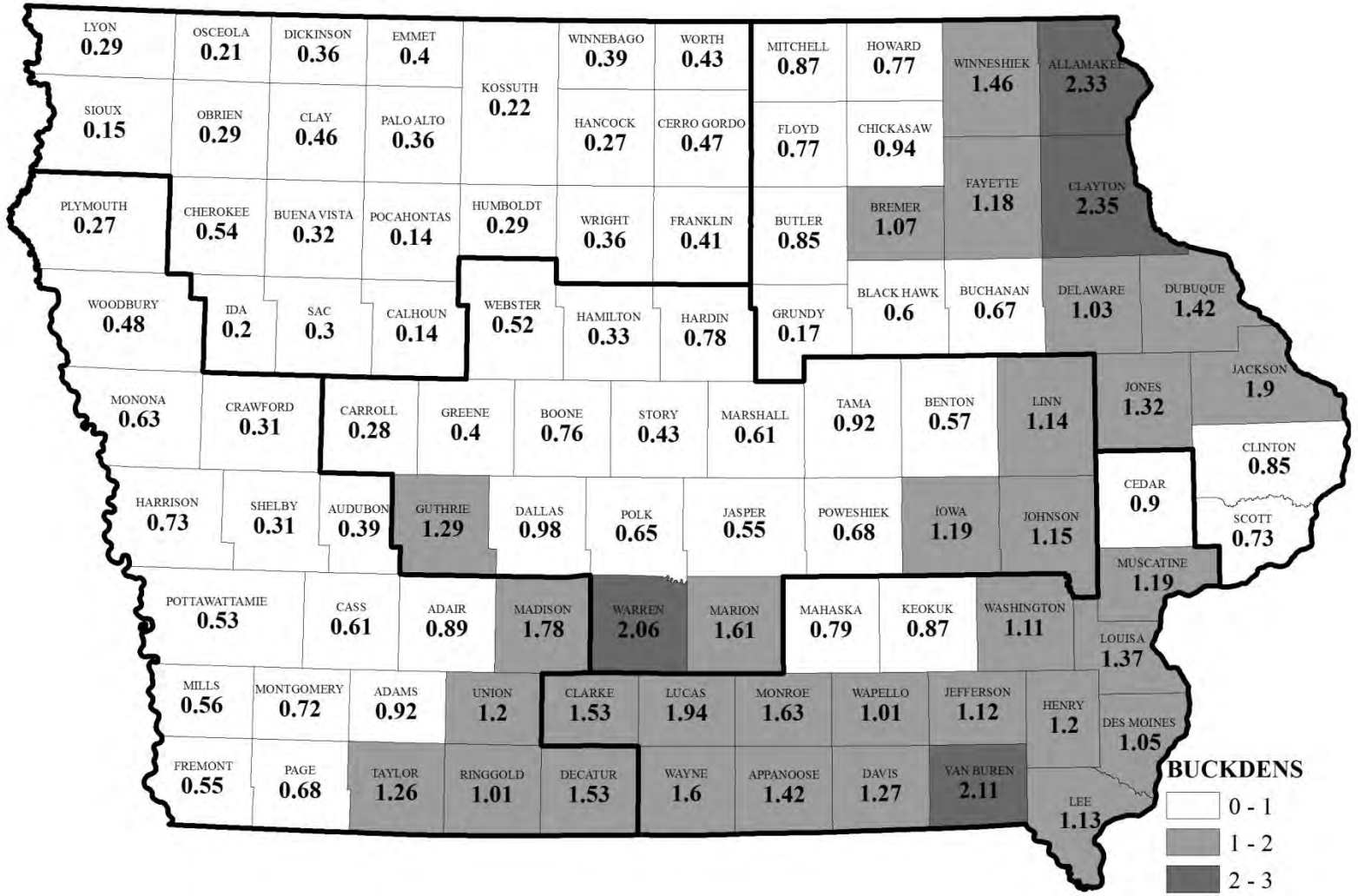
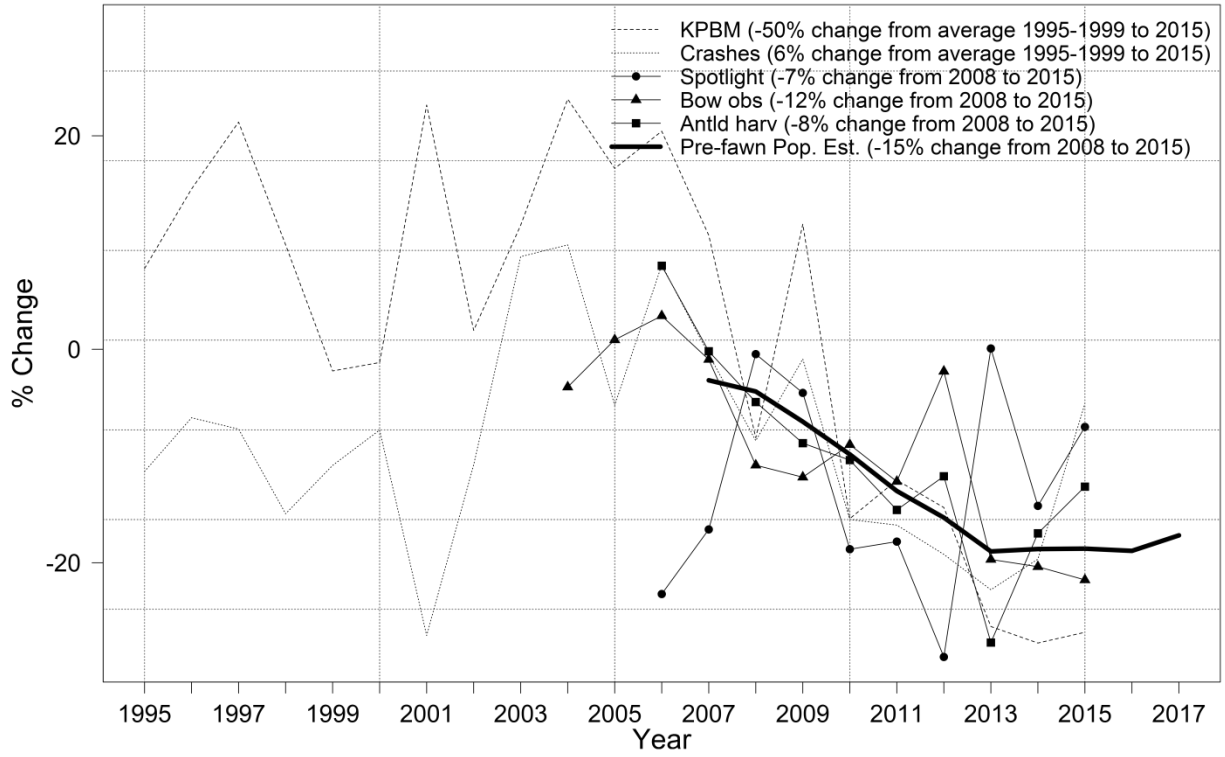


Figure 1.6 Deer population indices with simulation, 1995-2016 (projected for 2017).



* KPBM = recovered deer-vehicle collisions (IADOT and Salvage Tags) divided by billion miles driven on secondary highways (IADOT estimate).
* Crashes = animal-related crashes reported to IADOT.
* Bow obs = bow hunter observation survey from start of archery season through Friday before 1st weekend in December.
* Antld harv = reported antlered deer harvest.
* Pre-fawn Pop. Est. = pre-fawning (~end-May) population index from deterministic 2-sex, 10-age class accounting model.

Table 1.1 License sales, hunters, reported harvest, and success rates by license type and season for 2015 – 2016.

					Reported Harvest					Success	Percent
Season	**Group[1]**	**Type**	**Licenses**	**Hunters**	**Does**	**Antlered**	**Buttons**	**Sheds**	**Total**	**Rate[2]**	**Does**
Youth	Paid	Either-sex	9,549	9,549	1,199	1,959	282	13	3,453	36%	35%
		Antlerless	438	381	125	3	22	0	150	34%	83%
	LOT	Either-Sex	83	83	9	18	0	0	27	33%	33%
		Antlerless	50	50	7	0	3	0	10	20%	70%
		Total	**10,120**	**1,495**	**1,340**	**1,980**	**307**	**13**	**3,640**	**36%**	**37%**
Disabled	Paid	Either-sex	351	339	50	64	3	0	117	33%	43%
		Antlerless	66	43	28	0	7	0	35	53%	80%
	LOT	Either-Sex	20	20	2	1	0	0	3	15%	67%
		Antlerless	12	11	2	0	0	0	2	17%	100%
		Total	**449**	**363**	**82**	**65**	**10**	**0**	**157**	**35%**	**52%**
Early	Paid	Either-sex	7,500	7,500	605	1,897	136	0	2,638	35%	23%
Muzzleloader		Antlerless	1,513	1,192	522	7	98	0	627	41%	83%
	LOT	Either-Sex	1,663	1,663	139	302	24	0	465	28%	30%
		Antlerless	1,127	1,052	264	11	37	0	312	28%	85%
		Total	**11,803**	**9,716**	**1,530**	**2,217**	**295**	**0**	**4,042**	**34%**	**38%**
Shotgun 1	Paid	Either-sex	50,937	50,935	5,390	12,692	1,465	38	19,585	38%	28%
		Antlerless	15,106	9,680	5,901	88	1,081	16	7,086	47%	83%
Shotgun 2	Paid	Either-sex	45,599	45,599	5,058	6,814	1,467	77	13,416	29%	38%
		Antlerless	13,132	8,356	4,210	50	833	34	5,127	39%	82%
Shotgun 1 & 2	LOT	Either-Sex	23,171	23,171	1,583	3,505	398	21	5,507	24%	29%
		Antlerless	18,453	15,244	4,503	140	865	26	5,534	30%	81%
		Total	**166,398**	**130,675**	**26,645**	**23,289**	**6,109**	**212**	**56,255**	**34%**	**47%**
Late	Paid	Either-sex	21,667	21,667	1,606	3,257	308	110	5,281	24%	30%
Muzzleloader		Antlerless	10,254	7,098	2,497	11	443	84	3,035	30%	82%
	LOT	Either-Sex	2,450	2,450	139	263	30	2	434	18%	32%
		Antlerless	4,146	3,772	714	13	104	23	854	21%	84%
		Total	**38,517**	**29,441**	**4,956**	**3,544**	**885**	**219**	**9,604**	**25%**	**52%**

Table 1.1 License sales, hunters, reported harvest, and success rates by license type and season for 2015 – 2016.
Continued

					Reported Harvest					Success	Percent
Season	**Group[1]**	**Type**	**Licenses**	**Hunters**	**Does**	**Antlered**	**Buttons**	**Sheds**	**Total**	**Rate[2]**	**Does**
Archery	Paid	Either-sex	56,297	56,297	1,335	11,603	316	34	13,288	24%	10%
		Antlerless	22,738	15,708	5,519	60	880	18	6,477	28%	85%
	LOT	Either-Sex	5,190	5,190	183	1,176	40	0	1,399	27%	13%
		Antlerless	5,136	4,484	1,112	18	128	4	1,262	25%	88%
		Total	**89,361**	**59,922**	**8,149**	**12,857**	**1,364**	**56**	**22,426**	**25%**	**36%**
Senior Crossbow	Paid	Antlerless	291	291	52	4	7	0	63	22%	83%
Special Hunts		Antlerless	4,232	9,655	1,548	87	257	16	1,908	45%	81%
Depredation		Antlerless	3,543	1,495	1,662	15	201	8	1,886	53%	88%
Nonresidents[3]	Paid	Either-sex	6,053	6,053	125	2,647	21	5	2,798	46%	4%
		Antlerless	8,599	8,597	2,161	184	265	12	2,622	30%	82%
Total			**339,366**	**172,788**	**48,250**	**46,889**	**9,721**	**541**	**105,401**	**31%**	**46%**

[1] – LOT = landowner/tenant licenses; Paid = non-landowner/tenant licenses.
[2] – Percent of licenses that reported harvested deer.
[3] – Nonresident licenses for either shotgun 1, shotgun 2, archery, late muzzleloader, disabled hunter, or holiday antlerless-only season.
- Quota of 6,000 nonresident general deer/antlerless-only licenses, 35% of which can be archery licenses. An additional 4,500 antlerless-only licenses are available for either one of the shotgun seasons or the disabled hunter season.

Table 1.2 Comparison of license sales and reported harvest by season for the previous 2 years.

	2014 - 2015		2015 - 2016		% Change	
Season	**Licenses**	**Harvest**	**Licenses**	**Harvest**	**Licenses**	**Harvest**
Youth	10,324	3,351	10,120	3,640	-2%	9%
Disabled	457	155	449	157	-2%	1%
Archery	86,235	21,128	89,652	22,489	4%	6%
Early Muzzleloader	11,763	3,700	11,803	4,042	0%	9%
Shotgun 1 (Paid)[1]	68,171	27,376	66,043	26,671	-3%	-3%
Shotgun 2 (Paid)[2]	60,668	17,534	58,731	18,543	-3%	6%
Shotgun LOT[3]	42,436	10,701	41,624	11,041	-2%	3%
Late Muzzleloader	36,822	8,793	38,517	9,604	5%	9%
Special Hunts	4,208	1,913	4,232	1,908	1%	0%
Depredation	3,386	1,673	3,543	1,886	5%	13%
Nonresidents[4]	14,514	5,271	14,652	5,420	1%	3%
Total	**338,984**	**101,595**	**339,366**	**105,401**	**0%**	**4%**

[1] – 1st shotgun season (5-days beginning 1st weekend in Dec) for licenses not claiming landowner/tenant preference.
[2] – 2nd shotgun season (9-days beginning 2nd weekend in Dec) for licenses not claiming landowner/tenant preference.
[3] – Both shotgun seasons (14-days) for landowner/tenants choosing the shotgun firearm season.
[4] – Nonresident licenses for either shotgun 1, shotgun 2, archery, late muzzleloader, disabled hunter, or holiday antlerless-only season.

- Quota of 6,000 nonresident general deer/antlerless-only licenses, 35% of which can be archery licenses. An additional 4,500 antlerless-only licenses are available for either one of the shotgun seasons or the disabled hunter season.

Table 1.3 Historical data on deer harvest by license type (1953 to present).

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	Total[1]
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

Table 1.3 Historical data on deer harvest by license type (1953 to present).
continued

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	Total[1]
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
2002	77,940	18,932	96,872	5,091	7,772	12,863	20,703	140,490
2003	96,757	25,353	122,110	6,155	12,049	18,204	26,486	182,856
2004	97,830	26,333	124,163	6,818	13,550	20,368	30,025	194,512
2005	96,110	27,988	124,098	7,209	13,930	21,139	32,986	211,451
2006	76,218	14,956	91,174	5,431	8,698	14,129	22,008	150,552
2007	67,175	13,862	81,037	4,462	10,530	14,992	22,240	146,214
2008	63,330	12,762	76,092	4,342	10,254	14,596	21,793	142,194
2009	58,801	12,630	71,431	4,495	9,482	13,977	23,172	136,504
2010	56,511	11,455	67,966	4,026	8,838	12,864	21,154	127,094
2011	52,130	11,009	63,139	4,427	8,165	12,592	21,983	121,407
2012	49,110	10,931	60,041	3,896	10,823	14,719	21,981	115,608
2013	42,442	9,271	51,713	4,027	6,828	10,855	20,319	99,414
2014	44,910	10,701	55,611	3,700	8,793	12,493	21,128	101,595
2015	45,214	11,041	56,253	4,042	9,604	13,646	22,489	105,401

[1] - Grand Total includes special management unit hunts, nonresidents and youth. Harvest estimates from 2005 and prior are not comparable to subsequent years.

Table 1.4 Total reported deer kill by county during the 2015-2016 deer season.

County	Antlered Bucks	Does	Button Bucks	Shed-antlered Bucks	Total	Percent of kill		Antld. Kill/ Sq. Mile
						Does	Antlered Bucks	
Adair	508	461	77	3	1049	44%	49%	0.89
Adams	393	389	80	2	864	45%	46%	0.92
Allamakee	1482	1859	259	34	3634	51%	42%	2.33
Appanoose	741	835	172	12	1760	47%	43%	1.42
Audubon	173	72	11	0	256	28%	68%	0.39
Benton	411	412	99	7	929	44%	45%	0.57
Black Hawk	341	336	88	2	767	44%	45%	0.6
Boone	433	460	97	6	996	46%	44%	0.76
Bremer	470	613	147	6	1236	50%	39%	1.07
Buchanan	382	366	111	4	863	42%	45%	0.67
Buena Vista	181	86	20	3	290	30%	63%	0.32
Butler	495	387	105	3	990	39%	50%	0.85
Calhoun	82	21	6	0	109	19%	75%	0.14
Carroll	163	112	16	2	293	38%	56%	0.28
Cass	340	274	41	1	656	42%	52%	0.61
Cedar	524	578	146	7	1255	46%	42%	0.9
Cerro Gordo	268	177	28	2	475	37%	57%	0.47
Cherokee	309	245	47	1	602	41%	51%	0.54
Chickasaw	473	498	112	5	1088	46%	44%	0.94
Clarke	655	823	147	6	1631	50%	41%	1.53
Clay	261	181	28	1	471	38%	56%	0.46
Clayton	1832	2150	379	21	4382	49%	42%	2.35
Clinton	592	534	139	6	1271	42%	47%	0.85
Crawford	219	163	42	1	425	38%	52%	0.31
Dallas	586	649	139	13	1387	47%	43%	0.98
Davis	646	769	152	8	1575	49%	42%	1.27
Decatur	810	703	113	6	1632	43%	50%	1.53
Delaware	591	689	140	7	1427	48%	42%	1.03
Des Moines	430	520	151	8	1109	47%	39%	1.05
Dickinson	138	99	22	2	261	38%	54%	0.36
Dubuque	872	1038	218	9	2137	49%	41%	1.42
Emmet	159	92	18	0	269	34%	59%	0.4
Fayette	859	938	196	10	2003	47%	43%	1.18
Floyd	387	331	88	7	813	41%	48%	0.77
Franklin	243	165	28	2	438	38%	56%	0.41
Fremont	286	232	32	1	551	42%	52%	0.55
Greene	225	168	30	2	425	40%	53%	0.4
Grundy	83	36	8	0	127	28%	65%	0.17
Guthrie	771	875	186	8	1840	48%	42%	1.29
Hamilton	189	86	12	2	289	30%	66%	0.33
Hancock	155	68	12	3	238	29%	66%	0.27
Hardin	448	297	49	5	799	37%	57%	0.78
Harrison	505	543	79	5	1132	48%	45%	0.73

Table 1.4 Total reported deer kill by county during the 2015-2016 deer season.
continued

Henry	528	627	159	5	1319	48%	40%	1.2
Howard	361	337	64	4	766	44%	48%	0.77
Humboldt	125	49	9	0	183	27%	68%	0.29
Ida	85	49	3	1	138	36%	62%	0.2
Iowa	694	659	121	12	1486	44%	48%	1.19
Jackson	1226	1250	283	12	2771	45%	45%	1.9
Jasper	404	424	69	4	901	47%	45%	0.55
Jefferson	489	622	151	7	1269	49%	39%	1.12
Johnson	709	909	206	9	1833	50%	39%	1.15
Jones	773	864	166	9	1812	48%	43%	1.32
Keokuk	506	496	83	4	1089	46%	47%	0.87
Kossuth	213	126	27	3	369	34%	59%	0.22
Lee	597	749	166	6	1518	49%	40%	1.13
Linn	816	937	200	22	1975	47%	42%	1.14
Louisa	554	620	119	7	1300	48%	43%	1.37
Lucas	844	1013	245	11	2113	48%	40%	1.94
Lyon	173	83	24	1	281	30%	62%	0.29
Madison	1005	1317	270	11	2603	51%	39%	1.78
Mahaska	454	398	78	1	931	43%	49%	0.79
Marion	911	1050	216	11	2188	48%	42%	1.61
Marshall	352	281	43	2	678	41%	52%	0.61
Mills	252	230	39	1	522	44%	48%	0.56
Mitchell	407	388	92	9	896	43%	46%	0.87
Monona	439	466	73	3	981	48%	45%	0.63
Monroe	708	797	146	25	1676	48%	44%	1.63
Montgomery	303	337	67	0	707	48%	43%	0.72
Muscatine	529	620	171	1	1321	47%	40%	1.19
Obrien	168	102	15	3	288	35%	59%	0.29
Osceola	85	48	9	2	144	33%	60%	0.21
Page	362	343	74	2	781	44%	47%	0.68
Palo Alto	204	115	16	2	337	34%	61%	0.36
Plymouth	237	109	20	2	368	30%	65%	0.27
Pocahontas	82	33	3	1	119	28%	70%	0.14
Polk	385	628	102	2	1117	56%	35%	0.65
Pottawattamie	515	477	70	6	1068	45%	49%	0.53
Poweshiek	398	265	56	3	722	37%	56%	0.68
Ringgold	542	559	93	6	1200	47%	46%	1.01
Sac	172	74	18	2	266	28%	65%	0.3
Scott	333	349	66	8	756	46%	45%	0.73
Shelby	182	134	21	0	337	40%	54%	0.31
Sioux	118	56	17	1	192	29%	62%	0.15
Story	247	170	40	3	460	37%	54%	0.43
Tama	661	647	101	10	1419	46%	47%	0.92
Taylor	664	720	137	1	1522	47%	44%	1.26
Union	508	543	98	2	1151	47%	44%	1.2
Van Buren	1027	1218	265	16	2526	48%	41%	2.11
Wapello	443	512	106	7	1068	48%	42%	1.01

Table 1.4 Total reported deer kill by county during the 2015-2016 deer season.
continued

Warren	1181	1272	265	9	2727	47%	44%	2.06
Washington	630	719	162	7	1518	47%	42%	1.11
Wayne	849	925	189	5	1968	47%	43%	1.6
Webster	370	283	61	7	721	39%	52%	0.52
Winnebago	158	75	20	0	253	30%	62%	0.39
Winneshiek	1003	1239	209	13	2464	50%	41%	1.46
Woodbury	421	396	90	2	909	44%	47%	0.48
Worth	171	120	20	2	313	38%	55%	0.43
Wright	205	91	18	3	317	29%	66%	0.36
Total	46,889	48,250	9,721	541	105,401	46%	45%	85%

Table 1.5 Historical data on deer license issued by license type (1953 – present). Grand total includes special management unit hunts, nonresidents, and youth season licenses.

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	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

a - license not required

Table 1.5 Historical data on deer license issued by license type (1953 – present). Grand total includes special management unit hunts, nonresidents, and youth season licenses.

continued

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	Total
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
2002	118,973	42,989	161,962	9,807	19,479	29,286	51,534	265,185
2003	136,810	52,148	188,958	11,907	23,905	35,812	60,320	322,096
2004	147,797	53,682	201,479	13,125	29,237	42,362	67,393	353,172
2005	143,856	58,248	202,104	13,693	30,717	44,410	73,518	391,864
2006	149,650	40,831	190,481	12,664	32,492	45,156	76,358	377,525
2007	147,424	41,460	188,884	12,558	34,832	47,390	79,991	389,163
2008	150,642	42,186	192,828	12,498	36,611	49,109	84,615	406,169
2009	149,646	41,197	190,843	13,083	37,614	50,697	89,646	405,547
2010	145,107	41,519	186,626	12,433	36,577	49,010	87,734	394,298
2011	143,995	41,973	185,968	12,433	38,192	50,625	88,526	392,930
2012	139,890	42,547	182,437	12,335	38,531	50,866	90,352	378,454
2013	132,608	40,197	172,805	11,832	34,831	46,663	89,286	359,958
2014	128,839	42,436	171,275	11,763	36,822	48,585	86,235	338,984
2015	124,774	41,624	166,398	11,803	38,517	50,320	89,652	339,366

Table 1.6 The dates, hours and zones for shotgun, archery, muzzleloader seasons (1953-present).

		Shotgun		Archery		Muzzleloader	
Year	Zones	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	Oct 13-Nov 25&	1/2 hr after		
1973	1-5[e]		Sunset	Dec 8-16	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	"				

Table 1.6 The dates, hours and zones for shotgun, archery, muzzleloader seasons (1953-present).
continued

		Shotgun		Archery		Muzzleloader	
Year	Zones	Dates	Hours	Dates	Hours	Dates	Hours
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	"				
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	1/2 hr after
1987	1-10[e]	Dec 5-9	Sunrise to	Oct 1-Dec 4 &	1/2 hr before	Oct 10-18	1/2 hr before
1987	1-10	Dec 12-20	Sunset	Dec 21-Jan 10	sunrise to	Dec 21-Jan 10	sunrise to
1988	1-10	Dec 3-7	"	Oct 1-Dec 2 &	1/2 hr after	Oct 15-23	1/2 hr after
1988	1-10	Dec 10-18	"	Dec 19-Jan 10	sunset	Dec 19-Jan 10	sunset
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 10	"
1990	1-10[e]	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	1/2 hr before
1990	1-10	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	1/2 hr after
1991	1-10	Dec 7-11	"	Oct 1-Dec 6 &	"	Oct 12- Oct 20	1/2 hr before
1991	1-10	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	sunrise to
1992	1-10	Dec 5-9	"	Oct 1-Dec 4&	"	Oct 10-Oct 18	1/2 hr after
1992	1-10	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	sunset
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 10	"
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 10	"
1995	Statewide[f]	Dec 2-6	"	Oct 1-Dec 1&	"	Oct 14-Oct 22	1/2 hr before
1995	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 10	1/2 hr after
1996	Statewide[g]	Dec 7-11	"	Oct 1-Dec 6&	"	Oct 12-Oct 20	1/2 hr before
1996	Statewide	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	sunrise to
1997	Statewide[h]	Dec 6-10	"	Oct 1-Dec 5&	"	Oct 11-Oct 18	1/2 hr after
1997	Statewide	Dec 13-21	"	Dec 22-Jan 10		Dec 22-Jan 10	sunset
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 10	"
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 10	"
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 10	"
2001	Statewide[h]	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	"
2001	Statewide	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	"
2002	Statewide[h]	Dec 7-11	1/2 hr before	Oct 1-Dec 6 &	"	Oct 12- Oct 20	"
2002	Statewide	Dec 14-22	sunrise to	Dec 23-Jan 10		Dec 23-Jan 10	"

Table 1.6 The dates, hours and zones for shotgun, archery, muzzleloader seasons (1953-present).
continued

		Shotgun		Archery		Muzzleloader	
Year	Zones	Dates	Hours	Dates	Hours	Dates	Hours
2003	Statewide[h]	Dec 6-10	1/2 hr after	Oct 1-Dec 5 &	"	Oct 11- Oct 19	"
2003	Statewide	Dec 13-21	sunset	Dec 22-Jan 10		Dec 22-Jan 10	"
2004	Statewide[h]	Dec 4-8	"	Oct 1-Dec 3 &	"	Oct 16- Oct 24	"
2004	Statewide	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 10	"
2005	Statewide[h]	Dec 3-7	"	Oct 1-Dec 2 &	"	Oct 15- Oct 23	"
2005	Statewide	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 10	"
2006	Statewide[h]	Dec 2-6	"	Oct 1-Dec 1 &	"	Oct 14- Oct 22	"
2006	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 10	"
2007	Statewide[h]	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	"
2007	Statewide	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	"
2008	Statewide[h]	Dec 6-10	"	Oct 1-Dec 5 &	"	Oct 11- Oct 19	"
2008	Statewide	Dec 13-21	"	Dec 22-Jan 10		Dec 22-Jan 10	"
2009	Statewide[h]	Dec 5-9	"	Oct 1-Dec 4 &	"	Oct 17- Oct 25	"
2009	Statewide	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	"
2010	Statewide[h]	Dec 4-8	"	Oct 1-Dec 3 &	"	Oct 16-Oct 24	"
2010	Statewide	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 10	"
2011	Statewide[h]	Dec 3-7	"	Oct 1-Dec 2 &	"	Oct 15-Oct 23	"
2011	Statewide	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 10	"
2012	Statewide[h]	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	"
2012	Statewide	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	"
2013	Statewide[h]	Dec 7-11	"	Oct 1-Dec 6 &	"	Oct 12- Oct 20	"
2013	Statewide	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	"
2014	Statewide[i]	Dec 6-10	"	Oct 1-Dec 5 &	"	Oct 11- Oct 19	"
2014	Statewide	Dec 13-21	"	Dec 22-Jan 10		Dec 22-Jan 10	"
2015	Statewide[i]	Dec 5-9	"	Oct 1-Dec 4 &	"	Oct 17- Oct 25	"
2015	Statewide	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	"

Table 1.7 Results from controlled hunts in special management deer zone 2015-2016.

Area	Type	Licenses Available	Licenses Sold	Reported Harvest
AMANA COLONIES ZONE	Archery & Firearm	500	129	63
AMES (CITY)	Archery	50	26	16
AMES (PERIMETER)	Archery & Firearm	50	47	13
BETTENDORF & RIVERDALE	Archery	300	81	42
CEDAR RAPIDS (CITY)	Archery	400	199	98
CLINTON (CITY)	Archery	300	46	17
CORALVILLE (CITY)	Archery	200	142	64
COUNCIL BLUFFS (CITY)	Archery	300	180	101
DAVENPORT (CITY)	Archery	500	236	78
DE SOTO NWR	Muzzleloader Oct. 22 - 23	100	26	1
DE SOTO NWR	Muzzleloader Dec. 17 - 18	100	25	2
DENISON (CITY)	Archery	50	29	9
DUBUQUE (CITY)	Archery	400	196	102
DUBUQUE COUNTY	Archery & Firearm	250	96	32
ELDORA (CITY)	Archery	50	21	6
ELK ROCK STATE PARK	Muzzleloader	25	24	17
GREEN VALLEY STATE PARK	Muzzleloader	30	24	17
IAAP	Archery & Firearm	500	374	218
IOWA FALLS (CITY)	Archery	50	36	16
IOWA FALLS (PERIMETER)	Archery & Firearm	30	15	10
JEFFERSON COUNTY PARK	Archery	25	1	0
JOHNSON COUNTY	Archery & Firearm	500	475	162
KENT PARK (ARCHERY)	Archery	100	48	18
KEOKUK (CITY)	Archery	1	18	9
KNOXVILLE (CITY)	Archery	25	2	1
LAKE AHQUABI STATE PARK	Archery	30	11	6
LAKE AHQUABI STATE PARK	Mentor	15	8	5
LAKE IOWA COUNTY PARK	Archery	50	27	12
LAKE IOWA COUNTY PARK	Muzzleloader	75	32	14
LAKE MACBRIDE STATE PARK	Archery	50	49	29
LEDGES STATE PARK	Archery	30	23	11
LINN COUNTY	Archery & Firearm	400	203	73
MARSHALLTOWN (CITY)	Archery	60	47	23
MARSHALLTOWN (PERIMETER)	Archery & Firearm	40	26	4
MOUNT PLEASANT (CITY)	Archery	150	8	3
MUSCATINE (CITY)	Archery	200	75	39
OSKALOOSA (CITY)	Archery	200	53	17
OTTUMWA (CITY)	Archery	300	82	42
PINE LAKE STATE PARK	Archery	30	23	12
POLK-DALLAS ARCHERY ONLY	Archery	1,000	667	340
POLK-DALLAS RURAL ZONE	Archery & Firearm	75	21	10
REICHELT AREA	Muzzleloader	15	12	5
RIVERSIDE PK CARROLL CCB	Archery	40	12	3

Table 1.7 Results from controlled hunts in special management deer zone 2015-2016.
Continued

SCOTT COUNTY PARK	Archery	50	29	11
SMITH WILDLIFE AREA	Firearm Dec. 3 - 7	3	2	2
SMITH WILDLIFE AREA	Firearm Dec. 10 - 18	3	3	0
SMITH WILDLIFE AREA	Firearm Dec. 19 - Jan 10.	3	3	1
SQUAW CREEK PARK	Archery	100	62	18
STONE STATE PARK	Archery	50	43	20
WATERLOO & CEDAR FALLS	Archery	290	215	96
Totals		**8,095**	**4,232**	**1,908**

Table 1.8 Reported deer harvest by county in each of the seasons, 2015-2016.

	Residents								Nonresidents				
		Youth/		Muzz		Shotgun				Late	Shotgun		
County	Dep	Disabled	Arch	Early	Late	Gun 1	Gun 2	LOT	Arch	Muzz	Gun 1	Gun 2	Total
Adair	15	19	145	25	127	312	243	83	13	5	49	12	1,049
Adams	20	22	141	25	81	214	178	62	27	12	55	26	864
Allamakee	53	82	608	158	229	1374	423	373	65	21	197	49	3,634
Appanoose	4	46	358	78	194	468	274	116	88	19	86	26	1,760
Audubon	0	20	35	5	21	54	74	39	4	0	3	1	256
Benton	14	47	205	64	88	196	175	121	1	0	14	1	929
Black Hawk	0	39	170	63	40	185	93	75	1	0	5	0	767
Boone	44	40	243	56	118	235	134	98	7	0	9	1	996
Bremer	59	67	299	49	90	364	144	152	4	0	7	0	1,236
Buchanan	0	47	157	35	55	357	96	110	1	0	5	0	863
Buena Vista	24	18	66	8	38	42	55	27	8	0	4	0	290
Butler	0	55	169	44	72	284	173	173	0	0	14	6	990
Calhoun	1	3	26	2	3	30	24	17	0	0	3	0	109
Carroll	0	17	48	13	25	96	44	42	4	0	0	1	293
Cass	0	27	112	19	41	165	154	74	8	15	23	18	656
Cedar	9	47	293	79	132	303	236	135	4	2	11	4	1,255
Cerro Gordo	24	15	144	29	49	60	98	50	1	0	4	1	475
Cherokee	72	23	96	23	64	111	108	72	13	0	11	9	602
Chickasaw	0	59	208	64	81	362	142	133	7	3	27	0	1,088
Clarke	9	44	379	51	182	375	328	168	34	12	37	11	1,631
Clay	52	25	106	32	62	48	89	37	4	1	15	0	471
Clayton	99	160	765	228	280	1583	617	515	27	8	84	12	4,382
Clinton	0	50	314	53	103	265	295	143	1	3	25	2	1,271
Crawford	8	8	53	6	47	133	116	31	2	0	11	1	425
Dallas	20	46	414	52	136	368	240	80	1	2	7	0	1,387
Davis	5	43	353	60	141	309	303	203	48	13	56	36	1,575
Decatur	16	40	400	48	184	326	255	169	72	29	68	24	1,632
Delaware	126	66	261	82	134	400	174	165	4	0	14	1	1,427
Des Moines	0	49	229	37	76	218	155	99	9	4	12	7	1,109
Dickinson	16	10	66	4	27	34	78	25	1	0	0	0	261
Dubuque	12	97	414	117	103	750	268	214	5	0	23	0	2,137
Emmet	0	13	54	7	27	63	51	31	0	0	15	8	269
Fayette	18	61	409	103	106	767	256	214	15	1	39	11	2,003
Floyd	5	38	157	36	54	205	156	146	8	1	4	3	813

Table 1.8 Reported deer harvest by county in each of the seasons, 2015-2016.
continued

Franklin	18	11	71	8	38	81	114	81	7	2	7	0	438
Fremont	8	18	119	18	78	125	89	46	13	2	30	5	551
Greene	1	25	76	14	32	107	87	62	4	0	13	4	425
Grundy	0	4	32	4	4	16	35	31	0	0	0	0	127
Guthrie	9	72	467	42	180	618	223	161	29	1	25	10	1,840
Hamilton	0	9	63	17	19	67	55	45	5	0	6	3	289
Hancock	16	15	54	17	27	43	42	14	2	0	8	0	238
Hardin	59	29	166	24	72	109	174	80	8	4	28	0	799
Harrison	20	35	240	59	158	289	135	82	34	27	39	10	1,132
Henry	0	44	276	33	91	362	302	148	13	4	29	13	1,319
Howard	4	48	165	47	52	214	82	122	9	2	18	2	766
Humboldt	0	12	37	3	23	46	34	25	1	0	1	1	183
Ida	0	4	18	1	16	30	44	22	3	0	0	0	138
Iowa	8	51	248	49	129	379	328	151	13	12	20	9	1,486
Jackson	41	76	497	109	205	694	745	310	25	5	54	9	2,771
Jasper	6	21	199	30	94	266	185	87	1	1	5	1	901
Jefferson	0	28	205	22	107	396	282	150	11	11	43	12	1,269
Johnson	8	62	436	80	158	362	272	147	11	0	22	2	1,833
Jones	120	69	312	80	143	462	337	227	10	10	33	8	1,812
Keokuk	0	27	151	35	89	313	277	149	8	2	34	2	1,089
Kossuth	14	16	77	12	73	50	93	26	1	1	4	2	369
Lee	16	47	325	30	85	474	238	241	14	8	23	4	1,518
Linn	7	99	563	87	237	289	290	190	8	2	14	1	1,975
Louisa	0	64	299	46	85	391	254	138	10	2	8	3	1,300
Lucas	11	59	501	65	217	520	375	215	42	19	66	20	2,113
Lyon	6	22	57	15	21	51	77	22	1	0	8	0	281
Madison	245	82	632	51	247	519	451	243	23	11	77	19	2,603
Mahaska	0	30	178	36	90	255	216	85	5	2	11	5	931
Marion	24	89	588	96	238	546	345	196	8	5	29	4	2,188
Marshall	7	24	122	39	43	190	147	63	2	3	7	4	678
Mills	0	12	142	25	70	91	104	49	8	3	10	7	522
Mitchell	84	56	149	55	90	230	100	97	6	2	24	2	896
Monona	37	22	174	44	90	192	196	55	47	37	35	49	981
Monroe	1	56	376	46	221	368	290	142	42	47	65	19	1,676
Montgomery	0	14	111	5	85	216	157	59	13	5	28	13	707
Muscatine	6	48	372	59	111	250	299	122	7	1	5	1	1,321

Table 1.8 Reported deer harvest by county in each of the seasons, 2015-2016.

continued

O'Brien	46	23	63	8	33	48	32	25	2	0	8	0	288
Osceola	0	16	41	6	20	19	31	10	0	0	0	1	144
Page	27	25	126	26	62	229	126	86	12	2	47	12	781
Palo Alto	0	9	54	8	28	52	120	43	8	0	9	6	337
Plymouth	21	24	93	13	40	50	82	27	6	2	10	0	368
Pocahontas	0	6	25	0	9	27	37	8	3	0	2	2	119
Polk	0	31	337	34	61	158	125	31	3	2	4	3	1,117
Pottawattamie	2	20	323	45	106	150	201	79	4	8	21	3	1,068
Poweshiek	0	33	142	28	71	190	165	67	8	0	18	0	722
Ringgold	26	32	144	17	142	364	243	126	29	8	54	15	1,200
Sac	0	10	62	7	29	49	69	38	0	2	0	0	266
Scott	0	27	253	38	61	81	114	44	2	3	0	2	756
Shelby	0	9	79	5	61	85	59	30	0	0	8	0	337
Sioux	1	24	50	12	17	37	31	19	0	0	1	0	192
Story	5	25	154	26	40	84	57	34	0	3	2	0	460
Tama	41	59	257	47	185	367	222	189	3	9	27	10	1,419
Taylor	30	35	246	24	137	286	365	104	72	43	115	64	1,522
Union	0	25	158	20	170	266	282	124	34	16	29	10	1,151
Van Buren	26	71	556	106	218	549	399	280	79	84	77	78	2,526
Wapello	1	34	275	39	78	227	193	127	18	5	14	14	1,068
Warren	59	119	850	121	214	512	469	295	13	10	43	9	2,727
Washington	7	56	313	40	155	324	322	253	9	0	24	14	1,518
Wayne	4	80	376	50	276	433	241	235	60	39	131	40	1,968
Webster	29	28	168	29	70	67	213	68	17	3	16	12	721
Winnebago	1	13	73	8	41	36	61	20	0	0	0	0	253
Winneshiek	39	52	418	77	202	1004	236	289	33	16	85	13	2,464
Woodbury	20	34	307	29	80	191	162	49	8	1	7	1	909
Worth	0	12	84	7	40	49	81	33	1	0	6	0	313
Wright	0	15	67	14	30	70	82	33	0	2	1	3	317
Total	1,886	3,790	22,489	4,042	9,604	26,671	18,543	11,041	1,355	640	2,525	827	105,401

Table 1.9 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 1-9					Open in portions of 6 counties
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&	"		13		No draw limit.
	Nov 26-Dec 16	"				
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&	"		19	13	
	Dec 6-12	"				
1972	Oct 6-Nov 26	"	66	20	13	
1973	Oct 13-Nov 25&	"	59	18	11	
	Dec 8-16	"				
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	

Table 1.9 A summary of archery season dates, hours, success rates and other information (1953-present).
continued

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
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	
1982	Oct 9-Dec 3	"	67	26	16	
1983	Oct 8-Dec 2	"	69	28	16	
1984	Oct 6-Nov 30	"	69	27	16	
1985	Oct 12-Dec 6	1/2 hr before	68	26	15	$ 20 fee.
1986	Oct 11-Dec 5	sunrise to	72	38	17	Limit 1/Bow and 1/Gun
1987	Oct 1-Dec 4 &	1/2 hr after	68	35		Added late season.
	Dec 21-Jan 10	sunset				
1988	Oct 1-Dec 2 &	"	71	35	16	
	Dec 19-Jan 10	"				
1989	Oct 1-Dec 1 &	"	73	36	20	Bonus 2nd tag for antlerless deer
	Dec 18-Jan 10	"				statewide
1990	Oct 1-Nov 30 &	"	65	32	19	Bonus tag for antlerless early or
	Dec 17-Jan 10	"				any sex late, statewide
1991	Oct 1-Dec 6 &	"	73	28	17	Bonus tag for antlerless deer available
	Dec 23-Jan 10	"				only in zones 3a,4a,5a and 6. $25 fee.
1992	Oct 1-Dec 4 &	"	69	28	15	Bonus tag for antlerless deer available
	Dec 21 -Jan 10	"				only in bonus antlerless zone if no gun tag.
1993	Oct 1-Dec 3 &	"	73	32	17	Bonus tag for antlerless deer available
	Dec 20-Jan 10	"				only in bonus antlerless zone if no gun tag.
1994	Oct 1-Dec 2&	"	77	37	16	Bonus tag for antlerless deer available
	Dec 19-Jan 10	"				only in bonus antlerless zone if no gun tag.
1995	Oct 1-Dec 1&	"	76	39	17	Bonus tag for antlerless deer available
	Dec 18-Jan 10	"				only in bonus antlerless zone if no gun tag.
1996	Oct 1-Dec 6&	"	78	37	16	Bonus tag for antlerless deer available
	Dec 23-Jan 10	"				only in bonus antlerless zone if no gun tag.

Table 1.9 A summary of archery season dates, hours, success rates and other information (1953-present).
continued

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
1997	Oct 1-Dec 5&	"	71	42	17	Bonus tag for antlerless deer available only in
	Dec 22-Jan 10	"				bonus antlerless zone. Could get firearm license also.
1998	Oct 1-Dec 4&	"	76	34	15	Bonus tag for antlerless deer available only in
	Dec 21-Jan 10	"				bonus antlerless zone. Could get firearm license also.
1999	Oct 1-Dec 3&	"	79	37	16	Bonus tag for antlerless deer available only in
	Dec 20-Jan 10	"				bonus antlerless zone. Could get firearm license also.
2000	Oct 1-Dec 1&	"	80	44	17	Bonus tag for antlerless deer available only in
	Dec 18-Jan 10	"				bonus antlerless zone. Could get firearm license also.
2001	Oct 1-Nov 30&	"	75	37	17	Bonus tag for antlerless deer available in every county.
	Dec 17-Jan 10	"				
2002	Oct 1-Dec 6 &	"	66	39	17	Bonus tag for antlerless deer available in every county.
	Dec 23-Jan 10	"				
2003	Oct 1-Dec 5 &	"	54	44	18	Bonus tag for antlerless deer available in every county.
	Dec 22-Jan 10	"				
2004	Oct 1-Dec 3 &	"	54	46	18	Bonus tag for antlerless deer available in every county.
	Dec 20-Jan 10	"				
2005	Oct 1-Dec 2 &	"	54	53	17	Bonus tag for antlerless deer available in every county.
	Dec 19-Jan 10	"				
2006	Oct 1-Dec 1 &	"	57	29[a]	NA	Tags for antlerless deer available in 79 counties.
	Dec 18-Jan 10	"				
2007	Oct 1-Nov 30 &	"	59	28	NA	Tags for antlerless deer available in 77 counties.
	Dec 17-Jan 10	"				
2008	Oct 1-Dec 5 &	"	58	26	NA	Tags for antlerless deer available in 77 counties.
	Dec 22-Jan 10	"				
2009	Oct 1-Dec 4 &	"	58	26	NA	Tags for antlerless deer available in 77 counties.
	Dec 21-Jan 10	"				
2010	Oct 1-Dec 3 &	"	60	24	NA	Tags for antlerless deer available in 72 counties.
	Dec 20-Jan 10	"				

[a] Success rates from 2005 and prior are not comparable to subsequent years.

Table 1.9 A summary of archery season dates, hours, success rates and other information (1953-present).
continued

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
2011	Oct 1-Dec 2 &	"	60	25	NA	Tags for antlerless deer available in 72 counties.
	Dec 19-Jan 10	"				
2012	Oct 1-Nov 30 &	"	61	25	NA	Tags for antlerless deer available in 72 counties.
	Dec 17-Jan 10	"				
2013	Oct 1-Dec 6 &	"	60	23	NA	Tags for antlerless deer available in 72 counties.
	Dec 23-Jan 10	"				
2014	Oct 1-Dec 5 &	"	63	24	NA	Tags for antlerless deer available in 65 counties.
	Dec 22-Jan 10	"				
2015	Oct 1-Dec 4 &	"	64	25	NA	Tags for antlerless deer available in 65 counties.
	Dec 21-Jan 10	"				

Table 1.10 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.

Table 1.10 Summary of muzzleloader season dates, hours, success rates and other information (1984-present).
continued

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
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.
2002	Oct 12- Oct 20	"	65	56	4	7500 license quota, no counties buck only
	Dec 23-Jan 10	"	41	46	6	Antlerless in all counties, no counties buck-only.
2003	Oct 11- Oct 19	"	54	55	4	7500 license quota, no counties buck only
	Dec 22-Jan 10	"	37	51	6	Antlerless in all counties, no counties buck-only.
2004	Oct 16- Oct 24	"	55	58	5	7500 license quota, no counties buck only
	Dec 20-Jan 10	"	37	48	6	Antlerless in all counties, no counties buck-only.
2005	Oct 15- Oct 23	"	53	58	4	7500 license quota, no counties buck only
	Dec 19-Jan 10	"	32	54	6	Antlerless in all counties, no counties buck-only.
2006	Oct 14-22	"	55	43[a]	NA	7500 license quota, no counties buck only
	Dec 18-Jan 10	"	41	27	NA	Antlerless in 79 counties, no counties buck-only.
2007	Oct 13-21	"	55	35	NA	7500 license quota, no counties buck only
	Dec 17-Jan 10	"	44	30	NA	Antlerless in 77 counties, no counties buck-only.
2008	Oct 11-19	"	53	35	NA	7500 license quota, no counties buck only
	Dec 22-Jan 10	"	43	28	NA	Antlerless in 77 counties, no counties buck-only.
2009	Oct 17-25	"	55	34	NA	7500 license quota, no counties buck only
	Dec 21-Jan 10	"	45	26	NA	Antlerless in 77 counties, no counties buck-only.
2010	Oct 16-24	"	57	32	NA	7500 license quota, no counties buck only
	Dec 20-Jan 10	"	46	25	NA	Antlerless in 72 counties, no counties buck-only.
2011	Oct 15-23	"	53	36	NA	7500 license quota, no counties buck only
	Dec 19-Jan 10	"	45	22	NA	Antlerless in 72 counties, no counties buck-only.
2012	Oct 13-21	"	55	32	NA	7500 license quota, no counties buck only
	Dec 17-Jan 10	"	48	27	NA	Antlerless in 72 counties, no counties buck-only.
2013	Oct 12- Oct 20	"	52	34	NA	7500 license quota, no counties buck only
	Dec 23-Jan 10	"	47	20	NA	Antlerless in 72 counties, no counties buck-only.
2014	Oct 11- Oct 19	"	58	31	NA	7500 license quota, 27 counties buck only
	Dec 22-Jan 10	"	48	24	NA	Antlerless in 65 counties, no counties buck-only.
2015	Oct 17- Oct 25	"	62	34	NA	7500 license quota, 27 counties buck only
	Dec 21-Jan 10	"	58	25	NA	Antlerless in 65 counties, no counties buck-only.

[a] Success rates from 2005 and prior are not comparable to subsequent years.

Table 1.11 Results of deer population surveys (1976-present)

	Spotlight Survey		Aerial Survey			Traffic Kill Per Billion Vehicle Mi.		Bowhunter Obs (Deer per 1000 hrs)	
Year	Mean Count	Percent Change	Weighted Count[a]	Percent Change	Traffic Kill	Number	Percent Change	Number	Percent Change
1976			-	-	2,537	225	-1%		
1977			-	-	2,929	252	12%		
1978			-	-	2,872	241	-4%		
1979			-	-	3,005	259	7%		
1980			-	-	3,743	335	29%		
1981			-	-	4,164	365	9%		
1982			-	-	4,805	412	13%		
1983			5,903	-	5,335	448	9%		
1984			6,387	8%	6,177	500	12%		
1985			7,607	19%	5,925	495	-1%		
1986			9,790	29%	7,225	593	20%		
1987			-	-	8,440	678	14%		
1988			10,289	[b]	9,248	707	4%		
1989			9,672	-6%	8,914	655	-7%		
1990			7,070	-27%	8,799	607	-7%		
1991			9,191	30%	8,428	590	-3%		
1992			8,235	-10%	9,135	616	4%		
1993			8,680	5%	9,576	624	1%		
1994			10,483	21%	10,438	663	6%		
1995			10,877	4%	11,167	699	5%		
1996			12,051	11%	12,276	748	7%		
1997			13,902	15%	13,148	778	4%		
1998			12,651	-9%	12,427	714	-8%		
1999			14,928	18%	11,366	637	-11%		
2000			15,375	3%	11,114	642	1%		
2001			15,793	3%	14,243	799	24%		
2002			13,107	-17%	12,377	662	-17%		
2003			15,676	20%	13,720	726	10%		
2004			18,028	15%	15,361	803	11%	1,624	
2005			15,324	-15%	14,364	760	-5%	1,698	5%
2006	55		12,565	-18%	14,940	783	3%	1,736	2%
2007	59	8%	13,445	7%	13,730	720	-8%	1,667	-4%
2008	71	20%	13,427	0%	10,961	602	-16%	1,500	-10%
2009	68	-4%	13,528	1%	13,518	726	21%	1,482	-1%
2010	58	-15%	13,591	0%	10,153	547	-25%	1,533	3%
2011	58	1%	13,707	1%	10,626	570	4%	1,475	-4%

[a] adjusted for missing counts

[b] change from 1986 to 1988

Table 1.11 Results of deer population surveys (1976-present)
continued

	Spotlight Survey		Aerial Survey			Traffic Kill Per Billion Vehicle Mi.		Bowhunter Obs (Deer per 1000 hrs)	
Year	Mean Count	Percent Change	Weighted Count*	Percent Change	Traffic Kill	Number	Percent Change	Number	Percent Change
2012	51	-13%	discontinued		10,358	554	-3%	1,649	12%
2013	71	40%			9,174	481	-13%	1,352	-18%
2014	61	-14%			9,085	471	-2%	1,340	-1%
2015	66	8%			9,418	478	1%	1,320	-1%
2016	66	0%							

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 market hunting (Little 1980).

Habitat: Only 2.6 million acres (1.1million 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 forests now total 2.1 million acres (850,202 ha), just 5.7% of the State and only 30% of presettlement 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 bur 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. 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.

2016: Iowa's 43rd modern spring hunting season recorded an estimated 12,173 turkeys harvested, with 51,472 licenses sold (Table 2.1 and 2.3). This was the 28th year the entire state was open to spring turkey hunting (Table 2.11). The 44-day season (9 April through 22 May, 2016) was partitioned into 5 separate seasons: a 9-day youth-only season, and 4 regular seasons (4,5,7 and 19-days). The 5 season format, with unlimited license quota for all the periods, resulted in 42,295 resident shotgun licenses issued, which was a decrease of 33 from 2015. An additional 7,170 archery-only licenses were issued in 2016. Archery-only licenses harvested 1,230 turkeys, resulting in a 17.2% success rate. Twenty-three percent of the resident hunters were successful in harvesting a gobbler in 2016 (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. 2.4). Declines observed in spring hunter success rates during 1983 and 1984 (Fig. 2.4) can be partially explained by poor brood production during the summers of 1982 (Fig. 2.10). Similarly, the decline in hunter success rates between 1988 and 1993 may be explained by 6 years of poor brood production starting in 1988. The success rates from 2002-2006 averaged 46.0%. The decrease in success rates beginning in 2007 and the number of turkeys harvested is likely due the change in survey methods. In spring of 2007, mandatory harvest reporting required successful hunters to report turkey harvested. A follow-up post card survey for spring of 2007 revealed 74% compliance rate, which equated to nearly 4,000 harvested turkeys that were not reported initially during the spring season. The major reasons for the non-reports were attributed to hunters forgetting to report (40%), difficulty in reporting process (29%), and unaware of the requirement (22%). This was the 27th spring that nonresidents were allowed to hunt turkeys in Iowa. Quotas filled in zone 4 (seasons 1,2,3,4), zone 5 (seasons 2,3,4), zone 6 (None filled), and zone 8 (seasons 1,2,3,4) in 2016, leaving 327 licenses available. Non-resident hunters harvested 886 turkeys (Table 2.1). Nonresidents reported a higher success rate for spring gobblers than did residents (40% versus 23% respectively) (Table 2.4).

In spring of 2016, known jakes (spurs < ½") harvested were 15% of the total harvest (21% the previous year). Turkeys harvested with spurs ½" – ¾" were 25.5% (22% in 2015) of the total harvest. The majority (60%) of turkeys harvested in 2016 had spurs greater than ¾ of an inch in length.

Youth Turkey Season

Iowa's 12th youth spring turkey season has held in April 9 -17, 2016. During the 9 day season, youth 15 and younger were allowed to participate with an accompanied licensed adult (adult licensed for one of the regular seasons). In 2005, the first year of the youth season, ages were limited to ages 12-15. Starting in 2006, ages 15 and younger could participate in the youth season. Youth season license sales increased by 447 for a record number 5,918 of licenses sold (Fig. 2.8). Since the inception of ELSI (Electronic Licensing System of Iowa) in 2001, hunter age and gender has been recorded (Fig. 2.8). From 2001-2006, youth spring turkey hunters (age 15 and under) increased each year. After the first youth season in 2005, youth licenses have shown an overall upward trend. (Fig. 2.8). A code change in 2014 allowed for unfilled youth season tags to be valid for any other spring turkey season until filled. Twenty-eight percent of youth hunters were successful in 2016.

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 over-harvesting 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 9 zones in 2005 encompassing the entire state (Fig. 2.5, a and b). Fall zone boundaries in 1990 encompassed 9.7 times more area than in 1981, with 13.9 times more by 2005. 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 8 - 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. 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 over-harvest on popular public hunting areas were 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 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 - 1999, but decreased slightly in 2000 – 2001. However, fall harvest levels continue to be below the levels observed in the mid-1980's. Fall active hunters have not been estimated since the implementation of harvest mandatory reporting. This survey was conducted by postcard but was discontinued in 2006 (Table 2.6).

2015: Fall turkey hunter success rates remained similar in 2015 from 2014 at 8.8 % (Table 2.8), but still well below the 2005 and prior estimates due to the change in harvest estimation (mandatory versus postcard survey as discussed earlier). 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 2009, quotas were decreased. All zones except zone 8 & 9 decreased (zone 4 from 4,500 to 1,500, zone 5 from 700 to 650, zone 6 from 3,000 to 1,400, and zone 7 from 400 to 250). All fall licenses issued (Gun/bow and bow only) increased in 2015 to 8,537 from 8,507 in 2014. Bow-only season started October 1 and ran until January 10th 2016 with December 5th-20nd excluded for the shotgun deer season. Gun/bow season was 54 days from October 12th - December 4th (Table 2.12). Forty-six percent of the fall licenses were issued free to landowners, which was the same percentage as in 2014. Estimated numbers of active hunters were undeterminable since there was no post card survey after the season (mandatory reporting eliminated the post card survey). Only 8.8% of hunters reported harvesting a turkey, which was a large decrease from 2005, likely due to the mandatory reporting and low compliance rates (Table 2.8). Hunter success rates varied from 12% in zones 7 to 23% in Zone 8 (Table 2.8). Archery only licensed hunters reported a harvest of 117 turkeys in 2015 which was an increased from the 2014 archery-only license harvest. The 7% success rate for 2015 archery only licenses was higher than the previous year's success rates for archery only hunters (Table 2.8). Nonresidents have not been permitted to hunt fall turkeys in Iowa since 1990.

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. 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. The record number of active hunters in 2005 (since 1989) may be related to this being the first season that turkey

hunters where allowed to use dogs. Likely, pheasant hunters took this opportunity to harvest turkeys opportunistically while pheasant hunting. With mandatory reporting system (initiated in 2006), active hunters numbers are undeterminable.

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: In 2015 a mixed mode sampling system combined the traditional mail survey with an internet based survey. A list of cooperators was established from IDNR personnel and turkey license holders living in selected portions of Iowa. All turkey license holders 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 a return-addressed postcard which is 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 1976-2015 are summarized in Tables 2.9 and 2.10.

2015: Due to a lack of response from cooperators a reliable estimate could not be made for the production of young in 2014. The 2015 survey indicated increases across most of the state compared to the 2013 survey. Of the 8700 possible participants in the survey 1,023 returned usable results. Wild turkey brood production in 2015 was mixed across the state. Increases in the number of poults per hen were up overall while the number of hens with poults was down in Iowa compared to the survey conducted in 2013.

In 2008, a new survey was developed that asked observers to also record toms seen, distinguishing them from hens. In previous years, observers were only asked to recordhens observed. This may have influenced the percent of hens (Figure 2.10) observed with broods (i.e. observers may have recorded toms as hens without broods in the past). It is unlikely that all regions increased in the percent of hens observed with broods with the weather conditions of 2008 (extremely wet with severe flooding). Thus, any interpretation on the brood survey should be limited to poults per hen and turkeys per flock in 2008. In 2009, the brood survey used new regions (Figure 2.5) to analyze the data. To allow comparisons between years, 2008 was also analyzed using the new regions (Tables 2.9 & Table 2.10) as well.

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Figure 2.1 Iowa spring turkey hunting statewide estimates, 1974-2016

Active hunters unknown after 2006 due to survey changes.

Harvest estimation methods changed from mail surveys to mandatory reporting beginning 2007.

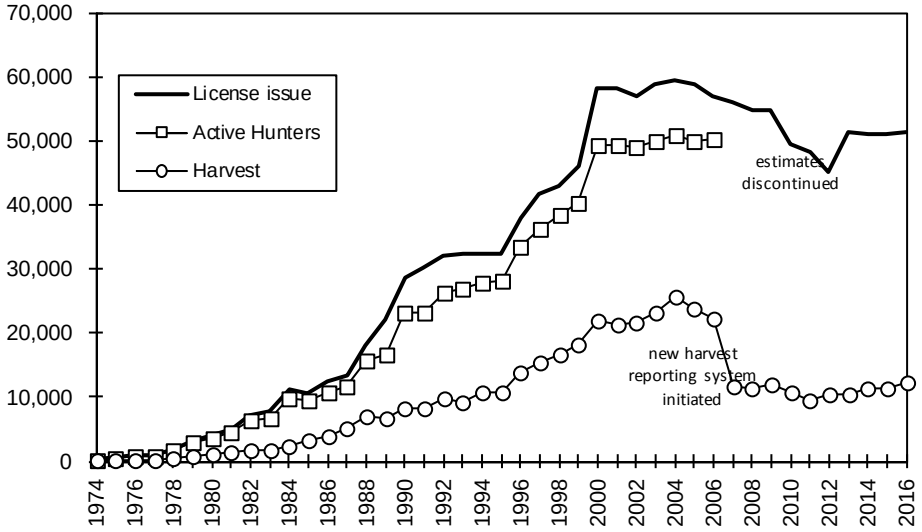


Figure 2.2 Spring turkey hunting zones, 1974 (Fig. a) and 2016 (Fig. b).

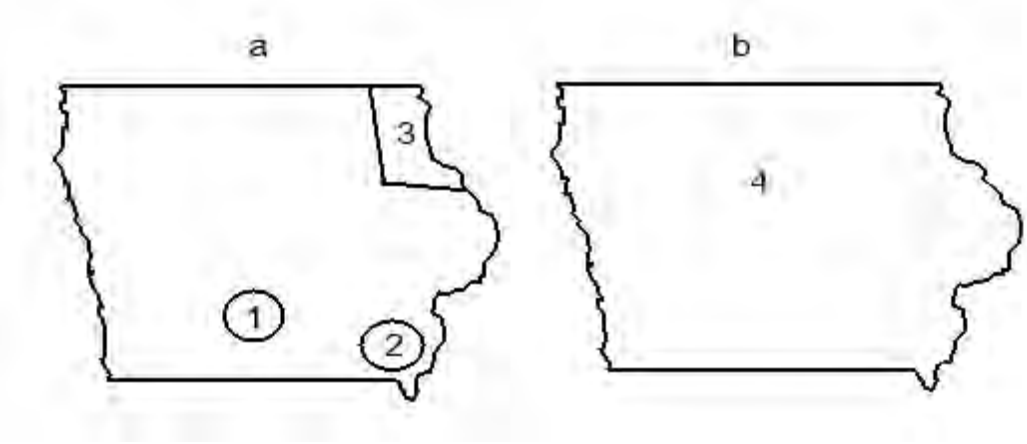


Figure 2.3 Iowa turkey harvest statewide success rates for residents, 1974-2016

Sucsess estimation methods changed from mail surveys to mandatory reporting beginning Fall 2006.

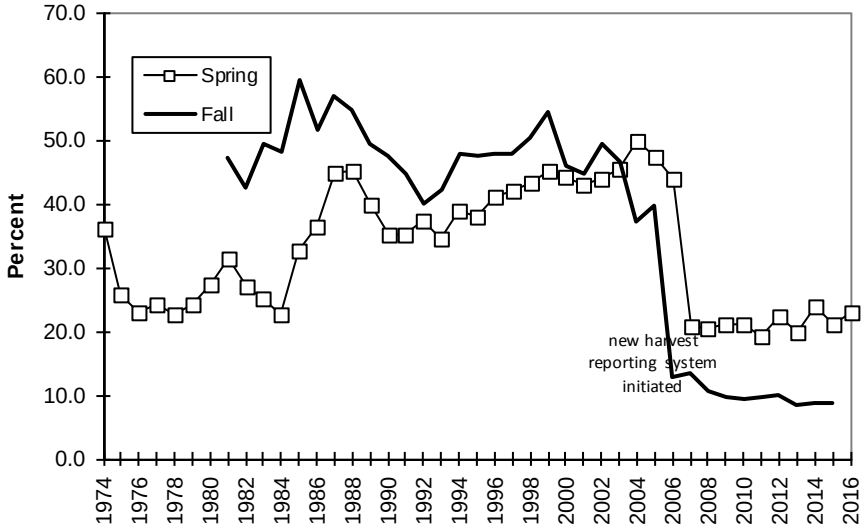


Figure 2.4 Iowa turkey brood survey statewide results, 1976-2015

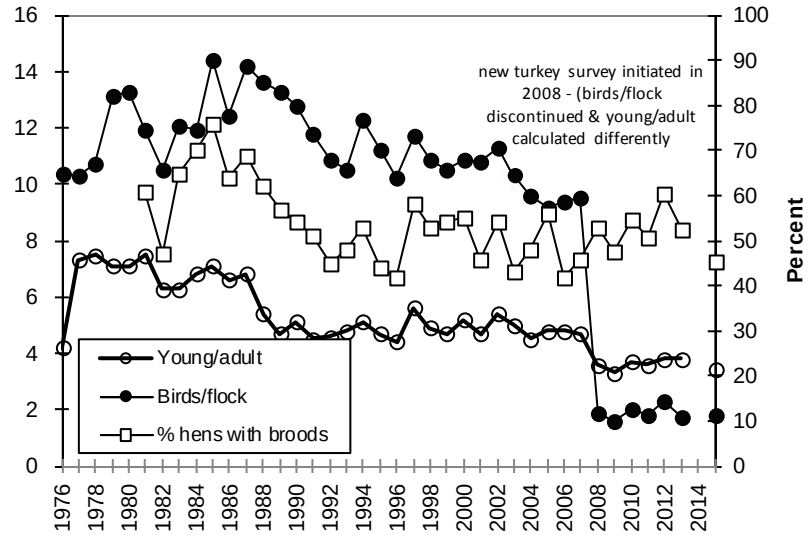


Fig. 2.5 Wild Turkey Brood Survey Regions

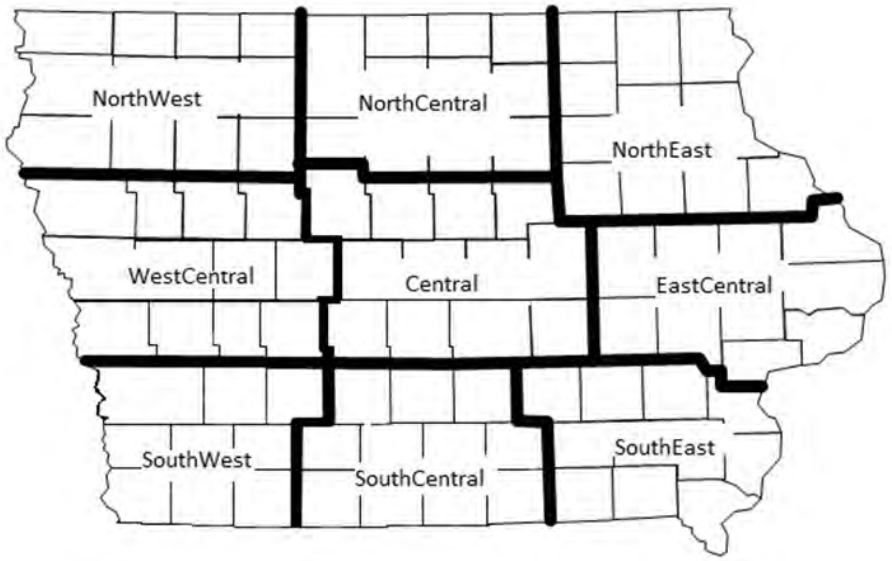


Figure 2.6 Fall turkey hunting zones, 1981 and the present.

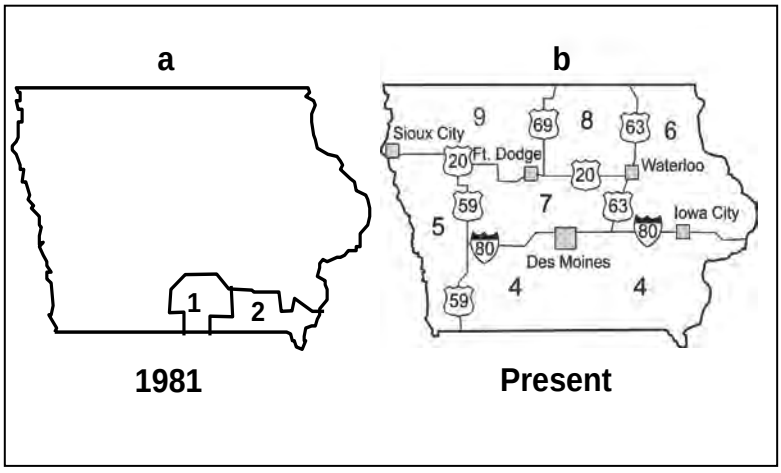


Figure 2.7 Iowa fall turkey hunting statewide estimates, 1981-2015

Active hunters unknown after 2005 due to survey changes.

Sucsess estimation methods changed from mail surveys to mandatory reporting beginning 2006.

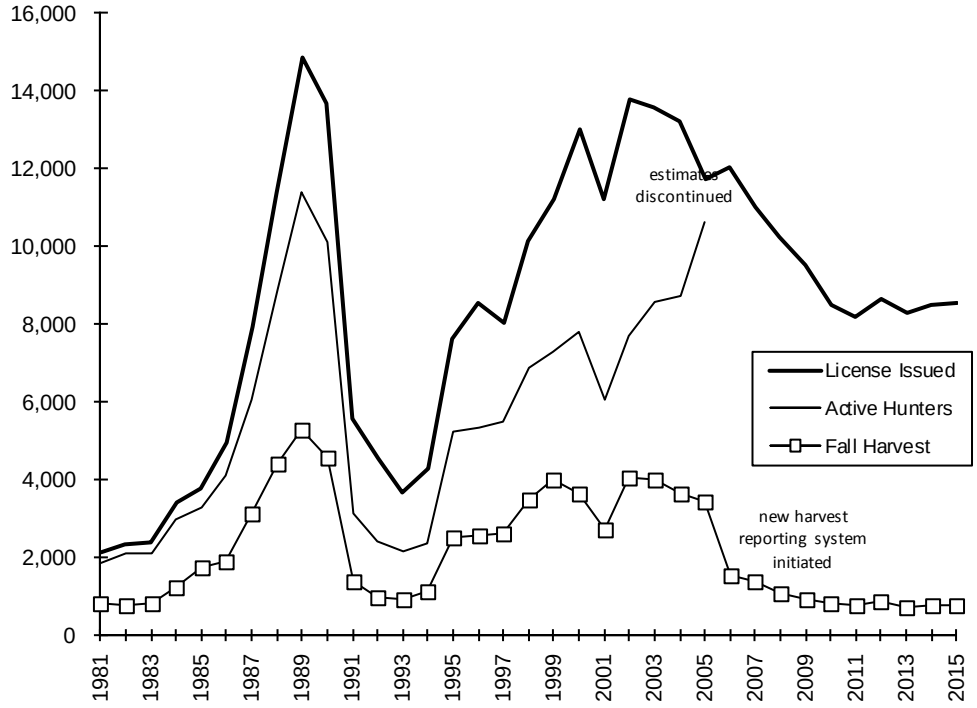


Figure 2.8 Iowa spring turkey license issue, 2001-2016.

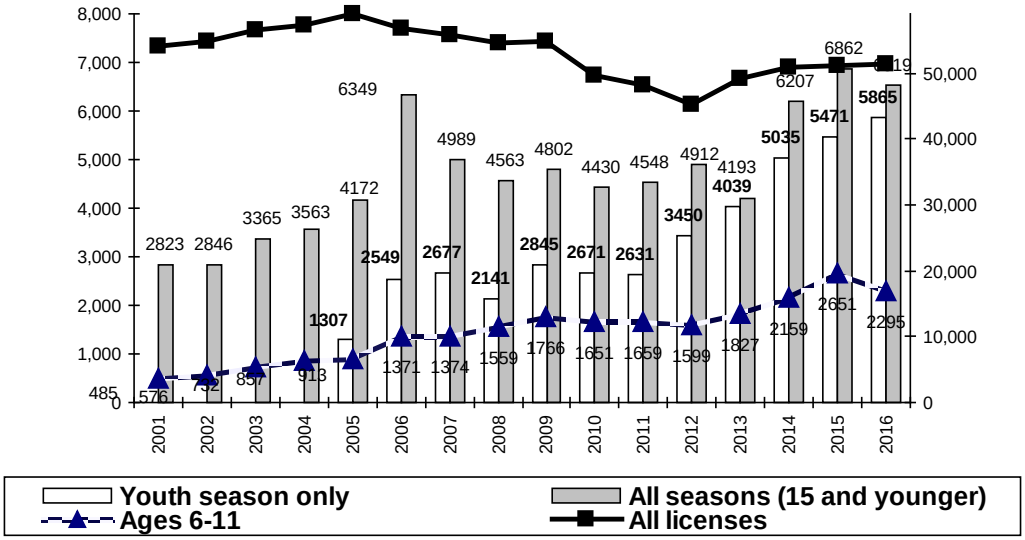


Table 2.1 Number of estimated spring turkeys harvested by zone, 1974-present.
Archery-only licenses not included from 1974-2006. Zone 5 was combined into Zone 4 in 1994.
Zones 1-3 were combined into Zone 4 in 2007.
In 2007, survey methods changed from a post-mailing survey to mandatory reporting,
with an estimated 74% compliance rate.

	ZONE						RESIDENT	NON-	TOTAL
YEAR	1	2	3	4	5	BOW ONLY	TOTAL	RESIDENT	HARVEST
1974	41	31	-	30		-	102	-	102
1975	29	41	-	69		-	139	-	139
1976	38	37	-	119		-	194	-	194
1977	60	53	-	102		-	215	-	215
1978	54	72	-	240		-	366	-	366
1979	55	41	-	592		-	688	-	688
1980	50	43	35	860		-	988	-	988
1981	49	40	58	1267	25	-	1439	-	1439
1982	75	112	48	1411	39	-	1685	-	1685
1983	76	113	38	1469	33	-	1729	-	1729
1984	32	83	40	2015	51	-	2221	-	2221
1985	29	138	67	2831	62	-	3127	-	3127
1986	49	183	75	3570	97	-	3974	-	3974
1987	83	198	114	4667	147	-	5209	-	5209
1988	79	151	86	6493	250	-	7059	-	7059
1989	49	133	42	6264	211	-	6699	-	6699
1990	48	148	106	7452	363	-	8117	74	8191
1991	58	144	78	7414	274	-	7968	128	8096
1992	37	71	31	9348	255	-	9742	151	9893
1993	26	97	39	8638	293	-	9093	217	9310
1994	57	81	32	10428	-	-	10598	229	10827
1995	20	81	32	10275	-	-	10408	459	10867
1996	49	77	36	13078	-	-	13240	544	13784
1997	8	68	28	14647	-	-	14751	605	15356
1998	15	73	46	15676	-	-	15810	938	16748
1999	30	71	28	17231	-	-	17360	930	18290
2000	37	60	24	20759	-	-	20880	970	21850
2001	34	49	29	20383	-	-	20495	941	21436
2002	39	68	17	20538	-	-	20662	1061	21723
2003	51	46	29	21743	-	-	21869	1172	23041
2004	30	65	31	24254	-	-	24380	1224	25604
2005	35	61	49	22586	-	-	22731	1187	23918
2006	42	88	48	20863	-	-	21041	1195	22236
2007	-	-	-	10008	-	676	10684	843	11527
2008	-	-	-	9643	-	788	10431	898	11329
2009	-	-	-	10166	-	859	11025	884	11909
2010	-	-	-	9156	-	907	10063	826	10889
2011	-	-	-	8031	-	830	8861	666	9527
2012	-	-	-	8906	-	802	9708	749	10457
2013	-	-	-	8838	-	986	9824	741	10565
2014	-	-	-	9587	-	1060	10647	754	11401
2015	-	-	-	9528	-	1090	10618	787	11405
2016	-	-	-	10057	-	1230	11287	886	12173

Table 2.3 Number of Iowa spring turkey-hunting licenses issued by zone, 1974-present.
Archery-only licenses included in totals licenses (not in resident total). Free landowner licenses includ
Zone 5 was combined into Zone 4 in 1994. Zones 1-3 were combined into Zone 4 in 2007.

	ZONE					BOW	RESIDENT	NON-	TOTAL
YEAR	1	2	3	4	5	ONLY	TOTAL	RESIDENT	LICENSES
1974	105	113		82		-	300		
1975	168	184		248		-	600		
1976	143	273		558		-	974		
1977	235	276		494		-	1005		
1978	280	323		1212		-	1815		
1979	195	298		2662		-	3155		
1980	195	225	357	3227		-	4004		
1981	195		420	4374	67	-	5056		
1982			297	6592	135	-	7024		
1983			300	7231	165	-	7696		
1984	259	416	325	9849	277	-	11126		
1985	259	449	320	9379	277	-	10684		
1986	273	493	339	11032	356	-	12493		
1987	289	507	357	11828	404	-	13385		
1988	268	471	324	16438	632	-	18133		
1989	268	505	338	20091	736	-	21938		
1990	261	500	322	25331	1030	-	27444	184	28658
1991	262	505	322	26399	1115	-	28603	306	30024
1992	260	487	320	28220	1083	-	30370	445	31898
1993	260	500	320	28646	1060	-	30786	585	32431
1994	262	508	324	30714	-	-	31808	602	32410
1995	260	500	320	30269	-	-	31349	955	32304
1996	260	487	302	35740	-	-	36789	1124	37913
1997	261	501	320	39314	-	-	40396	1346	41742
1998	260	500	320	39783	-	-	40863	2005	42868
1999	260	500	320	43008	-	-	44088	1999	46087
2000	257	392	242	55290	-	-	56181	2013	58194
2001	104	148	108	53635	-	2206	56201	2012	58213
2002	121	207	158	51940	-	2491	54917	1944	56861
2003	129	215	134	53144	-	3032	56654	2079	58733
2004	132	191	128	53404	-	3469	57324	2133	59457
2005	127	154	138	52364	-	3951	56734	2150	58884
2006	235	315	238	49113	-	4739	54640	2245	56885
2007	-	-	-	48344	-	5258	53602	2254	55856
2008	-	-	-	46822	-	5596	52418	2258	54676
2009	-	-	-	46470	-	6139	52609	2158	54767
2010	-	-	-	41406	-	6143	47549	2002	49551
2011	-	-	-	40393	-	6053	46446	1859	48305
2012	-	-	-	37995	-	5287	43282	1877	45159
2013	-	-	-	42627	-	6630	49257	1952	51209
2014	-	-	-	38259	-	6421	42637	1908	50966
2015	-	-	-	36857	-	6886	42328	1929	51143
2016	-	-	-	42295		7170	49465	2007	51472

Table 2.4 Estimated success rate of active Iowa spring turkey hunters by zone, 1974-present. Archery-only hunters not surveyed prior to 2007.

In 2007, survey methods changed from a post-mailing survey to mandatory reporting.

	ZONE						RESIDENT	NON-
YEAR	1	2	3	4	5	BOW ONLY	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
2002	55.7	50.0	18.3	44.0	-	-	44.0	59.1
2003	51.0	29.2	27.1	45.5	-	-	45.4	60.4
2004	39.5	37.8	35.6	50.0	-	-	49.9	61.1
2005	30.4	49.2	46.7	47.6	-	-	47.5	56.0
2006	37.2	44.0	33.8	43.8	-	-	43.8	55.6
2007	-	-	-	20.7	-	12.9	20.7	37.4
2008	-	-	-	20.5	-	14.1	20.5	39.8
2009	-	-	-	21.9	-	14.0	21.0	41.0
2010	-	-	-	22.1	-	14.8	21.2	41.3
2011	-	-	-	19.9	-	13.7	19.1	35.8
2012	-	-	-	23.4	-	15.2	22.4	39.9
2013	-	-	-	20.7	-	14.9	19.9	38.0
2014	-	-	-	22	-	16.5	24	39.5
2015	-	-	-	22	-	12.6	21	40.1
2016	-	-	-	23.7		17.1	23	44.1

Table 2.5 Number of licenses issued to Iowa fall turkey hunters by zone, 1981-present.
In 1984 and 2001-present landowners were not broken-down by zone but do appear in the total.
No non-resident licenses issued for fall turkey during 1991-present.
Zones 1-3 were eliminated in 2007.

	ZONE										RESIDENT	NON-
YEAR	1	2	3	4	5	6	7	8	9	BOW	TOTAL	RESIDENT
1981	-	-	-	1946	-	-	-	-	-	193	2139	-
1982	-	-	-	1995	-	-	-	-	-	353	2348	-
1983	-	-	-	1873	-	-	-	-	-	529	2402	-
1984	-	-	-	1999	214	612	-	-	-	552	3414	-
1985	-	-	-	2143	295	784	-	-	-	540	3762	-
1986	121	190	-	2403	296	1206	74	-	-	663	4953	-
1987	107	149	105	3934	340	2264	148	-	-	877	7924	-
1988	103	203	106	4861	524	4054	282	-	-	1243	11376	-
1989	102	200	100	6194	891	5792	554	-	-	1022	14855	157
1990	102	201	101	5879	738	5422	624	-	-	610	13677	50
1991	0	0	50	0	0	4575	0	-	-	942	5567	0
1992	0	0	30	0	0	3560	0	-	-	963	4553	0
1993	0	0	30	0	0	3118	0	-	-	488	3636	0
1994	0	0	30	0	0	3300	0	-	-	949	4279	0
1995	50	50	50	2593	330	3518	320	-	-	715	7626	0
1996	50	50	50	2635	447	4048	321	-	-	944	8545	0
1997	50	50	50	2156	425	4287	224	-	-	768	8010	0
1998	50	50	50	3653	450	4747	440	-	-	697	10137	0
1999	50	50	50	3778	433	4894	422	212	-	1317	11206	0
2000	49	47	50	5052	471	5083	471	260	-	1531	13014	0
2001	44	29	38	2500	300	2401	200	75	-	1496	11225	0
2002	50	50	50	2500	300	2489	200	75	-	1698	13751	0
2003	50	50	50	3502	450	2402	201	75	-	1674	13566	0
2004	49	44	50	3301	503	2060	400	150	-	1549	13221	0
2005	50	37	50	3091	501	1684	400	150	202	1512	11722	0
2006	50	29	50	2753	500	1569	356	150	200	1585	12004	0
2007	-	-	-	2313	658	1544	348	150	200	1721	11024	0
2008	-	-	-	1924	620	1375	348	150	200	1746	10243	0
2009	-	-	-	1500	560	1284	250	150	187	1808	9526	0
2010	-	-	-	1349	456	1112	232	150	176	1956	8492	0
2011	-	-	-	1228	357	1081	250	150	170	1913	8172	0
2012	-	-	-	1273	346	1190	250	150	196	2310	8664	0
2013	-	-	-	1207	312	1052	249	150	197	2242	8272	0
2014	-	-	-	1214	292	977	250	150	185	2343	8507	0
2015	-	-	-	1149	230	991	260	151	192	2514	8537	0

Table 2.6 Number of estimated active turkey hunters in Iowa fall turkey seasons by zone, 1981-

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

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

Starting in fall of 2006, the post card survey was discontinued and active hunters undeterminable.

				ZONE								RESIDENT	NON-
YEAR	1	2	3	4	5	6	7	8		UNK	BOW	TOTAL	RESIDENT
1981				1710							136	1846	
1982				1807							290	2097	
1983				1650							425	2075	
1984				1763	185	530					473	2981	
1985				1906	250	699					445	3300	
1986	89	168		1953	251	1025	68				543	4097	
1987	76	137	92	2966	264	1702	87				738	6062	
1988	100	203	91	3576	418	3173	249				1066	8876	
1989	83	187	82	4679	585	4572	374				846	11408	139
1990	41	125	55	4326	509	4125	400				502	10083	47
1991			35			3064					?	3099	0
1992			22			2362					?	2384	0
1993			12			2157					?	2169	0
1994			12			2343					?	2355	0
1995	30	11	33	1943	245	2740	234				?	5236	0
1996	14	14	16	1727	334	3038	195				?	5338	0
1997	21	18	11	1572	336	3293	218				?	5469	0
1998	11	27	11	2678	337	3530	297				?	6891	0
1999	22	29	21	2701	347	3605	300	161		79	?	7265	0
2000	11	26	23	3300	355	3523	309	171		56	?	7774	0
2001	19	20	10	1835	221	1809	157	67		234	?	6069	0
2002	12	26	18	1827	233	1940	149	56		362	?	7682	0
2003	13	9	15	2442	352	1808	139	58		534	?	8559	0
2004	16	20	22	2214	328	1495	268	109		622	?	8718	0
2005	19	14	13	2166	392	1256	260	109	116	528	?	10593	0
2006	estimates discontinued				-	-	-	-	-	-	-	-	-

Table 2.7 Estimated harvest for Iowa fall turkey hunting by zone, 1981-present. Same problem
In 1984 and 2001-present, landowners were not broken-down by zone (UNK) but do appear in the total.
No non-resident licenses issued for fall turkey during 1991-present.
Zones 1-3 were eliminated in 2007.
In 2006, survey methods changed from a post-mailing survey to mandatory reporting.

	ZONE											RESIDENT	NON-
YEAR	1	2	3	4	5	6	7	8	9	UNK	BOW	TOTAL	RESIDENT
1981	-	-	-	808	-	-	-	-	-	-	5	813	-
1982	-	-	-	769	-	-	-	-	-	-	10	779	-
1983	-	-	-	813	-	-	-	-	-	-	20	833	-
1984	-	-	-	882	77	198	-	-	-	-	36	1210	-
1985	-	-	-	1215	108	376	-	-	-	-	54	1753	-
1986	29	69	-	1041	127	536	28	-	-	-	43	1873	-
1987	24	40	35	1842	99	961	33	-	-	-	102	3136	-
1988	57	106	36	1950	171	1799	159	-	-	-	149	4427	-
1989	18	127	26	2208	287	2442	104	-	-	-	66	5278	67
1990	0	33	39	2052	190	2084	135	-	-	-	41	4574	14
1991	-	-	18	-	-	1368	-	-	-	-	?	1386	-
1992	-	-	13	-	-	943	-	-	-	-	?	956	-
1993	-	-	2	-	-	912	-	-	-	-	?	914	-
1994	-	-	2	-	-	1122	-	-	-	-	?	1124	-
1995	10	2	10	912	137	1358	52	-	-	-	?	2481	-
1996	4	5	12	787	176	1472	93	-	-	-	?	2549	-
1997	1	14	4	883	145	1480	86	-	-	-	?	2613	-
1998	3	8	4	1384	176	1773	120	-	-	-	?	3468	-
1999	4	10	3	1619	156	1943	150	66	-	63	?	4014	-
2000	2	15	8	1701	179	1527	93	56	-	38	?	3619	-
2001	3	15	2	852	100	912	61	37	-	168	?	2722	-
2002	3	14	10	1076	157	1038	87	31	-	386	?	4061	-
2003	11	6	10	1284	273	1030	62	28	-	373	?	3981	-
2004	8	7	4	988	194	602	96	60	-	338	?	3626	-
2005	3	3	1	1067	243	592	36	70	37	460	?	3424	-
2006	9	6	10	553	111	307	50	42	35	399	105	1522	-
2007	-	-	-	427	131	298	45	38	34	389	105	1362	-
2008	-	-	-	286	104	245	48	44	27	321	123	1075	-
2009	-	-	-	202	84	224	29	33	17	323	103	912	-
2010	-	-	-	192	66	185	25	51	18	268	99	805	-
2011	-	-	-	170	50	197	31	31	24	276	112	779	-
2012	-	-	-	188	47	232	34	32	30	316	131	879	-
2013	-	-	-	164	44	141	28	34	14	278	123	703	-
2014	-	-	-	176	34	140	30	40	19	316	85	755	-
2015	-	-	-	145	41	150	31	35	24	331	117	757	-

Table 2.8 Success rate (to harvest 1 bird) of active Iowa fall turkey hunters by zone, 1981-present. Bow hunters
In 1984 and 2001-present landowners were not broken-down by zone but do appear in the total.
No non-resident licenses issued for fall turkey during 1991-present.
In 2006, survey methods changed from a post-mailing survey to mandatory reporting.

