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JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

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ILLINOIS

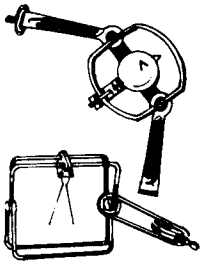
Federal Aid Project No. W-49-R (31)

Study XV: Wildlife Harvests

Job No. 4: Trapper harvest survey, 1983-84

By

G. F. Hubert, Jr.



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16 August 1984

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JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO. W-49-R-31

STUDY XV: Wildlife Harvests

JOB NO. 4: Trapper harvest survey, 1983-84

ABSTRACT: A stratified random sample of 1,300 persons who purchased 1983 series trapping licenses in Illinois was surveyed after the trapping season. The licensees were contacted by first class mail in three mailings. Questionnaires were deliverable to 1,295 (99.62%) recipients from which 1,059 useable replies were received (81.78% return). Of these, 84.08% were active, i.e. set one or more traps during the season. Only 3.01% of the active trappers were ineffective, i.e. caught nothing.

The 1983-84 survey covered 10 furbearer species. Findings are presented: 1) on a statewide basis, 2) for each of the 10 wildlife management units in the state, and 3) for the two furbearer management zones currently in use. Data include estimated number and density of effective trappers, estimated total trapper harvest and trapper harvest per unit area, and average season catch. Statewide projections for number of effective trappers and total trapper harvest (in parentheses) are: muskrat (Ondatra zibethicus) 7,482 (211,890), mink (Mustela vison) 5,085 (14,746), raccoon (Procyon lotor) 8,722 (79,196), opossum (Didelphis marsupialis) 5,606 (36,103) red fox (Vulpes vulpes) 2,004 (5,591), gray fox (Urocyon cinereoargenteus) 1,286 (2,482), beaver (Castor canadensis) 1,355 (5,149), striped skunk (Mephitis mephitis) 1,483 (4,360), weasel (Mustela frenata, M. nivalis) 185 (220), and coyote (Canis latrans) 1,703 (4,343).

The average trapper had traps set for 23.06 days (or nights). Active trappers averaged 13.70 years of trapping experience. Trap losses due to suspected theft were experienced by 36.23% of the active trappers. The majority of effective muskrat trappers (62.54%) caught 20 or fewer muskrats during the season. Most effective raccoon trappers (83.54%) harvested from 1 to 15 raccoons for the entire season and 93.63% trapped 25 or less. Trappers sold 95.33% of their 1983-84 catch of which 6.14% was sold out-of-state. Accidental catches were reported by 26.04% of the trappers who responded to the survey. The accidental catch rate was 2.45% or one accidental catch for every 41 furbearers trapped. 29.29% of the licensed trappers also hunted furbearers, primarily raccoons. The harvest of pelts by hunting trappers amounted to 7.35% of the total trapped catch in the sample.

JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R-31

STUDY XV: Wildlife Harvests

JOB NO. 4: Trapper harvest survey, 1983-84

OBJECTIVE: To collect information on the annual trapper harvest of furbearers in Illinois and associated trapper characteristics.

PROCEDURES: A stratified random mail survey of individuals who purchased trapping licenses was the basic technique employed. Mail survey address cards were filled out by license vendors for the first license sold in each book of five resident and non-resident trapping licenses in the 1983 series (total sales estimate 12,266 - 1 July 1984)(Fig. 1). At the same time, the person purchasing the license was provided with an information card which requested him to keep a record of his activities since he might be contacted after the close of the season (Fig. 2). The survey address cards were returned to the Division of Fish and Wildlife Resources via business reply mail and were filed according to the licensee's county of residence.

Prior to the close of the muskrat trapping season, a random sub-sample based on the distribution of the 1976-80 trapping license sales was drawn. The size of the sub-sample was set at 1,300 since this quantity would result in 1,000 to 1,100 useable replies for adequate reliability at the statwide level. Address cards in the drawn sample were manually marked with serial numbers to provide for the removal of respondents and undeliverables from the initial and first follow-up mailings.

An initial and two follow-up mailings to non-respondents were made with a different letter of transmittal for each mailing (Figs. 3, 4, 5). Questionnaire cards were numbered to correspond with appropriate address cards and included with each transmittal letter (Fig. 6). First class postage (20.0¢) was used for all mailings.

Questionnaires were returned via business reply permit printed on the back of the form. Those received were checked for useableness, and the respondents were initially placed into one of two categories: inactive - those that did not set traps for furbearers during the 1983-84 seasons; active - those that did set one or more traps for furbearers during the 1983-84 seasons. Active trappers were further classified as: effective - those who caught one or more furbearers of the species in question, or ineffective - those who did not catch any furbearers. Next, the county trapped in most, species trapped, and species hunted were numerically coded.

Reply data were transferred directly to magnetic computer tape at the Coordinated Sciences Laboratory, University of Illinois, Urbana, Illinois, using remote terminals and stored for subsequent analysis. Mr. David Spoor, a consultant employed by the Coordinated Sciences Laboratory, prepared the data entry and analysis programs and obtained output.

Reply data for each species surveyed were compiled for the 10 wildlife management units in Illinois (Fig. 7). In addition, confidence limits at the 95% level were calculated by species for the number of effective trappers, average season catch, and total trapper harvest on a statewide basis. The formulas used were described by Cochran (1953) and Snedecor and Cochran (1967). These are as follows:

a. Number of effective trappers for species:

where N = total license sales

n = number of licensees in sample

p = portion of licensees in sample who effectively trapped species in question

q = 1-p

$$\pm 2N\sqrt{\frac{pq}{n}}$$

b. Average season catch per effective trapper for species in question:

where n_1 = number of licensees in sample who effectively trapped species in question

x_i = reported season catch for species in question

$$\frac{\pm 1.96\sqrt{\frac{\Sigma(x_i-\bar{x}_i)^2}{n_1-1}}}{\sqrt{n_1}}$$

c. Total trapper harvest:

where x = reported season catch for all licensees responding to survey

$$\pm 2N\left(\frac{\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}}{\sqrt{n}}\right)$$

All calculations assumed there were no differences between the activities of the licensees who returned the questionnaire and those who did not.

FINDINGS AND ANALYSIS:

1983-84 Trapping Seasons

The 1983-84 fur-bearing mammal trapping seasons varied from 30 to 106 days in length (Table 1). The seasons for all species except beaver, red fox, gray fox, and coyote were 45 days long with the northern management zone opening 10 days before the southern management zone (Fig. 8). Beaver trapping season was 96 or 106 days in length and opened simultaneously with all other species except fox and coyote. Red fox, gray fox, and coyote could be legally trapped for 30 days statewide. No bag limits were in effect for any furbearer. Special regulations reduced the length of the beaver season to 45 days along the Mississippi River from Interstate 80 north to the Wisconsin state line as a protective measure for river otter (Lutra canadensis).

1983-84 Trapper Mail Survey

The initial mailing of 1,300 questionnaires was made on 11 January 1984. The two follow-up mailings to non-respondents were made on 23 February (683) and 26 March (384) and closed out on 25 April 1984. Approximately two days preparation was required for each mailing.

A total of 1,295 (99.62%) licensees in the 1983-84 survey sample was reached by the Postal Service via first class mail. The five remaining questionnaires were returned as undeliverable. There were 1,059 useable replies received from the licensees contacted, representing an 81.78% response on the number delivered. Of these respondents, 898 (84.80%) reported that they set one or more traps for furbearers during the season and were classified as active. A total of 871 (96.99%) active trappers was effective, i.e. caught one or more furbearers, and the remianing 27 (3.01%) were ineffective, i.e. caught nothing.

a. Number of days trapped

Active trappers had traps set an average of 23.06 days (or nights) during the 1983-84 season (Fig. 9). The maximum number of days a trapper could have legally trapped was 106. However, only 1.22% of the respondents stated they had traps set for over 45 days, and just 22.61% trapped over 30 days. The vast majority of trapping activity is concentrated during the initial 30 days of the muskrat, mink, and raccoon seasons. In 1982-83, Illinois trappers had traps set an average of 24.55 days during a 106-day season (Hubert 1983). The mean number of days trapped in 1981-82 was 24.33 (Hubert 1982).

b. Years of trapping experience

Active trappers in 1983-84 had an average of 13.70 years of trapping experience (Fig. 10). Almost half (44.54%) had been trapping for 5 years or less. In fact, 28.73% had just 1 to 3 years of experience. The current distribution reflects a somewhat more experienced population of trappers compared with 1978-79 season when the average number of years experience was 12.20 (Hubert 1980a). This seems to be the result of a depressed recruitment rate

for new trappers. The number of licensed trappers declined from 19,594 in 1978-79 to 12,266 in 1983-84. An associated factor may be the recent decline in pelt prices for the more popular furbearers. Even so, the fact that a large percentage of trappers lack experience emphasizes the need for a formal, mandatory trapper education project.

c. Incidence of trap theft

During the 1983-84 season, 36.23% of the active trappers who responded to the survey (n = 886) indicated they had one or more traps stolen. No additional data on the incidence of trap theft are available. However, the frequency of reported trap theft appears high and is likely a reflection of much conflict among trappers, hunters, and anti-trappers.

d. Trapper harvest summary

A statewide summary for the 10 species of furbearers surveyed in 1983-84 is presented in Table 2. The data for each species include the estimated number of effective trappers and their percent of all licensees, average season catch per effective trapper, estimated total trapper harvest, and estimated percent and total sold. Similar information for each of the 10 species plus the estimated density of effective trappers and pelts harvested in each of the 10 wildlife management units is provided in Tables 3 through 12. The original sample sizes from which these data were derived are presented in Table 13 which also provides the percent of effective trappers for each species (season catch of one or more).

Statewide confidence intervals at the 95% level for number of effective trappers, average season catch per effective trapper, and total harvest for each furbearer are given in Table 14. In most instances, those species with the greater number of effective trappers in the sample have smaller limits of variability which result in greater confidence in the projections. In 1983-84, effective raccoon trappers were the most numerous and their projected number varied by only $\pm$ 3.92%. The 95% confidence interval projections for less numerous opossum trappers varied by $\pm$ 6.71% and for uncommon weasel trappers by $\pm$ 49.73%.

e. Distribution of harvest among effective trappers

The muskrat and raccoon were the two most important furbearers trapped during the 1983-84 season in terms of number of effective trappers, average season catch, and total harvest (Table 2). The reported number of muskrats harvested by 646 effective muskrat trappers ranged from 1 to 275 and averaged 28.32 (Tables 2, 13, 14, Fig. 11). Approximately 70% of these trappers took less than the average catch (Fig. 11). During the season, 62.54% harvested 20 or fewer muskrats and 94.58% caught 100 or less. All values are similar to those obtained in the 1980-81, 1981-82, and 1982-83 surveys (Hubert 1981, 1982, 1983). Relatively few trappers are extremely successful at catching muskrats. Of the effective trappers who responded, 124 (19.20%) stated their catch averaged one or more muskrats per day for the entire season.

The distribution of harvest among effective raccoon trappers was similar to that for muskrat. The number of raccoons caught by 753 effective raccoon trappers who reported averaged 9.08 and ranged from 1 to 158 (Tables 2, 13, 14, Fig. 12). Less than the average season catch was taken by 67.60% of these trappers (Fig. 12). For the entire season, 83.54% harvested 15 or fewer raccoons and 93.63% trapped 25 or less. Only 14 (1.86%) of the effective raccoon trappers reported making an average daily catch of one or more raccoons throughout the season.

The harvest of the other eight open season furbearers was distributed among effective trappers much like the muskrat and raccoon harvests (Table 15). For five of these species, 13% or less of the effective trappers made season catches exceeding five pelts. The exceptions were: effective opossum trappers - 36.16% of these individuals trapped more than five opossums during the season; effective mink trappers - 13.22% trapped more than five minks during the season; and effective beaver trappers - 21.38% caught more than five beavers during the season.

The above data emphasize the inapplicability of bag limits (both daily and seasonal) to furbearer trapping in Illinois. Few trappers are successful in making large seasonal catches. The ones who do are active throughout the season over extensive areas. Reductions in season length offer the most potential for reducing the furbearer harvest by highly successful trappers. Bag limits could potentially increase harvests because of their goal-setting effect.

f. Pelt sales

Trappers sold an estimated 95.33% of their catch during 1983-84 (Table 2). The previous season (1982-83), 94.13% of all trapped pelts were sold (Hubert 1983). The portion of each species sold ranged from a low of 22.66% for striped skunk to a high of 99.45% for muskrat. The fraction of pelts sold in Illinois and out-of-state also varied among species (Table 16). Overall, 93.86% of the marketed portion of the trapped catch was sold in Illinois and 6.14% out-of-state. Hubert (1983) found that Illinois trappers sold 3.45% of their pelts outside the state in 1982-83. Resident trappers sold an average of 4.76% of their pelts out-of-state during the last four seasons (Hubert 1981, 1982, 1983, this study).

g. Non-target catches

Accidental catches were reported by 275 (26.04%) of all trappers who responded to the 1983-84 survey (Table 17). In comparison, 30.62% of the active trappers made non-target catches. Trappers making accidental catches averaged 2.79 for the year. The estimated total number of non-target animals caught by trappers during the season was 8,916. As stated earlier, the estimated total furbearer catch by trappers was 364,080 (Table 2). Therefore, the accidental catch rate was 2.45% or one accidental catch for every 41 furbearers trapped. If rats and mice are excluded from the accidental catch list, the non-target catch rate would be 2.41%. Many respondents indicated that some or all of the animals they accidentally captured were released. During the 1980-81 season, resident trappers had an accidental catch rate of 2.80% (Hubert 1981).

h. Fur hunting by trappers

A total of 285 (29.29%) trappers reported they hunted furbearers with gun and/or dogs in 1983-84 (Table 18). Their total hunting harvest was 2,123 pelts or an average of 7.45 per hunting trapper. This is equivalent to 7.35% of the total trapped catch in the sample. The raccoon was hunted by more trappers than any other species. Next in popularity was the opossum. In 1982-83, 28.03% of the trappers in Illinois also hunted furbearers (Hubert 1983). Sampson (1973) reported 33.6% of the trappers in Missouri were fur hunters. Obviously, there is much overlap between the groups designated as fur trappers and fur hunters.

i. Management zone data summary

Management zone and statewide data summaries for each of the 10 species of furbearers surveyed in 1979-80 (Hubert 1980b), 1980-81 (Hubert 1981), 1981-82 (Hubert 1982), 1982-83 (Hubert 1983), and 1983-84 are presented in Tables 19 through 28. The data for each species include estimated number and density of effective trappers, average season catch, estimated total trapper harvest, and trapper harvest per unit area. The northern and southern zones listed (Fig. 13) are nearly identical to the zones employed for regulatory management from 1979-80 through 1983-84 (Fig. 8).

j. Relative abundance of opossum

Data provided by 3,854 effective raccoon/opossum trappers from 1979-80 through 1983-84 were used to determine the relative abundance of opossum among the various wildlife mangement units in Illinois (Table 29, Fig. 7). These trappers caught 34,707 raccoons and 12,323 opossums during the five seasons studied. The number of trappers sampled varied from a low of 76 in the Shawnee Hills unit to a high of 1,183 in the Grand Prairie unit.

Trapper catch data were used to calculate four indexes of opossum abundance (Table 30). The two indexes which appear to be the most reliable indicators of relative opossum density are the average number of opossums taken per effective raccoon/opossum trapper and the percent of effective trappers in the wildlife management unit who caught opossums. The mean annual estimated opossum harvest per unit area is less reliable because it fails to account for variations in trapper density. The least valid indicator of opossum abundance is the number of opossums trapped per 100 raccoons trapped. Even though many of the opossums trapped each season are taken in sets made for raccoons, this index is obviously influenced by the number of raccoons present. A management unit with high numbers of both raccoons and opossums per unit area might appear to have a lower opossum population than a unit with almost no raccoons and only a few opossums.

Available data indicate the opossum population is highest in the Shawnee Hills management unit (Table 30). This area is over 40% forested (Essex and Gansner 1965), has more water impoundments per km^2 than any other management unit (Hubert 1977), and provides excellent opossum habitat. Other units which support comparatively high opossum densities include the Mississippi Border-South and the Wabash Border. Opossums appear to be least abundant in the Grand Prairie and Northwest Hills management units. These units have fewer water impoundments per km^2 than the other wildlife management units and only small percentages of their areas are forested (Hubert 1977).

In addition, both are subject to extreme winter weather which appears to be a major factor affecting opossum survival and populations (Hubert 1984). The end result is comparatively poor quality opossum habitat.

RECOMMENDATIONS:

A mail survey of this type probably realizes its best use and reliability for furbearer management as an indicator of trends in trapping pressure, trapper success, trapper harvest, and trapping recreation. In addition, this particular survey provides the only regional harvest data available for the trapped portion of the annual fur catch. It is recommended that the survey be continued in essentially the same form.

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DATA AND REPORTS:

Original data and reports in this investigation are on file in the Division of Fish and Wildlife Resources office, Illinois Department of Conservation, Springfield, Illinois 62706.

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DATE: 16 August 1984

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Table 1. Illinois fur-bearing mammal trapping seasons for 1983-84.

Species	Trapping season	
	Northern zone	Southern zone
Muskrat, Mink, Raccoon, Opossum, Striped Skunk, Weasel	15 Nov - 29 Dec (45)[a]	25 Nov - 8 Jan (45)
Beaver	15 Nov - 28 Feb (106)[b]	25 Nov - 28 Feb (96)
Red Fox, Gray Fox, Coyote	30 Nov - 29 Dec (30)	30 Nov - 29 Dec (30)

[a] Numbers in parentheses are season lengths in days.

[b] Those portions of JoDaviess, Carroll, Whiteside, and Rock Island counties lying west of Illinois Rt. 84 and US Rt. 20, from Interstate-80 north to the Wisconsin line were open to beaver trapping from 15 Nov. - 29 Dec. 1983 only.

Table 2. Summary of statewide data from post-season mail survey of Illinois resident trappers, 1983-84 season (n = 1,059).

Species	Estimated number of effective trappers	Percent of total licensees	Average season catch	Estimated total trapper harvest	Estimated percent sold[a]	Estimated total sold
Muskrat	7,482	61.00	28.32	211,890	99.45	210,725
Mink	5,085	41.45	2.90	14,746	98.70	14,555
Raccoon	8,722	71.10	9.08	79,196	99.29	78,633
Opossum	5,606	45.70	6.44	36,103	72.74	26,261
Red fox	2,004	16.34	2.79	5,591	98.39	5,501
Gray fox	1,286	10.48	1.93	2,482	97.37	2,417
Beaver	1,355	11.05	3.80	5,149	72.77	3,747
Striped skunk	1,483	12.09	2.94	4,360	22.66	988
Weasel	185	1.51	1.19	220	42.11	93
Coyote	1,703	13.88	2.55	4,343	91.32	3,966

[a] n = 973.

Table 3. Summary of muskrat trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 646).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	926	(12.38)[b]	9.85	49.42	45,789	(21.61)[b]	487.17
Northeast Moraine	533	(7.12)	6.44	48.04	25,596	(12.08)	309.43
Mississippi Border-North	475	(6.35)	6.05	20.83	9,895	(4.67)	126.08
Mississippi Border-South	753	(10.06)	5.51	17.63	13,264	(6.26)	96.99
Western Prairie/Forest	903	(12.07)	6.26	24.04	21,719	(10.25)	150.61
Central Sand Prairie	232	(3.10)	5.59	46.25	10,722	(5.06)	258.55
Grand Prairie	2,525	(33.75)	4.80	28.85	72,827	(34.37)	138.39
Southern Plain	799	(10.68)	3.37	11.00	8,794	(4.15)	37.06
Wabash Border	186	(2.48)	2.76	9.31	1,716	(0.81)	25.45
Shawnee Hills	150	(2.01)	2.88	10.46	1,568	(0.74)	30.06
Statewide	7,482	(100.00)	5.12	28.32	211,890	(100.00)	145.05

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 4. Summary of mink trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 439).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	475	(9.34)[b]	5.05	2.34	1,110	(7.53)[b]	11.81
Northeast Moraine	359	(7.06)	4.34	3.65	1,306	(8.86)	15.79
Mississippi Border-North	231	(4.55)	2.94	3.00	695	(4.71)	8.86
Mississippi Border-South	521	(10.25)	3.81	2.91	1,514	(10.27)	11.07
Western Prairie/Forest	533	(10.48)	3.70	2.96	1,573	(10.67)	10.91
Central Sand Prairie	128	(2.51)	3.09	3.82	485	(3.29)	11.70
Grand Prairie	1,737	(34.17)	3.30	2.99	5,194	(35.22)	9.87
Southern Plain	788	(15.49)	3.32	2.71	2,128	(14.43)	8.97
Wabash Border	197	(3.87)	2.92	2.06	406	(2.75)	6.02
Shawnee Hills	116	(2.28)	2.22	2.90	335	(2.27)	6.42
Statewide	5,085	(100.00)	3.48	2.90	14,746	(100.00)	10.09

a Sum of wildlife management unit totals may not equal statewide total due to rounding error.

b Numbers in parentheses are percentages of statewide total.