				ZONE							RESIDENT	NON-
YEAR	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	BOW	MEAN	RESIDENT
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	
2002	27.3	56.0	39.7	55.2	59.0	52.0	55.6	52.7			49.4	
2003	84.3	55.6	65.9	47.3	71.0	52.1	42.8	44.8			46.5	
2004	50.0	30.0	13.6	39.2	53.0	36.9	31.3	49.5			37.1	
2005	10.7	21.1	8.3	39.5	56.8	43.8	13.8	53.9	30.2		39.6	
2006	18.0	20.7	20.0	20.1	22.2	19.6	14.0	28.0	17.5	6.6	12.7	
2007	-	-	-	18.4	19.9	19.3	12.9	25.3	17.0	6.1	13.3	
2008	-	-	-	14.9	16.8	17.8	13.8	29.3	13.5	7.0	10.5	
2009	-	-	-	13.5	15.0	17.4	11.6	22.0	9.1	5.7	9.6	
2010	-	-	-	14.2	14.5	16.6	10.8	34.0	10.2	5.1	9.5	
2011	-	-	-	13.8	14.0	18.2	12.4	20.7	14.1	5.9	9.5	
2012	-	-	-	14.8	13.6	19.5	13.6	21.3	15.3	5.7	10.1	
2013	-	-	-	13.6	14.1	13.4	11.2	22.7	7.1	5.5	8.5	
2014	-	-	-	14.5	11.6	14.3	12.0	26.7	10.3	5.5	8.8	
2015				12.6	17.8	15.1	11.9	23.2	12.5	6.6	8.8	

Table 2.9 Iowa wild turkey brood survey results by region for birds/flock and young/adult, 1976-present.

Y/A=young per adult (italics) and B/F=birds per flock (>4).

	NORTHEAST		SOUTHERN		CENTRAL		WESTERN		EAST-CENTRAL		NORTH-WEST		NORTH-CENTRAL		STATEWIDE	
YEAR	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	13.2	6.3	11.3	6.2	11.4	6.6	11.7	6	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	14.1	6.2	11.8	6.6	11.7	5.7	9.3	6.8	12.5					6.6	12.4
1987	7	17.3	6.5	12.2	7.4	13.5	5.9	12.5	7	14.5					6.8	14.2
1988	5	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	4.4	10.7	5.5	13	5.3	14.5					4.7	13.3
1990	5.1	15.8	4.9	9	2.7	7.9	6	12.2	4.9	11.9	7.7	11.3	6.6	8.3	5.1	12.8
1991	4.7	14	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	9.1	6	10.2	4.5	11.9	3	4	10	11	4.6	10.9
1993	5.2	11.8	5.1	9.1	5	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	5.1	16.9	4.9	11.5	5.1	11	6.2	11.6	5.1	12.3
1995	5.1	12.8	4.9	10	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	11.9	5.6	11.4	5.8	14.5	5.4	11	3.2	7.2	4.9	7.5	5.6	11.7
1998	5.1	11.9	5.3	10	5.9	9.8	4.6	10	4.5	11.6	4	11.9	4.4	10.5	4.9	10.9
1999	3.9	10.1	5	10.3	3.8	8.5	4.7	13.7	5	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	10.3	4.6	13	4.5	11.5	3.9	10.9	4.5	9.3	4.7	10.8
2002	4.9	10.8	5.6	10.7	5.4	9.6	5.1	11.7	5.5	12	5.9	13	5.6	13.6	5.4	11.3
2003	5.1	11.4	5.2	11.1	4.9	10.3	5.1	11	5.1	11.9	5.2	13.5	4.9	10	5	10.3
2004	4.3	8.7	4.7	9.3	3.8	8.1	5	14.3	4.3	8.7	5	11.5	4.2	8.3	4.5	9.6
2005	4.9	10	4.9	8.3	4.5	8.1	5	11.9	4.7	8.6	4.7	11.2	4.8	8.8	4.8	9.2
2006	4.8	9.4	4.7	8.8	4.3	8	4.5	11.3	5.9	8.9	4.7	9.8	4.7	9.3	4.8	9.4
2007	5.1	10.2	4.5	8.2	4.6	9.7	4.1	9.3	5	9.7	5.5	10	4.7	10.2	4.7	9.5
2008	4.5	9.5	4.5	8.7	4.8	8.4	4.3	9.6	4.1	8	4.5	9.3	3.9	7.8	4.3	8.7

A new survey was initiated in 2008, with new regions and survey cards. 2008 was analyzed with the old and new regions to allow comparisons between years.

Survey Response not adequate in 2014

Y/SH = poults per successful hens (italics), and Y/AH = poults per all hens

	NORTHWEST		NORTH-CENTRAL		NORTHEAST		WESTCENTRAL		CENTRAL		EAST-CENTRAL		SOUTHWEST		SOUTHCENTRAL		SOUTHEAST		STATEWIDE	
YEAR	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH	Y/SH	Y/AH
2008	4.2	2.6	2.9	1.5	3.8	1.9	3.9	1.9	4	1.9	3.7	1.9	3.1	1.9	3.6	2.1	3.5	1.7	3.6	1.9
2009	3.7	1.5	3.3	1.8	3.8	1.9	3.1	1.5	3.1	1.5	3.4	1.6	3.5	1.8	3.5	1.6	2.9	1.1	3.3	1.6
2010	4.1	2.1	3.8	2.8	3.8	2.4	3.2	1.6	3.7	2.3	3.7	1.9	3.6	1.7	4.1	2	3.1	1.4	3.7	2
2011	3.9	2	3.5	2.1	3.9	2.5	3.7	1.7	3.5	1.7	3.7	1.7	3.3	1.3	3.9	2	3	1.4	3.6	1.8
2012	3.9	1.9	4.2	3	4.7	3.8	2.7	1.5	3.5	2.1	4	2.7	3.7	2.2	3.9	2.3	3.1	1.5	3.8	2.3
2013	3.9	2	4.2	1.7	4.7	1.7	2.7	1.2	3.5	1.8	4	1.5	3.7	1.5	3.9	2.4	3.1	1.3	3.8	1.7
2014																				
2015	3.5	2.1	2.8	1.8	3.8	2.4	2.0	1.4	3.4	1.8	3.6	1.8	4.2	1.6	3.4	1.8	4.0	1.8	3.4	1.8
1 year % change	-10.5	2.8	-32.9	6.7	-18.9	41.2	-24.4	12.8	-2.4	-0.4	-9.8	22.9	14.1	3.7	-12.8	-25.1	28.1	38.6	-9.9	7.1

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

	NORTHEAST		SOUTHERN		CENTRAL		WESTERN		EAST-CENTRAL		NORTHWEST		NORTH-CENTRAL		STATEWIDE	
YEAR	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1976			78													
1977			98													
1978			77	80												
1979			170	80												
1980			142	57												
1981	65	65	194	57											259	61
1982	118	62	163	60	31	42	10	23							322	47
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					1279	62
1989	364	72	408	54	92	38	137	46	303	54					1304	57
1990	421	66	257	46	38	59	118	38	303	49	18	46	28	14	1183	54
1991	368	57	418	47	78	40	105	46	346	55	22	46	9	35	1346	51
1992	344	59	431	44	49	28	68	25	387	44	18	5	9	14	1306	45
1993	265	48	290	45	37	67	75	47	330	47	12	64	28	44	1037	48
1994	403	53	425	49	56	61	95	62	338	56	35	42	36	46	1388	53
1995	325	57	385	35	175	28	146	40	319	53	24	58	28	80	1403	44
1996	425	48	428	38	134	25	68	43	371	46	37	43	68	48	1531	42
1997	310	59	589	67	67	64	141	60	356	51	27	28	82	39	1572	58
1998	474	59	783	49	76	37	158	48	504	53	49	78	97	61	2141	53
1999	411	52	805	60	62	54	188	60	517	49	45	57	86	35	2114	54
2000	293	53	759	56	74	50	210	59	350	51	41	84	59	53	1786	55
2001	429	67	803	41	73	47	228	44	486	39	61	65	105	38	2185	46
2002	563	64	853	51	157	56	200	57	675	45	86	71	153	77	2742	54
2003	1230	51	2930	39	344	49	581	52	1467	39	116	70	368	53	7142	43
2004	735	46	1792	50	184	47	464	55	1005	44	75	59	262	49	4517	48
2005	647	55	1457	50	316	58	627	62	823	58	144	72	447	57	4564	56
2006	707	47	1503	40	279	48	820	42	828	40	165	46	460	56	4879	42
2007	687	53	1492	37	301	55	675	38	909	54	157	56	538	55	4833	46
2008	477	55	952	58	259	54	394	54	600	55	155	68	453	56	3289	57

A new survey was initiated in 2008, with new regions and survey cards. 2008 was analyzed with the old and new regions to allow comparisons between years. Bold indicates changes that are statistically different.
Inadequate response for 2014

	NORTHWEST		NORTH-CENTRAL		NORTHEAST		WESTCENTRAL		CENTRAL		EAST-CENTRAL		SOUTHWEST		SOUTHCENTRAL		SOUTHEAST		STATEWIDE	
YEAR	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2008	134	62	303	50.2	377	48.1	238	48.3	145	48.7	358	49.9	120	60.8	353	58.3	247	47.7	2275	52.7
2009	135	41.3	403	54.1	688	50.8	329	48.8	213	46.6	648	48.3	302	51.4	470	46.8	467	39.4	3655	47.4
2010	200	51.2	433	73	643	63.5	389	50	255	63.7	636	51.4	340	47.2	344	50.3	377	46.2	3617	54.7
2011	164	52.9	514	60.1	629	63.5	255	46.9	281	49.9	512	46.6	286	40.1	379	52.1	424	45.8	3444	50.6
2012	173	46.9	439	72.6	641	79.9	334	56	281	59	495	68.4	308	58.4	372	58.8	391	48.9	3434	60.6
2013	128	57.8	368	50.4	490	50	178	46.7	177	54.9	343	53.4	306	50.4	252	63.7	252	46.1	2494	52.3
2014																				
2015	181	58.9	475	64.2	545	63.1	227	66.1	296	52.5	413	51	190	36.9	485	52.8	193	45.4	3005	45.35
l year % change		1.9		27.4		26.2		41.5		-4.4		-4.5		-26.8		-17.1		-1.5		-13.3

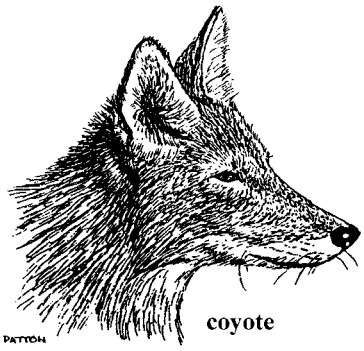
Table 2.11 Iowa's Spring turkey hunting seasons, 1974-present.

YEAR	BAG LIMIT	POSSESSION LIMIT	SEASON Youth	1	2	3	4	SPLITS	SEASON LENGTH	# ZONES	# SQ. MILES	MAJOR RULE CHANGES
1974	1	1/LICENSE		04 MAY-10 M	MAY-19 MAY				16	3	5682	$ 10 FEE
1975	1	1/LICENSE		26 APR-02 M	MAY-09 M	MAY-18 MAY			23	3	2749	THIRD SEASON ADDED
1976	1	1/LICENSE		24 APR-28 AI	APR-05 M	MAY-16 MAY			23	4	2884	NE IOWA CLOSED FOR RESTOCKING
1977	1	1/LICENSE		21 APR-27 AI	APR-04 M	MAY-15 MAY			25	4	3200	
1978	1	1/LICENSE		20 APR-26 AI	APR-03 M	MAY-14 MAY			25	6	3683	
1979	1	1/LICENSE		19 APR-25 AI	APR-02 M	MAY-13 MAY		ZONES 1-5	25			
				26 APR-02 M	MAY-09 M	MAY-20 MAY		ZONES 6-8	25	8	9958	$ 15, NE IOWA RE-OPENED
1980	1	1/LICENSE		24 APR-30 AI	MAY-07 M	MAY-18 MAY		ZONES 1-5	25			MUZZLELOADER LEGAL, W. IOWA OPEN,
				17 APR-23 M	APR-30 M	MAY-11 MAY		ZONES 6-9	25	9	12942	STEPHENS SF SPECIAL ZONE
1981	1	1/LICENSE		14 APR-20 AI	APR-28 AI	APR-10 MAY			27	9	21873	YELLOW RIVER SF SPECIAL ZONE, 2ND CHOICE ON APP, 2 LICENSES AVAILABLE
1982	1	1/LICENSE		13 APR-19 AI	APR-27 AI	APR-09 MAY			27	8	21506	
1983	1	1/LICENSE		12 APR-18 AI	APR-26 AI	APR-08 MAY			27	10	23464	
1984	1	1/LICENSE		16 APR-19 AI	APR-24 AI	APR-01 M	MAY-13 MAY		28	12	25172	ALL 3 SF SPECIAL ZONES, 4TH SEASON ADDED
1985	1	1/LICENSE		15 APR-18 AI	APR-23 AI	APR-30 AI	MAY-12 MAY		28	13	27005	$20 FEE, DECOYS LEGAL
1986	1	1/LICENSE		14 APR-17 AI	APR-22 AI	APR-29 AI	APR-11 MAY		28	15	39211	COMBO GUN-BOW LICENSE, FREE LANDOWNER PERMIT, ARCHERY-ONLY PERMIT
1987	1	1/LICENSE		13 APR-16-AI	APR-21 AI	APR-28 AI	APR-10 MAY		28	13	40202	
1988	1	1/LICENSE		11 APR-14 AI	APR-19 AI	APR-26 AI	APR-08 MAY		28	11	44112	UNLIMITED 4TH SEASON PERMITS, ALL DAY HUNTING
1989	1	1/LICENSE		10 APR-13 AI	APR-18 AI	APR-25 AI	APR-07 MAY		28	5	56043	ENTIRE STATE OPEN
1990	1	1/LICENSE		09 APR-12 AI	APR-17 AI	APR-24 AI	APR-06 MAY		28	5	56043	NONRESIDENTS ALLOWED
1991	1	1/LICENSE		15 APR-18 AI	APR-23 AI	APR-30 AI	MAY-12 MAY		28	5	56043	
1992	1	1/LICENSE		13 APR-16 AI	APR-21 AI	APR-28 AI	APR-10 MAY		28	5	56043	$22 FEE
1993	1	1/LICENSE		12 APR-15 AI	APR-20 AI	APR-27 AI	APR-09 MAY		28	5	56043	
1994	1	1/LICENSE		18 APR-21 AI	APR-26 AI	APR-03 M	MAY-15 MAY		28	4	56043	
1995	1	1/LICENSE		17 APR-20 AI	APR-25 AI	APR-02 M	MAY-14 MAY		28	4	56043	
1996	1	1/LICENSE		15 APR-18 AI	APR-23 AI	APR-30 AI	MAY-12 MAY		28	4	56043	
1997	1	1/LICENSE		14 APR-17 AI	APR-22 AI	APR-29 AI	APR-11 MAY		28	4	56043	
1998	1	1/LICENSE		13 APR-16 AI	APR-21 AI	APR-28 AI	APR-10 MAY		28	4	56043	
1999	1	1/LICENSE		12 APR-15 AI	APR-20 AI	APR-27 AI	APR-9 MAY		28	4	56043	$22.50 FEE, ARCHERS ALLOWED 2 PERMITS
2000	1	1/LICENSE		17 APR-20 AI	APR-25 AI	APR-02 M	MAY-21 MAY		35	4	56043	
2001	1	1/LICENSE		16 APR-19 AI	APR-24 AI	APR-1 MA	MAY-20 MAY		35	4	56043	
2002	1	1/LICENSE		15 APR-18 AI	APR-23 AI	APR-30 AI	MAY-19 MAY		35	4	56043	$23 FEE
2003	1	1/LICENSE		14 APR-17 AI	APR-22 AI	APR-29 AI	APR-18 MAY		35	4	56043	
2004	1	1/LICENSE		12 APR-15 AI	APR-20 AI	APR-27 AI	APR-16 MAY		35	4	56043	
2005	1	1/LICENSE	APR-10 AP	APR-14 AI	APR-19 AI	APR-26 AI	APR-15 MAY		38	4	56043	YOUTH SEASON ADDED
2006	1	1/LICENSE	APR-9 AP	APR-13 AI	APR-18 AI	APR-25 AI	APR-14 MAY		38	4	56043	NW IA ZONE ADDED FOR NONRESIDENTS
2007	1	1/LICENSE	APR-15 AI	APR-19 AI	APR-24 AI	APR-1 MA	MAY-20 MAY		38	1	56043	MANDATORY HARVEST REPORTING, 3 STATE FOREST ZONES ELIMINATED
2008	1	1/LICENSE	APR-13 AI	APR-17 AI	APR-22 AI	APR-29 AI	APR-18 MAY		38	1	56043	NONRESIDENTS ALLOWED TO HUNT 2ND SEASON
2009	1	1/LICENSE	APR-12 AI	APR-16 AI	APR-21 AI	APR-28 AI	APR-17 MAY		38	1	56043	
2010	1	1/LICENSE	APR-11 AP	APR-15 AI	APR-20 AI	APR-27 AI	APR-16 MAY		38	1	56043	
2011	1	1/LICENSE	APR-10 AP	APR-14 AI	APR-19 AI	APR-26 AI	APR-15 MAY		38	1	56043	
2012	1	1/LICENSE	APR-15 AP	APR-19 AI	APR-24 AI	APR-1 MA	MAY-20 MAY		44	1	56043	YOUTH SEASON EXTENDED 6 DAYS
2013	1	1/LICENSE	APR-14 AP	APR-18 AI	APR-23 AI	APR-30 AI	MAY-19 MAY		44	1	56043	
2014	1	1/LICENSE	APR-13 AP	APR-17 AI	APR-22 AI	APR-29 AI	APR-18 May		44	1	56043	Unfilled youth tag valid for other seasons untill filled
2015	1	1/LICENSE	APR-12 AP	APR-16 AI	APR-21 AI	APR-28 AI	APR-17 May		44	1	56043	
2016	1	1/LICENSE	APR-17 AP	APR-21 AI	APR-26 AI	APR-03 M	MAY-22 MAY		44	1	56043	

Table 2.12 Iowa's Fall turkey gun hunting seasons, 1981-present.
Archery only seasons same as deer seasons.

YEAR	BAG LIMIT	POSSESSION LIMIT	SEASON	SEASON LENGTH	# ZONES	# SQ. MILES	MAJOR RULE CHANGES
1981	1	1/LICENSE	21 OCT-01 NOV	12	2	4032	$15 FEE
1982	1	1/LICENSE	19 OCT-31 OCT	13	2	5254	1 GUN & 1 BOW, UNLIMITED BOW PERMITS IN SPRING ZONES
1983	1	1/LICENSE	18 OCT-30 OCT	13	2	5254	HUNTER SAFETY REQUIRED IF BORN AFTER 1 JAN 1967
1984	1	1/LICENSE	16 OCT-28 OCT	13	3	13685	DECOYS LEGAL; WESTERN, CENTRAL & NE IOWA OPEN
1985	1	1/LICENSE	15 OCT-27 OCT	13	3	13685	$20 FEE
1986	1	1/LICENSE	14 OCT-26 OCT	13	6	21575	STEPHENS & SHIMEK SF SPECIAL ZONES, STATEWIDE BOW SEASON
1987	1	1/LICENSE	12 OCT-08 NOV	28	7	21575	2 LICENSES POSSIBLE, YELLOW RIVER SF SPECIAL ZONE
1988	1	1/LICENSE	10 OCT-27 NOV	49	7	25402	
1989	1	1/LICENSE	09 OCT-26 NOV	49	7	29610	NONRESIDENTS ALLOWED
1990	1	1/LICENSE	15 OCT-30 NOV	47	7	39191	
1991	1	1/LICENSE	14 OCT-30 NOV	48	2 OF 7	9060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA), $22 FEE
1992	1	1/LICENSE	17 OCT-29 NOV	44	2 OF 7	9060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1993	1	1/LICENSE	11 OCT-28 NOV	49	2 OF 7	9060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1994	1	1/LICENSE	10 OCT-30 NOV	52	2 OF 7	9060	LICENSES ISSUED FOR ZONES 3 & 6 ONLY (NE IOWA)
1995	1	1/LICENSE	16 OCT-30 NOV	46	7	39191	
1996	1	1/LICENSE	14 OCT-30 NOV	48	7	39191	
1997	1	1/LICENSE	13 OCT-30 NOV	49	7	39191	
1998	1	1/LICENSE	12 OCT-30 NOV	50	7	39191	
1999	1	1/LICENSE	11 OCT-30 NOV	51	8	44056	ZONE 8 ADDED, $22.50 FEE
2000	1	1/LICENSE	16 OCT-30 NOV	46	8	44056	
2001	1	1/LICENSE	15 OCT-30 NOV	47	8	44056	
2002	1	1/LICENSE	14 OCT-30 NOV	48	8	44056	$23 FEE
2003	1	1/LICENSE	13 OCT-5 DEC	54	8	44056	
2004	1	1/LICENSE	11 OCT-3 DEC	54	8	44056	
2005	1	1/LICENSE	10 OCT-2 DEC	54	9	56043	NW IA ZONE ADDED, A 3rd LICENSE AVAILABLE, DOGS ALLOWED
2006	1	1/LICENSE	16 OCT-1 DEC	48	9	56043	MANDATORY HARVEST REPORTING
2007	1	1/LICENSE	15 OCT-30 NOV	47	6	56043	3 STATE FOREST ZONES ELIMINATED
2008	1	1/LICENSE	13 OCT-5 DEC	54	6	56043	
2009	1	1/LICENSE	12 OCT-4 DEC	54	6	56043	
2010	1	1/LICENSE	11 OCT-3 DEC	54	6	56043	
2011	1	1/LICENSE	10 OCT-2 DEC	54	6	56043	
2012	1	1/LICENSE	15 OCT-30 NOV	47	6	56043	
2013	1	1/LICENSE	14 OCT-6 DEC	54	6	56043	
2014	1	1/LICENSE	13 OCT-5 DEC	54	6	56043	
2015	1	1/LICENSE	12 OCT-4 DEC	54	6	56043	

FURBEARERS



Introduction

Iowa supports a wide diversity of native furbearer species including badger (*Taxidea taxus*), beaver (*Castor canadensis*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), mink (*Mustela vison*), muskrat (*Ondatra zibethicus*), opossum (*Didelphis virginiana*), river otter (*Lutra canadensis*), raccoon (*Procyon lotor*), striped (*Mephitis mephitis*) and spotted (*Spilogle putorius*) skunk, red (*Vulpes vulpes*) and gray (*Urocyon cinereoargenteus*) fox, and weasel (*Mustela* spp.). Data regarding population trends for these species is important for effectively evaluating management efforts and the status of furbearer species, statewide. Long-term population data for many furbearer species is difficult to obtain and often lacking at a landscape-scale. However, data such as harvest, road-kill, the bowhunter survey, and spotlight survey indices have shown positive correlations with changes in population abundance for many of these species. The Iowa Department of Natural Resources (DNR) monitors population trends of Iowa furbearer species through the use of 1) annual furharvest reports, 2) April spotlight surveys, and 3) the Iowa Bowhunter Observation Survey.

Each year since 1930, the Iowa DNR collected harvest data for furbearer species from licensed fur dealers in Iowa (Table 1). According to Iowa Code 109.97, every licensed fur dealer is required to report the total number of furs purchased per species from Iowa trappers and hunters by 15 May, annually. Although harvest data may only indicate a trend in population abundance, long-term harvest information provides a retrospective view of the status of various furbearer populations over time. Furthermore, in 1975, in response to debates regarding trapper versus hunter access to furbearer resources in the state, the Iowa DNR required licensed fur dealers to report the percent of raccoon, fox, and coyote pelts purchased from trappers and hunters, respectively. These data are useful in determining the impact of each harvest method on furbearer populations and the impact of weather on total harvest per species.

In 1978, the Iowa DNR began annual, statewide April spotlight surveys for raccoons and white-tailed deer (*Odocoileus virginianus*). Since 1978, the average raccoon harvest in Iowa has equaled or exceeded the average total harvest of all other furbearer species combined. Raccoon pelt values compose a significant portion of the total harvest value in Iowa each year. Thus, the April spotlight survey provides additional and useful data for managing this highly important furbearer species in the state.

Population trend data for furbearer species have also been gathered annually since 2004 through the Iowa Bowhunter Observation Survey. Avid archers were identified *a priori* for survey and provided

statewide observation data for Iowa furbearers during which more than 100,000 observation hours occur annually. Avid archers were considered ideal for collecting observation data because most are 1) experts at stand placement and concealment from wildlife, 2) knowledgeable regarding species identification, 3) in the field many hours each year, and 4) using methods for observing white-tailed deer that lend well to observation of many furbearer species. Although this dataset is relatively new, it provides a repeatable and potentially long-term survey method for supplementing annual furharvest data.

Historic Furbearer Harvest

Prior to the 20th century, beaver furs were one of the most desired pelts on the market due to their thickness, durability, and warmth. However, because of high demand, beavers were overharvested around much of the world, even to extinction in Europe. In Iowa, beaver were extirpated by the turn of the century and populations were closed to harvest, statewide.

At the turn of the century, skunk furs were in high demand, worldwide. The fur trade was thriving as a result of increased visibility of actresses wearing furs and the high social status associated with fur products. However, in the 1930s, the market for skunk furs declined in response to demand for fox furs by the European fashion industry. During the 1930s, muskrat, mink, skunk, and opossum composed the largest proportion of total furbearer harvest in Iowa. By the end of the 1930s, the total skunk harvest in Iowa began to decline whereas the red and gray fox harvests were growing.

In the 1930s and 1940s, the Iowa Conservation Commission (currently the Iowa DNR) initiated a beaver reintroduction program in Iowa. Beavers were live captured and transplanted throughout the state and by 1943, the harvest season for beaver was reopened. During the 1943-44 season, 235 beavers were harvested (Table 4).

By the mid to late 1940s in Iowa, muskrat, mink, red and gray fox, striped and spotted skunk, opossum, coyote, and weasel harvests all faced dramatic declines in response to World War II (WWII). Within 5 years, total harvest collapsed from an all-time high of 418,484 to an all-time low of 135,108. Twelve species composed the total harvests in the early 1940s but during the 1947-48 season, only muskrat, mink, striped and spotted skunk, red and gray fox, and raccoon were reported.

Following WWII, the fur market continued to depreciate as the production cost for labor-intensive fur products exceeded fur values and the need for fur products was replaced by the development of central heating. Society began viewing fur products as a trend characteristic of the previous generation and the demand for fox furs on the European market declined. Mink products, however, were viewed more favorably by the high class resulting in increased demand compared with previous decades.

Although demand was high, mink harvests in Iowa declined sharply in the early 1950s and remained low as a result of extended drought in the region and overall low mink prices, worldwide. Muskrat, striped and spotted skunk, red and gray fox, coyote, opossum, badger, and weasel also faced dramatic harvest crashes; composing less than 5% of the total harvest during the decade. Ultimately, raccoon and muskrat harvests became more stabilized and composed the greatest proportion of the total harvest in the 1950s.

During the 1960s, total harvest increased and was relatively stable in Iowa. Beaver populations had continued to recover with steady harvests averaging 6,800. Beginning in the early 1970s, raccoon, mink, red and gray fox, coyote, opossum, and badger all saw increased harvests. Striped skunk harvest had remained well below the 1930 average during the previous two decades but also showed a stable, yet small recovery. By the 1979-80 season, record total harvests topped 1 million (1,146,311) in Iowa for the first time in recorded history.

Although record furbearer harvests were achieved in the 1970s, spotted skunk populations struggled. Reports from the 1940s indicated that spotted skunk were common in portions of Iowa but by the 1970s, they were considered rare in the state. In 1976, the spotted skunk harvest season was closed, statewide, and the species was ultimately classified as an endangered species in Iowa. Throughout the 1970s and 1980s, the Iowa DNR received only 1 or 2 spotted skunk reports per year.

In the late 1970s and early 1980s, anti-furharvest groups formed and began protesting the development of fur products in the United States. Advertisements and celebrity endorsements were used to build public support against the fur trade. Demand for furs in North America subsequently declined although the fur market in Europe remained less affected.

Throughout the early and mid-1980s, total furharvest in Iowa remained relatively strong. However, by the late 1980s, Iowa experienced extreme drought conditions. When combined with a weak global fur market, statewide harvests for all species crashed. Total reported harvest decreased by 450% in a 4-year period; reaching a low of 216,874 by 1990-91 (Table 1).

Total reported furharvest in Iowa remained low, stabilizing around 275,000 through the 1990s and early 2000s. Total harvest was primarily composed of raccoon and muskrat, as well as beaver, coyote, opossum, red fox, and mink in lower proportions.

In recent years the total fur harvest in Iowa has shown a marked decline since 10-year highs of 375,000 to 450,00 furs in 2011-14 to 276,427 and 148,629 furbearers in 2014-15 and 2015-16, respectively (Table 1). The total harvest in 2015-16 was down from the previous year primarily due to a very weak fur market.

Licensed Furharvesters and Fur Dealers

The average number of licensed furharvesters in Iowa fluctuates with current fur markets (Fig. 1). Generally, as fur prices increase, the number of furharvesters in the state increases in subsequent years, and vice versa in years when fur prices are lower. In 2014-15 the number of licensed furharvesters in Iowa declined to 19,186 from a 10-year high of 20,818 in 2013-14 (Table 2). This decline continued with 16,284 furharvesters in 2015-16 and reflects the downward trend in fur markets.

Over the past 10 years, the number of licensed fur dealers in Iowa has fluctuated from 36 to 49 and is also dependent upon the fur market trends (Fig. 2). In 2015-16, there were 44 dealers; a slight decrease from 2014-15 which was consistent with the fur market trend (Table 2).

Current Fur Market in Iowa

For the upcoming 2016-17 season, the fur market outlook again looks weak which is similar to the previous year. A stark contrast to when the market was relatively strong from 2010 - 2013. Demand is still primarily from Russia, China, and Korea, with several other smaller countries buying fur. Continued instability both politically and economically in several countries of Europe and the Middle East have created a general decline for demand in the global fur market. High quality furs are still prized in the fashion/style industry. Serious declines in the demand for ranch mink led to surpluses and softened the wild fur markets. The trim trade for longer haired pelts such as coyotes has done okay. Raccoon pelt inventories are more cleared out than last year so the average price for raccoon pelts sold in 2016-17 has a chance to go up slightly. Prices for wild bobcat, mink, coyote, red fox, beaver, and otter are expected to remain somewhat poor to decent in 2016. Muskrat prices will remain fair to poor. Demand for striped skunk and weasel has slowly declined over recent years and may continue that trend in the following year.

In 2015-16, furbearer prices and number of pelts sold in Iowa followed current furbearer market trends. Average pelt prices decreased for all species and most fetched only 50% of their value from the previous year (Table 3). The total value for all species of pelts sold in Iowa also decreased substantially from the previous year $2,905,703 to $926,640 in 2014 to 2015, respectively (Table 4). Mink, raccoon, and red fox prices in 2015 were below the 5-year and long term pelt price averages. While muskrat prices in 2015 were below the 5-year average but slightly above the long term average (Table 4).

2015-16 Furharvest Season in Iowa

Annual and long-term weather events, habitat, and disease significantly impact furbearer populations and harvest success in Iowa. Precipitation, water levels in wetlands and waterways, and time of freeze-up especially affect aquatic furbearer harvests throughout the state. Muskrat and beaver populations are typically cyclic and historically fluctuate following wet/dry periods; resulting in fluctuating annual harvests.

Terrestrial furbearer (coyotes, fox, badger, etc.) harvests are impacted by the severity of winters, level of snow cover, and the duration of extreme temperatures because it effects daily animal movement. The severity of harsh winter weather has also been shown to limit hunter and trapper effort in some years. Typically, trapping and raccoon hunting success is greater during mild winters in which snow cover is minimal. Inversely, hunter success harvesting coyote and fox increases during years of extended snow cover. Ultimately, consideration of annual weather is important for analyzing harvest trends and developing sound management strategies for furbearers in Iowa.

The weather for furharvesters during the fall and winter of 2015-16 was quite different than the previous year which experienced a hard freeze by the second week of November in 2014. In 2015, conditions were generally good heading into November. However, most of the state received some wind and rain by the second week of November. By mid-November, many waterbodies in the north half of the

state were starting freeze over which is normal. In the northern half of the state, snow and freezing temperatures arrived in mid to late December. While temperatures remained milder in the southern half of the state well into January. In general, the weather was ideal for trapping furbearers throughout the state for much of the season. However, low fur market prices reduced trapper effort significantly during the 2015-16 furharvest season. This in turn resulted in low harvests of nearly every species that are comparable to totals seen during the late 1960s (Table 1).

The gray fox harvest (44) in 2015-16 declined from the 2014-15 season (182) and was more typical of the low harvest experienced from 2010 - 2013 (Table 1). We will continue to monitor the gray fox harvest and population. Regional (Midwest) research is on-going on this matter which will begin to help answer questions about the cause of their decline over that past 10 years.

The proportion of pelts purchased by Iowa fur dealers from trappers was higher than those harvested by hunters for raccoon (68% and 32%), and fox (73% and 27%), however hunters harvested slightly more coyotes (60%) than did trappers (40%) in 2015-16 (Table 5). Bobcat harvest by hunter versus trapper is recorded but is not complete because several animals are kept for taxidermy purposes. The total number of coyotes harvested decreased slightly from the previous year but was still nearly double the harvest in 2011-12. A rise in the coyote population coupled with cold weather, snow cover, plus decent fur market prices were likely reasons for another high harvest for 2015-16 (Table 1).

The following sections cover 2015 - 16 harvest and populations trends for each specific furbearer species

Raccoon

Raccoon harvest in the 1930s was relatively low and comprised only 3% of the total harvest (Figure 3). By the mid to late 1940s, raccoon harvests had tripled; comprising a significant portion of the total harvest (14%) for the first time. Harvests steadily increased throughout the next two decades but remained relatively low until the early 1970s. During the 1970-71 season, raccoon harvest totaled approximately 94,000. By 1974, raccoon harvests had boomed, experiencing a 300% increase to 292,064 (Table 1). Although harvests had climbed to nearly 100,000 during the previous 2 decades, populations were steadily increasing. Corn was being planted on more and more acres creating an abundant food source. High harvest rates likely minimized disease outbreaks such as distemper, helping to maintain healthy populations as well. By the 1986-87 season, harvests reached a current, all-time high of 390,773. However, within 3 years, harvests crashed to 103,468 (a 378% decline) as a result of poor market prices and regional drought. Average harvest throughout the 1990s and mid-2000s remained around 129,000. In 2010-2011, harvests again peaked to 236,943 when the fur market trended upward (Table 7).

In 2015-16 the statewide harvest for raccoons was 89,061 and has decreased by ~100,000 annually since 2013-14 (Table 7). The raccoon trapping and hunting season length was six days shorter (7 Nov-31 Jan), but daily bag limits (no limit) and possession limits (no limit) remained the same (Table 6). The average raccoon pelt price in Iowa was $4.53 ($1.00-$8.00), which was 50% of the 2014-15 price ($10.66; Figure 4; Table 3). Trapping accounted for 68% of the total harvest, down

10% from the previous season, while hunting accounted for the remaining harvest (32%, Table 5).

The 2015 Iowa Bowhunter Observation Survey indicated populations increased slightly throughout central and northeastern regions of the state, but remained stable elsewhere (Figure 5). Results from the 2016 April spotlight survey indicated the overall statewide raccoon population trended upward (3% increase) from the previous year and exceeded the 5-year average (Figure 6; Table 7). However, individual county by county April 2016 spotlight surveys also showed results varied in Iowa with some regions increasing and some regions decreasing (Figures 7 and 8). This correlated with several field reports from those regions of Iowa of distemper outbreaks the previous Fall. Coon numbers in most regions are expected to be higher in 2016-17.

Muskrat

Since the 1930s, muskrat consistently composed the greatest proportion of the total annual harvest in Iowa (Table 1). Average pelt prices have remained consistently low compared with species such as raccoon, mink, and red fox (Table 4). However, because of the historically high muskrat population in the state and high rate of harvest over time, muskrat furs averaged 25% of the total harvest value in recorded history.

Fluctuations in the total annual furbearer harvest have primarily been due to the cyclic behavior of muskrat populations. Historic muskrat populations in Iowa fluctuated greatly following wet and dry periods. Droughts in the 1930s, 1950s, and late 1980s suppressed muskrat populations in the state. However, in subsequent wet years, populations quickly rebounded due to the prolific reproductive capacity of the species.

In 1979-80, muskrat harvest in Iowa reached a current, all-time high of 741,403 (Figure 9). Harvests varied throughout the early and mid-1980s but by the 1987-88 season, extreme drought, poor wetland conditions, and a suppressed fur market resulted in significantly depressed populations and a 30-year-low harvest. Excessive precipitation in the early 1990s improved habitat and by the mid-1990s, populations had steadily rebounded. In the late 1990s, wetland conditions began to deteriorate as increasing/stable, high water levels degraded marsh vegetation and habitat. Harvests again declined to pre-1993 levels and remained low; averaging 68,500 through the 2000s. In 2010-11, the muskrat harvest reached a decade high of 98,079, yet still remained well below the long term average.

In 2015-16, the muskrat harvest was 33,327, which was a decrease from the previous season (44,175, Table 1). For 2015 -16, the decrease in harvest is likely due to the low pelt value, because the population was actually up from the previous year in many parts of the state. However, from 2004-14 average pelt price increased, but harvest did not increase significantly which indicates the muskrat population statewide is trending downward (Figure 10).

Trapping season length (7 Nov-31 Jan), daily bag limits (no limit), and possession limits (no limit) remained similar to those in previous years (Table 6). For 2015-16, the average muskrat pelt price in Iowa was $2.35 ($0.90 – 4.00), which was 50% of the 2014-15 price ($4.79; Figure 10; Table 3).

Drought conditions in 2011 thru 2012 significantly decreased water levels in

wetlands and subsequently suppressed muskrat populations and total harvest. There is also concern whether other environmental factors are suppressing the muskrat population as well. Muskrat populations have increased with the generally wetter weather conditions that occurred in 2015, but not to the level or widespread distribution seen in the past. This concern is not unique to Iowa. Further studies of muskrats will likely be underway in the Midwest over the next few years.

Coyote

Coyote harvest in the 1930s was nearly non-existent in Iowa and totaled only 517 animals throughout the entire decade (Figure 11). Harvests increased in the 1940s and averaged 374 per year, but by the 1950s, had once again dropped off. Through the 1950s and 1960s, harvests averaged fewer than 75 animals per year with annual harvests as low as 10 per year. Beginning in the 1968-69 season, coyote harvests boomed and by 1976-77, reached a current, all-time high of 12,226 (Table 1). Since the late 1970s, harvests gradually decreased in the state but remained high in comparison to previous decades. Except for a dramatic decline in the late 1980s, harvests through the late 2000s averaged 6,800, well above the long-term average (4,207) (Figure 11).

In 2015-16, the coyote harvest was 13,158, which was a slight decline from the previous season's harvest but well above recent and long-term averages (Table 1). The trapping and hunting season length (trapping: 7 Nov-31 Jan, hunting: year round), daily bag limits (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). The average coyote pelt price in Iowa was $20.36 ($6.65 – 30.00), which was slightly lower than the 2014-15 price ($24.67; Table 3). Coyote pelts have had the smallest loss of value during the recent market decline. Trapping accounted for a lower proportion of the harvest (40%) than hunting (60%) which is a slight decrease from the previous season (Table 5). Ideal hunting conditions mainly occurred in January and February with significant snowfall to portions of the state.

The Iowa Bowhunter Observation Survey indicated the statewide population trended upward in 2015 throughout northeast and north central regions of the state, and remained relatively stable elsewhere (Figure 12). Statewide, coyote population trends from 2012 to 2015 appear to be remaining quite high for many regions of the state, especially the southwest. In 2015, there was a similar number of reports to 2014 from towns and cities in Iowa that urban coyotes were living within city limits and a cause of concern with residents and city officials.

Red Fox

Red fox harvests through the mid-1940s averaged approximately 6,900 in Iowa (Figure 13). Steady declines throughout the late 1940s and 1950s resulted in an all-time low harvest of 1,147 during the 1958-59 season. Harvest numbers rebounded in the 1960s and in the 1968-69 season, reached a current, all-time high of 27,661. Harvests fluctuated sharply throughout the next two decades but remained high, averaging 19,000 through the mid-1980s. In the late 1980s, red fox harvests began a steady declined and since the 2004-05 season, remained below the long-term average of 10,631.

In addition to depressed fur markets in the 1980s, recent red fox population declines in Iowa have been attributed to

three occurrences. Since the early 1980s, mange has remained persistent in red fox populations and suppressed population recovery in the state. Secondly, habitat loss especially grasslands hurt fox populations. Furthermore, high coyote populations have resulted in encroachment on areas historically considered red fox habitat, increased competition for food and den sites, and increased predation by coyotes.

In 2015-16, the red fox harvest was 1,581, which is down from the previous season, half of the 5-year average, and 15% of the long-term average (Table 1). Trapping and hunting season length (7 Nov-31 Jan), daily bag limits (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). The average red fox pelt price in Iowa was $10.85 ($5.00 – 20.00), which was lower than the 2014-15 price ($20.14; Table 3). The average pelt price has remained higher than the harvest since 2005 which indicates the fox population statewide is still relatively low but stable (Figure 14). Trapping accounted for 73% of the total harvest (red and gray fox), which was lower than the previous season (Table 5). Hunting accounted for 27% of the total harvest (red and gray fox).

The 2015 Iowa Bowhunter Observation Survey indicated that population trends throughout most regions of the state were similar to previous years; northwest, central, and northeast showed a slight increase (Figure 15).

Gray Fox

Gray fox harvests in Iowa have followed similar trends to those of red fox, although historically, populations have existed at significantly lower numbers (Figure 16). During the 1930s and 1940s, harvests averaged around 1,300. Gray fox harvests dropped below 1,000 in the late 1940s and remained low until the early 1970s. Harvests steadily increased and during the 1979-80 season, reached a current, all-time high of 3,093. Whereas red fox harvests remained high throughout the 1980s, gray fox harvests have since dramatically declined (Fig. 16). Since 1996-97, gray fox harvests have remained below their long-term average of 866. In 2009-10, gray fox harvests reached an all-time low of 13 in Iowa (Table 1).

In 2015-16, the gray fox harvest was 44, which was lower than the previous season's harvest and well below the recent and long-term averages (Table 1). Trapping and hunting season length (7 Nov-31 Jan), daily bag limits (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). The average gray fox pelt price in Iowa was $8.49 ($3.00 – 15.00), which was lower than the 2014-15 average price ($15.36; Table 3). Trapping accounted for 73% of the total harvest (red and gray fox), which was lower than the previous season (Table 5). Hunting accounted for 27% of the total harvest (red and gray fox).

The 2015 Iowa Bowhunter Observation Survey indicated that populations across most regions of the state remain low (Figure 17). Recent research has been initiated in the Midwest to look at genetic differences in gray fox subspecies and may lead to further research on population limiting factors.

Beaver

By the early 20th century, beaver were extirpated from Iowa. Harvest seasons remained closed throughout the 1930s and early 1940s while a statewide translocation and reintroduction program occurred. In 1943, the beaver harvest season was

reopened and 235 were harvested (Figure 18). Beaver harvests averaged 450 through the late 1940s and by the early 1950s, began a steady upward trend. Harvests reached a current, all-time high of 18,459 during the 1988-89 season (Table 1). Harvests declined in the early 1990s although quickly stabilized, averaging 10,800 through the early 2000s. Harvests progressively declined in the 2000s and dropped below the long-term average (7,085) during the 2004-05 and 2006-07 through 2010-11 seasons (Fig. 18).

In 2012-13, the beaver harvest reached an 19-year high of 15,457; a number similar to the harvests recorded during the 1990s (Table 1). The harvest in 2015-16 declined to 4,021 from 4,591 in 2014-15. Trapping season length (7 Nov-15 Apr), daily bag (no limit), and possession (no limit) limits have remained the same since the season was extended from April 1st to April 15th in the spring of 2012 (Table 6). The 2015-16 average beaver pelt price in Iowa was $7.62 ($2.61 – 20.00), which was lower than the 2014-15 price ($9.51; Table 3).

Mink

The proportion of mink in the total Iowa fur harvest has remained relatively constant since the 1930s (Figure 19). Mink harvests reached a current, all-time high of 60,397 during the 1946-47 season as a result of a sudden increase in value from the previous season ($6.75 to $28.16 per pelt). During World War II, European demand for furs collapsed and within 2 seasons, Iowa mink harvests dramatically fell to 16,571. Mink harvests stabilized in the early 1950s and averaged around 16,000 through the next 4 decades. Since the mid-1990s, mink harvests have remained below the long-term average. Harvests in the early and mid-2000s showed a steady decline although in 2010-11, topped the 5- and 10-year averages at 11,262 (Figure 19). Mink harvest did not go up when the mink pelt prices rose in value in 3 consecutive years (2011 – 2013) (Figure 20) indicating either low trap effort for wild mink or low populations or both.

The 2015-16 mink harvest was 4,545 which is a decrease from the 5,332 in the previous season (Table 1). The 2015-16 harvest was below the 5- and 10-year averages, and long-term average (Table 1). Again, fur prices, rather than the population level, reduced trapper effort for mink and resulted in the harvest being down. Disease threats to wild mink are another factor that may impact the mink population negatively, but the extent of that impact is unknown at this time. The trapping season length (7 Nov-31 Jan), daily bag (no limit), and possession (no limit) limits remained similar to those in 2014-15 (Table 6). The average mink pelt price in Iowa was $5.42 ($1.00 – 20.00) in 2015-16, which was lower than the 2014-15 price ($8.77; Table 3).

Opossum

During the 1933-34 harvest season, the opossum harvest reached a current, all-time high of 83,625 (Figure 21). In the preceding and following years, harvests more typically averaged around 30,000. In the late 1940s, harvests significantly declined, reaching an all-time low of 953 in 1958-59. Opossum harvests remained below 10,000 until the early 1970s, when harvests again reached numbers comparable to those seen in the mid-1940s. In the late 1980s, harvests decreased again and have

remained below the long-term average (14,549) from the 1990s to present.

The 2015-16 opossum harvest was 940, which was half of the harvest in the previous season and below the 5-year, 10-year and long-term averages (Table 1). Trapping season length (7 Nov-31 Jan), daily bag (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). The average opossum pelt price in Iowa was $0.85 ($0.25 – 1.50), which was slightly lower than the 2014-15 price ($1.33; Table 3).

The 2015 Iowa Bowhunter Observation Survey indicated the population may be trending upward in southern Iowa, but is stable or slightly declining in the rest of the state (Figure 22).

Badger

Although an all-time low badger harvest occurred in 1932-33 (17), stable harvests averaging 450 per year were recorded from the mid-1930s until the mid-1940s (Figure 23). Harvests declined in subsequent years and averaged below 100 throughout the 1950s. By the late 1960s, badger harvests reached levels comparable to those recorded in the early 1940s. In the 1970s, harvest rates boomed in Iowa, reaching an all-time high of 3,274 during the 1979-80 season. Harvests remained high throughout the 1980s but ultimately crashed to below 500 by the early 1990s. Harvests fluctuated around the long-term average (670) throughout the 1990s and 2000s. The long term trend in the badger harvest is increasing (Fig. 23).

In 2015-16, the badger harvest was 289 which was 30% of that in the previous year (957, Table 1) and below the recent and long-term averages for Iowa. Trapping season length (7 Nov-31 Jan), daily bag (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). For 2015-16, the average badger pelt price in Iowa was $8.78 ($3.00 – 20.00), which was slightly lower than the 2014-15 price ($12.01; Table 3).

The 2015 Iowa Bowhunter Observation Survey indicated that populations have trended upward in northwestern Iowa and were stable to lower in other regions of the state (Figure 24). Populations in western Iowa have typically remained a little higher than the remainder of the state in most years.

Spotted Skunk

Spotted skunk (also called civet cat) was proportionally one of the top 4 most harvested furbearer species throughout the 1930s in Iowa. In 1933-34, an all-time record 88,532 were harvested (Table 1). In 1946-47, the spotted skunk harvest crashed, although similar trends were recorded for most furbearer species in the state (Figure 25). Harvests stabilized around 1,700 in the 1950s and remained low throughout the decade. Many furbearer species began to show improvements in harvest numbers by the mid-1960s, but spotted skunk populations began a further decline. In 1976, the spotted skunk harvest season was closed and the species was classified as an endangered species in Iowa. During the 1970s and 1980s, 1-2 spotted skunk sightings were reported to the Iowa DNR per year. Since 1992, the only reported sighting in the state was a road kill individual in Ringgold County in southwest Iowa. We do get an occasional report of one in southern Iowa, but have not been able to verify any of them to this point. In 2014; two to three spotted skunks were reported/documented in the Camp Dodge

area on 7/20/14. This was the first documented case of spotted skunks in Iowa in the past 20 years. In 2016, a roadkill spotted skunk was confirmed in Sac County. This animal was retained and kept for genetic study. Outside of that, spotted skunk numbers are nearly non-existent in Iowa. This is likely due to habitat changes and changes in farming practices. Time will tell if more ever show up in Iowa, but the outlook for that to occur is probably unlikely.

Striped Skunk

Striped skunk was proportionally the second most harvested furbearer species during the 1930s in Iowa. In 1936-37, an all-time record harvest of 153,497 was reported, although over the subsequent decade, harvest numbers for striped skunk steadily declined (Figure 26). By the early 1950s, harvests dropped below 10,000 and have generally averaged below 1,000 since 2008-09.

In 2015-16, the striped skunk harvest was 386, which was down from the previous season and below the 5-year average (869) and the long-term average (755, Table 1). Trapping season length (7 Nov-31 Jan), daily bag limits (no limit), and possession limits (no limit) remained similar to those in 2014-15 (Table 6). The average striped skunk pelt price in 2015-16 for Iowa was $2.53 ($0.50-7.00), which was down from the 2014-15 price ($4.18; Table 3).

The 2015 Iowa Bowhunter Observation Survey indicated the population increased in the northwest and was stable in most other regions (Figure 27). Populations have been highest in western and south-central portions of the state and relatively lower in central and eastern portions since the mid-2000s. Although the observation survey indicates that decent numbers exist in Iowa, low market prices for skunk furs likely have kept harvest relatively low in comparison to species (e.g., badger) which remain at low population numbers yet produce relatively high harvests due to good fur prices.

Weasel

Weasel harvests during the 1930s and 1940s were characterized by dramatic fluctuations (Figure 28). In 1936-37, just 4 years following a decade low harvest of 256, the weasel harvest reached a current, all-time high of 7,190. Harvests averaged 4,400 in the early and mid-1940s but by the mid-1950s, had dropped below 500 per year. Weasel harvests steadily decreased during the next 3 decades and in 1976, the harvest season was closed in Iowa. In 1987, the weasel harvest season was once again reopened, although the first reported harvested weasels did not occur until 2009-10. Harvests in 2009-10 and 2010-11 were 56 and 7, respectively, characteristic of the low harvest numbers reported throughout the 1960s and 1970s.

In 2015-16, the reported weasel harvest was 50 animals (Table 1). Although in should be noted that trappers keep at least some of their weasel pelts and don't sell them. Trapping season length (7 Nov-31 Jan), daily bag (no limit), and possession (no limit) limits remained similar to those in 2014-15 (Table 6). The average weasel pelt price in 2015-16 for Iowa was $0.53 ($0.50 – 7.00), which was lower than the 2014-15 price ($2.67; Table 3).

Low harvest numbers may indicate that statewide populations have not recovered since the 1970s. However, it is also likely that trappers have not yet targeted the species to any great extent since the

harvest season was reopened in 1987 due to the low value of weasel pelts. Weasels are extremely hard to survey for population size estimates, right now, little is known about their population size.

River Otter

Except for small remnant populations along the Upper Mississippi River, the river otter was extirpated from Iowa by the early 20th century. In 1985, the Iowa DNR and partners initiated a reintroduction program in which 16 otters were released at Red Rock Reservoir in Marion County. Due to state regulations, the Iowa DNR was not able to directly purchase otters from Louisiana. A compromise was reached between Iowa, Kentucky, and Louisiana in which Kentucky purchased the otters from Louisiana ($400/otter) and Iowa traded wild turkeys to Kentucky (2 turkeys/otter) in exchange for the otters.

Between 1985 and 2003, a total of 345 otters were released throughout the state. By 2006, otter populations had expanded statewide. The Iowa DNR created the first regulated otter trapping season in 2006. The harvest quota was set at 400 animals (limit of 2 per licensed furharvester) and a 72-hour reporting grace period was established until the quota was met (Table 8). The 2006 harvest exceeded the quota by 66 otters so in 2007, the reporting grace period was shortened to 24 hours. The shortened grace period proved effective as the 2007 harvest exceeded the quota by only 16 animals. Harvest quotas were increased to 500 for the 2008, 2009, and 2010 seasons with harvests totaling 495, 519, and 515 per year, respectively.

In 2011, the harvest quota was set at 650 with a limit of 3 otters per licensed furharvester. A total of 770 otters were harvested (28 from unknown sources) which exceeded the quota due to inconsistencies in harvest reporting among individuals (Figure 29).

For 2012, the otter harvest quota was increased to 850. A total of 974 otters were harvested.

For the 2013-14 trapping season, the otter harvest quota was lifted for the first time and the general furharvest season timing and length was used; however the bag limit was reduced from 3 otters down to 2 otters per trapper. The 2013-14 otter harvest was 1,165.

The statewide otter harvest decreased to 835 and 692 in 2014-15 and 2015-16, respectively. County by county harvest is documented through CITES tag harvest reports which shows the highest otter harvests again occurred in eastern Iowa (Figure 29).

The average otter pelt price in 2015-16 for Iowa was $19.74 ($10.00 – 30.00), which was lower than the 2014-15 price ($31.91; Table 3).

Since the trapping season was established in 2006, the sex ratio of harvested otters has remained relatively even (Figure 30). Foothold traps, conibear traps, and snares were the most common harvest method in the state (Figure 31; Table 9). The number of furharvesters intentionally targeting otters is slowly increasing, but incidental captures appear to be the most common cause for capture in Iowa at this time (Figure 32 and 33).

The Iowa Bowhunter Observation Survey is somewhat useful for otters, but not as much (correlated) as it is for other upland furbearer species that are more readily viewed by bowhunters. It is still a useful

survey to gauge regional population trends. The 2015 bowhunter survey indicated that population trends increased modestly in many regions, but were down in some eastern regions (Figure 34).

Otter populations appear to be quite variable from region to region throughout Iowa, but generally doing very well. With the pelt value down during the 2015 -16 season, the harvest was down from the previous year which was most likely due to lowered trapper effort, not a decline in the population. We will continue to gauge population trends however. At this time, the trapping regulations in place for the otter harvest are reasonable. However if data indicates the otter population is trending steadily downward or upward; then more restrictive or liberal harvest will be implemented. For otter, trapping is an especially effective population management tool because otter do not have many natural predators in Iowa but can be successfully trapped. The otter population must be managed to also fit social acceptance especially with pond owners and fishermen.

Bobcat

Three felid species including bobcat, Canada lynx, and mountain lion were native to Iowa, although historically, bobcats were most common. By the 1930s, only small remnant populations of bobcat remained scattered throughout the state, particularly in northeast Iowa. Between the 1940s and 1980s, bobcat sightings were exceedingly rare and the species was likely nearly extirpated for extended periods of time.

Since the early 1990s, bobcat sightings, road kills, and incidental captures by trappers had progressively increased in Iowa. By the early 2000s, confirmed bobcat sightings were recorded in 44 counties, primarily in southern Iowa and along the Mississippi and Missouri River. Populations were naturally expanding in Iowa, which was similarly being documented in Missouri, Nebraska, and Kansas. In 2003, the Iowa DNR concluded that populations had steadily increased and stabilized; therefore bobcats were delisted as a threatened species in the state. Over the next 2 years, bobcat sightings continued to increase. By 2005, confirmed sightings had been recorded in 78 counties.

In 2007, the Iowa DNR created the first regulated bobcat harvest season in the state. The harvest quota was set at 150 animals (limit of 1 per licensed furharvester) and a 24-hour reporting grace period was established until the quota was met (Table 10). Bobcat harvest was limited to the bottom two tiers of counties in Iowa (21 counties). The 2007 harvest included 149 bobcats plus an additional 5 road kill individuals.

Harvest quotas were increased to 200 bobcats during the 2008 and 2009 seasons with harvests totaling 232 and 231, respectively. Woodbury, Monona, Harrison, and Pottawattamie counties along the Missouri river were added to the open zone. In 2010, harvest quotas were further increased to 250 and a total of 263 bobcats were reported. The 2010 open zone was expanded to include the bottom 3 tiers of counties in Iowa plus Guthrie County in south-central Iowa. In 2011, the harvest quota was set at 350 (limit of 1 per licensed furharvester) and the open harvest zone remained similar to the 2010 zone (Figure 35).

In 2012, the harvest quota was set at 450. The bobcat harvest in 2012 was 528 (Table 10). The bobcat harvest quota was lifted for the first time in the 2013-14 fur season and the general trapping season

length and timing were used; as it was for otters also. Bobcats can be trapped or hunted. The 2013-14 harvest for bobcats was 978 (Table 10).

Since then, the bobcat harvest has decreased to 706 and 535 in 2014-15 and 2015-16, respectively. The average bobcat pelt price in Iowa for 2015-16 was $32.29 ($15.00 – 60.00), which was lower than the 2014-15 price ($44.57) but still the highest average value per pelt of all Iowa furbearer species (Table 3). Harvest was highest in southcentral and southeast regions of Iowa (Figure 36). Despite the season being open 84 days in 2015-16, the highest rate of harvest occurred in November and decreased in December and January with the most harvest occurring on weekends and holidays (Figure 37). Only 33 bobcats were harvested by gun deer hunters, which was fewer than expected.

Since the bobcat harvest season was established in 2007, the sex ratio of harvested bobcats has remained relatively even, with a slightly higher proportion of females harvested (50%), than males (43%) (Figure 38). Snares, conibear traps, and foothold traps were the most common trapping method and archery the most common hunting method in the state (Figure 39; Table 11). The number of bobcats intentionally harvested has been slowly increasing and exceeded incidental harvest for the first time in 2015-16 (Figure 40 and 41).

The 2015 Iowa Bowhunter Observation Survey indicated that since regulated bobcat trapping began in 2007, populations have remained fairly stable throughout the state, with the southeast, central, and northwest regions showing a slight upward trend and other regions showing a stable or decrease (Figure 42). Regional population trends are highest throughout southern Iowa. This is consistent with data documented from research, harvest, road kills, incidental trapping captures, and habitat modeling. Populations appear higher in west-central Iowa along the Missouri River which is further supported by good harvest numbers in Monona and Harrison counties. Recovery in central and northern Iowa has been slow but fairly consistent. Lower numbers of bobcats in these regions of Iowa is mainly due to a lack of ideal habitat when compared with southern Iowa.

Bobcat populations have remained good throughout the state where ideal habitat exists especially in southern and western Iowa. Time will tell if bobcats naturally spread into northeast Iowa where additional good habitat is available. For 2016-17, the bobcat harvest season will remain the same as it was for the 2015-16 season, no quota and the limit remaining at 1 bobcat per licensed furharvester. The 2016-17 harvest season will be open with the regular fur harvest season (5 Nov – 31 Jan).

Figure 1. Number of licensed Iowa furharvesters and total harvest value in Iowa (2001-present).

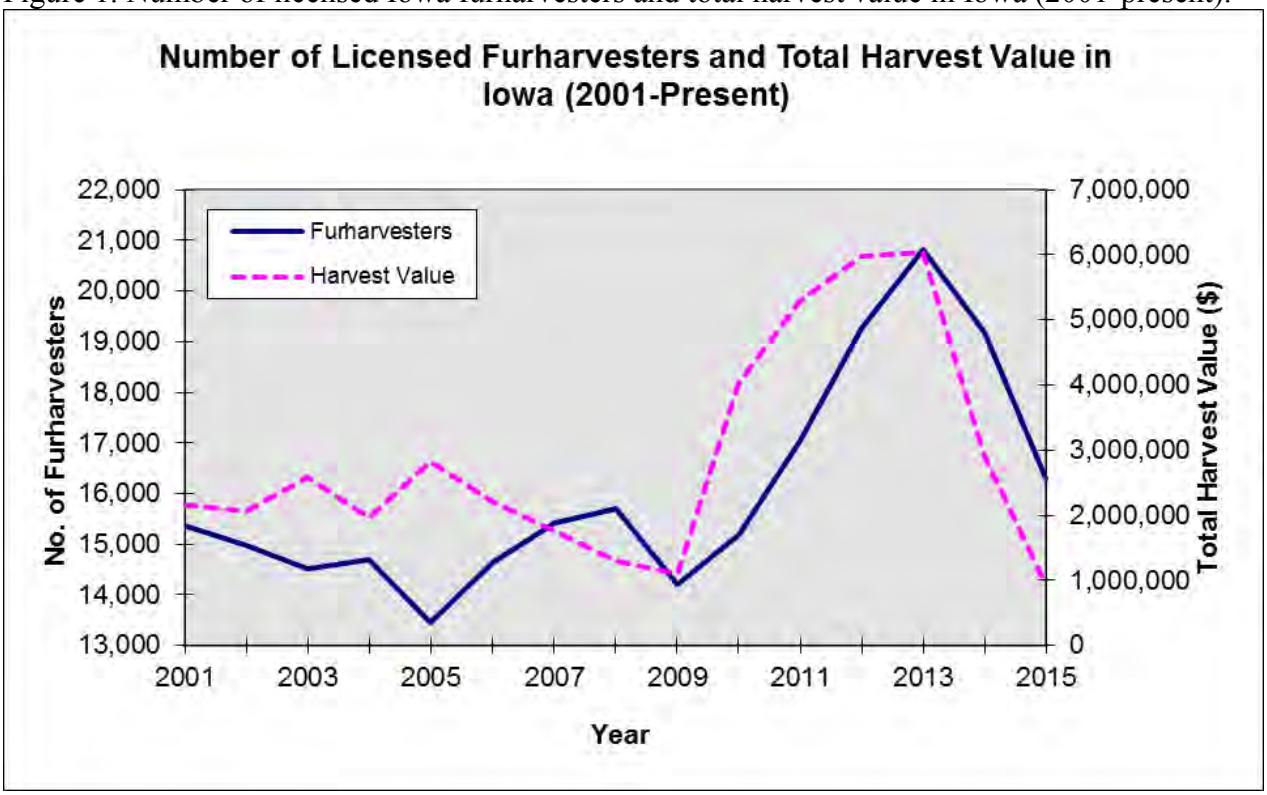


Figure 2. Number of licensed Iowa fur dealers and total harvest value in Iowa (2001-present).

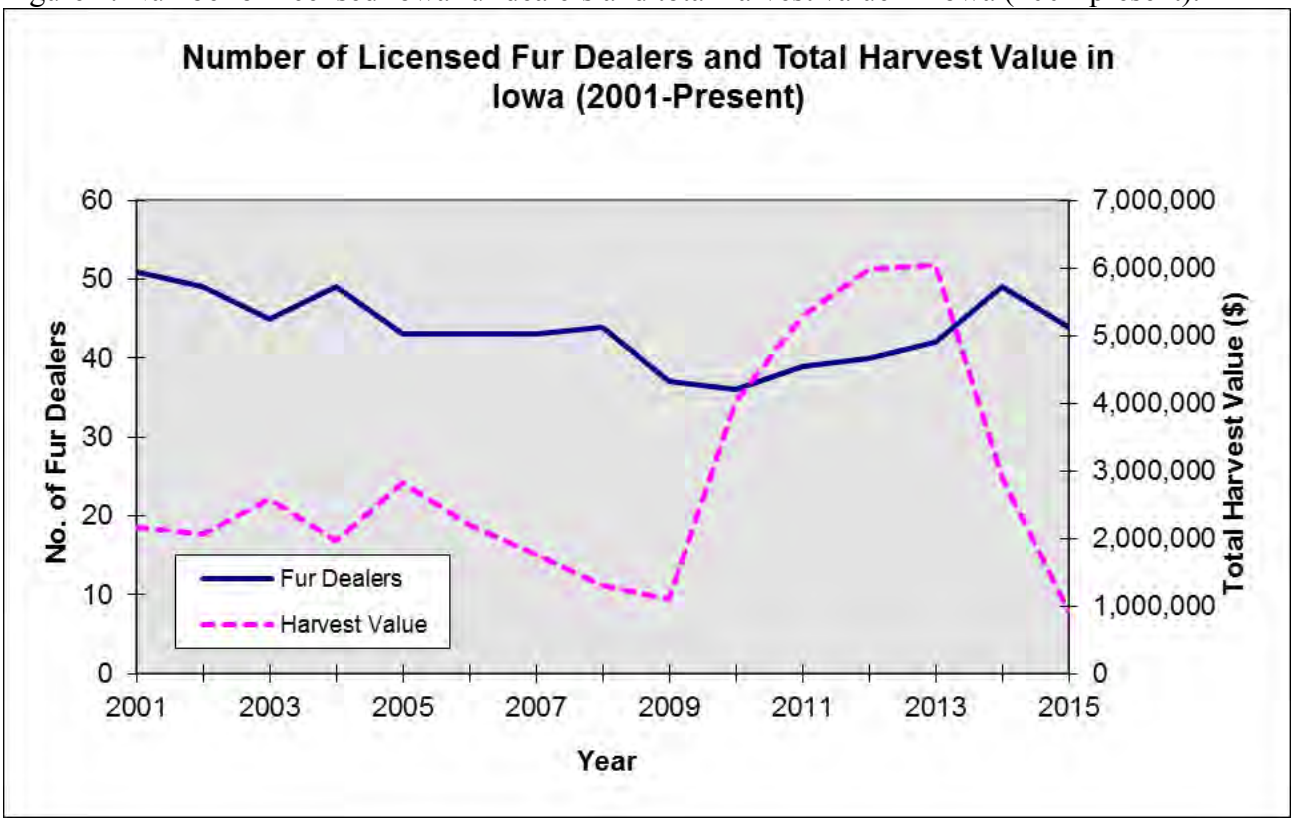


Figure 3. Annual raccoon harvests reported by licensed fur dealers in Iowa (1930-present).

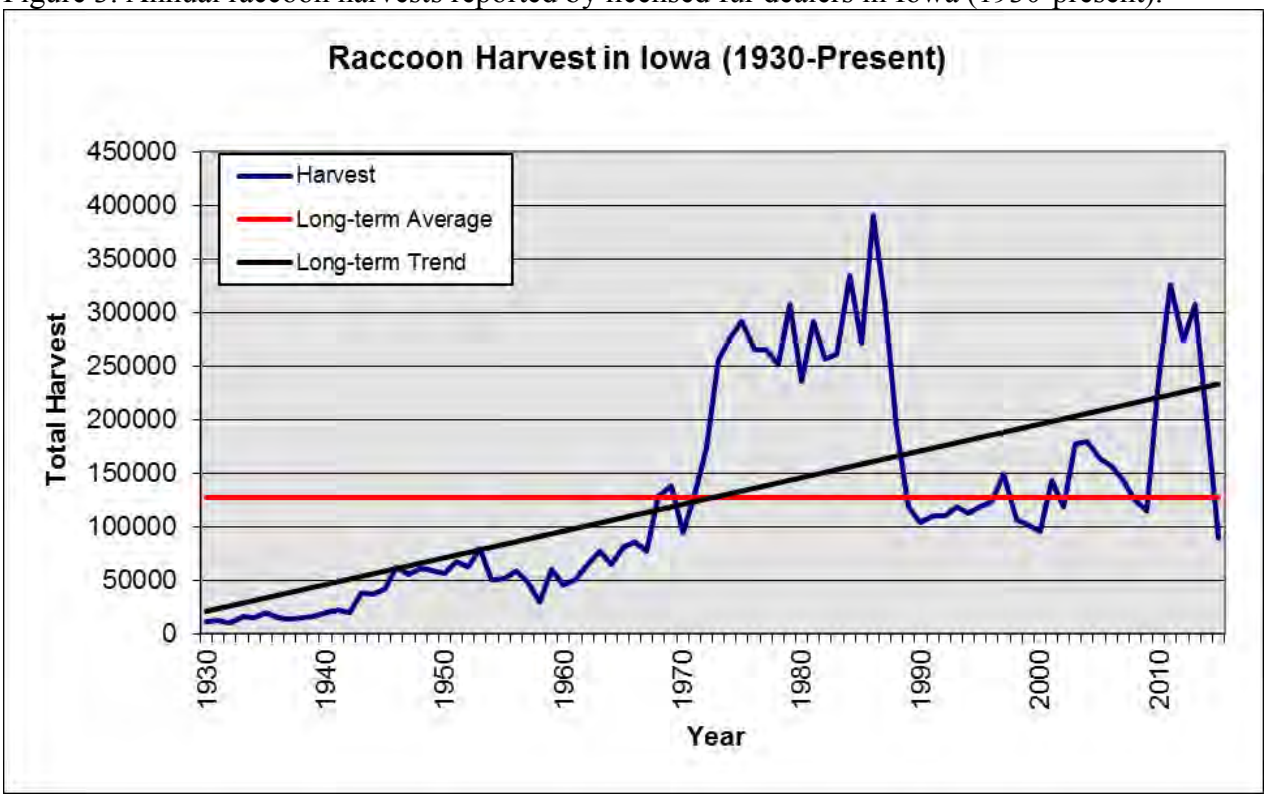


Figure 4. Raccoon harvest in Iowa and average pelt price paid by fur dealers (1977-present).

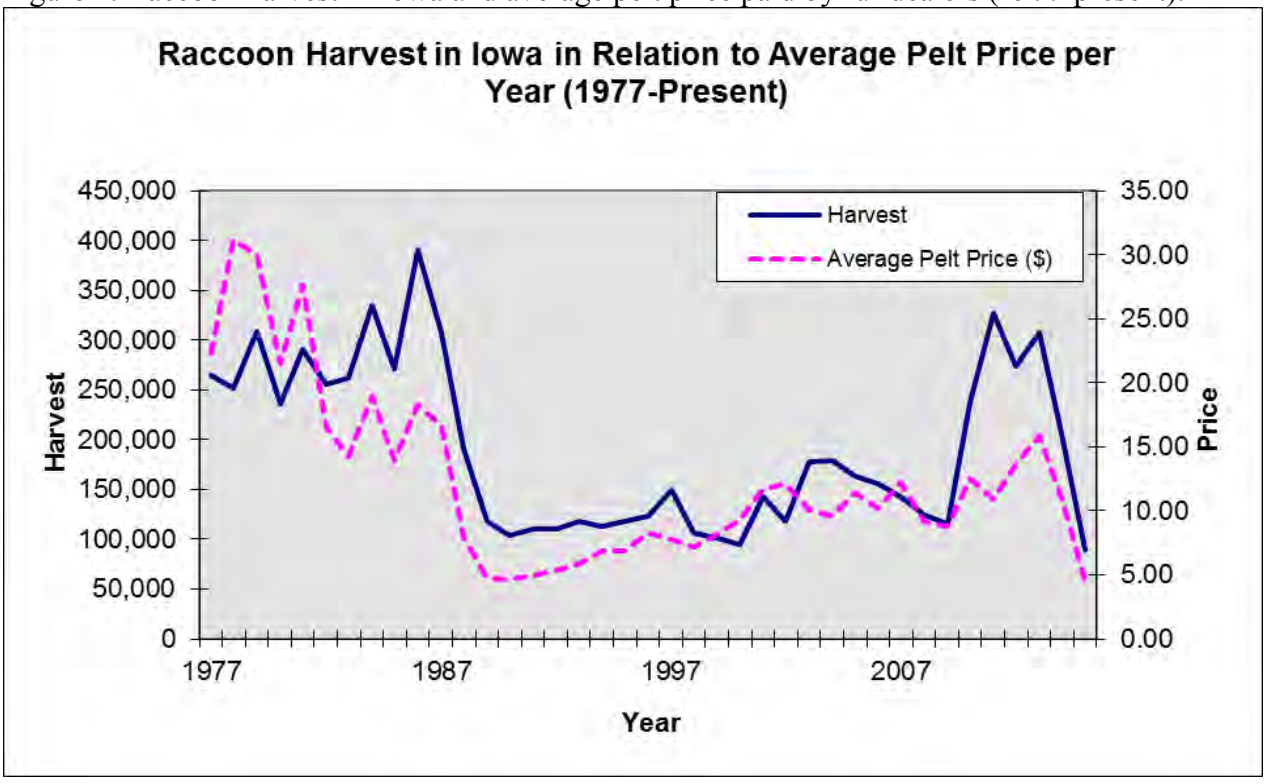


Figure 5. Results of raccoon Bowhunter Observation Survey in Iowa (2004-present).

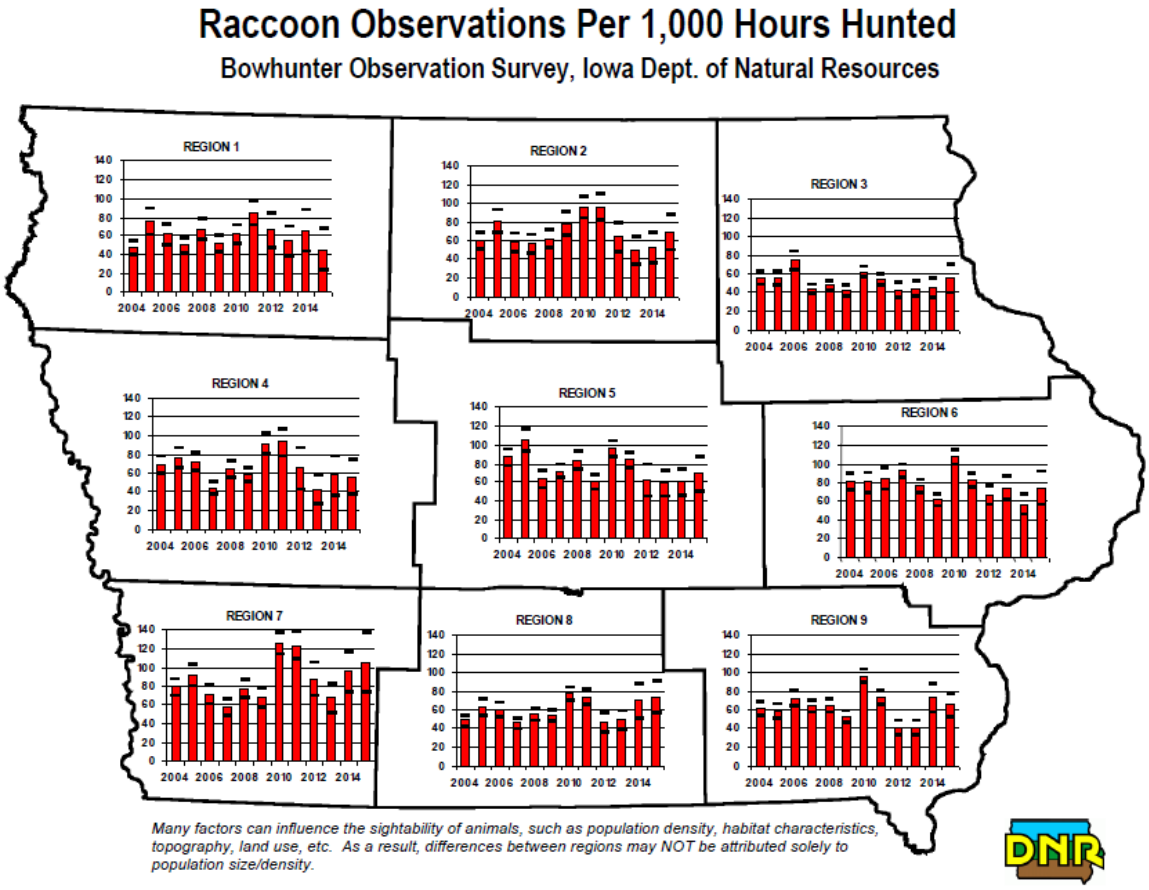


Figure 6. Results of April raccoon spotlight surveys in Iowa (1977-present)

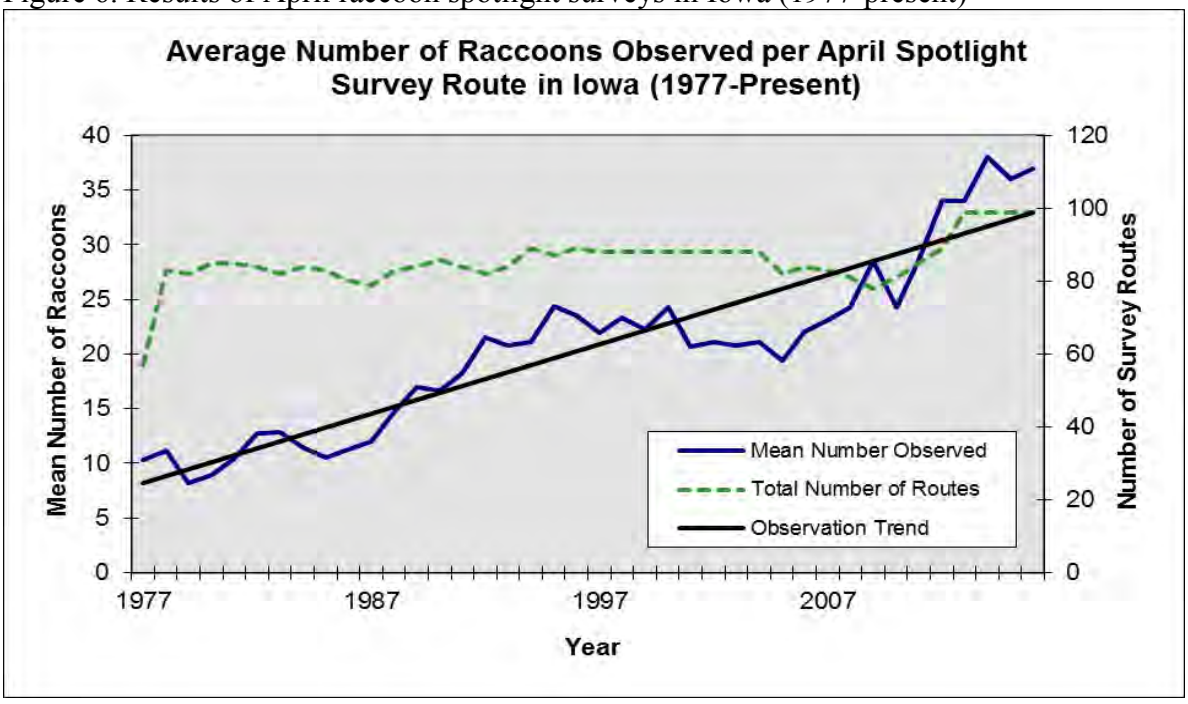


Figure 7. Raccoon observed per route during the spring spotlight survey 2016.

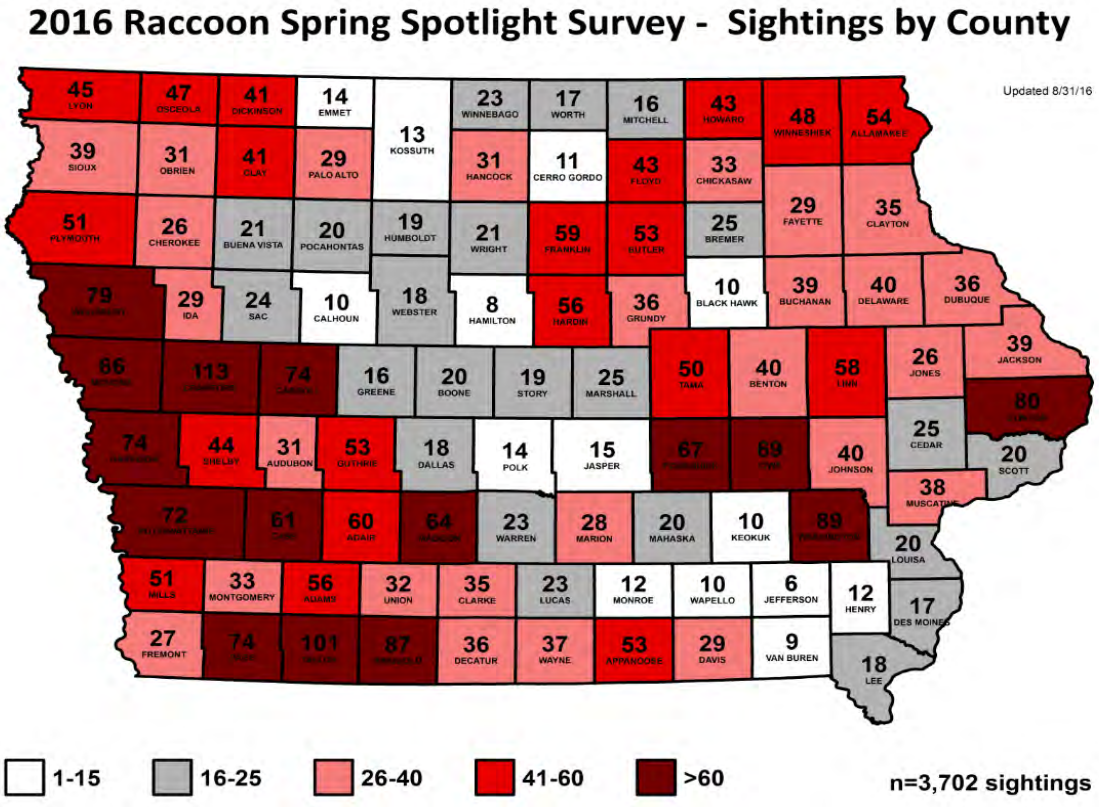


Figure 8. Percent change of raccoon observed per route during the spring spotlight survey 2016.

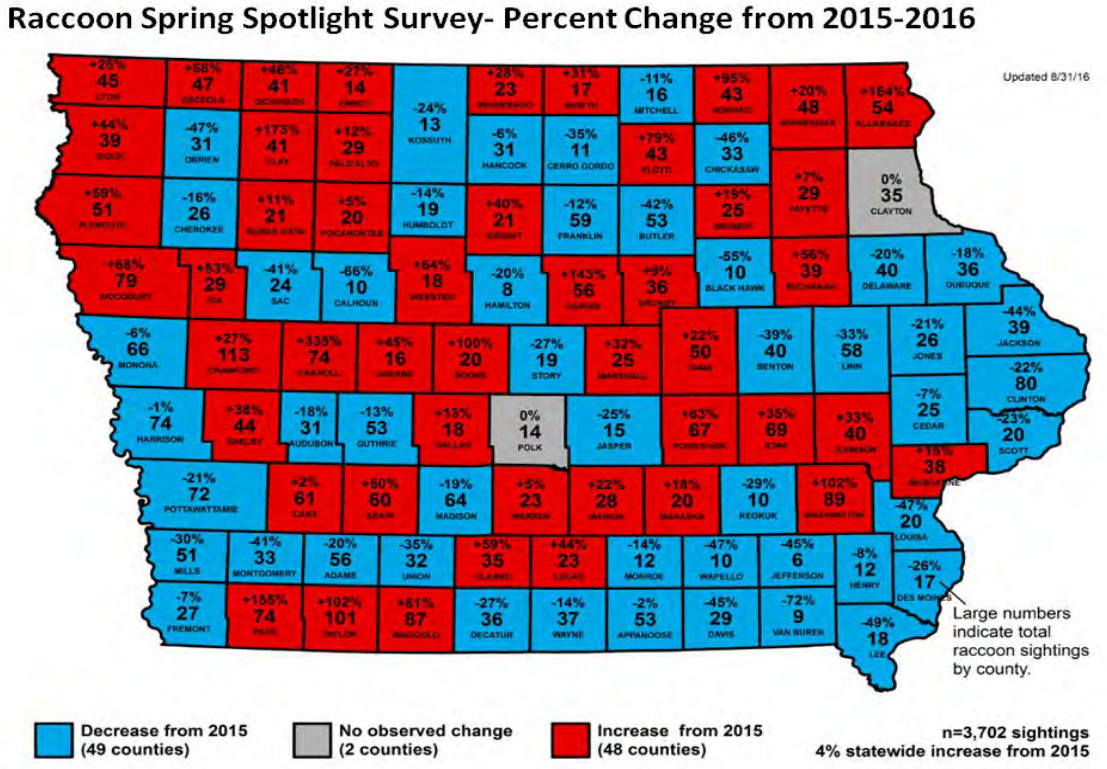


Figure 9. Annual muskrat harvests reported by licensed fur dealers in Iowa (1930-present).

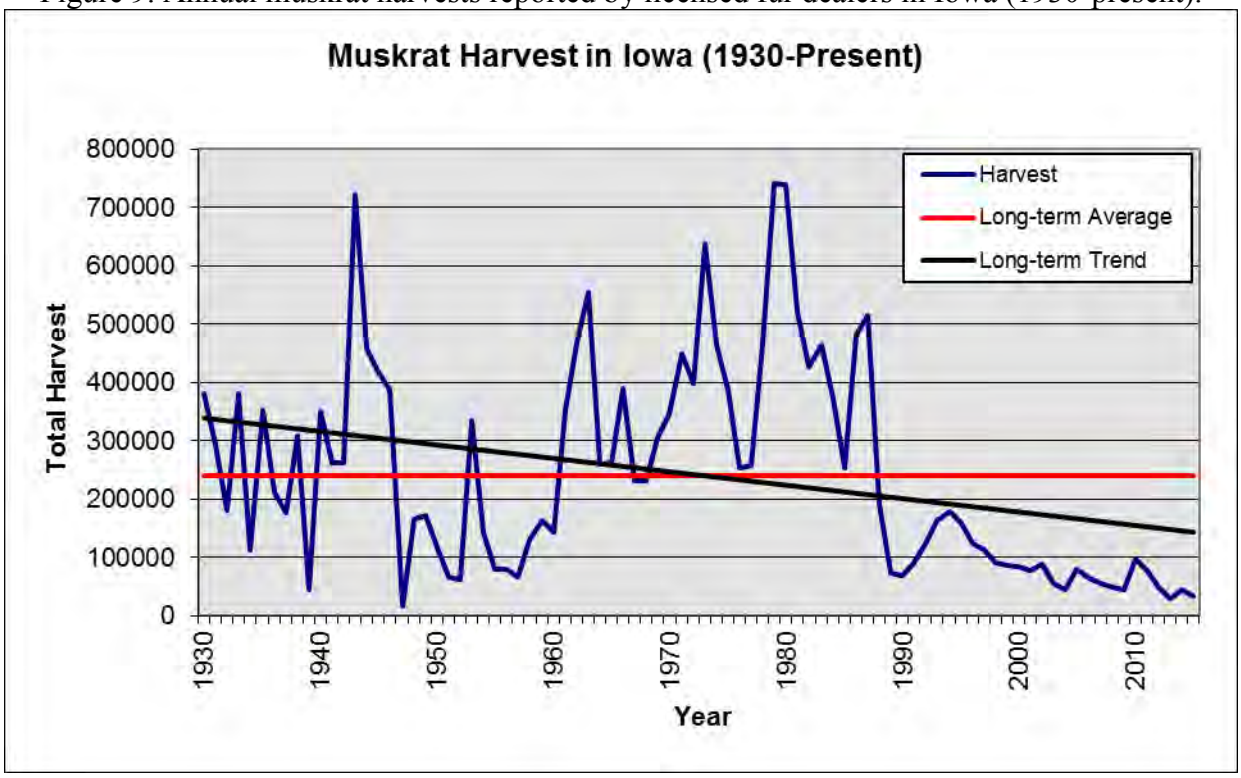


Figure 10. Muskrat harvest in Iowa and average pelt price paid by fur dealers (1977-present).