Table 5. Summary of raccoon trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 753).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	834	(9.56)[b]	8.87	10.58	8,822	(11.14)[b]	93.86
Northeast Moraine	522	(5.98)	6.31	8.02	4,182	(5.28)	50.56
Mississippi Border-North	579	(6.64)	7.38	10.46	6,059	(7.65)	77.20
Mississippi Border-South	938	(10.76)	6.86	7.96	7,468	(9.43)	54.61
Western Prairie/Forest	1,135	(13.01)	7.87	8.93	10,137	(12.80)	70.29
Central Sand Prairie	290	(3.32)	6.99	10.92	3,160	(3.99)	76.20
Grand Prairie	2,699	(30.94)	5.13	9.33	25,184	(31.80)	47.85
Southern Plain	1,204	(13.81)	5.07	7.56	9,108	(11.50)	38.39
Wabash Border	324	(3.72)	4.81	11.18	3,627	(4.58)	53.80
Shawnee Hills	197	(2.26)	3.78	7.35	1,449	(1.83)	27.78
Statewide	8,722	(100.00)	5.97	9.08	79,196	(100.00)	54.22

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 6. Summary of opossum trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 484).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	544	(9.71)[b]	5.79	5.70	3,105	(8.60)[b]	33.04
Northeast Moraine	290	(5.17)	3.51	5.72	1,657	(4.59)	20.03
Mississippi Border-North	348	(6.20)	4.43	12.07	4,195	(11.62)	53.45
Mississippi Border-South	626	(11.16)	4.58	7.98	4,993	(13.83)	36.51
Western Prairie/Forest	660	(11.78)	4.58	5.28	3,488	(9.66)	24.19
Central Sand Prairie	232	(4.13)	5.59	7.30	1,690	(4.68)	40.75
Grand Prairie	1,586	(28.30)	3.01	5.50	8,726	(24.17)	16.58
Southern Plain	938	(16.73)	3.95	6.10	5,722	(15.85)	24.12
Wabash Border	220	(3.93)	3.26	5.21	1,148	(3.18)	17.03
Shawnee Hills	162	(2.89)	3.11	8.50	1,379	(3.82)	26.44
Statewide	5,606	(100.00)	3.84	6.44	36,103	(100.00)	24.72

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 7. Summary of red fox trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 173).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	93	(4.62)[b]	0.99	1.63	151	(2.70)[b]	1.61
Northeast Moraine	174	(8.67)	2.10	4.00	696	(12.45)	8.41
Mississippi Border-North	139	(6.94)	1.77	1.50	209	(3.73)	2.66
Mississippi Border-South	150	(7.51)	1.10	1.85	278	(4.98)	2.03
Western Prairie/Forest	185	(9.25)	1.28	1.94	359	(6.43)	2.49
Central Sand Prairie	93	(4.62)	2.24	4.00	371	(6.64)	8.95
Grand Prairie	614	(30.64)	1.17	3.40	2,088	(37.35)	3.97
Southern Plain	429	(21.39)	1.81	2.51	1,079	(19.29)	4.55
Wabash Border	58	(2.89)	0.86	1.80	105	(1.87)	1.56
Shawnee Hills	69	(3.47)	1.32	3.67	255	(4.56)	4.89
Statewide	2,004	(100.00)	1.37	2.79	5,591	(100.00)	3.83

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 8. Summary of gray fox trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 111).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	81	(6.31)[b]	0.86	1.00	81	(3.27)[b]	0.86
Northeast Moraine	104	(8.11)	1.26	2.44	255	(10.28)	3.08
Mississippi Border-North	23	(1.80)	0.29	1.00	23	(0.93)	0.29
Mississippi Border-South	209	(16.22)	1.53	1.72	359	(14.49)	2.63
Western Prairie/Forest	58	(4.50)	0.40	1.40	81	(3.27)	0.56
Central Sand Prairie	46	(3.60)	1.11	2.25	105	(4.21)	2.53
Grand Prairie	313	(24.33)	0.59	2.00	626	(25.23)	1.19
Southern Plain	348	(27.03)	1.47	2.17	754	(30.37)	3.18
Wabash Border	46	(3.60)	0.68	2.00	93	(3.74)	1.38
Shawnee Hills	58	(4.50)	1.11	1.80	105	(4.21)	2.01
Statewide	1,286	(100.00)	0.88	1.93	2,482	(100.00)	1.70

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 9. Summary of beaver trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 117).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	116	(8.55)[b]	1.23	5.80	671	(13.03)[b]	7.14
Northeast Moraine	58	(4.27)	0.70	3.40	197	(3.82)	2.38
Mississippi Border-North	151	(11.11)	1.92	3.54	532	(10.34)	6.78
Mississippi Border-South	127	(9.40)	0.93	3.27	416	(8.09)	3.04
Western Prairie/Forest	127	(9.40)	0.88	4.73	602	(11.69)	4.17
Central Sand Prairie	93	(6.84)	2.24	3.50	324	(6.29)	7.81
Grand Prairie	567	(41.88)	1.08	3.63	2,060	(40.00)	3.91
Southern Plain	69	(5.13)	0.29	3.00	208	(4.04)	0.88
Wabash Border	12	(0.86)	0.18	1.00	12	(0.23)	0.18
Shawnee Hills	35	(2.56)	0.67	3.67	127	(2.47)	2.43
Statewide	1,355	(100.00)	0.93	3.80	5,149	(100.00)	3.52

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 10. Summary of striped skunk trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 128).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	93	(6.25)[b]	0.99	1.88	174	(3.99)[b]	1.85
Northeast Moraine	104	(7.03)	1.26	3.56	371	(8.51)	4.49
Mississippi Border-North	93	(6.25)	1.19	2.63	243	(5.58)	3.10
Mississippi Border-South	69	(4.69)	0.50	1.50	104	(2.39)	0.76
Western Prairie/Forest	174	(11.72)	1.21	1.87	325	(7.45)	2.25
Central Sand Prairie	93	(6.25)	2.24	4.63	429	(9.84)	10.34
Grand Prairie	533	(35.94)	1.01	3.89	2,076	(47.61)	3.94
Southern Plain	220	(14.84)	0.93	1.84	406	(9.31)	1.71
Wabash Border	69	(4.69)	1.02	2.17	151	(3.46)	2.24
Shawnee Hills	35	(2.34)	0.67	2.33	81	(1.86)	1.55
Statewide	1,483	(100.00)	1.02	2.94	4,360	(100.00)	2.98

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 11. Summary of weasel trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 16).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	11	(6.25)[b]	0.12	1.00	11	(5.26)[b]	0.12
Northeast Moraine	24	(12.50)	0.29	1.00	24	(10.53)	0.29
Mississippi Border-North	11	(6.25)	0.14	1.00	11	(5.26)	0.14
Mississippi Border-South	--		--	--	--		--
Western Prairie/Forest	11	(6.25)	0.08	1.00	11	(5.26)	0.08
Central Sand Prairie	11	(6.25)	0.27	1.00	11	(5.26)	0.27
Grand Prairie	71	(37.50)	0.13	1.33	95	(42.11)	0.18
Southern Plain	11	(6.25)	0.05	1.00	11	(5.26)	0.05
Wabash Border	24	(12.50)	0.36	1.00	24	(10.53)	0.36
Shawnee Hills	11	(6.25)	0.21	2.00	22	(10.53)	0.42
Statewide	185	(100.00)	0.13	1.19	220	(100.00)	0.15

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers is parentheses are percentages of statewide total.

Table 12. Summary of coyote trapper and harvest data for wildlife management units in Illinois, 1983-84, from post-season resident trapper mail survey (n = 147).

Wildlife management unit	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest[a]		Estimated trapper harvest/100 km^2
Northwest Hills	58	(3.40)[b]	0.62	5.00	290	(6.67)[b]	3.09
Northeast Moraine	81	(4.76)	0.98	1.29	104	(2.40)	1.26
Mississippi Border-North	127	(7.48)	1.62	2.27	290	(6.67)	3.70
Mississippi Border-South	186	(10.89)	1.36	2.38	440	(10.13)	3.22
Western Prairie/Forest	209	(12.25)	1.45	2.17	452	(10.40)	3.13
Central Sand Prairie	81	(4.76)	1.95	2.57	208	(4.80)	5.02
Grand Prairie	417	(24.49)	0.79	3.06	1,274	(29.33)	2.42
Southern Plain	324	(19.05)	1.37	1.75	568	(13.07)	2.39
Wabash Border	127	(7.48)	1.88	2.73	347	(8.00)	5.15
Shawnee Hills	93	(5.44)	1.78	4.00	370	(8.53)	7.09
Statewide	1,703	(100.00)	1.17	2.55	4,343	(100.00)	2.97

[a] Sum of wildlife management unit totals may not equal statewide total due to rounding error.

[b] Numbers in parentheses are percentages of statewide total.

Table 13. Statewide sample sizes for 1983-84 post-season mail survey of Illinois resident trappers (n = 1,059).

Species	Total effective trappers	Percent effective trappers	Total season catch
Muskrat	646	61.00	18,297
Mink	439	41.45	1,275
Raccoon	753	71.10	6,837
Opossum	484	45.70	3,116
Red fox	173	16.34	482
Gray fox	111	10.48	214
Beaver	117	11.05	445
Striped skunk	128	12.09	376
Weasel	16	1.51	19
Coyote	147	13.88	375

Table 14. Estimated number of effective trappers, average season catch, and total trapper harvest by species in Illinois for 1983-84 season based on post-season trapper mail survey (n = 1,059).

Species	Estimated number of effective trappers	Estimated average season catch	Estimated total harvest
Muskrat	7,482 ± 368[a]	28.32 ± 3.11[a]	211,890 ± 25,949[a]
Mink	5,085 ± 371	2.90 ± 0.29	14,746 ± 1,840
Raccoon	8,722 ± 342	9.08 ± 0.87	79,196 ± 8,353
Opossum	5,606 ± 376	6.44 ± 0.69	36,103 ± 4,614
Red fox	2,004 ± 279	2.79 ± 0.54	5,591 ± 1,347
Gray fox	1,286 ± 231	1.93 ± 0.36	2,482 ± 645
Beaver	1,355 ± 236	3.80 ± 0.74	5,149 ± 1,359
Striped skunk	1,483 ± 246	2.94 ± 0.57	4,360 ± 1,119
Weasel	185 ± 92	1.19 ± 0.20	220 ± 115
Coyote	1,703 ± 261	2.55 ± 0.43	4,343 ± 1,003

[a] ± 95% confidence interval.

Table 15. Distribution of harvest among effective trappers for 8 species of furbearers in Illinois, 1983-84, from post-season resident trapper mail survey.

Total season catch	Percentage of effective trappers for species							
	Mink (439)[a]	Opossum (484)	Red fox (173)	Gray fox (111)	Beaver (117)	Striped skunk (128)	Weasel (16)	Coyote (147)
1	42.14	15.50	51.45	56.76	32.48	41.41	81.25	52.38
2	19.82	15.08	19.08	26.13	17.09	27.34	18.75	12.93
3	12.98	13.22	6.94	5.41	18.80	8.59	--	12.25
4	5.92	11.57	6.36	6.31	5.98	7.81	--	8.16
5	5.92	8.47	4.62	1.80	4.27	2.34	--	4.76
6	5.01	6.82	4.05	0.90	3.42	3.13	--	3.40
7	2.28	2.69	2.89	1.80	5.13	--	--	2.04
8	1.37	2.48	--	--	1.71	1.56	--	2.04
9	0.68	1.45	0.58	--	1.71	1.56	--	--
10	1.14	6.20	--	--	1.71	0.78	--	--
11	0.46	2.07	--	--	0.85	1.56	--	0.68
12	0.91	2.48	0.58	--	5.13	0.78	--	--
13	0.23	0.62	0.58	--	--	--	--	--
14	0.46	1.03	1.16	--	0.85	1.56	--	--
15	--	2.89	--	--	--	0.78	--	--
16-20	0.23	3.93	0.58	0.90	--	0.78	--	1.36
21-25	0.23	1.45	0.58	--	--	--	--	--
>25	0.23	2.07	0.58	--	0.85	--	--	--

[a] Numbers in parentheses indicate sample size for species.

Table 16. Distribution of pelt sales by trappers for 10 species of furbearers in Illinois, 1983-84 season, from post-season resident trapper mail survey (n = 973).

Species	Total number of pelts sold	Total number of pelts sold in Illinois	Percent sold in Illinois	Total number of pelts sold outside of Illinois	Percent sold outside of Illinois
Muskrat	16,300	15,318	93.98	982	6.02
Mink	1,137	1,085	95.43	52	4.57
Raccoon	6,315	5,957	94.33	358	5.67
Opossum	2,041	1,917	93.92	124	6.08
Red fox	428	374	87.38	54	12.62
Gray fox	185	158	85.41	27	14.59
Beaver	278	267	96.04	11	3.96
Striped skunk	75	71	94.67	4	5.33
Weasel	8	8	100.00	0	0.00
Coyote	284	236	83.10	48	16.90
Total or Average	27,051	25,391	93.86	1,660	6.14

Table 17. Summary of non-target catches by trappers in Illinois, 1983-84 season, from post-season resident trapper mail survey (n = 1,056).

Species	Number of trappers catching species	Total number caught	Average number caught	Estimated percent of all trappers catching species	Estimated total caught by all trappers
Cat	139	286	2.06	13.16	3,325
Dog	80	123	1.54	7.58	1,432
Squirrel	30	59	1.97	2.84	686
Rabbit	38	84	2.21	3.60	977
Rat	3	6	2.00	0.28	68
Mouse	3	5	1.67	0.28	57
Crow	20	27	1.35	1.89	313
Blue jay	18	29	1.61	1.70	336
Hawk	12	18	1.50	1.14	210
Owl	6	7	1.17	0.57	82
Bird - Unspecified	51	104	2.04	4.83	1,208
Other (e.g. ground hog, fish, turtle)	14	19	1.36	1.33	222
Totals	275	767	2.79	26.04	8,916

Table 18. Summary of fur hunting activities of trappers in Illinois, 1983-84 season, from post-season resident trapper mail survey (n - 973).

Species	Number of trappers hunting species	Total number harvested by hunting	Average number harvested by hunting	Estimated percent of all trappers effectively hunting species	Estimated total harvest by all trappers effectively hunting species
Raccoon	197	1,545	7.84	20.25	19,470
Opossum	64	293	4.58	6.58	3,695
Red fox	40	102	2.55	4.11	1,286
Gray fox	7	13	1.86	0.72	164
Striped skunk	8	16	2.00	0.82	202
Coyote	57	154	2.70	5.86	1,940
All species	285	2,123	7.45	29.29	26,757

Table 19. Summary of muskrat trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 730; 747; 696; 691; 646).

Area/Season	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest		Estimated trapper harvest/100 km^2
NORTHERN ZONE							
1979-80	9,224	(62.19)[a]	11.27	39.63(±6.48)[b]	365,592	(77.10)[a]	446.73
1980-81	8,745	(61.71)	10.69	40.86(±5.19)	357,305	(75.31)	436.61
1981-82	7,590	(63.79)	9.27	27.69(±3.05)	210,246	(78.01)	256.90
1982-83	6,316	(61.36)	7.72	35.33(±4.91)	223,160	(75.86)	272.69
1983-84	4,922	(65.79)	6.01	35.59(±4.33)	175,148	(82.66)	214.02
SOUTHERN ZONE							
1979-80	5,608	(37.81)	8.73	19.37(±3.07)	108,587	(22.90)	169.04
1980-81	5,426	(38.29)	8.45	21.59(±4.32)	117,140	(24.69)	182.35
1981-82	4,309	(36.21)	6.71	13.75(±2.25)	59,266	(21.99)	92.26
1982-83	3,977	(38.64)	6.19	17.85(±3.29)	71,014	(24.14)	110.55
1983-84	2,560	(34.21)	3.99	14.36(±2.91)	36,742	(17.34)	57.20
STATEWIDE							
1979-80	14,832		10.15	31.97(±4.25)	474,179		324.61
1980-81	14,171		9.70	33.48(±3.66)	474,445		324.79
1981-82	11,899		8.15	22.65(±2.17)	269,512		184.50
1982-83	10,293		7.05	28.58(±3.33)	294,174		201.38
1983-84	7,482		5.12	28.32(±3.11)	211,890		145.05

[a] Numbers in parentheses are percentages of statewide totals.

[b] 95% confidence interval.

Table 20. Summary of mink trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 419; 501; 471; 445; 439).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	5,040 (59.19)[a]	6.16	2.86 (±0.43)[b]	14,428 (61.17)[a]	17.63
1980-81	5,559 (58.48)	6.79	3.13 (±0.45)	17,403 (58.49)	21.27
1981-82	5,146 (63.91)	6.29	3.12 (±0.36)	16,029 (64.01)	19.59
1982-83	3,814 (57.53)	4.66	2.92 (±0.39)	11,144 (60.47)	13.62
1983-84	2,942 (57.86)	3.59	2.94 (±0.40)	8,651 (58.67)	10.57
SOUTHERN ZONE					
1979-80	3,475 (40.81)	5.41	2.63 (±0.41)	9,159 (38.83)	14.26
1980-81	3,947 (41.52)	6.14	3.13 (±0.47)	12,351 (41.51)	19.23
1981-82	2,906 (36.09)	4.52	3.11 (±0.55)	9,013 (35.99)	14.03
1982-83	2,815 (42.47)	4.38	2.59 (±0.36)	7,285 (39.53)	11.34
1983-84	2,143 (42.14)	3.36	2.85 (±0.41)	6,095 (41.33)	9.49
STATEWIDE					
1979-80	8,515	5.83	2.77 (±0.31)	23,587	16.15
1980-81	9,506	6.51	3.13 (±0.33)	29,754	20.37
1981-82	8,052	5.51	3.11 (±0.30)	25,042	17.14
1982-83	6,629	4.54	2.78 (±0.27)	18,429	12.62
1983-84	5,085	3.48	2.90 (±0.29)	14,746	10.09

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 21. Summary of raccoon trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 755; 756; 815; 816; 753).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	9,265 (60.40)[a]	11.32	9.86 (±1.36)[b]	91,338 (64.51)[a]	111.61
1980-81	8,576 (59.79)	10.48	10.44 (±1.70)	89,481 (65.39)	109.34
1981-82	8,411 (60.37)	10.28	9.96 (±1.12)	83,766 (64.30)	102.36
1982-83	7,150 (58.82)	8.74	11.51 (±1.54)	82,316 (65.18)	100.59
1983-84	5,247 (60.16)	6.41	9.55 (±1.26)	50,123 (63.29)	61.25
SOUTHERN ZONE					
1979-80	6,075 (39.60)	9.46	8.27 (±1.17)	50,250 (35.49)	78.22
1980-81	5,768 (40.21)	8.98	8.21 (±1.05)	47,361 (34.61)	73.73
1981-82	5,522 (39.63)	8.60	8.42 (±0.98)	46,508 (35.70)	72.40
1982-83	5,005 (41.18)	7.79	8.79 (±1.16)	43,974 (34.82)	68.45
1983-84	3,475 (39.84)	5.41	8.37 (±1.08)	29,073 (36.71)	45.26
STATEWIDE					
1979-80	15,340	10.50	9.23 (±0.94)	141,588	96.93
1980-81	14,344	9.82	9.54 (±1.10)	136,842	93.68
1981-82	13,933	9.54	9.35 (±0.78)	130,274	89.18
1982-83	12,155	8.32	10.39 (±1.03)	126,290	86.45
1983-84	8,722	5.97	9.08 (±0.87)	79,196	54.22

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 22. Summary of opossum trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 374; 446; 549; 542; 484).

Area/Season	Estimated number of effective trappers		Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest		Estimated trapper harvest/100 km^2
NORTHERN ZONE							
1979-80	3,413	(44.92)[a]	4.17	2.68 (±0.38)[b]	9,151	(33.36)[a]	11.18
1980-81	3,832	(45.29)	4.68	3.60 (±1.12)	13,806	(36.58)	16.87
1981-82	5,266	(56.10)	6.43	4.34 (±0.53)	22,841	(42.03)	27.91
1982-83	4,543	(56.27)	5.55	6.13 (±1.03)	27,892	(51.56)	34.08
1983-84	3,139	(55.99)	3.84	6.32 (±0.98)	19,846	(54.97)	24.25
SOUTHERN ZONE							
1979-80	4,186	(55.08)	6.52	4.37 (±0.62)	18,281	(66.64)	28.46
1980-81	4,630	(54.71)	7.21	5.17 (±0.66)	23,935	(63.42)	37.26
1981-82	4,120	(43.90)	6.41	7.65 (±1.11)	31,504	(57.97)	49.04
1982-83	3,531	(43.73)	5.50	7.42 (±1.02)	26,204	(48.44)	40.79
1983-84	2,467	(44.01)	3.84	6.59 (±0.94)	16,257	(45.03)	25.31
STATEWIDE							
1979-80	7,599		5.20	3.61 (±0.39)	27,432		18.78
1980-81	8,462		5.79	4.46 (±0.63)	37,741		25.84
1981-82	9,386		6.43	5.79 (±0.59)	54,345		37.20
1982-83	8,074		5.53	6.70 (±0.74)	54,096		37.03
1983-84	5,606		3.84	6.44 (±0.69)	36,103		24.72

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 23. Summary of red fox trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 175; 180; 187; 190; 173).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	2,052 (57.71)[a]	2.51	4.20 (±1.92)[b]	8,616 (68.06)[a]	10.53
1980-81	2,220 (65.00)	2.71	3.02 (±1.64)	6,694 (68.54)	8.18
1981-82	1,932 (60.43)	2.36	2.95 (±0.58)	5,694 (64.53)	6.96
1982-83	1,757 (62.11)	2.15	3.27 (±0.78)	5,742 (66.55)	7.02
1983-84	1,158 (57.80)	1.42	3.05 (±0.81)	3,538 (63.28)	4.32
SOUTHERN ZONE					
1979-80	1,504 (42.29)	2.34	2.69 (±0.82)	4,043 (31.94)	6.29
1980-81	1,195 (35.00)	1.86	2.57 (±1.05)	3,073 (31.46)	4.78
1981-82	1,265 (39.57)	1.97	2.47 (±0.61)	3,130 (35.47)	4.87
1982-83	1,072 (37.89)	1.67	2.69 (±0.66)	2,886 (33.45)	4.49
1983-84	846 (42.20)	1.32	2.42 (±0.63)	2,053 (36.72)	3.20
STATEWIDE					
1979-80	3,556	2.43	3.56 (±1.17)	12,659	8.67
1980-81	3,415	2.34	2.86 (±1.12)	9,767	6.69
1981-82	3,197	2.19	2.76 (±0.43)	8,824	6.04
1982-83	2,829	1.94	3.05 (±0.54)	8,628	5.91
1983-84	2,004	1.37	2.79 (±0.54)	5,591	3.83