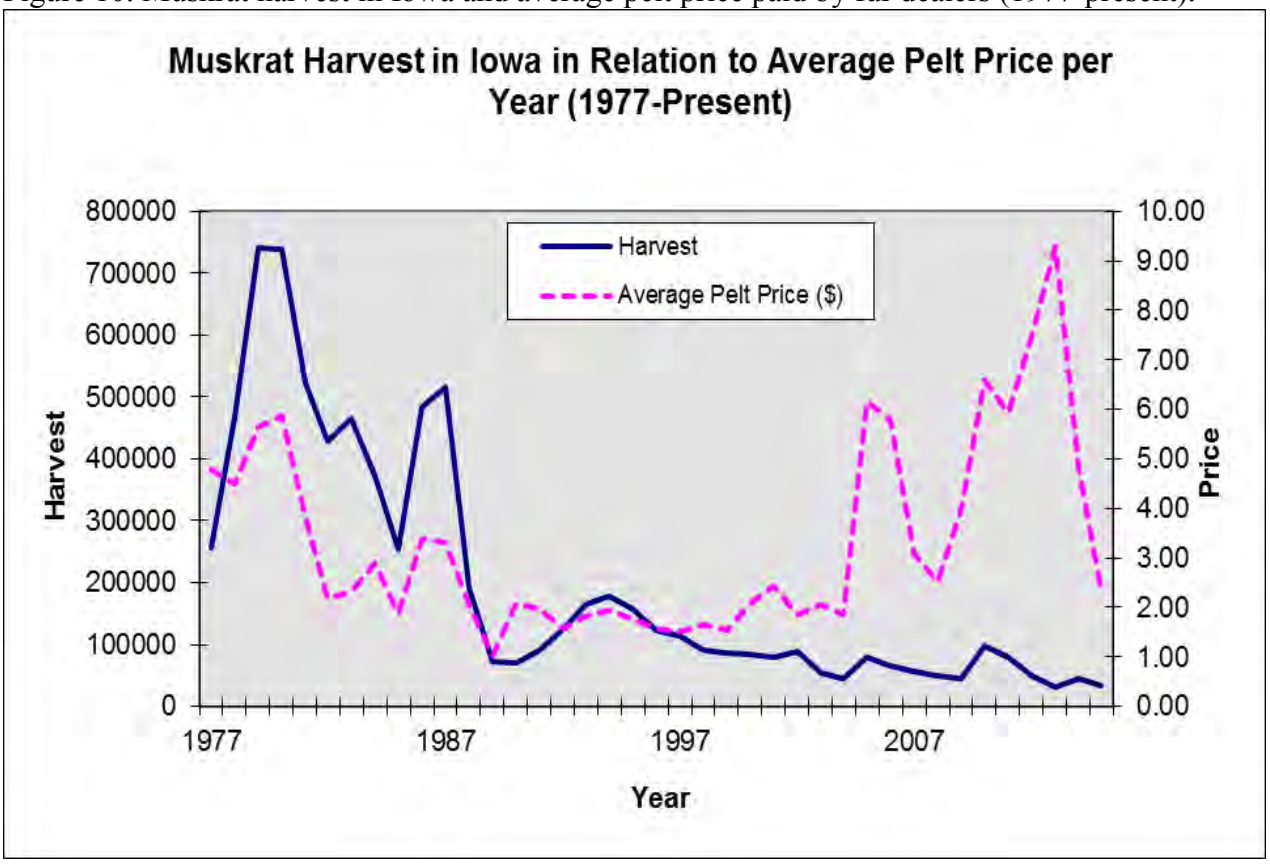


Figure 11. Annual coyote harvests reported by licensed fur dealers in Iowa (1930-present).

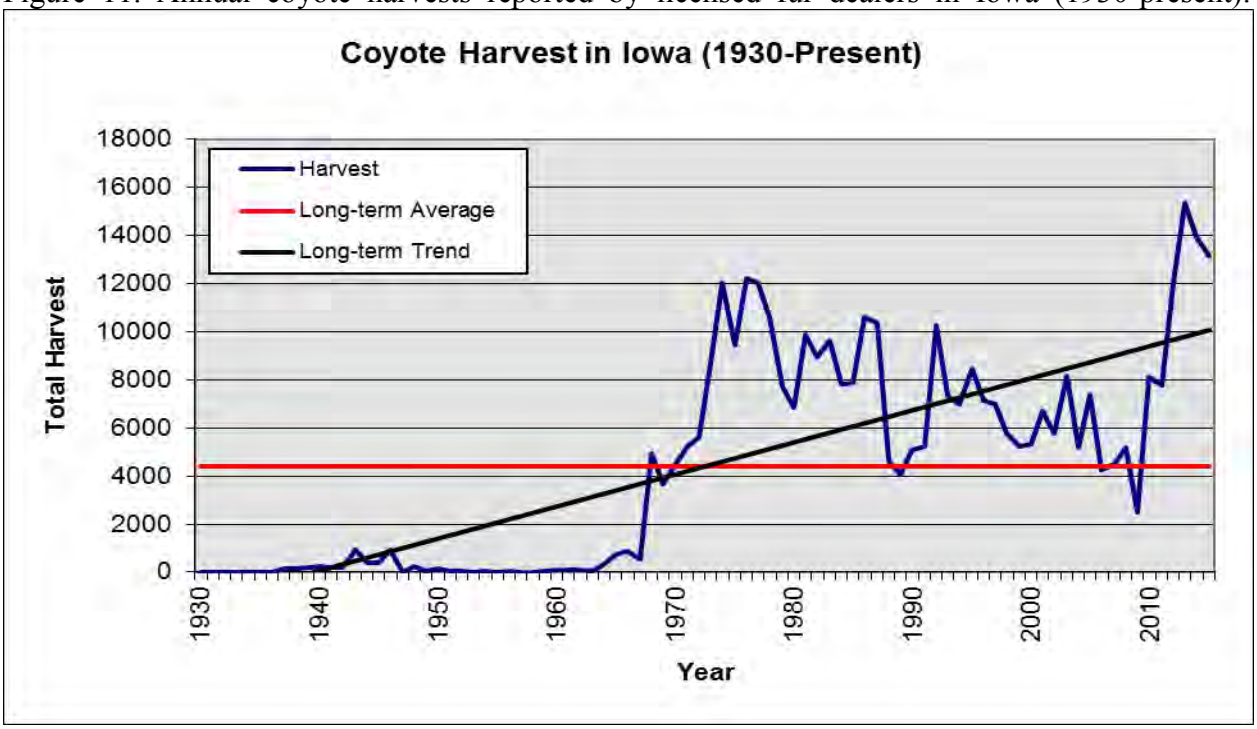


Figure 12. Results of coyote Bowhunter Observation Survey in Iowa (2004-present).

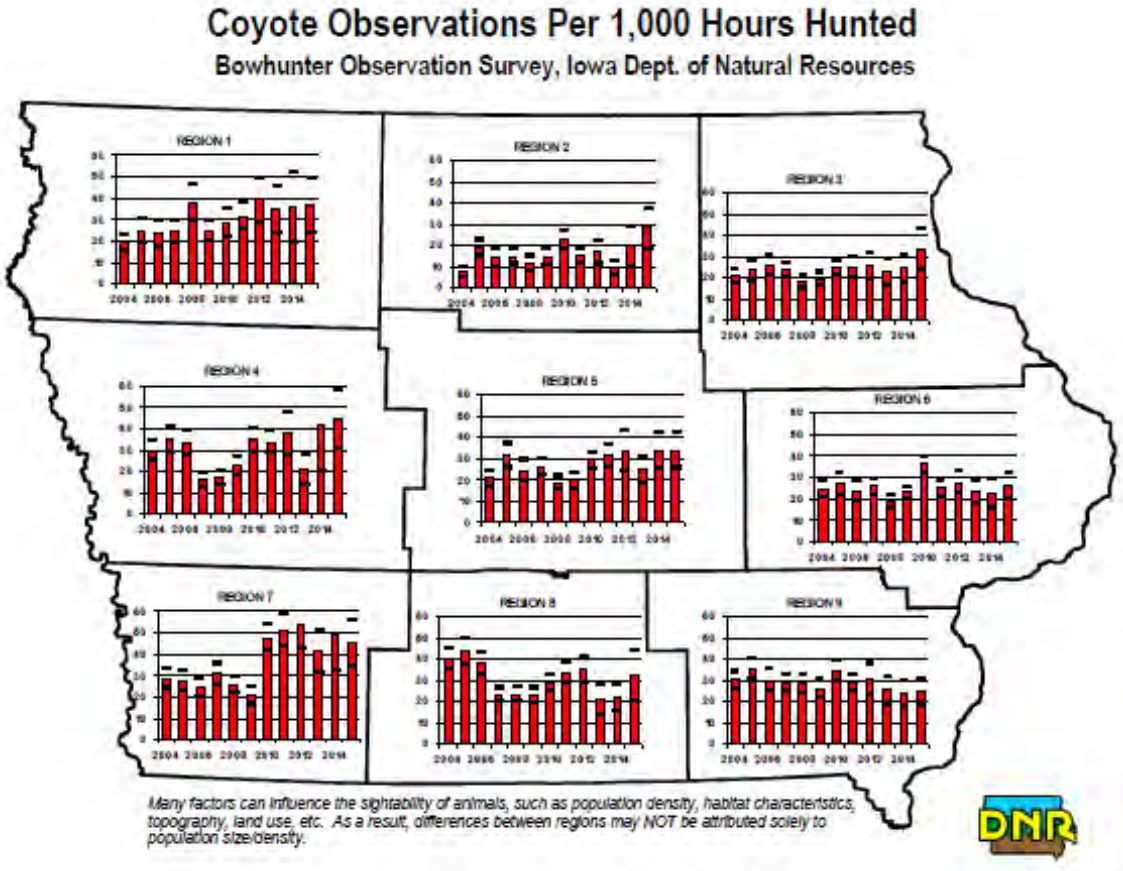


Figure 13. Annual red fox harvests reported by licensed fur dealers in Iowa (1930-present).

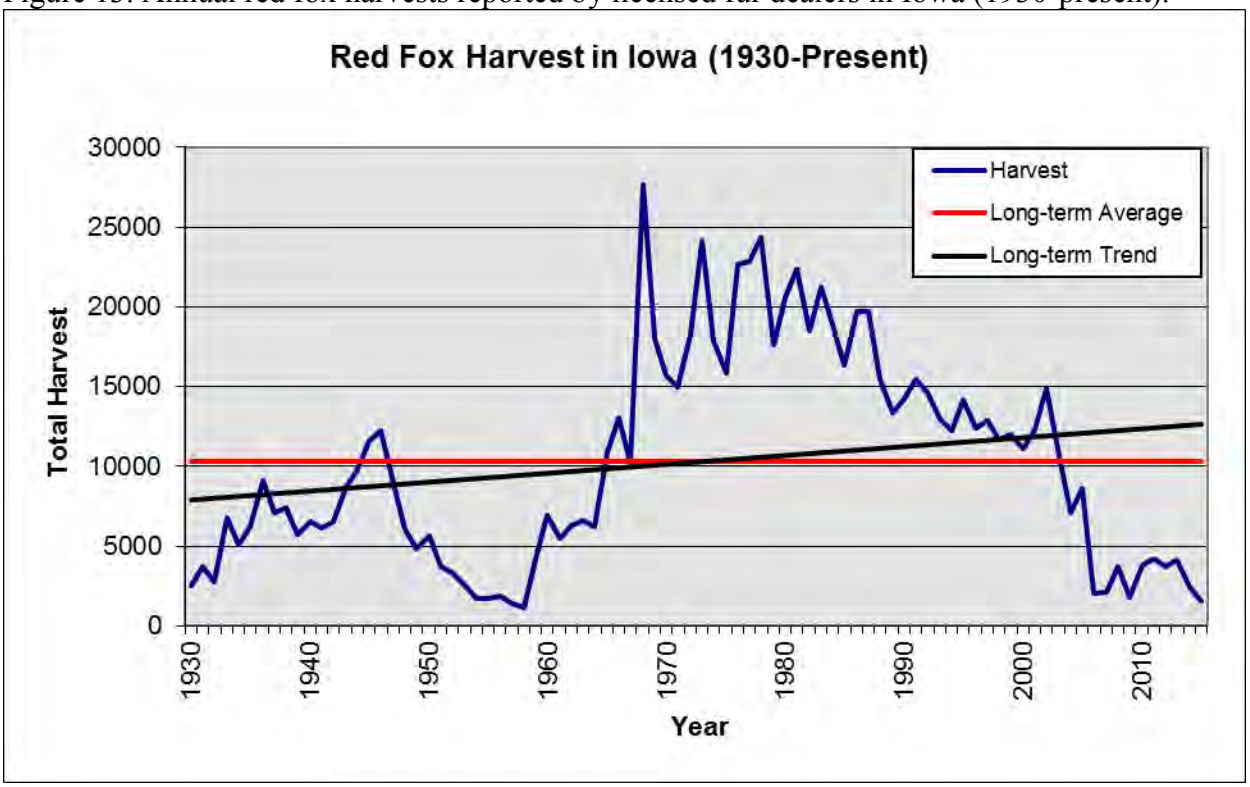


Figure 14. Red fox harvest in Iowa and average pelt price paid by fur dealers (1977-present).

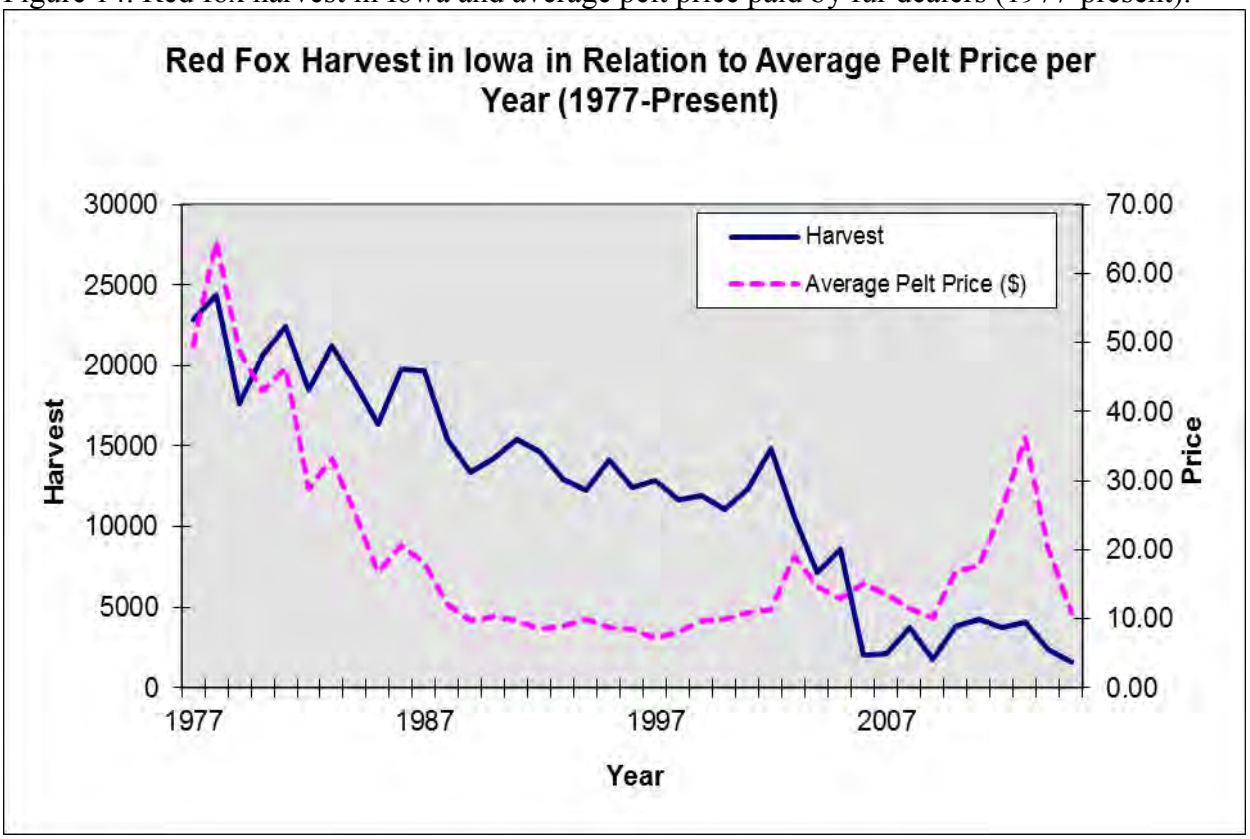


Figure 15. Results of red fox Bowhunter Observation Survey in Iowa (2004-present).

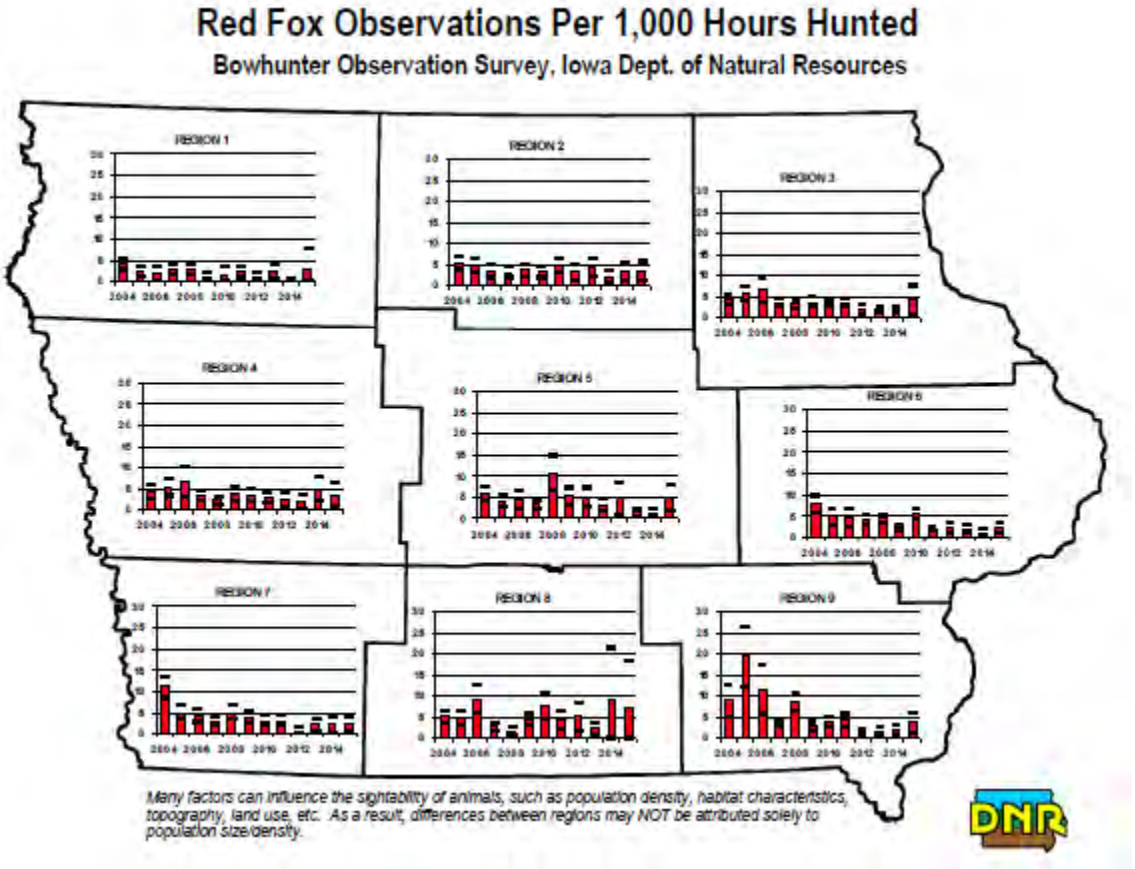


Figure 16. Annual gray fox harvests reported by licensed fur dealers in Iowa (1930-present).

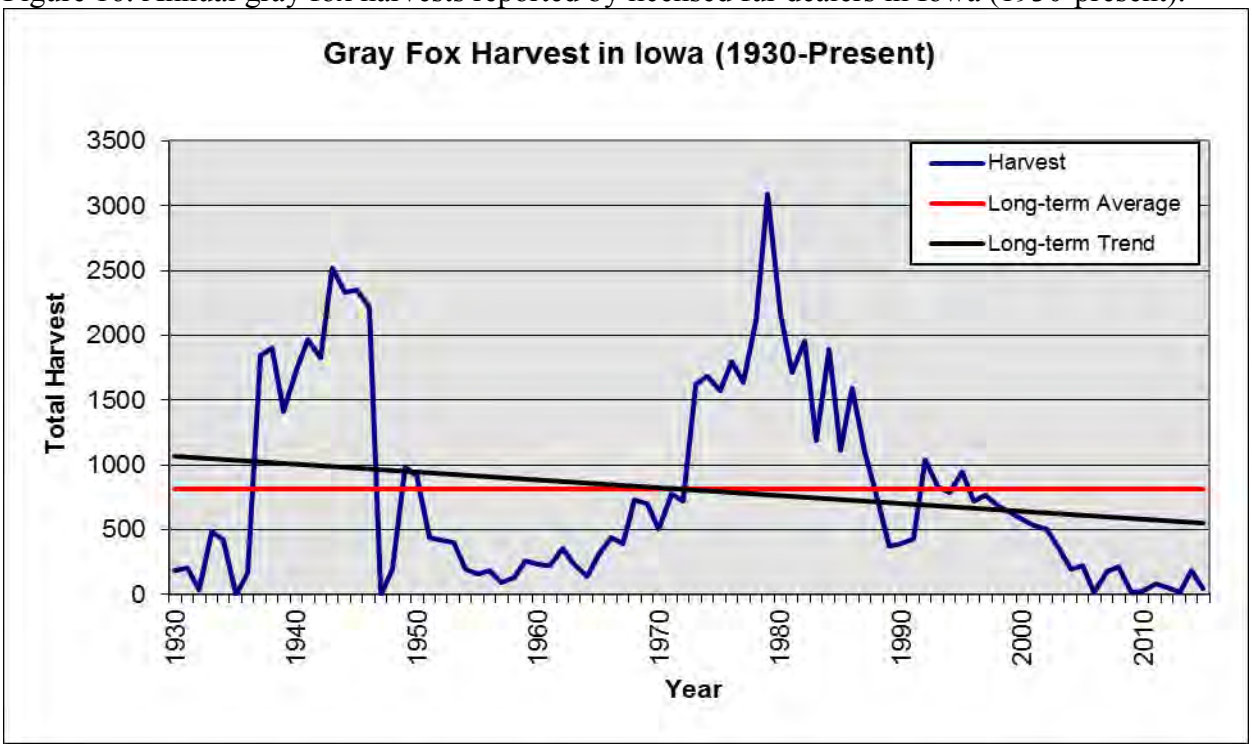


Figure 17. Results of gray fox Bowhunter Observation Survey in Iowa (2004-present).

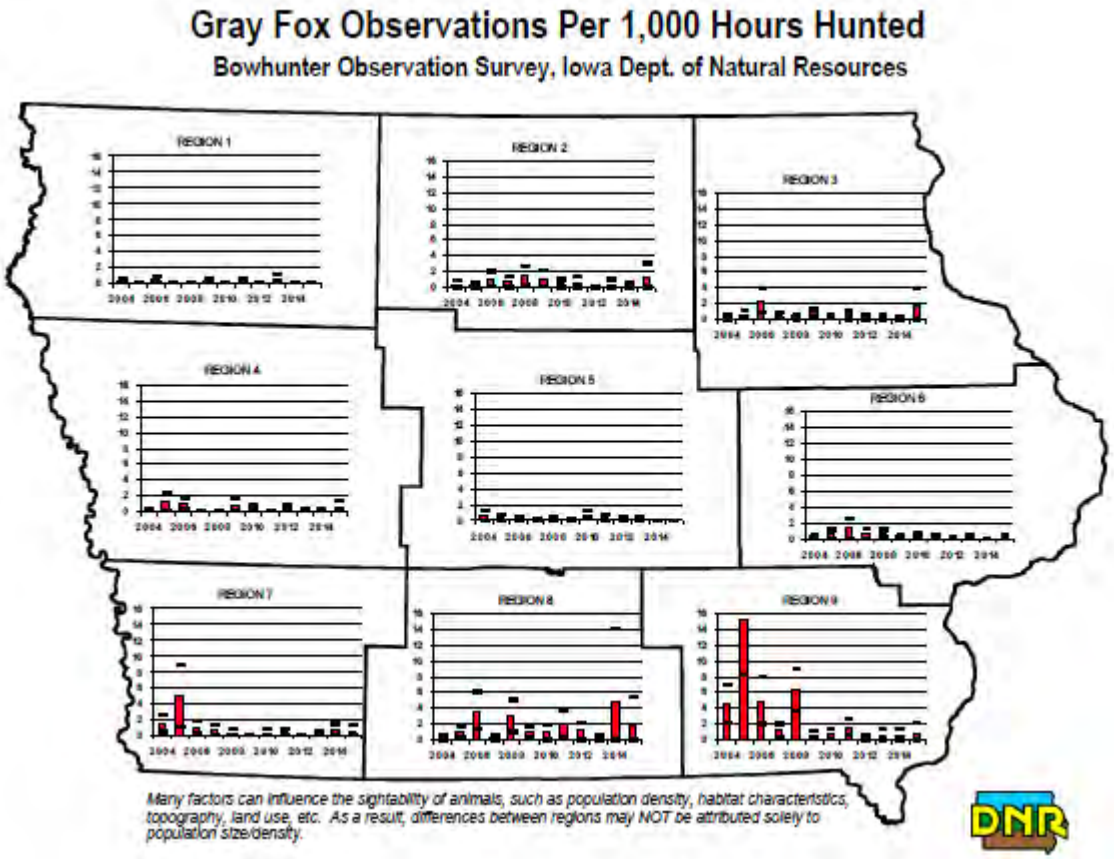


Figure 18. Annual beaver harvests reported by licensed fur dealers in Iowa (1930-present).

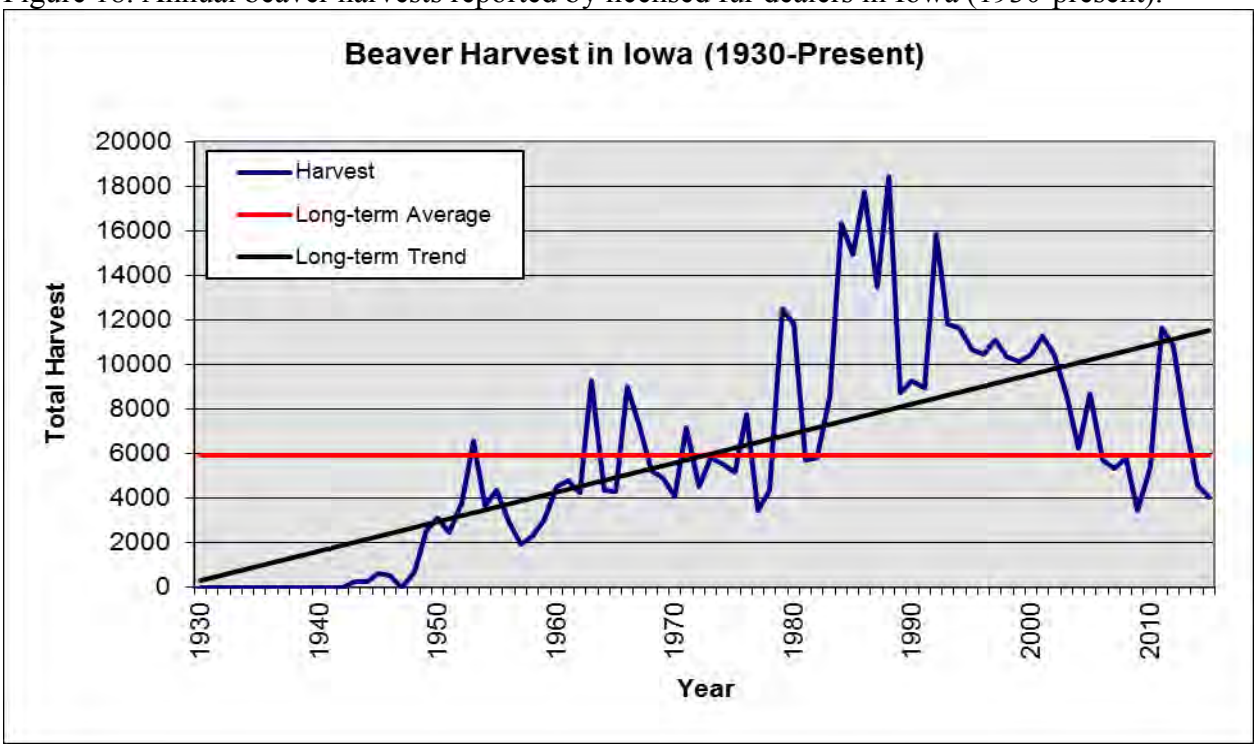


Figure 19. Annual mink harvests reported by licensed fur dealers in Iowa (1930-present).

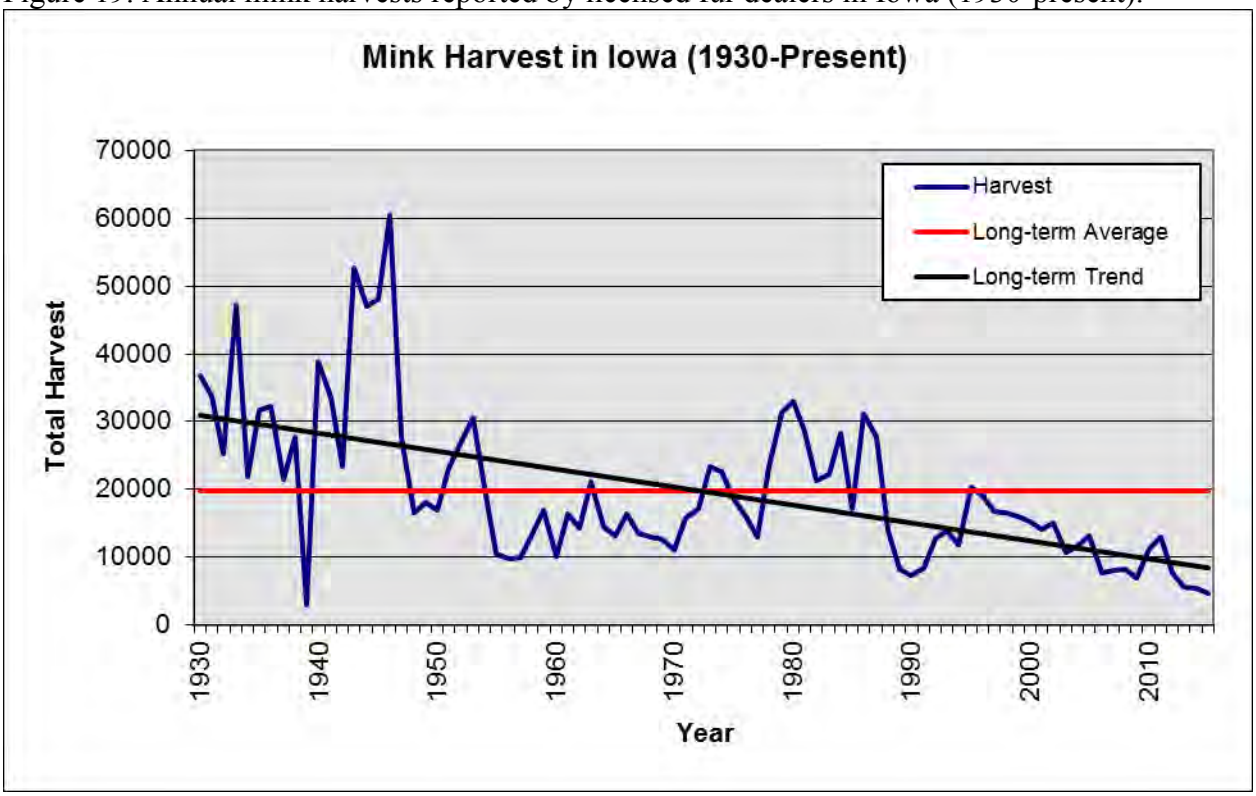


Figure 20. Mink harvest in Iowa and average pelt price paid by fur dealers (1977-present).

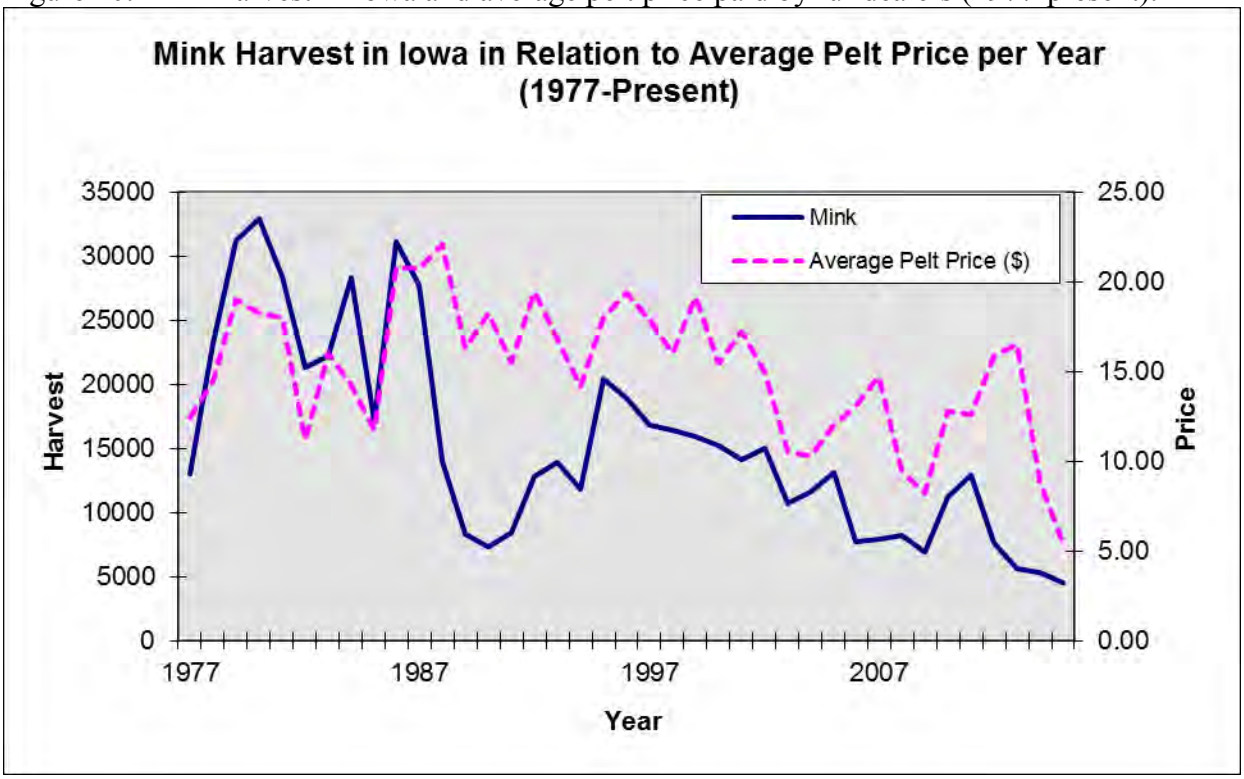


Figure 21. Annual opossum harvests reported by licensed fur dealers in Iowa (1930-present).

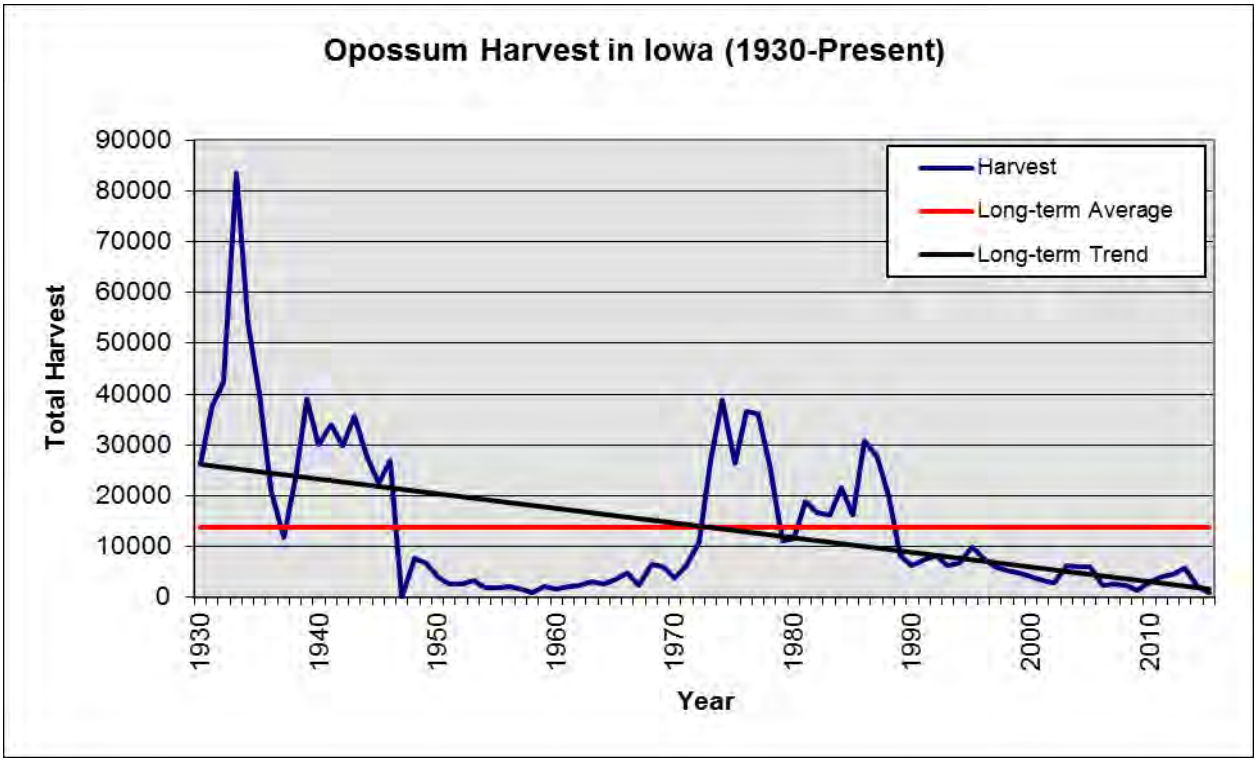


Figure 22. Results of opossum Bowhunter Observation Survey in Iowa (2004-present).

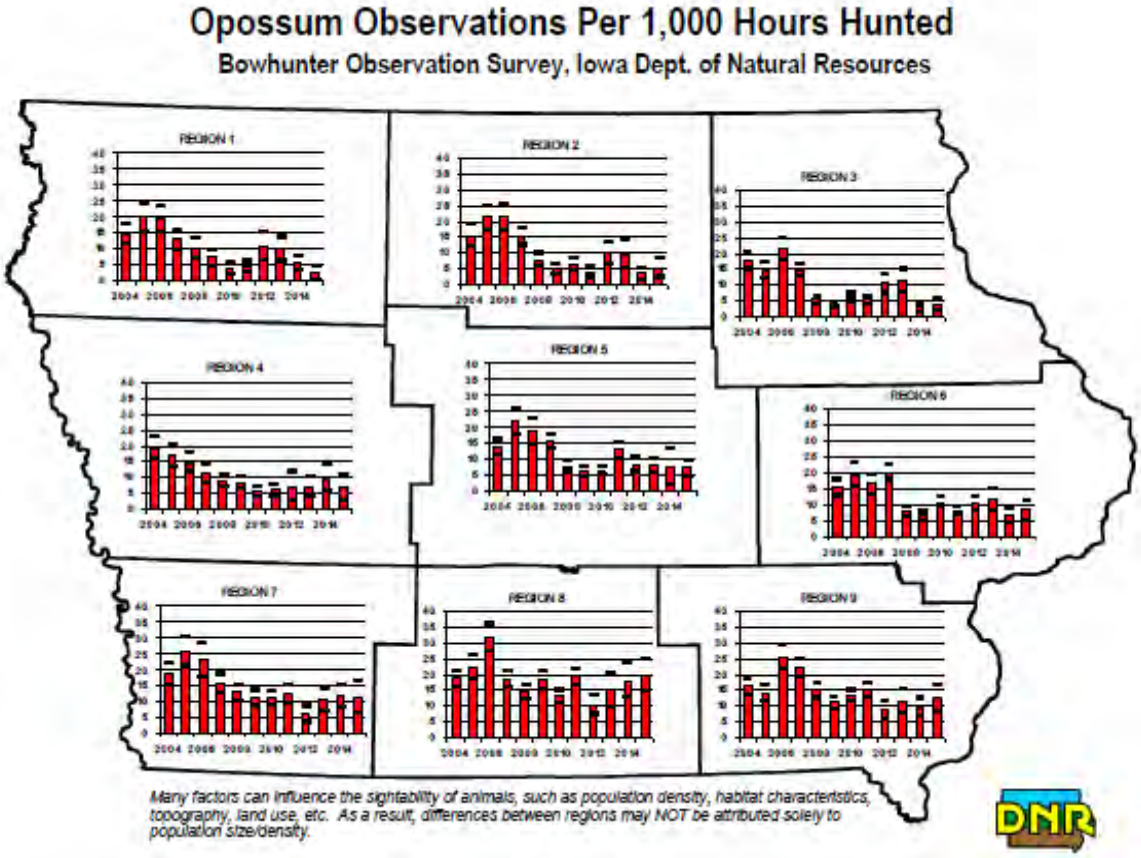


Figure 23. Annual badger harvests reported by licensed fur dealers in Iowa (1930-present).

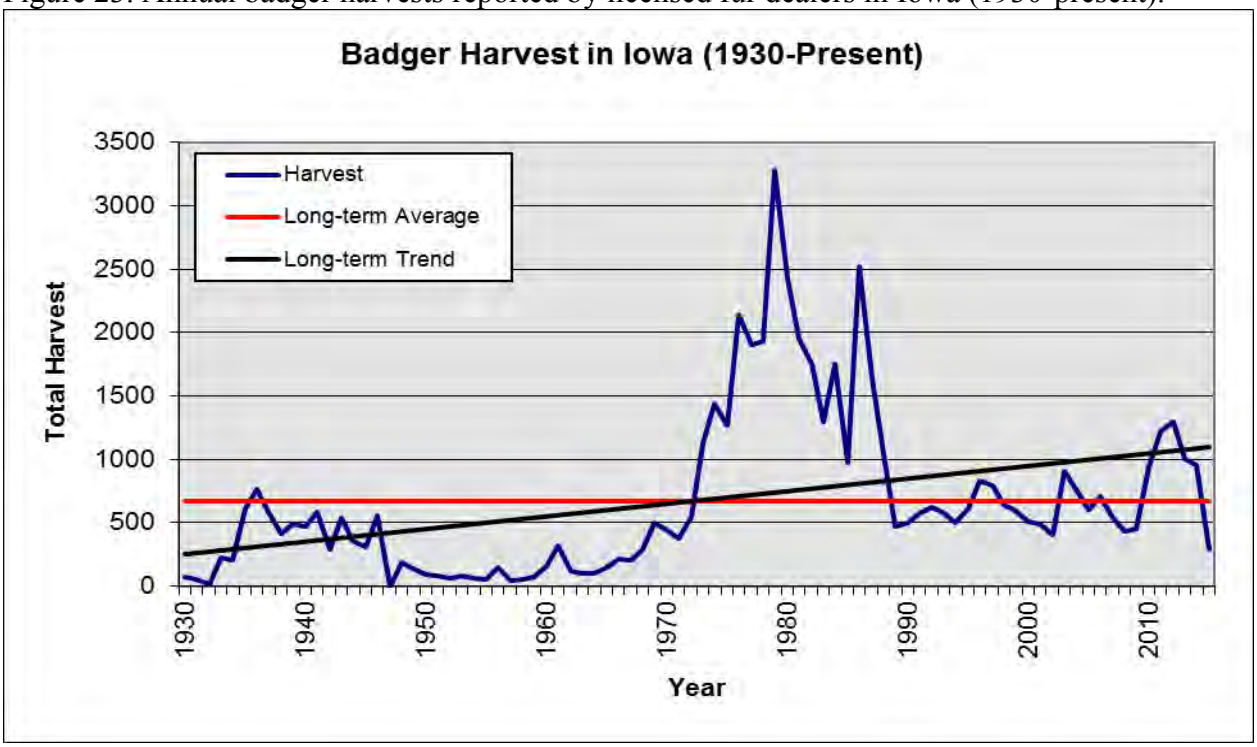


Figure 24. Results of badger Bowhunter Observation Survey in Iowa (2004-present).

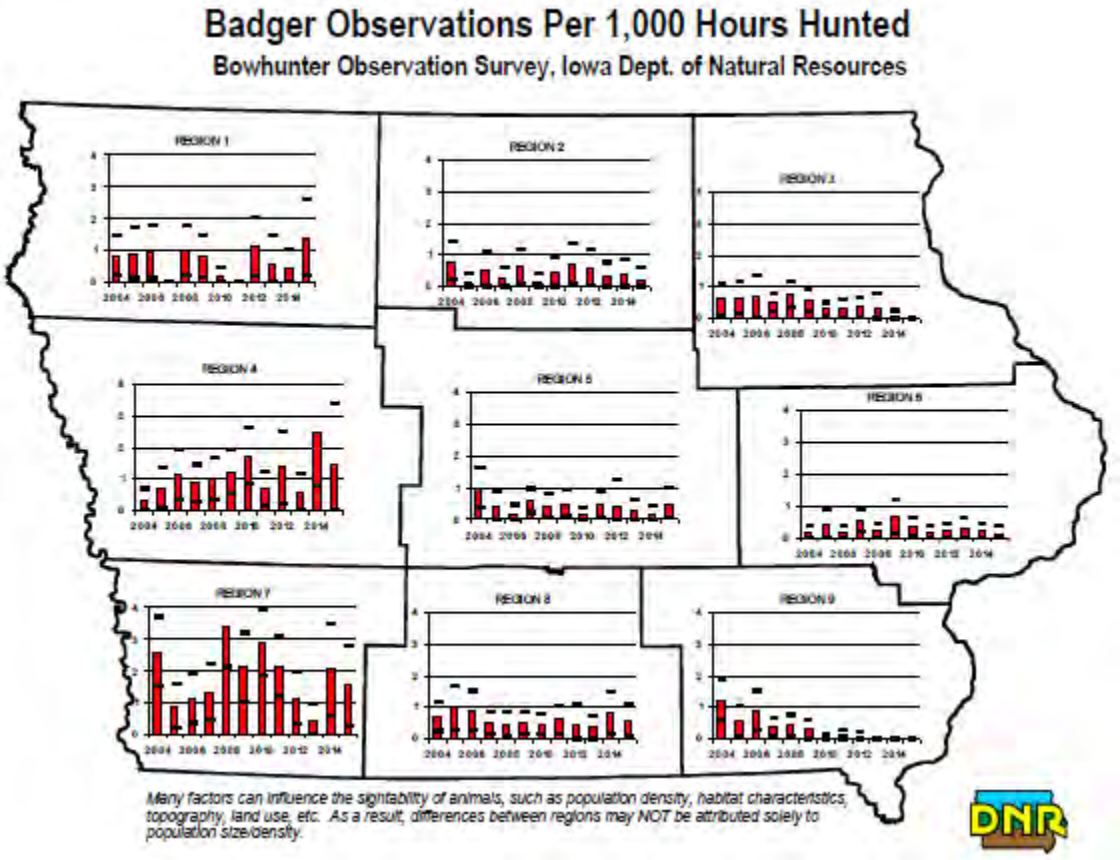


Figure 25. Annual spotted skunk harvests reported by licensed fur dealers in Iowa (1930-present)

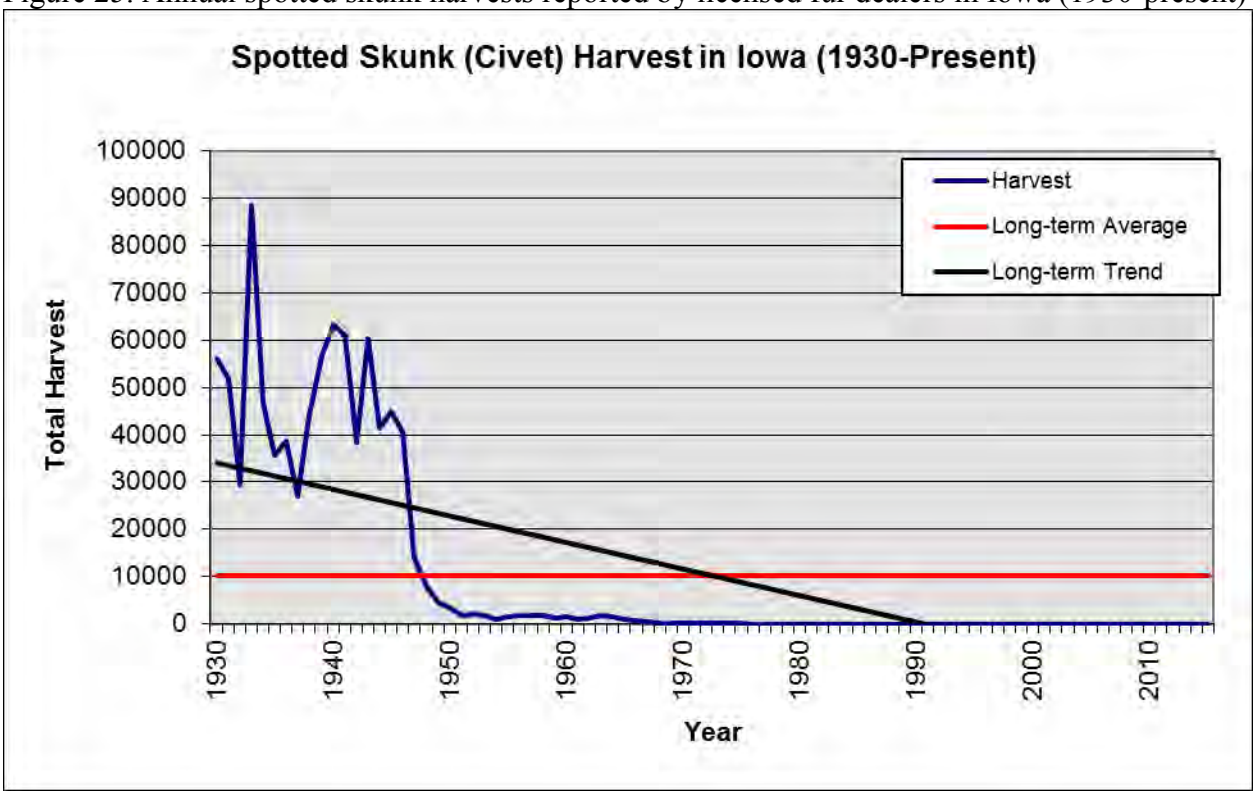


Figure 26. Annual striped skunk harvests reported by licensed fur dealers in Iowa (1930-present).

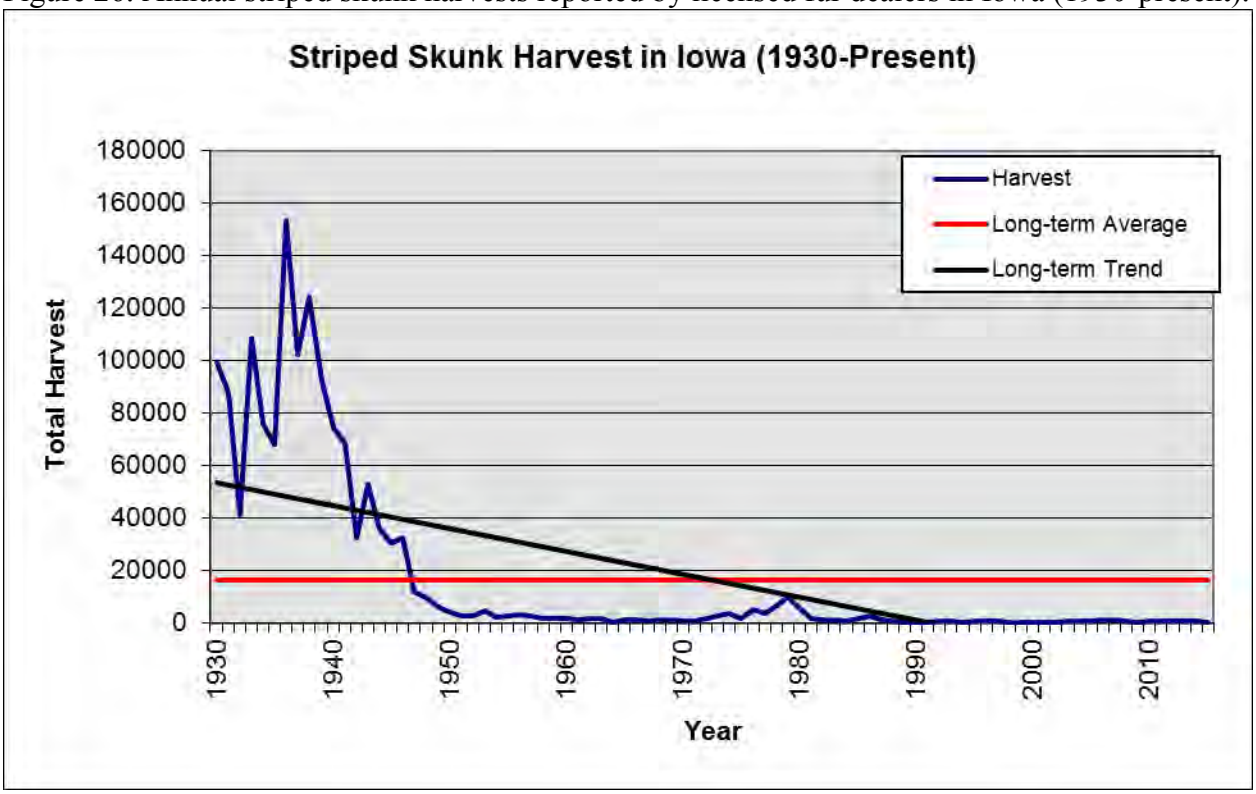


Figure 27. Results of striped skunk Bowhunter Observation Survey in Iowa (2004-present).

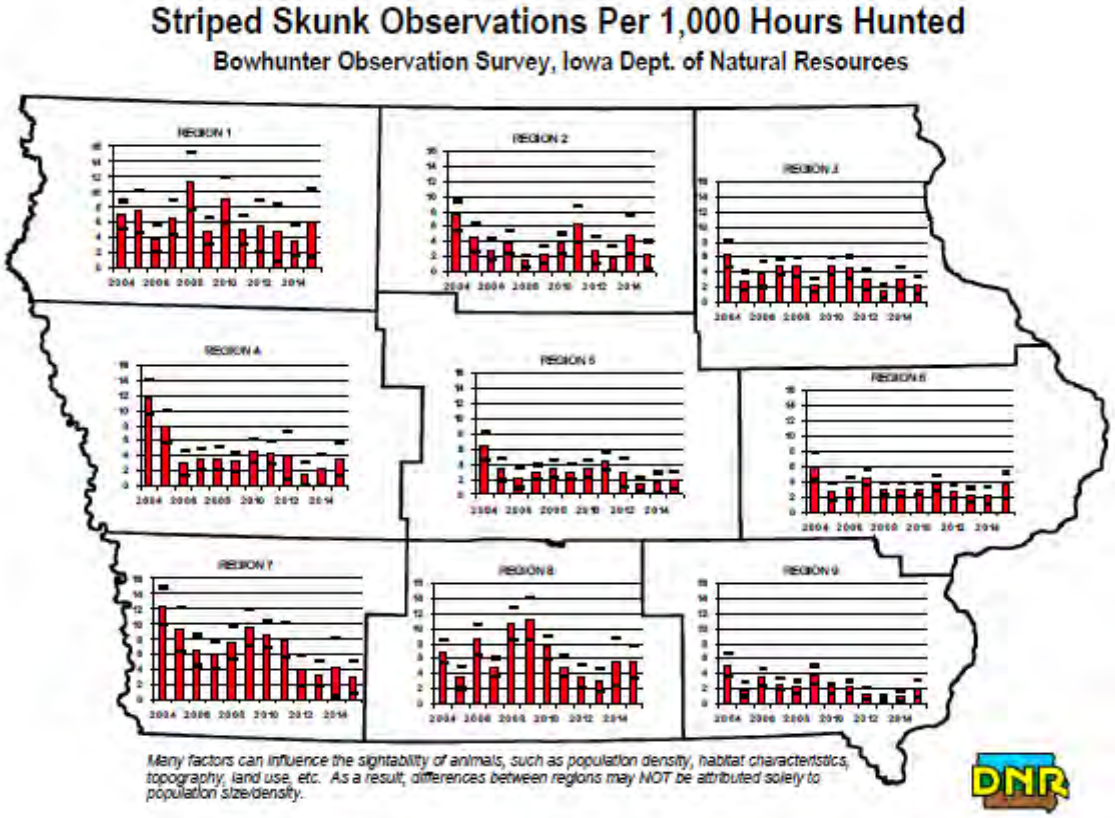


Figure 28. Annual weasel harvests reported by licensed fur dealers in Iowa (1930-present).

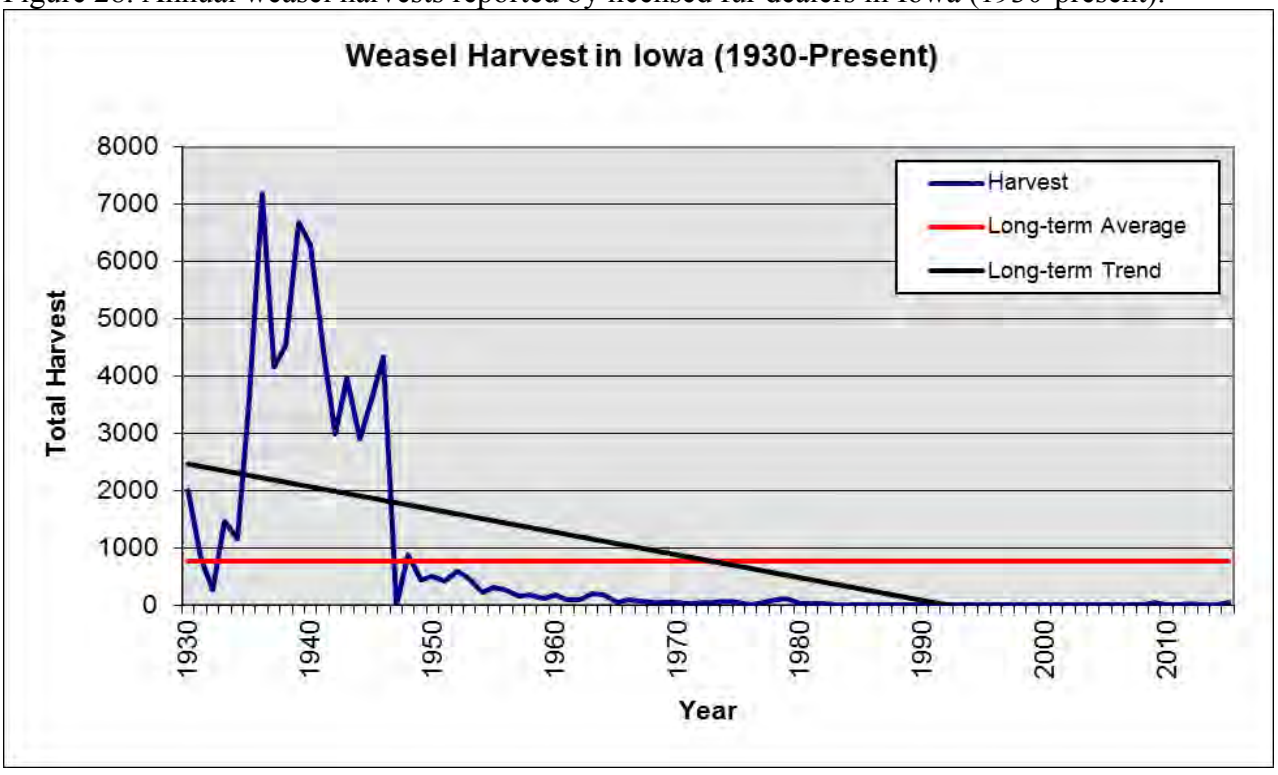


Figure 29. River otter harvest per county in Iowa, 2015-16.

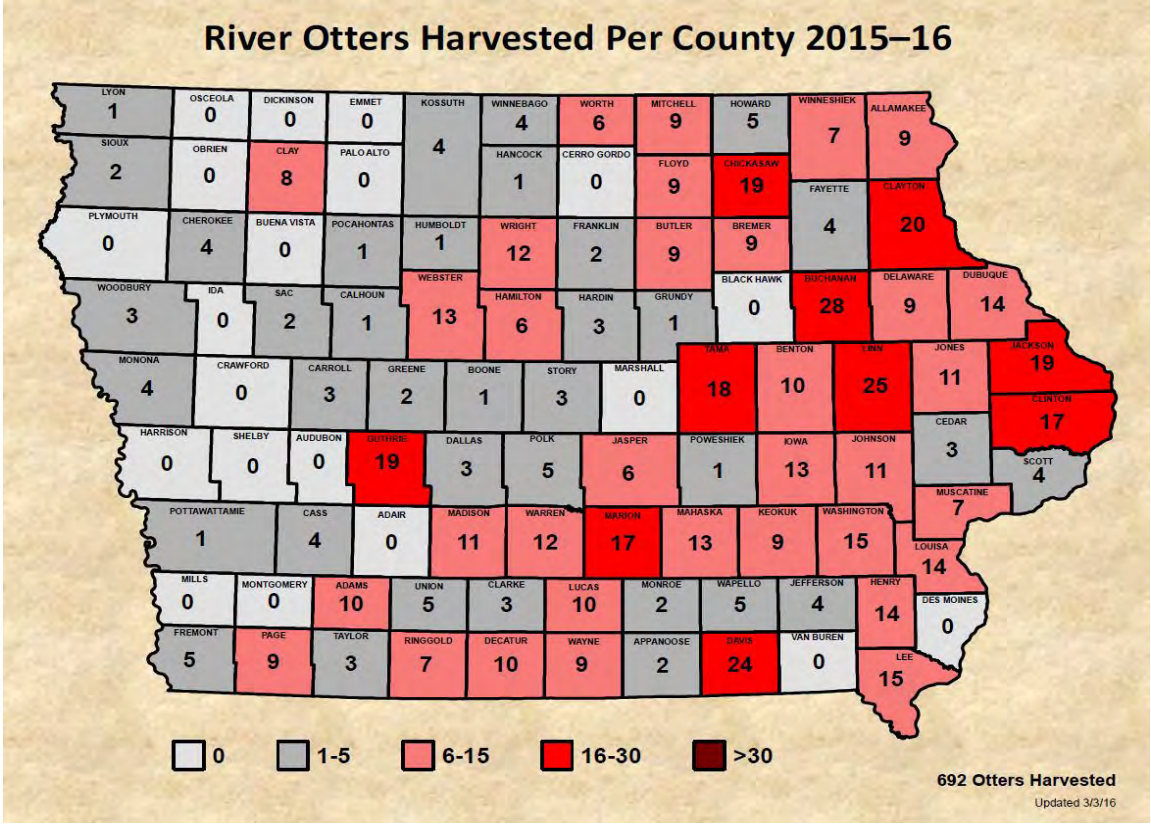


Figure 30. Sex ratio of harvested river otters in Iowa (2006-present).

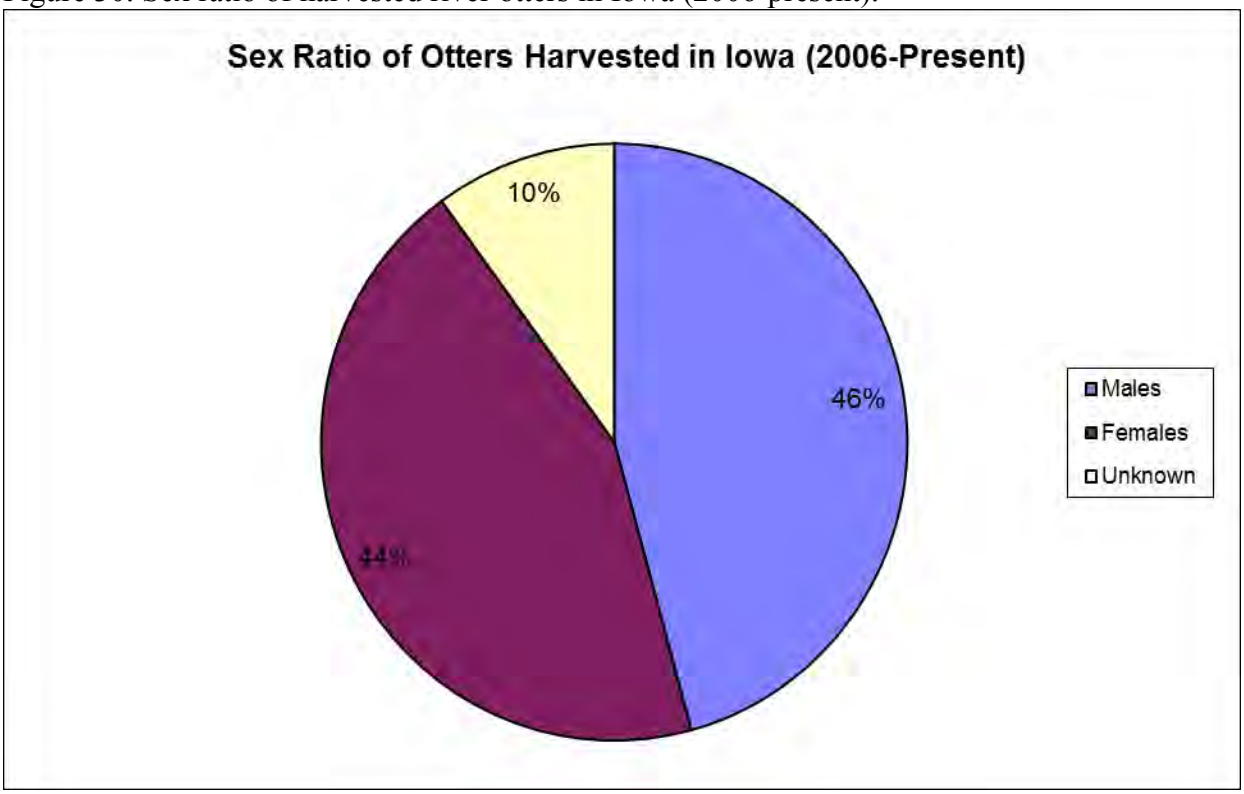


Figure 31. Harvest method of river otters in Iowa (2006-present).

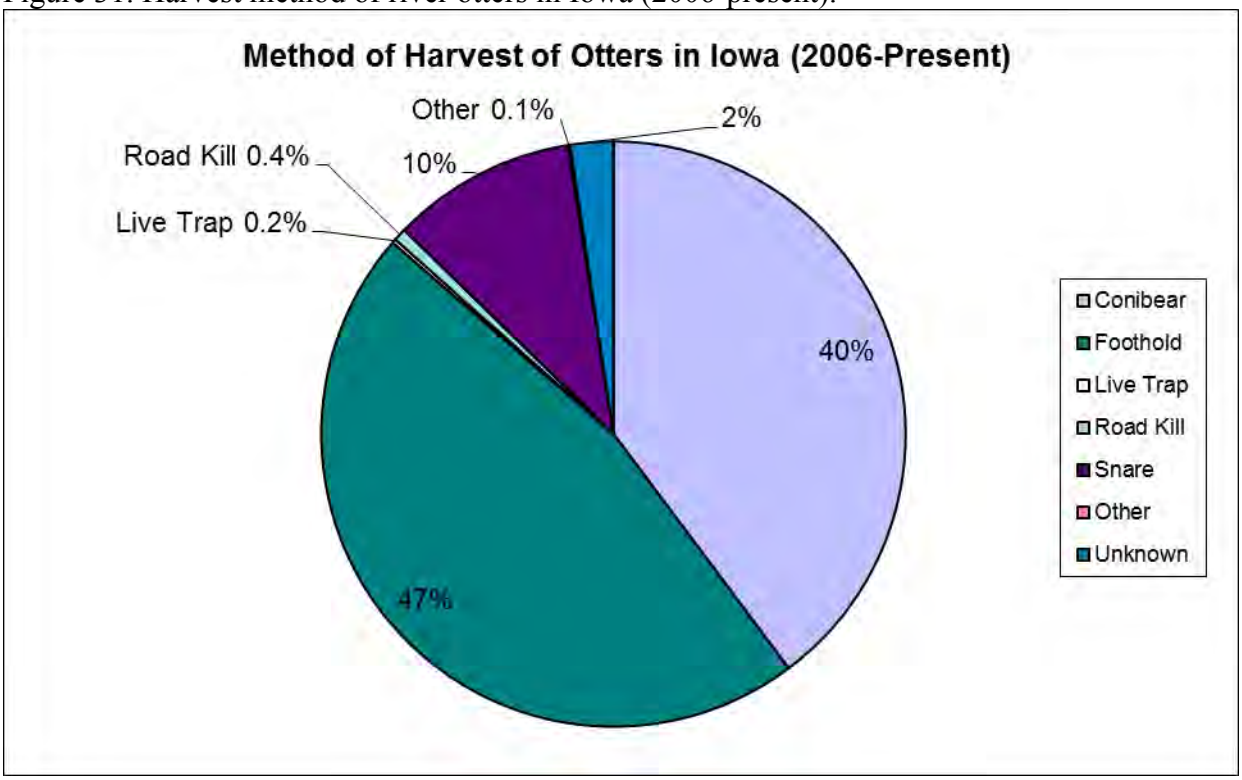


Figure 32. Percent of river otters intentionally and incidentally harvested in Iowa (2006-present).

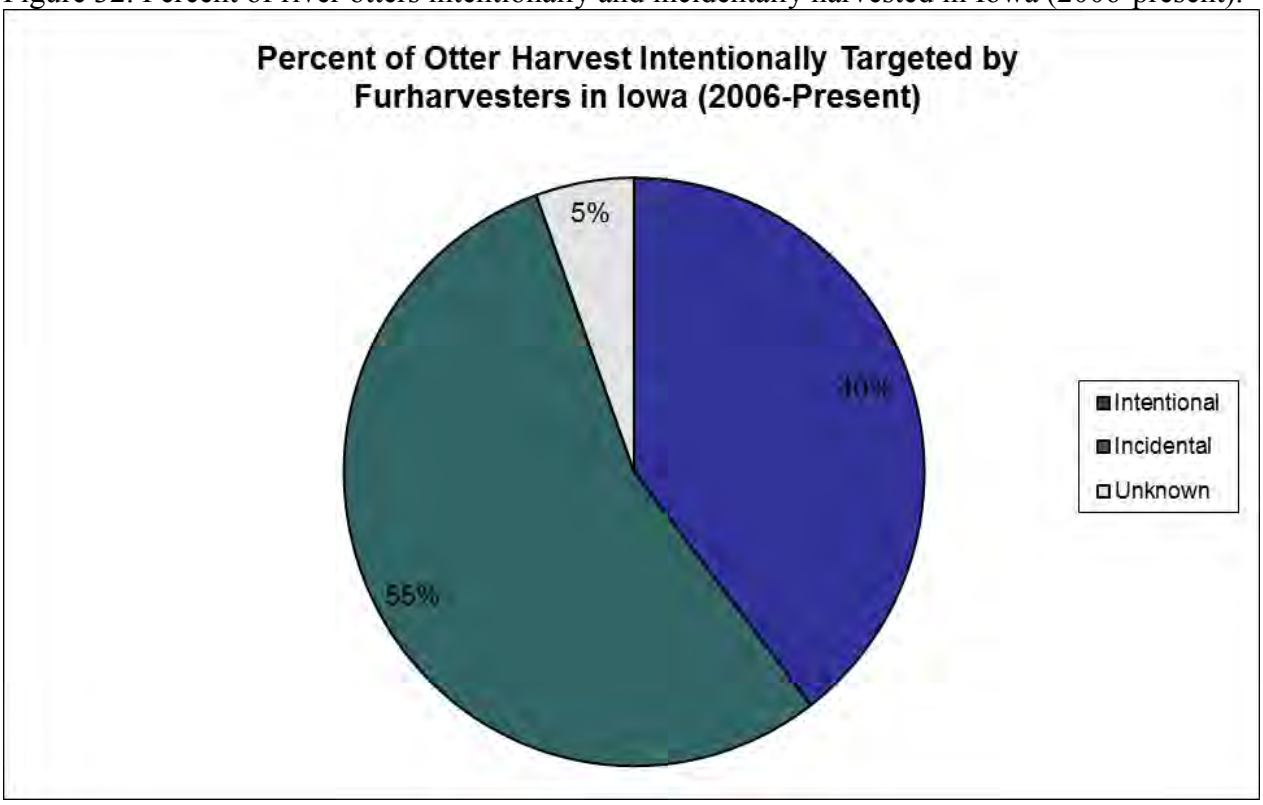


Figure 33. Trend for furharvesters intentionally targeting river otters in Iowa (2006-present).

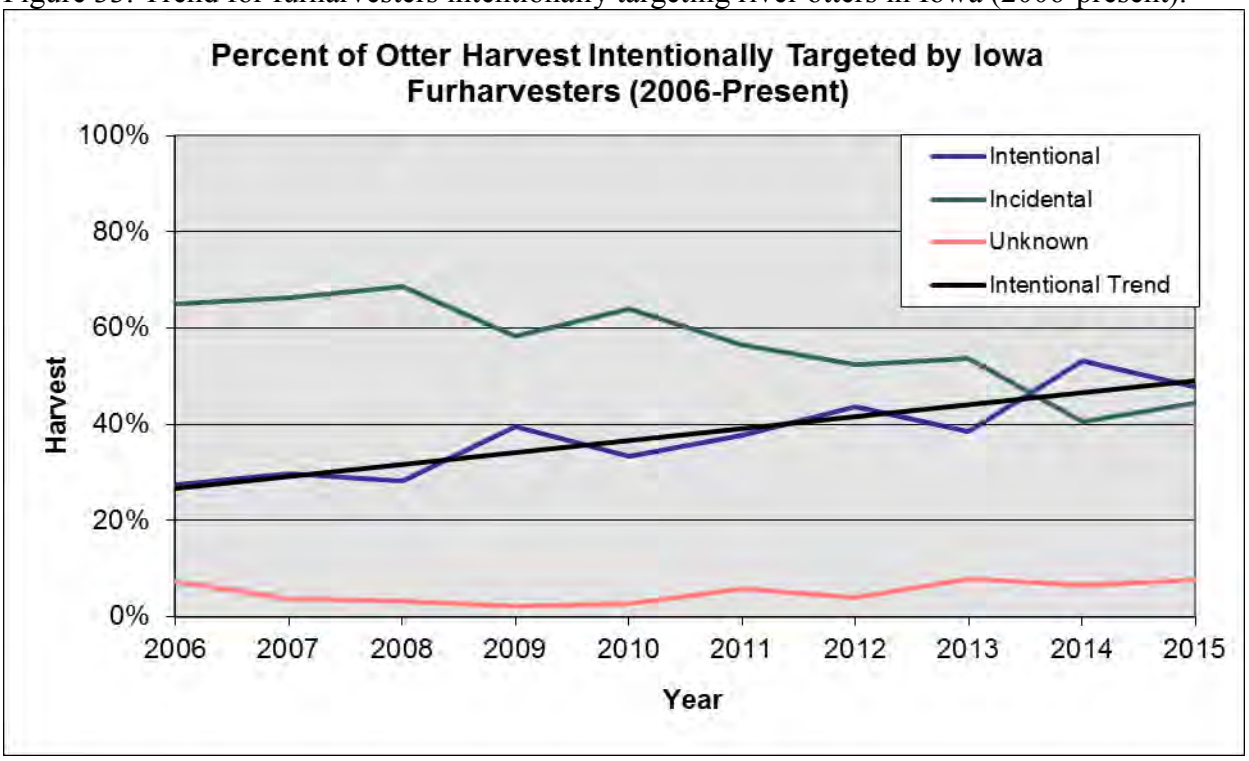


Figure 34. Results of river otter Bowhunter Observation Survey in Iowa (2004-present).

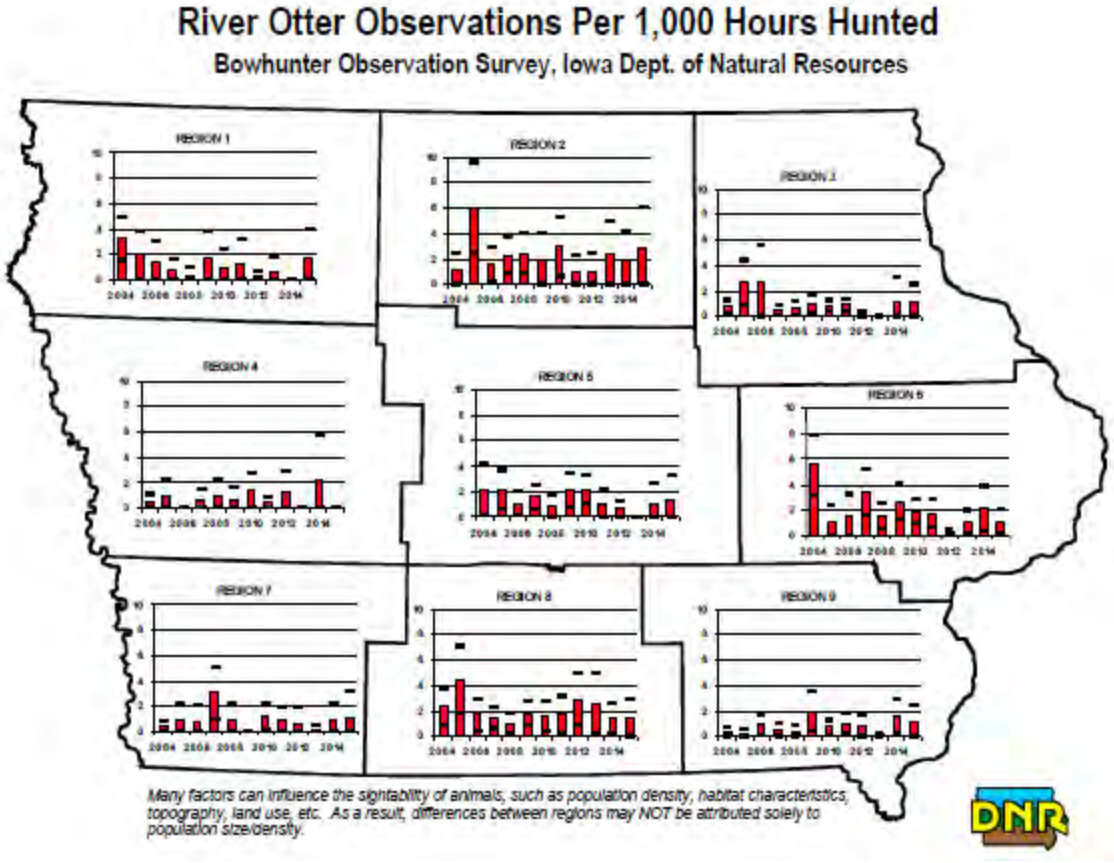


Figure 35. Open harvest zone for bobcat hunting/trapping season in Iowa, 2015-16.

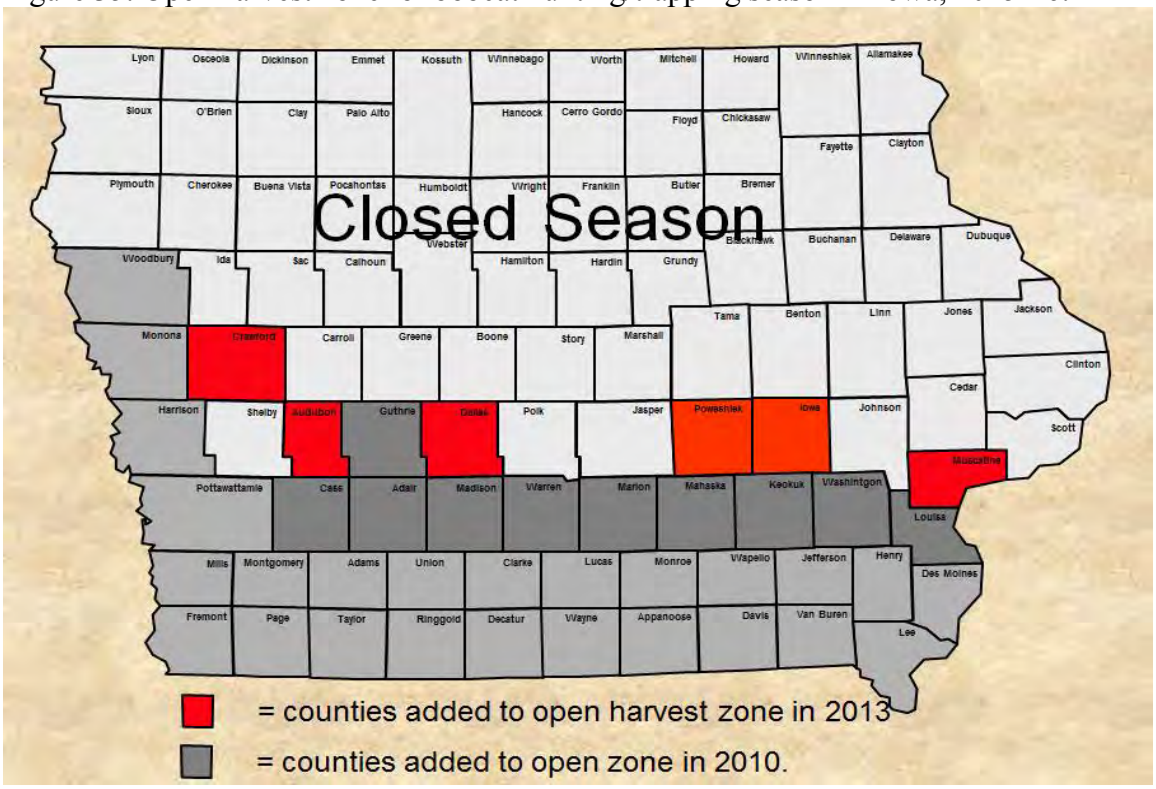


Figure 36. Bobcat harvest per county in Iowa, 2015-16.

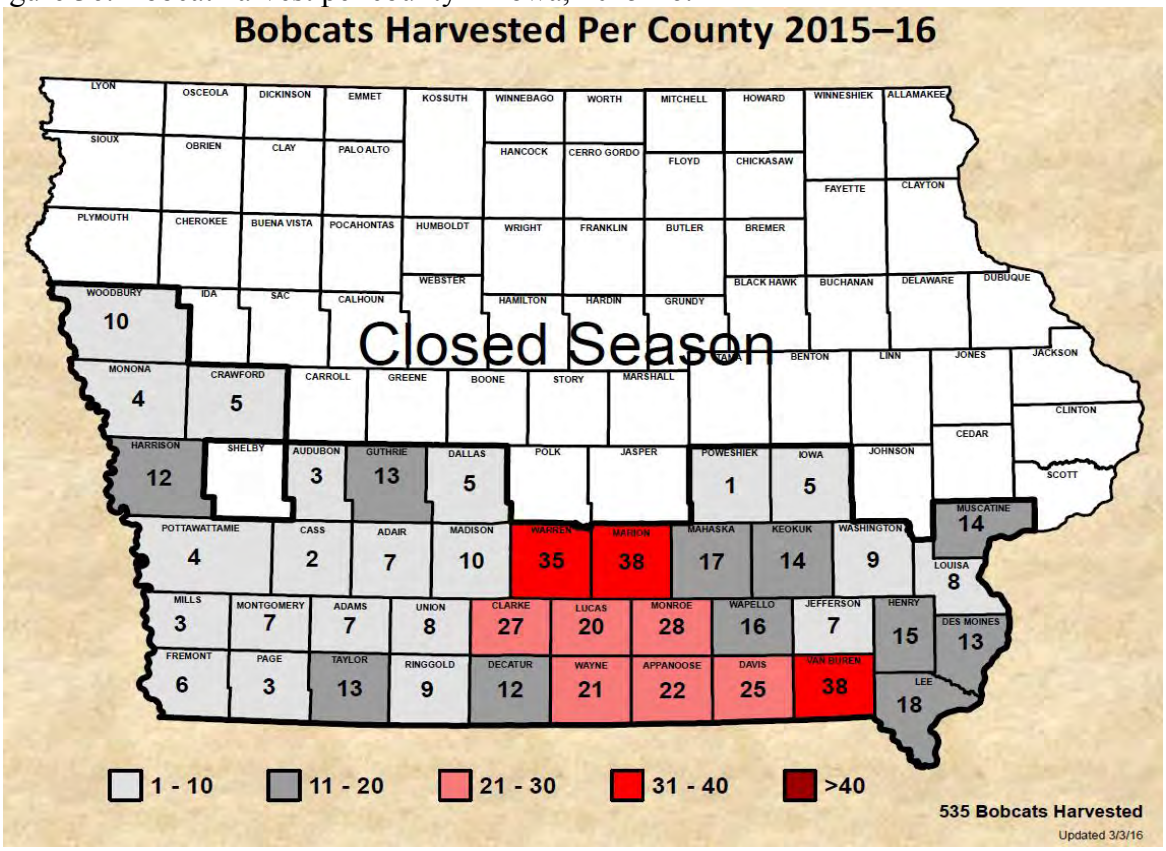


Figure 37. River Otter and bobcats harvested per day in Iowa (2015-16).

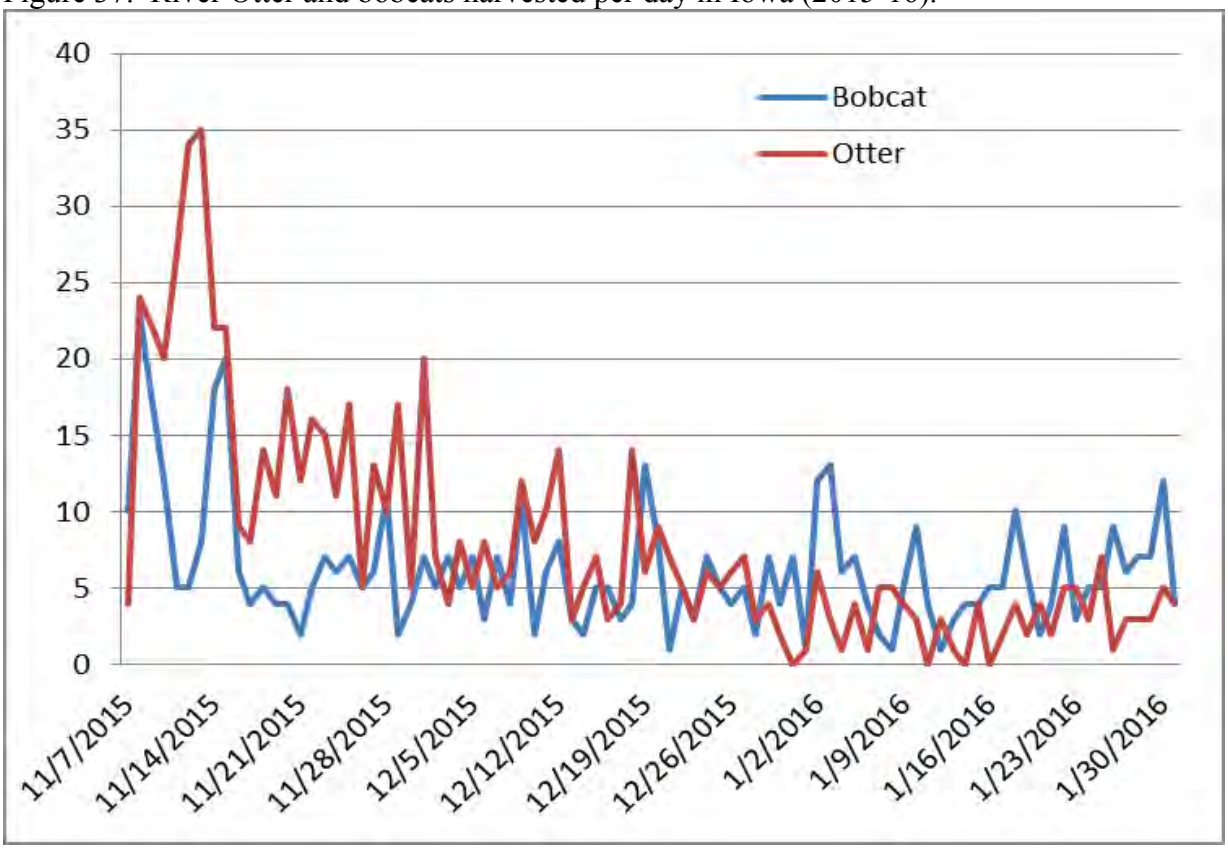


Figure 38. Sex ratio of harvested bobcats in Iowa (2007-present).