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 24. Summary of gray fox trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 146; 139; 145; 130; 111).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	1,301 (43.84)[a]	1.59	1.48 (±0.20)[b]	1,931 (32.87)[a]	2.36
1980-81	1,271 (48.20)	1.55	2.03 (±0.60)	2,584 (45.79)	3.16
1981-82	1,163 (46.90)	1.42	1.44 (±0.24)	1,675 (37.55)	2.05
1982-83	745 (38.46)	0.91	2.00 (±0.61)	1,488 (39.22)	1.82
1983-84	510 (39.64)	0.62	1.98 (±0.78)	1,009 (40.65)	1.23
SOUTHERN ZONE					
1979-80	1,666 (56.16)	2.59	2.37 (±0.71)	3,944 (67.13)	6.14
1980-81	1,366 (51.80)	2.13	2.24 (±0.73)	3,059 (54.21)	4.76
1981-82	1,316 (53.10)	2.05	2.12 (±0.31)	2,787 (62.45)	4.34
1982-83	1,191 (61.54)	1.85	1.94 (±0.31)	2,307 (60.78)	3.59
1983-84	776 (60.36)	1.21	1.90 (±0.30)	1,473 (59.35)	2.29
STATEWIDE					
1979-80	2,967	2.03	1.98 (±0.41)	5,875	4.02
1980-81	2,637	1.81	2.14 (±0.47)	5,643	3.86
1981-82	2,479	1.70	1.80 (±0.21)	4,462	3.05
1982-83	1,936	1.33	1.96 (±0.30)	3,795	2.60
1983-84	1,286	0.88	1.93 (±0.36)	2,482	1.70

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 25. Summary of beaver trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 131; 158; 142; 129; 117).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	1,849 (69.47)[a]	2.26	3.52 (±0.88)[b]	6,500 (72.89)[a]	7.94
1980-81	2,031 (67.72)	2.48	3.41 (±0.78)	6,934 (61.66)	8.47
1981-82	1,693 (69.72)	2.07	2.92 (±0.59)	4,938 (71.36)	6.03
1982-83	1,415 (73.64)	1.73	3.94 (±0.97)	5,575 (83.11)	6.81
1983-84	1,042 (76.92)	1.27	4.06 (±0.90)	4,223 (82.02)	5.16
SOUTHERN ZONE					
1979-80	813 (30.53)	1.27	2.97 (±1.19)	2,418 (27.11)	3.76
1980-81	968 (32.28)	1.51	4.45 (±1.53)	4,312 (38.34)	6.71
1981-82	735 (30.28)	1.14	2.70 (±0.83)	1,982 (28.64)	3.09
1982-83	507 (26.36)	0.79	2.24 (±0.67)	1,133 (16.89)	1.76
1983-84	313 (23.08)	0.49	2.96 (±1.11)	926 (17.98)	1.44
STATEWIDE					
1979-80	2,662	1.82	3.35 (±0.71)	8,918	6.11
1980-81	2,999	2.05	3.75 (±0.73)	11,246	7.70
1981-82	2,428	1.66	2.85 (±0.48)	6,920	4.74
1982-83	1,922	1.32	3.49 (±0.74)	6,708	4.59
1983-84	1,355	0.93	3.80 (±0.74)	5,149	3.52

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 26. Summary of striped skunk trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 258; 240; 179; 215; 128).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	3,392 (64.73)[a]	4.14	2.85 (±0.35)[b]	9,664 (61.26)[a]	11.81
1980-81	2,940 (64.58)	3.59	3.10 (±0.58)	9,118 (63.79)	11.14
1981-82	2,000 (65.36)	2.44	2.93 (±0.55)	5,871 (60.71)	7.17
1982-83	2,220 (69.30)	2.71	3.28 (±0.71)	7,278 (71.91)	8.89
1983-84	985 (66.41)	1.20	3.48 (±0.81)	3,432 (78.72)	4.19
SOUTHERN ZONE					
1979-80	1,849 (35.27)	2.88	3.31 (±0.65)	6,111 (38.74)	9.51
1980-81	1,612 (35.42)	2.51	3.21 (±0.92)	5,175 (36.21)	8.06
1981-82	1,060 (34.64)	1.65	3.58 (±0.92)	3,799 (39.29)	5.91
1982-83	983 (30.70)	1.53	2.89 (±0.74)	2,843 (28.09)	4.43
1983-84	498 (33.59)	0.78	1.86 (±0.36)	928 (21.28)	1.44
STATEWIDE					
1979-80	5,241	3.59	3.01 (±0.32)	15,775	10.80
1980-81	4,552	3.12	3.14 (±0.49)	14,293	9.78
1981-82	3,060	2.09	3.16 (±0.48)	9,670	6.62
1982-83	3,203	2.19	3.16 (±0.54)	10,121	6.93
1983-84	1,483	1.02	2.94 (±0.57)	4,360	2.98

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 27. Summary of weasel trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 16; 17; 11; 16; 16).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	163 (50.00)[a]	0.20	1.00 (±0.00)[b]	163 (47.06)[a]	0.20
1980-81	171 (52.94)	0.21	1.00 (±0.00)	171 (47.37)	0.21
1981-82	171 (90.91)	0.21	1.40 (±0.43)	239 (93.33)	0.29
1982-83	105 (43.75)	0.13	1.14 (±0.28)	119 (47.06)	0.15
1983-84	92 (50.00)	0.11	1.13 (±0.24)	104 (47.37)	0.13
SOUTHERN ZONE					
1979-80	163 (50.00)	0.25	1.13 (±0.24)	183 (52.94)	0.28
1980-81	152 (47.06)	0.24	1.25 (±0.32)	191 (52.63)	0.30
1981-82	17 (9.09)	0.03	1.00 (±0.00	17 (6.67)	0.03
1982-83	134 (56.25)	0.21	1.00 (±0.00)	134 (52.94)	0.21
1983-84	93 (50.00)	0.14	1.25 (±0.32)	116 (52.63)	0.18
STATEWIDE					
1979-80	326	0.22	1.06 (±0.12)	346	0.24
1980-81	323	0.22	1.12 (±0.16)	362	0.25
1981-82	188	0.13	1.36 (±0.40)	256	0.18
1982-83	239	0.16	1.06 (±0.12)	253	0.17
1983-84	185	0.13	1.19 (±0.20)	220	0.15

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

Table 28. Summary of coyote trapper and harvest data for furbearer management zones in Illinois, 1979-80 through 1983-84, from post-season resident trapper mail survey (n = 102; 101; 129; 116; 147).

Area/Season	Estimated number of effective trappers	Estimated number of effective trappers/100 km^2	Average season catch	Estimated total trapper harvest	Estimated trapper harvest/100 km^2
NORTHERN ZONE					
1979-80	894 (43.14)[a]	1.09	4.86 (±4.84)[b]	4,350 (59.44)[a]	5.32
1980-81	797 (41.58)	0.97	4.10 (±4.06)	3,264 (57.14)	3.99
1981-82	855 (38.76)	1.04	1.92 (±0.55)	1,644 (31.07)	2.01
1982-83	551 (31.90)	0.67	1.92 (±0.55)	1,059 (26.30)	1.29
1983-84	741 (43.54)	0.91	2.77 (±0.85)	2,050 (47.20)	2.50
SOUTHERN ZONE					
1979-80	1,179 (56.86)	1.84	2.52 (±1.12)	2,968 (40.56)	4.62
1980-81	1,120 (58.42)	1.74	2.19 (±0.44)	2,449 (42.86)	3.81
1981-82	1,350 (61.24)	2.10	2.70 (±0.65)	3,648 (68.93)	5.68
1982-83	1,177 (68.10)	1.83	2.52 (±0.63)	2,967 (73.70)	4.62
1983-84	962 (56.46)	1.50	2.39 (±0.40)	2,293 (52.80)	3.57
STATEWIDE					
1979-80	2,073	1.42	3.53 (±2.18)	7,318	5.01
1980-81	1,917	1.31	2.98 (±1.71)	5,713	3.91
1981-82	2,205	1.51	2.40 (±0.45)	5,292	3.62
1982-83	1,728	1.18	2.33 (±0.46)	4,026	2.76
1983-84	1,703	1.17	2.55 (±0.43)	4,343	2.97

[a] Numbers in parentheses are percentages of statewide total.

[b] 95% confidence interval.

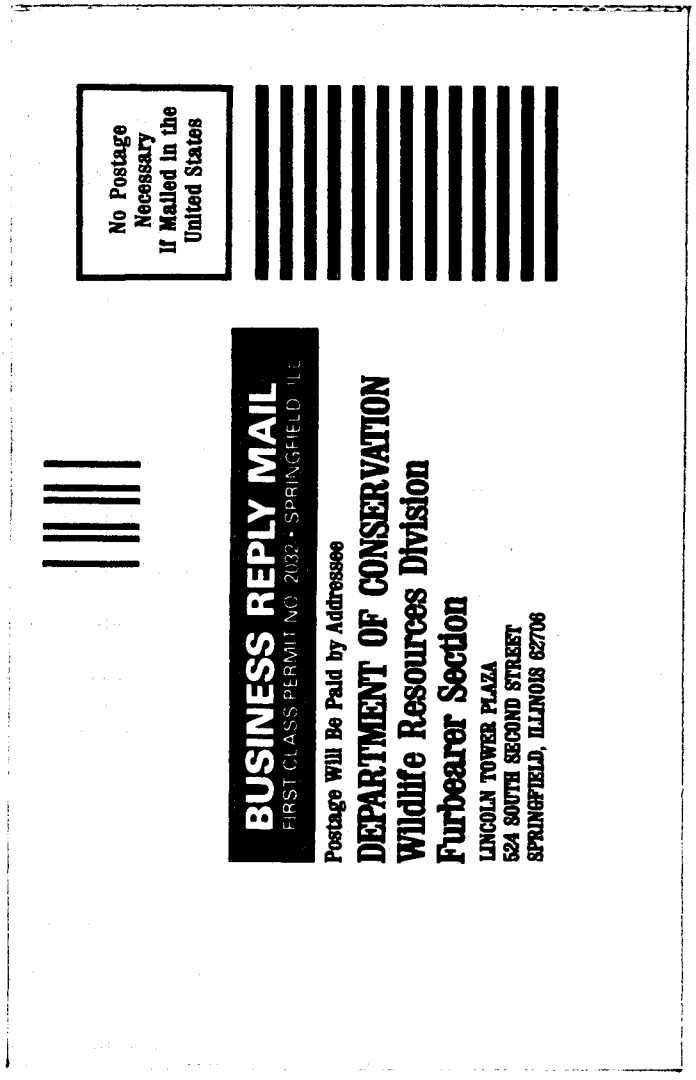
Table 29. Sample sizes used to determine the relative abundance of opossums among wildlife management units in Illinois, 1979-80 through 1983-84 seasons.

Wildlife management unit	Number of effective raccoon/opossum trappers sampled	Total number of raccoons trapped	Total number of opossums trapped
Northwest Hills	418	4,013	838
Northeast Moraine	233	2,504	686
Mississippi Border-North	240	2,897	1,121
Mississippi Border-South	420	3,379	2,019
Western Prairie/Forest	465	4,448	1,193
Central Sand Prairie	112	1,102	415
Grand Prairie	1,183	10,219	2,646
Southern Plain	529	4,047	2,081
Wabash Border	178	1,471	776
Shawnee Hills	76	627	548

Table 30. Relative abundance of opossums among wildlife management units in Illinois, 1979-80 through 1983-84 seasons.

Wildlife management unit	Mean number of opossums per effective raccoon/opossum trapper	Number of opossums trapped per 100 raccoons trapped	Percent of effective trappers in unit who caught opossums	Mean annual estimated trapper opossum harvest/100 km^2
Northwest Hills	2.00(10)[a]	20.88(10)	38.99(10)	28.75 (8)
Northeast Moraine	2.94 (7)	27.40 (7)	42.55 (9)	29.91 (7)
Mississippi Border-North	4.67 (3)	38.70 (5)	52.83 (6)	45.65 (2)
Mississippi Border-South	4.81 (2)	59.75 (2)	61.94 (4)	52.31 (1)
Western Prairie/Forest	2.57 (8)	26.82 (8)	52.60 (7)	27.91 (9)
Central Sand Prairie	3.71 (6)	37.66 (6)	56.91 (5)	32.01 (5)
Grand Prairie	2.24 (9)	25.89 (9)	45.87 (8)	16.77(10)
Southern Plain	3.93 (5)	51.42 (4)	64.65 (3)	30.27 (6)
Wabash Border	4.36 (4)	52.75 (3)	67.38 (1)	38.98 (4)
Shawnee Hills	7.21 (1)	87.40 (1)	67.07 (2)	39.44 (3)

[a] Numbers in parentheses indicate rank among units.



TO ISSUING AGENT:

COMPLETE THIS FORM AND MAIL IMMEDIATELY UPON SALE OF FIRST LICENSE IN BOOK

The Department of Conservation is conducting a survey to estimate the fur harvest in Illinois. To effect this, we need the names and addresses of part of our licensed trappers. Please print at the bottom of this page, in space provided, name, mailing address including zip code, and county of residence of the person who purchases the first license in this book. Please detach the next page and give to license purchaser.

Thank you for your cooperation. Please note reverse side is Business Reply postal card, perforated at binding for removing.

MAIL IMMEDIATELY UPON SALE OF LICENSE
TRAPPING (1983 SERIES)

Name	JOHN DOE
Rural Route or Street Address	123 Maple St.
Post Office	Anytown
Zip Code	63989
County of Residence	Sangamon

Figure 1. Mail survey address card issued to license vendors in 1983-84 post-season trapper mail survey.

DETACH THIS PAGE AND GIVE TO PERSON WHO PURCHASES FIRST LICENSE IN BOOK

Dear Trapper:

Please keep an accurate record of the **number of days you had traps set, the average number and kinds of traps you used during the season, the number of furbearers you caught in traps, what county you trapped in most, and the number and kinds of pelts you sold in Illinois and Out of State.**

You may be one of the selected trappers contacted at the close of the trapping season and provided a form to return to the Illinois Department of Conservation.

Thanks for your cooperation.

THE BACK SIDE OF THIS CARD MAY BE USED FOR RECORD KEEPING.

Number of TRAPS I had set: _____

Number of DAYS I had traps set: _____

FURBEARERS CAUGHT IN TRAPS: ____

Species	Total Number Caught	Number Sold	
		In Illinois	Out-of-State
Muskrat			
Mink			
Raccoon			
Opossum			
Beaver			
Red Fox			
Gray Fox			
Coyote			
Striped Skunk			
Weasel			

Other Animals Caught: _____

_____

_____

Figure 2. Information and activity record card issued to trappers in 1983-84 post-season trapper mail survey.

Illinois Department of Conservation
life and land together

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62706
CHICAGO OFFICE - ROOM 100, 160 NO. LASALLE 60601
David Kenney, Director • James C. Helfrich, Assistant Director

1 1983-84

Dear Illinois Trapper:

The harvest of fur-bearing animals is one of the few field and stream sports that is tied to our economy through a return from the crop. In the 1982-83 season, there were 670,212 pelts sold by Illinois fur-takers for a value to them of $5,931,454. We need information on the trapped portion of the catch for the 1983-84 season.

You can make an important contribution to the future management of Illinois' fur harvests and trapping activity by completing the enclosed questionnaire. The questionnaire is self-explanatory. If you did not trap, simply answer questions #1 and #8 and return the questionnaire. If you did trap, please fill out the questionnaire completely.

The information requested from you and other trappers is used in determining catch, trapping success, trapping pressure, and trapper characteristics on a statewide basis. These facts are necessary for a better understanding of how regulations affect your trapping and the welfare of the furbearer populations. Also, with your help, the future of sport trapping will be assured.

Please take a few minutes and fill out the questionnaire. If you do not remember exact figures, please give your best estimate. Also, if you trapped in partnership with another person, list only your half of the catch. Drop the completed questionnaire in the mail; no postage is required. Please reply even if you did not trap this season or were not successful.

Yours for better trapping.

Sincerely,

George Hubert, Jr.

George Hubert, Jr.
Furbearer Biologist

Figure 3. Letter of transmittal sent with initial mailing in 1983-84 post-season trapper mail survey.

Illinois Department of Conservation
life and land together

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62706
CHICAGO OFFICE - ROOM 100, 160 NO. LASALLE 60601
David Kenney, Director • James C. Helfrich, Assistant Director

2

Dear Illinois Trapper:

Recently we mailed to you a Trapping Survey Questionnaire and requested that you fill out and return the completed form. We have not received your form at this time - perhaps because you have misplaced the questionnaire card or haven't found time to complete it and return it to us.

We are enclosing another questionnaire card which we hope you will complete and return as soon as possible. If you have already returned a questionnaire, please destroy this one. The information supplied by you and other trappers being sampled will be of great value to the Conservation Department in better directing the management of the Illinois furbearer resource.

Please fill out the form completely and return it even if you did not trap or were not successful. If you trapped in partnership with another person, please list only your half of the catch. No postage is required to return the completed questionnaire. Simply fill it out and drop it in the mail.

Your prompt attention will be greatly appreciated. Thank you.

Sincerely,

George Hubert, Jr.

George Hubert, Jr.
Furbearer Biologist
Div. of Fish & Wildlife Resources

Figure 4. Letter of transmittal sent with first follow-up mailing in 1983-84 post-season trapper mail survey.

Illinois Department of Conservation
life and land together

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62706
CHICAGO OFFICE - ROOM 100, 160 NO. LASALLE 60601
David Kenney, Director • James C. Helfrich, Assistant Director

3

Dear Illinois Trapper:

This is to remind you that we still would like to receive an answer to the questionnaire concerning your trapping activity this past season. We don't like to keep bothering you, but this is very important information which only you can supply.

Another copy of the questionnaire card is enclosed. We hope you will complete and return it as soon as possible. If you have already returned a questionnaire, simply destroy this one. We are making a final effort to obtain a complete response so that we may compile the information received from all co-operating trappers and prepare a report of our findings. Remember, your response is needed - even though you did not trap or had an unsuccessful season. Also, if you trapped in partnership with another person, kindly list only your half of the catch.

No postage is required to return the completed questionnaire card. Just fill it out and drop it in the mail. Please help us complete this survey by sending it in now!

Sincerely,

George Hubert, Jr.

George Hubert, Jr.
Furbearer Biologist
Div. of Fish & Wildlife Resources

Figure 5. Letter of transmittal sent with second follow-up mailing in 1983-84 post-season trapper mail survey.

NO Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 2032, SPRINGFIELD, IL

POSTAGE WILL BE PAID BY ADDRESSEE

Illinois Department of Conservation
Div. of Fish & Wildl. Resources — Furbearer
Lincoln Tower Plaza
524 South 2nd Street
Springfield, Illinois 62706

FURBEARER TRAPPING SURVEY 1983-84 SEASON

1. Did you trap for furbearers in Illinois during the 1983-84 season? Yes ☐ No ☐
2. In what COUNTY did you do MOST of your trapping? _____
3. How many days (or nights) did you have traps set? _____
4. How many years of trapping experience do you have? _____ years
5. Did you personally have any of your traps stolen during the 1983-84 season? Yes ☐ No ☐
6. Please fill in **all three blanks** for each kind of furbearer you trapped in Illinois during the 1983-84 season:

	Number Caught In Traps	Number SOLD In Illinois	Number SOLD Out of State
Muskrat			
Mink			
Raccoon			
Opossum			
Red Fox			
Gray Fox			
Beaver			
Skunk			
Weasel			
Coyote			

7. Did you have any accidental catches during the 1983-84 season (birds, dogs, cats, etc.)? Yes ☐ No ☐ If yes, please list what kind and how many: _____
8. Did you also HUNT furbearers with gun and/or dogs during the 1983-84 season? Yes ☐ No ☐ If yes, please give the number of each kind taken:
   Raccoon_____ Red Fox_____ Skunk_____
   Opossum_____ Gray Fox_____ Coyote_____

THANK YOU FOR YOUR COOPERATION!!!
NO POSTAGE REQUIRED

Printed by Authority of the State of Illinois
2600-9-83
The Department of Conservation is an equal opportunity employer.

The Dept. of Conservation is requesting this information as outlined under the Wildlife Code, Chapter 61. Providing this information is voluntary. This form has been approved by the State Forms Management Center.

IL422-0387 (9/83)

Figure 6. Questionnaire form for post-season mail survey of Illinois trappers, 1983-84 season.