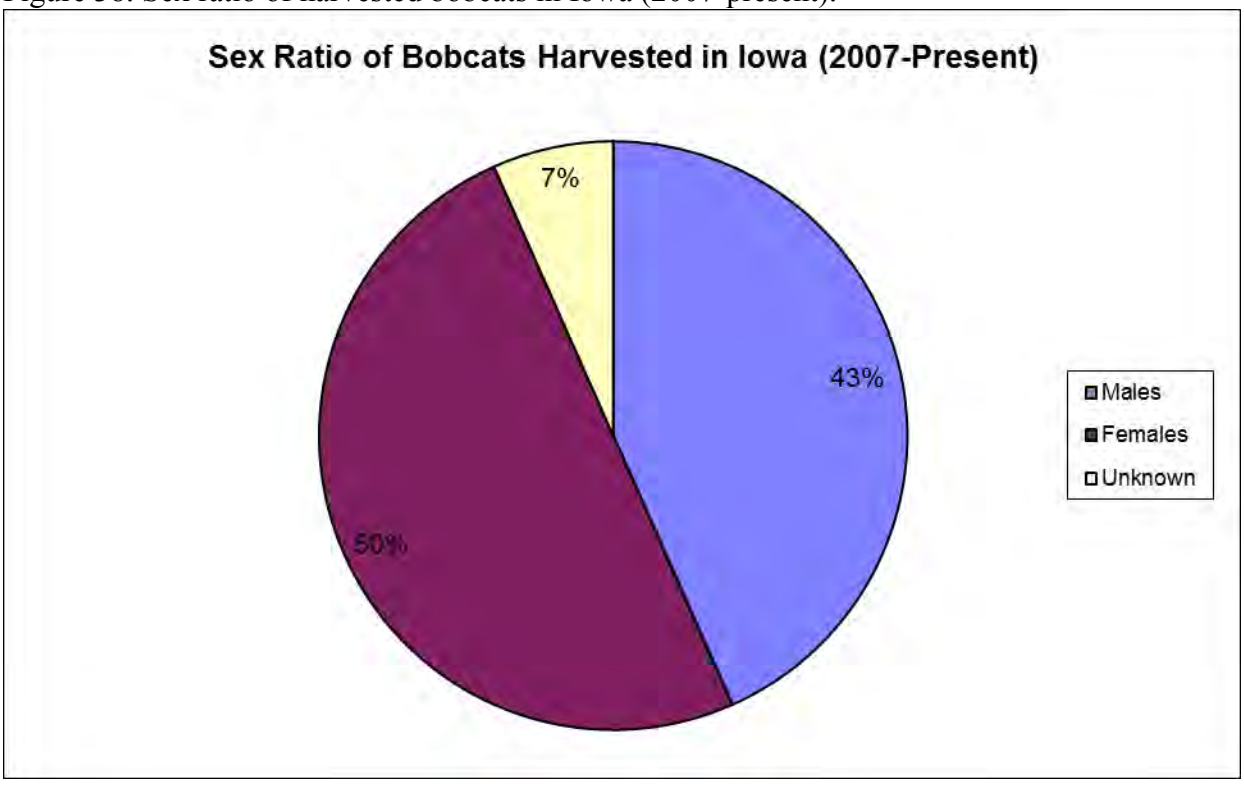


Figure 39. Harvest method of bobcats in Iowa (2007-present).

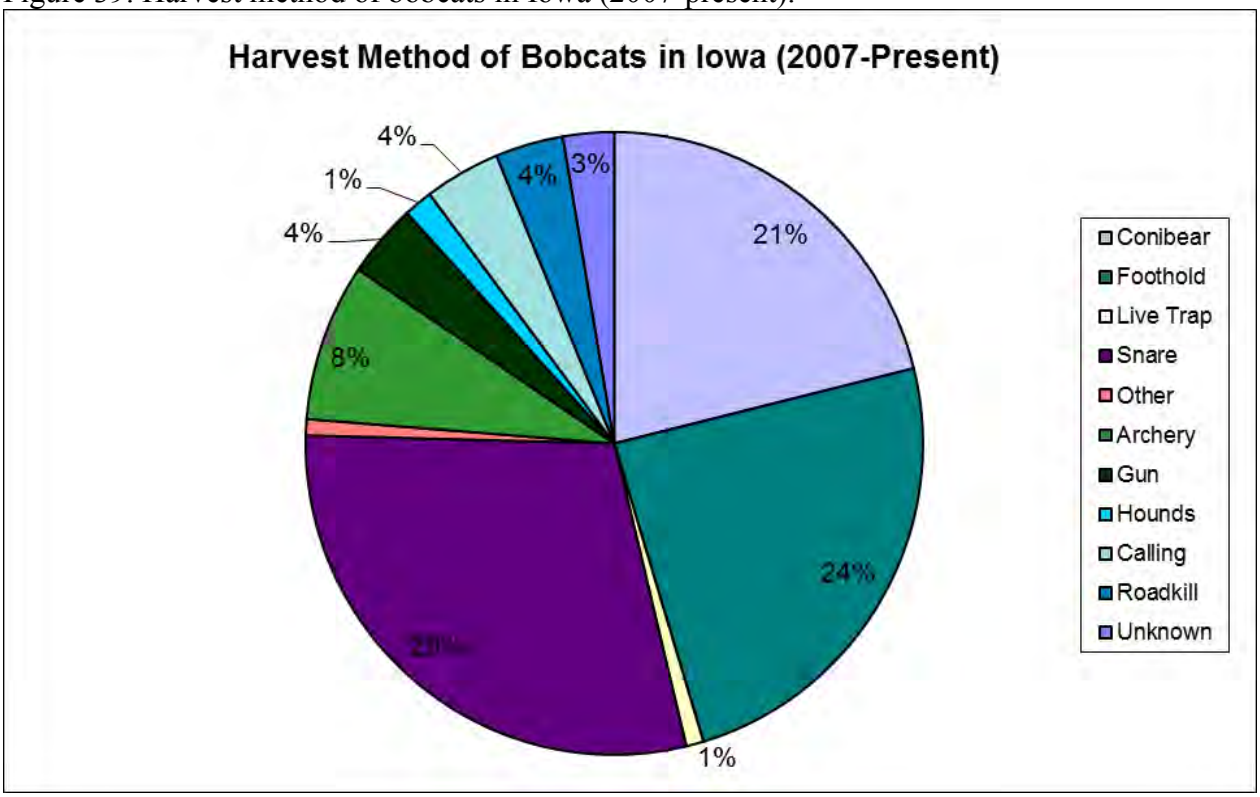


Figure 40. Percent of bobcats intentionally and incidentally harvested in Iowa (2007-present).

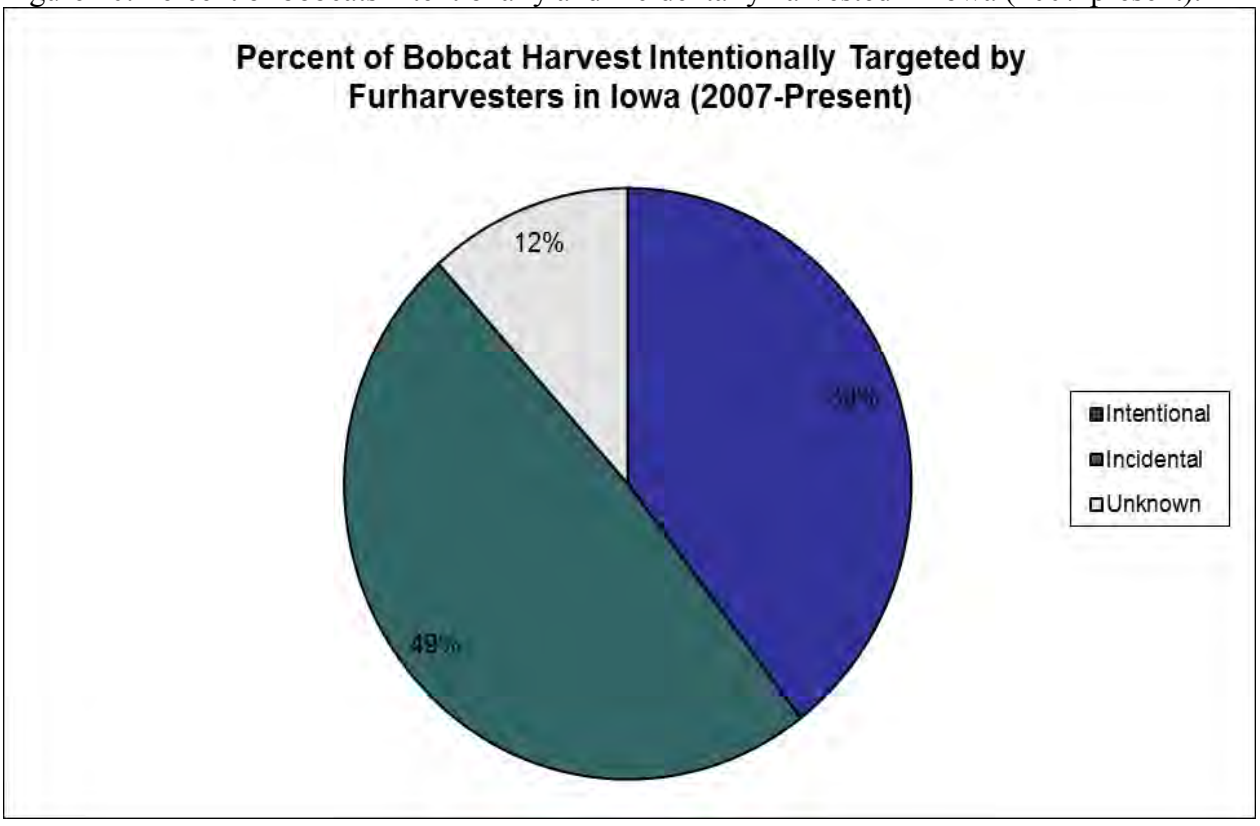


Figure 41. Trend for furharvesters intentionally targeting bobcats in Iowa (2007-present).

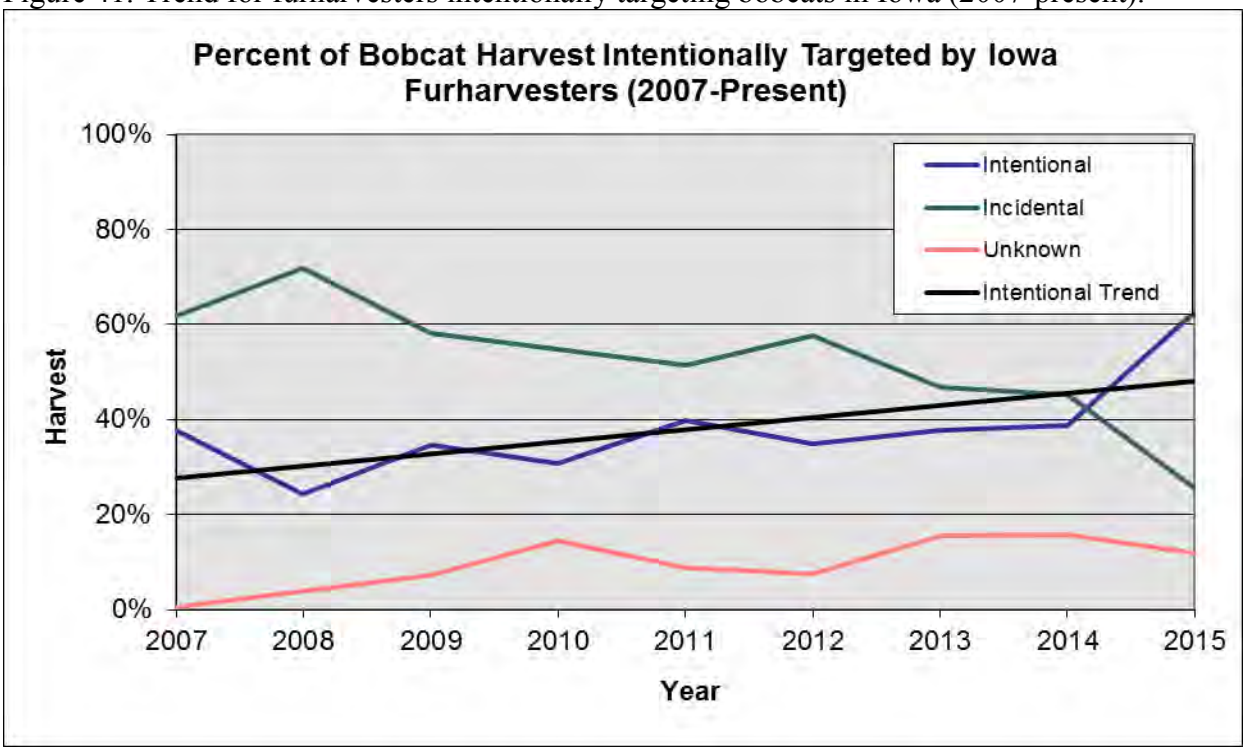


Figure 42. Results of bobcat Bowhunter Observation Survey in Iowa (2004-present).

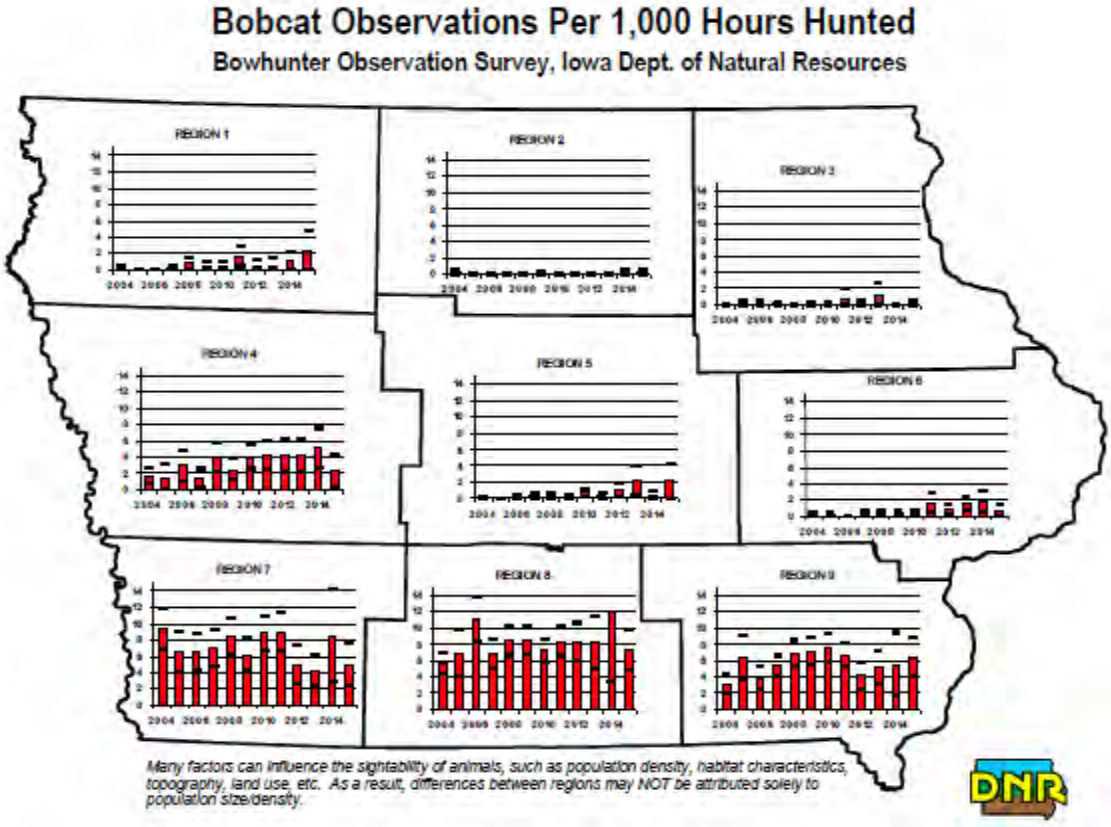


Table 1. Statewide furbearer harvest in Iowa listed by species as reported in licensed fur dealer reports (1930-present). Data for each year includes harvest for the winter of the succeeding year, e.g., 1930=1930+1931 (winter).

Season	Muskrat	Mink	Striped Skunk	Raccoon	Spotted Skunk	Red Fox	Gray Fox	Opossum	Weasel	Coyote	Badger	Beaver	Bobcat[a]	Otter[a]
1930-31	381,651	36,842	99,321	11,740	55,938	2,550	182	26,230	2,018		75			
1931-32	293,294	33,780	87,701	12,951	52,022	3,723	208	37,558	801	3	56			
1932-33	181,038	25,303	41,511	10,468	29,505	2,755	35	42,415	256	1	17			
1933-34	380,275	47,119	108,776	15,447	88,532	6,807	486	83,625	1,468		227			
1934-35	113,889	21,755	75,900	14,719	46,676	5,065	417	54,025	1,149		207			
1935-36	351,968	31,613	68,231	19,353	35,767	6,218		39,961	3,602		611			
1936-37	212,332	32,337	153,497	15,037	38,724	9,133	170	20,985	7,190	22	768			
1937-38	176,759	21,438	102,212	13,287	26,928	7,111	1,846	11,755	4,159	146	569			
1938-39	308,015	27,783	124,322	15,014	43,971	7,403	1,900	23,303	4,529	162	412			
1939-40	46,003	2,877	91,838	16,465	56,708	5,706	1,413	39,050	6,692	183	486			
1940-41	350,700	38,817	74,251	19,756	63,256	6,505	1,730	30,131	6,290	259	470			
1941-42	262,007	33,650	68,840	22,512	60,944	6,137	1,967	33,839	4,440	202	586			
1942-43	262,562	23,297	32,437	20,128	38,508	6,560	1,823	29,691	2,982	209	287			
1943-44	722,360	52,760	53,199	38,303	60,238	8,695	2,516	35,579	3,966	926	538	235		
1944-45	457,573	47,040	35,737	36,803	41,235	9,785	2,332	27,513	2,905	388	354	259		
1945-46	418,417	48,145	30,755	41,084	44,827	11,554	2,350	22,501	3,607	388	314	623		
1946-47	387,614	60,397	32,458	61,880	40,661	12,259	2,223	26,960	4,334	915	553	494		
1947-48	17,059	27,638	11,903	55,601	13,944	8,963								
1948-49	164,736	16,571	9,712	61,419	7,815	6,015	192	7,563	881	265	182	670		
1949-50	171,820	17,973	6,136	58,527	4,532	4,826	983	6,681	433	57	136	2,489		
1950-51	117,051	17,007	4,270	56,075	3,321	5,618	917	4,090	509	131	90	3,103		
1951-52	67,211	23,257	2,558	67,211	1,842	3,703	443	2,600	412	34	81	2,465		
1952-53	62,356	27,222	2,730	62,356	2,143	3,313	420	2,632	584	34	67	3,790		
1953-54	335,451	30,459	4,511	79,939	1,892	2,573	399	3,203	470	17	82	6,565		
1954-55	143,886	20,051	2,278	49,592	1,122	1,679	196	1,758	229	45	63	3,635		
1955-56	80,414	10,548	2,677	50,849	1,480	1,678	156	1,774	304	6	57	4,336		
1956-57	79,109	9,706	3,219	58,944	1,888	1,892	183	2,062	263	24	153	2,874		
1957-58	65,969	9,838	2,690	48,134	1,778	1,389	90	1,494	149	9	47	1,938		
1958-59	130,668	13,308	1,988	29,361	1,710	1,147	132	953	181	6	58	2,289		
1959-60	164,485	16,942	1,789	59,814	1,171	4,162	262	2,065	113	61	77	2,980		
1960-61	144,119	10,033	2,044	45,279	1,475	6,952	232	1,701	183	97	162	4,519		
1961-62	351,822	16,365	1,307	49,659	918	5,486	223	1,979	89	113	317	4,790		
1962-63	467,985	14,312	1,817	64,250	1,182	6,261	356	2,339	93	92	121	4,269		
1963-64	555,055	21,032	1,940	77,428	1,835	6,610	232	3,052	203	61	99	9,294		
1964-65	259,908	14,394	443	64,936	1,446	6,194	143	2,600	172	340	106	4,326		
1965-66	261,459	13,105	1,097	80,801	1,121	10,853	303	3,559	52	732	147	4,273		
1966-67	389,242	16,269	1,349	85,563	764	13,072	441	4,654	85	864	212	8,991		
1967-68	231,811	13,509	830	77,435	376	10,195	393	2,331	66	512	201	7,334		
1968-69	232,133	12,974	1,290	128,228	308	27,661	729	6,413	47	4,922	287	5,221		
1969-70	306,967	12,616	1,146	137,453	197	17,993	702	5,891	48	3,678	502	4,905		
1970-71	345,538	11,110	700	94,174	113	15,725	503	3,721	41	4,430	446	4,073		
1971-72	449,442	15,855	756	131,247	109	14,978	780	6,157	22	5,240	373	7,138		
1972-73	399,021	17,093	1,579	173,162	131	18,281	722	10,849	40	5,616	551	4,527		
1973-74	638,317	23,269	2,779	255,212	188	24,145	1,624	26,947	52	8,713	1,121	5,834		
1974-75	465,488	22,517	3,935	275,518	280	17,829	1,682	38,844	71	12,020	1,438	5,556		
1975-76	386,679	18,406	1,937	292,064	106	15,838	1,574	26,485	50	9,444	1,267	5,154		
1976-77	252,754	15,956	5,441	264,819	46	22,699	1,795	36,493	4	12,226	2,136	7,773		
1977-78	257,237	13,037	3,588	264,367	7	22,831	1,640	36,186	36	12,011	1,900	3,432		
1978-79	467,721	23,277	6,545	251,985		24,348	2,115	26,160	82	10,627	1,936	4,327		
1979-80	741,403	31,270	10,022	308,277		17,629	3,093	10,978	122	7,745	3,274	12,498		

(Continued)

Table 1 (Continued). Statewide furbearer harvest in Iowa listed by species as reported in licensed fur dealer reports (1930-present). Data for each year includes harvest for the winter of the succeeding year, e.g., 1930=1930+1931 (winter).

Season	Muskrat	Mink	Striped Skunk	Raccoon	Spotted Skunk	Red Fox	Gray Fox	Opossum	Weasel	Coyote	Badger	Beaver	Bobcat[a]	Otter[a]
1980-81	739,419	32,950	5,616	235,717		20,602	2,175	11,664	32	6,847	2,427	11,831		
1981-82	521,945	28,455	1,913	291,227		22,385	1,710	18,730	16	9,860	1,946	5,705		
1982-83	428,252	21,307	1,194	255,926		18,527	1,953	16,761	16	8,930	1,754	5,809		
1983-84	464,793	22,245	1,152	261,875		21,257	1,185	16,179		9,636	1,298	8,563		
1984-85	372,466	28,346	1,032	334,179		18,916	1,896	21,455		7,809	1,754	16,323		
1985-86	254,412	17,116	1,861	270,805		16,346	1,114	16,296		7,858	975	14,931		
1986-87	482,811	31,139	2,540	390,773		19,740	1,593	30,760		10,582	2,520	17,778		
1987-88	515,611	27,712	1,198	307,587		19,666	1,091	27,623		10,348	1,642	13,509		
1988-89	192,214	13,996	712	190,556		15,445	769	19,824		4,650	1,043	18,459		
1989-90	73,415	8,293	245	118,653		13,359	374	8,114		4,073	468	8,706		
1990-91	70,133	7,363	189	103,468		14,268	393	6,243		5,068	503	9,246		
1991-92	91,206	8,469	211	110,342		15,463	429	7,411		5,213	572	8,943		
1992-93	124,638	12,839	791	110,203		14,660	1,036	8,192		10,286	621	15,839		
1993-94	163,842	13,946	643	118,463		12,986	836	6,243		7,313	571	11,788		
1994-95	178,683	11,819	510	112,686		12,243	789	6,782		6,986	502	11,643		
1995-96	158,241	20,392	786	118,136		14,136	948	9,781		8,462	614	10,678		
1996-97	123,460	18,946	693	123,698		12,402	721	7,643		7,159	832	10,481		
1997-98	113,621	16,832	649	149,492		12,896	768	6,012		6,992	796	11,122		
1998-99	90,126	16,461	536	106,641		11,646	681	5,123		5,786	642	10,336		
1999-00	86,998	15,931	528	101,233		11,968	631	4,649		5,231	597	10,108		
2000-01	84,972	15,235	469	94,989		11,103	576	3,922		5,348	506	10,478		
2001-02	78,867	14,162	398	143,206		12,349	529	3,361		6,702	487	11,287		
2002-03	89,421	14,986	417	118,531		14,869	507	2,905		5,746	402	10,431		
2003-04	54,919	10,711	842	177,315		10,608	365	6,184		8,178	912	8,591		
2004-05	45,516	11,662	930	179,185		7,122	198	5,858		5,197	761	6,221		
2005-06	79,328	13,162	793	163,746		8,587	219	5,916		7,381	606	8,698		
2006-07	64,799	7,706	1,434	156,379		2,013	20	2,254		4,258	704	5,675		466
2007-08	55,476	7,967	1,256	143,271		2,143	178	2,673		4,513	536	5,303	154	416
2008-09	48,794	8,236	1,042	124,789		3,729	217	2,251		5,176	431	5,829	234	479
2009-10	44,436	6,905	388	115,349		1,792	13	1,261	56	2,501	454	3,431	236	508
2010-11	98,079	11,262	708	236,943		3,810	26	3,156	7	8,089	946	5,382	274	456
2011-12	78,422	12,977	858	326,368		4,209	85	3,932	3	7,765	1,220	11,652	398	770
2012-13	54,382	8,060	788	303,496		4,104	63	4,820	31	13,261	1,343	15,457	528	971
2013-14	30,584	5,582	779	308,025		4,099	16	5,668	9	15,347	1,006	7,496	978	1,165
2014-15	44,175	5,332	642	200,509		2,397	182	2,187	3	13,911	957	4,591	706	835
2015-16	33,327	4,545	386	89,061		1,581	44	940	50	13,158	289	4,021	535	692
Average														
5-Year	48,178	7,299	691	245,492		3,278	78	3,509	19	12,688	963	8,643	629	887
10-Year	55,247	7,857	828	200,419		2,988	84	2,914	23	8,798	789	6,884	449	676
20-Year	69,985	11,333	727	168,111		7,171	302	4,036	23	7,585	721	8,330	449	676
50-Year	235,911	15,604	1,541	188,647	219	13,533	842	11,098	41	7,473	986	8,862	449	676
Long-term[1]	241,193	19,708	16,548	127,180	18,327	10,278	828	14,025	1,130	4,686	681	7,129	449	676

[1] Long-term data dates back to 1930.

[a] Otter and bobcat harvest data was recorded from the harvest reporting system, not licensed fur dealers.

Table 2. Number of licensed furharvesters and fur dealers in Iowa (2003-Present).

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Resident Furharvesters	14,404	14,607	13,376	14,542	15,279	15,523	14,098	15,033	16,928	19,197	20,148	18,482	14,659
Lifetime Furharvesters	--	--	--	--	--	--	--	--	--	--	422	560	955
Non-Resident Furharvesters	99	91	83	100	134	168	99	144	121	171	248	144	670
Total	14,503	14,698	13,459	14,642	15,413	15,691	14,197	15,177	17,049	19,268	20,818	19,186	16,284
Resident Fur Dealers	43	46	41	38	39	40	34	34	34	36	36	44	40
Non-Resident Fur Dealers	2	3	2	5	4	4	3	2	5	4	6	5	4
Total	45	49	43	43	43	44	37	36	39	40	42	49	44

Table 3. Total number of pelts sold in Iowa and average, minimum, and maximum prices paid per species by fur dealers (2012-Present).

	No. of Pelts Sold in Iowa	Price Paid per Pelt ($)		
		Average	Minimum	Maximum
Raccoon				
2013-14	308,025	15.85	7.90	17.85
2014-15	200,509	10.66	3.32	19.13
2015-16	89,061	4.53	1.00	8.00
Muskrat				
2013-14	30,584	9.28	5.00	14.41
2014-15	44,175	4.79	1.00	7.41
2015-16	33,327	2.35	0.90	4.00
Mink				
2013-14	5,582	16.50	7.00	21.10
2014-15	5,332	8.77	3.88	16.00
2015-16	4,545	5.42	1.00	20.00
Beaver				
2013-14	7,496	16.01	4.00	25.00
2014-15	4,591	9.51	3.00	20.00
2015-16	4,021	7.62	2.61	20.00
Coyote				
2013-14	15,347	23.92	6.80	41.00
2014-15	13,911	24.67	1.00	43.91
2015-16	13,158	20.36	6.65	30.00
Red Fox				
2013-14	4,099	36.27	15.00	50.00
2014-15	2,397	20.14	10.00	25.03
2015-16	1,581	10.85	5.00	20.00
Opossum				
2013-14	5,668	2.00	0.25	4.00
2014-15	2,187	1.33	0.25	2.50
2015-16	940	0.85	0.25	1.50
Badger				
2013-14	1,006	17.14	5.00	24.00
2014-15	957	12.01	4.00	25.00
2015-16	289	8.78	3.00	20.00
Striped Skunk				
2013-14	779	4.43	0.50	6.00
2014-15	642	4.18	0.50	8.94
2015-16	386	2.53	0.50	7.00
River Otter				
2013-14	1,165	58.26	35.00	80.00
2014-15	835	31.91	10.00	50.00
2015-16	692	19.74	10.00	30.00
Bobcat				
2013-14	641	79.20	10.00	115.50
2014-15	706	44.57	25.00	150.00
2015-16	535	32.29	15.00	60.00
Gray Fox				
2013-14	16	16.81	10.00	26.44
2014-15	182	15.36	12.00	25.00
2015-16	44	8.49	3.00	15.00
Weasel				
2013-14	9	2.46	2.14	4.00
2014-15	3	2.67	0.50	7.00
2015-16	50	0.53	0.50	1.00

Table 4. Value ($) of pelts from important furbearer species harvested 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
Season	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Total Value
1930-31	3.50	128,947	0.42	160,293	4.50	52,830	6.85	17,467	534,409
1931-32	3.60	121,608	0.52	152,512	4.40	56,984	4.50	16,753	497,260
1932-33	3.00	75,909	0.30	54,311	2.60	27,216	3.25	8,953	213,186
1933-34	4.40	207,323	0.52	197,743	3.45	53,292	4.50	30,631	615,688
1934-35	4.40	95,810	0.70	79,722	3.50	51,516	4.00	20,260	348,843
1935-36	5.93	187,465	0.98	344,928	3.95	76,444	2.95	18,343	723,451
1936-37	9.00	291,033	1.25	265,440	4.00	60,148	3.00	27,399	842,666
1937-38	5.60	120,052	0.60	106,055	3.65	48,497	3.00	21,333	412,361
1938-39	7.25	201,426	0.75	231,011	2.80	42,039	3.50	25,910	723,099
1939-40	6.25	17,981	1.05	48,303	2.45	40,339	2.50	14,265	277,519
1940-41	7.30	283,364	1.21	424,347	3.71	73,294	2.70	17,563	979,482
1941-42	6.75	227,137	1.32	345,849	4.90	110,308	4.50	27,616	903,874
1942-43	6.15	143,276	1.47	385,966	3.65	73,467	5.40	35,424	741,621
1943-44	12.50	659,500	2.25	1,625,310	3.25	277,696	10.00	86,950	2,961,462
1944-45	6.75	317,520	1.32	603,966	4.90	180,334	4.50	44,032	1,267,151
1945-46	28.16	1,355,763	2.18	912,149	2.89	118,732	3.95	45,638	2,630,655
1946-47	18.14	1,095,601	1.71	622,819	1.97	121,903	2.03	24,885	2,003,965
1947-48	29.73	821,677	2.40	40,941	2.61	145,118	1.26	11,293	1,018,093
1948-49	18.30	303,249	1.62	266,872	2.23	136,964	0.88	5,293	737,577
1949-50	12.15	218,371	1.38	237,371	1.95	114,127	0.60	2,895	611,352
1950-51	23.50	399,664	1.81	211,862	2.95	165,421	0.75	4,213	828,250
1951-52	17.48	406,532	1.37	361,081	2.67	179,453	0.39	1,444	972,134
1952-53	16.40	446,440	1.13	444,587	1.72	107,252	0.42	1,391	1,026,952
1953-54	13.49	380,891	0.69	231,461	1.57	125,504	0.36	926	773,398
1954-55	17.59	352,697	0.93	133,813	1.71	84,802	0.36	604	594,635
1955-56	18.03	190,180	1.11	98,259	2.81	142,885	0.24	402	458,230
1956-57	15.09	146,463	0.83	65,657	1.81	106,688	0.20	378	339,464
1957-58	12.50	122,975	0.75	49,476	1.15	55,354	0.25	347	251,660
1958-59	14.31	190,437	0.77	100,614	1.78	52,262	0.51	584	363,240
1959-60	16.63	281,745	0.83	136,500	2.82	168,675	1.43	5,951	621,201
1960-61	10.38	104,142	0.61	87,912	1.96	88,746	1.24	8,620	327,976
1961-62	10.20	166,923	0.58	204,056	2.31	114,712	1.36	7,460	527,389
1962-63	11.08	158,576	0.83	388,427	2.42	155,485	1.81	11,332	743,506
1963-64	10.90	229,248	1.17	649,414	1.44	111,496	1.86	12,294	1,069,812
1964-65	8.73	125,659	1.02	265,106	1.51	98,053	1.84	11,396	536,544
1965-66	7.83	102,612	1.32	345,244	2.47	199,578	5.80	62,947	753,832
1966-67	7.84	127,548	0.98	381,457	2.17	185,671	3.02	39,477	815,957
1967-68	8.08	109,152	0.70	162,267	2.63	203,654	4.12	42,003	600,422
1968-69	11.44	148,422	0.92	213,562	4.62	592,413	10.39	287,397	1,355,639
1969-70	7.06	89,068	1.15	353,012	3.43	471,463	5.86	105,448	1,090,212
1970-71	4.93	54,772	0.88	311,993	2.35	211,308	6.05	95,136	736,023
1971-72	7.86	124,620	1.37	615,735	5.20	682,484	10.59	158,617	1,700,782
1972-73	13.50	230,755	2.05	817,993	8.50	1,471,877	21.87	399,805	3,061,442
1973-74	11.35	264,103	2.25	1,436,213	9.80	2,501,077	26.95	650,707	5,083,978
1974-75	8.67	195,222	2.40	1,117,171	10.60	2,920,490	19.56	348,735	4,818,166
1975-76	9.65	177,617	2.85	1,102,035	17.85	5,213,342	39.88	631,619	7,390,136
1976-77	14.06	224,341	4.31	1,089,369	22.51	5,961,075	46.33	1,051,644	8,976,168
1977-78	12.44	162,180	4.77	1,227,020	22.27	5,887,453	49.53	1,130,819	8,871,156
1978-79	14.48	337,050	4.49	2,100,067	31.18	7,856,892	64.65	1,574,098	12,516,946
1979-80	19.04	595,380	5.64	4,181,512	29.97	9,239,061	48.71	858,708	15,499,322

(Continued)

Table 4. (Continued). Value ($) of pelts from important furbearer species harvested 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
Season	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Mean Price	Total Value	Total Value
1980-81	18.20	599,690	5.88	4,347,783	21.47	5,060,843	42.88	883,413	11,269,768
1981-82	17.99	511,905	3.84	2,004,268	27.69	8,064,075	46.29	1,036,201	12,021,854
1982-83	11.18	238,212	2.18	933,589	16.54	4,233,016	28.85	534,503	6,235,053
1983-84	16.03	356,481	2.30	1,152,686	14.23	3,726,481	33.16	704,882	6,180,169
1984-85	14.22	403,080	2.88	1,072,702	18.94	6,329,350	25.24	477,439	8,574,748
1985-86	11.76	201,274	1.89	480,838	14.34	3,883,343	16.70	272,978	5,163,651
1986-87	20.79	647,379	3.39	1,636,729	18.22	7,119,884	20.73	409,210	10,335,629
1987-88	20.76	575,301	3.32	1,711,828	16.65	5,121,323	18.07	355,365	8,097,250
1988-89	22.06	308,751	2.05	394,038	7.96	1,516,825	12.15	187,656	2,602,695
1989-90	16.34	138,890	1.02	76,500	4.74	568,800	9.70	135,800	1,018,622
1990-91	18.26	134,448	2.08	145,876	4.96	513,201	10.22	145,898	1,074,761
1991-92	15.49	131,184	1.96	178,764	5.36	591,433	9.63	148,909	1,198,863
1992-93	19.46	249,846	1.58	196,928	6.36	700,891	8.43	123,078	1,579,821
1993-94	16.78	234,014	1.83	299,831	5.81	688,270	8.98	116,614	1,388,729
1994-95	14.13	167,003	1.95	348,432	6.89	706,686	9.86	120,716	1,409,848
1995-96	18.01	367,259	1.78	281,670	6.83	808,371	8.76	123,831	1,745,504
1996-97	19.36	336,795	1.56	182,598	8.92	1,103,386	8.43	104,549	1,661,687
1997-98	17.86	302,303	1.51	171,568	7.79	1,169,643	7.04	90,788	1,729,199
1998-99	16.05	264,199	1.66	149,609	7.21	768,882	8.21	95,637	1,203,362
1999-00	19.16	255,583	1.55	134,847	8.13	823,024	9.68	115,850	1,329,304
2000-01	15.46	235,533	2.09	177,591	9.26	879,598	9.86	109,476	1,378,689
2001-02	17.23	244,011	2.43	191,647	11.69	1,674,078	10.86	134,110	2,168,918
2002-03	14.96	244,191	1.85	165,429	12.16	1,441,370	11.36	168,912	2,069,869
2003-04	10.51	112,573	2.06	113,133	10.11	1,792,655	19.16	203,441	2,589,802
2004-05	10.27	119,769	1.85	85,115	9.62	1,723,760	14.68	104,551	1,965,131
2005-06	12.03	158,339	6.15	487,867	11.43	1,871,612	12.81	109,999	2,827,822
2006-07	13.07	100,703	5.79	375,339	10.18	1,591,138	15.13	36,503	2,204,483
2007-08	14.76	116,876	3.08	170,886	12.34	1,442,250	13.55	29,038	1,757,223
2008-09	9.48	78,077	2.51	122,473	9.23	1,151,822	11.57	43,145	1,293,846
2009-10	8.22	56,760	3.97	176,411	8.80	1,015,071	10.04	17,992	1,095,999
2010-11	12.83	144,542	5.31	645,472	12.52	2,965,833	16.81	64,030	4,020,719
2011-12[a]	12.62	193,285	5.93	511,780	10.86	4,098,994	17.74	106,182	5,288,094
2012-13	15.91	305,842	7.48	423,249	13.60	4,664,032	25.85	128,958	5,983,493
2013-14[a]	16.50	92,077	9.28	283,731	15.85	4,882,917	36.27	148,689	6,034,386
2014-15[a]	8.77	46,781	4.79	211,583	10.66	2,137,468	20.14	48,281	2,905,703
2015-16[a]	5.42	24,641	2.35	78,280	4.53	403,850	10.85	17,155	926,640
Average									
5-Year	11.84	132,525	5.97	301,725	11.10	3,237,452	22.17	89,853	4,227,663
10-Year	11.76	115,958	5.05	299,920	10.86	2,435,338	17.80	63,997	3,151,059
20-Year	13.52	171,644	3.66	242,930	10.24	1,880,069	14.50	93,864	2,521,718
50-Year	13.64	220,815	2.87	624,559	11.12	2,515,423	18.40	284,151	3,846,635
Long-term	12.97	258,326	2.18	536,161	7.85	1,563,373	12.21	182,107	2,698,600

[1] Long-term data dates back to 1930.

[a] For years when there furharvesters which reported number of pelts purchased without average price paid per pelt, total values for those furharvesters were estimated using the overall average price paid per pelt calculated from all furharvesters.

Table 5. Percent of fox, raccoon, and coyote furs purchased from hunters and trappers statewide in Iowa; determined from fur dealer reports (1975-present). Data for each year includes harvest from the succeeding year, e.g., 1975=1975+1976 (winter).

	Raccoon			Red and Gray Fox			Coyote			Bobcat		
	% Purchased From			% Purchased From			% Purchased From			% Purchased From		
Season	Trapper	Hunter	Unknown	Trapper	Hunter	Unknown	Trapper	Hunter	Unknown	Trapper	Hunter	Unknown
1975-76	28	60	12	45	48	7	18	72	10			
1976-77	28	66	6	55	41	4	28	68	4			
1977-78	24	68	8	36	55	9	18	72	10			
1978-79	31	61	8	37	58	5	17	74	9			
1979-80	30	58	12	53	32	15	30	59	11			
1980-81	33	60	7	66	29	5	33	60	7			
1981-82	42	46	12	38	46	16	20	74	6			
1982-83	35	53	12	47	45	8	25	69	6			
1983-84	37	50	13	33	59	8	17	67	16			
1984-85	33	41	26	49	31	20	26	60	14			
1985-86	37	52	11	39	54	7	23	65	12			
1986-87	46	49	5	59	35	6	34	62	4			
1987-88	49	47	4	53	43	4	32	62	6			
1988-89	49	46	5	58	34	8	30	67	3			
1989-90	35	45	20	48	28	24	24	61	15			
1990-91	38	55	7	43	46	11	28	66	6			
1991-92	41	51	8	44	49	7	25	67	8			
1992-93	45	50	5	40	52	8	36	54	6			
1993-94	43	52	5	43	50	7	34	57	9			
1994-95	44	46	10	39	55	6	33	59	8			
1995-96	47	45	8	41	52	7	30	65	5			
1996-97	48	48	4	44	48	8	32	58	10			
1997-98	48	46	5	40	47	13	29	62	9			
1998-99	46	47	5	46	48	6	33	63	4			
1999-00	42	53	5	45	46	9	34	61	5			
2000-01	38	46	16	34	58	8	31	58	11			
2001-02	43	47	10	52	43	5	36	56	8			
2002-03	48	42	10	56	38	6	32	59	9			
2003-04	49	43	8	52	44	4	35	58	7			
2004-05	43	49	8	49	45	6	32	60	8			
2005-06	39	52	9	53	38	9	30	64	6			
2006-07	49	47	4	51	45	4	34	58	8			
2007-08	48	46	6	44	51	6	37	57	6			
2008-09	44	48	8	40	55	5	35	59	6			
2009-10	45	46	9	36	48	6	36	58	6			
2010-11	63	14	23	46	24	30	18	53	29			
2011-12	63	28	9	73	15	12	41	43	16			
2012-13	69	31	0	80	20	0	47	53	0	70	15	15
2013-14	73	27	0	82	18	0	47	53	0	96	4	0
2014-15	78	22	0	84	16	0	49	51	0	62	38	0
2015-16	68	32	0	73	27	0	40	60	0	92	8	0
5-Year Avg.	70	28	2	78	19	2	45	52	3	80	16	4
10-Year Avg.	60	34	6	61	32	6	38	54	7	80	16	4
20-Year Avg.	52	41	7	54	39	7	35	57	7	80	16	4
Total Avg.	45	47	8	50	42	8	31	61	8	80	16	4

Table 6. Trapping and hunting furbearer harvest seasons in Iowa (2010-Present).

		Trapping Season Dates		Hunting Season Dates		Bag Limit	
Season	Species	Open	Close	Open	Close	Daily	Possession
2010-11	ra, stsk, ba, op, rf, gf	Nov 6	Jan 31	Nov 6	Jan 31	No Limit	No Limit
	mi, mu, we	Nov 6	Jan 31			No Limit	No Limit
	be	Nov 6	Apr 01			No Limit	No Limit
	co	Nov 6	Jan 31	Continuous Open Season		No Limit	No Limit
[1] [9]	ot	Nov 6	Jan 31			2	2
[4] [9]	bc	Nov 6	Jan 31	Nov 6	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			
2011-12	ra, stsk, ba, op, rf, gf	Nov 5	Jan 31	Nov 5	Jan 31	No Limit	No Limit
	mi, mu, we	Nov 5	Jan 31			No Limit	No Limit
	be	Nov 5	Apr 15			No Limit	No Limit
	co	Nov 5	Jan 31	Continuous Open Season		No Limit	No Limit
[5] [9]	ot	Nov 5	Jan 31			3	3
[6] [9]	bc	Nov 5	Jan 31	Nov 5	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			
2012-13	ra, stsk, ba, op, rf, gf	Nov 3	Jan 31	Nov 3	Jan 31	No Limit	No Limit
	mi, mu, we	Nov 3	Jan 31			No Limit	No Limit
	be	Nov 3	Apr 15			No Limit	No Limit
	co	Nov 3	Jan 31	Continuous Open Season		No Limit	No Limit
[7] [9]	ot	Nov 3	Jan 31			3	3
[8] [9]	bc	Nov 3	Jan 31	Nov 3	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			
2013-14	ra, stsk, ba, op, rf, gf	Nov 2	Jan 31			No Limit	No Limit
	mi, mu, we	Nov 2	Jan 31			No Limit	No Limit
	be	Nov 2	Apr 15			No Limit	No Limit
	co	Nov 2	Jan 31	Continuous Open Season		No Limit	No Limit
[9]	ot	Nov 2	Jan 31			2	2
[9]	bc	Nov 2	Jan 31	Nov 2	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			
2014-15	ra, stsk, ba, op, rf, gf	Nov 1	Jan 31			No Limit	No Limit
	mi, mu, we	Nov 1	Jan 31			No Limit	No Limit
	be	Nov 1	Apr 15			No Limit	No Limit
	co	Nov 1	Jan 31	Continuous Open Season		No Limit	No Limit
[9]	ot	Nov 1	Jan 31			2	2
[9]	bc	Nov 1	Jan 31	Nov 1	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			
2015-16	ra, stsk, ba, op, rf, gf	Nov 7	Jan 31	Nov 7	Jan 31	No Limit	No Limit
	mi, mu, we	Nov 7	Jan 31			No Limit	No Limit
	be	Nov 7	Apr 15			No Limit	No Limit
	co	Nov 7	Jan 31	Continuous Open Season		No Limit	No Limit
[9]	ot	Nov 7	Jan 31			2	2
[9]	bc	Nov 7	Jan 31	Nov 7	Jan 31	1	1
	spsk, gw	Continuous Closed Season		Continuous Closed Season			

* Species codes: ba - badger; bc - bobcat; be - beaver; co - coyote; gr - gray fox; gw - gray wolf; mi - mink; mu - muskrat; op - opossum; ot - otter; ra - raccoon; rf - red fox; spsk - spotted skunk; stsk - striped skunk; we - weasel.

[9] CITES tag required.

Table 7. Results of the Iowa raccoon spotlight survey with raccoon harvest and pelt price (1977-present). The spotlight survey is conducted in April each year. Harvest data are from previous harvest season.

Year	Total Number of Routes	Mean Number Observed	Raccoon Harvest	Average Pelt Price ($)
1977	57	10	264,367	22.27
1978	83	11	251,985	31.18
1979	82	8	308,277	29.97
1980	85	9	235,717	21.47
1981	85	10	291,227	27.69
1982	84	13	255,926	16.54
1983	82	13	261,875	14.23
1984	84	12	334,179	18.94
1985	83	11	270,805	13.91
1986	80	11	390,773	18.22
1987	79	12	307,587	16.65
1988	83	15	190,556	7.96
1989	84	17	118,653	4.74
1990	86	17	103,468	4.62
1991	84	18	110,342	4.96
1992	82	22	110,203	5.36
1993	84	21	118,463	5.81
1994	89	21	112,686	6.89
1995	87	24	118,136	6.83
1996	89	24	123,698	8.26
1997	88	22	149,492	7.79
1998	88	23	106,641	7.21
1999	88	22	101,233	8.13
2000	88	24	94,989	9.26
2001	88	21	143,206	11.69
2002	88	21	118,531	12.16
2003	88	21	177,313	10.11
2004	88	21	179,185	9.62
2005	82	19	163,746	11.43
2006	84	22	156,379	10.18
2007	83	23	143,271	12.24
2008	81	24	124,789	9.23
2009	78	29	115,349	8.80
2010	81	24	236,943	12.52
2011	85	29	326,368	10.86
2012	89	34	273,339	13.60
2013	99	34	308,025	15.85
2014	99	38	200,509	10.66
2015	99	36	89,061	4.53
2016	99	37		
5-Year Average	97	36	239,460	11
10-Year Average	89	31	197,403	11
20-Year Average	88	26	166,603	10
Overall Average	85	21	191,982	12

Table 8. Otter harvest seasons and harvest data in Iowa (2006-Present).

	Harvest Season									
Season	No. of Counties[1]	Open Date	Close Date	Season Length	Average Catch Rate per Day	Male Harvest	Female Harvest	Unknown Sex Harvest	Total Harvest[2]	Quota
2006 [a] [b] [d]	Statewide	4-Nov	17-Nov	14	33	197	191	80	468	400
2007 [b] [e]	Statewide	3-Nov	25-Nov	23	18	192	185	42	419	400
2008 [b] [e]	Statewide	1-Nov	27-Nov	25	19	222	218	40	480	500
2009 [b] [e]	Statewide	7-Nov	4-Dec	28	18	225	240	49	514	500
2010 [b] [e]	Statewide	6-Nov	24-Nov	19	24	200	206	51	457	500
2011 [c] [e]	Statewide	5-Nov	23-Nov	19	41	360	335	75	770	650
2012 [c] [e]	Statewide	3-Nov	25-Nov	23	42	446	460	67	973	850
2013 [b]	Statewide	2-Nov	31-Jan	91	13	559	484	122	1165	none
2014 [b]	Statewide	1-Nov	31-Jan	92	9	409	345	81	835	none
2015 [b]	Statewide	7-Nov	31-Jan	86	8	343	279	70	692	none
					Total	3153	2943	677	6773	

* Harvest data excludes known road-killed otters.

[a] First regulated otter harvest season in Iowa.

[b] Season bag limit of two per licensed furharvester.

[c] Season bag limit of three per licensed furharvester.

[d] Harvest data includes animals harvested during a 72-hour grace period following season closure.

[e] Harvest data includes animals harvested during a 48-hour grace period following season closure.

[1] Statewide includes 99 Iowa counties.

[2] Data includes harvest from unknown sources; may include road-killed animals. Source of collection was not specified in some harvest reports.

Table 9. Otter harvest methods by season in Iowa (2006-Present).

	Harvest Method							
Season	Conibear	Foothold	Live Trap	Snare	Other[1]	Unknown[1]	Total Harvest	Harvest Quota
2006 [a] [b]	160	254	0	26	4	22	468	400
2007 [c]	141	231	3	40	0	1	419	400
2008 [c]	174	239	0	49	0	17	480	500
2009 [c]	197	249	2	52	0	8	514	500
2010 [c]	196	198	0	39	0	23	457	500
2011 [c]	305	340	1	96	0	28	770	650
2012 [c]	371	470	5	116	2	7	973	850
2013	549	471	1	119	6	19	1165	none
2014	422	308	2	79	12	12	835	none
2015	358	228	1	74	18	13	692	none
Total	2873	2988	15	690	42	150	6773	

[a] First regulated otter harvest season in Iowa

[b] Harvest data includes animals harvested during a 72-hour grace period following season closure.

[c] Harvest data includes animals harvested during a 48-hour grace period following season closure.

[1] Data may include road-killed animals. Source of collection was not specified in some harvest reports.

Table 10. Bobcat harvest seasons and harvest data in Iowa (2007-Present).

	Harvest Season									
Season	No. of Counties	Open Date	Close Date	Season Length	Average Catch Rate per Day	Male Harvest	Female Harvest	Unknown Sex Harvest	Total Harvest	Quota
2007 [a]	21	3-Nov	21-Nov	19	8	69	71	14	154	150
2008	25	1-Nov	21-Nov	21	11	103	117	14	234	200
2009	25	7-Nov	30-Nov	24	9	107	107	21	235	200
2010	35	6-Nov	23-Nov	18	15	100	140	34	274	250
2011	35	5-Nov	29-Nov	25	16	162	209	27	398	350
2012	35	3-Nov	1-Dec	29	18	233	263	32	528	450
2013	41	2-Nov	31-Jan	91	11	436	484	58	978	None
2014	41	1-Nov	31-Jan	92	8	315	356	35	706	None
2015	41	7-Nov	31-Jan	86	6	228	274	33	535	None
					Total	1753	2021	268	4042	

* Season bag limit of one per licensed furharvester (2007-present).

* Harvest data includes animals harvested during a 48-hour grace period following season closure.

* Harvest data excludes known road-killed bobcats.

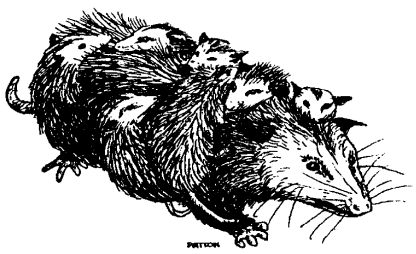
[a] First regulated bobcat harvest season in Iowa.

Table 11. Bobcat harvest methods by season in Iowa (2007-Present).

	Harvest Method												
Season	Conibear	Foothold	Live Trap	Snare	Archery	Gun	Calling	Hounds	Roadkill	Other	Unknown	Total Harvest	Harvest Quota
2007 [a]	37	26	0	40	20	4		6	5		16	154	150
2008	72	35	3	85	23	3		7	2		4	234	200
2009	56	35	0	82	24	7		4	14		13	235	200
2010	58	50	1	92	38	6		4	6		19	274	250
2011	114	85	3	122	32	5		6	7		24	398	350
2012	107	143	7	167	47	16	15	7	15		4	528	450
2013	223	231	7	328	51	37	51	5	30	10	5	978	none
2014	124	217	7	174	45	44	31	14	27	4	19	706	none
2015	63	157	9	89	51	33	64	8	38	19	4	535	none
Total	854	979	37	1179	331	155	161	61	144	33	108	4042	

* Harvest data includes animals harvested during a 48-hour grace period following season closure.

[a] First regulated bobcat harvest season in Iowa



Waterfowl Management, Seasons, and Harvests in Iowa

Figures and Tables referenced in this document are separate .pdf files.

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 the U.S. Fish and Wildlife Service (USFWS), Canadian Wildlife Service, and provincial and state conservation agencies. 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 transects. The estimates in Table 4.1 are not the entire continental breeding populations of ducks; a portion of each population (potentially 25% 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 at all-time highs. This positive trend, however, is the result of increasing numbers of some species (e.g., mallards and blue-winged teal) and decreasing numbers of others (e.g., pintails and scaup). 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 of these birds, however, was dramatically illustrated when most 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 reasons apparently related to nutritional deficiencies on migration habitats. Duck populations will continue to fluctuate in the future as the numbers of wetlands on the landscape in north-central North America rise and fall with changes in the weather

Giant Canada Goose Population

Giant Canada geese nested throughout Iowa prior to European settlement, but were extirpated from most of the Midwest, including Iowa, by 1900. The giant Canada goose restoration program initiated by the Iowa Conservation Commission in 1964, the forerunner to the Iowa Dept. of Natural Resources (IADNR), has successfully restored this species to most of its former nesting range in Iowa (see Giant Canada Goose Restoration). The giant Canada goose population in Iowa exhibited steady growth during 1965-2010, and has declined since 2012 (Fig. 4.2). Each summer, biologists and technicians estimate the numbers of adult Canada geese and goslings in their wildlife units. To obtain a statistically valid estimate of this population, an aerial survey is also conducted each spring. The results of the aerial survey conducted during April 2014 indicated the population was 71,726 (±12,191) (± 95% Conf. Limit). Prior to 2005, the population estimates made by wildlife biologists were nearly identical to the population estimates obtained from the aerial surveys. This indicates that the biologists' estimates accurately represented the growth rate and size of this population for most of the 20th century.

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), which is used to calculate the total number of waterfowl killed, and 2) a survey that solicits duck wings and goose tails, which is used to estimate 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 with low duck populations and restrictive hunting 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 August and September. Duck harvests began to decline in 1985, bottoming out in 1988 and 1989. Reasons for reduced harvests included smaller breeding populations and 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 increasing numbers of local giant Canada geese (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 other consists of small Canada geese, commonly called “cacklers” or “hutchies,” that nest on Baffin Island in the Arctic). The floods of 1993 may have also contributed to the decrease in the Canada goose harvest that year. Canada goose harvests resumed their increasing trend in the mid 1990’s, and peaked at 78,600 in 2005. The apparent drop in harvest in 1998 and 1999 may be an artifact of how the estimates were calculated rather than an actual change in harvest. At that time, the USFWS was converting from the old waterfowl stamp survey methodology to the new Harvest Information Program (HIP) survey. Harvest numbers from 1999 to the present are HIP estimates. Despite the Canada goose season being lengthened from 70 to 90 days in 2006 and to 98 days in 2010, Canada goose harvests have not increased in recent years. The smaller harvests in recent years likely reflect poor goose production in Iowa in those years.

The snow goose harvest in Iowa has declined since the early 1970's, despite record high numbers of snow geese in the Flyway in the 1990's and 2000’s. Declining harvests resulted from shifting snow goose migration patterns, later migrations, 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 in 1999 to permit taking light geese after March 10 and to allow for hunting beyond the 107-day limit imposed by the Migratory Bird Treaty with Canada and Mexico. The harvest during the conservation order period in Iowa has ranged from 8,200 to 32,000 during 1999-2015. During the 1998-2011 regular light goose seasons, the harvest ranged from 0 to 15,000.

Waterfowl Seasons

Iowa waterfowl hunters 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 90 years. Duck hunting regulations are inherently complex because they involve many species. The general lack of consistency in regulations, however, has made interpretation of the effects of these regulations 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 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 limiting harvests of migrant geese from Arctic and sub-Arctic regions.

In 2014 Iowa held a 16 day Special September Teal season, September 6 21. Federal harvest surveys indicate that 45,900 blue-winged teal and 2,900 green-winged teal were harvested during the first year of what is intended to be a three year experimental season.

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 the relationships of harvest areas to production areas. Banding is conducted at the request of the USFWS and the Mississippi Flyway Council (MFC). Both state and federal personnel band ducks in Iowa, but IADNR personnel band all the Canada geese and more than 95% of the wood ducks (Table 4.5). Nearly 300,000 ducks and geese have been banded by IADNR personnel since 1964.

The USFWS, in concert with the MFC, 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 were used to evaluate Iowa's September duck seasons. Wood duck bandings are also important to measure the effects of hunting on wood duck populations, an aspect that has been particularly important since 2008 when the wood duck bag limit was increased from 2 to 3 birds per day. The IADNR has consistently cooperated with USFWS and MFC banding programs and has one of the top wood duck banding programs in the nation, accounting for 10% of all wood ducks banded in N. Am. in the last 10 years.

Canada goose banding has increased with the growth of the local Canada goose population in Iowa. Migrant Canada geese have also been banded as part of cooperative projects with the MFC. Canada goose banding will be increasingly important as the USFWS attempts to assess the impacts of special harvest regulations on resident Canada goose populations, which have been increasing, and migrant Canada goose populations, which have been stable or decreasing.

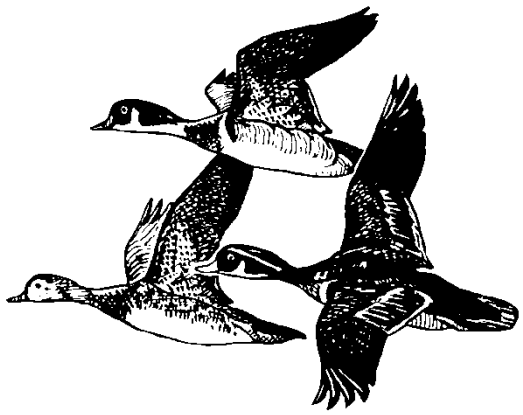


Table 4.1 Breeding population estimates for 10 species of ducks (in thousands) in the USFWS's traditional survey region in North America. (Source: USFWS)

YEAR	MALLARD	GAD-WALL	AMERICAN WIGEON	GREEN-WINGED TEAL	BLUE-WINGED TEAL	NORTHERN SHOVELER	NORTHERN PINTAIL	RED-HEAD	CANVAS-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 - continued: Breeding population estimates for 10 species of ducks (in thousands) in the USFWS traditional survey region in N. America. (Source: USFWS)

YEAR	MALLARD	GAD-WALL	AMERICAN WIGEON	GREEN-WINGED TEAL	BLUE-WINGED TEAL	NORTHERN SHOVELER	NORTHERN PINTAIL	RED-HEAD	CANVAS-BACK	SCAUP
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
2003	7,950	2,549	2,551	2,679	5,518	3,620	2,558	637	558	3,734
2004	7,425	2,590	1,981	2,461	4,073	2,810	2,185	605	617	3,807
2005	6,755	2,179	2,225	2,157	4,586	3,592	2,561	592	521	3,387
2006	7,277	2,825	2,171	2,587	5,860	3,680	3,386	916	691	3,247
2007	8,307	3,356	2,807	2,890	6,708	4,553	3,335	1,009	865	3,452
2008	7,724	2,728	2,487	2,980	6,640	3,508	2,613	1,056	489	3,738
2009	8,512	3,054	2,469	3,444	7,384	4,376	3,225	1,044	662	4,172
2010	8,430	2,977	2,425	3,476	6,329	4,057	3,509	1,064	585	4,244
2011	9,183	3,257	2,084	2,900	8,949	4,641	4,429	1,356	692	4,319
2012	10,602	3,586	2,145	3,471	9,242	5,018	3,473	1,270	760	5,239
2013	10,372	3,351	2,644	3,053	7,732	4,751	3,335	1,202	787	4,166
2014	10,900	3,811	3,117	3,440	8,542	5,279	3,220	1,279	685	4,611
2015	11,600	3,834	3,037	4,080	8,547	4,391	3,043	1,195	757	4,395
2016	11,793	3,712	3,411	4,275	6,689	3,967	2,618	1,289	736	4,992
Percent Change in 2016 from:										
2015	2%	-3%	12%	5%	-22%	-10%	-14%	8%	-3%	14%
1955-15 Av.	53%	91%	32%	106%	34%	57%	-33%	82%	26%	0%
1955-15 Statistics										
Average	7,784	1,977	2,592	2,111	5,020	2,544	3,906	719	585	4,988
Maximum	11,793	3,897	3,703	4,275	9,242	5,279	9,897	1,356	865	7,932
Minimum	4,754	454	1,706	700	2,776	1,183	1,790	319	354	3,247
NAWMP-Goals	8,700	1,600	3,300	2,300	5,300	2,100	6,300	760	580	7,600
Percent Difference from Goal										
2016	36%	132%	3%	86%	26%	89%	-58%	70%	27%	-34%

Table 4.2 Waterfowl harvest and hunter activity estimates for Iowa. Source is USFWS.
Data for 2001 to the present are based on the Harvest Information Program.

	DAYS AND HARVEST (1,000's)								FEDERAL	AVE.	ACTIVE
YEAR	MALLARD	WOOD DUCK	B-W TEAL	G-W TEAL	ALL DUCKS	CANADA GEESE	SNOW GEESE	DAYS HUNTED	DUCK STAMPS	SEASONAL DUCK BAG	ADULT HUNTERS
1961	88.5	6.8	0.5	16.3	139.4			230.4	41,147	3.9	33,500
1962	21.3	7.8	0.4	5.6	45.1	6.6	12.2	162.0	30,602	2.1	24,000
1963	43.0	29.0	27.9	14.9	139.2	7.2	10.4	228.2	37,166	4.7	29,700
1964	76.6	24.5	17.9	26.8	182.1	4.3	8.5	236.9	37,668	6.2	30,900
1965	79.8	15.4	43.8	22.3	174.6	6.6	26.3	271.6	39,941	6.0	34,000
1966	121.3	30.8	47.3	40.7	270.2	7.2	17.9	361.2	47,438	7.4	41,300
1967	124.9	12.4	43.3	38.4	229.4	12.4	16.8	394.6	52,269	6.6	44,300
1968	40.4	16.1	0.9	19.7	96.3	10.6	10.8	270.0	45,753	2.6	37,500
1969	89.9	21.1	53.3	22.3	183.7	15.5	43.2	397.3	54,807	5.1	47,500
1970	139.2	50.6	51.6	45.2	368.7	12.6	48.3	496.6	65,822	6.0	56,900
1971	160.9	59.3	49.6	26.6	376.2	10.4	46.1	536.5	68,401	6.3	58,700
1972	171.8	39.3	31.2	23.9	344.5	5.0	39.3	513.8	57,907	6.4	50,800
1973	99.9	31.0	18.5	18.1	211.9	11.6	32.5	401.1	57,196	3.9	48,700
1974	106.1	46.7	26.0	24.0	238.0	7.7	45.1	450.6	60,446	4.3	51,600
1975	117.4	57.5	51.0	38.6	313.6	13.5	41.2	446.1	58,791	5.9	49,700
1976	87.5	44.0	33.0	27.5	242.2	9.3	15.8	359.6	55,449	5.0	45,400
1977	138.7	37.9	17.0	38.7	280.0	7.8	29.1	407.3	57,143	5.3	46,200
1978	125.6	73.6	41.1	41.7	351.4	11.9	23.9	424.9	56,259	6.7	47,800
1979	183.3	77.8	69.2	38.0	441.0	10.0	43.2	496.7	49,845	9.5	44,400
1980	118.1	49.1	39.0	37.3	299.9	11.7	23.1	384.6	47,008	6.6	41,100
1981	130.2	54.3	34.6	27.7	301.1	10.2	23.1	371.5	41,648	7.9	35,900
1982	164.9	55.3	58.2	24.3	348.8	10.2	14.0	354.9	40,599	9.6	34,400
1983	115.2	47.3	74.0	27.8	324.2	11.5	16.5	310.4	40,381	8.5	34,000
1984	96.3	46.3	56.8	36.2	299.5	13.3	22.0	300.3	41,078	7.5	35,300
1985	62.0	37.4	41.5	22.6	199.8	10.4	8.5	241.4	33,304	6.8	27,900
1986	88.9	46.0	26.9	18.3	217.0	17.2	11.8	244.0	33,504	7.3	27,900
1987	64.8	36.1	14.2	20.1	161.1	15.1	3.6	207.0	30,248	6.0	25,500
1988	41.6	11.4	1.4	12.5	78.3	12.1	10.1	131.8	22,008	4.3	17,300
1989	32.2	17.0	2.9	17.9	87.8	20.2	4.4	127.5	21,686	4.7	16,600
1990	41.3	25.6	4.6	17.8	105.8	26.6	3.1	159.3	24,686	4.9	20,800
1991	63.1	39.4	6.6	13.3	154.2	29.3	8.1	196.7	24,989	6.8	21,400
1992	64.9	18.8	2.9	14.3	122.8	28.7	4.1	198.6	26,744	5.1	22,800
1993	52.7	22.2	4.1	7.9	100.9	17.3	9.5	176.5	25,640	4.7	21,092
1994	49.1	34.9	17.5	22.5	151.8	26.1	2.4	232.6	29,206	6.0	24,523
1995	86.1	49.2	38.9	23.7	242.3	48.0	4.6	280.2	30,282	8.2	25,792
1996	90.6	42.5	36.2	31.0	244.7	59.5	5.4	284.2	30,945	7.9	26,338
1997	71.2	52.1	54.5	32.7	272.0	52.2	15.2	338.3	36,062	8.3	30,737
1998	99.6	36.0	47.7	41.9	281.9	33.2	15.6	292.8	30,864	9.9	27,454
1999	55.9	35.8	41.9	17.4	176.7	33.0	12.5	271.9	32,419	7.2	27,024
2000	74.2	39.9	25.3	25.4	209.6	61.0	0.6	288.4	30,951	8.2	26,693
2001	117.2	45.5	49.3	29.7	296.4	58.1	5.2	203.5	32,090	11.9	25,000
2002	97.2	44.5	50.6	43.0	287.2	67.1	1.1	185.7	30,806	12.3	23,300
2003	101.7	38.6	30.1	29.4	248.9	55.5	14.4	187.1	30,206	11.0	22,500
2004	54.7	52.9	28.5	16.8	184.5	70.3	1.0	203.0	28,649	9.0	23,900
2005	77.9	38.1	39.0	21.2	205.2	78.6	0.6	128.9	26,943	11.8	20,800
2006	73.2	26.7	27.8	31.9	203.3	73.9	0.2	129.9	29,380	11.3	21,300
2007	72.7	34.2	40.3	39.5	232.8	64.6	0.3	151.4	26,531	11.4	23,700

Table 4.2 - continued: Waterfowl harvest and hunter activity estimates for Iowa. Source is USFWS.
Data for 2001 to the present are based on the Harvest Information Program.

	DAYS AND HARVEST (1,000's)								FEDERAL	AVE.	ACTIVE
YEAR	MALLARD	WOOD DUCK	B-W TEAL	G-W TEAL	ALL DUCKS	CANADA GEESE	SNOW GEESE	DAYS HUNTED	DUCK STAMPS	SEASONAL DUCK BAG	ADULT HUNTERS
2008	72.3	38.3	15.0	31.3	206.1	62.2	0.8	135.8	26,354	10.9	21,700
2009	45.3	45.1	35.5	22.5	181.5	62.0	0.0	130.3	Not avail.	10.3	19,500
2010	68.3	55.5	46.8	20.3	245.5	65.8	0.2	149.1	Not avail.	11.1	25,200
2011	72.0	43.3	23.4	19.7	201.8	52.0	0.1	136.2	Not avail.	10.8	24,900
2012	50.0	18.2	14.8	13.0	117.7	38.9	0.0	69.7	Not avail.	9.4	13,800
2013	66.6	35.9	42.7	19.3	202.3	73.7	0.0	128.5	Not avail.	14.1	14,400
2014	60.0	16.1	56.6	17.5	174.1	47.3	1.6	96.6	Not avail.	12.5	13,900
2015	not available at time of publication										
Percent Change in 2014 From:											
2013	-10%	-55%	33%	-9%	-14%	-36%		-25%		-11%	-3%
1961-013 Av.	-33%	-60%	72%	-33%	-25%	46%	-89%	-65%		60%	-55%
1961-14 Statistics											
Average	88.4	40.1	33.5	25.8	230.1	32.8	14.1	268.7	38854.4	7.9	30843.7
Maximum	183.3	77.8	74.0	45.2	441.0	78.6	48.3	536.5	68401.0	14.1	58700.0
Minimum	32.2	11.4	0.9	7.9	78.3	5.0	0.0	69.7	21686.0	2.6	13800.0
10-year avg											
1961-70	82.5	21.5	28.7	25.2	182.9	9.2	21.6	304.9	45261.3	5.0	37960.0
1971-80	133.0	51.8	38.8	32.2	316.8	10.0	36.5	453.3	58725.9	5.9	50020.0
1981-90	83.7	37.7	31.5	22.5	212.3	14.7	11.7	244.8	32914.2	6.8	27560.0
1991-00	67.5	35.7	25.5	22.2	185.3	35.4	8.0	243.1	29183.7	6.9	24796.0
2001-10	78.0	41.9	36.3	28.6	229.1	65.8	2.4	160.5	28869.8	11.1	22690.0

Table 4.3 Duck and coot seasons in Iowa.

YEAR	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMITS DUCK BAG/POSS	LIMITS COOT BAG/POSS	Additional Bag Limit Information
		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, & Bu.
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, & Bu.
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 Bu, 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 Bu 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 SS	4 / 8 *f	15 /15	
1948	30	Oct 29 - Nov 27	1/2 SR to 1 SS	4 / 8 *f	15 /15	
1949	40	Oct 21 - Nov 29	1/2 SR to 1 SS	4 / 8 *f	15 /15	
1950	35	Oct 20 - Nov 23	1/2 SR to 1 SS	4 / 8 *f	15 /15	
1951	45	Oct 12 - Nov 25	1/2 SR to 1 SS	4 / 8 *f	10 /10	
1952	55	Oct 8 - Dec 1	1/2 SR to 1 SS	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	

Table 4.3 continued: Duck and coot seasons in Iowa.

YEAR	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMITS DUCK BAG/POSS	LIMITS COOT BAG/POSS	Additional Bag Limit Information
1954	55	Oct 15 - Dec. 8	1/2 SR to 1 SS	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	
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.
First year state duck stamp required						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.

Table 4.3 continued: Duck and coot seasons in Iowa.

YEAR	SEASON LENGTH	SEASON DATES		SHOOTING HOURS	LIMITS DUCK BAG/POSS	LIMITS COOT BAG/POSS	Additional Bag Limit Information
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.
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 (1)	**SOUTH ZONE (1)**				
1983	50	Sep 17-21 Oct 15 - Nov 28	Sep 17-21 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 Oct 20 - Dec 3	Sep 22-26 Oct 27 - Dec 10	1/2 SR to SS	PS *ab	15 /30	
1985	40	Sep 21-23 Oct 19 - Nov 24	Sep 21-23 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 Oct 18 - Nov 21	Sep 20-22 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 (2)	**SOUTH ZONE (2)**				
1987	40	Sep 19-23	Sep 19-21	1/2 SR to SS	PS *ad	15 /30	
(*SH)		Oct 17 - Nov 20	Oct 24 - Nov 29				
1988	30	Oct 8 - 9 Oct 22 - Nov 18	Oct 22 - 28 Nov 5 - 27	SR to SS	3 / 6 *ae	15 /30	*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 - Nov 17	Oct 21 - 27 Nov 4 - 26	SR to SS	3 / 6 *ae	15 /30	
1990	30	Oct 6 - 7 Oct 20 - Nov 16	Oct 20 - 26 Nov 3 - 25	1/2 SR to SS	3 / 6 *ae	15 /30	
1991	30	Oct 5 - 6 Oct 19 - Nov 15	Oct 19 - 25 Nov 9 - Dec 1	1/2 SR to SS	3 / 6 *ae	15 /30	
1992	30	Oct 10 - 13 Oct 24 - Nov 18	Oct 24 - 30 Nov 7 - 29	1/2 SR to SS	3 / 6 *ae	15 /30	

Table 4.3 continued: Duck and coot seasons in Iowa.

YEAR	SEASON LENGTH	SEASON DATES		SHOOTING HOURS	LIMITS DUCK BAG/POSS	LIMITS COOT BAG/POSS	Additional Bag Limit Information
		NORTH ZONE (2)	SOUTH ZONE (2)				
1993	30	Oct 2 - 4	Oct 23 - 29	1/2 SR to SS	3 / 6 *ae	15 /30	
		Oct 23 - Nov 18	Nov 6 - 28				
1994	40	Sept 17 - 19	Oct 1 - 3	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.
		Oct 15 - Nov 20	Oct 22 - Nov 27				5 merg., only 1 Hm.
1995	50	Sept 23 - 27	Sept 23 - 25	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.
		Oct 15 - Nov 28	Oct 21 - Dec 6				5 merg., only 1 Hm.
1996	50	Sept 21 - 25	Sept 21 - 23	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.
		Oct 19 - Dec 2	Oct 19 - Dec 4				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	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.
		Oct 11 - Dec 4	Oct 18 - Dec 11				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	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.
(*HIP)		Oct 10 - Dec 3	Oct 17 - Dec 10				5 merg., only 1 Hm.
	Youth Day	Sept 26	Sept 26	1/2 SR to SS	6 /12 *aj	15 /30	
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
		Oct 16 - Dec 9	Oct 16 - Dec 9				& 3 Sc. 5 merg., only 1 Hm.
	Youth Day	Oct 9	Oct 9	1/2 SR to SS	6 /12 *ak	15 /30	
2000	60	Sept 23 - 27	Sept 23 - 27	1/2 SR to SS	6 /12 *ak	15 /30	
		Oct 14 - Dec 7	Oct 14 - Dec 7				
	Youth Day	Oct 7 - 8	Oct 7 - 8	1/2 SR to SS	6 /12 *ak	15 /30	
2001	60	Sept 22 - 26	Sept 22 - 26	1/2 SR to SS	6 /12 *ak	15 /30	
		Oct 13 - Dec 6	Oct 13 - Dec 6				
	Canvasback	Oct. 27 - Nov 15	Nov 17 - Dec 6				
	Youth Day	Oct 6 - 7	Oct 6 - 7	1/2 SR to SS	6 /12 *ak	15 /30	
2002	60	Sept 21 - 25	Sept 21 - 23	1/2 SR to SS	6 /12 *al	15 /30	*al) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh,1 Bd,
		Oct 12 - Dec 5	Oct 19 - Dec 14				& 3 Sc. 5 merg., only 1 Hm. Closed sea. on Cb
	Pintail	Sept 21 - 25	Sept 21 - 23				
		Oct 12 - Nov 5	Oct 19 - Nov 14				
	Youth Day	Oct 5 - 6	Oct 5 - 6	1/2 SR to SS	6 /12 *al	15 /30	
2003	60	Sept 20 - 24	Sept 20 - 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
		Oct 11 - Dec 4	Oct 18 - Dec 13				& 3 Sc. 5 merg., only 1 Hm.
	Pintail	Sept 20 - 24	Sept 20 - 22				
		Oct 11 - Nov 4	Oct 18 - Nov 13				
	Canvasback	Oct 18 - Nov 16	Oct 25 - Nov 23				
	Youth Day	Oct 4 - 5	Oct 4 - 5	1/2 SR to SS	6 /12 *ak	15 /30	
2004	60	Sept 18 - 22	Sept 25 - 26	1/2 SR to SS	6 /12 *ak	15 /30	
		Oct 16 - Dec 9	Oct 16 - Dec 12				
	Pintail	Sept 18 - 22	Sept 25 - 26				
		Oct 16 - Nov 9	Oct 16 - Nov 12				
	Canvasback	Oct 23 - Nov 21	Oct 23 - Nov 21				
	Youth Day	Oct 2 - 3	Oct 9 - 10	1/2 SR to SS	6 /12 *ak	15 /30	

Table 4.3 continued: Duck and coot seasons in Iowa.

YEAR	SEASON LENGTH	SEASON DATES			SHOOTING HOURS	LIMITS DUCK BAG/POSS	LIMITS COOT BAG/POSS	Additional Bag Limit Information
		NORTH ZONE (2)		**SOUTH ZONE (2)**				
2005	60	Sept 17 - 21		Sept 24 - 28	1/2 SR to SS	6 /12 *am	15 /30	*am) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh,1 Bd, 1 Cb & 2 Sc. 5 merg., only 1 Hm.
		Oct 15 - Dec 8		Oct 22 - Dec 15				
	Canvasback	Oct 22 - Nov 20		Oct 29 - Nov 27				
	Youth Day	Oct 8 - 9		Oct 8 - 9	1/2 SR to SS	6 /12 *am	15 /30	
		NORTH ZONE (3)		**SOUTH ZONE (3)**				
2006	60	Sept 23 - 27		Sept 23 - 27	1/2 SR to SS	6 /12 *an	15 /30	*an) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh,1 Bd, 1 Cb & 2 Sc. 5 merg., only 2 Hm.
		Oct 14 - Dec 7		Oct 21 - Dec 14				
	Youth Day	Oct 7 - 8		Oct 7 - 8	1/2 SR to SS	6 /12 *an	15 /30	
2007	60	Sept 22 - 26		Sept 22 - 26	1/2 SR to SS	6 /12 *ao	15 /30	*ao) Only 4 Ma (2 Hn), 2 Wd, 1 Pt, 2 Rh,1 Bd, 2 Cb & 2 Sc. 5 merg., only 2 Hm.
		Oct 13 - Dec 6		Oct 20 - Dec 13				
	Youth Day	Oct 6 - 7		Oct 6 - 7	1/2 SR to SS	6 /12 *ao	15 /30	
2008	60	Sept 20 - 24		Sept 20 - 24	1/2 SR to SS	6 /12 *ap	15 /30	*ap) Only 4 Ma (2 Hn), 3 Wd, 1 Pt, 2 Rh,1 Bd, & 1 Sc (Nov 1-20 limit 2 Sc). 5 merg., only 2 Hm. Closed season on Cb.
		Oct 18 - Dec 11		Oct 18 - Dec 11				
	Youth Day	Oct 4 - 5		Oct 4 - 5	1/2 SR to SS	6 /12 *ap	15 /30	
2009	60	Sept 19 - 23		Sept 19 - 23	1/2 SR to SS	6 /12 *aq	15 /30	*aq) Only 4 Ma (2 Hn), 3 Wd, 1 Pt, 2 Rh,1 Bd, 1 Cb, & 2 Sc. 5 merg., only 2 Hm.
		Oct 10 - Dec 3		Oct 17 - Dec 10				
	Youth Day	Oct 3 - 4		Oct 3 - 4	1/2 SR to SS	6 /12 *aq	15 /30	
2010	60	Sept 18 - 22		Sept 18 - 22	1/2 SR to SS	6 /12 *ar	15 /30	*ar) Only 4 Ma (2 Hn), 3 Wd, 2 Pt, 2 Rh,1 Bd, 1 Cb, & 2 Sc. 5 merg., only 2 Hm.
		Oct 16 - Dec 9		Oct 23 - Dec 16				
	Youth Day	Oct 2 - 3		Oct 9 -10	1/2 SR to SS	6 /12 *ar	15 /30	
		NORTH ZONE (4)		**SOUTH ZONE (4)**				
2011	60	Sept 17 - 21		Sept 17 - 21	1/2 SR to SS	6 /12 *ar	15 /30	
		Oct 15 - Dec 8		Oct 22 - Dec 15				
	Youth Day	Oct 1 - 2		Oct 8 - 9	1/2 SR to SS	6 /12 *ar	15 /30	
		NORTH ZONE (5)	**SOUTH ZONE (5)**	**MISSOURI RIVER (5)**				
2012	60	Sept 22 - 26	Sept 22 - 26	Sept 22 - 26	1/2 SR to SS	6 /12 *as	15 /30	*as) Only 4 Ma (2 Hn), 3 Wd, 2 Pt, 2 Rh,1 Bd, 1 Cb, & 4 Sc. 5 merg., only 2 Hm.
		Oct 13 - Dec 6	Oct 20 - Dec 13	Oct 27 - Dec 20				
	Youth Day	Oct 6 - 7	Oct 13 - 14	Oct 20 - 21	1/2 SR to SS	6 /12 *as	15 /30	
		North Zone (5)	**South Zone (5)**	**Missouri River (5)**				
2013	60	Sept 21 - 25	Sept 21 - 25	Sept 21 - 25	1/2 SR to SS	6 /18 *at	15 /45	*at) Only 4 Ma (2 Hn), 3 Wd, 2 Pt, 2 Rh,1 Bd, 2 Cb, & 4 Sc. 5 merg., only 2 Hm.
		Oct 12 - Dec 5	Oct 19 - Dec 12	Oct 26 - Dec 19				
	Youth Day	Oct 5 - 6	Oct 12 - 13	Oct 19 - 20	1/2 SR to SS	6 /18 *at	15 /45	
		North Zone (5)	**South Zone (5)**	**Missouri River (5)**				
2014	60	Oct 4 - 19	Oct 4 - 8	Oct 4 - 8	1/2 SR to SS	6 /18 *at	15 /45	*at) Only 4 Ma (2 Hn), 3 Wd, 2 Pt, 2 Rh,1 Bd, 2 Cb, & 4 Sc. 5 merg., only 2 Hm.
		Oct 25 - Dec 7	Oct 18 - Dec 11	Oct 25 - Dec 18				
	Youth Day	Sep 27 - 28	Oct 11 - 12	Oct 18 - 19	1/2 SR to SS	6 /18 *at	15 /45	
	Teal	Sep 6 - 21	Sep 6 - 21	Sep 6 - 21	SR to SS	6 /18		
		North Zone (5)	**South Zone (5)**	**Missouri River (5)**				
2015	60	Oct 3 - 18	Oct 3 - 7	Oct 3 - 7	1/2 SR to SS	6 /18 *at	15 /45	*at) Only 4 Ma (2 Hn), 3 Wd, 2 Pt, 2 Rh,1 Bd, 2 Cb, & 4 Sc. 5 merg., only 2 Hm.
		Oct 24 - Dec 6	Oct 17 - Dec 10	Oct 24 - Dec 17				
	Youth Day	Sep 26 - 27	Oct 10 - 11	Oct 17 - 18	1/2 SR to SS	6 /18 *at	15 /45	
	Teal	Sep 5 - 20	Sep 5 - 20	Sep 5 - 20	SR to SS	6 /18		

Table 4.3 continued: Duck and coot seasons in Iowa.

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 90 hunting seasons between 1918-2007.

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

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

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

SPEC. REGULATIONS: Wood duck season was closed by Federal regulation from the 1918 through the 1940 season. Canvasback and redhead seasons 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, 2002, 2008.

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.

DUCK ZONE BOUNDARY (3) = a line running from the Nebraska-Iowa border along State Hwy 175, east to State Hwy 37, southeast to State Hwy 183, northeast to State Hwy 141, east to U.S. Hwy 30, and along U.S. Hwy 30 to the Iowa-Illinois border.

DUCK ZONE BOUNDARY (4) = a line beginning on the South Dakota-Iowa border at Interstate 29, southeast to Woodbury Co. Rd. D38, east to Woodbury Co. Rd. K45, southeast to State Highwy 175, east to State Highway 37, southeast to State Highway 183, northeast to State Hwy 141, east to U.S. Hwy 30, and along U.S. Hwy 30 to the Iowa-Illinois border.

DUCK ZONE BOUNDARY (5) = The North Zone is all of Iowa north of a line beginning on the on the South Dakota-Iowa border at Interstate 29, southeast to State Highway 175, east to State Highway 37, southeast to State Highway 183, northeast to State Highway 141, east to U.S. Highway 30, and along U.S. 30 tp the Iowa-Illinois border. The Missouri River Zone includes all lands and water in Iowa west of Interstate 29 and north of Highway 175. The South Zone is the remainder of the state not in the North or Missouri River Zones.