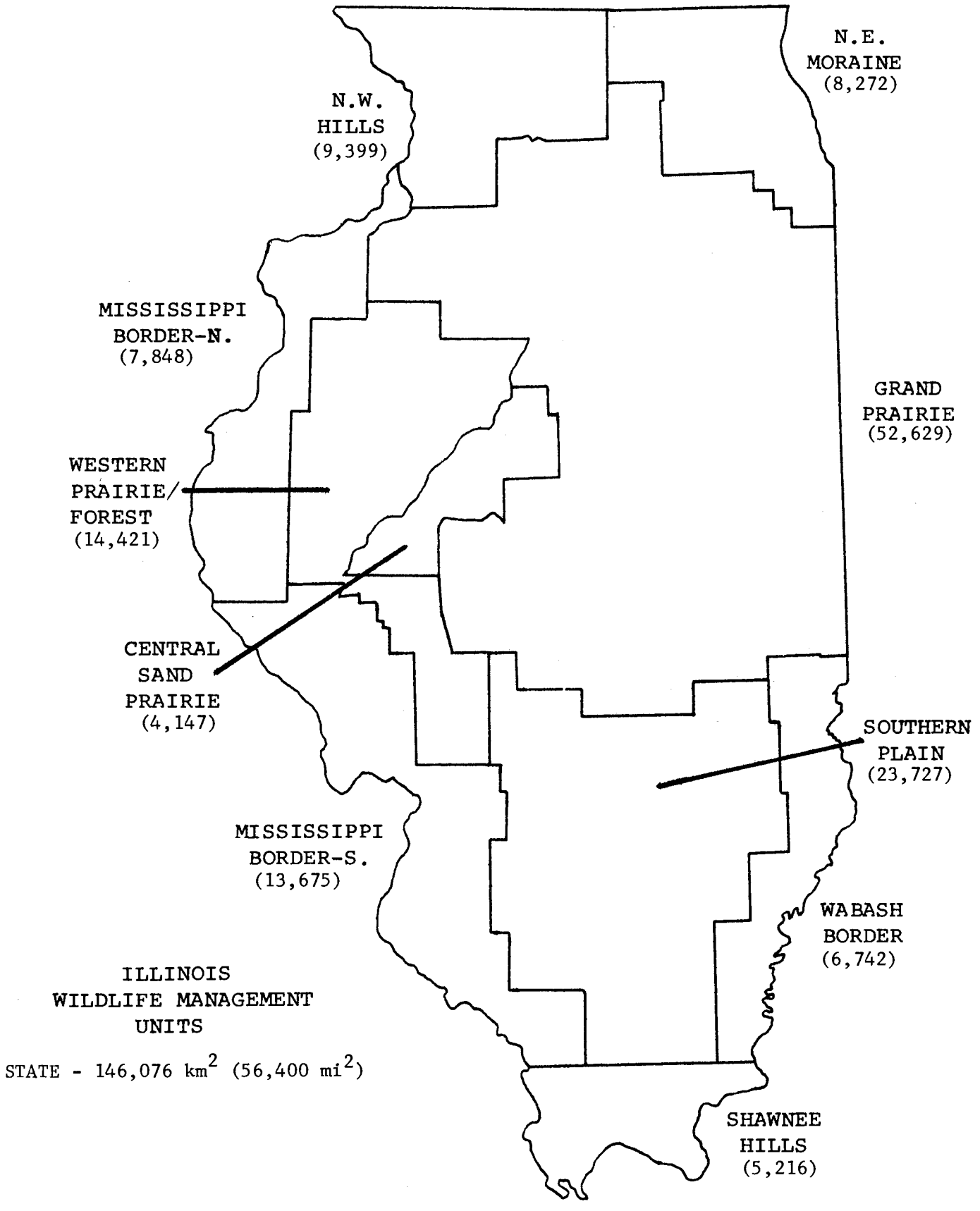


Figure 7. Area (km^2) of wildlife management units in Illinois.

Figure 8. Furbearer management zones for the 1983-84 season.

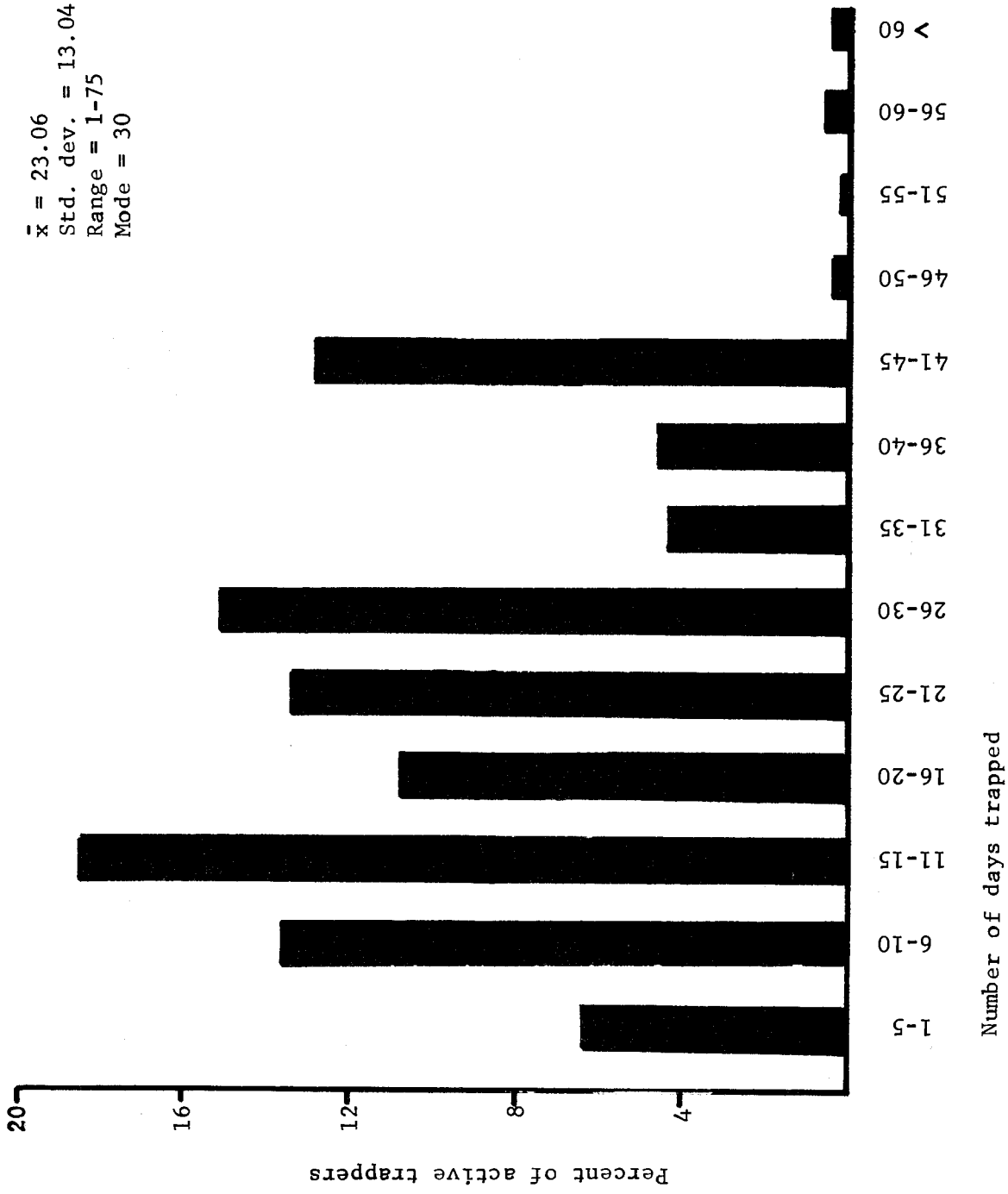


Figure 9. Distribution of days trapped per active trapper in Illinois, 1983-84 season (n = 898).

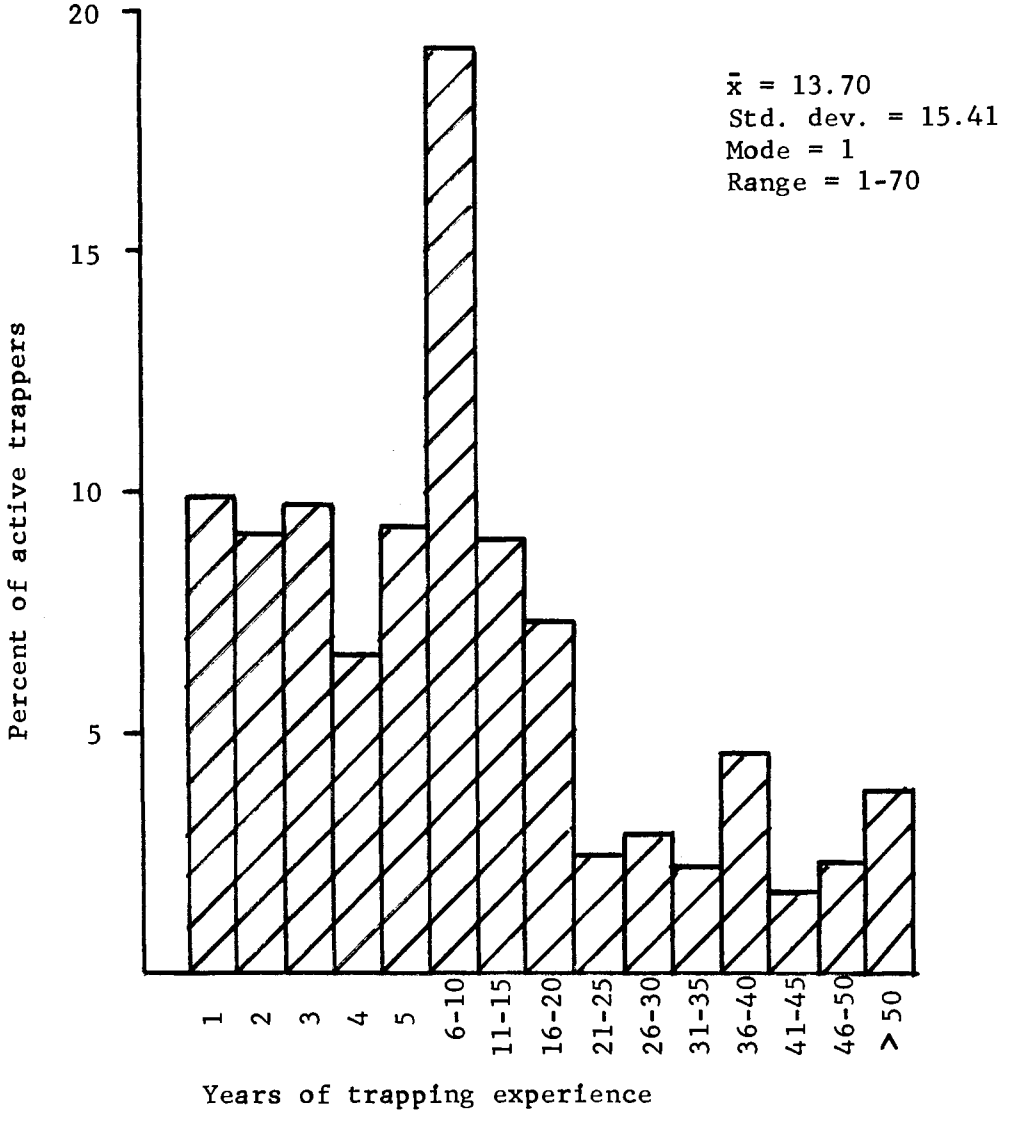


Figure 10. Years of trapping experience per active trapper in Illinois, 1983-84 season (n = 898).