(*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 occuring 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 Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES	SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			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	

Table 4.4 continued: Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES		SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			STATEWIDE				
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	
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,
First year state duck stamp required							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 STATE	**SW ZONE(1)**			
1984	Ca/Sn/Wf	70	Sep 29 - Dec 7	Oct 13 - Dec 21	1/2 SR to SS	5 /10 *i	
1985	Ca/Sn/Wf	70	Sep 28 - Dec 6	Oct 12 - Dec 20	1/2 SR to SS	5 /10 *i	
1986	Ca/Sn/Wf	70	Oct 4 - Dec 12	Oct 18 - Dec 26	1/2 SR to SS	5 /10 *i	
1987	Ca	45	Oct 3 - Nov 16	Oct 17 - Nov 30	1/2 SR to SS	2 / 4 *i	
(*SH)	Sn/Wf	70	Oct 3 - Dec 11	Oct 17 - Dec 25		5 /10 *i	
1988	Ca	45	Oct 1 - Nov 14	Oct 15 - Nov 28	SR to SS	2 / 4 *i	
	Sn/Wf	70	Oct 1 - Dec 9	Oct 15 - Dec 23		5 /10 *i	
			MOST OF STATE	**SW ZONE(2)**			
1989	Ca	45	Sep 30 - Nov 13	Oct 14 - Nov 27	SR to SS	2 / 4 *j	*j) Bag lim.= 7 w/ only 2 Ca & 2 Wf.
	Sn/Br	80	Sep 30 - Dec 18	Oct 14 - Jan 1		7 /14 *j	Pos lim.= 14 w/ only 4 Ca & 4 Wf.
	Wf	70	Sep 30 - Dec 8	Oct 14 - Dec 22		2 / 4 *j	
1990	Ca/Wf/Br	70	Sep 29 - Dec 7	Oct 13 - Dec 21	1/2 SR to SS	2 / 4 *j	
	Sn	80	Sep 29 - Dec 17	Oct 13 - Dec 31		7 /14 *j	

Table 4.4 continued: Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES		SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			MOST OF STATE	**SW ZONE(2)**			
1991	Ca/Wf/Br	70	Sep 28 - Dec 6	Oct 12 - Dec 20	1/2 SR to SS/1	2 / 4 *j	
	Sn	80	Sep 28 - Dec 16	Oct 12 - Dec 30		7 /14 *j	
1992	Ca/Wf/Br	70	Oct 3 - Dec 11	Oct 10 - Dec 18	1/2 SR to SS/1	2 / 4 *j	
	Sn	80	Oct 3 - Dec 21	Oct 10 - Dec 28		7 /14 *j	
			NORTH ZONE(1)	**SOUTH ZONE(1)**			
1993	Ca/Wf/Br	55	Oct 9 - Dec 2	Oct 23 - Dec 16	1/2 SR to SS	2 / 4 *j	
	Sn	80	Oct 9 - Dec 27	Oct 23 - Jan 10, 1994		7 /14 *j	
1994	Ca/Wf/Br	55	Oct 8 - Dec 1	Oct 22 - Dec 15	1/2 SR to SS	2 / 4 *j	
	Sn	102	Oct 1 - Dec 10	Oct 1 - Jan 10, 1995		7 /14 *j	
1995	Ca/Wf/Br	70	Sep 30 - Dec 8	Oct 14 - Dec 22	1/2 SR to SS	2 / 4 *k	*k) Bag lim.= 10 w/ only 2 Ca & 2 Wf.
	Sn	107	Sep 30 - Jan 10	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 6	Oct 5 - Oct 13	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 12	Oct 4 - Oct 12	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[b]	None	1/2 SR to SS	2 / 4 *l	
(*HIP)	Ca/Wf/Br	70	Oct 3 - Dec 11	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	[c]Cons. Or.	March 11-April 16, 1999		1/2 SR to SS1/2	20 /none	
1999	Ca	2	Sep 11 - 12[b]	None	1/2 SR to SS	2 / 4 *l	
	Ca/Wf/Br	70	Oct 2 - Dec 10	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	[c]Cons. Or.	March 11-April 16, 2000		1/2 SR to SS 1/2	20 /none	
2000	Ca	2	Sep 9 - 10[b]	None	1/2 SR to SS	2 / 4 *l	
	Ca/Wf/Br	70	Sep 30 - Dec 8	Sep 30 - Oct 15	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	[c]Cons. Or.	Feb 15 - April 15, 2001		1/2 SR to SS 1/2	20 /none	
2001	Ca/Wf/Br	70	Sep 29 - Dec 7	Sep 29 - Oct 21	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	[c]Cons. Or.	Feb 2 - April 15, 2002		1/2 SR to SS 1/2	20 /none	

Table 4.4 continued: Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES		SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			NORTH ZONE(1)	**SOUTH ZONE(1)**			
2002	Ca/Wf/Br	70	Sep 28 - Dec 6	Sep 28 - Oct 20	1/2 SR to SS	2 / 4 *m	*m) Bag lim.= 2 Ca , 2 Wf, & 2 Br .
				Nov 9 - Dec 25			Pos lim.= 4 Ca, 4 Wf, & 4 Br.
	Sn/Ro	107	Sep 28 - Jan 12, 2003		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Feb 1 - April 15, 2003		1/2 SR to SS 1/2	20 /none	
2003	Ca	15	Sep 1 - 15 in metro zones [d]		1/2 SR to SS	3 / 6 *n	*n) Bag lim.= 3 Ca.
	Ca & Br	70	Sep 27 - Dec 5	Sep 27 - Oct 19	1/2 SR to SS	2 / 4 *o	*o) Bag lim.= 2 Ca & 2 Br .
				Nov 8 - Dec 24			Pos lim.= 4 Ca & 4 Br.
	Wf	86	Sept 27 - Dec 21	Sept 27 - Dec 21	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 27 - Jan 11, 2004		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 12 - April 15, 2004		1/2 SR to SS 1/2	20 /none	
			NORTH ZONE(2)	**SOUTH ZONE(2)**			
2004	Ca	15	Sep 1 - 15 in metro zones [d]		1/2 SR to SS	3 / 6 *n	
	Ca	2	Sep 11-12	None	1/2 SR to SS	2 / 4 *l	*l) Bag lim.= 2 Ca.
	Ca & Br	60	Sep 25 - Oct 3	Oct 2 - 10	1/2 SR to SS	2 / 4 *o	
			Oct 16 - Dec 5	Oct 30 - Dec 19			
	Wf	86	Sept 25 - Dec 19	Oct 2 - Dec 26	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 25 - Jan 9, 2005		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 10 - April 15, 2005		1/2 SR to SS 1/2	20 /none	
2005	Ca	15	Sep 1 - 15 in metro zones [d]		1/2 SR to SS	3 / 6 *n	
	Ca	2	Sep 10-11	Sep 10-11	1/2 SR to SS	2 / 4 *l	
	Ca & Br	70	Oct 1-9	Oct 1-9	1/2 SR to SS	2 / 4 *o	
			Oct 15 - Dec 4	Oct 22 - Dec 4			
			Dec 24 - Jan 2, '06	Dec 24 - Jan 9, '06			
	Wf	72	Oct 1 - Dec 11	Oct 1 - Dec 11	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Oct 1 - Jan 15, 2006		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 16 - April 15, 2006		1/2 SR to SS 1/2	20 /none	
2006	Ca	15	Sep 1 - 15 in metro zones [d]		1/2 SR to SS	3 / 6 *n	
	Ca	2	Sep 9-10	Sep 9-10	1/2 SR to SS	2 / 4 *l	
	Ca & Br	90	Sep 30 - Dec 10	Sep 30 - Oct 8	1/2 SR to SS	2 / 4 *p	*p) Bag lim.= 2 Ca & 1 Br .
			Dec 16 - Jan 2, '07	Oct 21 - Jan 9, '07			Pos lim.= 4 Ca & 2 Br.
	Wf	72	Sep 30 - Dec 10	Sep 30 - Dec 10	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 30 - Jan 14, 2007		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 15 - April 15, 2007		1/2 SR to SS 1/2	20 /none	
2007	Ca	15	Sep 1 - 15 in metro zones [d]		1/2 SR to SS	5 / 10 *q	*q) Bag lim.= 5 Ca.
	Ca	2	Sep 8-9	Sep 8-9	1/2 SR to SS	2 / 4 *l	
	Ca & Br	90	Sep 29 - Dec 9	Sep 29 - Oct 7	1/2 SR to SS	2 / 4 *p	
			Dec 15 - Jan 1, '08	Oct 20 - Jan 8, '08			
	Wf	72	Sep 29 - Dec 9	Sep 29 - Dec 9	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 29 - Jan 13, 2008		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 14 - April 15, 2008		1/2 SR to SS 1/2	20 /none	
2008	Ca	15	Sep 1 - 15 in metro zones [e]		1/2 SR to SS	5 / 10 *q	
	Ca & Br	90	Sep 27 - Oct 5	Sep 27 - Oct 5	1/2 SR to SS	2 / 4 *p	
			Oct 18 - Dec 21	Oct 18 - Dec 21			
			Dec 27 - Jan 11, '09	Dec 27 - Jan 11, '09			
	Wf	72	Sep 27 - Dec 7	Sep 27 - Dec 7	1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 27 - Jan 11, 2009		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 12 - April 15, 2009		1/2 SR to SS 1/2	20 /none	

Table 4.4 continued: Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES			SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			NORTH ZONE(3)	**SOUTH ZONE(3)**				
2009	Ca	15	Sep 1 - 15 in metro zones [e]			1/2 SR to SS	5 / 10 *q	
	Ca & Br	90	Sep 26 - Oct 4	Sep 26 - Oct 4		1/2 SR to SS	2 / 4 *p	
			Oct 10 - Dec 13	Oct 17 - Dec 13				
			Dec 19 - Jan 3, '10	Dec 19 - Jan 10, '10				
	Wf	72	Sep 26 - Dec 6	Sep 26 - Dec 6		1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 26 - Jan 10, 2010			1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 11 - April 15, 2010			1/2 SR to SS 1/2	20 /none	
2010	Ca	9	Sep 4 - 12 in metro zones [e]			1/2 SR to SS	5 / 10 *q	
	Ca & Br	98	Sep 25 - Oct 10	Oct 2 - Oct 17		1/2 SR to SS	2-3 / 4-6 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
			Oct 16 - Jan 5, '11	Oct 23 - Jan 12, '11				and 3 Ca & 1 Br thereafter.
	Wf	72	Sep 25 - Dec 5	Oct 2 - Dec 12		1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 25 - Jan 9, '11	Oct 2 - Jan 14, '11		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 15 - April 15, 2011			1/2 SR to SS 1/2	20 /none	
			NORTH ZONE (4)	**SOUTH ZONE (4)**				
2011	Ca	9	Sep 3 - 11 in metro zones [e]			1/2 SR to SS	5 / 10 *q	
	Ca & Br	98	Sep 24 - Oct 9	Oct 1 - Oct 16		1/2 SR to SS	2-3 / 4-6 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
			Oct 15 - Jan 4, '12	Oct 22 - Jan 11, '12				and 3 Ca & 1 Br thereafter.
	Wf	74	Sep 24 - Dec 6	Oct 1 - Dec 13		1/2 SR to SS	2 / 4	
	Sn/Ro	107	Sep 24 - Jan 8, '12	Oct 1 - Jan 13, '12		1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 14 - April 15, 2012			1/2 SR to SS 1/2	20 /none	
			NORTH ZONE (5)	**SOUTH ZONE (5)**	**MISSOURI RIVER (5)**			
2012	Ca	9	Sep 1 - 9 in metro zones [e]			1/2 SR to SS	5 / 10 *q	
	Ca & Br	98	Sep 29 - Dec 11	Oct 6 - Jan 11	Oct 13-Jan 18	1/2 SR to SS	2-3 / 4-6 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
	Wf	74	Sep 29 - Dec 11	Oct 6 - Dec 18	Oct 13-Dec. 25	1/2 SR to SS	2 / 4	and 3 Ca & 1 Br thereafter.
	Sn/Ro	107	Sep 24 - Jan 8, '12	Oct 1 - Jan 13, '12	Oct 13-Jan 18	1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 14 - April 15, 2012			1/2 SR to SS	20 /none	
			NORTH ZONE (5)	**SOUTH ZONE (5)**	**MISSOURI RIVER (5)**			
2013	Ca	9	Sep 7 - 15 in metro zones [e]			1/2 SR to SS	5 / 15 *q	
	Ca & Br	98	Sep 28 - Jan 3,	Oct 5 - Jan 10	Oct 12-Jan 17	1/2 SR to SS	2-3 / 6-9 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
	Wf	74	Sep 28 - Dec 10	Oct 5 - Dec 17	Oct 12-Dec. 24	1/2 SR to SS	2 / 6	and 3 Ca & 1 Br thereafter.
	Sn/Ro	107	Sep 28 - Jan 12	Oct 5 - Jan 17	Oct 12-Jan 17	1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 18 - April 15, 2014			1/2 SR to SS	20 /none	

Table 4.4 continued: Goose seasons in Iowa.

YEAR	GOOSE SPECIES	SEASON LENGTH	SEASON DATES			SHOOTING HOURS	LIMIT BAG/POSS	Additional Bag Limit Information
			NORTH ZONE (5)	SOUTH ZONE (5)	MISSOURI RIVER (5)			
2014	Ca	9	Sep 6 - 14 in metro zones [e]			1/2 SR to SS	5 / 15 *q	
	Ca & Br	98	Sep 27 - Jan 2,	Oct 4 - Jan 9	Oct 11-Jan 16	1/2 SR to SS	2-3 / 6-9 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
	Wf	74	Sep 27 - Dec 9	Oct 4 - Dec 16	Oct 11-Dec. 23	1/2 SR to SS	2 / 6	and 3 Ca & 1 Br thereafter.
	Sn/Ro	107	Sep 27 - Jan 11	Oct 4 - Jan 16	Oct 11-Jan 16	1/2 SR to SS	20 /none	
	Sn/Ro	[c]Cons. Or.	Jan 17 - April 15, 2015			1/2 SR to SS	20 /none	
			NORTH ZONE (5)	SOUTH ZONE (5)	MISSOURI RIVER (5)			
2015	Ca	9	Sep 5 - 13 in metro zones [e]			1/2 SR to SS	5 / 15 *q	
	Ca & Br	98	Sep 26 - Jan 1,	Oct 3 - Jan 8	Oct 10-Jan 15	1/2 SR to SS	2-3 / 6-9 *r	*r) Bag lim.= 2 Ca & 1 Br through Oct. 31
	Wf	74	Sep 26 - Jan 1,	Oct 3 - Jan 8	Oct 10-Jan 15	1/2 SR to SS	5/15**	and 3 Ca & 1 Br thereafter.
	Sn/Ro	107	Sep 26 - Jan 10	Oct 3 - Jan 15	Oct 3 - Jan 15	1/2 SR to SS	20 /none	**in aggregate with Ca & Br
	Sn/Ro	[c]Cons. Or.	Jan 16 - April 15, 2016			1/2 SR to SS	20 /none	

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

SEASON LENGTH: Maximum number of days the season could be open.

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** = Possesion 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.

GOOSE ZONE BOUNDARY (1) = 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 boundary used to divide the north and south duck zones during 1993-2003.

GOOSE ZONE BOUNDARY (2) = a line running from the Nebraska-Iowa border along state Hwy 20. This change was made in the 2004 season and was maintained through the 2008 season.

GOOSE ZONE BOUNDARY (3) = a line running from the Nebraska-Iowa border along State Hwy 175, east to State Hwy 37, southeast to State Hwy 183, northeast to State Hwy 141, east to U.S. Hwy 30, and along U.S. Hwy 30 to the Iowa-Illinois border. The duck and goose zone bounaries were identical from from 1993-2003. The goose zone boundary was moved to Hwy 20 from 2004-2008. In 2009, the goose zone boundary was changed to match the duck zone boundary, i.e., along Hwy 30.

GOOSE ZONE BOUNDARY (4) = a line beginning on the South Dakota-Iowa border at Interstate 29, southeast to Woodbury Co. Rd. D38, east to Woodbury Co. Rd. K45, southeast to State Highwy 175, east to State Highway 37, southeast to State Highway 183, northeast to State Hwy 141, east to U.S. Hwy 30, and along U.S. Hwy 30 to the Iowa-Illinois border.

GOOSE ZONE BOUNDARY (5) = The North Zone is all of Iowa north of a line beginning on the on the South Dakota-Iowa border at Interstate 29, southeast to State Highway 175, east to State Highway 37, southeast to State Highway 183, northeast to State Highway 141, east to U.S. Highway 30, and along U.S. 30 tp the Iowa-Illinois border. The Missouri River Zone includes all lands and water in Iowa west of Interstate 29 and north of Highway 175. The South Zone is the remainder of the state not in the North or Missouri River Zones.

(*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 was closed by Federal regulation 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] The special 2-day September Canada goose season was only open in the north zone west of Hwy 63.

[c] A conservation order was issued by the USFWS to permit the taking of light geese (snow + ross) after the regular season, including after March 10, the last day regular waterfowl seasons can be open. 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.

[d] This special September Canada goose season was only open in the Des Moines and Cedar Rapids/Iowa City zones.

[e] This special September Canada goose season was only open in the Des Moines, Cedar Rapids/Iowa City and Cedar Falls/Waterloo zones.

Table 4.5 Waterfowl banded in Iowa. (Numbers include both state and federal bandings.)

Year	Canada Geese	Mallards	Wood Ducks	Blue-winged Teal	Trumpeter Swans	Other Waterfowl Species	Total Waterfowl	Mourning Doves
1964	51	440	488	6,046		273	7,298	0
1965	32	533	571	4,485		120	5,741	0
1966	61	504	564	3,836		172	5,137	0
1967	66	1,928	410	4,022		113	6,539	0
1968	91	1,809	315	3,716		63	5,994	0
1969	53	2,282	414	1,634		135	4,518	0
1970	143	2,368	935	2,649		236	6,331	0
1971	301	1,901	1,644	1,395		330	5,571	0
1972	148	672	1,381	1,000		127	3,328	0
1973	410	1,022	1,665	601		115	3,813	0
1974	268	522	1,333	638		34	2,795	0
1975	222	563	2,026	248		164	3,223	0
1976	544	3,165	1,620	334		19	5,682	0
1977	799	678	1,261	223		25	2,986	0
1978	633	4,418	1,765	1,022		98	7,936	0
1979	409	4,683	1,490	509		3	7,094	0
1980	775	2,175	1,302	1,880		85	6,217	0
1981	736	350	1,523	919		86	3,614	0
1982	975	99	2,747	26		1	3,848	0
1983	1,444	446	2,411	35		3	4,339	0
1984	1,293	110	2,489	38		6	3,936	0
1985	1,710	389	1,953	30		1	4,083	0
1986	1,847	383	2,623	18		3	4,874	0
1987	2,127	380	2,199	98		8	4,812	0
1988	2,421	349	2,115	37		2	4,924	0
1989	1,712	70	2,636	0		0	4,418	0
1990	1,556	13	1,908	64		0	3,541	0
1991	1,880	151	4,874	0		0	6,905	0
1992	2,043	392	3,776	0		13	6,224	0
1993	2,538	130	2,931	0		1	5,600	0
1994	3,737	146	3,631	0		0	7,514	0
1995	3,671	221	6,717	0		0	10,609	0
1996	3,809	263	4,188	0		0	8,260	0
1997	4,852	77	4,375	0		0	9,304	0
1998	4,462	292	4,837	0	58	0	9,649	0
1999	6,073	229	4,669	0	46	0	11,017	0
2000	2,971	133	2,380	0	90	0	5,574	0
2001	2,942	60	3,711	0	78	0	6,791	0
2002	3,479	338	3,146	207	68	0	7,238	0
2003	4,066	259	4,048	0	87	0	8,460	1987
2004	3,338	143	4,769	0	91	0	8,341	2326
2005	4,983	338	2,823	0	113	0	8,257	2079
2006	4,203	210	2,729	0	78	0	7,220	1000
2007	4,283	231	2,321	0	73	0	6,908	986
2008	3,288	157	2,402	100	69	0	6,016	1,699
2009	3,593	31	2,552	0	81	0	6,257	1,266
2010	3,568	8	2,770	0	69	0	6,415	1,084
2011	3,765	40	2,252	0	51	0	6,108	2,227
2012	3,586	254	2,917	0	20	0	6,777	2,205
2013	3,483	16	3,355	0	20	0	6,874	2,080
2014	3,464	293	2,093	0	18	0	5,868	1,976
2015	3,421	34	3,301	0	18	0	6,774	1,929
Totals	112,325	36,698	129,355	35,810	1,128	2,236	317,552	22,844
Recent 10-year Average	3,822	158	2,621	10	59	0	6,670	1,660

Table 4.6 Giant Canada goose production and populations in Iowa.

YEAR	YOUNG PRODUCED	NESTING ADULTS	NONBREEDING ADULTS	TOTAL ADULTS	TOTAL GEESE	% CHANGE FROM PREV. YEAR
1964	24	16	16	32	56	
1965	17	28	37	65	82	46%
1966	66	44	34	78	144	76%
1967	66	42	80	122	188	31%
1968	114	66	100	166	280	49%
1969	121	78	304	382	503	80%
1970	348	228	288	516	864	72%
1971	330	208	234	442	772	-11%
1972	402	268	481	749	1,151	49%
1973	590	404	399	803	1,393	21%
1974	763	498	407	905	1,668	20%
1975	961	602	356	958	1,919	15%
1976	1,234	754	433	1,187	2,421	26%
1977	1,401	914	596	1,510	2,911	20%
1978	2,045	1,266	610	1,876	3,921	35%
1979	2,459	1,588	884	2,472	4,931	26%
1980	3,011	1,969	842	2,811	5,822	18%
1981	3,636	2,238	912	3,150	6,786	17%
1982	3,966	2,531	1,298	3,829	7,795	15%
1983	5,235	3,177	1,486	4,663	9,898	27%
1984	5,796	3,307	1,429	4,736	10,532	6%
1985	6,742	3,791	2,155	5,946	12,688	20%
1986	8,139	4,626	2,610	7,230	15,357	22%
1987	9,418	5,480	2,748	8,228	17,646	15%
1988	10,408	5,820	3,761	9,581	19,989	13%
1989	8,249	4,875	4,993	9,868	18,117	-9%
1990	8,432	5,291	6,168	11,459	19,891	10%
1991	11,218	7,087	7,208	14,295	25,513	28%
1992	16,406	8,931	9,108	18,039	34,445	35%
1993	17,720	10,632	10,079	20,711	38,431	11%
1994	24,732	13,312	12,726	26,038	50,770	32%
1995	28,392	15,262	16,924	32,186	60,578	19%
1996	29,266	16,699	22,030	38,729	67,995	12%
1997	34,057	18,047	22,428	40,355	74,406	9%
1998	36,443	18,794	24,066	42,720	79,157	6%
1999	33,586	17,733	24,826	42,334	75,920	-4%
2000	33,923	17,340	27,163	44,398	78,321	3%
2001	30,264	17,996	27,337	45,246	75,510	-4%
2002	36,071	19,751	30,971	50,674	86,745	15%
2003	36,564	21,072	33,180	54,212	90,776	5%
2004	39,992	22,042	34,990	56,992	96,984	7%
2005	42,905	23,750	37,021	60,751	103,656	7%
2006	42,040	23,734	36,715	60,425	102,465	-1%
2007	37,452	24,590	40,206	64,782	102,234	0%
2008	30,231	23,420	39,320	62,740	92,971	-9%
2009	38,251	23,344	37,931	61,275	99,526	8%
2010	40,940	23,380	41,898	65,278	106,218	7%
2011	40,906	24,039	40,457	64,496	105,402	-1%
2012	37,021	23,363	43,062	66,425	103,446	-2%
2013	23,257	20,042	38,867	55,309	77,926	-25%
2014	26,549	19,189	37,499	54,653	79,633	2%
2015	31,489	20,580	38,898	56,223	85,373	7%

YEAR	YOUNG PRODUCED	NESTING ADULTS	NONBREEDING ADULTS	TOTAL ADULTS	TOTAL GEESE	% CHANGE FROM PREV. YEAR
2016	35,602	21,577	39,633	58,760	91,763	7%

UPLAND WILDLIFE

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

August Roadside Survey 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 215 30-mile routes on ring-necked pheasants, bobwhite quail, gray partridge, cottontail rabbits, and white-tailed jackrabbits. Counts are conducted on sunny, calm mornings with heavy dew. All comparisons are based on total routes run.

The small game harvest survey is a mail survey of Iowa small game hunters conducted following the small game hunting seasons. Each year a random sample of small game hunters (5% of licensed hunters) are send a postcard and survey participants are asked where they hunted, which species they hunted, how many days they hunted, and how many of each species they harvested.

The data from these 2 surveys form the basis for historical information on upland game populations in Iowa and are summarized in the historical text and tables. Both surveys have been conducted annually since 1962. The full reports for both surveys can be found on the DNR's website at http://www.iowadnr.gov/pheasantsurvey.

HISTORICAL SUMMARY OF POPULATIONS AND HARVEST

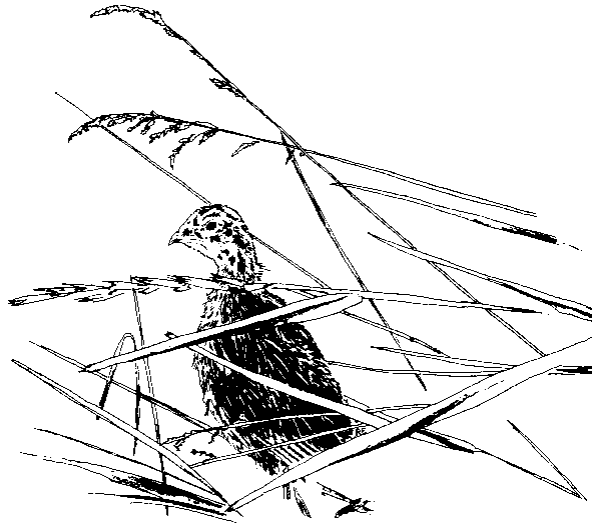
Ring-necked Pheasant

The genus Phasianus or true pheasant is native to Southeast Asia. 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.

The ring-necked pheasant was first successfully introduced into the United States in the Willamette Valley of Oregon by Owen Denny in 1882. Mr. Denny transported wild birds from China to the US to establish a population on his land. It is believed that the majority of the pheasant range in the US was stocked with birds from this original wild foundation or other wild birds from China.

Early records for Iowa are limited, but accounts suggest attempts were made to establish pheasants in Iowa as early as 1884, but the first recorded successful release was an accidental release, following a wind storm, of approximately 2,000 birds from the William Benton game farm in Cedar Falls. The source of Mr. Benton's birds is not known with certainty, but reports say they were from an importer in Tacoma, Washington and thus very likely wild birds from China or wild birds from the Owen

Denny Farm. The conservation department mentions pheasants for the first time in 1910. Early on eggs were purchased from breeders (wild or tame is unknown) and given to landowners to raise and release statewide, the 1910 biennial report indicates 6,000 eggs were distributed to applicants in 82 counties. Egg distribution met with poor success and the conservation department established a hatchery in 1913 and by 1914 mostly young birds were distributed (1,088 that year). Another 10,912 birds were distributed statewide from 1915-16. Records show all northwest counties received 200-800 bird plantings of pheasants from 1915 to 1918, with a planting of 2,500 in Winnebago County.



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. It is interesting to note Iowa's pheasant populations reached their highest abundance in NW and NC Iowa. 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.

Pheasants did extremely well in northern Iowa with crop depredation reported in 1923, with the first open season in 1925. Policy changed in 1924-25 and wild birds and eggs were trapped and moved in an effort to establish populations in southern Iowa. Between 1925-1931 some 26,498 wild birds and 60,000 wild eggs were gathered from areas of undue abundance in northern Iowa and distributed to other regions, mostly southern Iowa. From 1927-30 and additional 10,211 birds and 31,372 eggs were distributed in southern Iowa counties. During, 1929-30 the average southern Iowa county received over 500 birds. However, by 1936 the policy on stocking had changed:

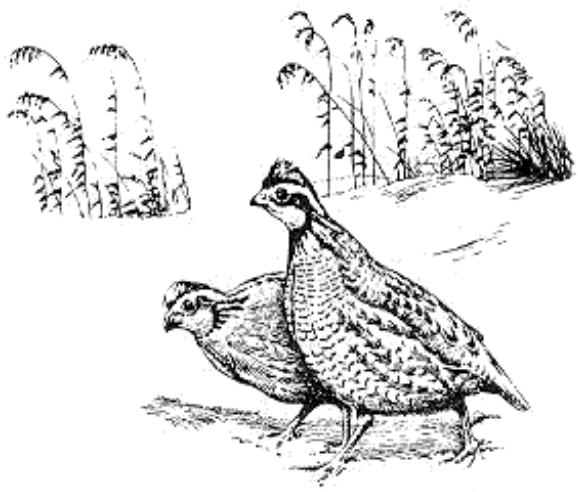
" *The old policy of stocking birds without paying attention to the environment has been discontinued ... for instance, during the past 20-25 years there have been thousands of pheasants released in southern Iowa and ... in except a few cases pheasants disappeared after two or three generations in most counties."*

With the success of wild birds, the state game farms were shut down in 1932, but following several bad weather years it was re-established in 1938. Populations recovered with good weather in the 1940's and stocking was greatly reduced, approximately 4,000 chicks and spent adults in 1943. The state game farm operated at approximately the same level until 1961. Through the 1940-50's it became increasingly evident that pen raised birds were not contributing to wild pheasant numbers. Similar to what had been done in 1924-25, in 1955 a new policy of trap and transfer of wild birds was started in southern Iowa. Increasing populations in Union and Adair counties were trapped (1,375 birds) and transplanted to Ringgold, Decatur, Wayne, Washington, and Appanoose counties. Also new wild birds were brought to the state game farm. These new "wild" birds were distributed to unoccupied range (Washington, Keokuk, Henry, Davis, VanBuren counties) thru 1973. The state game farm was closed in late 1970's and dismantled.

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, 1981-82, 2000-01, and 2007-11, 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, 1999, 2001, and 2007-10 were the results of very cool and/or wet conditions during spring and early summer (Table 5.2; Fig. 5.3). Observed brood sizes have declined slightly since 1962, with the 2010 estimate of 4.0 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 have declined since 1992. Declines in SW and SC regions, in particular, are likely related to wet weather during the nesting season, lack of habitat management on CRP acres and other land use changes. 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).

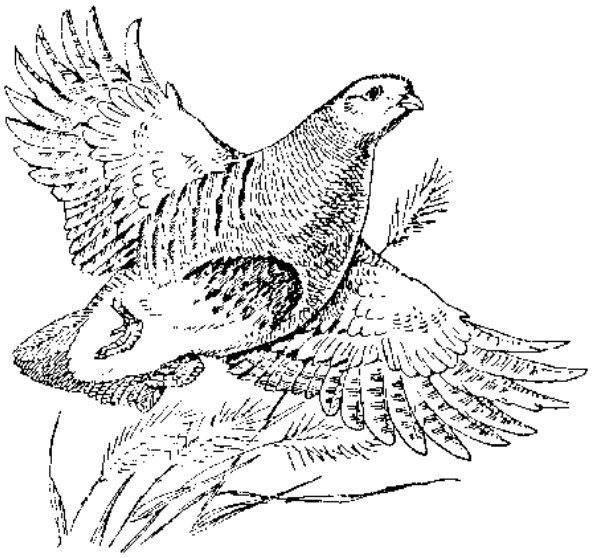
Bobwhite Quail



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. 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 shrubby 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). Similar to pheasants, quail numbers have declined sharply following harsh winters in 1964-65, 1966-67, 1978-79, 1981-82, 2000-01, and 2007-10. (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).



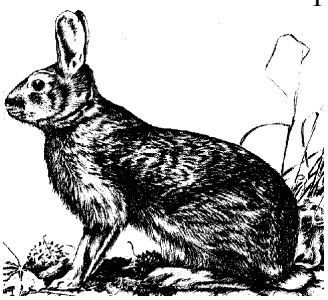
Gray Partridge

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 can be attributed a drought during these years and improved nesting conditions on land enrolled in CRP. Following the drought populations have returned to levels seen prior to 1983 (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. Partridge season was standardized in 1989 to 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. It was changed again in 2008 to open the Saturday before Labor Day to allow youth hunters to participate in the opener.

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 jackrabbit 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. Because of this downward trend the bag/possession limit was reduced from 2/4 to 1/2 following the 2005-06 hunting season The hunting season on

jackrabbits was closed during 2011-12 hunting season because of continued declines on DNR roadside surveys. It may be reopened if populations recover due to landscape changes like grass based biomass.

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. Historic trends in jackrabbit population, harvest, and hunting seasons can be found in tables (5.3, 5.6, and 5.13).

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, 75, 79, 01, 04 08, 10, 11. Abnormally wet weather occurred during 1973, 82, 84, 95, 99, 01, 08, 13 nest 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[a] RATIO	COCK[b] 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	66%
1983	9.6	12.8	21.7	21.6	13.3	25.3	42.6	51.1	27.5	23.7	2.9	66%
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	50%
1987	40.2	36.8	59.7	61.4	41.1	33.2	58.5	64.2	39.0	46.8	2.9	66%
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		
2002	47.0	42.9	13.6	32.0	49.9	32.0	15.7	11.7	22.6	31.7		
2003	81.2	67.3	20.7	36.1	61.2	35.6	29.3	21.8	28.2	44.9		
2004	54.4	34.4	19.0	21.5	35.6	24.4	24.9	19.6	24.4	29.7		
2005	63.5	42.3	25.3	32.0	49.9	25.9	28.9	12.6	23.5	35.1		
2006	48.3	36.1	18.4	23.7	36.8	20.4	20.3	9.0	20.0	27.0		
2007	41.3	35.0	20.1	26.0	36.2	25.0	12.8	5.6	19.8	25.8		
2008	49.4	25.4	9.1	21.2	18.6	7.4	5.7	4.4	5.3	17.5		
2009	35.5	16.6	2.6	23.5	19.1	9.3	10.0	4.8	10.1	15.4		
2010	29.6	16.2	4.7	8.8	11.7	5.3	6.1	1.8	6.6	10.8		
2011	11.1	7.3	2.4	5.5	10.2	5.9	6.3	2.9	4.7	6.6		
2012	16.3	10.9	1.3	3.5	12.3	6.3	4.4	4.0	5.4	7.8		
2013	14.3	9.0	2.7	5.2	7.1	4.2	2.5	4.4	6.3	6.5		
2014	29.3	18.1	2.6	20.8	19.9	13.0	6.5	9.8	19.8	16.3		
2015	42.4	22.5	8.1	23.6	36.4	16.7	11.3	8.2	27.8	23.2		
Statistics:												
10 Year Avg.	31.7	19.7	7.2	16.2	20.8	11.3	8.6	5.5	12.6	15.7		
Long-term Av	38.7	45.1	38.5	45.0	43.4	41.9	53.0	33.1	25.8	39.9	3.4	69%
Percent Change from:												
2014	45.0	24.4	209.7	13.4	83.3	28.0	74.5	-16.2	40.8	42.5		
10 Year Avg.	33.7	14.1	12.0	45.7	74.8	47.2	31.6	50.2	121.3	48.1		
Long-term Av	9.5	-50.1	-79.1	-47.6	-16.1	-60.2	-78.7	-75.1	7.8	-41.8		

[a] Hens per cock.

[b] Percent cock harvest calculated as [((hens/cocks)-1)/(hens/cock)] *100 (Wooley, J.B. etal.1978. IA WL Res Bull No 24.)

Table 5.2. Mean number of broods counted/30-mile route and chicks/brood observed on the August roadside survey, (1962-present).

	NORTH WEST		NORTH CENTRAL		NORTH EAST		WEST CENTRAL		CENTRAL		EAST CENTRAL		SOUTH WEST		SOUTH CENTRAL		SOUTH EAST		STATEWIDE	
YEAR	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER BROOD	BROODS PER 30 MI	CHICKS PER 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
2002	7.4	5.1	7.8	5.0	2.4	4.7	5.3	4.8	7.9	5.0	4.5	5.9	3.5	3.4	1.8	5.5	3.6	5.5	5.2	5.1
2003	13.9	4.5	10.3	5.4	4.1	3.7	5.6	5.4	10.3	4.6	5.6	5.3	4.7	4.9	3.5	4.6	4.1	5.3	7.3	4.9
2004	9.5	4.1	6.0	4.0	2.7	4.5	4.1	3.4	6.2	4.1	3.5	5.0	4.8	3.7	3.4	4.4	4.6	4.2	5.2	4.1
2005	11.7	4.2	7.2	4.3	4.2	4.7	6.1	3.9	8.3	4.6	3.5	5.2	4.9	4.2	2.1	4.8	3.9	5.1	6.0	4.6
2006	7.7	4.8	7.1	4.1	3.4	4.0	4.7	4.0	6.6	4.3	4.0	4.1	4.1	3.9	1.4	4.5	3.1	5.1	4.8	4.3
2007	7.7	4.2	6.1	4.3	3.4	4.1	4.7	4.7	6.4	4.3	4.5	4.3	2.4	3.6	0.8	4.2	3.3	5.1	4.6	4.3
2008	8.6	4.6	4.0	4.2	1.5	3.4	2.9	4.9	2.7	4.4	1.1	5.0	0.8	3.5	0.7	4.3	0.8	3.9	2.7	4.4
2009	5.5	4.4	2.9	3.4	0.6	2.2	3.9	4.6	2.7	5.1	1.2	6.4	1.9	4.1	0.8	4.6	2.2	3.6	2.5	4.4
2010	4.9	4.0	2.7	4.5	1.0	4.0	1.8	3.8	2.1	3.9	0.8	5.0	0.9	4.8	0.5	2.5	1.2	4.2	1.9	4.0
2011	1.7	4.1	1.2	4.2	0.4	4.8	0.9	4.0	1.8	4.0	1.0	4.9	1.1	5.0	0.4	2.0	0.7	3.0	1.1	4.8
2012	2.7	4.9	1.6	5.2	0.3	3.4	0.6	3.9	1.9	5.1	1.0	6.0	0.8	3.7	0.6	5.0	0.8	5.7	1.2	4.9
2013	2.1	4.5	1.4	4.0	0.5	3.3	0.8	4.4	1.2	4.7	0.7	4.8	0.4	3.0	0.6	4.7	0.9	4.8	1.0	4.4
2014	4.7	4.5	3.3	4.6	0.5	2.8	3.4	4.5	3.2	4.7	1.8	5.5	1.2	3.1	1.8	4.4	3.1	4.6	2.7	4.4
2015	6.7	4.9	3.6	4.6	1.2	6.0	3.6	4.9	6.5	3.9	2.6	3.9	1.8	4.4	1.5	3.9	5.0	4.6	3.8	4.5
Statistics:																				
10 Year Avg.	5.2	4.5	3.4	4.3	1.3	3.8	2.7	4.4	3.5	4.4	1.9	5.0	1.5	3.9	0.9	4.0	2.1	4.5	2.6	4.4
Long-term Avg	6.2	4.9	6.3	5.1	5.9	5.0	7.0	4.8	6.5	5.0	6.0	5.3	7.8	4.7	5.1	5.1	3.8	5.2	6.0	5.1
Percent Change from:																				
2014	42.4	8.8	9.1	-0.2	131.6	111.8	6.7	8.6	101.9	-16.6	42.4	-28.1	42.9	44.0	-17.1	-9.3	57.7	-0.8	42.8	2.2
10 Year Avg.	27.5	9.2	5.0	7.0	-8.9	57.1	33.1	11.9	85.7	-11.9	39.7	-21.2	14.4	13.7	65.0	-1.6	134.8	2.6	45.6	1.9
Long-term Avg	7.1	0.6	-43.2	-9.9	-80.4	18.1	-48.2	1.1	-0.3	-22.2	-56.5	-26.2	-77.4	-5.7	-70.1	-22.0	31.9	-12.1	-35.8	-10.5

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).

	QUAIL PER ROUTE										JACK-
YEAR	NORTH WEST	NORTH CENTRAL	NORTH EAST	WEST CENTRAL	CENTRAL	EAST CENTRAL	SOUTH WEST	SOUTH CENTRAL	SOUTH EAST	STATEWIDE	RABBITS STATEWIDE
1962	0.00	0.00	0.00	2.22	0.25	0.18	0.88		2.00	0.62	0.449
1963	0.00	0.29	0.08	0.50	0.47	0.13	0.54	5.58	3.20	1.12	0.408
1964	0.00	0.00	0.29	0.64	0.50	0.60	0.83	4.69	4.47	1.39	0.530
1965	0.81	0.04	0.32	0.28	0.25	0.81	2.08	6.76	8.27	2.21	0.346
1966	0.22	0.00	0.12	0.11	0.44	3.05	2.58	6.65	7.59	2.29	0.348
1967	0.38	0.00	0.16	0.56	0.20	1.81	2.17	5.48	8.09	2.10	0.599
1968	0.00	0.00	0.28	0.17	0.65	2.68	3.46	5.81	5.55	2.06	0.278
1969	0.00	0.00	0.00	0.06	1.68	3.00	6.83	8.58	5.40	2.60	0.308
1970	0.00	0.00	0.00	0.00	0.17	1.64	10.75	10.15	7.36	2.95	0.155
1971	0.00	0.00	0.00	0.06	0.52	1.35	11.42	6.82	6.79	2.64	0.345
1972	0.00	0.00	0.00	0.26	0.25	1.13	10.27	6.84	3.80	2.26	0.300
1973	0.00	0.00	0.00	0.21	1.24	1.29	13.31	6.58	5.55	2.54	0.202
1974	0.00	0.00	0.11	0.25	0.13	1.00	8.07	6.39	5.13	2.11	0.072
1975	0.00	0.00	0.00	2.00	0.30	0.92	7.64	3.78	5.64	1.98	0.108
1976	0.00	0.00	2.00	2.21	0.16	2.04	2.40	7.39	4.68	2.19	0.109
1977	0.00	0.00	0.41	0.21	0.68	1.55	5.40	12.63	3.96	2.69	0.085
1978	0.00	0.00	1.06	1.37	0.17	0.50	2.73	8.42	3.40	1.87	0.141
1979	0.04	0.00	0.88	0.00	0.35	0.32	2.75	2.00	0.30	0.66	0.158
1980	0.36	0.00	0.00	0.68	1.39	1.00	5.27	7.88	2.61	2.05	0.149
1981	0.40	0.00	1.00	0.21	0.10	1.64	7.00	11.84	2.43	2.60	0.310
1982	0.00	0.00	0.67	0.05	0.00	0.14	0.87	2.64	2.83	0.79	0.099
1983	0.08	0.08	0.28	0.16	0.50	0.57	1.64	7.32	1.87	1.44	0.055
1984	0.00	0.00	0.22	0.80	0.03	0.00	1.13	2.40	1.57	0.66	0.078
1985	0.00	0.00	1.44	0.00	0.10	0.00	1.27	6.24	3.30	1.37	0.074
1986	0.00	0.00	0.00	0.37	0.03	0.14	1.73	8.16	2.09	1.42	0.118
1987	0.00	0.00	0.33	0.47	0.00	0.74	3.93	14.52	4.17	2.70	0.123
1988	0.00	0.00	0.44	0.94	0.00	0.00	4.87	8.46	4.13	1.96	0.173
1989	0.04	0.00	0.33	1.06	0.10	0.70	6.07	7.67	3.17	1.91	0.223
1990	0.00	0.00	1.00	0.72	0.13	1.04	2.93	6.25	2.21	1.48	0.188
1991	0.08	0.00	0.47	0.72	0.13	0.52	3.13	5.54	2.33	1.34	0.068
1992	0.12	0.00	0.22	1.50	0.07	0.96	2.43	2.83	2.71	1.07	0.143
1993	0.00	0.00	0.37	0.50	0.03	0.78	5.07	2.13	1.61	0.96	0.030
1994	0.08	0.00	0.00	0.65	0.00	0.87	9.19	3.21	3.04	1.58	0.155
1995	0.08	0.00	0.63	0.17	0.06	0.86	2.53	5.54	3.22	1.37	0.058
1996	0.08	0.00	0.21	0.28	0.09	0.71	2.73	0.88	0.65	0.51	0.092
1997	0.00	0.00	0.00	0.00	0.07	1.24	4.27	2.25	0.50	0.77	0.098
1998	0.00	0.00	0.00	0.00	0.07	1.48	1.20	2.30	1.81	0.72	0.086
1999	0.00	0.00	0.05	0.00	0.00	0.13	1.07	2.50	1.50	0.57	0.060
2000	0.00	0.00	0.00	0.20	0.47	0.17	4.40	0.83	0.41	0.57	0.029
2001	0.00	0.00	0.00	0.00	0.09	0.76	1.31	0.50	0.32	0.29	0.053
2002	0.00	0.00	0.00	0.70	0.03	0.27	1.06	0.88	0.96	0.39	0.034
2003	0.00	0.00	0.00	0.00	0.22	0.14	3.27	3.92	1.36	0.89	0.033
2004	0.00	0.00	0.50	0.05	0.19	0.55	2.19	2.64	3.19	0.93	0.033
2005	0.00	0.00	0.00	0.09	0.53	0.00	1.71	2.52	1.64	0.69	0.019
2006	0.00	0.00	0.00	0.32	0.03	0.52	1.65	2.16	3.22	0.82	0.052
2007	0.04	0.00	0.00	0.78	0.00	1.40	0.63	1.52	3.30	0.81	0.019
2008	0.00	0.00	0.00	0.13	0.00	0.00	2.00	1.04	1.26	0.45	0.000
2009	0.58	0.00	0.00	0.67	0.00	0.18	1.22	2.24	1.67	0.72	0.005
2010	0.00	0.00	0.56	0.30	0.00	0.05	0.44	0.50	1.32	0.33	0.000
2011	0.00	0.00	0.00	0.00	0.00	0.35	0.07	1.28	0.22	0.22	0.019
2012	0.00	0.00	0.00	0.00	0.07	0.00	1.75	1.68	0.13	0.36	0.005
2013	0.00	0.00	0.05	0.04	0.00	0.10	0.78	1.68	0.78	0.36	0.009
2014	0.00	0.00	0.00	0.00	0.59	0.00	3.65	2.71	1.76	0.86	0.028
2015	0.00	0.00	0.00	0.81	0.00	0.30	4.06	3.88	4.58	1.42	0.019
Statistics:											
10 Year Avg.	0.06	0.00	0.06	0.31	0.07	0.29	1.62	1.87	1.82	0.63	0.02
Long-term Avg.	0.06	0.01	0.27	0.45	0.25	0.78	3.57	4.81	3.06	1.36	0.142
Percent Change from:											
2014							11.3	43.3	160.1	65.8	-32.1
10 Year Avg.						3.4	150.0	107.6	151.3	124.3	21.8
Long-term Avg.						-61.7	13.8	-19.4	49.9	4.4	-86.6

Table 5.4 Mean number of gray partridge counted/30-mile route on the August roadside survey, regionally and statewide, (1963-present).

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
2002	7.04	2.04	2.94	4.00	5.88	1.23	0.00	0.00	0.00	2.82
2003	6.77	3.04	3.20	1.50	7.00	0.13	0.00	0.00	0.00	2.76
2004	7.77	2.30	1.90	0.86	3.25	1.00	0.00	0.04	0.00	2.12
2005	9.31	3.59	1.80	2.68	3.53	1.83	0.00	0.00	0.36	2.79
2006	2.50	4.96	2.10	2.14	3.53	0.86	0.00	0.00	0.39	2.01
2007	2.19	2.93	2.30	1.96	2.90	0.85	0.00	0.28	0.00	1.62
2008	2.39	4.11	0.00	1.09	0.40	0.20	0.00	0.12	0.00	1.03
2009	2.92	1.39	2.29	1.57	1.83	0.00	0.00	0.00	0.21	1.17
2010	1.15	1.69	1.83	0.83	1.40	1.26	0.00	0.00	0.00	0.93
2011	2.46	4.19	0.47	0.24	1.16	0.61	0.00	0.00	0.00	1.15
2012	2.50	3.56	1.33	0.71	3.45	0.05	0.06	0.00	0.00	1.47
2013	1.00	2.00	1.65	1.09	0.63	0.81	0.00	0.00	0.00	0.81
2014	1.81	7.74	2.65	1.91	2.53	0.87	0.00	0.00	0.00	2.13
2015	3.80	12.41	3.37	1.19	4.53	1.00	0.00	0.00	0.00	3.26
Statistics:										
10 Year Avg.	2.27	4.50	1.80	1.27	2.24	0.65	0.01	0.04	0.06	1.56
Long-term Avg.	10.90	9.02	2.86	2.79	4.16	1.09	0.09	0.12	0.17	3.80
Percent Change from:										
2014	110.2	60.3	27.1	-37.8	79.0	14.9				52.8
10 Year Avg.	67.2	175.9	87.1	-6.4	102.6	53.8				109.2
Long-term Avg.	-65.1	37.6	17.6	-57.4	8.9	-8.4				-14.4

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

YEAR	NORTH WEST	NORTH CENTRAL	NORTH EAST	WEST CENTRAL	CENTRAL	EAST CENTRAL	SOUTH WEST	SOUTH CENTRAL	SOUTH 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
2002	2.7	2.2	2.7	3.7	4.8	6.5	3.8	11.2	9.3	5.3
2003	5.0	3.9	5.7	6.9	8.3	8.0	9.1	21.4	11.0	8.8
2004	3.0	3.3	5.7	4.2	3.9	6.1	8.7	24.9	14.6	8.1
2005	4.7	2.9	5.7	5.0	4.6	3.7	12.6	12.1	7.0	6.2
2006	3.8	2.8	5.2	5.6	4.3	5.8	8.4	14.9	7.8	6.4
2007	1.7	2.6	4.2	3.6	2.8	6.1	5.7	6.1	8.0	4.3
2008	4.0	2.8	2.6	6.1	5.1	3.6	8.8	16.9	7.0	6.3
2009	2.2	1.3	3.7	4.7	4.0	4.5	10.3	9.6	6.1	5.0
2010	2.9	0.8	2.9	2.7	1.6	2.7	4.3	5.1	5.5	3.1
2011	1.1	1.0	2.8	2.5	2.4	2.0	1.9	4.3	1.7	2.2
2012	2.0	1.0	1.9	1.2	1.8	2.0	1.9	3.0	3.3	2.0
2013	2.3	3.0	3.5	4.1	4.1	6.9	2.5	11.4	8.2	5.1
2014	2.3	2.6	4.5	6.9	9.7	7.9	4.5	18.9	12.2	7.8
2015	4.0	3.7	4.1	5.1	6.9	6.8	5.7	15.8	11.3	7.2
Statistics:										
10 Year Avg.	2.6	2.1	3.5	4.3	4.3	4.8	5.4	10.6	7.1	4.9
Long-term Avg.	2.7	2.5	4.2	4.9	3.9	5.1	8.8	15.2	8.4	6.0
Percent Change from:										
2014	76.3	42.8	-8.8	-25.1	-29.0	-13.6	26.0	-16.1	-7.0	-7.6
10 Year Avg.	51.8	72.4	15.8	20.9	61.4	41.2	5.8	49.5	59.2	45.5
Long-term Avg.	45.9	49.8	-1.4	4.2	77.9	34.6	-35.2	4.2	35.0	19.5

Table 5.6 Small game harvest estimates from the Iowa small-game survey (1963-present). Resident and NR hunter harvests combined.

YEAR	PHEASANT	QUAIL	COTTONTAIL	JACKRABBIT	SQUIRREL	HUNS	MOURNING DOVE
1958*	1,548,564						
1959*	1,070,285						
1963	1,935,000	327,977	2,066,472	75,015	1,440,576	8,000	
1964	1,737,400	291,030	2,260,090	97,785	1,111,290	7,000	
1965	1,117,500	513,760	1,602,060	133,000	1,236,400	11,500	
1966	1,449,400	1,051,630	2,180,525	91,690	1,370,250	12,000	
1967	1,212,200	736,520	1,548,035	55,660	1,196,810	11,300	
1968	1,393,900	777,685	1,761,370	62,405	1,014,940	21,600	
1969	1,642,899	1,144,700	1,722,280	98,930	1,164,030	20,900	
1970	1,788,500	1,178,685	1,725,535	71,705	1,115,410	28,300	
1971	1,817,000	1,037,957	1,305,083	41,468	1,172,742	31,100	
1972	1,396,900	657,300	1,148,100	31,200	1,048,000	16,800	
1973	1,905,086	791,242	1,424,927	30,863	1,105,271	45,284	
1974	1,672,476	727,324	1,271,577	40,027	1,119,048	39,976	
1975	1,230,095	543,971	996,227	19,064	1,046,559	26,436	
1976	1,425,500	1,080,500	1,136,300	20,700	1,377,500	54,800	
1977	1,357,862	849,183	1,322,263	19,975	1,283,043	48,991	
1978	1,428,708	660,625	856,999	26,077	815,562	108,473	
1979	1,200,709	312,410	461,285	13,713	696,363	55,414	
1980	1,429,617	524,450	588,363	7,932	844,999	70,764	
1981	1,447,969	563,569	1,134,781	22,860	949,681	69,698	
1982	972,556	302,648	712,227	5,237	759,438	52,782	
1983	1,047,027	270,690	720,012	8,845	669,490	91,035	
1984	724,192	190,708	636,209	6,376	529,316	33,306	
1985	852,716	189,236	717,631	2,108	673,665	62,931	
1986	855,894	339,000	472,585	6,082	506,769	60,018	
1987	1,412,082	397,633	690,091	8,830	532,001	109,061	
1988	1,139,599	289,592	424,561	3,907	510,065	104,094	
1989	1,441,990	426,302	435,791	3,025	583,183	118,282	
1990	1,407,002	321,493	608,805	4,463	466,140	147,922	
1991	1,138,463	231,818	437,144	3,171	407,172	45,541	
1992	925,123	179,825	311,607	2,113	328,644	37,328	
1993	1,226,010	201,461	334,667	3,212	439,477	24,577	
1994	1,245,580	178,589	288,982	262	395,232	22,331	
1995	1,443,010	220,999	335,862	6,280	377,714	6,677	
1996	1,367,060	81,039	331,047	2,666	302,908	36,358	
1997	1,340,050	181,025	340,661	5,063	265,874	38,045	
1998	1,237,980	100,594	255,149	10,008	319,081	25,613	
1999[a]	899,174	110,128	237,409	8,777	242,224	20,200	
2000[b]	1,001,867	140,828	350,739	1,626	217,116	19,258	
2001	470,116	32,226	196,483	3,840	248,833	5,814	
2002	729,460	63,872	167,284	1,637	152,825	5,130	
2003	1,080,466	114,067	243,699	738	202,729	8,204	
2004	756,184	68,256	259,327	151	233,530	12,535	
2005	806,601	40,675	210,591	671	132,195	14,674	
2006	748,025	75,276	155,892	999	165,255	10,724	
2007	631,638	54,444	131,250	1,262	169,478	4,885	
2008	383,083	13,391	122,296	57	120,998	1,420	
2009	271,126	12,136	127,663	608	169,041	4,643	
2010	238,208	11,620	74,044	0	119,590	1,057	
2011	108,905	4,539	51,815	Closed	108,783	1,046	57,285
2012	158,099	20,474	70,003		158,615	611	94,864
2013	166,554	8,708	79,985		90,167	1,370	117,915
2014	215,816	10,705	102,379		110,600	451	137,927
2015	268,464	28,362	113,276		175,507	1,698	117,358
Statistics:							
10 Year Avg.	318,992	23,966	102,860		138,803	2,791	105,070
Long-term Avg.	1,089,413	352,507	703,008	22,127	603,625	34,301	105,070
Percent Change from:							
2014	24.4	164.9	10.6		58.7	276.5	-14.9
10 Year Avg.	-15.8	18.3	10.1		26.4	-39.2	11.7
Long-term Avg.	-75.4	-92.0	-83.9		-70.9	-95.0	11.7

[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).

* Nomsen R.C. 1961. Results of the 1958 and 1959 Pheasant Hunter Survey. Ia Acad. Sci. 68:281-283.

Table 5.7 Estimated hunter and harvest numbers for pheasant and quail by residency status from the Iowa small-game survey (1987-present).

	Pheasant				Quail			
	Resident		Non Resident		Resident		Non Resident	
YEAR	Hunters	Harvest	Hunters	Harvest	Hunters	Harvest	Hunters	Harvest
1987	178,203	1,129,395	33,915	251,613	70,026	181,378	13,727	64,760
1988	170,323	902,226	33,682	237,373	59,230	212,646	13,792	76,946
1989	173,017	1,122,951	38,569	319,039	69,591	381,321	10,380	44,981
1990	171,016	1,047,529	39,829	359,473	61,219	269,896	11,667	51,597
1991	161,741	852,158	40,578	286,305	49,713	184,195	11,271	47,623
1992	139,681	677,670	36,749	247,453	47,641	155,919	8,646	23,906
1993	138,619	999,149	27,642	226,857	43,027	175,793	6,318	25,667
1994	147,841	876,365	41,824	369,216	41,504	156,413	8,754	22,176
1995	155,308	1,118,638	44,995	324,368	39,653	193,544	11,185	27,454
1996	155,889	1,059,385	49,704	307,675	33,996	62,438	10,978	18,601
1997[a]	154,855	1,037,620	50,349	302,432	24,927	134,418	10,546	46,607
1998	141,838	936,181	42,748	301,797	26,393	83,067	5,985	17,527
1999[b]	142,521	684,596	39,152	214,578	32,306	86,058	8,811	24,070
2000	134,873	781,143	32,648	220,724	33,114	114,110	6,843	26,718
2001	99,125	352,469	23,781	117,620	20,459	24,812	4,132	7,414
2002	97,842	548,413	29,757	181,047	16,194	43,492	4,693	20,380
2003	108,819	849,898	33,414	230,568	19,937	99,971	4,958	14,096
2004	99,753	586,632	31,009	169,552	17,139	57,486	5,197	10,770
2005	107,255	641,957	28,937	164,644	15,277	33,714	3,301	6,961
2006	91,642	558,369	27,038	189,656	17,787	49,783	4,769	25,493
2007	85,803	481,754	23,426	149,884	14,227	42,799	4,007	11,645
2008	69,640	299,875	16,231	83,208	12,114	10,716	1,791	2,675
2009	60,708	217,816	13,309	53,310	8,237	11,098	1,942	1,038
2010	51,258	197,266	8,800	40,942	9,150	9,572	1,454	2,048
2011	39,515	75,897	6,460	33,008	8,574	3,664	862	875
2012	41,437	137,215	5,743	20,884	7,947	19,420	822	1,054
2013	34,688	140,348	6,293	26,206	6,165	8,467	320	241
2014	41,200	165,000	8,725	50,816	5,428	9,666	1,118	1,039
2015	46,679	212,858	9,480	55,606	8,189	26,081	1,573	2,281
Statistics:								
10 Year Avg.	56,257	248,640	12,551	70,352	9,782	19,127	1,866	4,839
Long-term Avg.	111,762	644,509	28,441	190,892	28,247	97,998	6,201	21,608
Percent Change from:								
2014	13.3	29.0	8.7	9.4	50.9	169.8	40.7	119.5
10 Year Avg.	-17.0	-14.4	-24.5	-21.0	-16.3	36.4	-15.7	-52.9
Long-term Avg.	-58.2	-67.0	-66.7	-70.9	-71.0	-73.4	-74.6	-89.4

[a] Iowa lost 800,000 acres of whole field enrollment CRP.

[b] Small Game Harvest Survey changed from a single to a double mailing. Hunter estimates from

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

	RESIDENT					NON-RESIDENT					
	FURHARVESTER			RESIDENT	LIFETIME	HUNTING		TOTAL	HABITAT	IA DUCK	HUNT
YEAR[a]	over 16[b]	under 16	TOTAL[c]	HUNT[d]	over 65	over 18	under 18	LICENSE[e]	STAMP[f]	STAMP[g]	PRESERVE[h]
1942				226,046				447			
1943				193,270				612			
1944				211,657				1,163			
1945				245,609				998			
1946				326,128				1,646			
1947				273,242				632			
1948				332,019				1,727			
1949				349,734				2,256			
1950				338,111				2,393			
1951				329,320				2,371			
1952				340,935				2,391			
1953				343,982				3,115			
1954				346,435				3,203			
1955				369,493				3,936			
1956				364,985				4,544			
1957				339,389				4,422			
1958				355,658				5,521			
1959				320,246				4,535			
1960				313,851				5,352			
1961				301,809				5,448			
1962				288,087				5,470			
1963				307,475				7,531			
1964				301,964				8,370			
1965				275,640				6,505			
1966				292,745				9,638			
1967				295,276				11,244			
1968				309,424				12,223			
1969				303,602				17,326			
1970				322,509				21,898			
1971				328,542				30,264			
1972				277,317				28,559		70,446	
1973				291,755				34,497		67,323	
1974				318,930				42,224		70,797	
1975				302,436				36,382		70,814	
1976				306,489				41,849		66,120	
1977				296,940				39,032		69,023	
1978				295,696				32,848		67,041	
1979	17,602	4,813	22,415	257,676				27,302	279,621	52,865	768
1980	19,366	5,529	24,895	266,655				30,793	296,667	50,202	822
1981	19,116	4,990	24,106	266,053				31,379	297,297	45,751	742
1982	17,505	4,248	21,753	245,969				24,002	269,290	44,391	751
1983	14,964	3,699	18,663	237,851				23,206	261,340	42,981	766
1984	14,537	3,329	17,866	221,519				21,927	243,154	44,445	696
1985	25,156	3,519	28,675	208,444				22,977	233,779	37,681	729
1986	23,709	3,064	26,773	205,356				27,254	236,219	40,157	882
1987	28,923	3,338	32,261	220,674				35,676	259,350	43,357	1,112
1988	24,105	2,380	26,485	218,588				35,023	257,702	34,799	1,696
1989	18,411	1,530	19,941	226,124				40,197	271,342	32,920	1,499
1990	13,853	973	14,826	219,636				41,500	263,530	31,468	1,786

Table 5.8 Continued.

	RESIDENT					NON-RESIDENT					
	FURHARVESTER			RESIDENT	LIFETIME	HUNTING		TOTAL	HABITAT	IA DUCK	HUNT
YEAR[a]	over 16[b]	under 16	TOTAL[c]	HUNT[d]	over 65	over 18	under 18	LICENSE[e]	STAMP[f]	STAMP[g]	PRESERVE[h]
1991	14,208	719	14,927	217,200				45,792	266,845	32,537	1,454
1992	14,272	793	15,065	203,508				39,211	247,673	34,304	1,810
1993	14,672	829	15,501	197,966				29,231	232,298	31,741	2,137
1994	15,811	952	16,763	211,289				45,610	260,815	33,232	1,870
1995	15,343	903	16,246	210,727				48,028	263,531	34,903	2,467
1996	17,237	1,021	18,258	209,663				53,058	265,653	43,060	2,317
1997	18,330	1,066	19,396	211,530				52,730	269,443	38,275	2,516
1998	18,325	1,078	19,403	208,790				50,511	266,519	40,349	3,107
1999*	***15,804***	***1,004***	***16,808***	***206,210***	***2,885***	***42,379***	***2,086***	***44,465***	***253,943***	***42,588***	***2,772***
2000	12,793	1,936	14,729	200,995	1,642	39,067	1,901	40,968	245,351	40,913	2,898
2001	14,665	658	15,323	194,051	1,515	26,748	1,090	27,838	237,407	40,378	2,963
2002	14,235	644	14,879	189,138	2,339	36,728	1,532	38,260	229,829	37,574	3,282
2003	13,753	651	14,404	193,279	1,772	43,145	1,951	45,096	240,527	35,746	3,173
2004	13,906	701	14,607	190,154	1,786	41,159	1,847	43,006	235,336	34,611	3,254
2005	12,711	665	13,376	189,813	1,886	40,159	1,801	41,960	233,416	31,666	3,165
2006	13,796	746	14,542	188,628	1,973	39,038	1,815	40,853	231,284	31,982	3,370
2007	14,445	834	15,279	184,257	1,970	35,267	1,604	36,871	222,559	31,992	3,010
2008	14,673	850	15,523	177,723	2,074	28,427	1,167	29,594	208,461	30,560	2,665
2009	13,376	722	14,098	172,230	2,257	24,352	1,026	25,378	198,880	29,644	2,562
2010	14,162	871	15,033	164,380	2,016	19,992	773	20,765	185,598	28,263	2,254
2011	15,908	1,020	16,928	160,256	2,109	23,657	714	24,371	185,559	27,930	2,460
2012	17,970	1,215	19,185	161,642	2,350	23,766	793	24,559	187,698	26,420	2,270
2013[i]	17,954	1,382	19,336	158,490	2,374	23,082	756	23,838	178,258	27,867	2,341
2014	17,272	1,206	18,478	152,696	2,399	24,348	798	25,146	179,331	29,122	2,316
2015	15,351	958	16,309	152,147	2,531	23,349	902	24,251	176,364	28,749	2,155
Statistics:											
10 Year Avg.	15,491	980	16,471	167,245	2,205	26,528	1,035	27,563	195,399	29,253	2,540
Long-term Avg.	16,709	1,752	18,461	254,568	2,110	31,451	1,327	23,313	239,780	41,522	2,077
Percent Change from:											
2014	-11.1	-20.6	-11.7	-0.4	5.5	-4.1	13.0	-3.6	-1.7	-1.3	-7.0
10 Year Avg.	-0.9	-2.3	-1.0	-9.0	14.8	-12.0	-12.8	-12.0	-9.7	-1.7	-15.2
Long-term Avg.	-8.1	-45.3	-11.7	-40.2	19.9	-25.8	-32.0	4.0	-26.4	-30.8	3.8

[a] Change to ELSI electronic licensing system in 1999*. Resident hunting, combination, fur/fish/game licenses and furharvester were license types issued prior to ELSI implementation.

[b] Furharvester (over 16) sales is the sum of discontinued fur(over 16) and fur/fish/game licenses, from 1979-99.

[c] Total furharvester sales is the sum of furharvester over and under 16 columns. Total does not include NR sales.

[d] Total resident licenses is sum of resident hunt, combination, and fur/fish/game, until ELSI system implementation in 1999. License types (2,9,29,30) beginning in 2013

[e] For comparisons to previous years total NR licenses is sum of NR over and under 18 sales after 1999 ELSI implementation.

[fgh] Numbers represent combined resident and non-resident sales. Habitat fee license types (9,20,28,29,30,31,32,93,94)

[i] New combination hunt/fish/fur/habitat licenses go on sale in 2013. LT combined to maintain similar historical tallies.

Table 5.9 Estimated hunter numbers (resident & NR combined) from the Iowa small-game survey.

YEAR	PHEASANT	QUAIL	COTTONTAIL	JACK RABBIT	SQUIRREL	HUNS	MOURNING DOVE
1958*	267,455						
1959*	238,903						
1963	277,400	47,028	169,994	30,494	150,932		
1964	271,285	46,535	179,585	31,815	136,415		
1965	225,735	46,450	138,379	26,080	123,640		
1966	240,400	63,785	154,647	20,355	130,500		
1967	244,300	62,485	150,050	20,615	138,520		
1968	247,100	70,367	147,380	20,131	120,790		
1969	259,100	81,100	159,000	24,810	133,600		
1970	283,400	87,665	167,190	26,460	136,150		
1971	301,150	80,250	134,470	16,326	118,059		
1972	230,000	63,900	137,000	12,800	105,000	6,400	
1973	307,974	106,150	201,560	23,209	159,473	22,374	
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	
1977	279,689	103,776	170,074	11,302	141,596	17,691	
1978	270,413	101,916	142,809	14,268	120,503	34,329	
1979	241,972	73,461	114,642	10,029	111,434	23,465	
1980	252,440	86,816	119,901	8,526	111,425	27,554	
1981	254,803	97,430	150,881	11,106	117,942	28,731	
1982	214,263	68,479	118,994	4,862	105,262	21,532	
1983	203,014	63,060	118,535	7,331	98,553	25,366	
1984	176,312	58,630	102,993	5,543	86,380	21,179	
1985	175,225	54,427	107,500	6,568	88,849	25,956	
1986	184,759	63,985	92,727	5,193	84,082	30,822	
1987	212,118	83,754	103,199	7,298	77,819	40,878	
1988	204,659	74,584	84,529	4,376	74,783	44,154	
1989	211,586	79,971	89,054	5,634	80,937	48,785	
1990	210,845	72,886	87,437	4,679	70,539	49,220	
1991	202,319	62,684	83,200	4,001	63,601	25,165	
1992	176,430	56,287	66,967	5,802	60,443	22,949	
1993	166,260	49,345	65,704	1,547	62,175	14,920	
1994	189,664	50,258	68,840	1,239	57,381	18,294	
1995	200,302	50,839	68,499	4,361	57,495	15,954	
1996	205,592	44,974	75,870	2,623	56,382	21,914	
1997	205,203	35,473	51,785	2,872	43,632	12,330	
1998	184,585	32,378	54,588	1,604	53,859	13,502	
1999[a]	181,673	41,117	50,254	2,456	46,994	11,390	
2000	167,521	39,957	46,311	1,572	35,395	6,043	
2001	122,906	24,591	36,125	2,933	36,760	5,757	
2002	127,599	20,887	27,945	1,692	25,482	4,417	
2003	142,233	24,895	31,600	326	27,863	4,054	
2004	130,583	22,336	32,195	600	29,302	4,537	
2005	136,192	18,578	40,225	1,870	25,943	7,147	
2006	118,680	22,556	34,292	1,989	27,746	5,553	
2007	109,229	18,234	31,106	1,502	23,160	3,819	
2008	85,871	13,095	27,191	1,405	22,857	2,996	
2009	74,017	10,179	25,840	1,894	24,586	3,705	
2010	60,058	10,604	22,005	541	23,440	1,229	
2011	45,975	9,436	17,197	Closed	20,420	1,782	8,780
2012	47,180	8,769	18,247		21,698	1,481	9,328
2013	40,981	6,485	18,903		20,203	1,651	8,208
2014	49,925	6,546	20,904		19,704	1,631	11,396
2015	56,159	9,762	24,838		25,081	1,994	11,353
Statistics:							
10 Year Avg.	68,808	11,567	24,052	1,466	22,890	2,584	9,813
Long-term Avg.	192,550	53,934	92,910	9,005	77,640	16,779	9,813
Percent Change from:							
2014	12.5	49.1	18.8		27.3	22.3	-0.4
10 Year Avg.	-18.4	-15.6	3.3		9.6	-22.8	15.7
Long-term Avg.	-70.8	-81.9	-73.3		-67.7	-88.1	15.7

[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.

* Nomsen R.C. 1961. Results of the 1958 and 1959 Pheasant Hunter Survey. Ia Acad. Sci. 68:281-283.

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

YEAR	DATES REGULAR / YOUTH	SEASON LENGTH	SHOOTING HOURS	LIMIT - BAG/POSS REGULAR	LIMIT - BAG/POSS YOUTH	# COUNTIES 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
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

Table 5.10 Continued.

YEAR	DATES REGULAR / YOUTH	SEASON LENGTH	SHOOTING HOURS	LIMIT - BAG/POSS REGULAR	LIMIT - BAG/POSS YOUTH	# COUNTIES OPEN
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
2002-03	26 OCT-10 JAN / 19-20 OCT	77/2	0800-1630	3/12	1/2	STATEWIDE
2003-04	25 OCT-10 JAN / 18-19 OCT	78/2	0800-1630	3/12	1/2	STATEWIDE
2004-05	30 OCT-10 JAN / 23-24 OCT	73/2	0800-1630	3/12	1/2	STATEWIDE
2005-06	29 OCT-10 JAN / 22-23 OCT	74/2	0800-1630	3/12	1/2	STATEWIDE
2006-07	28 OCT-10 JAN / 21-22 OCT	75/2	0800-1630	3/12	1/2	STATEWIDE
2007-08	27 OCT-10 JAN / 21-22 OCT	76/2	0800-1630	3/12	1/2	STATEWIDE
2008-09	25 OCT-10 JAN / 18-19 OCT	78/2	0800-1630	3/12	1/2	STATEWIDE
2009-10	31 OCT-10 JAN / 24-25 OCT	72/2	0800-1630	3/12	1/2	STATEWIDE
2010-11	30 OCT-10 JAN / 23-24 OCT	73/2	0800-1630	3/12	1/2	STATEWIDE
2011-12	29 OCT-10 JAN / 22-23 OCT	74/2	0800-1630	3/12	1/2	STATEWIDE
2012-13	27 OCT-10 JAN / 20-21 OCT	76/2	0800-1630	3/12	1/2	STATEWIDE
2013-14	26 OCT-10 JAN / 19-20 OCT	77/2	0800-1630	3/12	1/2	STATEWIDE
2014-15	25 OCT-10 JAN / 18-19 OCT	78/2	0800-1630	3/12	1/2	STATEWIDE
2015-16	31 OCT-10 JAN / 24-25 OCT	72/2	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
2002-03	26 OCT-31 JAN	98	0800-1630	8/16	STATEWIDE
2003-04	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
2004-05	30 OCT-31 JAN	94	0800-1630	8/16	STATEWIDE
2005-06	29 OCT-31 JAN	95	0800-1630	8/16	STATEWIDE
2006-07	28 OCT-31 JAN	96	0800-1630	8/16	STATEWIDE
2007-08	27 OCT-31 JAN	97	0800-1630	8/16	STATEWIDE
2008-09	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
2009-10	31 OCT-31 JAN	93	0800-1630	8/16	STATEWIDE
2010-11	30 OCT-31 JAN	94	0800-1630	8/16	STATEWIDE
2011-12	29 OCT-31 JAN	95	0800-1630	8/16	STATEWIDE
2012-13	27 OCT-31 JAN	97	0800-1630	8/16	STATEWIDE
2013-14	26 OCT-31 JAN	98	0800-1630	8/16	STATEWIDE
2014-15	25 OCT-31 JAN	99	0800-1630	8/16	STATEWIDE
2015-16	31 OCT-31 JAN	93	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
2002-03	12 OCT-31 JAN	112	0800-1630	8/16	STATEWIDE
2003-04	11 OCT-31 JAN	113	0800-1630	8/16	STATEWIDE
2004-05	9 OCT-31 JAN	115	0800-1630	8/16	STATEWIDE
2005-06	8 OCT-31 JAN	116	0800-1630	8/16	STATEWIDE
2006-07	7 OCT-31 JAN	117	0800-1630	8/16	STATEWIDE
2007-08	13 OCT-31 JAN	111	0800-1630	8/16	STATEWIDE
2008-09	11 OCT-31 JAN	113	0800-1630	8/16	STATEWIDE
2009-10	10 OCT-31 JAN	114	0800-1630	8/16	STATEWIDE
2010-11	9 OCT-31 JAN	115	0800-1630	8/16	STATEWIDE
2011-12	8 OCT-31 JAN	116	0800-1630	8/16	STATEWIDE
2012-13	13 OCT-31 JAN	111	0800-1630	8/16	STATEWIDE
2013-14	12 OCT-31 JAN	112	0800-1630	8/16	STATEWIDE
2014-15	11 OCT-31 JAN	113	0800-1630	8/16	STATEWIDE
2015-16	10 OCT-31 JAN	114	0800-1630	8/16	STATEWIDE

Table 5.13 Iowa's cottontail and jackrabbit seasons.

YEAR	DATES COTTONTAILS / JACKRABBITS	SEASON LENGTH	SHOOTING HOURS	LIMIT - BAG/POSS COTTONTAILS	JACKRABBITS	AREA OPEN
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/31 OCT-1 DEC	181/32	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
2002-03	1 SEP-28 FEB/26 OCT-1 DEC	181/37	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2003-04	1 SEP-28 FEB/25 OCT-1 DEC	181/38	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2004-05	1 SEP-28 FEB/30 OCT-1 DEC	181/33	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2005-06	1 SEP-28 FEB/29 OCT-1 DEC	181/34	SUNRISE-SUNSET	10/20	2/4	STATEWIDE
2006-07	1 SEP-28 FEB/28 OCT-1 DEC	181/35	SUNRISE-SUNSET	10/20	1/2	STATEWIDE
2007-08	1 SEP-28 FEB/27 OCT-1 DEC[a]	181/36	SUNRISE-SUNSET	10/20	1/2	STATEWIDE
2008-09	30 AUG-28 FEB/25 OCT-1 DEC	182/38	SUNRISE-SUNSET	10/20	1/2	STATEWIDE
2009-10	5 SEP-28 FEB/31 OCT-1 DEC	177/32	SUNRISE-SUNSET	10/20	1/2	STATEWIDE
2010-11	4 SEP-28 FEB/30 OCT-1 DEC	178/33	SUNRISE-SUNSET	10/20	1/2	STATEWIDE
2011-12	3 SEP-28 FEB/Closed	179/Closed	SUNRISE-SUNSET	10/20	Closed	STATEWIDE
2012-13	1 SEP-28 FEB/Closed	181/Closed	SUNRISE-SUNSET	10/20	Closed	STATEWIDE
2013-14	31 AUG-28 FEB/Closed	182/Closed	SUNRISE-SUNSET	10/20	Closed	STATEWIDE
2014-15	30 AUG-28 FEB/Closed	183/Closed	SUNRISE-SUNSET	10/20	Closed	STATEWIDE
2015-16	5 SEP-28 FEB/Closed	177/Closed	SUNRISE-SUNSET	10/20	Closed	STATEWIDE

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

a Cottontail opener changed from 1 Sept. to Saturday before Labor Day.

Figure 5.1 Survey regions for the August Roadside Survey.

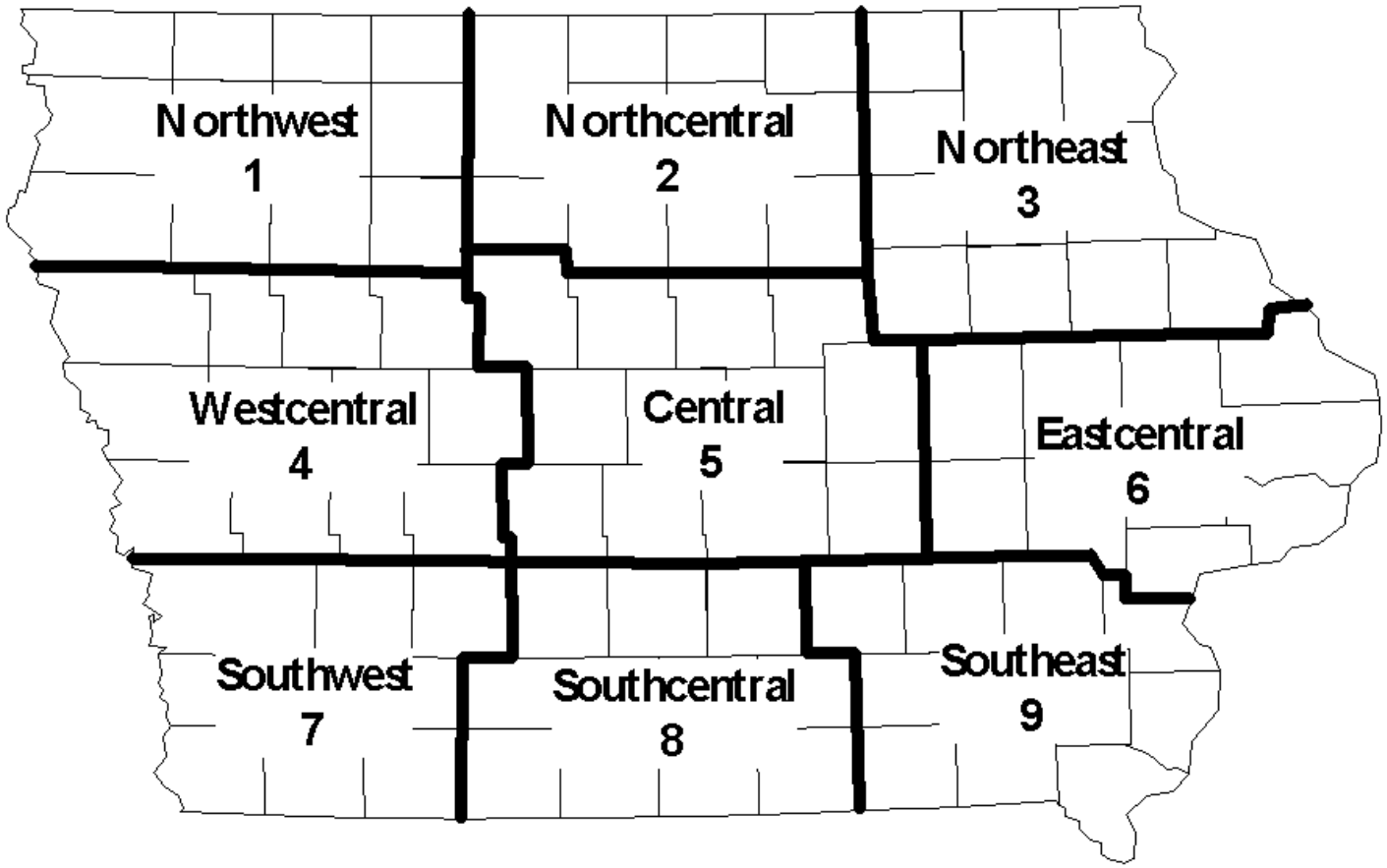


Figure 5.2 Statewide trends in pheasant harvest and August roadside survey counts

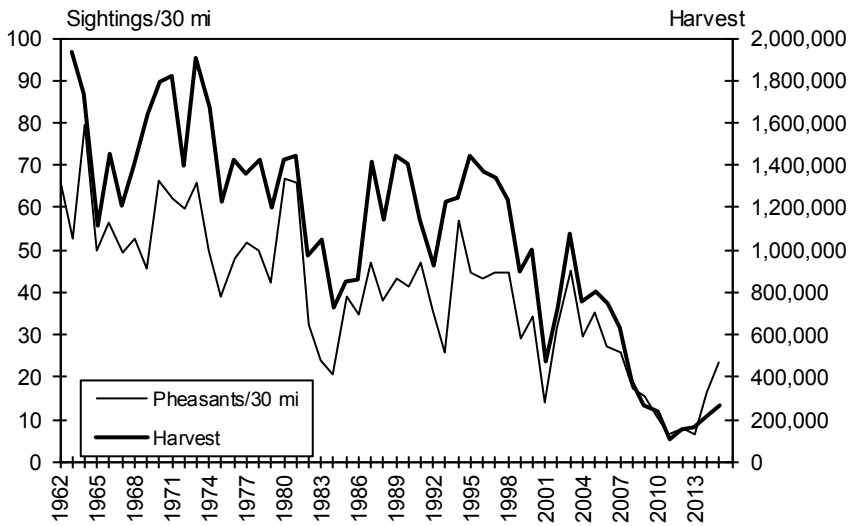


Figure 5.3 Statewide trends in pheasant broods and average brood size from August roadside survey

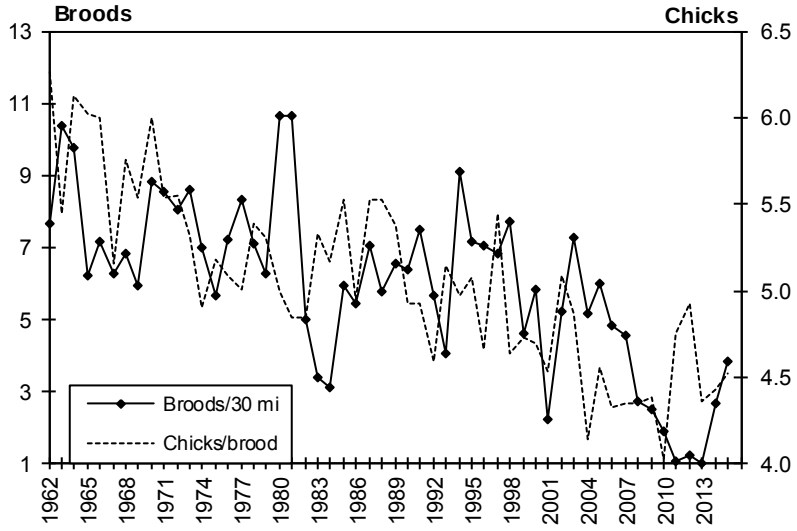


Figure 5.4 Statewide sex ratio and estimated cock harvest from winter pheasant surveys

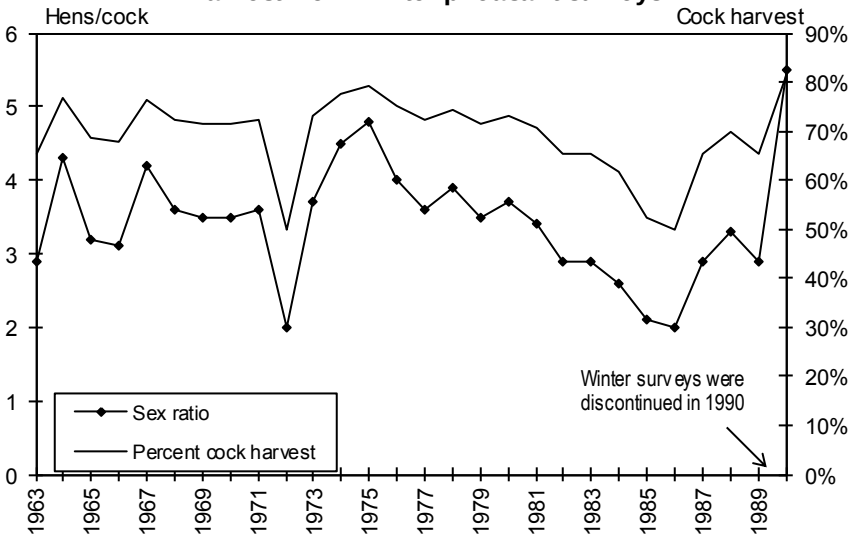


Figure 5.5 Statewide trends in pheasant hens with and without broods from August roadside survey

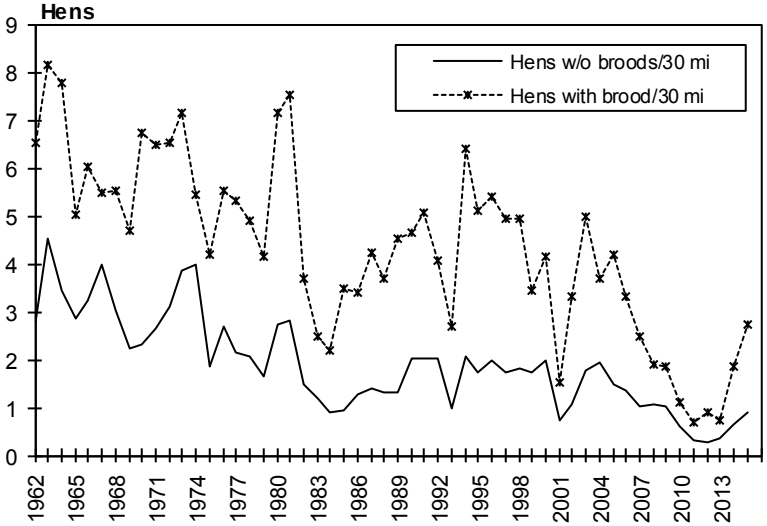
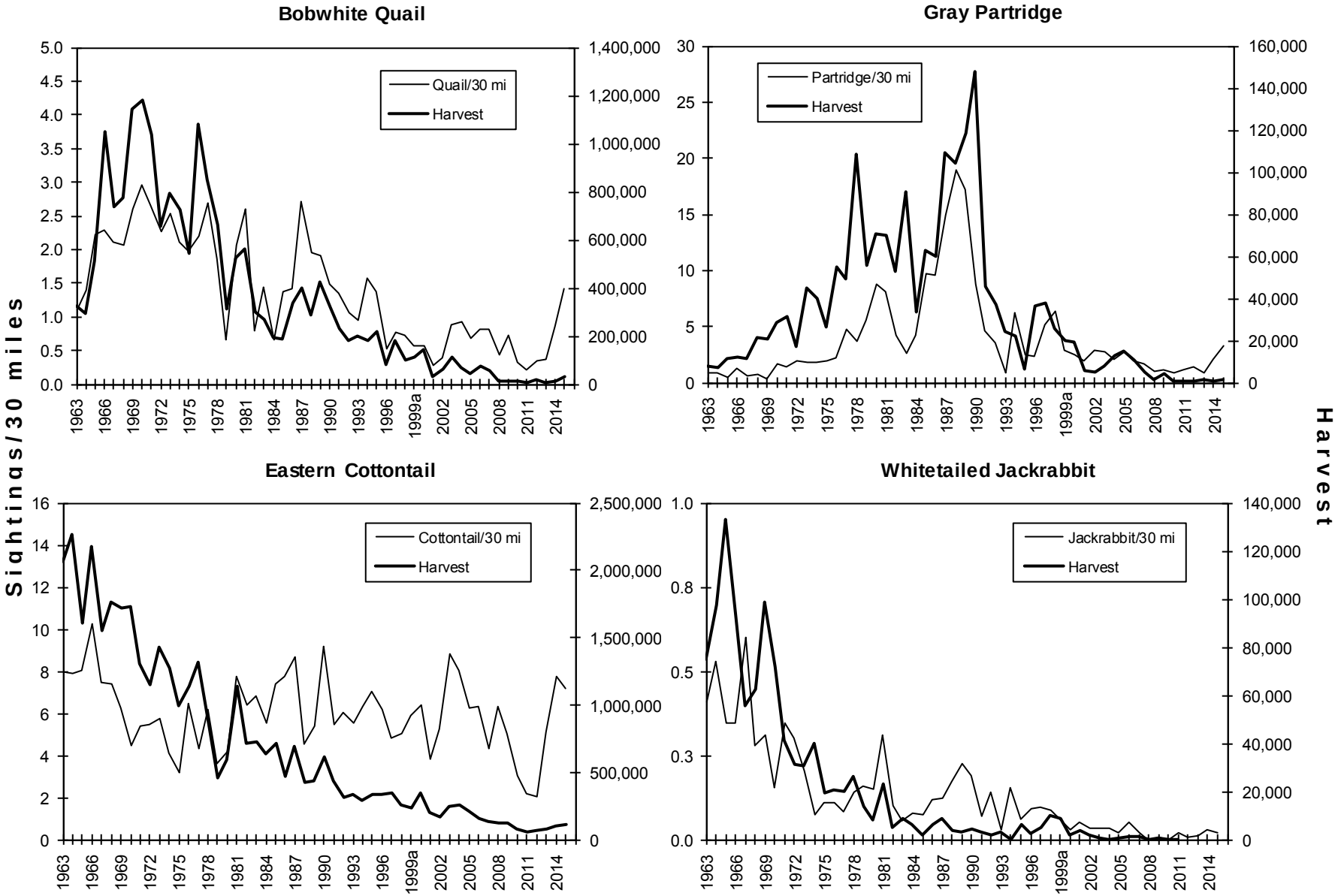


Figure 5.6 Statewide trends in small game harvests and August roadside survey counts



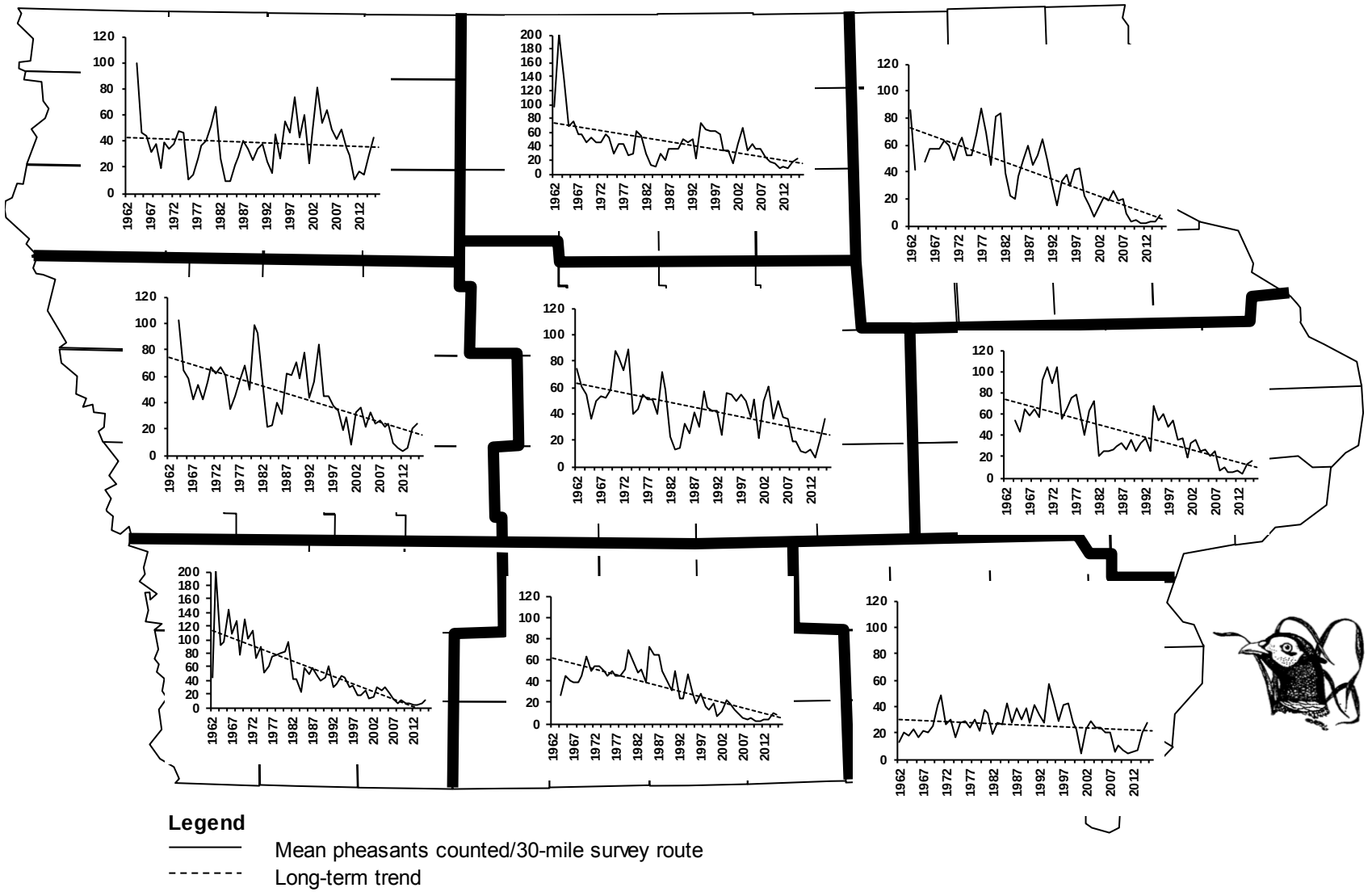


Figure 5.7 Regional trends in ring-necked pheasant numbers from the August roadside survey (1962-present).

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

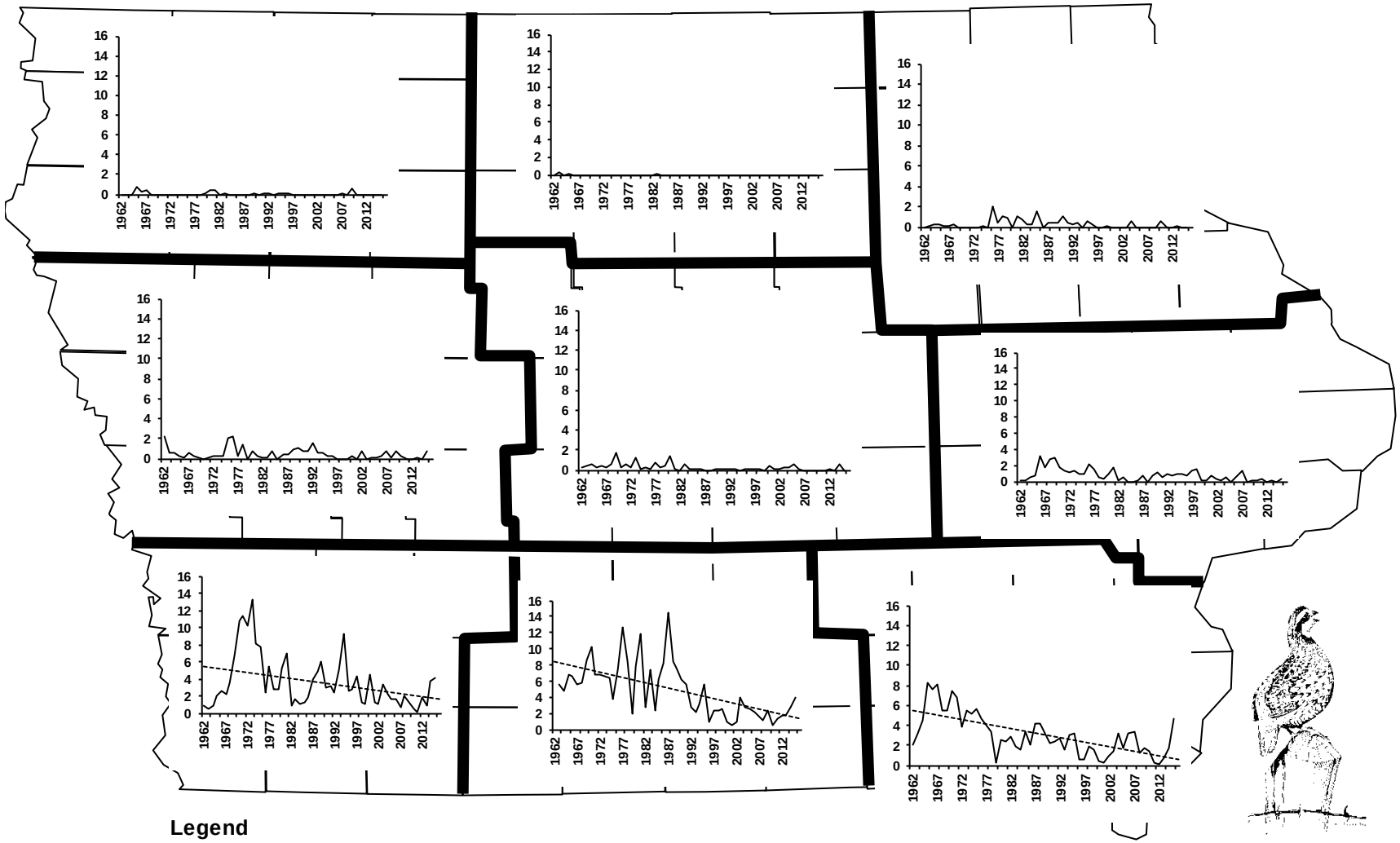


Figure 5.8 Regional trends in bobwhite quail numbers from the August roadside survey (1962-present).

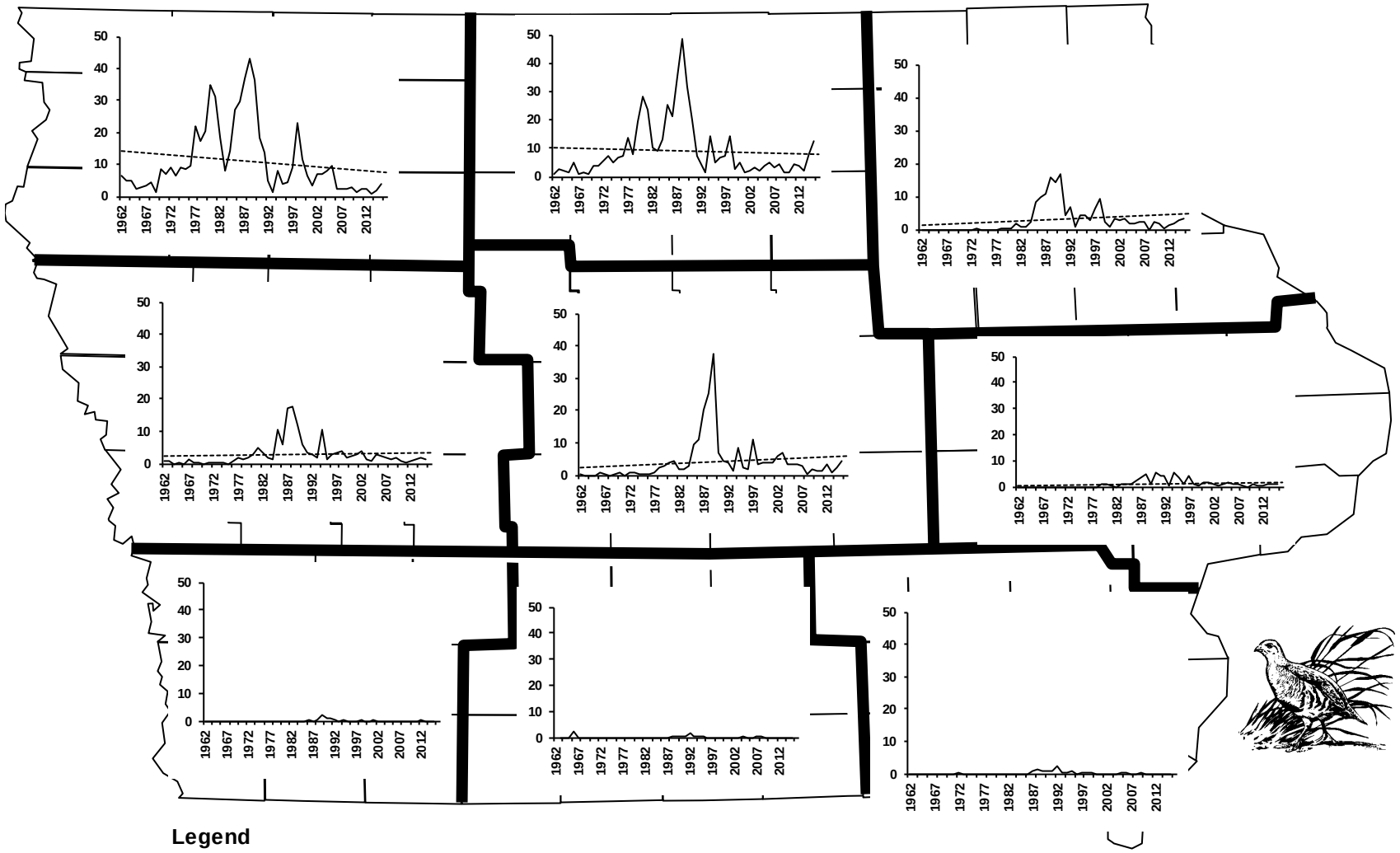


Figure 5.9 Regional trends in gray partridge numbers from the August roadside survey (1963-present).

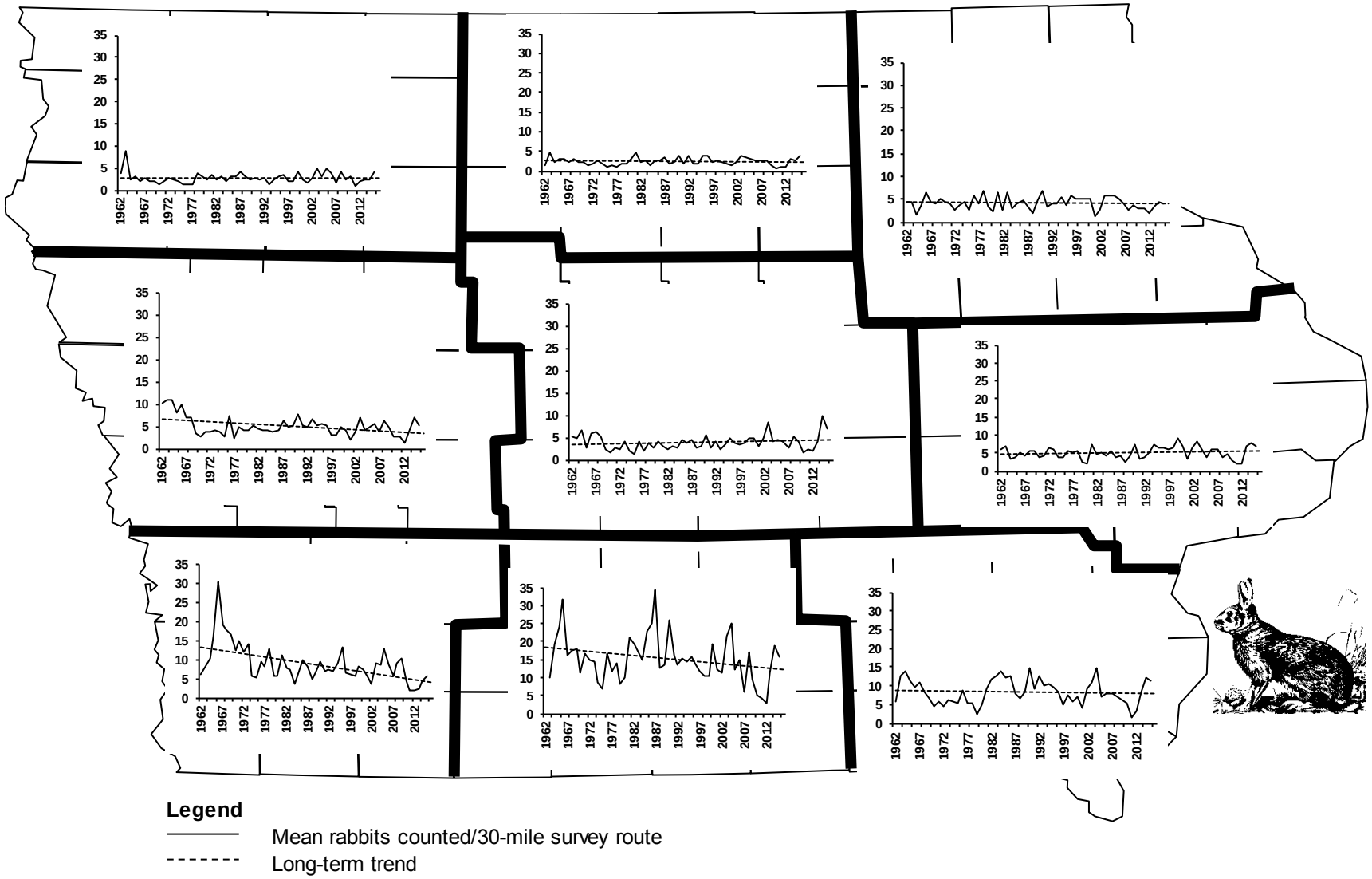


Figure 5.10 Regional trends in cottontail rabbit numbers from the August roadside survey (1962-present).

Figure 5.11 Sales of Iowa hunting licenses

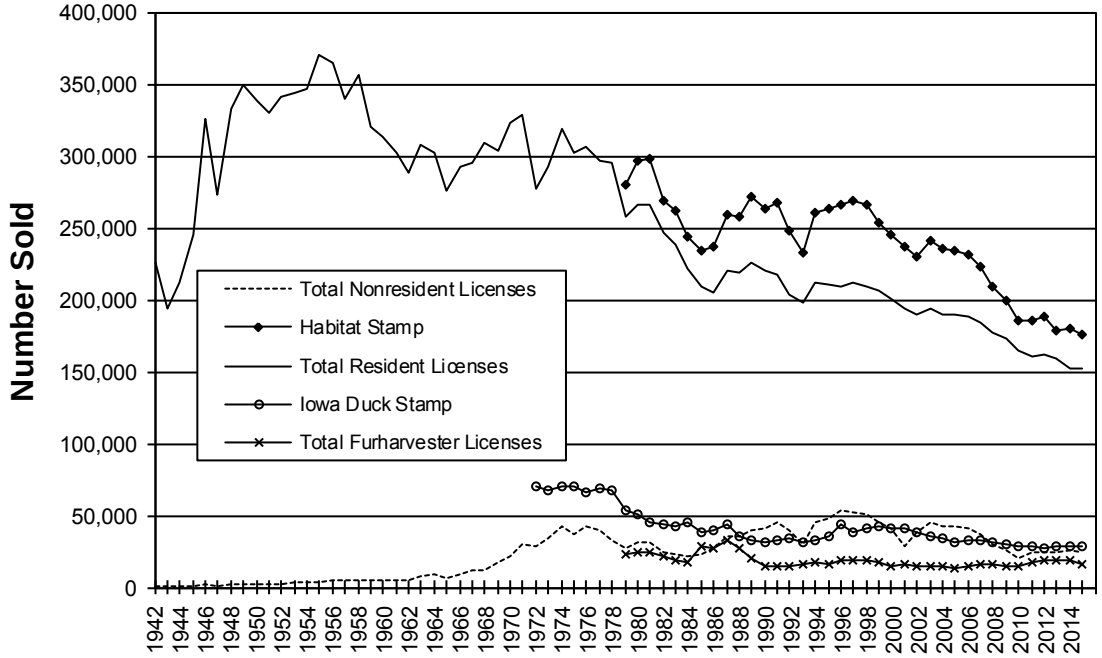
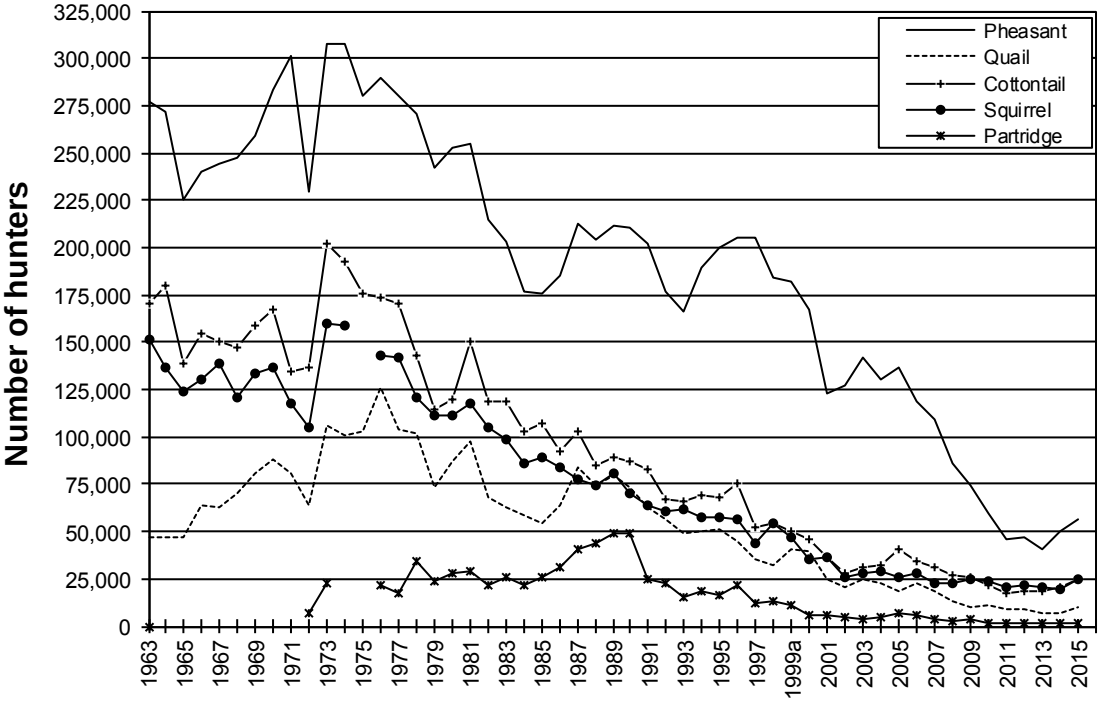


Figure 5.12 Estimated number of Iowa small-game hunters (resident and NR hunters combined)



PEREGRINE FALCON RESTORATION

The peregrine falcon (*Falco peregrinus*) was extirpated as a breeding bird from the eastern U.S. by 1964. In the Midwest, peregrines formerly nested on cliffs along Lake Superior, Lake Michigan and the upper Mississippi River, plus suitable palisade areas. The upper Mississippi River area was the major historic nesting area for peregrines in the Midwest, with an estimated historic population of 30 – 35 pairs (Tordoff 1986). Most of Iowa's historic peregrine nesting occurred on the Mississippi River bluffs of northeastern Iowa in Allamakee, Clayton, Dubuque, and Clinton counties (Anderson 1907, Allert 1939, Pierce 1940), but nesting also occurred on the palisades of the Cedar River in Linn and Johnson counties (Bailey 1918) and along the Cedar River in Black Hawk County (Anderson 1907). A nest was also reported at the mouth of Beaver Creek in Polk County (DuMont 1931). Prior to reintroduction, the last documented nests were noted in 1955 and 1956 at two of six eyries in Allamakee County (Berger and Mueller 1969), although there were reports of a nest with two eggs in Allamakee County in 1964 and a nest with downy young at Blackhawk Point, Allamakee County in 1967 (Roosa and Stravers 1989). Pesticides, specifically DDT, were the primary cause for the dramatic decline in the peregrine population. Until 1998, the peregrine falcon was a federally and state listed endangered species. The bird was federally delisted in 1998, but remains on the state endangered species list.

In an effort to guide recovery of the peregrine falcon to the eastern U.S., an Eastern Peregrine Recovery Plan (EPRP) was developed. The overall goal of this plan was to establish a viable peregrine falcon population consisting of 175 breeding pairs, which is half of the pre-pesticide population. For each region of the eastern U.S., EPRP set a goal of 20-25 breeding pairs. Iowa falls under the Midwestern and Great Lakes regional plan (MGLRP). As part of the MGLRP, Iowa set a goal of establishing 5 breeding pair by the year 2000 with an ultimate goal of 10 breeding pair for a viable population. To achieve this goal, the Wildlife Diversity program planned to release 55 peregrines in the first 5 years. The "magic number" of birds released to get one breeding pair return is about 13. A maturing bird is expected to return to a release site within 2-3 years after release and establish a territory within that area. As a result, no release site will be used for more than 2 years to avoid confrontations with adult falcons and hack birds.

Iowa's Peregrine Falcon Restoration project began in 1989 with the release of 10 (2F,8M) birds in Cedar Rapids from the Telecom USA building. There was one mortality during this first release when a bird collided with a building. Releases continued for the second year at the Cedar Rapids release site with 13 falcons (3F,10M) in 1990. Two of these birds, 1 male and 1 female, died as a result of collisions with buildings. During the 1990 hacking process a subadult male (T6?- apparently from 1989 C.R. release) showed up in Cedar Rapids and regularly interacted with hacked birds.

In 1991, a second release site was selected for the third year of the project. A total of 19 birds (8F,11M) were released in 1991 at the First Baptist Foundation of the Elsie Mason Manor in

Des Moines. Similar to the 1991 Cedar Rapids release, a subadult male (T93-from 1990 Cedar Rapids release) appeared for a brief period of time. Little to no aggressive interactions were observed between this subadult and the hacked falcons. During 1991, peregrines were observed in Cedar Rapids, Davenport and Keokuk; however, no nests were located. A second release was not attempted at the Des Moines site during 1992 because two falcons attempted to nest on the American Republic Insurance building. The female (R13 – Kansas City 1990) laid 5 eggs total. One egg rolled off the alcove ledge and another was cracked. The 3 remaining eggs were laid in a different alcove and never incubated. The male at this site was X20 from the 1990 Cedar Rapids release. This was the first nesting attempt in Iowa in nearly 30 years.

Elsewhere in the state during 1992, falcon pairs established two additional territories. A male falcon in Cedar Rapids successfully attracted a mate in mid-May, but it was too late in the season for breeding. The pair engaged in courtship flights and investigated the nest box on the Firststar Bank building, but did not actually attempt to nest. In the Quad Cities, a pair appeared to be incubating eggs under the Centennial Bridge; however, there were no observations of feeding in late-June. The site was investigated in September, but no eggs, egg fragments, dead young or even a definitive nest site was found.

The third release site chosen for releases in 1992 (the 4th year of the project) was Davenport. However, the arrival of a falcon pair precluded this site from release since the territorial adults could potentially harm the young hacked birds. As a result, 8 birds (2F,6M) were released from the Laurel Building in Muscatine during 1992. A male Cedar Rapids bird (T95 – 1990) appeared after the hacked birds fledged. T95 engaged in mock combat with the young and occasionally harassed them at the hack site, but he did not harm any of the young. Of the 8 birds released at Muscatine, 2 died, both males.

In 1993, there was much falcon activity across the state. We had 2 successful peregrine falcon nests in Iowa. The falcon pair returning to the American Republic Insurance building was the same male (X20) and female (R13) who attempted to nest in 1992. Shortly after their return, the male (X20) was found decapitated after a three-bird territorial dispute. The "winning" male did not remain in the area. The female (R13) eventually mated successfully with a third male, T93 (from 1990 Cedar Rapids release), that came to Des Moines. This pair successfully hatched and raised 3 young. In early July, one of these young was found dead in the air conditioning unit of the American Republic Insurance Building.

The second successful nest occurred in Cedar Rapids. The male was identified as X64 (Des Moines – 1991) and the female as R49 (Des Moines – 1991). This pair laid 4 eggs and hatched 2. Of the two young, one died of exposure from stormy weather. The Iowa Falconer's Association donated a young male to foster into the nest. The adults accepted the "implant" along with the remaining female chick. Both young fledged successfully from the nest.

A third nesting occurred in Iowa during 1993 at the Centennial Bridge in Davenport. A pair was observed demonstrating nesting behavior, but that soon changed about the time young should hatch. Closer observation of the nest site

did not reveal young or eggs, however, a possible scrape was located along with falcon prey remains. A decomposed body of a female falcon (W24 – Kenosha, WI) was found trapped in the I-beam of the bridge. It is possible that this bird was the nesting female. Once she became trapped, the male abandoned the nest and attracted a new female (R95 – Colonnade, MN). By this time, it was too late in the season for nesting.

At Muscatine, a single male (C/M – Muscatine, 1992) returned to the site, but did not attract a mate. Because of the return of this bird, a second release was not made at this site.

During 1994, two falcon pairs nested successfully, marking the second year in a row for nest success. The birds at Firststar Bank in Cedar Rapids were the same, R49 and X64. They laid and hatched 4 eggs (2F,2M), but one female died soon after hatching. Another chick was treated for trichonomoniasis (Frounce) and released. All three young fledged successfully. The second successful nest was at the same site in Des Moines – the American Republic Insurance building. This pair was also the same birds from 1993, R13 and T93. Their first nesting attempt on the east side of the building was unsuccessful as one egg rolled off the ledge and the other two eggs were abandoned. The birds moved to the west side where they laid and hatched three young (1F,2M), all of which fledged successfully. The young female later died as a result of a collision with a building and one young male died of unknown causes. There was no known nesting attempts at either Davenport or Muscatine, however, a bird was observed during the winter at the Centennial Bridge in Davenport.

The original goal established by EPRP of 20-25 nesting pair was met and replaced with a new regional goal of 40 territorial pairs. This new goal was met and surpassed in 1993. By 1994, the midwestern region had 61 territorial pairs with 41 successfully nesting. As a result of meeting the regional goal, many states tapered off falcon releases. However, Iowa's goal of establishing 5 nesting pairs by the year 2000 did not look promising without further releases. Furthermore, many did not consider the Midwestern population recovered since there was very little nesting on natural eyries aside from cliffs in northern Minnesota and Michigan.

In order to address the need for more releases in Iowa, a Peregrine Falcon Recovery Team (PFRT) was formed to continue releases with the hope of establishing a sustainable peregrine population that requires little or no maintenance or manipulation. The (PFRT) hoped to continue urban releases in strategic locations along the Mississippi and inland along known flyways. The group would also evaluate the possibility of releasing birds along the cliffs of NE Iowa.

The 2 falcon pairs in Cedar Rapids and Des Moines nested successfully once again in 1995, marking the third consecutive successful nesting season in Iowa. The Cedar Rapids pair produced four eggs and hatched three young (1F,2M). All three young fledged successfully. One male was later found dead as a result of a collision. The Des Moines pair laid four eggs and hatched three females, all of which fledged successfully.

Iowa has been able to maintain its two nesting falcon pairs in Des Moines and Cedar Rapids. Regionally during 1996, there were 87 territorial pairs of

which 45 nested successfully. The Cedar Rapids pair (still the same male and female) again produced 3 birds (1F,2M), one egg did not hatch. All 3 birds fledged successfully. The Des Moines pair hatched 3 young, but one mysteriously disappeared leaving only 2 males to fledge successfully. This year marked the start of additional falcon releases with the hopes of achieving the goal of 5 breeding pair by the year 2000. The Peregrine Falcon Recovery Team, who generated the funding and volunteers to conduct the releases, spearheaded these releases. Mason City released 7 birds total (3F,4M), two of which (both females) came from Iowa City during the hacking process. Iowa City was in the process of hacking 3 birds (2F,1M), when a wild peregrine showed up at the release site and killed the male. The two remaining females were transported to Mason City to fledge for safety of the birds. There were no releases at Burlington due to mortality prior to placing the birds in the hack box.

The falcon project met with mixed success in 1997. Both falcon pairs returned to nest in Cedar Rapids and Des Moines, however, the Des Moines pair exhibited problems. The female laid her eggs in an alcove on the American Republic Insurance Building that did not have pea gravel in the bottom, so the eggs got wet. We put gravel in, but it was too late. The female abandoned the eggs. She did, however, lay 2 eggs in another alcove and 1 in yet another. To facilitate incubation, we moved the lone egg in with the 2, but later one was kicked out of the scrape, one was cracked and the other was abandoned. Two of the 6 eggs were sent for analysis to try and provide answers for the aberrant behavior of the Des Moines female. On the bright side, the Cedar Rapids pair laid 4 eggs and successfully fledged 2 (both males). Elsewhere in the state, the PFRT continued releases at the Mason City site with 3 young (1F,2M), one of which died from injuries received after colliding with a fence. Iowa City did not release birds in 1997, but Bob Anderson started his efforts of releasing birds on the natural eyries of NE Iowa. He released 4 birds in 2 batches of two (2F,2M) at a hack site situated on the cliffs overlooking the Iowa River near Bluffton. Two of the birds were equipped with radio transmitters, but were not tracked successfully for very long due to the topography interfering with the transmission of the signals.

Things were back on track for 1998. Both falcon pairs nested successfully in Cedar Rapids and Des Moines. The Des Moines pair produced 3 young (1F,2M) as did the Cedar Rapids pair (2F,1M). There was no evidence of additional eggs in Des Moines, however, there were 5 eggs in Cedar Rapids. As for other releases in the state, Mason City concluded its final peregrine release in 1998, sending off 15 falcons (4F,11M) without a hitch and Louisa had its first release with 4 young (3F,1M). Bob Anderson continued his cliff-site releases in 1998. However, he changed the release site from Bluffton to Effigy Mounds National Monument. The latter location is an exceptional bluff overlooking the Mississippi River. Two psuedo-rocked hack boxes were mounted on the bluff face. A total of nine birds (5F,4M) were released from the sight. Radio transmitters on the birds indicated no mortality up to dispersal. Unfortunately, two of the Effigy Mounds birds died during the spring of 1999 due to a possible collision and a drowning.

The Peregrine Falcon Recovery Project had a slight change in direction

during 1997. The decision was made to no longer allow urban releases, except for two grandfathered sites that already had the steps in motion for 1998 releases. Those grandfathered sites were Mason City and Louisa. The Mason City site releases were completed with the hacking of 15 falcons in 1998, and Louisa continued releases through 2000. The reasoning behind this decision was that the transition of falcons nesting in urban areas to natural cliff sites was not occurring as originally thought. In fact, some studies indicate that urban birds may actually be hindering wild nesting since falcons attract falcons. In an effort to return falcons to their historic nesting eyries in Iowa, the Iowa DNR has prioritized cliff-site releases.

Falcon production had mixed success again in 1999. On a down note, the Des Moines pair did not produce any young. The American Republic Insurance Building, where the birds nest, was getting a new roof. Rainy weather pushed construction into peak nesting time, causing too much disturbance for the breeding adults. Cedar Rapids was still a production stronghold with 3 young fledging in 1999. On a positive note, 1999 produced Iowa's third nesting falcon pair at a power smokestack in Lansing. The adults, both from Minnesota successfully produced 3 young (1F,2M). Falcons have been sighted in Mason City, but no nest attempts were documented.

Release efforts continued in Iowa during 1999. Louisa released 8 birds in their second release year. The Raptor Resource Project, headed by Bob Anderson, was awarded a grant by the Iowa DNR to continue release efforts at Effigy Mounds National Monument. He released 9 falcons in 1999. Bob was also granted a FWS permit to take chicks from smokestack nests and release them at cliff sites along the Mississippi River. A new cliff release site was added in 1999. This site, at Eagle Point Park in Dubuque, is also along the Mississippi River. Two rock-lined hack boxes were placed on a bluff overlooking the river. Volunteers released 21 falcon chicks (5F,16M) in 1999 from this site.

2000

In 2000, for the first time in at least 3 decades, wild peregrines were produced on Mississippi River cliffs. At Queen's Bluff, in southeastern Minnesota, 1 young fledged successfully from parents which had been released in Iowa. The female was hacked from Mason City in 1998, and the male was hacked from Effigy Mounds in 1998. In all, there were 5 pairs of peregrines at cliff-sites along the Mississippi River. Thanks to efforts by Bob Anderson, the same pair that nested in 1999 in a nest-box at the Alliant Energy power plant smokestack near Lansing, now nested in a nest-box at a nearby cliff, where peregrines historically nested. They fledged 4 young (3M,1F), but the young female died post fledging. It is worth noting that, according to Bud Tordoff (Tordoff et al 2000), "these were the first young peregrines known to fledge from a cliff nest in the Mississippi River valley since the extirpation of the original population by DDT in the 1950s and 1960s."

Urban nest sites were also successful in 2000. At the American Republic Building in Des Moines, 9-year-old female 13R, nesting here for the eighth year, paired again with 10-year-old male 93T, his seventh year at the site. They produced 4 eggs and fledged 2 male young. In Cedar Rapids at the Firstar Bank nest site, a 2-year-old female, *S/*5

(fledged in Des Moines in 1998) replaced female R49. She mated with 11-year-old male 64X, here for the eighth year. They produced 4 eggs and fledged 4 young (3M,1F). Besides the 3 successful nests, there was also a peregrine pair reported in April at the smokestack nest box at the Louisa Mid-American power plant. Also reported was a 1999 Louisa released male (wearing black/green band) frequenting the Mid-American Energy Co. building in Davenport, and a peregrine with a gold band on the right leg and a red/black band on the left leg was reported in Burlington on July 1 by Conservation Officer, Don Simonson.

Mississippi River peregrine releases continued in 2000, with 19 falcons hacked at the Dubuque cliff site and 6 male peregrines hacked at the Louisa power plant site. All told, there were 164 peregrines hacked from Iowa release sites from 1989-2002. Eighty-four of these birds were released along the Mississippi River, and 62 peregrines were released off limestone bluffs.

2001

Year 2001 saw 5 Iowa peregrine territories. The same returning nesting pairs were identified at Des Moines, Cedar Rapids, and Lansing. The Des Moines pair produced 4 eggs and fledged 3 young (2M,1F). The young female later died after colliding with a window. There were 3 eggs laid and 3 young females fledged at Cedar Rapids. The Lansing pair attempted to nest unsuccessfully on a cliff, and finally laid 4 eggs (which did not hatch) in a nest box. An unidentified pair of peregrines attempted to nest beneath the Centennial Bridge in Davenport. The female is a sub-adult wearing a black/green band, and it is not known if the male is banded. Young falcons were heard food-begging beneath the bridge, but it is not known if any young fledged successfully (unverified report indicated one). A fifth pair of falcons held a nesting territory at the Louisa generating plant smokestack nest-box. The female hatched in 1999 from a smokestack box in Minneapolis, and the male has not been identified. The stage is set for 5 nesting pairs in 2002.

2002

In 2002 six falcon territories were reported with five sites successfully fledging young. At Cedar Rapids four-year-old female *S/*5, nesting here for the third time, and thirteen-year-old male 64X (identified previously as 64T), here for the tenth year, produced four eggs, hatched three and fledged two females and a male.

The Des Moines pair once again laid three eggs on the east side of the American Republic Insurance bldg. However, the eggs disappeared as hatch date drew near. In late June an egg was discovered on the west side of building which hatched. A lone male was banded July 30 and successfully fledged in early August.

The Lansing cliff site was active in 2002 where the same pair successfully fledged two young, a male and a female. The adult female X/*D, fledged in 1998 at NSP Sherco, Becker, Minnesota and here for the first time, paired with five-year-old male *T/M, nesting here for the fourth year. The falcon box on the bluff, across from the Alliant Energy plant placed by Bob Anderson was a suitable backdrop as historic falcon banders gathered to assist and witness event. It had been 44 years since Dan Berger, Jack Oar, Jim Grier, Jack Oberg, Dave Seal, and Chuck Sindelar banded falcons at historic eyries. This year they were assisted by Dave

Kester, banding two young.

In the Quad Cities the pair that previously occupied the Centennial Bridge nested in a falcon box placed by falconer, Tom Deckert. Three-year-old female 8/*E, hacked in 1999 at Muncie, Indiana paired with three-year-old male P/D, hacked in 1999 at Dubuque, Iowa. The MidAmerican Insurance building hosted three young, two females and a male in downtown Davenport. All successfully fledged with minimal intervention from humans.

A new falcon site came on line this year. A box affixed to the smokestack of the Louisa Generating Station near Muscatine was used. The female Z/V fledged in 1999 at NSP Riverside, Minneapolis, Minnesota. The tiercel has not been identified. One young male successfully fledged.

A sixth falcon territory occurred at the Holnam Cement Plant at Mason City. Falconer Lowell Washburn who hacked 25 young from the site between 1996 – 1998, reported a male was seen intermittently throughout the summer.

Also in 2002 eight young falcons were hacked at the Duane Arnold nuclear facility near Palo, Iowa. Bob Anderson with Raptor Research Project coordinated the placement of four young. Meanwhile four young at a smokestack box near Alma, Minnesota were stranded when an untimely death of the adult male occurred at that site. Plus, the female was discovered injured and unable to provide for young. The four were relocated to the Palo site and all eight successfully fledged.

2003

In 2003 there were seven territories in Iowa. Mason City territory at Holnam Plant was inactive, but two new territories occurred in Iowa. Falcon activity was noted at nestbox at Alliant Plant near Chillicothe in Wapello Co. An adult peregrine was observed and a scrap was created in nestbox. At Quad Cities under I-80 bridge, a fledgling falcon was photographed and according to falconer Lowell Washburn an eyrie was presumed to have occurred under bridge. Adults were not identified at either site.

At Des Moines same adults fledged four young from second, NW alcove of American Republic building. At Cedar Rapids same adults fledged four young. At Louisa female Z/V and unknown male fledged three young.

Near Lansing the wild pair attempted to nest on a natural ledge. Two young hatched but had disappeared by banding time. Falconers Bob Anderson and Dave Kester believed raccoon predation destroyed nest. Raccoon sign was observed in area and access by land was possible.

Quad Cities female 8/*E and unidentified male produced four young under Centennial bridge. Young were relocated to natural bluff near Bluffton and hacked by Bob Anderson. All four survived and were observed throughout summer.

Iowa falcons produced at least 16 young this year making it a banner year for falcon production.

2004

In 2004, Bob Anderson reported the pair at Lansing cliff, Allamakee County, hatched young but none were present at banding. A second, wild nesting pair was reported downstream by Dave Kester, on a Mississippi River cliff at Waukon Jct., Allamakee County. There were 2 eggs but no young produced. Female at this site was identified as Lora (48/E), hatched at Xcel Energy, Monticello, MN in 2003.

Male is two-year-old 19/M Dairyland Cooperative at Alma, Wisconsin 2002. Anderson believed only male was incubating.

A scrape was present at nest box on smokestack at Alliant Energy Plant at Chillicothe, Wapello County, but no young produced. Two unidentified peregrines occupied site.

Danny Akers, a reliable birder, reported a peregrine pair copulating about one mile southwest of Guttenberg, Clayton County, on April 18, but despite subsequent searches in the area, no eyrie was discovered.

At state Capitol bldg in Des Moines female 39/E, NSP Riverside, Minneapolis 2003, has paired with 93T and is actively defending site from intruders.

At American Republic Insurance bldg. at Des Moines, Polk Co. Iowa, female 8/*T (produced three young) (Colonnade bldg. 2002) here for her first nesting attempt paired with fourteen-year-old male 93T (produced 27 young), his twelfth year at this site. Four eggs were laid and three males fledged. One immature male, D/06, was retrieved dead from collision with Ruan bldg. in July.

At Louisa Generating Plant, Louisa County, Jim Haack, Mid-American Energy, reports that five-year-old female Murphy Z/V(produced eight young), here for fourth year, and an unidentified male fledged four, three males and a female. Female 62/D recently was trapped inside a building and died of apparent heat exhaustion.

At US Bank bldg at Cedar Rapids, Linn Co. Iowa, six-year-old female ***S/** *5 (produced 13 young) nesting here for fifth time and 13 year-old male 64X (produced 38), here for 12th year, produced four eggs, hatched four, and fledged three, one male and two females. Female 63/D was found dead. It was feared no young survived at this site as shortly after fledging, adults were sighted repeatedly but no young were seen.

At Davenport, Scott County, a pair once again nested at Centennial Bridge on eastern section of middle span. Three young were reported before fledging, but neither adult was identified. Also, no activity was reported at 2003 territory at I80 Bridge near Bettendorf.

It appears there is a new territory at Burlington, Des Moines County, beneath another Mississippi River Bridge. Former falconer, Lee Eberly, reported at least one, and possibly two peregrines were seen flying to and from under the bridge in mid-June, and vocalizations were heard 4 or 5 times. There has been peregrine activity noted at this site in the past. No peregrines were identified, and it is unknown if there was an active nest.

In summary, young fledged was down from 16 in 2003 to 13 in 2004 at four successful sites. There was evidence of peregrine territorial activity at ten sites.

2005

In 2005 ten territories had seven successful fledgings with 21 young produced. At Firstar Bank (US Bank), Cedar Rapids, Linn County, Iowa, Jodeane Cancilla, Macbride Raptor Project, reports that seven-year-old female *S/*5 (produced 16 young), nesting here for the sixth year, and two-year-old male 78/E (produced 3), here for his first nesting, produced four eggs, hatched all four, and fledged three young, two males and a female.

American Republic, Des Moines, Polk County, Iowa. 15-year-old male 93T (31 young), his 13th year at this site, paired for the second year with four-year-

old female Ellie b/g 8/*T, fledged in 2001 at Colonnade, Minneapolis, Minnesota. They produced four eggs, four were banded, and fledged three young, two females and one male. One male was found dead, having fallen from eyrie. On July 22, female 8/*T was found with a wing injury that precludes further flying, although she lives on in captivity. Male 93T has sired 31 young in his long career here.

MidAmerican Energy Corporate Headquarters, Davenport, Scott County, Iowa. Dave Sebben reports two six-year-olds, female 8/*E, fledged at Muncie, Indiana, in 1999, paired with male P/D, fledged at Dubuque, Iowa, in 1999, produced one young. It was banded but died when hit by a car after fledging.

At Louisa, Louisa County, Iowa, Jim Haack, MidAmerica Energy, reports that an unidentified female and an unidentified male, both banded, fledged four young, two males and two females. This is the fourth year of successful nesting at this site.

Leo's Bluff, Waukon Junction, Allamakee County, Iowa. This is second year for this cliff site**.** Dave Kester and Bob Anderson report that two-year-old female Lora 48/E paired with three-year-old Brady 19/M, both here for the second year, and nested a half mile upstream from the 2004 site. They fledged two young, one each sex, from a cliff with no nest box, the first such cliff nest in Iowa in over 40 years.

Alliant Energy Lansing / Lansing cliff, Lansing, Allamakee County, Iowa. Bob Anderson, Raptor Resource Project, and Dave Kester report that an unidentified adult female with a b/r band paired with eight-year-old male Alpha *T/M (produced 14 young), nesting here for the seventh year. The site has had an interesting history. Falcons were first attracted to nest in a box on a nearby stack, where they fledged young in two seasons. The stack box was then removed and a box placed on the nearby cliff. Young were fledged in 2002. However, in 2003 and 2004, the falcons used a ledge instead of the box and lost their young to raccoon predation. This year, Kester and Anderson placed a new box on the stack, from which five young peregrines were fledged, three males and two females.

Alliant Energy Plant, Chillicothe, Wapello County, Iowa, Judi Johnson reports six-year-old female Z/V (produced 10 at Louisa and Chillicothe) and an unidentified male, judged by plumage to be two years old, produced four eggs and fledged two young. Female Z/V has relocated to this site from Louisa Generating Plant.

I80 Bridge, Quad Cities, Scott County, Iowa, had peregrine activity again this year. An adult pair is on site, but no young were found. A nest tray was installed under the bridge on Iowa side of center span of bridge. This bridge is 12 miles upstream from Centennial Bridge.

Mississippi bridge, Burlington, Des Moines County, Iowa. John Rutenbeck reports seeing and hearing two peregrines flying under the bridge in mid-June. Peregrine activity has been noted here in past years. There was no proof of a nest this year.

State Capitol, Des Moines, Polk County, Iowa, female Fast Track b/g 39/E, fledged in 2003 at NSP Riverside, Minneapolis, Minnesota, here in 2004 and early spring this year, was not seen through the nesting season. Adult male, T93, from downtown nest site has been soaring and perching on west side of Capitol, throughout summer.

Seven successful sites produced 21 young in 2005. There were three additional sites with peregrine pairs for a total of ten territories this year.

There were some downturns in Iowa's peregrine population in 2006. However there were ten territories reported and five successful sites that produced eleven young. At Leo's Bluff near Waukon Junction, IA, both of the adult falcons and their young mysteriously disappeared according to bob Anderson. When he and Dave Kester rappelled into the eyrie, one pipped egg and fragments from three other eggs that indicated a normal hatch were discovered. However, there were no eyas falcons or defending adults. Other cliffs in that area of the river were searched on several occasions without finding either of the adult falcons. This is very strange and researchers are at a loss to explain what could have happened.

The adult falcons at the Lansing, IA power plant moved back to the nearby cliff this year, most probably due to a major construction project that took place near the stack. In past seasons, these falcons have lost their young around ten days of age to raccoons at this ledge. On 5/17/06, a large contingency of volunteers met at this cliff to initiate efforts to repel raccoons from the ledge site. However, they were too late. One set of raccoon tracks and eggshell fragments were discovered at the eyrie.

Another disappointment occurred in Des Moines where an unidentified female laid eggs at American Republic Insurance bldg. onto cold concrete. Four eggs were discovered and pea gravel added under them but they did not hatch.

On a brighter note at Cedar Rapids US Bank bldg. female *S/5* here for eighth year (produced 20 young) and three-year-old male 78/E (produced seven young) here for second year. Pair produced four young – three males and one female.

At MidAmerican Energy Corporate Headquarters, Davenport, Scott County, Iowa. Dave Sebben reports two seven-year-olds, female 8/*E, fledged at Muncie, Indiana, in 1999, paired with male P/D, fledged at Dubuque, Iowa, in 1999, produced two young.

At Louisa Generating Station, Jim Haack, MidAmerican Energy, reports that an unidentified female and an unidentified male, both banded, fledged two females and one male. There was one dead young in box. This is the fifth year of successful nesting at this site.

Alliant Energy Plant, Chillicothe, Wapello County, Iowa, Judi Johnson reports seven-year-old female Z/V (produced 10 at Louisa and Chillicothe) and an unidentified male and fledged one young.

At Great River Bridge local birder, Hal Geren, reported two adult and one young throughout July.

At I 280 Bridge at Quad Cities, local birder Kelly McKay reported pair of falcons on west pier (Iowa side) of bridge. Two eggs on concrete were discovered and placed in a nest tray with pea gravel. There was no further activity reported at this site.

At I 80 bridge in Quad Cities a pair of peregrines were defending the bridge but no eggs were discovered. Nest tray on Iowa side of bridge had not been used.

In summary there were ten territories with five successful pairs and eleven young produced in 2006.

2007

Spring 2007 held great promise for peregrine nesting in Iowa. A definition of

success might include as many wild-produced young in a year that were hacked in any given year, since project began in 1989. In 1999 at Eagle Point Park in Dubuque, 21 peregrines were released by Lowell Washburn, Tom Deckert and Dubuque College. This year twelve territories with eight successful nests produced 23 young.

In Des Moines four young were produced at American Republic Insurance bldg. (37 young since ’93) New male at this site is 63/B, (Woodman Tower , Omaha, NE. ’04)(four young ’07). There is a second territory at State Capitol.

In Cedar Rapids a brood of five young were reported by Theresa Chapel at USBank (50 young since ’93). Female *S/5* (Des Moines, IA ’98) here for ninth year (produced 25 young) and four-year-old male 78/E (Kokomo, IN. ’03) here for third year (produced 12 young) produced five young, all males.

At Lansing cliff (14 young since ’99), Bob Anderson boarded up the power plant nest box and installed a cliff nest box here on 3/30/07. Raccoon predation has been a problem at this location, but it was believed the box would provide a successful nest. Raccoon predation occurred again this year.

At Leo’s Bluff near Waukon Jct. (four young since ’05) Bob Anderson reported that last year falcons hatched one egg successfully, but the entire family mysteriously disappeared in mid-May. This year, the nest was successful with two young. Adult female 66/A (St. Louis ’05) and male is unbanded. First nested here 2004.

At Clinton, Iowa, (one young ’07) unidentified pair produced one young at new site. Site is ML Kapp Generating Station with Alliant Energy. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected. Nest tray had not been used and is now located on upstream side on Illinois side of channel.

At MidAmerican HQ (12 young since ’02) in Quad Cities same eight-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for sixth year (two on Centennial Bridge) laid four eggs in rain gutter. Eggs were placed in nest tray but did not hatch. Female recycled and laid four eggs in nest box, but did not successfully hatch.

At I 280 bridge (four young ’07) near Quad Cities unidentified pair produced four young at this new site. Young were banded by Jodeane Cancilla of Macbride Raptor Project with assistance from Illinois DOT officials.

At Louisa Generating Station (19 young since ’02) Jim Haack reported four young successfully fledged from 06/A female (St. Louis, MO. ’05) and unidentified male for sixth year.

At Burlington, Great River Bridge (at least two young since ’04) an unidentified pair, here for fourth year fledged at least one young.

At Chillicothe (five young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports eight year-old female Z/V (NSP Riverside, Mpls. MN. ‘99) (produced 12 at Louisa and Chillicothe) and an unidentified male fledged two young.

In summary twelve territorial pairs provided eight successful nests with 23 young produced in 2007.

2008

Spring 2008 began inauspiciously enough, but climate conditions resulted in a tough

year for some peregrine pairs in Iowa. This year thirteen territories with eight successful nests produced 20 young.

In Des Moines three young were produced at American Republic Insurance bldg. (40 young since ’93) Male at this site is 63/B, (Woodman Tower , Omaha, NE. ’04)(seven young ’07). Female is unbanded.

A second territory at State Capitol produced two young. Female 39/E (NSP Riverside Plant, Minneapolis MN) has been at Capitol since 2003. Male is unbanded.

In Cedar Rapids a brood of two young were reported by Theresa Chapel at USBank (52 young since ’93). Female *S/5* (Des Moines, IA ’98) here for tenth year (produced 27 young) and five-year-old male 78/E (Kokomo, IN. ’03) here for fourth year (produced 14 young).

At Lansing cliff (17 young since ’01), Bob Anderson reports falcon pair back in Alliant Energy smokestack box and fledged three.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated up stream to Gitta’s Bluff. Nest was successful with three young. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At Clinton, Iowa, (one young ’07) unidentified pair produced no young at this site. Site is ML Kapp Generating Station with Alliant Energy. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected. Nest tray had not been used and is now located on upstream side on Illinois side of channel.

At MidAmerican HQ (13 young since ’02) in Quad Cities same nine-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for seventh year (two on Centennial Bridge) laid three eggs in nest box. One young fledged.

At I 280 bridge (four young ’07) near Quad Cities unidentified pair produced nested on Illinois side of bridge. Flood conditions prevented exploring this site in ’08.

At Louisa Generating Station (23 young since ’02) Jim Haack reported four young successfully fledged from 06/A female (St. Louis, MO. ’05) and unidentified male for seventh year.

At Burlington, Great River Bridge (at least four young since ’04) an unidentified pair, here for fifth year fledged two young.

At Chillicothe (four young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports nine-year-old female Z/V (NSP Riverside, Mpls. MN. ‘99) (produced 12 at Louisa and Chillicothe) and an unidentified male were unsuccessful. Three eggs were discovered June 13, but area was subjected to violent storms later in the month.

There is a new pair occupying Agri-Bunge grain elevator at McGregor, Iowa. Female is a brown bird immature.

In summary thirteen territorial pairs provided eight successful nests with 20 young produced in 2008.

2009

Spring 2009 heralded the year Peregrine Falcons were upgraded from Endangered to a Species of Special Concern status in Iowa. This year thirteen territories with nine successful nests produced 25 young.

In Des Moines four young were produced at American Republic Insurance bldg. (44 young since ’93) Male at this site is 63/B, (Woodman Tower , Omaha,

NE. ’04)(11 young ’07) Female is 39E (NSP Riverside plant ‘03) here for first year (produced six young two at capitol in ‘08).

A second territory at State Capitol produced four young. Female (six young) and male are unbanded (four young).

In Cedar Rapids a brood of one young was reported by Theresa Chapel at USBank (53 young since ’93). Female *S/5* (Des Moines, IA ’98) here for eleventh year (produced 28 young) and six-year-old male 78/E (Kokomo, IN. ’03) here for fifth year (produced 15 young).

At Lansing cliff (20 young since ’01), Bob Anderson reports falcon pair back in Alliant Energy smokestack box and fledged three.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At Clinton, Iowa, (three young ’07) unidentified pair produced two young at this site. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected. Nest tray had not been used and is now located on upstream side on Illinois side of channel.

At MidAmerican HQ (15 young since ’02) in Quad Cities same ten-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for eighth year (two on Centennial Bridge) laid three eggs in nest box. Two young fledged.

At I 280 bridge (four young ’07) near Quad Cities unidentified pair nested on Illinois side of bridge.

At Louisa Generating Station (27 young since ’02) Jim Haack reported four young successfully fledged from 06/A female (St. Louis, MO. ’05) and unidentified male for eighth year.

At Burlington, Great River Bridge (at least four young since ’04) an unidentified pair, here for sixth year fledged one young.

At Chillicothe (nine young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports ten-year-old female Z/V (NSP Riverside, Mpls. MN. ‘99) (produced 16 at Louisa and Chillicothe) and an unidentified male were successful. Four young fledged.

In summary thirteen territorial pairs provided nine successful nests with 25 young produced in 2009.

2010

Spring 2010 was the year Peregrine Falcons were considered a Species of Special Concern in Iowa and no longer endangered. It should be noted that nesting pair on I 280 bridge near Davenport have located on the Illinois side the last three years and are no longer included in Iowa data base. This year fourteen territories with ten successful nests produced 21 young.

In Des Moines two young were produced at American Republic Insurance bldg. (46 young since ’93) Male at this site is 63/B, (Woodman Tower , Omaha, NE.’04)(13 young ’07) Female is 39E (NSP Riverside plant ‘03) here for second year (produced eight young, two at Capitol in ‘08).

A second territory at State Capitol produced one young. Unbanded female (seven young) and male 39/A (American

Republic ’08) here for first year were successful above east portico.

In Cedar Rapids a brood of four young was reported by Theresa Chapel at USBank (57 young since ’93). Female *S/5* (Des Moines, IA ’98) here for twelth (produced 32 young) and seven-year-old male 78/E (Kokomo, IN. ’03) here for sixth year (produced 19 young).

At Lansing cliff (22 young since ’01), Bob Anderson reports falcon pair back in Alliant Energy smokestack box and fledged two.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Bob Anderson reports Agri Bunge Elevator has unidentified pair. Thre young were produced.

At Clinton, Iowa, (three young ’07) unidentified pair were not successful at this site. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At ADM plant in Clinton, new nesting pair produced three males. Female is 35/M and female is 83/M (Cedar Rapids ’03)

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected. This bridge was under reconstruction this year but pair did not relocate to nest box on MidAmerican Riverside smokestack just downstream.

At MidAmerican HQ (18 young since ’02) in Quad Cities same eleven-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for ninth year (two on Centennial Bridge) laid four eggs in nest box. Three young fledged.

At I 280 bridge (four young ’07) near Quad Cities unidentified pair nested on Illinois side of bridge. We will no longer include this pair with Iowa totals.

At Louisa Generating Station (28 young since ’02) Jim Haack reported one young successfully fledged from 06/A female (St. Louis, MO. ’05) and unidentified male for ninth year. An earlier hatch of three young had disappeared by June 11. A new nest site at the plant near area that was used for releases produced one young.

At Burlington, Great River Bridge (at least five young since ’04) an unidentified pair, here for seventh year fledged one young.

At Chillicothe (11 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports eleven- year-old female Z/V (NSP Riverside, Mpls. MN. ‘99) (produced 18 at Louisa and Chillicothe) and an unidentified male were successful. two young fledged.

There were two new bridge pairs to be aware of at Dubuque and Muscatine this year. At Dead Cow bluff near Lansing bob Anderson reported dawn from young but no falcons in June.

In summary fourteen territorial pairs provided ten successful nests with 21 young produced in 2010.

2011

Spring 2011 had intense weather events. Most notably adverse conditions were blamed for no production from falcon pairs in NE Iowa cliff region. It should be noted that nesting pair on I 280 bridge near Davenport will be included in the Iowa data base. This year 16

territories with nine successful pairs produced 22 young.

In Des Moines four young were produced at American Republic Insurance bldg. (50 young since ’93). Male at this site is 63B, (Woodman Tower , Omaha, NE.’04)(17 young ’07) Female is 39E (NSP Riverside plant ‘03) here for third year (produced 12 young, two at Capitol in ‘08).

A second territory at State Capitol (eight young since 2009) produced two young. Unbanded female (six young) and male 39/A (American Republic ’08) here for second first year (six young ’10) were successful above east portico.

In Cedar Rapids a brood of four young was reported by Theresa Chapel at USBank (61 young since ’93). Female *S/5* (Des Moines, IA ’98) here for thirteenth (produced 36 young) and eight-year-old male 78/E (Kokomo, IN. ’03) here for seventh year (produced 23 young).

At Guider’s Bluff aka Dead Cow Bluff (unidentified active pair since 2010) was not successful according to Bob Anderson.

At Lansing Cliff aka Achaflaya Bluff (22 young since ’01), Bob Anderson reports falcon pair on cliff but were unsuccessful.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor reports Bunge Elevator (Three young since 2010) Bob Anderson reported unidentified pair was unsuccessful.

At Dubuque Bridge (Two young since 2010) Roger Scholbrock reports two young fledged from unidentified pair.

At Clinton, Iowa, (Three young since ’07) unidentified pair were not successful at this site. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At ADM plant in Clinton (Five young since ’10), nesting pair produced two males. Female is 35/M (Kansas City 2005) (Five young since ’10) and female is 83/M (Cedar Rapids ’03)(Five young since ’10).

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected.

At MidAmerican HQ (19 young since ’02) in Quad Cities same twelve-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for tenth year (two on Centennial Bridge) laid three eggs in nest box. One young fledged.

At I 280 bridge (five young ’07) near Quad Cities unidentified pair nested on Illinois side of bridge. Iowa will record data at this site.

At Louisa Generating Station (28 young since ’02) Jim Haack reported no young successfully fledged. Female06/A female (St. Louis, MO. ’05) and unidentified male for tenth year.

At Burlington, Great River Bridge (at least five young since ’04) an unidentified pair, here for eigth year fledged two young.

At Chillicothe (14 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports new pair five year old female N23 (Sharon Cargill Plant Jefferson Co. WI 2006)(three young since 2011) and male 26/B (Am. Rep. Des Moines 2009) (three young since 2011). Three young fledged.

In summary 16 territorial pairs provided nine successful nests with 22 young produced in 2011.

2012

Spring 2012 came early from very mild winter season. It should be noted that nesting pair on I 280 bridge near Davenport have located on the Illinois side the last five years and are no longer included in Iowa data base. This year 15 territories with 13 successful nests produced 34 young.

In Des Moines three young were produced at American Republic Insurance bldg. (49 young since ’93) Male at this site is 63/B, (Woodman Tower, Omaha, NE.’04)(16 young ’07) Female is 39E (NSP Riverside plant ‘03) here for second year (produced 11 young, two at Capitol in ‘08).

A second territory at State Capitol produced one young. Unbanded female (eight young) and male 39/A (American Republic ’08) here for third year were successful above east portico.

In Cedar Rapids a brood of three young was reported by Theresa Chapel at USBank (60 young since ’93). Female *S/5* (Des Moines, IA ’98) here for fourteenth year (produced 35 young), and nine-year-old male 78/E (Kokomo, IN. ’03), here for eighth year (produced 22 young).

A new site at Aggie’s Bluff two miles upstream from Lansing an unidentified pair produced four young.

At Lansing cliff (26 young since ’01), Bob Anderson reports falcon pair back in Alliant Energy smokestack box and fledged four.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Bob Anderson reports Bunge America Elevator has unidentified pair. Three young were produced.

At Dubuque Wisconsin Bridge Roger Scholberg unidentified pair here for third reports one young produced from.

At Clinton, Iowa, (six young ’07) unidentified pair were successful at this site with three young. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At ADM plant in Clinton, nesting pair produced two (seven young since 2010.) Female is 35/M and female is 83/M (Cedar Rapids ’03)

At I 80 Bridge unidentified pair defended territory, but no eyrie or young detected.

At MidAmerican HQ (21 young since ’02) in Quad Cities same thirteen-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for 11th year (two on Centennial Bridge) laid four eggs in nest box. Three young fledged.

At I 280 bridge (four young ’07) near Quad Cities unidentified pair nested on Illinois side of bridge. We will no longer include this pair with Iowa totals.

At Louisa Generating Station (30 young since ’02) Jim Haack reported two young successfully fledged from 06/A female (St. Louis, MO. ’05) and unidentified male for eleventh year. A new nest site at the plant near area that was used for releases produced one young.

At Burlington, Great River Bridge (at least seven young since ’04) an

unidentified pair, here for ninth year fledged one young.

At Chillicothe (15 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports eleven- year-old female Z/V (NSP Riverside, Mpls. MN. ‘99) (produced 22 at Louisa and Chillicothe) and an unidentified male were successful – four young fledged.

In summary 15 territorial pairs provided 13 successful nests with 34 young produced in 2012.

2013

Spring 2013 came late as conditions were very wet and cold. There was snow in the northern half of the state on May 3. It should be noted that nesting pair on I 280 bridge near Davenport have located on the Illinois side the last five years and are no longer included in Iowa data base. This year 15 territories with 14 successful nests produced 32 young.

In Des Moines **two** young were produced at American Republic Insurance bldg. (51 young since ’93) Male at this site is 63/B, (Woodman Tower, Omaha, NE.’04)(18 young ’07) Female is 39E (NSP Riverside plant ‘03) here for third year (produced 13 young, two at Capitol in ‘08).

A second territory at State Capitol (11 young since ‘08) produced **three** young. Unbanded female (9 young) and male 39/A (American Republic ’08) here for third year were successful above east portico. Male was injured and died so there will be a replacement male at this site in 2014.

In Cedar Rapids a brood of **three** young was reported by Theresa Chapel at USBank (63 young since ’93). Female *S/5* (Des Moines, IA ’98) here for fifteenth (produced 38 young) and ten-year-old male 78/E (Kokomo, IN. ’03) here for ninth year (produced 25 young).

The site at Aggie’s Bluff two miles upstream from Lansing an unidentified pair produced **three** young their second year at this site (produced seven young since 2012.)

At Lansing cliff (29 young since ’99), Bob Anderson reports falcon pair back in Alliant Energy cliff box and fledged **three**.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was **unsuccessful**. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Bob Anderson reports Bunge America Elevator (12 young since 2008) has unidentified pair. **Three** young were produced.

At Dubuque Wisconsin Bridge (four young since ’10) Roger Scholberg unidentified pair here for fourth year reports **one** young produced.

At Clinton, Iowa, (eight young ’07) unidentified pair were successful at this site with **three** young. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At ADM plant in Clinton, nesting pair produced **two** (nine young since 2010.) Female is 35/M and female is 83/M (Cedar Rapids ’03)

At I 80 Bridge (2003) unidentified pair produced **two** young.

At MidAmerican HQ (22 young since ’02) in Quad Cities same fourteen-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for 12th year

(two on Centennial Bridge) laid four eggs in nest box. **One** young fledged.

At Louisa Generating Station (33 young since ’02) Jim Haack reported young successfully from 06/A female (St. Louis, MO. ’05) and unidentified male for twelfth year. Pair produced **three** young from smaller nest box.

At Burlington, Great River Bridge (at least eight young since ’04) an unidentified pair, here for tenth year fledged **one** young.

At Chillicothe (17 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports female b/g N23 (six young since ’12) and male b/r B26 (six young since ’12) were successful – **two** young fledged. This is their second year.

In summary 15 territorial pairs provided 14 successful nests with 32 young produced in 2013.

2014

Spring 2014 held great promise for Peregrine Falcon nesting in Iowa. This year 16 territories with 13 successful nests produced 33 young.

In Des Moines two young were produced at American Enterprise (previously American Republic Insurance bldg.) (53 young since ’93) Male at this site is 63/B, (Woodman Tower, Omaha, NE.’04)(20 young ’07) Female is 39E (NSP Riverside plant ‘03) here for third year (produced 15 young, two at Capitol in ‘08).

A second territory at the State Capitol (14 young since ‘08) produced three young. Unbanded female (12 young since ‘09) and unbanded male (three ’14) were successful. Male 39/A (American Republic ’08) was injured and died from septic injury to talon.

In Cedar Rapids a brood of three young was reported by Theresa Chapel at USBank (63 young since ’93). Female *S/5* (Des Moines, IA ’98) here for sixteenth (produced 41 young) and ten-year-old male 78/E (Kokomo, IN. ’03) here for tenth year (produced 28 young).

The site at Aggie’s Bluff two miles upstream from Lansing an unidentified pair produced three young their third year at this site (produced 10 young since 2012.) Bob Anderson’s Raptor Resource Project attempted to rappel to the eyrie, but it’s location is not accessible.

At Lansing cliff (33 young since ’99), Bob Anderson reports falcon pair back in Alliant Energy cliff box and fledged four.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Bob Anderson reports Bunge America Elevator (15 young since 2008) has unidentified pair. Three young were produced.

At Bellevue State Park, Shannon Peterson reported pair at nestbox on rock but no young fledged.

At Dubuque Wisconsin Bridge (four young since ’10) Roger Scholberg reported no sign of pair. However on a bright note there is a pair at Eagle Point Park Quarry.

At Clinton, Iowa, (eight young ’07) unidentified pair were successful at this site with two young. Site is ML Kapp Generating Station with Alliant Energy. 46D was photographed at ADM and is possibly at ML Kapp. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At ADM plant in Clinton, nesting pair produced two (nine young since 2010.) Female is 35/M and female is 83/M (Cedar Rapids ’03)

At I 80 Bridge (2003) unidentified pair produced one young.

At MidAmerican HQ (21 young since ’02) in Quad Cities same fifteen-year-old pair 8/*E (Muncie, IN ’99) and P/D (Dubuque, IA ’99) here for 13th year (two on Centennial Bridge) laid four eggs in nest box. One young fledged.

At Louisa Generating Station (33 young since ’02) Jim Haack reported young successfully from 06/A female (St. Louis, MO. ’05) and unidentified male for twelfth year. Pair produced three young from smaller nest box.

At Burlington, Great River Bridge (at least ten young since ’04) an unidentified pair, here for eleventh year fledged two young.

At Chillicothe (21 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports female b/g N23 (eight young since ’12) and male b/r B26 (ten young since ’12) were successful – four young fledged. This is their third year.

In summary 16 territorial pairs provided 13 successful nests with 33 young produced in 2014.

A Falcon River Trip is planned for May 1-2, 2015 once again at Harper’s Ferry in NE Iowa. Watch for further details in upcoming events in the Newsletter.

2015

Spring 2015 held great promise for Peregrine Falcon nesting in Iowa. This year 21 territories with 14 successful nests produced 34 young. At this time outcome of two sites Keokuk and Clayton are unknown.

In Des Moines construction at American Enterprise (previously American Republic Insurance bldg.) (53 young since ’93) were unsuccessful. Male at this site is 63/B, (Woodman Tower, Omaha, NE.’04)(20 young ’07) Female is 39E (NSP Riverside plant ‘03) here for third year (produced 15 young, two at Capitol in ‘08).

A second territory at State Capitol (18 young since ‘08) produced **four** young. Unbanded female (16 young since ‘09) and unbanded male (seven ’14) were successful.

In Cedar Rapids a brood of **three** young was reported by Theresa Chapel at USBank (63 young since ’93). Neither adult is banded.

The site at Aggie’s Bluff two miles upstream from Lansing an unidentified pair produced **?** young their third year at this site (produced 10 young since 2012.) Bob Anderson’s Raptor Resource Project attempted to rappel to the eyrie, but its location is not accessible.

At Lansing cliff (33 young since ’99), Bob Anderson reports falcon pair back in Alliant Energy cliff box and fledged **four**.

At Waukon Jct. (seven young since ’04) Bob Anderson reported that pair relocated back to Leo’s Bluff. Nest was **unsuccessful**. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Bob Anderson reports Bunge America Elevator (21 young since 2008) has unidentified pair. **Three** young were produced.

New pair reported at Pattison Sand Mines at Clayton

At Bellevue State Park, Shannon Peterson reported pair at nestbox on rock but no young fledged.

At Dubuque Eagle Point Park site was active with pair on site (2nd year). Mute noted at rock eyrie.

New site at Dubuque County Courthouse was unsuccessful. Pair returned after nest tray was added.

At ADM plant in Clinton, nesting pair produced **two** (nine young since 2010.) Female is 35/M and female is 83/M (Cedar Rapids '03)

At ADM plant in Clinton, nesting pair established territory but did not produce young.

At Clinton, Iowa, (ten young '07) unidentified pair were successful at this site with **two** young. Site is ML Kapp Generating Station with Alliant Energy. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At I 80 Bridge (2003) unidentified pair produced **two** young.

At MidAmerican HQ (22 young since '02) in Quad Cities 8/*E (Muncie, IN '99) and E60 (Cedar Rapids '11) here for 1st year laid four eggs in nest box. O**ne** young fledged.

Muscatine Power Plant, Robert Freeman reports two young for first year (two 2015).

At Louisa Generating Station (33 young since '02) Jim Haack reported young successfully from 06/A female (St. Louis, MO. '05) and unidentified male for twelfth year. Pair produced **three** young from smaller nest box.

At Burlington, Great River Bridge (at least ten young since '04) an unidentified pair, here for eleventh year fledged **two** young.

At Keokuk Power Plant a pair established a territory but outcome unknown at this time.

At Chillicothe (25 young since '05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports female b/g N23 (14 young since '12) and male b/r B26 (14 young since '12) were successful – **four** young fledged. This is their fourth year.

In summary 21 territorial pairs provided 14 successful nests with 34 young produced in 2015.

A Falcon River Trip is planned for May 6 - 7, 2016 once again at Harper's Ferry in NE Iowa. Watch for further details in upcoming events in the Newsletter.

2016

Spring 2016 held great promise for Peregrine Falcon nesting in Iowa. This year 18 territories with 14 successful nests produced 36 young. At this time outcome of two sites Keokuk and Clayton are unknown. They have not been included in this year's totals.

In Des Moines construction at American Enterprise (previously American Republic Insurance bldg.) (53 young since '93) were unsuccessful. Male at this site is 63/B, (Woodman Tower, Omaha, NE.'04)(20 young '07) Female is 39E (NSP Riverside plant '03) here for third year (produced 15 young, two at Capitol in '08).

A second territory at State Capitol (20 young since '08) produced two young. Unbanded female (18 young since '09) and unbanded male (nine '14) were successful.

In Cedar Rapids a brood of three young was reported by Theresa Chapel at

USBank (63 young since ’93). Neither adult is banded.

The site at Aggie’s Bluff two miles upstream from Lansing an unidentified pair produced three young their fourth year at this site (produced 13 young since 2012.) Bob Anderson’s Raptor Resource Project attempted to rappel to the eyrie, but its location is not accessible.

At Lansing cliff (37 young since ’99), Amy Rees reports falcon pair back in Alliant Energy cliff box and fledged four.

At Waukon Jct. (seven young since ’04) Dave Kester reported that pair relocated back to Leo’s Bluff. Nest was unsuccessful. There were two eyases in eyrie. They were beheaded and food stashed. Adult female *K/*W (John Latsch Park, MN ’06) and male is unbanded.

At MacGregor Amy Rees reports Bunge America Elevator (24 young since 2008) has unidentified pair. Three young were produced.

New pair reported at Pattison Sand Mines at Clayton in 2015. No confirmation this year.

At Bellevue State Park, Bolton reported pair at nestbox on rock. Three young fledged. This is second year yet first nest success.

At Dubuque Eagle Point Park site was active with pair on site (3rd year). Mute noted at rock eyrie. Two young were produced. Clint at CR Boats is contact 563-583-1183. Exciting reports of territorial defense occurred this year.

New site at Dubuque County Courthouse was unsuccessful. Pair initiated scrape at nest tray but abandoned their site. They returned to Courthouse in June. Will add curtains on key windows. Maybe less disturbance in courthouse will keep this pair on task next year.

At ADM plant in Clinton, nesting pair produced three (23 young since 2009.) Female is 35/M and female is 83/M (Cedar Rapids ’03). One fledgling was trapped in boiler room after initial flight.

At ADM plant in Clinton, nesting pair established territory but did not produce young. These birds were not on site this year.

At Clinton, Iowa, 12 young ’07) unidentified pair were successful at this site with two young. Site is ML Kapp Generating Station with Alliant Energy. This site is located at southern extent of historic peregrine nesting range along Mississippi flyway in Iowa.

At I 80 Bridge (2003) unidentified pair produced two young.

At MidAmerican HQ (22 young since ’02) in Quad Cities 8/*E (Muncie, IN ’99) and E60 (Cedar Rapids ‘11) here for 1st year laid four eggs in nest box. Site failed this year..

Muscatine Power Plant, Robert Freeman reports two young for second year(four young 2015).

At Louisa Generating Station (33 young since ’02) Jim Haack reported young successfully from 06/A female (St. Louis, MO. ’05) and unidentified male for twelfth year. Pair produced three young from smaller nest box.

At Burlington, Great River Bridge (at least eleven young since ’04) an unidentified pair, here for eleventh year fledged one young.

At Keokuk Power Plant a pair established a territory but outcome unknown at this time.

At Chillicothe (28 young since ’05), Ottumwa Generating Station with Alliant Energy, Judi Johnson reports female b/g N23 (17 young since ’12) and male b/r

B26 (17 young since ’12) were successful – three young fledged. This is their fifth year.

In summary 18 territorial pairs provided 14 successful nests with 36 young produced in 2016.

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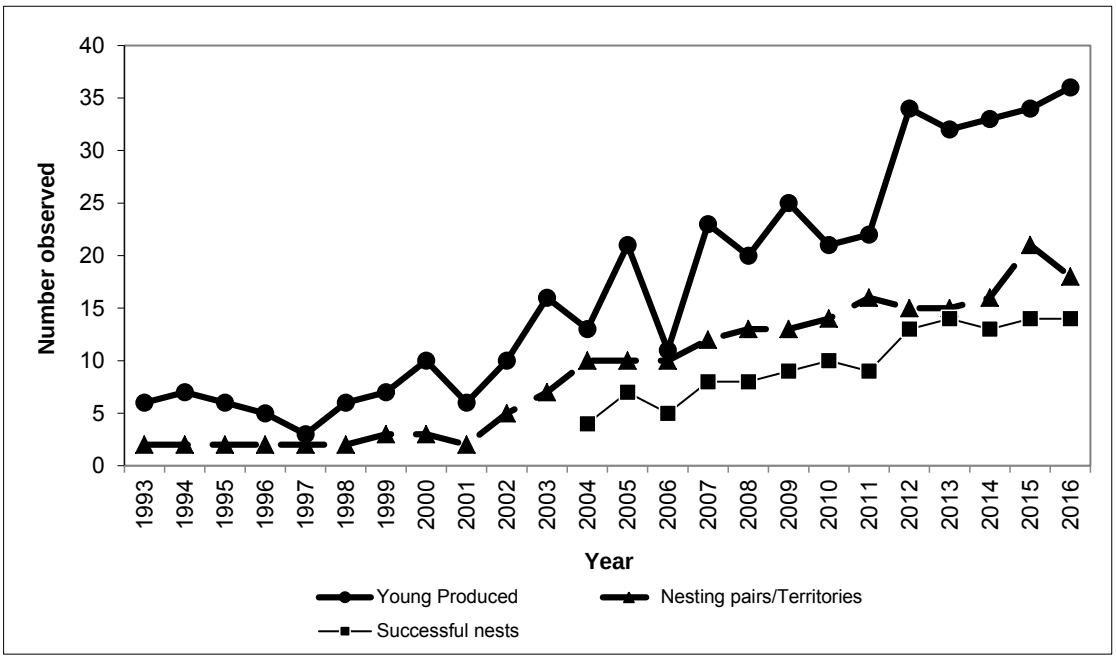
Young Peregrine falcons produced from known Iowa nesting pairs 1993 - Present.



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. 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

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 generally poor. No spring leks were located in the 2 years following the release, and no reproduction was reported.

In 1982, KFGC personnel decided to attempt a different trapping approach, using rocket-nets to trap chickens on the lek sites. This resulted in 48 more chickens being transported to Iowa for release at the same area in the Loess Hills. A greater effort to acclimatize the birds was made in the 1982 release. The birds were banded and put in a large holding pen with separate cells for each sex. They were kept in pens overnight for the males and a day longer for the females. 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 also 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.

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. 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 at Ringgold Wildlife Area located two miles north of the Missouri border in Ringgold County (Fig 8.1). Wildlife personnel considered this region to be the best potential prairie chicken habitat in Iowa. In addition, 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 including the restoration of around 200 ha of prairie on the Ringgold Wildlife Area.

Birds 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.*).

During 1990 and 1991 reproductive conditions for gallinaceous birds were poor in this area; however, brood sightings were made each year. By 1991, prairie chickens appeared to be firmly established on 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: An agreement with KDWP once again 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, respectively 28 and 24 km north of Ringgold (Fig. 8.1). Sites continued to shift in subsequent years and the Orient site (Adair County) was added in 1993. All of the sites contained high quality grasslands and open landscapes. Predominant 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).

Subsequent Stocking: No additional stockings were anticipated following releases in 1994. However in 2001, South Dakota Game Fish and Parks (SDGFP) employees incidentally trapped three prairie chickens and offered them to IDNR. 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) were also reintroducing prairie chickens in north central Missouri from 1993 to 2000. Approximately 100 birds were 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.*). Some of these birds were spotted in Iowa over the years.

Continued Restoration

Current Restoration Attempts: In 2012 the Iowa DNR assembled an Iowa Management Plan for Greater Prairie Chickens. The plan includes a relatively detailed analysis of habitat in Ringgold County, Iowa and recommendations for managing that habitat for prairie chickens. A portion of the plan also proposes a translocation effort to bolster the diminishing population of birds.

In the short-term, the plan suggested trapping and releasing roughly 350 birds between 2012 and 2015. This goal was accomplished with 328 birds, half male and half female, trapped and released over this four year period. The trapped birds were split in 2013-2015 with roughly 60% of the birds being released near Kellerton, IA and 40% released at Dunn Ranch (TNC) in Harrison County, MO. The birds were documented moving between Dunn Ranch and Kellerton using transmitters.

In 2016, the Missouri Department of Conservation extended the trapping and translocation project, successfully releasing 99 more birds from Nebraska. The ratio of released birds was reversed with 40% of the birds (50/50 male/female split) in IA at Kellerton WA and 60% in MO at Dunn Ranch. This cooperative work between Iowa DNR, Missouri Department of Conservation and The Nature Conservancy all takes place in the roughly 140,000 acre Grand River Grasslands focal area that straddles the state line.

A complete list of the numbers of birds and where they were released can be found in Table 8.1.

BOOMING GROUND SURVEY

Methods

Attempts have been 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 last part of March and through the month of April. In the past, lek sites were glassed or flushed to determine the number of booming males and new leks were located by driving gravel roads and stopping periodically to listen for booming. A more formalized survey was strated in 2009, using a prairie chicken habitat suitability model to establish 10 Survey Areas across 8 southern Iowa counties. Each survey area had 15 listening points located randomly or at a known past or present lek site. As the translocation started in 2012 and staff time became limited the area surveyed was constricted to a 25 mile radius of Kellerton and this continued in 2013. In 2014 we added 2 additional routes to expand the area covered in Iowa based on dispersal data from 2013's released birds fitted with transmitters. The same sites from 2014 were surveyed again in 2015 and 2016. All 74 sites were surveyed at least once and up to four times between March 20th and late April (Fig. 8.2). In addition, in 2016, a blitz-type survey was performed which involved 10-12 staff going out on the same morning and spending 30 minutes on each of 22 sites. These sites were chosen based on a recent (last 15 years) and consistent history of holding an active Lek or because they were the site of a prairie chicken sighting during the current Spring. Similar counts were done on and around the Dunn Ranch in Missouri. It is possible that some booming grounds have not been located.

Results (Current and Previous 10 Years)

2006: One new lek location was noted this year though one previously active was observed inactive so the total number of active leks remains at five (Table 8.2). These five leks were spread across three counties which is also consistent with last year. However, the lowest number of booming males since 1996 was recorded this year with only 16 reported (Table 8.2). The average number of males per lek was 3.2. No brood sightings were reported. Current and prior lek locations are shown in figure 8.2.

2007: Four active leks were identified this year spread through 3 counties (Table 8.2). Only 15 booming males were recorded across these leks with an average of 3.75 males per lek. The largest lek is by the Kellerton viewing platform and observers on April 2, 2007 reported between 14-22 birds at a time on the lek evenly split between male and female. No broods were spotted during summer surveys in 2007.

The number of leks has declined over the past 10 years from a high of 9 to this year's 4. The number of booming males has declined as well and broods have proven difficult to find.

2008: A new effort was embarked upon in 2008 to determine the genetic diversity of southern Iowa's prairie chicken population. Trap lines were set out at the largest lek on the Kellerton Wildlife Area at the end of March and run through April 18th. Blood was collected from the 10 birds captured (7 males, 3 females) and sent for genetic analysis. Full results are still pending.

Booming males were counted on four leks this year all in Ringgold County. The biggest lek was once again at Kellerton Wildlife area where as many 14 males were initially observed booming

though once the females appeared there were only 10 males. Current and prior lek locations are shown in figure 8.2.

2009: The newly established lek survey recorded 3 established lek sites in Ringgold County and one possible lek site in Adams County. The well-established Kellerton lek had a high of 13 males and 4 females observed, while a smaller lek area to the north of Kellerton had a high of 4 males and 1 female seen during the survey (table 8.2). This smaller lek area was likely used by a total of 5 males and 2 females. One male was possibly heard booming at a lek area to the east of this smaller lek site. Another two male chickens were not seen, only heard at a possible lek area in Adams County.

In addition, a prairie chicken nest was located for the first time just southwest of the main Kellerton lek. Twelve eggs were counted and a later visit confirmed that 11 successfully hatched. A further sighting of the brood recorded that two of the chicks had died and the remainder of the brood was not seen and their fate is unknown.

2010: The 2010 lek survey recorded 3 established lek sites in Ringgold County. The well-established Kellerton lek had a high of only 8 males however a high of 7 was collected on another satellite lek site and an additional 4 were observed on the final lek site, north of Kellerton (table 8.2). Outside of the lek survey an additional 6 females were observed on one of the satellite lek sites. The average number of males observed per lek was the highest it has been in the previous 10 years at 6.33. While this number should be somewhat encouraging it really seems to reflect the concentration of birds on fewer lek sites.

No prairie chicken nests or broods were located in the Kellerton area during 2010. However, two broods were flushed in two different fields at TNC's Dunn Ranch in northern Missouri. Other sightings in the Kellerton area include 2 observations of a winter flock containing 24-25 individual birds.

2011: Prairie Chickens were detected at 6 locations representing 3 lek sites. One of these areas, in Adams County, was previously unreported but despite additional visits with more intensive searching it was never confirmed as a lek site. It is presented here with the caveat that it is unconfirmed. A maximum of 6 males were detected at the lek on the Kellerton Wildlife Area. A maximum of 7 males were detected on the lek on private land northwest of the Kellerton Wildlife Area. The data for the lek in Adams County listed only "more than 1" bird heard. No females were detected during the survey though up to 2 were seen at other times on the private lek.

Flushing brood surveys at the Kellerton Wildlife Area on August 1 turned up 5 adult prairie chickens, 3 of which were female, but no broods.

2012: The 2012 lek survey covered a 25 mile radius around the two active lek/release sites and 47 sites were surveyed. All survey sites had been surveyed using the same methodology in 2011. Twenty-five sites were historically known lek sites and 22 were random survey points. Each site was visited around sunrise twice between April 1 and 25. Prairie chickens were detected on 4 different sites all on or within 1.5 miles of a currently active lek. A count of 14 birds was recorded on April 2nd before the translocation began and 17 birds were detected on April 18th including one bird seen on one new site. A survey of one active lek from a blind on April 17th counted 8 males and 2 females present with one of the birds wearing a leg band from the translocation.