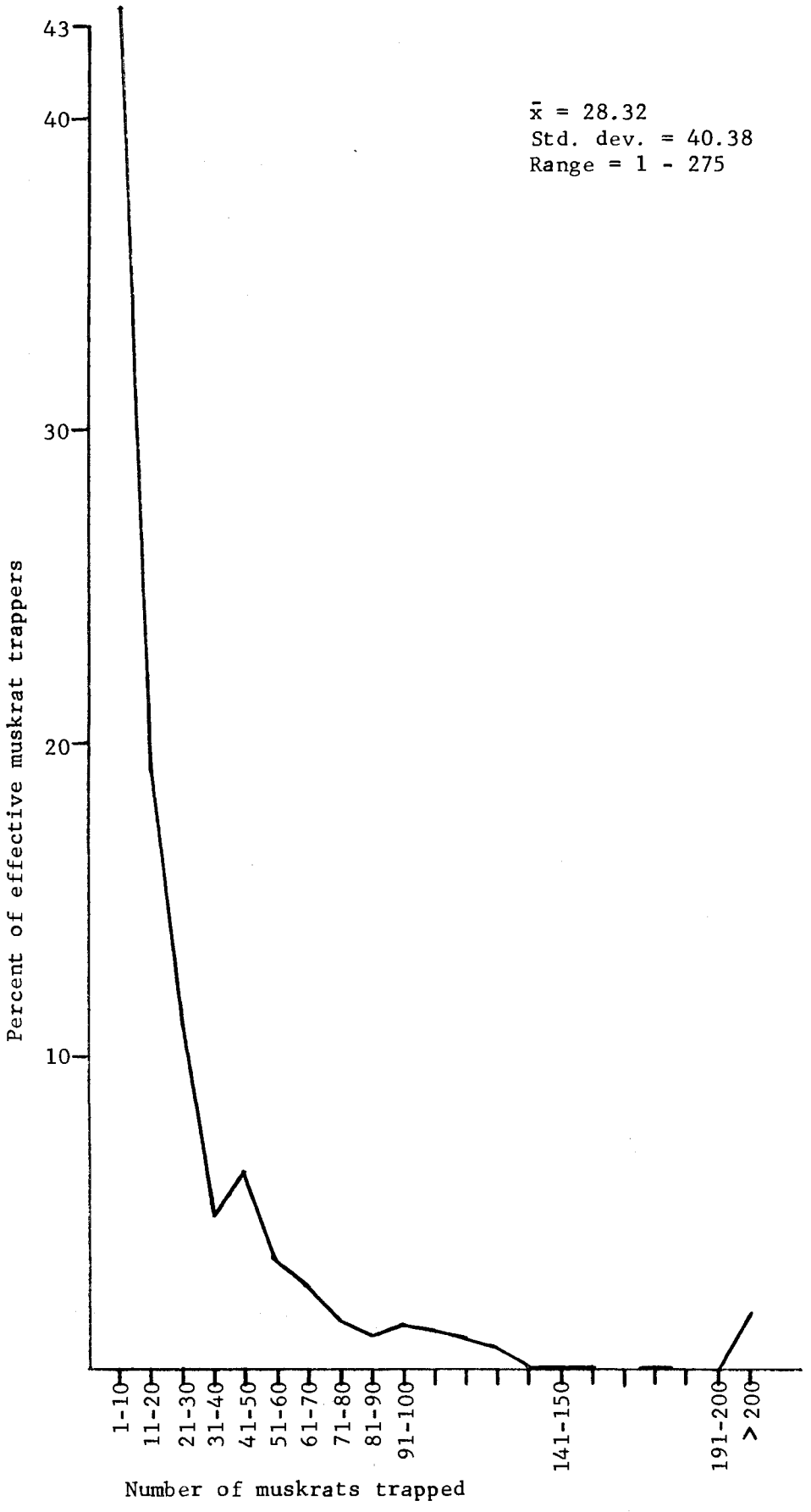


Figure 11. Distribution of muskrats trapped per effective muskrat trapper in Illinois, 1983-84 season (n = 646).

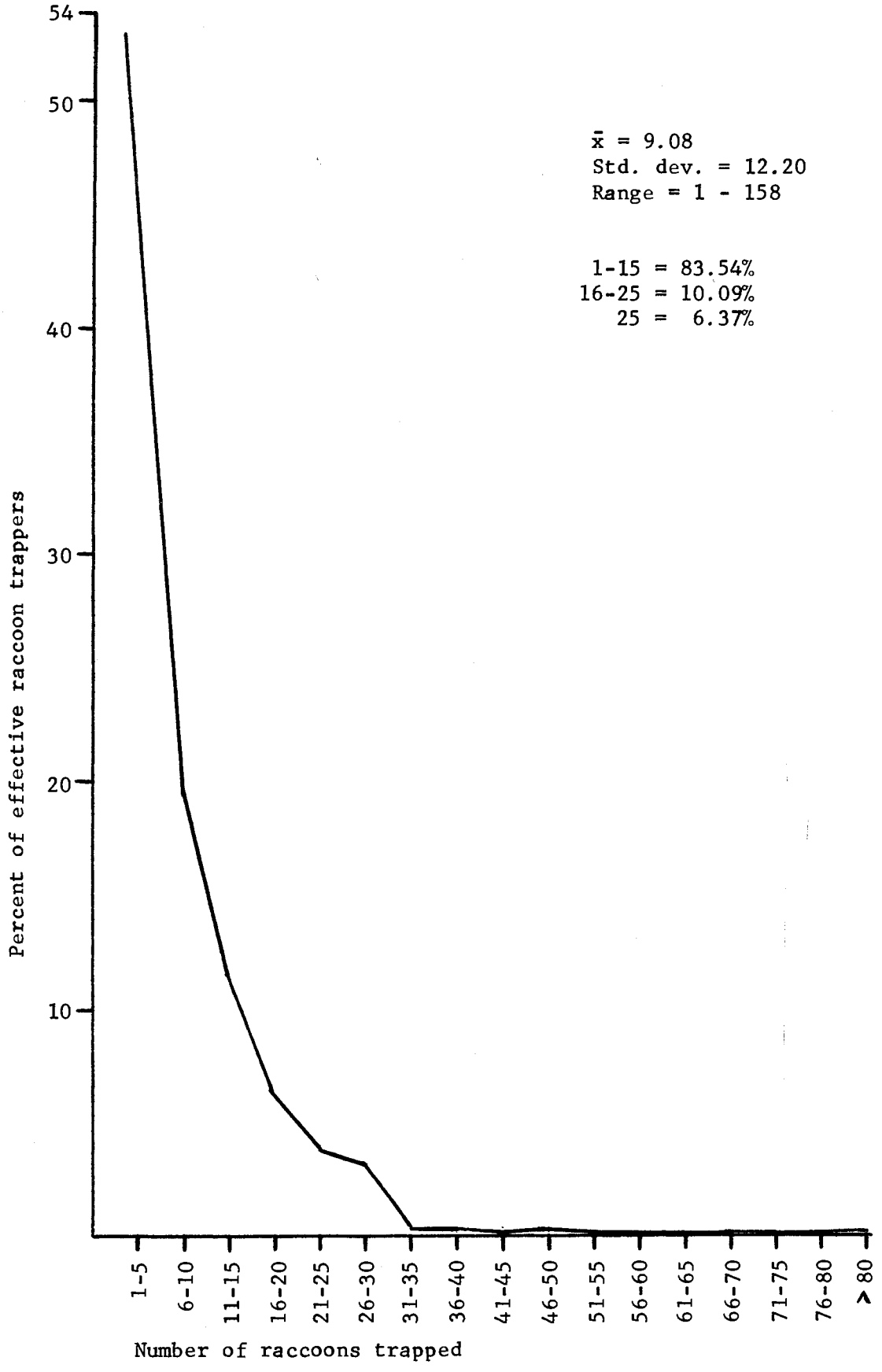


Figure 12. Distribution of number of raccoons trapped per effective raccoon trapper in Illinois, 1983-84 season (n = 753).

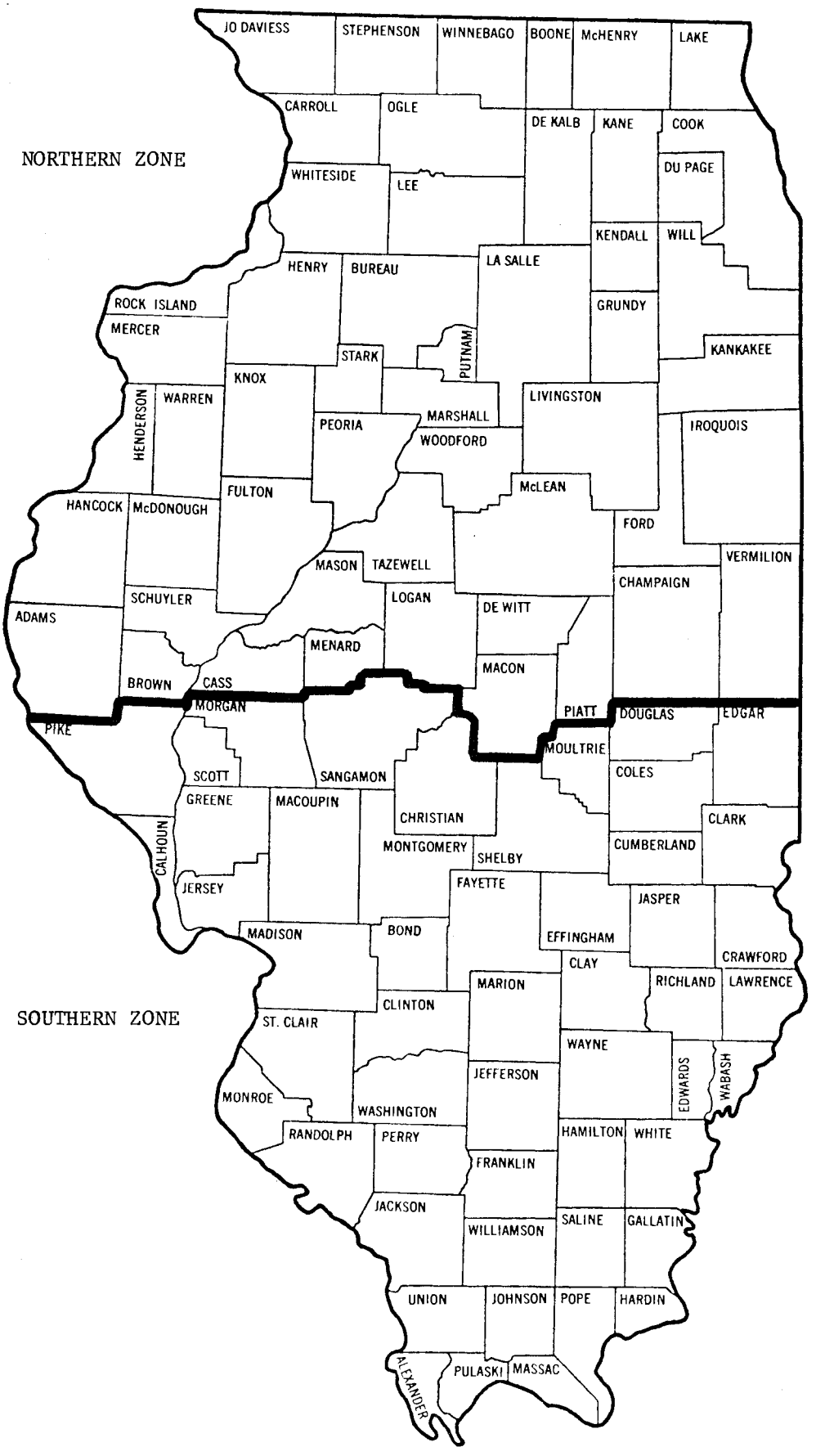


Figure 13. Existing furbearer management zones (based on county boundaries) used to prepare 1979-80 through 1983-84 season data summaries.