Two broods have also been detected through opportunistic observations. One was located on the Kelleron Wildlife Area and one on private ground about 2 miles Northwest of the Kellerton Lek. A total of 10 young were counted.

2013: The 2013 lek survey covered a 25 mile radius around the two active lek/release sites and 47 sites were surveyed. All survey sites had been surveyed using the same methodology since 2009. Twenty-five sites were historically known lek sites and 22 were random survey points. Each site was visited around sunrise twice between April 1 and 25. Prairie chickens were detected on 4 different sites all on or within 1.5 miles of a currently active lek. Post-release average counts of birds increased by an average of 1.23 birds from pre-release counts. The average maximum birds across the four active leks was seven. The maximum number of birds seen on one morning during the booming season was 24 birds. Outside of the formal lek survey (and normal booming season) prairie chicken booming was heard on a historic lek to the north of Kellerton on June 6.

Ten of the hens that were translocated in 2013 were fitted with satellite GPS transmitters. Only one of the hens remains under surveillance as of September 2013 and she was located in Southwest Union County, IA. Up to that time she had traveled over 1000 miles in large loops through Southern IA and Northern Missouri. Seven of the ten hens were confirmed mortalities with the other two having an unknown fate.

Two broods have been opportunistically observed on Kellerton WA: one with six young on June 26 and one with four young on August 9th. No broods were observed on a pilot roadside brood survey conducted in mid-July.

2014: In 2014, two additional lek survey routes were added in Iowa based on the dispersal data from birds released in 2013. This expanded the area covered to include two additional counties and a total of 6 routes and 71 survey sites. Two routes were also surveyed across the border in Missouri. Each site was surveyed 6 times between March 21st and May 8th. Prairie chickens were observed booming on two lek sites with a maximum of 21 birds counted in one survey.

Twelve of the translocated birds were fitted with GPS transmitters: 2 males and 10 females. As of August 26th, four out of the twelve birds are still being tracked (1 male and 3 hens) along with 1 hen from the 2013 release. Of the losses, seven are suspected mortalities and one slipped its transmitter. Two of the surviving hens successfully nested, one on the Kellerton Wildlife Area and the other at Pawnee Prairie in Missouri. The third is suspected to have nested on Dunn Ranch based on behavior but a nest was never located.

A formal roadside brood survey conducted in July did not pick up any prairie chicken broods however a number of broods were identified opportunistically throughout the nesting season. Brood sightings began being reported on the 17th of June and by July 15th there had been 13 confirmed sightings of chicken broods, some with collared hens and others not. These 13 sightings probably translate into an estimate of 11-13 separate broods, four in Missouri and 7-9 in Iowa. A total of 85 young were reported from these sightings, ranging from 3-13 with an average brood size of 7.27.

2015: A total of 6 routes and 73 survey sites were surveyed in Iowa along with

two routes across the border in Missouri. Each site was surveyed 4 times between March 20th and April 20th. Prairie chickens were observed booming on four lek sites with a maximum of 46 males counted booming in one survey at the two main leks and a total of 2, 2 and 5 birds reported at three new outlying lek sites.

Three of the translocated hens were fitted with GPS transmitters. As of August 21st, none of the three birds are still being tracked, 2 were mortalities and one was likely a malfunctioning transmitter. Two hens fitted with transmitters in 2014 were also still being followed up until July of 2015. Both birds appeared to nest successfully, one on Kellerton WA and one on Pawnee Prairie in Missouri but it is unknown if they were able to care for their broods through fledging.

No formal roadside brood survey was conducted in 2015 and only one brood with one young was identified opportunistically in Iowa on June 29th. There was at least one known nest on Kellerton WA located within 1 mile of the main lek. On the Missouri side of the Grand River Grasslands brood sightings were more abundant in the Dunn Ranch/Pawnee Prairie area.

2016: A total of 6 routes and 74 sites were surveyed in Iowa along with two routes across the border in Missouri. Each site was surveyed 1-4 times between March 20th and April 20th. Prairie chickens were observed booming on six lek sites though only two had five or more displaying males counted. A maximum of 44 birds were counted at the two main leks and a maximum of 1, 3, 3 and 4 birds reported at the outlying lek sites. Two of these outlying sites were newly detected this year.

The Blitz survey was performed on April 7, 2016 in Iowa and 54 total birds were counted on 4 of the 22 sites (Figure 8.3). Missouri could not do their Blitz survey on the same day but completed it on April 12, 2016. They surveyed 24 sites and observed a total of 47 birds on 7 of those sites.

Thirty of this year's translocated birds were fitted with radio transmitters by MDC, all of which were released in Missouri. Six of these birds attempted nests including one on Kellerton WA. The nest on Kellerton was depredated before hatching. Only one of the six monitored nests hatched successfully with a brood of 10 chicks on Dunn Ranch in Missouri. Another brood of 5 young was opportunistically spotted on Pawnee Prairie in MO and a brood of 14 pigeon-sized young was observed near the lek on Kellerton WA in early July. There have been a few other sightings in August of groups numbering 10-12 birds but it was difficult to say if they were young of the year.

The only other counts of birds available were informal reports of winter flocks. Iowa had three areas where flocks were seen: around the private lek site just north of Kellerton, around the private lek site near Tingly and on the Kellerton WA. A maximum of 19 birds was counted in the flock near Tingly, 42 on Kellerton WA and 26 near the private lek north of Kellerton. Birds from these flocks, especially the latter two, likely interchange and the counts were not made on the same days so it is impossible to provide a total for the whole area but these numbers provide an idea of the minimum number of birds in the area. There were at least 42 birds, and likely more, wintering in Ringgold County, IA.

DISCUSSION

Prairie chicken reintroduction

efforts have resulted in a small population of prairie chickens in a concentrated area of southern Iowa and northern Missouri.

Pasture and hay are still primary land uses in this region which benefits the chickens. The Iowa Prairie Chicken Management Plan sets objectives for not only prairie chicken population numbers but also for enhancing this landscape to increase the amount of native grass and provide more habitat for chickens and other grassland dependent wildlife. The Iowa DNR and many outside partners (The Nature Conservancy, The Missouri Department of Conservation) are implementing many actions to make progress on those objectives.

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Table 8.1. Dates, numbers, and locations of greater prairie chicken releases in Iowa, 1980-2015. Gamma (Γ) = male, Epsilon (E) = female. * 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, NGP = Nebraska Game and Parks, MDC = Missouri Department of Conservation. [1-5] Release sites indicated on county map (Figure 8.1)

Release Date	No. Released	Source*	Release Location
February 1980	29Γ, 24E	KFGC	Loess Hills Wildlife Area, Monona Co.[1]
April 1982	31Γ, 18E	KFGC	Loess Hills Wildlife Area, Monona Co.
April 1987	20Γ, 9E	KFGC	Ringgold Wildlife Area, Ringgold Co.[2]
April 1988	48Γ, 75E	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1989	40Γ, 62E	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1992	18Γ, 21E	KDWP (IDNR trapping)	Mount Ayr, Ringgold Co., Price Twp., Sec. 13.[3]
April 1992	31Γ, 20E	KDWP (IDNR trapping)	Kellerton, Ringgold Co., Athens Twp., Sec. 8.[4]
April 1992	9Γ, 9E	KDWP (IDNR trapping)	Ringgold Wildlife Area, Ringgold Co., Lotts Creek Twp., Sec. 24.[2]
April 1993	13Γ, 33E	KDWP (IDNR trapping)	Kellerton, Ringgold Co., Athens Twp., Sec. 8. [2]
April 1993	24Γ, 24E	KDWP (IDNR trapping)	Orient, Adair Co., Lee Twp., Sec. 36.[5]
April 1994	10Γ, 17E	KDWP (IDNR trapping)	Kellerton, Ringgold Co., Athens Twp., Sec. 8.[4]
April 1994	31Γ, 34E	KDWP (IDNR trapping)	Orient, Adair Co., Lee Twp., Sec. 36.[5]
April 2001	1Γ, 2E	SDGFP	Kellerton, Ringgold Co., Athens Twp., Sec. 16.[4]
April, 2012	12Γ, 8E	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens Twp., Sec. 16.[4]
April, 2012	10Γ, 17E	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 6
April 2013	16Γ, 10E	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 16[4]
April 2013	5Γ, 9E	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 6
April 2013	16E, 17Γ	NGP (IDNR Trapping)	Dunn Ranch, Harrison Co., Missouri
April 2014	31E, 26Γ	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 16[4]
April 2014	20E, 25Γ	NGP (IDNR Trapping)	Dunn Ranch, Harrison Co., Missouri
April 2014	1E, 6Γ	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 6
April 2015	25E, 13Γ	NGP (IDNR Trapping)	Kellerton, Ringgold Co.,Athens TWP., Sec. 16[4]
April 2015	5E, 13Γ	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 6
April 2015	4Γ	NGP (IDNR Trapping)	Kellerton, Ringgold Co., Monroe TWP., Sec. 14
April 2015	20E, 19Γ	NGP (IDNR Trapping)	Dunn Ranch, Harrison Co., Missouri
April 2016	20E, 20Γ	NGP (MDC Trapping)	Kellerton, Ringgold Co., Athens TWP., Sec. 16[4]
April 2016	30E, 29Γ	NGP (MDC Trapping)	Dunn Ranch, Harrison Co., Missouri

Table 8.2. Location and number of greater prairie chickens observed on active leks in Iowa, 2006-2016.

		Legal Description													
County	Township	Twp.	Rge.	Sec.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Adams	Douglas	72N	35W	26				2							
Adams	Prescott	72N	33W	4						2[a]					
Decatur	Grand River	69N	27W	16	1	1									
Decatur	Grand River	69N	27W	22	1	2									
Decatur	Garden Grove	70N	24W	36										2	
Ringgold	Athens	68N	28W	4	2		2		7						1
Ringgold	Athens	68N	28W	16NE	11	9	14	13	8	6	2	9	17	35	28
Ringgold	Athens	68N	28W	16SW								9			
Ringgold	Athens	68N	28W	8				1				1			
Ringgold	Athens	68N	28W	17									1		
Ringgold	Athens	68N	28W	20							1				
Ringgold	Athens	68N	28W	6				5	4	7	9	9	4	11	16
Ringgold	Athens	68N	28W	5							5				
Ringgold	Rice	68N	30W	24											4
Ringgold	Monroe	69N	28W	28			2								
Ringgold	Monroe	69N	28W	15											3
Ringgold	Monroe	69N	28W	22										2	
Ringgold	Tingley	70N	29W	10										5[c]	3
Ringgold	Tingley	70N	29W	34			1								
Wayne	Jackson	68N	21W	18	1	2									
	Total Chickens[b]	mean=		22.00	16	14	19	21	19	13	17	24	22	55	55
	Total Active Leks	mean=		3.8	5	4	4	4	3	2	4	4	3	5	6
	Total Chickens/Lek[b]				3.20	3.50	4.75	5.25	6.33	6.50	4.25	6	7.3	11	9.2

[a] Not confirmed and number of birds heard listed as "more than 1"

[b] before 2009 = only males, maximum number of chickens counted on one morning, may not equal lek counts

[c] Not part of formal lek survey. Reported by others.

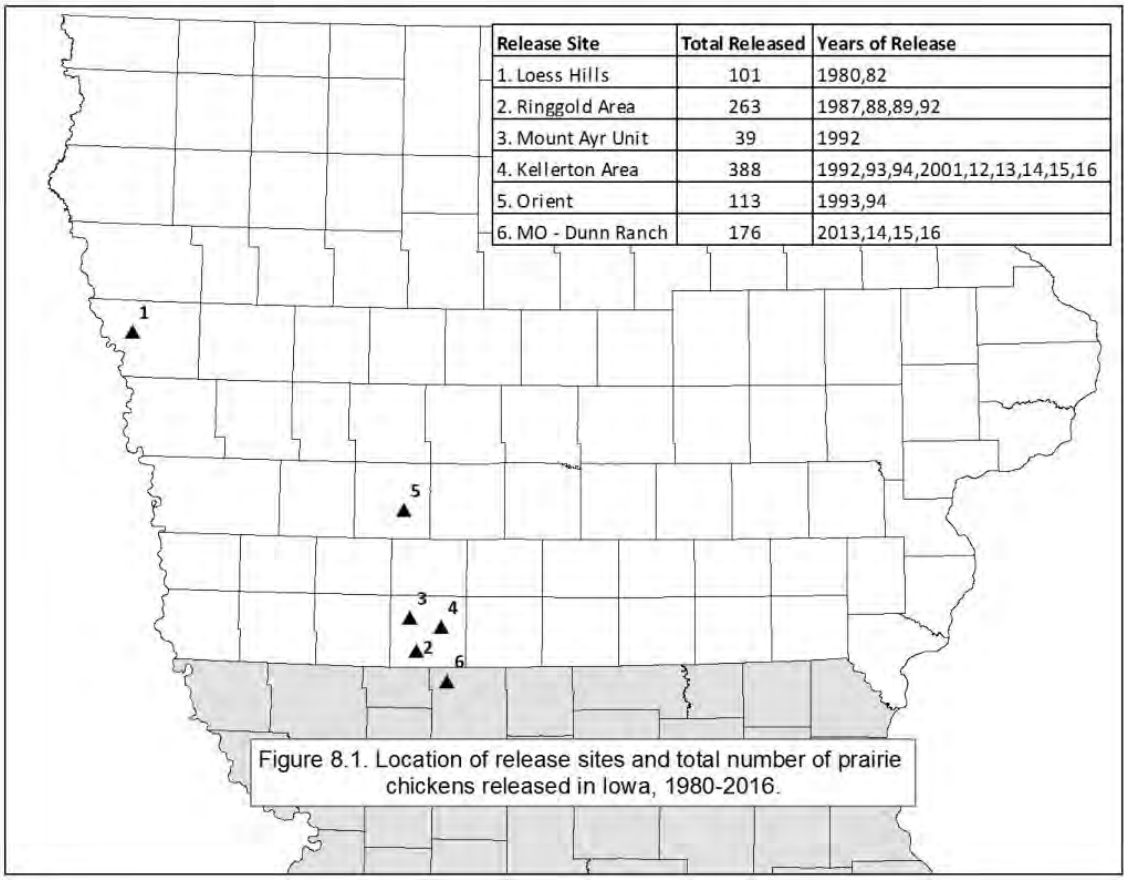


Figure 8.1. Location of release sites and total number of prairie chickens released in Iowa, 1980-2016.

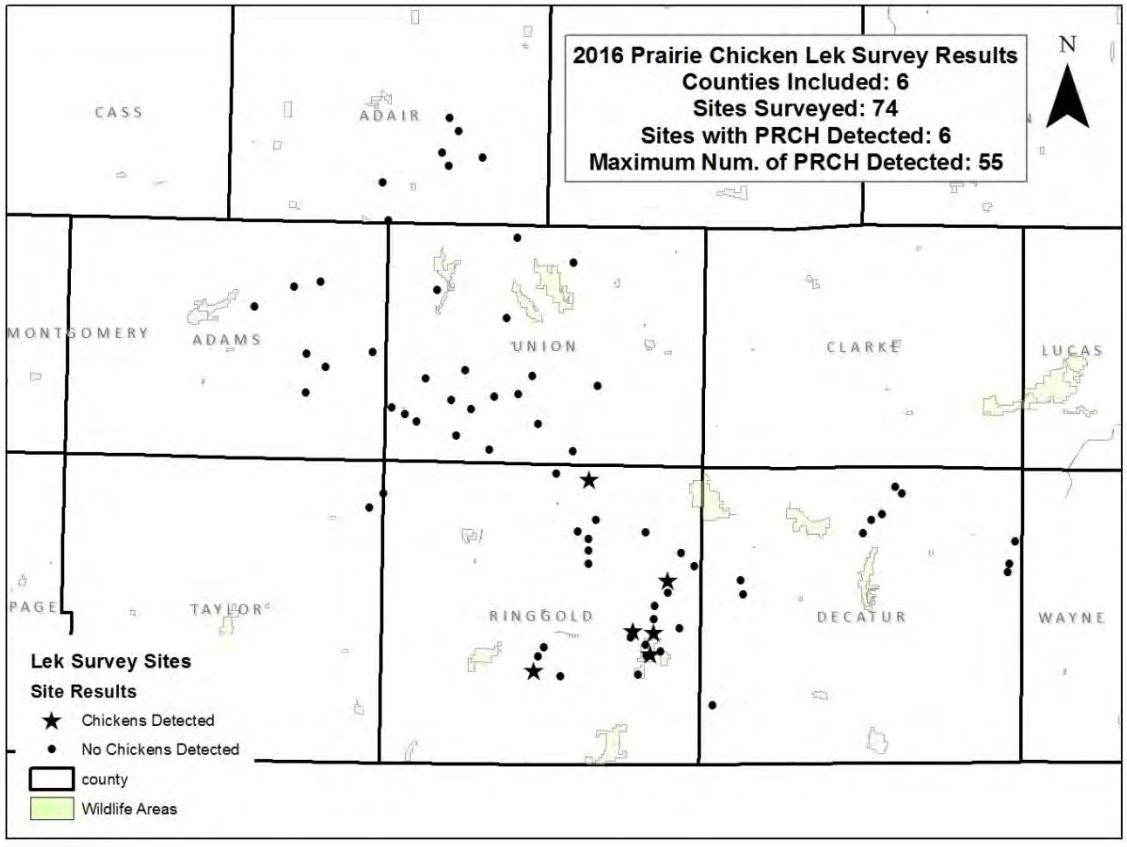


Figure 8.2. Location of sites surveyed and sites where chickens were detected during the 2016 prairie chicken Route Lek survey.

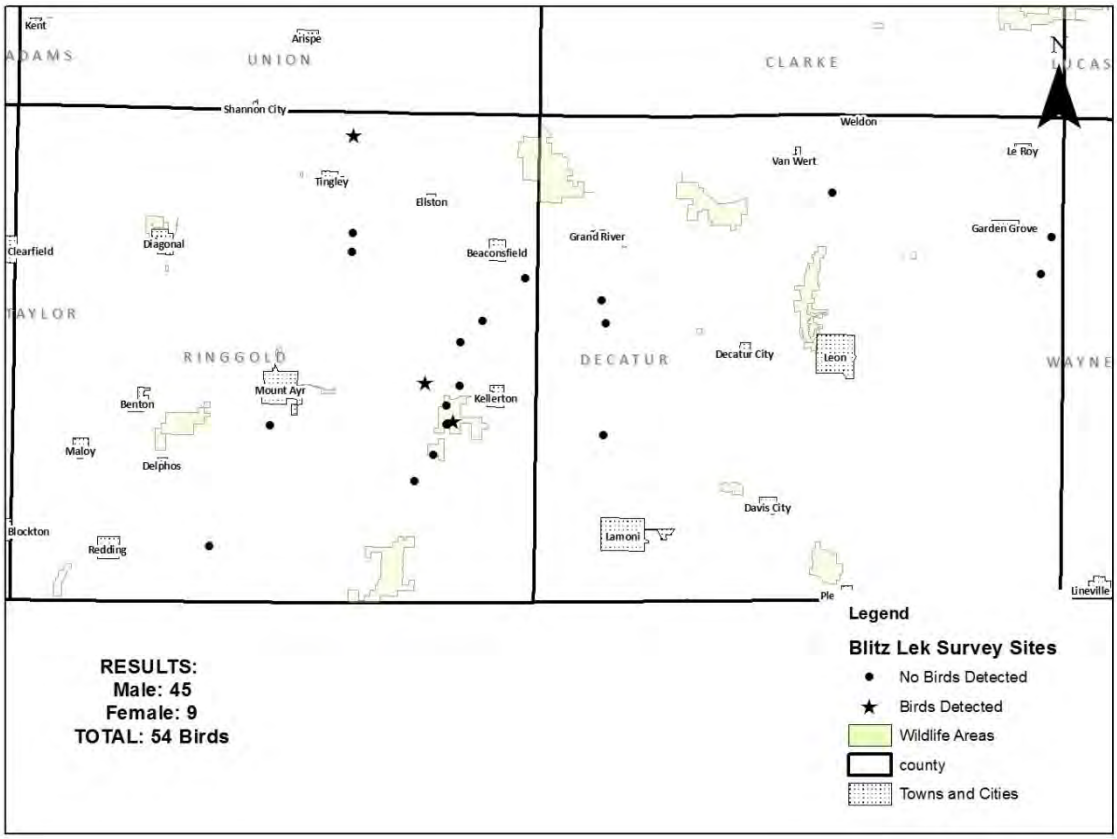


Figure 8.3. Location of sites surveyed and sites where chickens were detected during the 2016 prairie chicken Blitz Lek survey held on April 7th, 2016.

TRUMPETER SWAN RESTORATION

Prior to the settlement of Iowa, trumpeter swans nested throughout the state. However, wetland drainage and unregulated harvest of trumpeters together caused their demise. Prior to 1998, the last pair of wild nesting trumpeter swans in Iowa occurred in 1883 on the Twin Lakes Wildlife Area southwest of Belmond, Iowa in Hancock County.

Trumpeter swans were first given nationwide protection in 1918 when the United States, Canada, and Mexico signed the International Migratory Bird Treaty. A nationwide survey in the early 1930's indicated that only 69 trumpeters existed in the continental United States with all of those occurring in Red Rock Lakes National Wildlife Refuge in southwest Montana. The Red Rock Lakes became the nation's first National Wildlife Refuge because of the presence of these trumpeter swans.

Trumpeter Swan Restoration Program

Some 115 years later, the first modern day hatch of three wild trumpeter swan cygnets occurred in 1998 in Dubuque County. In 2000, a second pair nested on a Winnebago County Conservation Board wetland (Russ Tract at Thorpe Park) 8 miles west of Forest City.

In 1993, the Iowa Department of Natural Resources developed a plan to restore trumpeter swans to the state. There were two primary objectives with this plan. The first objective was to restore a self-sustaining, migratory population of trumpeter swans to its former nesting range in Iowa. To accomplish this, a goal was set to establish 15 wild nesting pairs to the state by 2003. That goal was reached in 2004. Due to the project's initial success, another goal was set to have 25 wild nesting pairs by 2006. That goal was reached in 2005.

Birds used for restoration purposes in Iowa have been obtained from 26 different states, including zoos, private propagators, other state swan projects, and any other sources that might have available swans. A total of 121 sources have been used to date. Once in Iowa, flightless breeder pairs are established at appropriate sites, the young of which are released for free flight across the state. We have found it necessary to move young produced at these flightless pair sites. Otherwise they interfere with the following year's reproductive activity because the adult pair will continually harass the young in order to exclude them from their nesting territory.

The second objective was to use the swans to "Trumpet the Cause For Wetlands". There have been well over 350 swan releases done by DNR staff with the public and media invited to attend. At which times, the many positive values of wetlands have been discussed with the groups attending the swan releases. The swans have garnered a lot of attention and interest from the public and the media both. DNR staff have used these opportunities to explain to these groups the value of having healthy wetlands to support "charismatic mega-fauna" such as Trumpeter Swans.

Funding to help support the DNR with this restoration program has come from a wide variety of swan enthusiasts, conservation groups, and charities. Considerable soft match/in-kind contributions have been made and are conservatively estimated at over 1.5 million dollars. The Trumpeter Swan Program was also awarded a State

Wildlife Grant (SWG) in 2004. These funds have been used to help cover the costs of feed, vet care, nesting site preparations, equipment, and the purchase of swans.

Marked Swans and Reported Observations

Through the summer of 2008 nearly all trumpeter swans released in Iowa were marked with plastic green or red neck collars and leg bands, along with U.S. Fish and Wildlife Service metal leg bands. The plastic neck collars and leg bands are marked with alpha letters C, F, H, J, K, P, T, M, and two numbers, 00 through 99. We have been disappointed that several of our marked swans have lost both plastic neck collars and legs bands and a few have lost the soft aluminum metal USFWS leg bands. Neck collar losses create problems analyzing both movements and mortality of Iowa Trumpeter Swans. In 2004, we began using stainless steel lock-on 9C FWS leg bands and we are not aware of any leg band losses since. Throughout the last 5 years, we have neck collared less than 5% of released swans

Iowa has the largest trumpeter swan observation database with over 4,300 observations of neck collared swans. As of 2016, Iowa marked swans have been reported in 17 states, as far west as Colorado, east to Virginia and north into two Canadian provinces (Figure 3). After 10 years of migration observations, the largest concentrations of migrating Iowa swans are wintering in northeast and east-central Kansas and northwest and west-central Missouri. One Iowa trumpeter swan wintered as far south as Oklahoma during the winter of 1998/1999. Also, one swan wintered near Heber Springs, Arkansas in 1999/2000. During the winter of 2002-2003, 2 swans released at Hottes Lake near Spirit Lake, Iowa migrated to Lubbock, Texas. These are possibly the first known, or at least the first of very few interior swans to migrate to Texas since the 1880's. 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 1,300 miles.

"Traditional" swan wintering sites are developing in Iowa. Sites include Bill Beemer's Pond, a private partner site near Webster City, a rock quarry at Atlantic in southwest Iowa, Bob & Mary Boock's wetland near Wheatland in east central Iowa, Laurie Severe Pond near Nora Springs, Dale Maffitt Reservoir south west of Des Moines and a rock quarry near Fertile, IA. A review of the last 15 years of swan sightings indicates most areas of the state are now seeing swans at sometime during the year. This is another indication that the restoration effort is moving forward.

Trumpeter Swan Mortality Factors

Illegal shootings, lead poisoning, powerline collisions and disease are the leading mortality factors in Iowa. Nearly 75% of the released trumpeter swans perish before they reach their breeding age. This high mortality rate is a concern because it negatively impacts trumpeter swan recruitment. We hope that with increased publicity, additional enforcement efforts, and public scrutiny, that illegal shootings will decrease. There have been 11 confirmed shootings of Iowa swans that occurred out-of-state, (1 in Wisconsin, 3 in Missouri, 5 in Texas). A $17,000 fine was charged to four men in

connection with the family group of 5 Iowa swans shot in Texas.

Three hundred thirty eight known mortalities have occurred to date: 78 have died due to power line collisions, 76 died due to lead poisoning, 65 poached by violators, 42 to diseases and 11 due to apparent malnutrition. Several other mortalities have likely occurred from unknown and unreported causes. Mortality rates are higher than anticipated and slow trumpeter swan restoration efforts. Shooting a trumpeter swan can result in a citation of $1500, liquidated damages, court costs, and perhaps hunting license revocation.

Current Status of the Trumpeter Swan Restoration Program

Trumpeter Swans are nearing sustainable numbers in north central and east central Iowa. As a result of the program's success, the Iowa DNR has significantly reduced their direct hands-on efforts of handling and transporting swans over the past four years. Instead, time is now more focused on coordinating swan restoration efforts with partners such as county conservation boards and private landowners with suitable nesting and release sites. The southern half of Iowa is the current priority area for restoration activities and cygnet releases due to very low trumpeter swan nesting densities and the fact that trumpeters very rarely pioneer their nesting efforts south. A goal of self-sustaining numbers across south Iowa is desired. Currently, there are seventeen partnership breeding pair sites that are active.

Four trumpeter swans were released in Iowa in 2016 (Table 1). A total of 1,172 trumpeters have been released to date. A total of 71 wild free flying Trumpeter swans have been captured, banded and released in Iowa since 1997 (Table 2). Also in 2016, 50 trumpeter swan nest attempts occurred in Iowa, 49 nests in 2015 and 45 in 2014 (Figure 2).

Since 1998, 536 known trumpeter swan nests have occurred in Iowa (Table 3). Figure 1 shows the statewide distribution of these nesting attempts. Spring flash flooding accounts for 3-10% of annual nest loss. Cygnet survival was near normal in 2016. Higher cygnet mortality was recorded in the fall 2012-2014 with dry wetland conditions and increased cases of lead poisoning. Many wetlands went completely dry in August and cygnets were forced to walk overland in search food and water. All wildlife populations are cyclic so we know that nest attempts will show ups and downs over the duration of the trumpeter restoration efforts. Each year there could also be 4 or 5 other nest attempts that we do not know about as we have had at least a few families of swans show up in the state prior to normal migration dates. Also of note, we have several pairs of Iowa swans nesting in Southern Minnesota and Wisconsin.

A total of 1,121 trumpeters were tallied during the mid-winter waterfowl survey in January 2016, up from 582 in 2015 and 458 tallied in January 2014 (Table 4). If swans can find open water and food, many of them will remain throughout the winter. These "winter" sites have provided many people the opportunity to view these "charismatic-mega fauna."

The DNR and many Iowans are very excited about the future of trumpeter swans in the state and hope their numbers remain strong.

Figure 1. Wild Trumpeter Swan Nests 2016 (50 nest attempts)

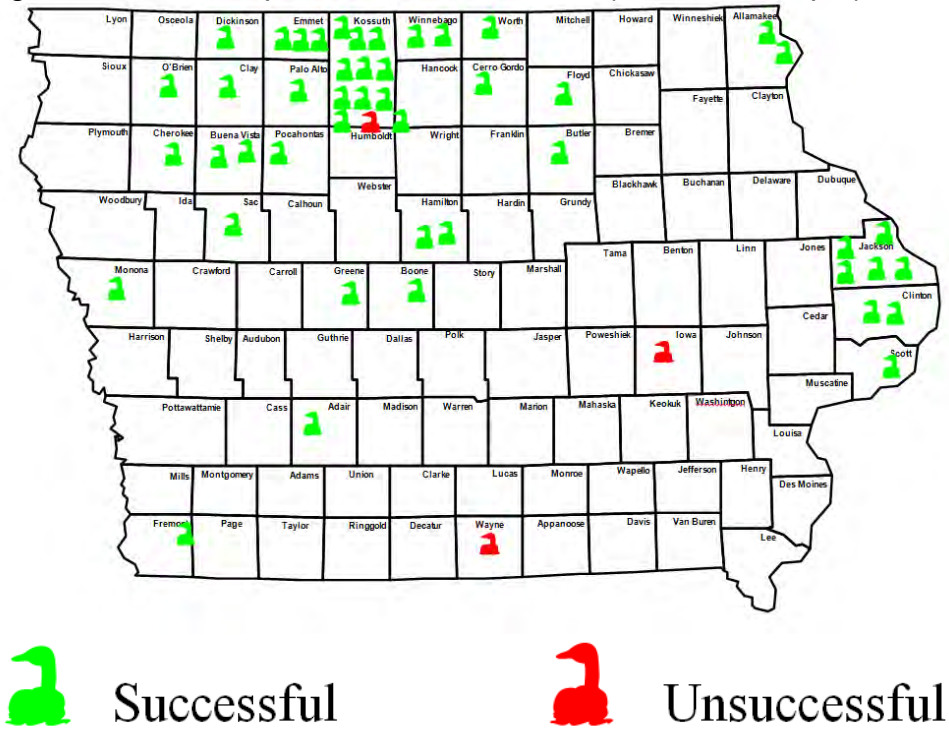


Figure 2. Wild Trumpeter Swan Nests 2016

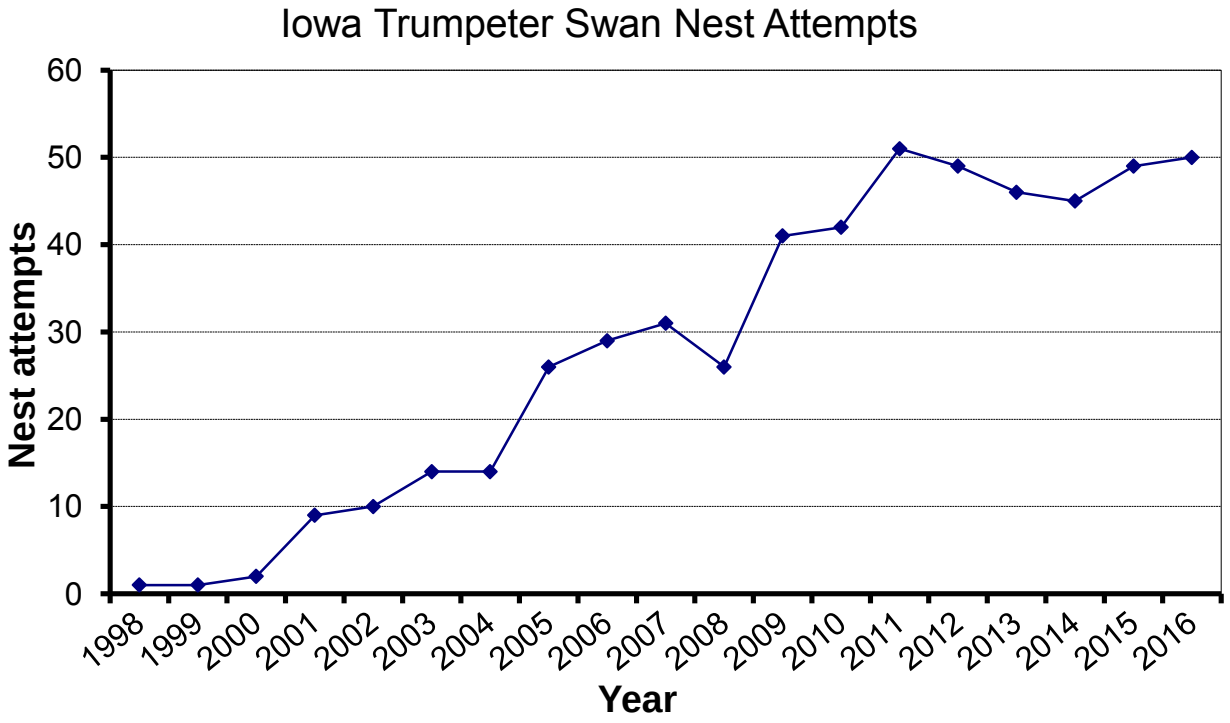


Table 1. Trumpeter Swans released in Iowa 2016.

Year	Release Site	County	Males	Females	Total
2016	Coffey Marsh	Wayne	0	2	2
	Lake Icaria	Adams	1	1	2
				Total	4
			Grand Total		1172

Table 2. Wild free flying Trumpeter swans banded and released in Iowa, 1997 - present.

Year	Area	County	Males	Females	Total
1997	Miller's Quarry	Black Hawk	0	1	1
1998	Holzer's Pond	Dubuque	2	1	3
1999	Mason City	Cerro Gordo	3	2	5
2000	Holzer's Pond	Dubuque	2	1	3
2000	Mason City	Cerro Gordo	2	2	4
2000	Stark/Nessa Quarry	Hamilton	2	0	2
2001	Dunbar Slough	Greene	1	0	1
2001	Kennedy's Pond	Dubuque	1	1	2
2002	Holzer's Pond	Dubuque	3	1	4
2002	Schildberg Gravel Quarry	Cass	1	4	5
2002	East Twin Lake	Hancock	2	0	2
2003	Schildberg Gravel Quarry	Cass	2	2	4
2004	Schildberg Gravel Quarry	Cass	5	7	12
2004	Beemer's Pond	Hamilton	3	5	8
2005	Stark/Nessa Quarry	Hamilton	5	0	5
2006	Beemer's Pond	Hamilton	4	2	6
2006	Schildberg Gravel Quarry	Cass	0	1	1
2007	Ventura Marsh	Cerro Gordo	0	2	2
2008	Ventura Marsh	Cerro Gordo	0	1	1
				Total	**71**

Table 3. Wild free flying Trumpeter swans nest attempts and total number of released swans. 1997 - present.

Year	Wild Nest Attem	# of Broods	# Hatched	Mean brood	~ # Fledge	Adult total	Captive Released	Mid winter Count	Estimated Population
1994	0	0	0		0		4		
1995	0	0	0		0		14		
1996	0	0	0		0		31		
1997	0	0	0		0		35		
1998	1	1	3	3.0	3		57		
1999	1	1	5	5.0	0		42		
2000	2	2	5	2.5	3		91		
2001	9	7	26	3.7	19		83		
2002	10	8	37	4.6	27		63		
2003	14	12	53	4.4	36		82		
2004	14	9	44	4.9	36		75		
2005	26	19	87	4.6	67	86	113		total =266 (Pop Survey Estimate)
2006	29	22	80	3.6	52		85		
2007	31	27	103	3.8	60		73		
2008	26	22	91	4.1	55		65		
2009	41	37	120	3.2	80		71		
2010	42	* 27 to 39	112	4.4	84	156	57		total =297 (Pop Survey Estimate)
2011	51	50	230	4.6	161		51		
2012	49	43	170	3.9	119		20		
2013	46	37	114	4.7	94		20	458	
2014	45	38	122	4.4	90		18	582	
2015	49	46	185	4.0	136		18	1121	total =339 (Pop Survey Estimate)
2016	50	47		*4.0*			4		
	536	**428**	**1587**	**4.8**	**1122**		**1172**		

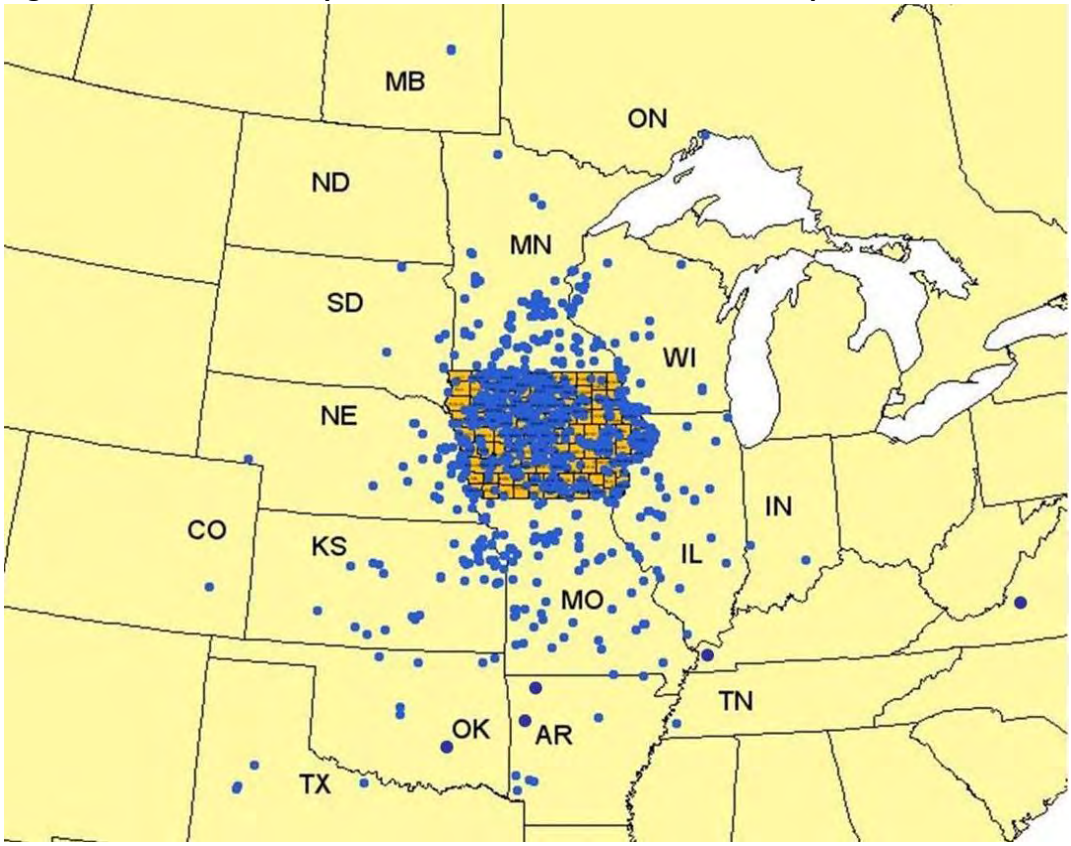
Table 4. **Wintering Trumpeters in Iowa**

Year	Beemers*	Atlantic*	Boock*	Severe*	Mason City*	Fertile Quarry	Cedar Rapids	Est Total # in state
1997	5							
1998	4							
1999	4							
2000	4							
2001	25							
2002	25	26						75
2003	35	22						100
2004	61	24	15					100
2005	74	24	15		13			
2006	75	33						200
2007	84	37						
2008	100	50	12	35				
2009	150	50						
2010	100	32	25	36	0			193
2011	240	60	33	44	0			377
2012	160	45				52	23	747
2013	160	39	20	55		20		458
2014	286	40		40	11			582
2015	155	60						1121

*Beemer's Pond, 5 miles west of Webster City, IA Hamilton county

*Atlantic Quarry, 1 mile NW of Atlantic, IA Cass county
*Boock's Wetland, 4 miles North of Wheatland, IA Clinton county
*Laurie Severe Pond, 2 miles South of Nora Springs, IA Floyd county
*Mason City, 1 mile S of Mason City, IA Cerro Gordo county

Figure 3. Observation reports of Iowa-collared/banded Trumpeter Swans, 1995-2016.



OSPREY RESTORATION

Osprey, Pandion haleatus, 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.H. carolinenses and P.H. 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 increase. 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 until 2002. Personnel at the Hartman Reserve Nature Center and volunteers in Cedar Falls initiated a release at their facility in 1998. Staff of Boone County Conservation Board and Polk County Conservation Board with volunteers coordinated a release at Saylorville Reservoir in 2000. Boone Co. staff and volunteers began releases at Don Williams Lake in 2003. Wickiup Hill in Linn Co. and Clear Lake were added in 2004. 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 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.

2014

In 2014 there were 21 Osprey nest attempts with 15 successful nests produced 30 young. This year six Ospreys were brought to Iowa from Minnesota and released at two sites.

At Swan Lake in Carroll CCB staff with Kay Neumann and Saving Our Avian Resources placed three Ospreys. One was outfitted with a transmitter to provide information about migration and mortality.

At Clear Lake Ron Andrews and local staff at the Baptist Camp placed three Ospreys.

At Annett Nature Center, Warren CCB staff reported pair nest-building but did not proceed to nesting.

There were five wild nesting pairs at Lake Macbride. The site off Scales Bend Road produced two young. Staff was unable to read adult bands, if any. The site at Sugar Bottom had one young. The female was unbanded and the male was unconfirmed.
Another site at Lake Macbride came down and **no** young were reported. One of adults had a purple band.

There is a new nest near Solon High School parking lot. Another new nest has been established at Sand Lake, in Johnson County, but n**o** report of young.

At Jester Park in Polk County, no young were produced from the pair at campground #6.

A pair at Walnut Woods built a sizable nest in 2009 and produced three young.

A nest one mile east of Big Creek State Park was active. Two young were noted in August.

A nest on a cell phone tower SW of Jordan Creek Mall in eastern Dallas Co. fledged two. One and one half mile east of this tower at Jordan Creek Mall a pair of Ospreys carried sticks to a construction crane. There is interest to place a pole with a platform when crane leaves in September.

A nest at Camp Dodge near Saylorville Reservoir had two young.

At Don Williams lake in Boone County three pairs were reported in the area. Canada geese were occupying a previous nest site. A pair attempted to nest near the dam, but was unsuccessful.

In Cedar Falls, a pair returned to successfully nest upon an *IWireless* cell phone tower. One adult is band #A/T from White Rock 2006. The pair produced two young. A pair at Evansdale produced two young.

At Duane Arnold Plant a pair from Wickiup Hill in Linn Co. produced two young, and a second Linn Co. nest south of Palo fledged two young. A possible third nesting pair is in area.

At Spirit Lake, a pair nested near the Nature Center release site. Two young fledged. A nest at Lower Gar fledged two young.

There is a nesting pair just south of Sioux City near Sergeant Bluff in Woodbury Co. The Cell Tower pair produced two young according to Jerry Von Ehwegen. Also according to Rich Pope, there was pair at their farmsite south of Sloan in Monona Co. However a wind storm destroyed the young in the nest.

There is a new nest on a cell tower along US 20 at Independence in Buchanan Co. At least one young was produced.

In summary for 2014, 21 nesting pairs had 15 successful nest attempts with 30 young produced. Since 1997, 297 Ospreys have been released at twelve sites in Iowa. Since 2003, 164 wild Ospreys have been produced at 95 successful nests.

2015

In 2015 there were 22 Osprey nest attempts that we knew about with 18 successful nests produced 38 young. There are two pairs separate from release sites at Independence and Colfax.

This year four Ospreys were brought to Iowa from Minnesota. At Swan Lake in Carroll CCB staff with Kay Neumann and Saving Our Avian Resources placed four Ospreys.

At Annett Nature Center, Warren CCB staff reported pair nest-building but did not proceed to nesting.

There were four wild nesting pairs at Macbride. Site off Scales Bend Road produced two. Staff was unable to read adult bands, if any. Site at Sugar Bottom has one young. Female is unbanded and male is unconfirmed. Site at Lake Macbride came down and no young reported. One of adults has a purple band. New nest at Sand Lake no report of young.

At Jester Park in Polk CCB two young was produced from a pair at campground #6.

Pair at Walnut Woods built sizable nest in 2009 and produced three young.

A nest one mile east of Big Creek was active. Two young were noted in August.

Nest on cell phone tower SW of Jordan Creek Mall in eastern Dallas Co. fledged two.

Wells Fargo in West Des Moines had one young

A nest at Camp Dodge near Saylorville Reservoir had two young.

At Don Williams, Boone CCB reported three pairs in the area early. No nesting was noted on the Lake this year.

In Cedar Falls, a pair returned to successful nest site upon *iwireless* cell phone tower. One adult is AT from White Rock 2006. Pair produced two young.

Pair at Evansdale produced two young.

At Duane Arnold Plant pair from Wickiup Hill in Linn Co. produced two young.

A second Linn Co. nest south of Palo fledged three young.

At Spirit Lake a pair nested near Nature Center release site. Three young fledged.

Nest at Lower Gar fledged three young.

There is a nesting pair just south of Sioux City near Sergeant Bluff in Woodbury Co. Cell tower pair produced two young according to Jerry Von Ehwegen.

Also according to Rich Pope, there was pair at their farm site south of Sloan in Monona Co. This year two young fledged.

There is a new nest on cell tower along US 20 at Independence in Buchanan Co. At least two young was produced.

There is a new nesting pair at Colfax quarries. Two young were produced.

In summary 22 nesting pairs had 18 successful nest attempts with 36 young produced. Since 1997 301 Ospreys have been released at twelve sites. Since 2003, 200 wild Ospreys have been produced at 113 successful nests.

2016

In 2016 there were 24 Osprey nest attempts that we knew about with 22 successful nests produced 42 young. There are three pairs separate from release sites at Independence and Colfax.

This year five Ospreys were brought to Iowa from Minnesota. At Swan Lake in Carroll CCB staff with Kay Neumann and Saving Our Avian Resources placed three Ospreys. At Clear Lake three Ospreys were placed at Iowa Regular Baptist Camp NW Clear Lake. One of the young hatched in Iowa, was blown from cell tower near Palo, was rescued and released in Iowa.

There were four wild nesting pairs at Macbride. Site off Scales Bend Road produced two. Site at Sugar Bottom has one young. New nest at Sand Lake no report of young. North Liberty nest building 8/13/2015 outcome in 2016 has not been reported.

At Jester Park in Polk CCB the nest at campground #6 came down. It is believed this pair nested on cell tower between Saylorville and Big Creek along

hwy 415. Two young were seen in August.

Pair at Walnut Woods cell tower built sizable nest in 2009 and produced three young.

There is a new nesting pair on cell tower east of Walnut Woods on the hwy 5 by pass that fledged one young.

Nest one mile east of Big Creek on Cell tower was active. Two young were noted in August.

Wells Fargo in West Des Moines had three young

A nest at Camp Dodge cell tower near Saylorville Reservoir had two young.

At Easter Lake there is a new nesting pair on cell tower that fledged one young.

Nest on cell phone tower SW of Jordan Creek Mall in eastern Dallas Co. fledged two.

In Cedar Falls, a pair returned to successful nest site upon iWireless cell phone tower. One adult is AT from White Rock 2006. Pair produced one young.

Pair at Evansdale cell tower produced two young.

At Duane Arnold Plant pair from Wickiup Hill in Linn Co. produced two young on meterlogical tower .

A second Linn Co. nest south of Palo on cell tower fledged two young. One of these young was rescued by Sunnie Day. It was successfully released at Clear Lake.

At Spirit Lake a pair nested near the Nature Center release site. All three young perished in a storm.

Nest on cell tower at Lower Gar fledged two young.

There is a new pair at Okoboji High School at Milford where three young fledged.

There is a nesting pair just south of Sioux City near Sergeant Bluffs in Woodbury Co. Cell tower pair relocated to platform placed at Brown's Lake by Rick Schneider with Woodbury CCB. Two young were produced according to Jerry Von Ehwegen.

Also according to Rich Pope, there was pair at their farmsite cell tower south of Sloan in Monona Co. This year three young fledged.

There is a new nest on cell tower along US 20 at Independence in Buchanan Co. At least two young was produced.

There is a nesting pair at Colfax quarries. Three young were reported.

There is a second nesting pair at Colfax quarries. Two young was produced.

One of the nest sites separate from our release sites has been Colfax. A new nesting pair added to this site this year. Mid-American Energy removed sticks from a power line pole and erected a pole with a platform by their entrance to Quarry Springs Park. The new pair was successful in fledging two young.

In summary 24 nesting pairs had 22 successful nest attempts with 42 young produced. Since 1997 307 Ospreys have been released at twelve sites. Since 2003, 242 wild Ospreys have been produced at 135 successful nests.

2016 has provided incremental growth with our nesting Ospreys in Iowa. So far we have learned of four new nesting pairs. One in Dickinson County, one in Jasper County and two in Polk County. It is exciting to document seven nesting pairs this year in Polk County. Some of these birds originated at Red Rock Reservoir in Marion Co. and Lake Aquabi in Warren County.

Folks at those areas are patiently awaiting nesting Ospreys.

Another exciting nesting has increased Dickinson County's Ospreys. A nesting pair has been successful at the Okoboji High School in Milford. Charles Vigdal with Dickinson CCB and Tim Waltz with Iowa DNR have enjoyed seeing Dickinson County's ospreys increase to three nesting pairs this year.

Ospreys in Iowa 2016

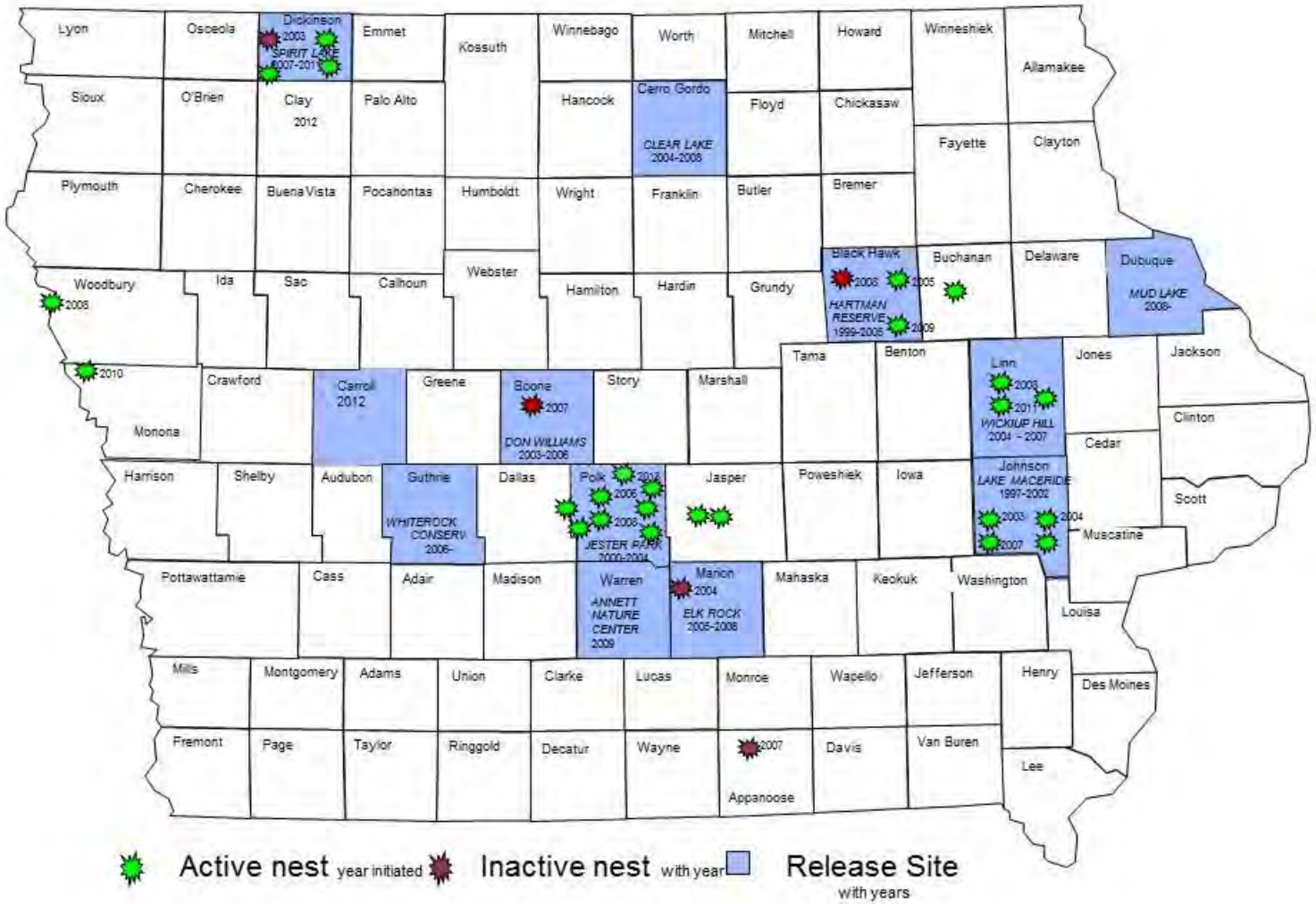


Figure 11.1 - Osprey released in Iowa

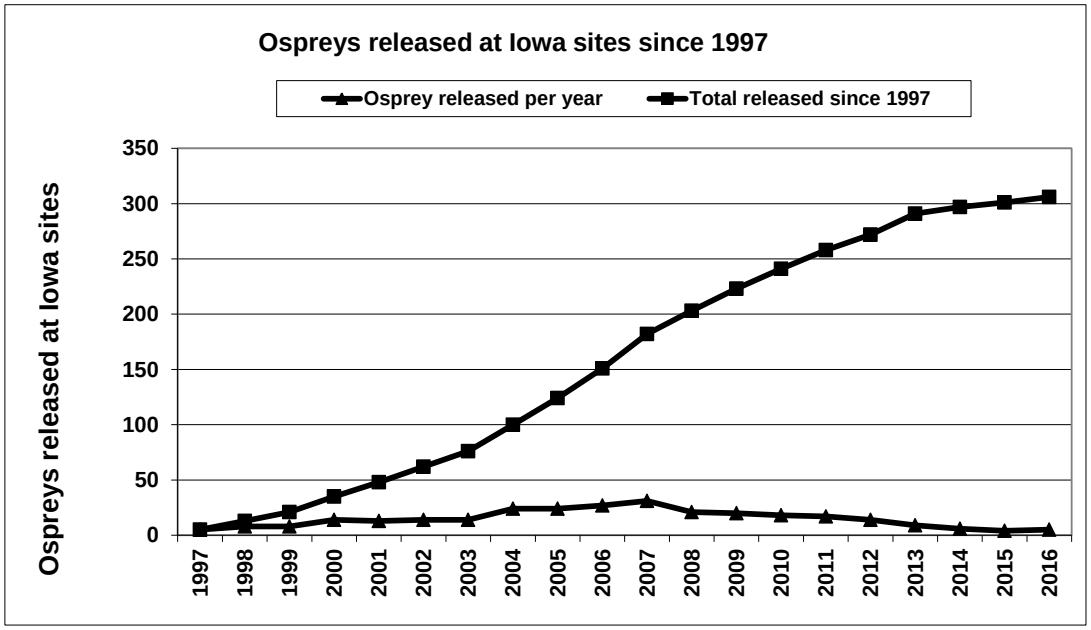
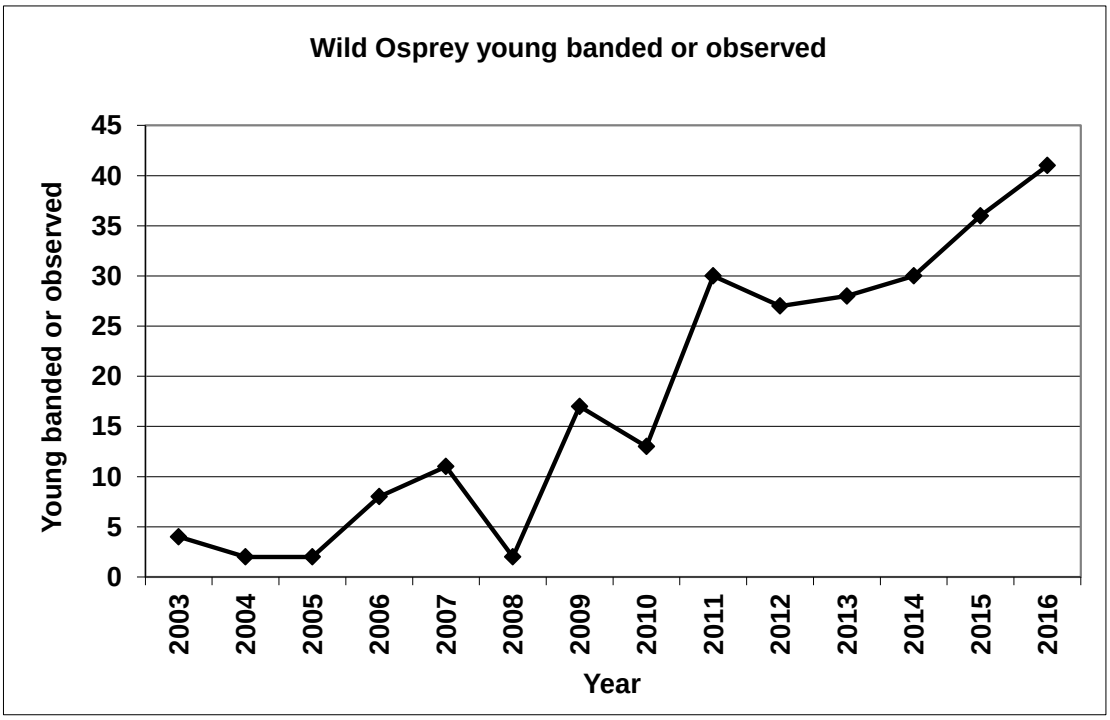


Figure 11.2 - Wild Osprey produced in Iowa



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 woodlands along 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). It appears that the last nest documented near the turn of the last 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.

MORE 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, 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 (Figure 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. Nest numbers climbed to 21 in 1992, to 43 in 1995, and to 84 in 1998 - the last year in which most Iowa nests were monitored closely. At that time, bald eagles had nested in 42 different counties.

The number of eagle pairs continued to grow, and by 2004, eagles had been reported nesting in 66 counties. Adams, Henry, Poweshiek, and Ringgold counties were the 2004 additions. During 2005, five more counties (Polk, Marshall, Story, Montgomery, and Kossuth) reported eagle nesting for the first time, bringing Iowa's eagle nesting county total to 71. Similarly, during 2006, six additional counties

(Dickinson, Franklin, Boone, O'Brien, Wapello, and Page) reported eagle nesting, and five new counties (Hancock, Harrison, Cedar, Greene, and Lee) reported eagle nests in 2007. In 2008, eagle nesting was confirmed in Davis and Pottawattamie counties, and in 2009, Cerro Gordo and Emmet counties reported their first eagle nesting. Bald eagle nests were reported for Clarke and Winnebago counties in 2010 and for Grundy, Wright, and Pocohontas counties in 2011. During 2012, an active nest was confirmed for Audubon County, and during 2013 confirmed nesting was documented in Madison, Crawford, and Shelby counties. There are now ninety-five counties with documented eagle nesting (Figure 15.1), and approximately 614 bald eagle territories have been reported to the Iowa DNR since 1977.

In 2012, reports were received for 307 territories, with 48 reported for the first time. Roughly 72% (222) of the territories were reported active in 2012, and 21% (65) were reported inactive. The remaining 20 territories were reported with unknown activity. Forty-seven percent (n=104) of the active territories reported in 2012 included data on the outcome of the nesting season. Fifteen (14%) of the 104 nests ended up failing, and 89 (86%) were successful in producing young. For the 98 territories for which we have a good count of fledglings, a total of 151 young were produced, which averages to 1.54 young produced per nest. If we extrapolate, assuming 86% of all nests reported as active are successful; this produces an estimate of 294 young fledged from Iowa nests in 2012.

The opportunistically reported data is important because it is the primary source of new nest reports and does provide a valuable yearly snapshot. However, the full dataset, including the opportunistic reports, may not be representative of the nesting population as a whole and is misleading when examining trends across years. The sentinel territory monitoring put into place in 2010 compensates for some of these full dataset weaknesses.

For 2012, the sample size of sentinel territories was 136. Monitors were found for 95 of these territories and data was received on 77 (81%) of these territories. This represents 23% of the known active territories (objective is to get data on 25%). Within the 77 territories, 61 were active (79%), 13 were inactive (17%), and 3 could not be found or had unknown activity. The outcome of the 61 active nests broke down as follows: 45 successful, 3 failed and 13 unknown. Seventy-one young were produced by the active nests: 3 nests fledged no young, 8 nests fledged 1 young, 27 nests fledged 2 young, and 3 nests fledged 3 young. The estimated number of young produced per nest was 1.48.

During 2013, reports were received for 347 territories, and 59 territories were reported on for the first time. Approximately 69% (241) of the territories were reported active in 2013, and 18% (63) were reported inactive. There were 43 territories for which the activity was unknown. Nesting outcome data was collected on 45% (109) of the territories reported as active. Eighty-six (79%) of those active nests successfully produced young, and it appears that 23 (21%) produced no young. A total of 148 young were produced, producing an average of 1.36 young per active nest. Extrapolating from the data collected, an assumption is made that 79% of all nests reported active will be successful. In other words 190 active nests would produce an estimated 258 young eagles fledged in 2013.

From 1977 through 2014, approximately 737 bald eagle territories have been reported to Iowa DNR. In 2014, reports were received for 349 territories, with 66 being reported for the first time. Approximately 61% (214) of the territories were reported active in 2014, and 24% (83) were reported inactive. There were 52 territories for which activity was unknown. Nesting outcome data was collected on 38% (82) of the territories reported as active. Seventy-three (89%) of those active nests successfully produced young, and it appears that 9 (11%) produced no young. A total of 132 young were

produced, indicating an average of 1.61 young per active nest. Extrapolating from the data collected, an assumption is made that 89% of all nests reported active will be successful. In other words, 190 active nests would produce an estimated 306 young eagles fledged in 2014. With an eagle nest confirmed for both Monroe and Union counties in 2014, the only county remaining with no eagle nests reported is Osceola.

During 2015, 76 new bald eagle territories were reported. This brings the total number of Iowa nesting territories reported to 813. With a nest report confirmed for Osceola County, bald eagle nests have been documented in all 99 Iowa counties (Figure 15.1), for the first time in recorded history. Allamakee County holds at least 141 territories, followed by Clayton County with 69. Following the 2015 nesting season, 427 bald eagle territories are considered active, based on the last three years' data. During 2015, reports were received for 410 territories. Approximately 62% of these were reported as active, 15% were reported as inactive, and 23% were reported with unknown activity (indicating the nest went unmonitored). For the 118 territories for which there was a good count on fledglings, a total of 183 young were produced (avg. = 1.55 young fledged per nest). Based on the fact that 88% of all monitored nests reported as active were successful and extrapolating that information for all eagle nests, potentially 349 young eagles fledged from Iowa nests in 2015. Projected eagle nest numbers (based on number of new nests reported each year and average nest increase rate since 1998 is shown in Figure 15.2 for 1999-2015.

Sentinel Territory Monitoring Data

For nesting year 2015, the sample size of sentinel territories was 161. Nine sentinel territories were retired from monitoring, since they were inactive for three years in-a-row; and a random sample of 40 additional nests were added to potentially be chosen for monitoring. Trained monitors were found for 102 territories and data was received on 85 (83%) of these territories. This represents 26% of the known active (non-Mississippi River) territories (objective is to monitor 25%). Within the 85 territories, 78 were active (92%), 7 were inactive (8%). The outcome of the 78 active nests broke down as follows: 53 successful, 7 failed, and 18 unknown. Eighty-eight young were produced in the active nests: 5 nests fledged no young, 20 nests fledged 1 young, 31 nests fledged 2 young, and 2 nests fledged 3 young. The estimated number of young produced per nest was 1.55. In addition, for the 52 nests monitored most closely, it appeared that 98% of chicks observed in nests reached fledging age.

The number of total bald eagle territories reported in 2015 was higher than previous years, the percentage of sentinel territories, reported as active, was very high (92%), and volunteers did an extraordinary job of determining the occupancy of every nest reported on. The bald eagle nesting population continues to steadily increase, and the number of young fledged per nest indicates a very robust breeding population.

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 since 1993 (Figure 15.3). An especially high count (2,493) during the winter of 2001 was related to harsh weather conditions and the subsequent concentration of eagles in count areas of the Mississippi River. Very mild winter conditions during surveys conducted in 2002 and 2003 were reflected in lower count numbers, which were still higher than any year prior to 2001. Cold winter weather again forced eagles south into Iowa during the next winter, and the 2004 survey results documented 4,432 bald eagles along Iowa's rivers; particularly along the Mississippi River.

Milder weather conditions during the January, 2005 survey resulted in eagles being more spread out, and a reduced total (from 2004 count) of 3,164 bald eagles was tallied. The mild winter weather trend continued for the January, 2006 survey, and only 2,592 bald eagles were counted within the state. Similar mild conditions occurred for the 2007 count, with 2,431 bald eagles tallied during January. In 2008, cold weather returned, and Iowa's January count found 3,913 bald eagles within Iowa borders. During the January 2009 survey, 2,534 eagles were counted, and 2,566 bald eagles were tallied during the January 2010 survey. A total of 3,674 Bald Eagles were counted in 2011, which is the highest number since 2008 (3,913).

The number of eagles counted in the 2012 Midwinter Survey was roughly the same as numbers from 2011. In 2012, a total of 3,232 bald eagles were counted; that total remained higher than the previous 10 year average of 2991. Iowa wintering eagle numbers were down again in 2013, when 2,759 bald eagles were tallied. In spite of decreased numbers of eagles counted during 2009, 2010, and 2013 surveys (perhaps partly due to variable weather conditions during surveys and large fluctuations in food resource availability), the overall population trend is upward. It is likely that the severe drought conditions, prevalent in late 2012, did affect the count, since low water conditions existed in most waterways in January 2013. As usual, the majority of eagles counted were associated with the Mississippi and Des Moines rivers.

A total of 4957 bald eagles were counted during January 2014 - the highest number of eagles counted in the history of the survey. This count was significantly above the 10 year survey average of 2991 eagles. The average number of birds counted per route was 97 (2.8 eagles per mile surveyed). The extremely cold winter caused a high percentage of ice cover on rivers, and subsequently about 85% of all eagles were counted along the Mississippi River, especially below the locks & dams where water was open.

As is typical with this mid-winter eagle survey, weather conditions that occur during the survey period affect the count outcome. While the 2014 survey count was an all-time high, only 2,375 bald eagles were counted during the 2015 survey (Fig. 15.3) – falling below the ten year average. Temperatures averaged above normal for both December 2014 and January 2015, producing widespread open water conditions and allowing eagles to winter away from the major rivers where eagle surveys occurred. Warmer weather conditions also allowed eagles to winter in states north of Iowa, resulting in fewer eagles in Iowa available to count.

For the second year in-a-row, Iowa's midwinter bald eagle survey count was down. In January 2016, numbers declined further from 2014, with a total count of 1,939 bald eagles. Once again, temperatures averaged above normal for both December 2015 and January 2016, producing widespread open water conditions and allowing eagles to winter away from the major rivers where the eagle surveys occurred. During December 2014, as much as four inches of rain fell in many areas of the state, which is highly unusual. Additionally, warmer weather conditions allowed eagles to winter in states north of Iowa (including Wisconsin and Minnesota), resulting in fewer eagles in Iowa available to count. The Des Moines River held 43% of all bald eagles counted, while the Mississippi River held only 26%. About 7% of the eagles were counted along the Skunk River, while the Maquoketa River watershed held 5.5%. The remainder of eagles counted were found throughout the state, along many different rivers.

DISCUSSION

Both nesting and winter survey data were used for evaluating the delisting of bald eagles in the United States. Such information was used to upgrade the bald eagle national status from Endangered to Threatened in 1995, and in August 2007, the bald eagle was removed from the Federal Endangered/Threatened Species list.

Iowa upgraded bald eagle from Endangered to Special Concern status in 2009.

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 one-third of all nesting eagles in the lower 48 states. There is little doubt that Iowa's eagle population has benefitted from its neighbor states to the north. 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. That phenomenon appears to hold true today, even though there are now about seven times the number of nesting eagles in the state.

An unanticipated factor that has helped bald eagle numbers recover is the species' 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. Currently, there are numerous nests located within several hundred yards of buildings, roads, and farm fields. The city of Des Moines, alone, holds at least six active eagle nesting territories. One nest along the Upper Iowa River in Howard County was only about 100 yards from the bedroom window of very interested eagle nest watchers. The nest was located on the opposite side of the river, which probably minimized the impact of human activity. 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 that affect eagle numbers. Unmanaged logging can pose a threat to eagles, and the removal of large, mature cottonwoods along Iowa streams limit where eagles can nest and find foraging perches. Logging in the vicinity of eagle nests also can affect the nesting outcome, especially if done during the nesting season. 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 a number of 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. Iowa's Wildlife Rehabilitators report that of the bald eagles received by rehabilitators and tested for presence of lead since January 2004, approximately 50% show elevated levels of lead. Since 1996, an average of 25% of the bald eagles admitted each year to The Raptor Center at the University of Minnesota have toxic levels of lead in their blood. Where the majority of this lead is coming from is yet to be fully determined. Iowa State University graduate student, Billy Reiter-Marolf completed his study that involved collecting eagle droppings at eagle nest and roost sites to determine if lead is present in breeding and wintering eagles. His study results indicated that lead did not appear to be affecting the larger eagle population, and Iowa's eagle nest monitoring efforts indicate its population is still growing.

Overall, bald eagle 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 2006, the U.S.F&WS estimated about 9,500 active nests in the lower 48 states. Iowa, which had no nests for over 70 years, in 2015 had approximately 400 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 35,000 and 45,000 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

Stephanie Shepherd, a DNR Wildlife Diversity Program Biologist, coordinates the effort to monitor both Iowa's nesting and wintering Bald Eagles and provided the data for this report. Our thanks to the many Iowans who continue to monitor our eagle nests, continue to help with winter eagle surveys, and provide information that better helps the different agencies protect and manage for this species.

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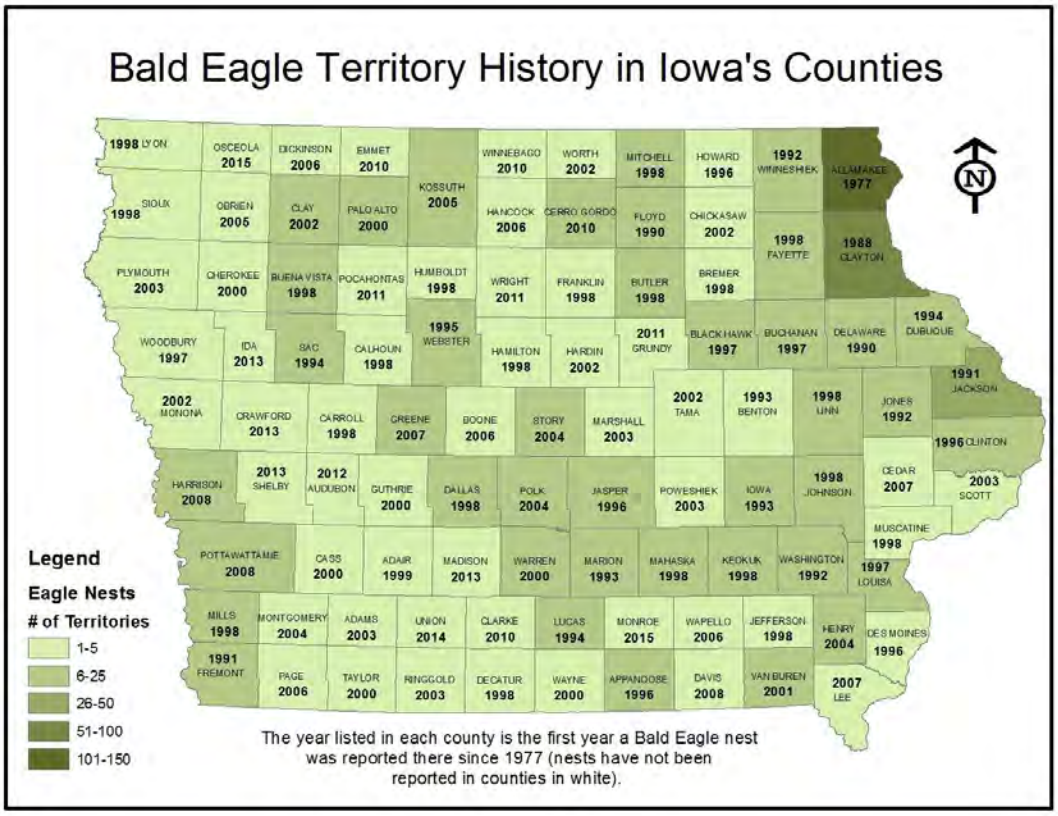


Figure 15.1 Bald Eagle Territory History in Iowa by County

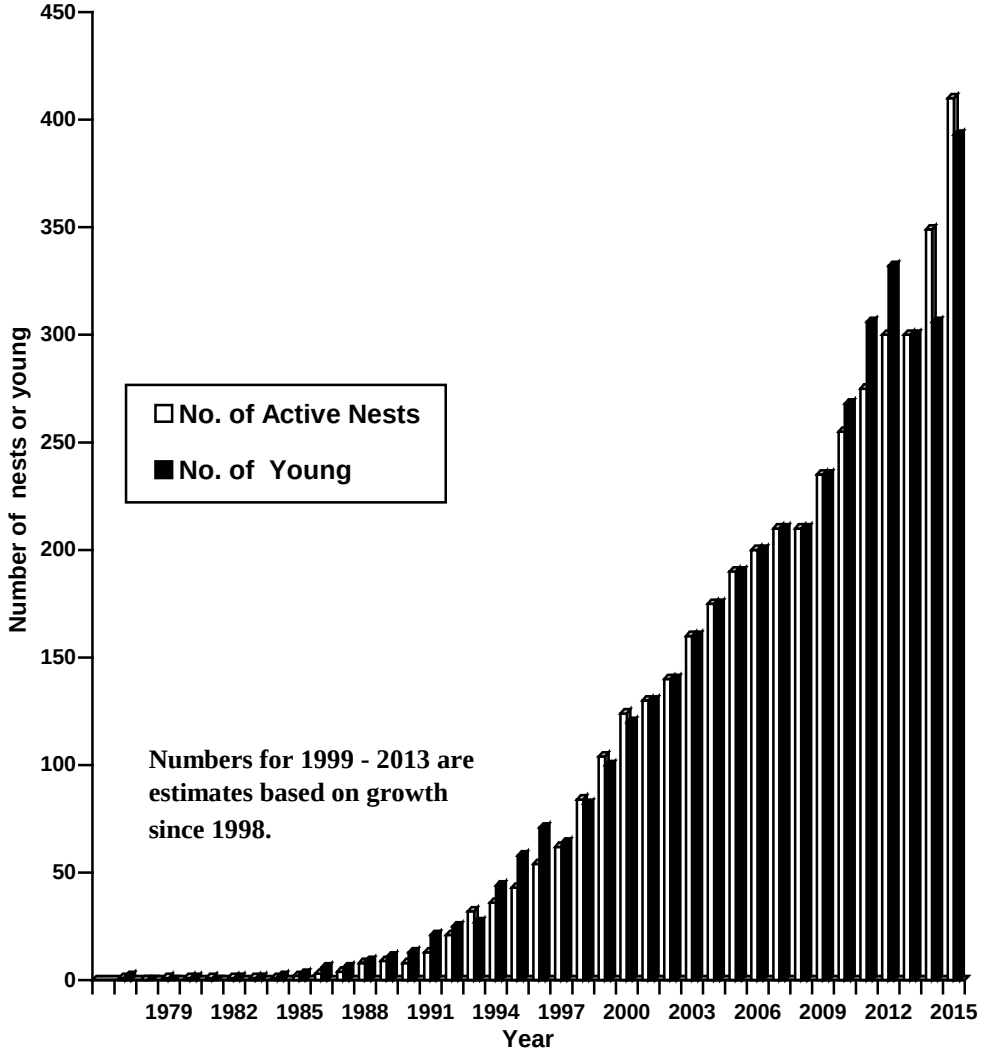


Figure 15.2. Number of Bald Eagle active nests and young produced in Iowa, 1977 through 2015.

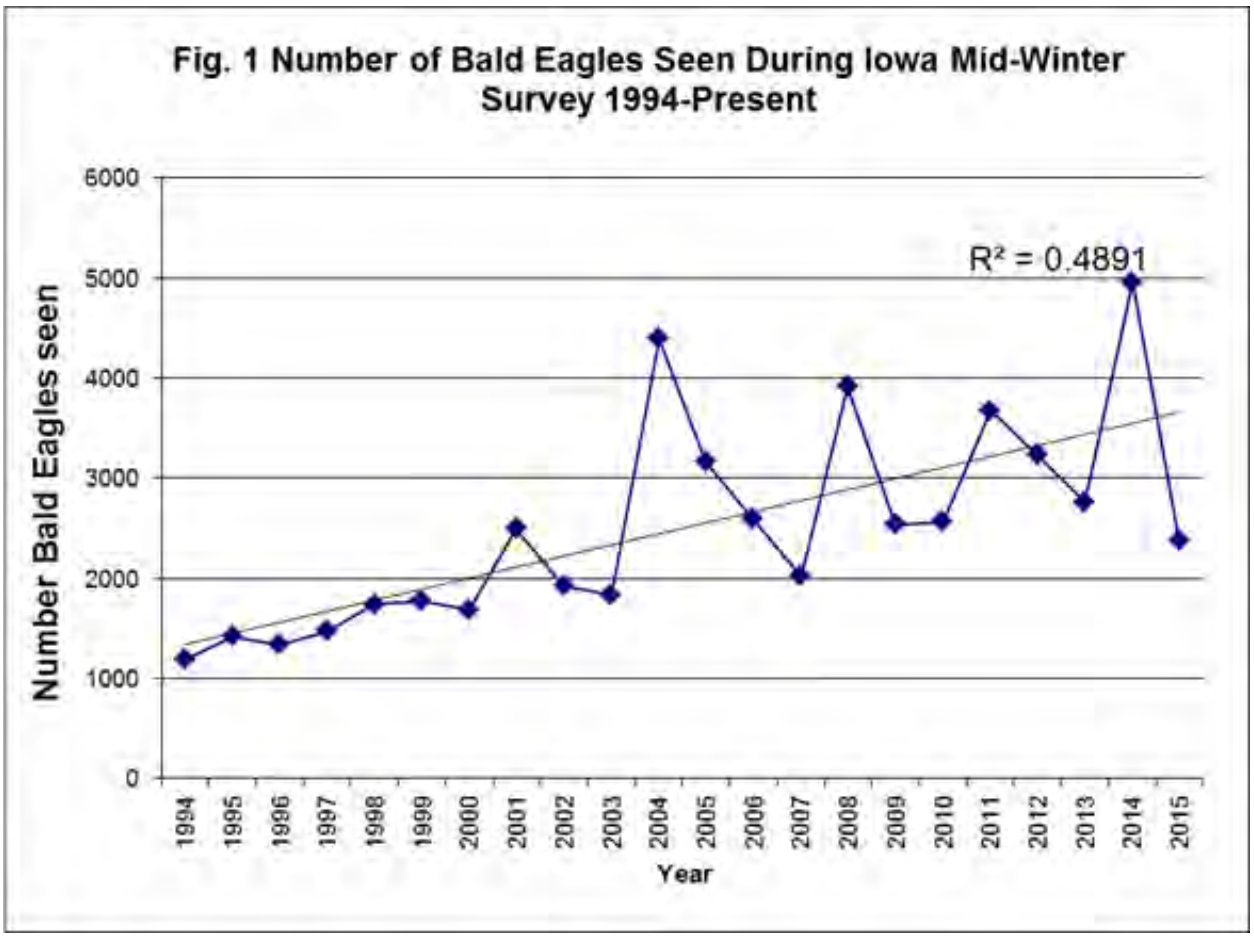


Fig. 1 Number of Bald Eagles Seen During Iowa Mid-Winter Survey 1994-Present
Number Bald Eagles seen
6000
5000
4000
3000
2000
1000
0
R² = 0.4891
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Year

Figure 15.3

MOUNTAIN LION/COUGAR STATUS IN IOWA
1995 – 2015

The mountain lion/cougar (or puma, panther, and various other names) is the largest of the three wildcats historically documented in Iowa. The lynx and the bobcat are the other two. The mountain lion/cougar probably occurred throughout most of the state originally, but nowhere in great numbers. The lynx has been extirpated and the bobcat is established in Iowa again after nearly being extirpated. The last historical record of a mountain lion/cougar in Iowa was one that was shot in 1867 in Appanoose County near the town of Cincinnati, Iowa.

Since the mid-1990's, the DNR has received several reports of large "cat" like sightings which led some to believe that a few "free ranging" mountain lions/cougars may again be occurring in some portions of the state. These "free ranging" mountain lions/cougars could be either escapees, or released animals, privately owned, (grandfathered in before July 1, 2007 legislation to curtail the ownership of certain "dangerous wild animals") or they are fully wild animals dispersing from western and southwestern states. Southeast South Dakota, eastern Nebraska, northeast Kansas, Missouri, as well as Minnesota, Wisconsin, and Illinois, have reported increased mountain lion/cougar sightings during the past 15 years.

Confirmed Mountain Lions in Iowa

Figure 1 is a map showing mountain lion sightings reported to the DNR that were confirmed or highly probable confirmations (1995 – 2015). Tracks and/or sightings reported to us throughout the year are documented as confirmed, highly probable or unconfirmed after investigating the evidence. This past year (2015), the Iowa DNR confirmed one mountain lion report, which was a track in Benton County (Table 1). So far in 2016, there have not been any confirmed reports of mountain lions in Iowa. However, we have had multiple unconfirmed reports especially in the Polk County area of Iowa. Table 2 shows the number of confirmed mountain lions in Iowa by year. The following methods have been used to confirm the presence of mountain lions in Iowa to date: roadkills, shot and killed, verified camera pictures, verified tracks, and sightings (Table 3).

It is important to note that an average of 2 to 4 sightings per week are reported to us in the Clear Lake office from locations all over the state. This does not count all of the reports other DNR staff receive in their regions throughout the state as well. Over 2,000 mountain lion sightings have been reported since 2010. However, strong evidence in the form of legitimate tracks, photos, video or other evidence is necessary before we can officially place them on our map as "confirmed".

It is very likely that we have the occasional mountain lion wandering through or staying in our state for a period of time, however we have not documented a self-sustaining breeding population of mountain lions in Iowa at this time. **THE IOWA DNR HAS NOT 'STOCKED' OR INTRODUCED MOUNTAIN LIONS INTO THE STATE NOR IS THERE ANY CONSIDERATION OF DOING SO.**

With the methods of deer hunting that take place in Iowa, one would expect to

get more reports of mountain lions during that time. Overall however, the 150,000+ deer hunters seldom report a sighting of a mountain lion during their hunting activities. We actually receive more reports of mountain lion sightings during the summer when wildlife cover is at its maximum than we do in the winter when it is at its minimum. It is an interesting trend and not exactly sure why.

DNA testing is used to determine the origin of mountain lions that are killed in Iowa whenever possible. The origin of the 4 dead mountain lions have been completed and results indicate that they are of North American origin. Results from that testing have shown strong indications that it matched DNA common to cats from the Black Hills region of South Dakota and parts of Nebraska. There are some indications the only legal source of captive mountain lions/cougars should be of South American origin, although more study is necessary before that theory can be substantiated or discounted.

Currently the mountain lion has no legal status in the Iowa Code, thus they are not given any sort of protection by Iowa Law. Although the DNR does not advocate the indiscriminate killing of mountain lions, the few mountain lions that do wander into Iowa are often shot. The DNR requested that the 2002 legislative session consider legislation to designate the mountain lion and the black bear as furbearers, thus allowing the DNR to properly manage these species, should their numbers increase. The DNR also requested that indiscriminate killing of these animals not be allowed unless they are about to cause damage or injury to property or persons. The legislation did not pass. Afterward, the Governor's office asked the DNR to not pursue mountain lion/cougar and black bear furbearer status in the Iowa Code in 2006, 2007, and 2008.

Depredation: This past year, we had some cases of livestock damage/depredation but none were positively confirmed as mountain lion.
In almost all cases, it was from dogs or self-inflicted injuries on fences or gates around the stock pens or pastures. We also had a few unconfirmed reports of deer kills by mountain lions.
Whenever possible, DNR staff made an effort to examine the evidence left at the scene before trying to say for sure what the predator might have been. Most depredation cases in Iowa are from canines (dogs or coyotes). It is possible for a mountain lion to attack/ depredate livestock, however again, we did not have any documented cases in Iowa in 2015 where we could determine for sure whether a mountain lion caused livestock damage. However, mountain lion research shows that white-tailed deer and other wild animals, especially mammals, are the preferred prey. Even so, predators are generally opportunists and if hungry they will take what is readily available.

In 2013 we had at least 3 reports (1 in Jasper, 1 in Allamakee, and 1 in Palo Alto County) from people who believe that they had seen mountain lion kittens.
In 2014 and 2015, we didn't have any reports of mountain lion kittens. At this point most DNR personnel are skeptical of those reports because of a lack of evidence whenever an area is investigated. All mountain lions that have been killed in Iowa in recent years have all been reproductively immature 1 to 2 year old males, except for one mature male (4 yrs old). To date, we do not have a documented breeding population of mountain lions in Iowa. As of summer 2016, it should be noted

that a mature female mountain lion currently has a territory in the far eastern part of Nebraska, across the Missouri River from Iowa.

Credible mountain lion sightings and tracks are important to the Iowa DNR. Two excellent websites to help with mountain track identification are http://www.bear-racker.com/cougar.html and http://www.geocities.com/Yosemite/9152/cougar.html. It is important to remember that all cat tracks are round in shape; with 4 toes and a heel pad that has 3 posterior lobes and a less than prominent M shape on the forepart of the heel pad (Figure 2). Adult mountain lion/cougar tracks are 4 inches or larger in diameter, whereas bobcat tracks are nearer to the 2 ½ to 3 inch range in diameter. All cats have retractable claws, thus the tracks they leave often show no claw marks except in unusual circumstances. When possible, good plaster casts or cell phone photos of suspected tracks will aid greatly in their identification. We will continue to monitor and map reliable sightings, but because there are still many mountain lion/cougar sightings that are reported with poor quality photos or video and so few tracks found, they are difficult to substantiate.

SAFETY ISSUES:

The good news is that lions generally avoid humans. People are more apt to be killed by a dog or struck by lightning than attacked by a mountain lion/cougar.

Some safety do's and don'ts can be found at the Mountain Lion Foundation website, www.mountainlion.org.

Also the Eastern Cougar Network is a source of Mountain lion/cougar information. Their website is mdowling@courgarnet.org.

Here are some suggestions on what to do in the remote chance you have a mountain lion/cougar encounter:

(1) Spread your jacket, coat or shirt above you head attempt to look larger.

(2) Hold your ground, wave, shout and don't run, as running stimulates the predator reflex (just like dogs) to pursue anything that runs away.

(3) Maintain eye contact if you sight a lion. Lions prefer to attack from ambush and count on the element of surprise

(4) If small children are present, or if there are several people in your group, gather everyone very close together. Mountain lions are not predators of large groups.

In the past 110 years 66 people have been attacked by mountain lions/cougars, resulting in 61 injuries, 19 of which were fatal, and none occurred in Iowa. In 2010, the DNR published a 4 fold brochure on the Status of Mountain Lions/Cougars in Iowa for the State Fair. The brochure is available on the Iowa DNR website and we send it out whenever needed to interested individuals or the media. This brochure is updated annually.

Since the first modern reports of mountain lion/cougars sightings began to increase significantly in 2001, Ron Andrews (previous Iowa DNR Furbearer Biologist, now retired 2011) gave well over 250 public informational meetings statewide regarding the status of mountain lions/cougars in Iowa and the Midwest. This was done to educate the public about Mountain Lions and help with their concerns. More mountain lion information is being put on the dnr's website and outreach efforts continue. It's important to the Iowa DNR to work with the public on this topic.

Table 1. Confirmed Mountain Lions in Iowa (2001 – 2015).

February	2004	Tracks	Lucas
November	2004	Sighting	Woodbury
November	2004	Trail Camera Pictures	Marshall
December	2004	Sighting	Scott
December	2009	Shot	Iowa
September	2011	Trail Camera Pictures	Clinton
October	2012	Shot	Polk
October	2013	Trail Camera Pictures	Warren
December	2013	Shot	Sioux
July	2014	Tracks	Grundy
October	2014	Trail Camera Pictures	Tama
March	2015	Tracks	Benton

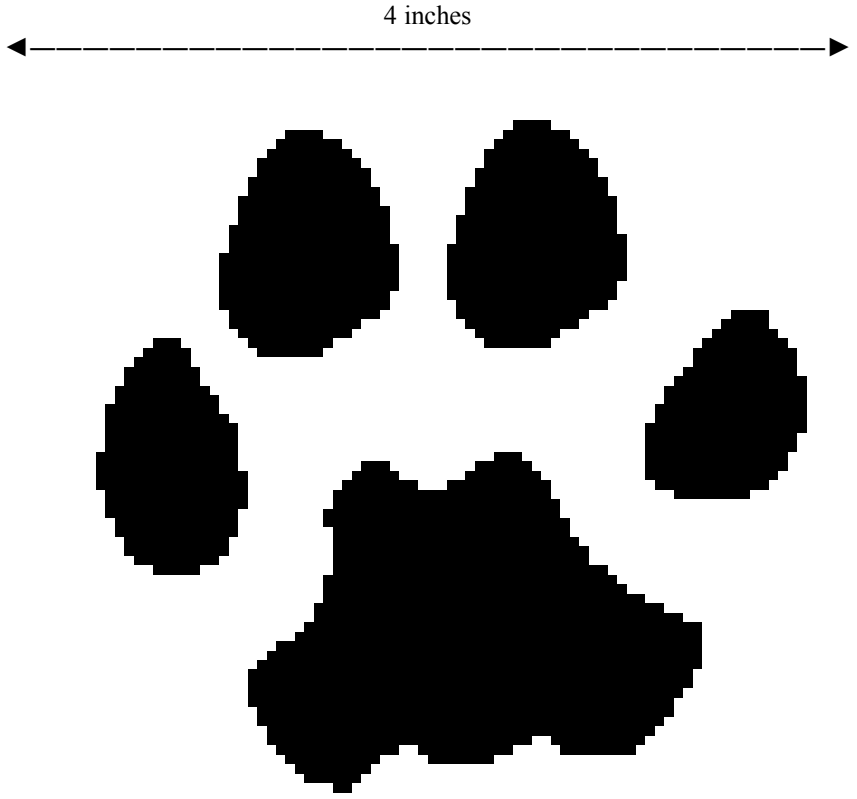
Table 2. Confirmed Mountain Lions in Iowa by year (1995 – 2015).

1995	1
2001	5
2003	2
2004	5
2009	1
2011	1
2012	1
2013	2
2014	2
2015	1
Total	**21**

Table 3. Method of confirmation for Mountain Lions in Iowa (1995 – 2015).

Confirmation Method	No. of Mountain Lions
Sightings	4
Tracks	5
Pictures	5
Shot	5
Roadkills	2
Total	**21**

Figure 2. Typical Mountain Lion track.



BLACK BEAR STATUS IN IOWA
2001 to Present

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, black bear numbers declined rapidly in many areas and 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 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, harass and kill livestock, and because they were valuable both as food and for their hides. Several black bear 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 48 Iowa counties, two-thirds of them from counties in the eastern half of Iowa. The last recorded historical bear sighting in the 1800s was one killed near Spirit Lake in 1876. Although a Fish Commission had been established in 1873 nothing really happened in terms of Game/Wildlife legislation until after the last black bear had disappeared. Thus they are not recognized as a designated wildlife species in the Iowa Code. In the 1960s, black bear reports began to occur in the state. Several of these reports were from captive bears that were either turned loose or were escapees. In the 1990s through the present, we began to field more reports of what appeared to be wild free ranging black bears in the state. Currently, the nearest established wild populations of black bears are in Wisconsin, Minnesota, and central/southern Missouri. These populations are expanding their range towards Iowa from both the north and south. Figure 1 shows the most recent sightings of bears in Iowa – including those in 2015. Many of those confirmed reports are occurring in northeast/eastern Iowa. During 2002 alone, there were at least 5 different fairly reliable black bear sightings. In 2003 and 2004, no reliable sightings were reported. However during the spring and summer of 2005, the Iowa DNR received its first modern day black bear depredation complaint. In Allamakee County, a black bear reportedly was marauding several beehives in a few scattered locations foraging on both the bees and the honey. In 2008, 5 black bear sightings occurred, 1 in each of the following counties: Davis, Johnson, Winneshiek, as well as one shot in both Franklin and Fremont counties a week apart. Although not validated, the circumstantial evidence seems to indicate the one shot in Franklin County may have been and escaped or released bear while the one in Fremont County appears to be wild as it had been seen in Missouri, just days before it was killed just across the border from where it was last seen in Missouri.

In July (2009), a male black bear entered the northeast part of the state and paralled the eastern Iowa border south before crossing the Mississippi returning to Wisconsin. This bear crossed the Mississippi River near Harpers Ferry in Allamakee County moved westward then south and basically paralleled the river southward to near Clinton. Then it crossed the Mississippi River near Green Island, Iowa back into Wisconsin then northward to Baraboo, Wisconsin where

it became impossible to keep track of it because it had no specific markings.

During May of 2010, there was a reliable report of an adult black bear and a yearling spotted just west of Marquette, IA (Clayton County) feeding at bird feeders. In late May, 2010, a smaller bear, probably a yearling, was witnessed in northwest Mitchell County near Carpenter, IA. In early June, a bear was seen north of Northwood (Worth County) near the Iowa/Minnesota border. Observations of this bear were also reported in southern Minnesota. It would seem unlikely that this bear was the same one reported near Marquette as it was not reported at any point between and in Iowa that would be unusual as there is so much open territory to see the bear. All indications are that these were wild, free ranging bears, not bears released or escaped from captivity.

In October 2010 a black bear was sighted in and around the Yellow River Forest in Allamakee County. This prompted the Iowa Department of Natural Resources to issue a warning for people to avoid the animal at that time. This bear is likely a young male that moved into Iowa from southern Wisconsin where there is a healthy wild bear population.

In September 2011, a black bear was sighted in Winneshiek County. Again, this is likely to be a wandering bear from southeast Minnesota or southwest Wisconsin. A few unconfirmed reports came from Mitchell County along the upper Cedar River as well.

In May through June 2012, a black bear was sighted multiple times in northeast Iowa. From field reports, it seemed to make a loop through the following counties: Winneshiek, Fayette, Chickasaw, Mitchell, Howard, and back to Winneshiek where it was last seen moving in a northerly direction. No further confirmed reports came to us after that possibly indicating it moved back into southeast Minnesota. Further reports of black bear sightings occurred there through the summer 2012.

In 2013, there were no confirmed reports of black bears in Iowa.

In 2014, there have been at least 3 separate reports of black bears in Iowa. In late May, one adult bear was sighted twice in Winneshiek County three to five miles east of Decorah. In June and July scat and a trail camera photos were observed eight to ten miles east of Decorah in Allamakee County – likely the same bear. In July and October, another bear was observed with trail camera photos in Fayette/Clayton counties, and a third bear was reported in Ringgold county. The bear seen in the Fayette/Clayton county area was reported to have two cubs with it, but the DNR hasn't been able to confirm this. This bear(s) is has also raided beehives causing extensive damage to the bee owner's hives.

In 2015, there were at least 3 - 4 black bears reported several times as they moved around northeast Iowa – 2 of which were killed. The following is a summary of reported bears.

- 3/14/15 small bear reported near Marquette (Clayton Co)
- 5/2/15 decent sized (6 ft long) male bear found dead by mushroom hunters (Fayette/Clayton Co border). Probably one of the honey bee raiders from previous year.
- 5/25/15 Confirmed several reports of bear(s) in Dubuque area

- 6/5/15 Two confirmed bear reports today. One near Jesup and the other between Colesburg and Edgewood. Likely one or both bears seen in Dubuque area.
- 6/7/15 Confirmed bear reported in Cedar Falls (Black Hawk Co) area
- 6/10/15 Two confirmed bears reported - one in Delaware Co, one in Black Hawk Co
- 6/12/15 Confirmed bear reported in Rockford, then Rockwell (Cerro Gordo Co),
- 6/13/15 confirmed bear south of Osage (Mitchell Co).
- 6/14/15 Confirmed roadkill bear (subadult male) on Hwy 20 east of Jesup.
- 6/16/15 confirmed bear reported in Chester, IA/Lyle, MN area
- 6/22/15 (Unconfirmed) two bears together reported in Worth Co, near Worth Co Lake – no other reports on these two bears

In 2016, at least one bear, likely two, were again confirmed in northeast Iowa. One was reported in Winneshiek County and a second bear reported in the Allamakee/Clayton County area. That bear is believed (from reports) to have travelled around the area until it was struck by a truck and killed on Hwy 76. This animal was taken to a taxidermy shop and will be on display at the Allamakee County Nature Center.

Black bear sightings are usually more reliable than mountain lion/cougar sightings because they are very distinct in appearance and do not necessarily flee when sighted. Also bear tracks are very distinct, and they are not readily mistaken for other animals. Black bears, like mountain lions/cougars, have no legal status in Iowa. That means they aren't protected. The DNR continues to consider legislation to give both species legal furbearer status in the Iowa Code. The Governor's office has discouraged the DNR from pursuing legal status of the black bear and mountain lion/cougar because of bio-political conflicts between agriculture and these two wildlife species.

Proposed legislation was introduced for designation status for the black bear, but it did not get debated during the 2006 and 2007 legislative sessions. However the public outcry over the 2 black bears shot in mid 2008 point out that much of the public is in favor of some type of legal black bear status. The effort to give them furbearer status needs to be pursued in the future. This would allow appropriate wildlife management to occur which would include opportunities to handle nuisance black bear complaints.

Regardless of legislation, development of a more uniform and standard policy concerning bear sightings in Iowa may be warranted. A lot of emotion is generated when one of these bears are killed. Where possible, we should discourage the indiscriminant killing of black bears unless there are concerns for human, pets, or livestock safety. Bears are omnivores, primarily vegetarians, foraging on seeds, fruits, berries and other plant material but given the hunger and need they will feed upon animals as well. Human tolerance will be the deciding factor as to whether black bears would ever re-establish a breeding population again in Iowa. If they do, their numbers would likely remain quite small.

GRAY WOLF (TIMBER WOLF) STATUS IN IOWA 2001 to Present

Two large wolf-like mammals were frequently encountered by early settlers in Iowa. While Iowa was still part of the Louisiana Territory, in the early 1800s the very first piece of wildlife legislation was that to encourage killing wolves. Much of the legislation centered on bounties. There are no known specimens preserved in museums from the state. Historians usually did not distinguish between the gray (timber) wolf, *Canis lupus* and the coyote, *Canis latrans* often called the "prairie wolf." Both species were greatly persecuted and until very recently, only the coyote remains and thrives in the state.

Two different subspecies of gray wolf occurred in Iowa. The Great Plains wolf (a name that causes considerable confusion because the coyote which was often given a similar name, the prairie wolf), was found over the western two-thirds of the state. The Great Plains Wolf followed the bison herds, feeding on the stragglers from the herd as well as other prey (Dinsmore, 1994). The other subspecies was the gray (timber) wolf found primarily in eastern Iowa, especially in the wooded northeastern corner of the state. Gray wolves were likely extirpated by the late 1800s. Bowles (1971) regards the last valid wolf record to be from Butler County in the winter of 1884-85. A timber wolf taken in Shelby County in 1925 appeared to be wild, but it also could have escaped from captivity before being shot. Gray wolves often fed on the domestic animals that settlers brought to Iowa, and there are numerous reports of them killing chickens, pigs, calves, and sheep in Iowa. Gray wolves were fully protected in all the 48 states in August of 1974 under the Endangered Species Act (ESA) of 1973.

Great Lakes Population of Gray Wolves

In 1978, they were reclassified (down-listed) from endangered to threatened under the ESA in Minnesota. The US Department of Interior's Fish and Wildlife Service administers the ESA. The Fish and Wildlife Service is working to allow more state rights' management of gray wolves and other resident species. Taking the gray wolf off the endangered/threatened list has continued to generate considerable controversy between wildlife professionals and animal rights' activists. Public review and input of this effort continues.

Both Minnesota and Wisconsin were allowed to move forward with their first modern day wolf harvest season that first took place in the Fall/Winter 2012.

On Feb 20, 2015 the Great Lakes Gray Wolf population was again put back on the Endangered Species List due to a court order.

Rocky Mountain Population of Gray Wolves

The Rocky Mountain wolf population was delisted from threatened on July 18, 2008 which allowed them to be legally harvested with approved state management plans, however an injunction by animal rights activists placed them back on the Threatened List which in essence gave them protection again. Court disputes between activist groups, ranchers, and government agencies continued for the next few years. The Rocky Moutain was officially delisted from Endangered and Threatened Status on March 6, 2009.

The back and forth between federal protection or delisting has continued since. However, many western states now allow wolves to be readily killed if there is concern for the welfare of livestock. Numerous animals have, in fact, been taken since this occurred.

Gray Wolf Status in Iowa

Unlike the mountain lion and the black bear, the gray (timber) wolf is designated as a furbearer with state protected status under the Iowa Code. Gray wolves likely have protection status because they were not clearly separated from the coyote in early bounty legislation, while Mountain Lions and Black Bear had basically been extirpated before any wildlife legislation occurred. Thus wolves are listed as a furbearer under Iowa code and are protected by state law. We currently have a closed season but a gray wolf could be killed if it was causing livestock damage. With the Great Lakes population of gray wolves again listed as threatened and endangered by the US Fish and Wildlife Service, they also have federal protection status in Iowa.

Beginning in the mid-1990s, a few wolves were appearing in west-central Wisconsin and southeast Minnesota which is approximately 75 miles from the Iowa border. It's very likely major river corridors, especially the Mississippi River, in this tri-state region (MN, WI, IA) serve as travel corridors for wolves. Because this Driftless region is relatively rugged there is some habitat available that is conducive to wolves. It's not likely that wolves will visit Iowa often, nor in high numbers, however it is entirely likely for the occasional wolf to come down into Iowa from Minnesota or Wisconsin (Figure 1).

In October of 2000, a radio collared wolf from Michigan was shot and killed near Kirksville, Missouri. This animal traveled over 600 miles (Straight line from where it was radio collared to where it was killed) and could have actually moved through a portion of Iowa before being killed in Missouri. Kirksville is located about 50 miles south of Bloomfield, IA.

On November 15, 2002, a wolf was shot in Houston County, Minnesota which is adjacent to Allamakee County, Iowa; the northeastern most county of Iowa. Two known wolf-like animals were taken in 2010 in Sioux and Guthrie County.

Wolves are very mobile animals and as they extend their range southward more will likely frequent Iowa. The distribution of gray wolves in Wisconsin and Minnesota's is being actively documented (Figure 2). Indications from both states, especially Wisconsin, are of some trends in wolves colonizing in a southward direction in recent years.

During 2009 through 2012, a few reports have come from people seeing what they believed were gray wolves in Iowa on a more frequent basis. For example, one (unconfirmed) report was in Jefferson County in July 2012.

2013

There were no confirmed reports of wolves in Iowa for 2013. However, there were some additional reports to the Iowa DNR that weren't able to be confirmed. Missouri and Illinois both reported 2 – 4 documented wolves in their states in 2013.

2014

In 2014, the Iowa DNR was able to confirm that two female wolves were shot and killed. One was shot in

February in Buchanan County, the second was shot in Jones County. Both weighed close to 70 pounds and neither showed indications that they had welped. It is likely they were both 2 year olds based on tooth wear, body size, and other features. DNA evidence on one wolf indicated it matched somewhat with the Great Lakes population of wolves. It is likely both of these wolves travelled on their own into Iowa from MN, WI, or MI. Missouri also reported a female gray wolf was shot in the south eastern part of the state in January 2014.

2015

There were three separate, confirmed reports of gray wolves in Iowa. One wolf was confirmed in February via trail camera in Jackson County. A second gray wolf was shot by coyote hunters in December in Osceola County. This wolf was a male that weighed approximately 99 lbs and tooth aged at 1+ yrs old, meaning this wolf was about 18 mos old. The third wolf was shot in Van Buren Couty by a deer muzzleloader hunter. This wolf was a male that weighed approxitmately 103 lbs and tooth aged at 1+ yrs old also. It is likely all three wolves dispersed from the Great Lakes states of MN, WI, or MI. However, DNA testing could not confirm this for sure.

It is possible that we may continue to have a roving wolf move into or through our state on rare occasion, but it's important to understand that we don't have a breeding population at this time. Time will tell whether or not a breeding population of gray wolves will become established in Iowa. Because gray wolves, at a distance can be readily mistaken for coyotes or in some cases dogs, many reports will likely be cases of mistaken identity. Modern day coyote hunters should take extra care to identify their target before shooting because it's now possible (although the chances are small), that it could be a gray wolf.

Table 1. Public reports of wolf sightings in Iowa by year (2012 – 2014).

Year	Confirmed Wolf Sightings	Unconfirmed Wolf Sightings
2012	0	2
2013	0	1
2014	2	4
2015	3	1
Total	**5**	**8**

A few unconfirmed wolves were reported for the years (1938 – 2012). Unconfirmed wolf sightings began being documented better in 2012 as shown in the table above.

APPENDICES

1. 2015 Bowhunter Observation Survey

2015 Bowhunter Observation Survey
Iowa Department of Natural Resources

Andrew S. Norton, Ph.D., Biometrician, Iowa DNR
William R. Clark, Ph.D., Professor Emeritus, Iowa State University

The Iowa Department of Natural Resources (DNR) solicited responses from bow hunters for the annual Bowhunter Observation Survey conducted from October 1 to December 4, 2015. This was the twelfth year of the survey, which was designed jointly with William R. Clark, emeritus Professor at Iowa State University. The two primary objectives for this survey are to: 1) provide an independent supplement to other deer data collected by the DNR; and 2) develop a long-term database of selected species data for monitoring and evaluating relative species abundance. Bowhunters are a logical choice for observational-type surveys because the methods used while bowhunting deer are also ideal for viewing most wildlife species in their natural environment. In addition, bowhunters typically spend a large amount of time in bow stands: more than 40 hours/season is not uncommon. We believe avid bowhunters (defined as those purchasing a license three years in a row prior to the survey year) are the best hunters to select for participation in this survey because they not only hunt often, but they also have the most experience in selecting good stand locations, controlling or masking human scent, using camouflage, identifying animals correctly, and returning surveys.

Participants for the 2015 survey were selected either from a core list of avid bowhunters that indicated interest in the survey from 2010, or from a list of avid bowhunters who had purchased a license for each of the 3 years prior to 2015. Our goal was to select approximately 999 bowhunters in each of Iowa's 9 climate regions. Each climate region contains approximately 11 counties, and approximately 91 bowhunters were selected per county in an effort to evenly distribute observations in each region. Selection of participants consisted of a 3-step process. In each county, participants were first randomly selected from a core group of avid bowhunters who had previously indicated an interest in participating in this survey. If fewer than 91 core group participants existed in a county, additional participants were randomly selected from a separate list of avid bowhunters who were not in the core group. Finally, if the number of "core group" and "randomly selected" participants in a county was less than 91, additional avid hunters were selected from other counties in the region to reach the regional goal of 999 participants. A total statewide sample of 8,991 bowhunters was selected for participation. Of surveys mailed, 143 were either returned due to USPS address issues or hunters indicated they did not hunt this year, making the final statewide sample 8,848.

Responses were obtained from 1,323 bowhunters who recorded their observations during 17,915 hunting trips, yielding 59,890 hours of total observation time (3.34 ± 0.068 hours/trip; mean ± 95% CL). Bowhunters reported a median of 12 trips during the 67-day season. Regionally, the number of bow hunting trips (and hours hunted) ranged from 1,120 (3,544 hours) in northwest Iowa (Region 1) to 3,031 (9,584 hours) in northeast Iowa (Region 3). The raw survey response rate was 15.0%.

Observations were standardized for each of the 12 species to reflect the number of observations per 1,000 hours hunted in each of the 9 regions. In addition, 95% confidence limits were calculated for each estimate. Precision among estimates for common species, such as deer, wild turkeys, and raccoons, was suitable: confidence limits were generally within ±30% of the mean estimate. However, for less common species, such as badgers, bobcats, gray fox, and otters, precision was very low and there was considerable uncertainty in the mean estimate.

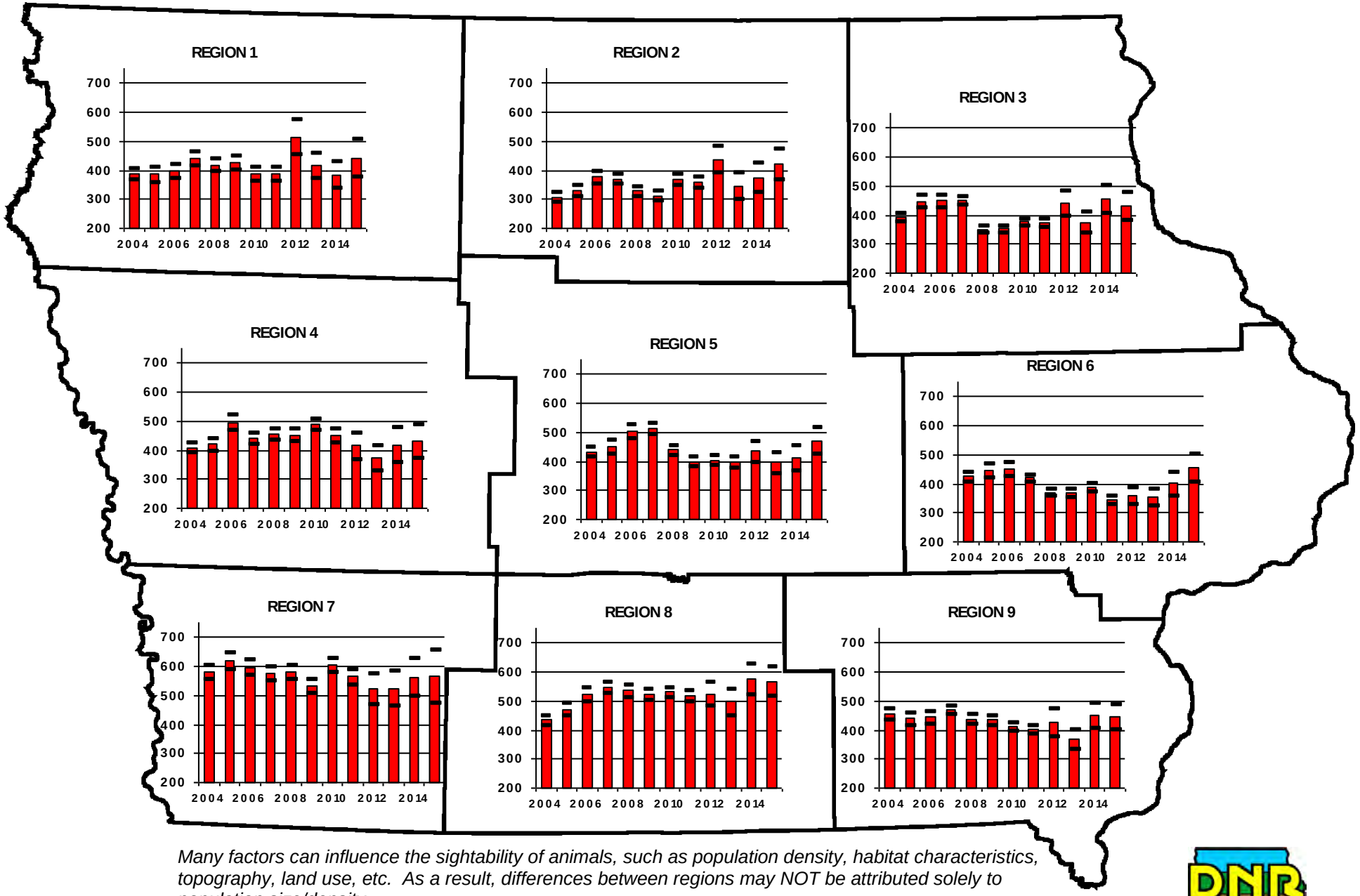
A comparison of results from 2005 to 2015 suggests that the number of total deer observed/1,000 hours has decreased or stayed the same across all nine regions of Iowa, except for region 2 where an increasing trend was observed. Turkey observations from 2005 to 2015 generally decreased across regions 4, 6, 7, 8, and 9, and increased or stayed the same for regions 1, 2, 3, and 5. Bobcat observations/1,000 hours remain very low in regions 2 and 3, while regions 7, 8, and 9 appear to have a consistent observation rate with previous years. Although observation rates were relatively low, it appears the bobcat range expanded northward from 2004 to 2015.

We at the DNR thank all participants in the 2015 Bowhunter Observation Survey. The volume of information provided by bowhunters could never be duplicated by the staff of biologists, technicians, and conservation officers in the Iowa DNR. Iowa's bowhunters are the best group of hunters to provide this observational information, and their participation in this survey plays a critical role in the conservation of these and other wildlife species for the future.

Any differences in observation rates between regions could be related to differences in many factors such as population size, habitat, topography, land use, or any other factor affecting the sightability of animals. For example, deer densities are likely greater in the southeast and northeast regions of Iowa, however, regional differences from the bowhunter survey do not reflect a similar trend.

Antlered Deer Observations Per 1,000 Hours Hunted

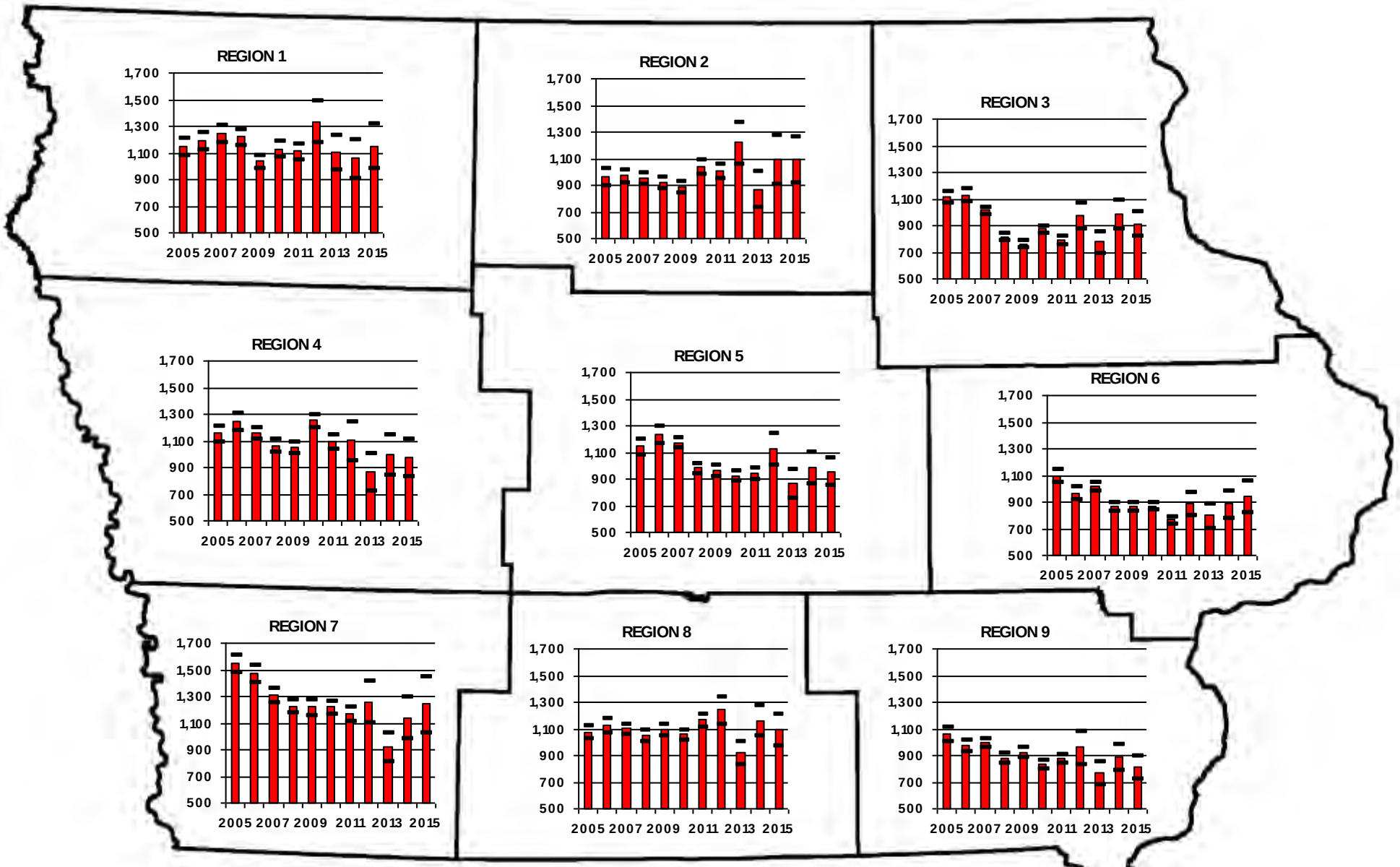
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

Antlerless Deer Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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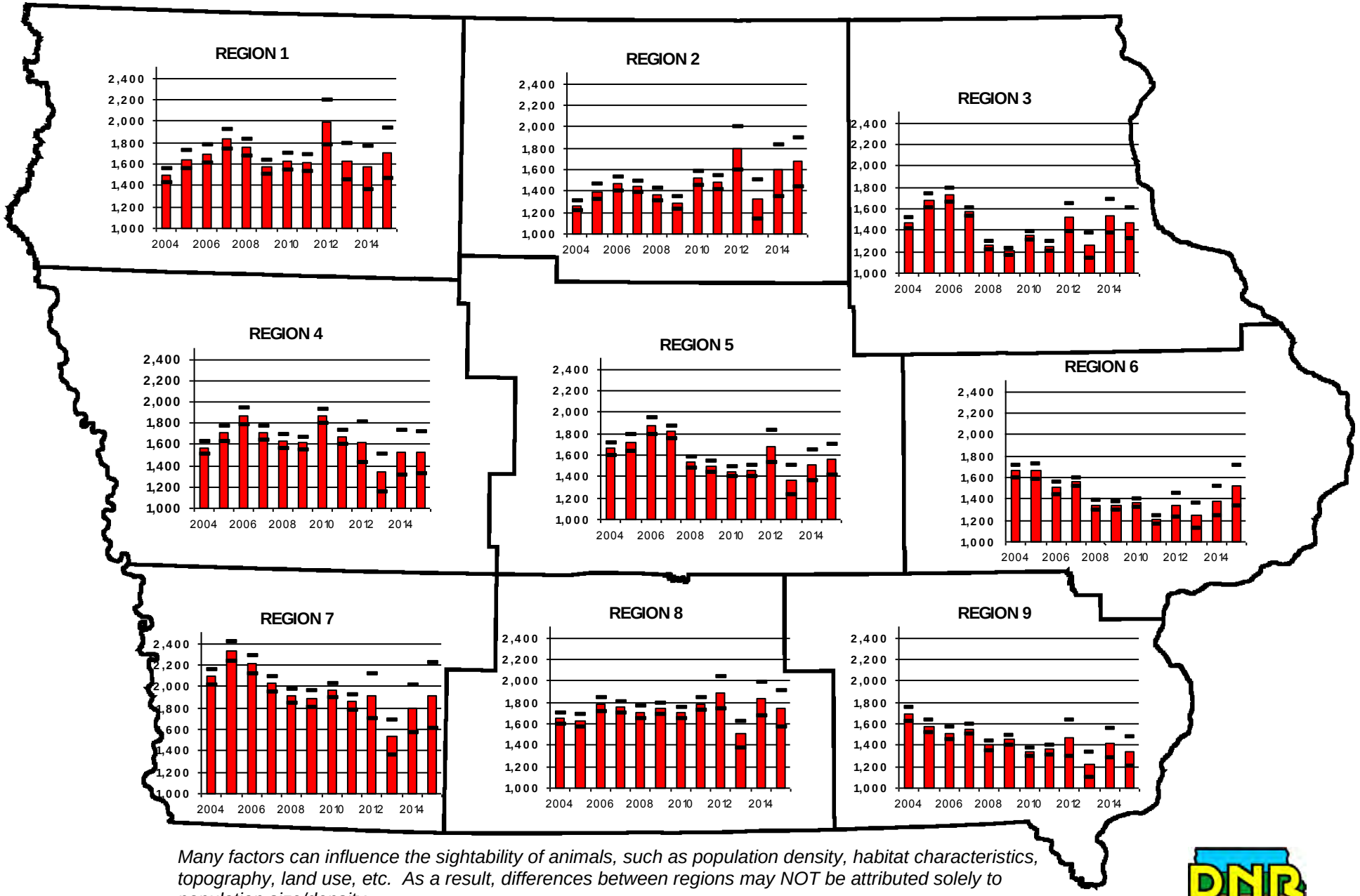
Total Deer Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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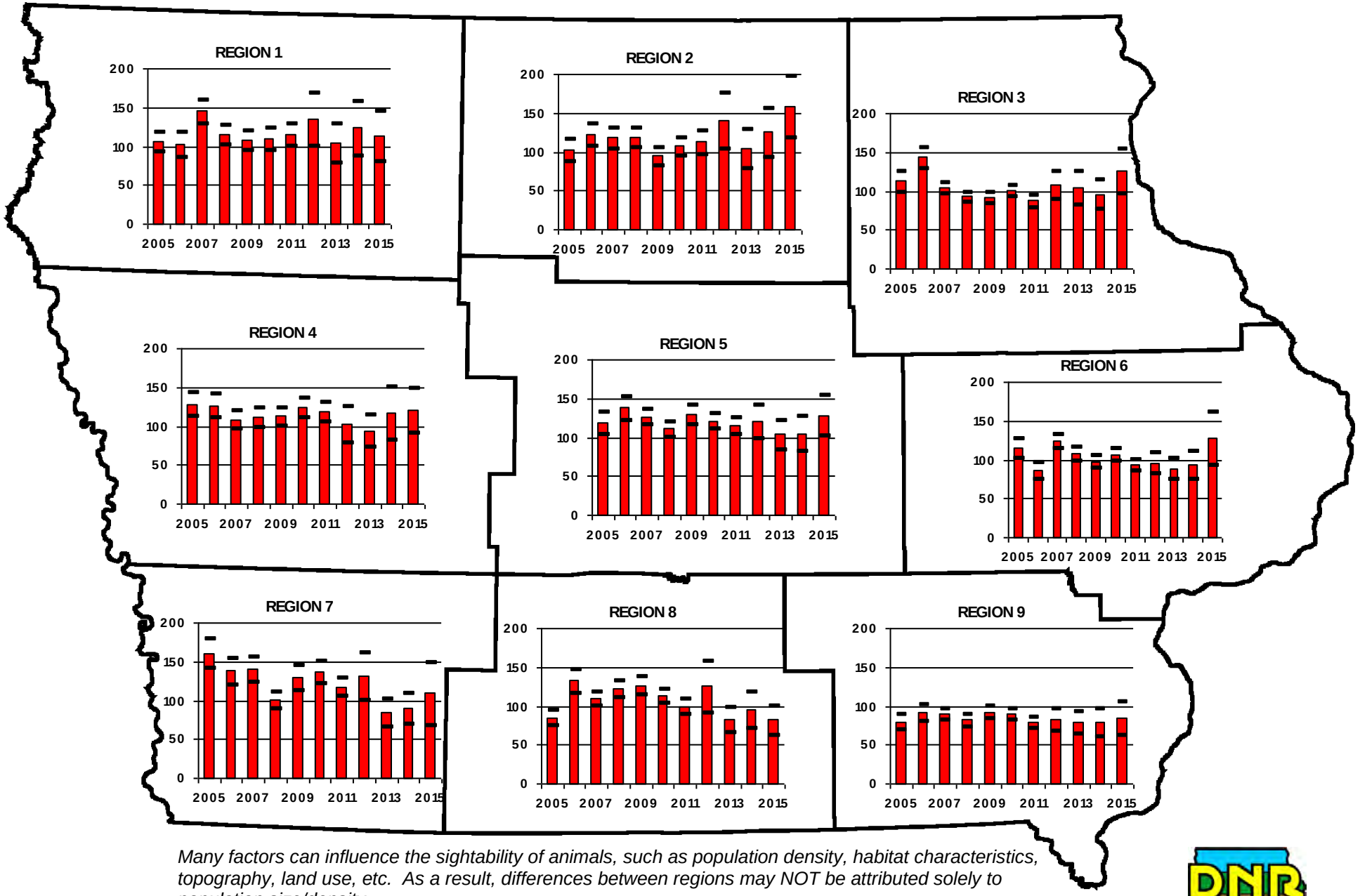
Unknown Deer Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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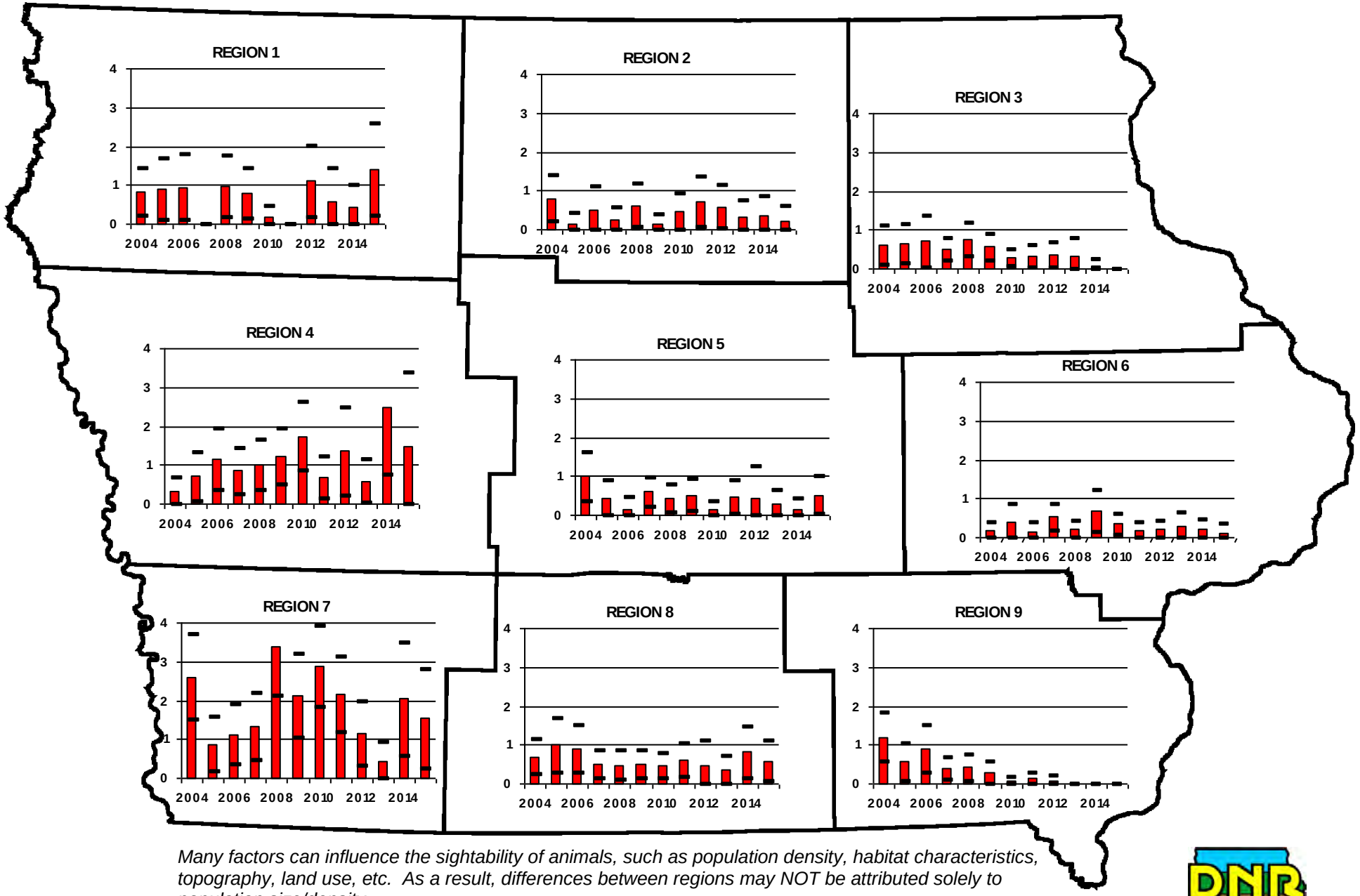
Badger Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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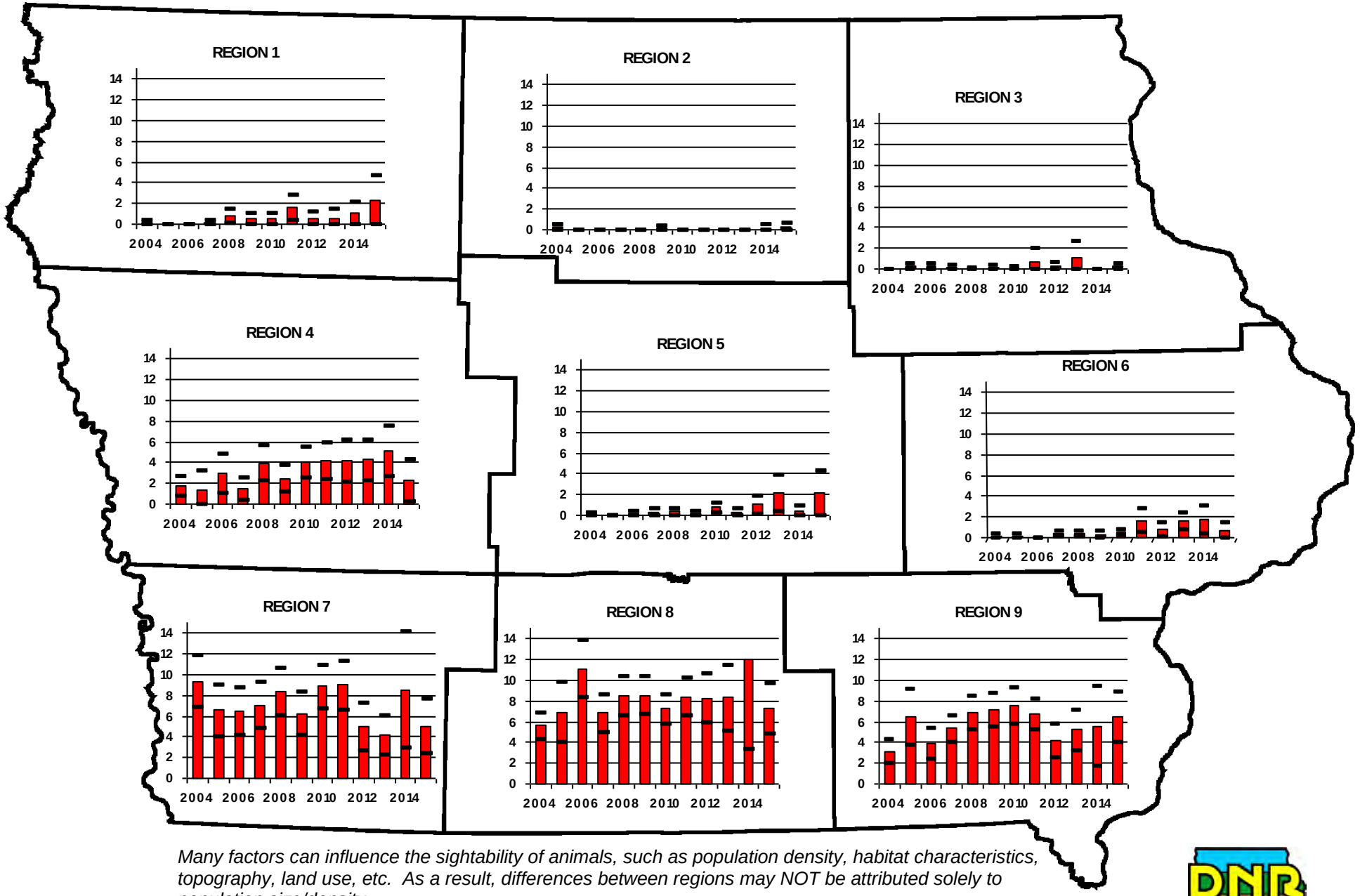
Bobcat Observations Per 1,000 Hours Hunted

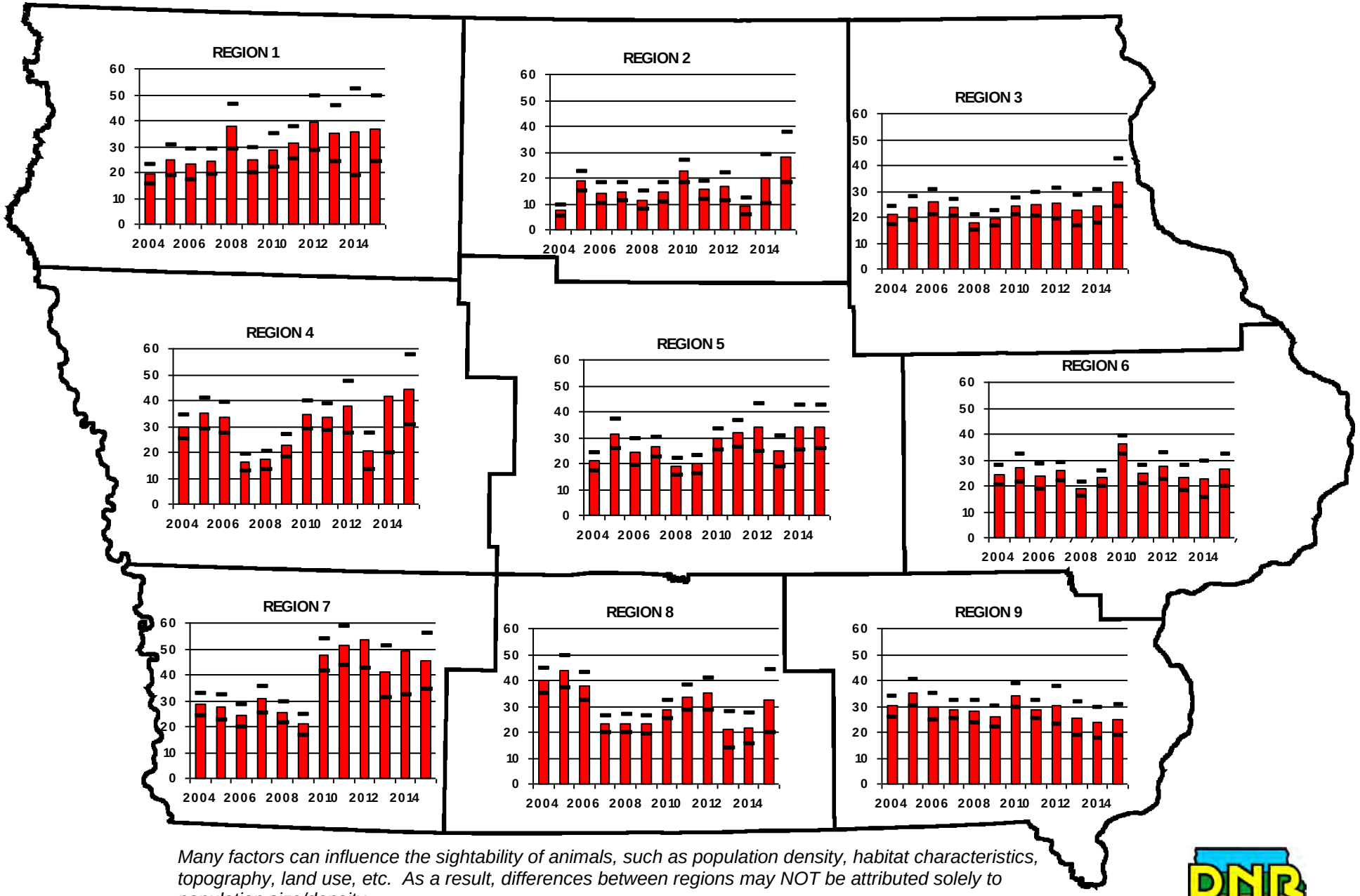
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

Coyote Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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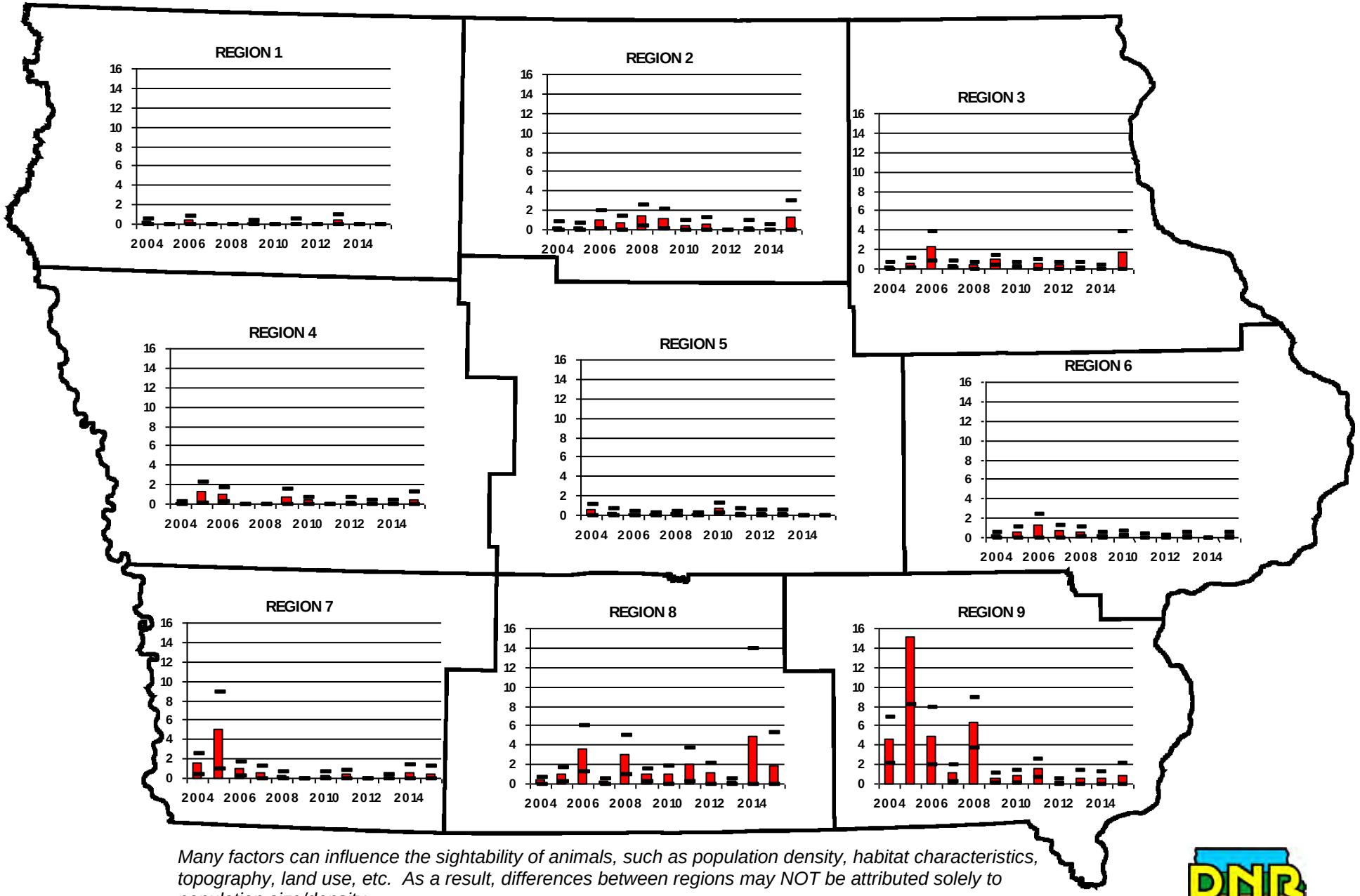
Gray Fox Observations Per 1,000 Hours Hunted

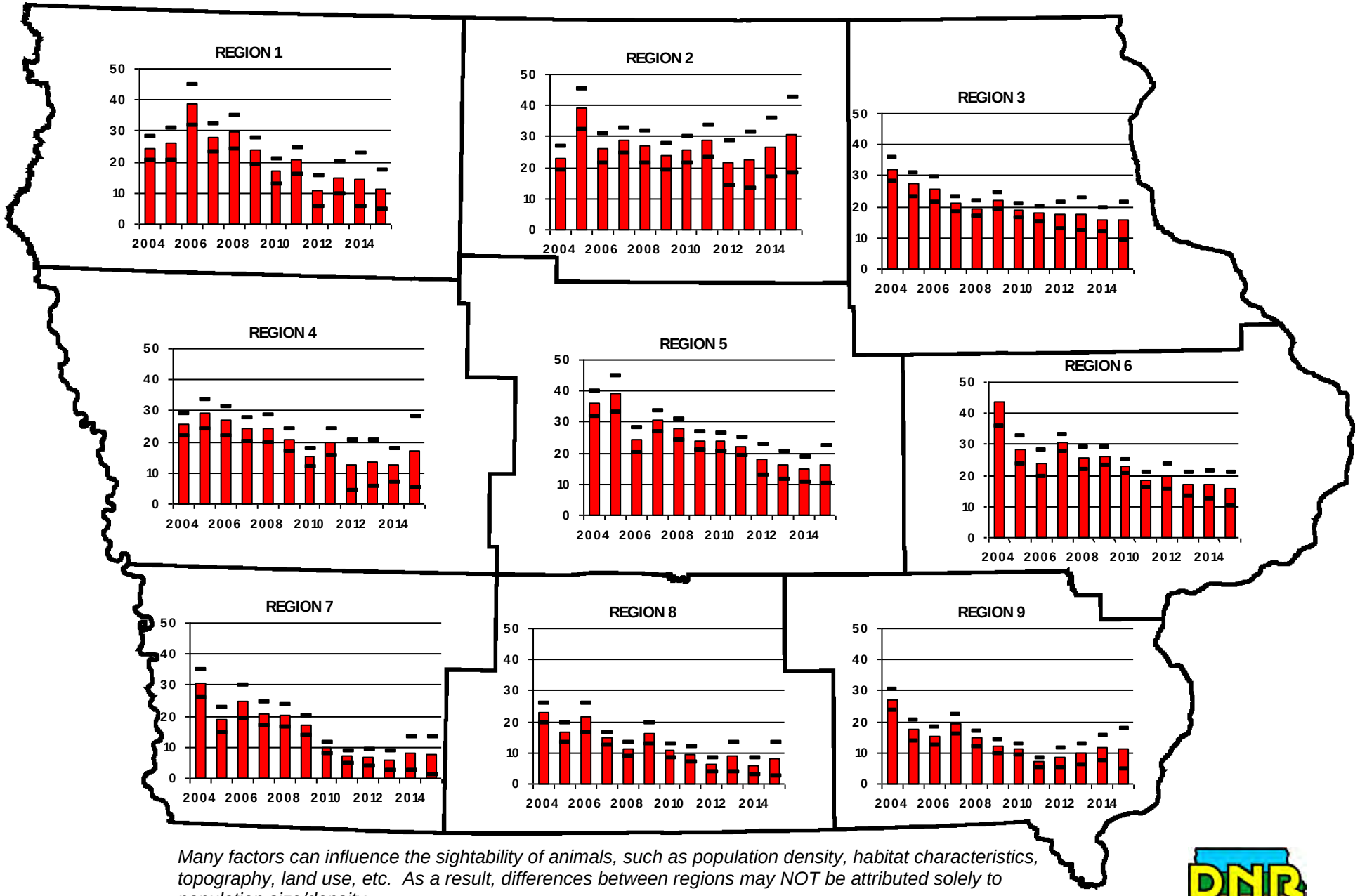
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

House Cat Observations Per 1,000 Hours Hunted

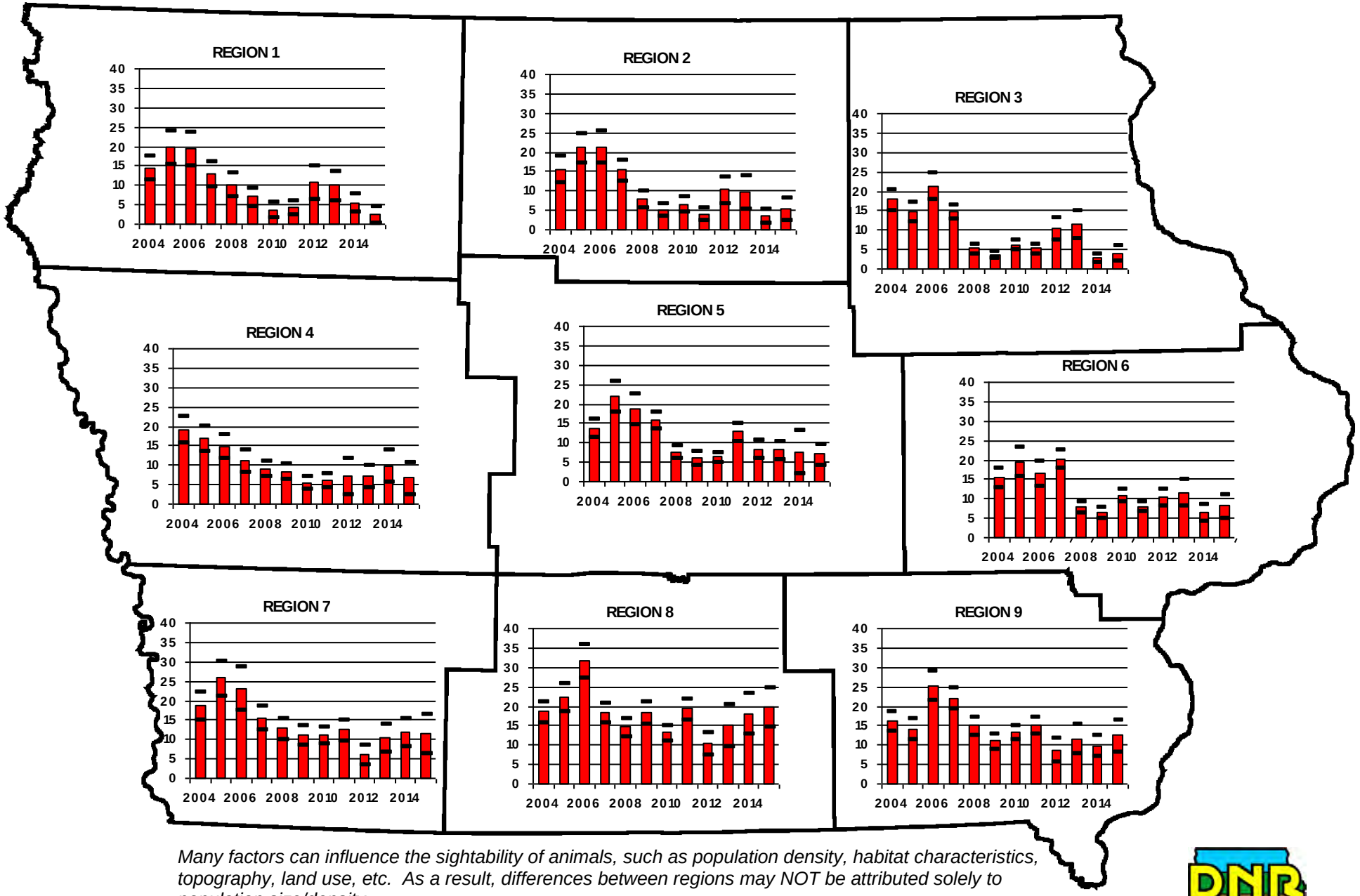
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

Opossum Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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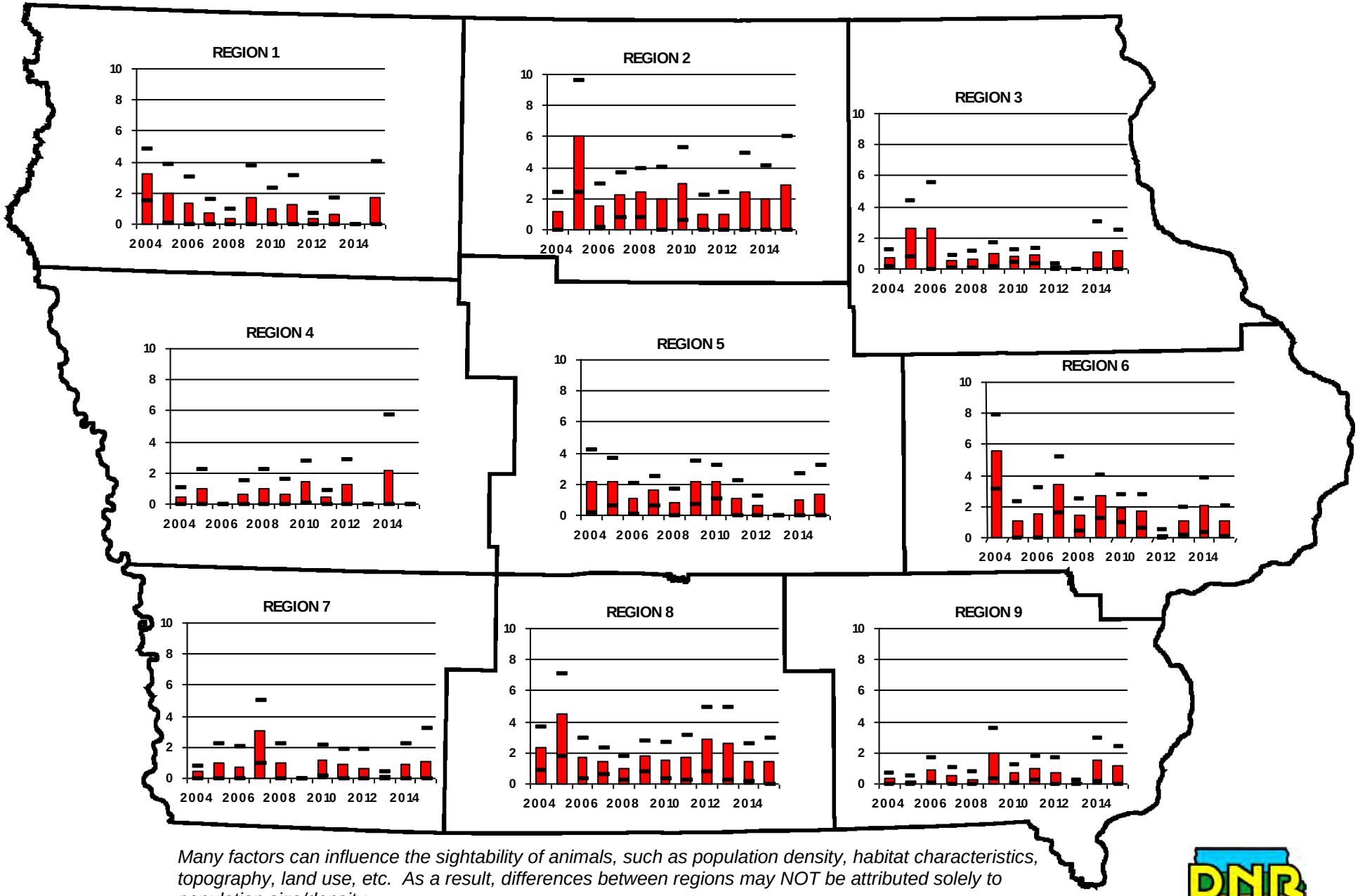
River Otter Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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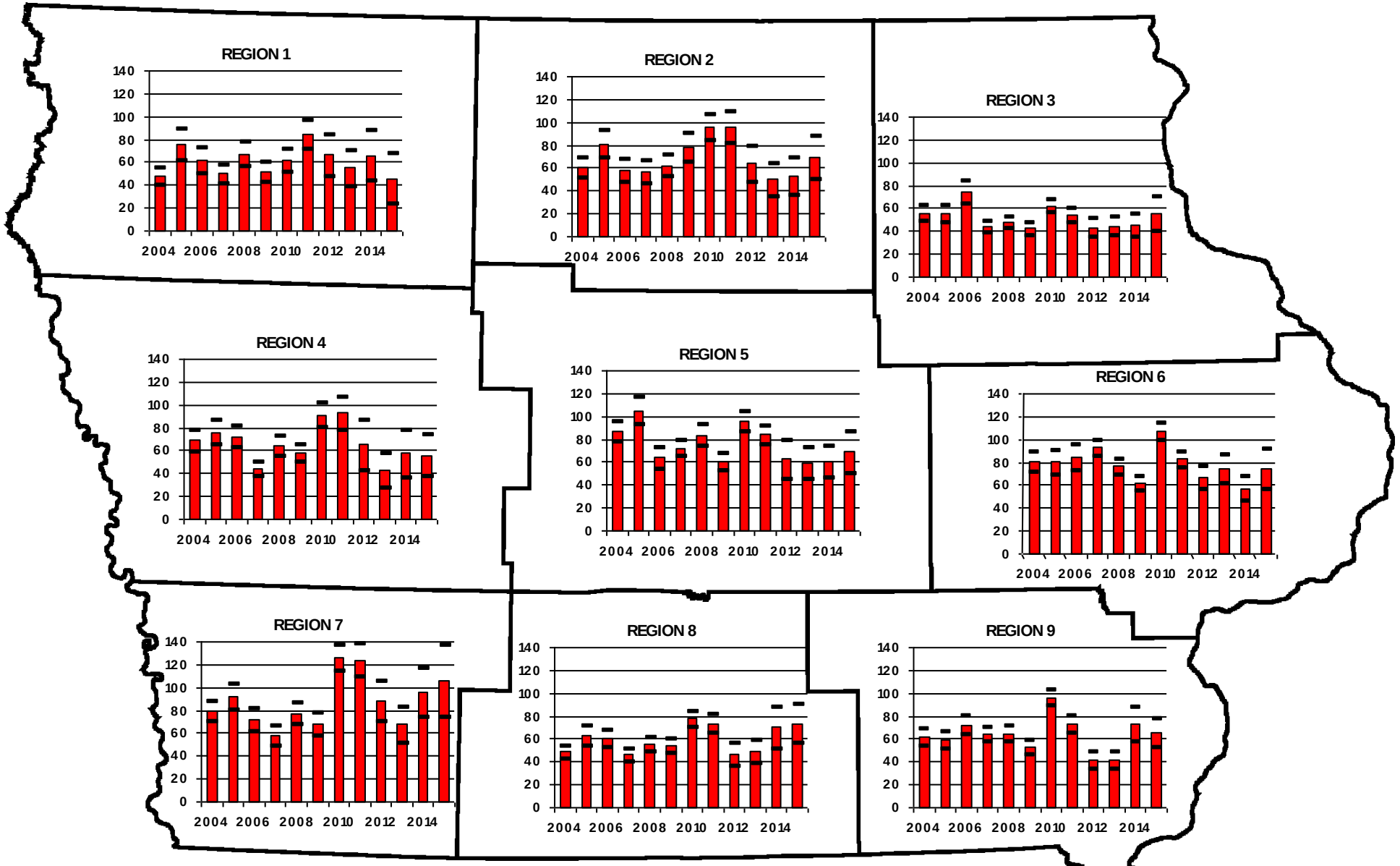
Raccoon Observations Per 1,000 Hours Hunted

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



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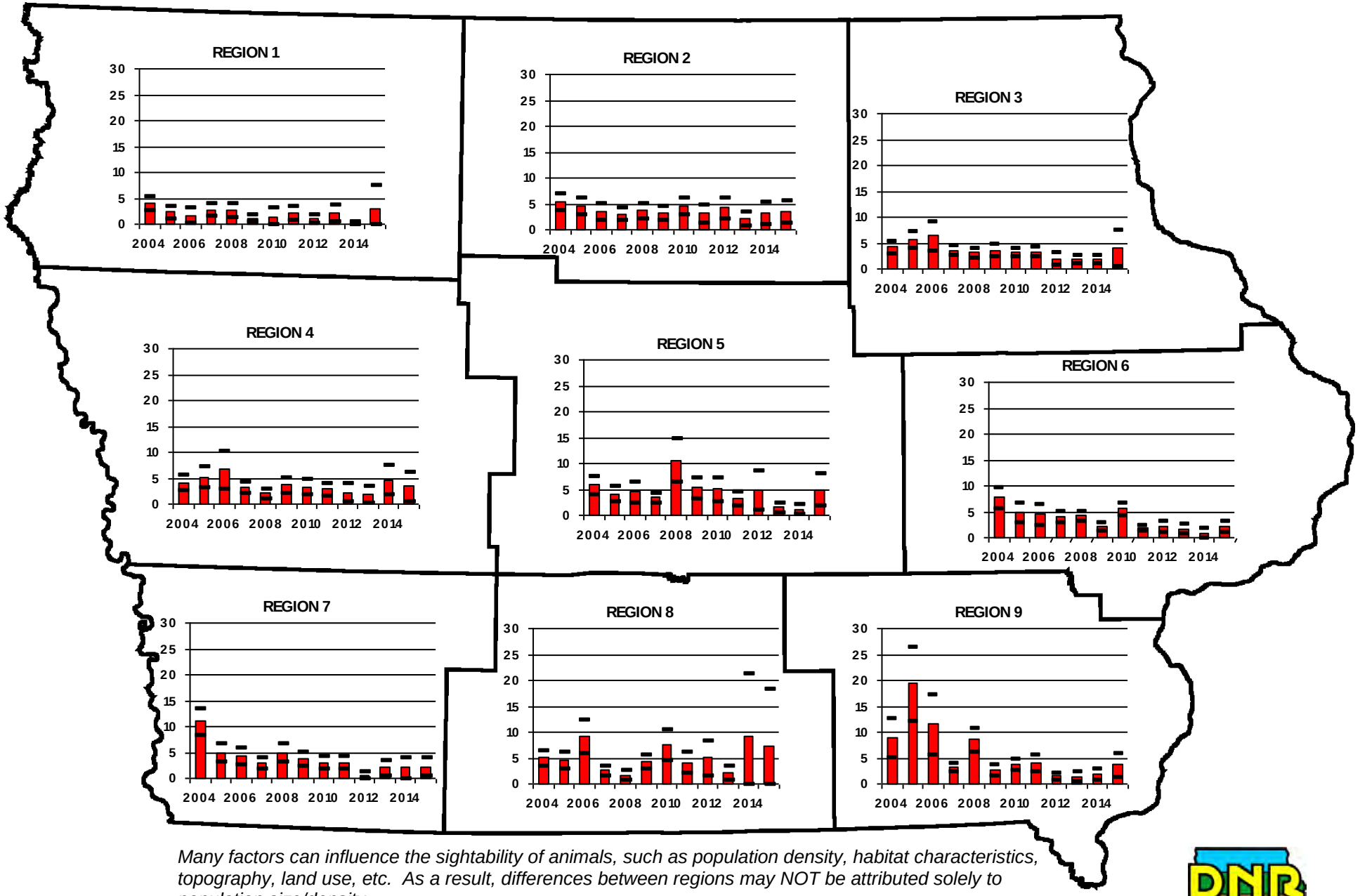
Red Fox Observations Per 1,000 Hours Hunted

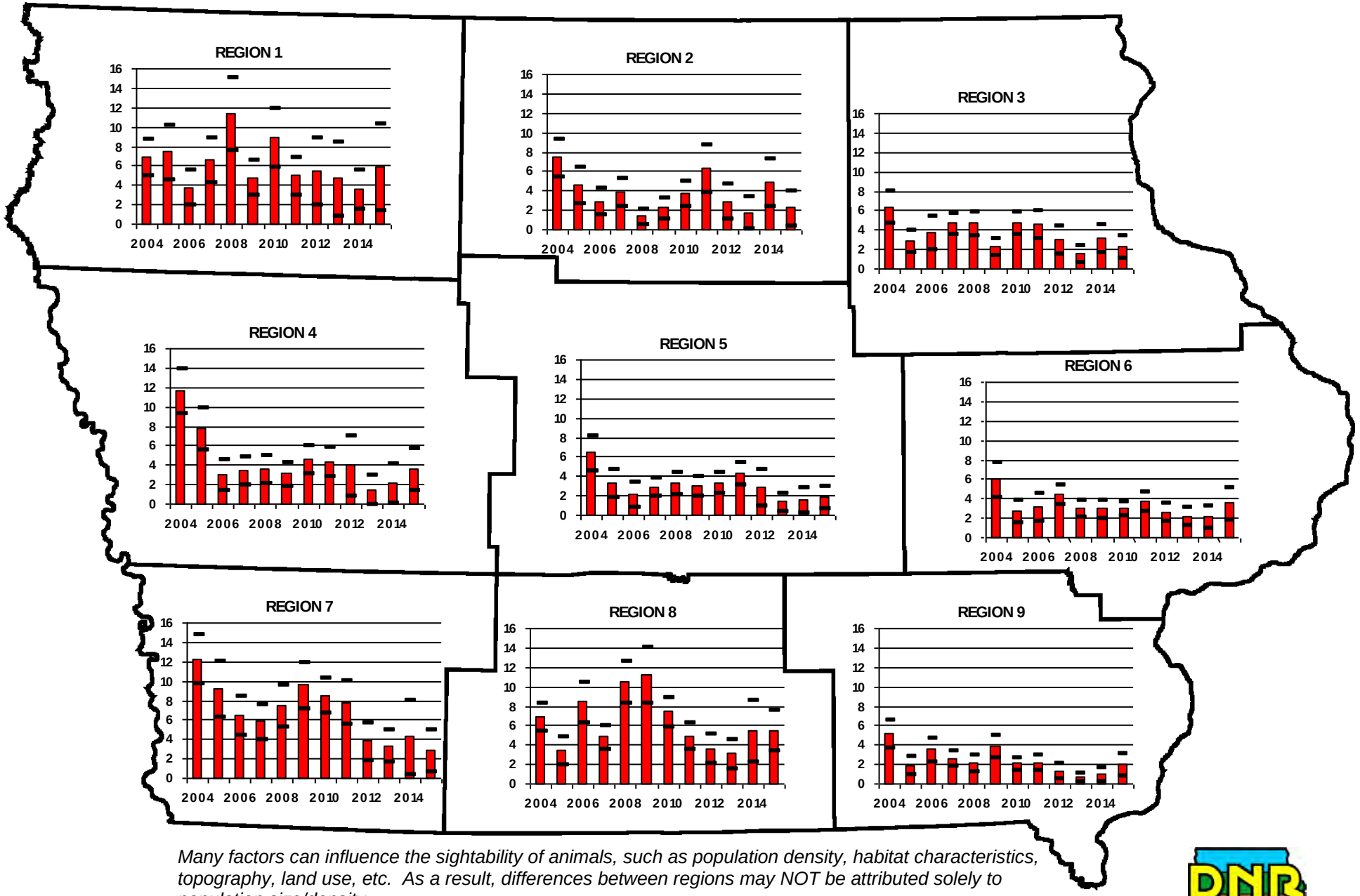
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

Striped Skunk Observations Per 1,000 Hours Hunted

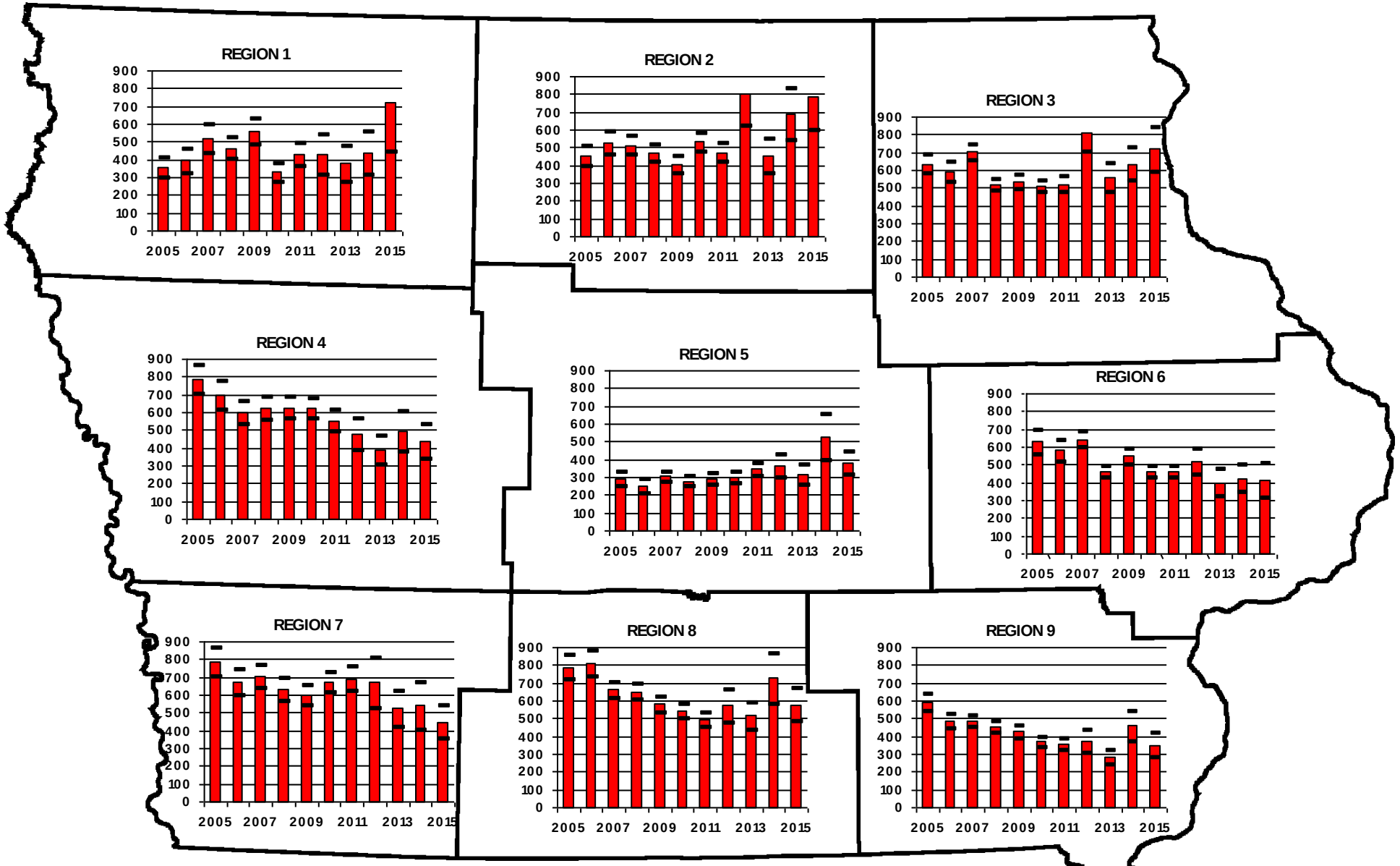
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

Wild Turkey Observations Per 1,000 Hours Hunted

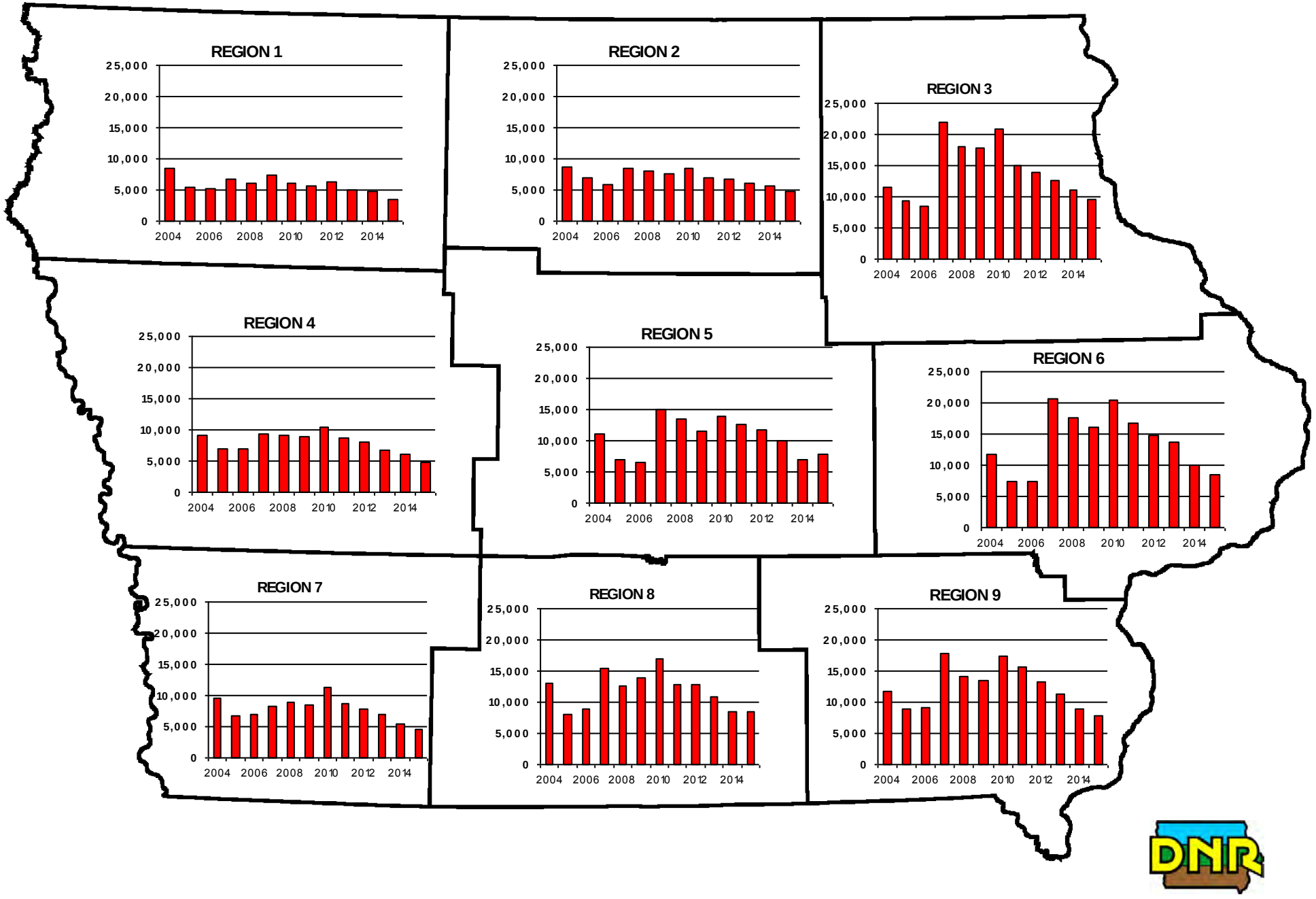
Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions may NOT be attributed solely to population size/density.

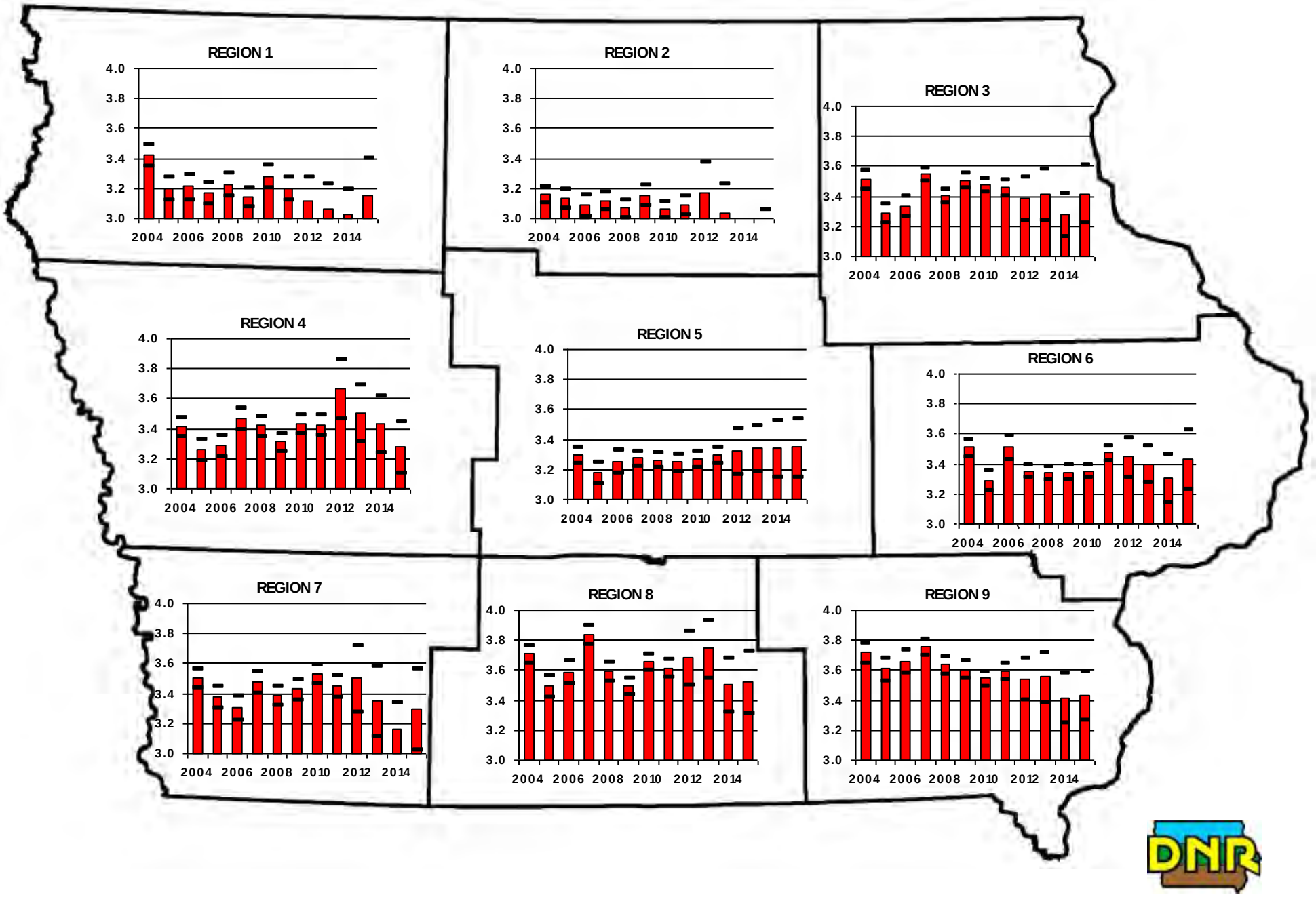
Hours Hunted by Survey Participants

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Average Hours Hunted/Bowhunting Trip

Bowhunter Observation Survey, Iowa Dept. of Natural Resources



Bowhunting Trips by Survey Participants

Bowhunter Observation Survey, Iowa Dept. of Natural Resources