JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO: W-49-R(26) STUDY II JOB NO. 4

STUDY II: Wildlife Harvests

JOB NO. 4: Trapper harvest survey, 1978-79

ABSTRACT: A stratified random sample of 1,200 persons who purchased 1978 series resident 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 1,191 (99.25 percent) recipients from which 965 useable replies were received (81.02 percent return). Of these, 87.77 percent were active, i.e. set one or more traps during the season. Only 2.95 percent of the active trappers were ineffective, i.e. caught nothing.

The 1978-79 survey covered 10 furbearer species. Findings are presented on a statewide basis and for each of the 10 wildlife management units in the state. These 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) 14,266 (564,497), mink (Mustela vison) 8,346 (26,534), raccoon (Procyon lotor) 13,236 (120,134), opossum (Didelphis marsupialis) 6,709 (19,541), red fox (Vulpes vulpes) 3,213 (8,265), gray fox (Urocyon cinereoargenteus) 2,364 (4,748), beaver (Castor canadensis) 2,081 (5,314), striped skunk (Mephitis mephitis) 3,193, (8,306), weasel (Mustela frenata, M. rixosa) 606 (707), and coyote (Canis latrans) 1,516 (3,881).

The average trapper had traps set for 24.11 days (or nights). Active trappers reported a mean of 12.20 years of trapping experience. Useable trap composition was 37.93 percent Conibear or killer type, 61.25 percent leg-hold, and 0.82 percent cage type. The majority of effective muskrat trappers (54.11 percent) caught 20 or fewer muskrats during the season. Most effective raccoon trappers (85.95 percent) harvested from 1 to 15 raccoons for the entire season while 93.58 percent trapped 25 or less. Trappers sold 98.72 percent of their 1978-79 catch of which 3.93 percent was sold out of state. An accidental catch rate of 2.13 percent was reported. Approximately 28 percent of the licensed trappers also hunted furbearers, primarily raccoons. The harvest of pelts by hunting trappers amounted to 6.31 percent of the total trapped catch in the sample.

JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R(26) STUDY II JOB NO. 4

STUDY II: Wildlife Harvests

JOB NO. 4: Trapper harvest survey, 1978-79

OBJECTIVE: To determine the annual trapper harvest of all open season furbearers in Illinois, relate this parameter to population trends and characteristics, habitat conditions, and other factors which may influence trapper harvest, and develop annual statewide trapping regulations.

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 5 resident trapping licenses in the 1978 series (total sales estimate 19,500 - 1 July 1979) (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 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 subsample based on the distribution of the 1971-75 trapping license sales were drawn. The size of the sub-sample was set at 1,200 since this amount would result in 900 to 1,000 useable replies for adequate reliability at the statewide level. Address cards in the drawn sample were manually marked with serial numbers to provide for 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 (15.0¢) 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 1978-79 seasons; active - those that did set one or more traps for furbearers during the 1978-79 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, non-target catches, and species hunted were numerically coded. Reply data were transferred directly to computer tape at Transactive Systems, Inc., Arlington Heights, Illinois, using remote terminals and stored for subsequent analyses. Mr. Paul Smedinghoff, a programmer at Transactive, 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 percent 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:

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

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

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

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

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

x_i = reported season catch for species in question

c. Total trapper harvest:

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

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

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:

1978-79 Trapping Seasons

The 1978-79 fur-bearing mammal trapping seasons varied from 30 to 90 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 zone (Fig. 8). Beaver trapping season was 90 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 prohibited beaver trapping in Cook County.

1978-79 Trapper Mail Survey

The initial mailing of 1,200 questionnaires was made on 12 January 1979. The two follow-up mailings to non-respondents were made on 15 February (667) and 15 March (349) and closed out on 15 April. Approximately two days preparation was required for each mailing.

A total of 1,191 (99.25 percent) licensees in the 1978-79 survey sample was reached by the Postal Service via first class mail. The remaining 9 questionnaires were returned as undeliverable. There were 965 useable replies received from the licensees contacted, representing an 81.02 percent response on the number delivered. Of these respondents, 847 (87.77 percent) reported that they set one or more traps for furbearers during the season and were classified as active. A total of 822 (97.05 percent) active trappers was effective, i.e. caught one or more furbearers, and the remaining 25 (2.95 percent) were ineffective, i.e. caught nothing.

a. Number of days trapped

Active trappers had traps set an average of 24.11 days (or nights) during the 1978-79 season (Fig. 9). The maximum number of days a trapper could have legally trapped was 90. However, only 1.79 percent of the respondents stated they had traps set for over 45 days. The vast majority of trapping activity appears to be concentrated during the muskrat and raccoon seasons. In 1977-78, Illinois trappers had traps set an average of 25.48 days during a 105 day season (Hubert 1978).

b. Years of trapping experience

Active trappers in 1978-79 had an average of 12.20 years of trapping experience (Fig. 10). The majority (53.3 percent) had been trapping for only 1 to 5 years. In fact, 40.9 percent had just 1 to 3 years of experience. The distribution observed may reflect one of two situations. Possibly the attrition rate of novice trappers is quite high, i.e. many individuals may lose interest after 1 to 5 years of trapping and discontinue the activity. On the other hand, the relative abundance of inexperienced trappers may reflect increased interest in trapping in recent years. Since the number of licensed trappers in Illinois climbed from 7,300 in 1972 to 19,500 in 1978-79, the latter explanation appears more likely. Associated factors may include high pelt prices and a lack of

upland game hunting opportunities. The fact that a majority of trappers lack experience emphasizes the need for a formal trapper education program.

c. Types of traps used

The survey respondents stated their useable trap composition averaged 37.93 percent Conibear or killer type traps, 61.25 percent steel jaw leg-hold traps, and 0.82 percent cage type live traps (N = 947). The distribution of trap types is almost identical to the previous year (Hubert 1978). In comparison, the average Missouri trapper used 22.7 percent Conibear, 76.8 percent leg-hold, and 0.5 percent cage type traps in 1972-73 (Sampson 1973). The more frequent use of Conibear or killer type traps in Illinois probably reflects the higher importance of muskrat trapping in Illinois compared to Missouri.

d. Trapper harvest summary

A statewide summary for the 10 species of furbearers surveyed in 1978-79 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 to 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 1 or more).

Statewide confidence intervals at the 95 percent 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 1978-79, effective muskrat trappers were the most numerous and their projected number varied by only $\pm$ 3.90 percent. The 95 percent confidence interval projections for less numerous mink trappers vary $\pm$ 7.44 percent and for uncommon weasel trappers by $\pm$ 35.97 percent.

e. Distribution of harvest among effective trappers

Muskrat and raccoon were the two most important furbearers trapped during the 1978-79 season in terms of number of effective trappers, average season catch, and total harvest (Table 2). The reported number of muskrats harvested by 706 effective muskrat trappers varied from 1 to 625 and averaged 39.57 (Tables 2, 13, 14). Approximately 71 percent of these trappers took less than the average catch while 54.11 percent harvested 20 or fewer muskrats during the season and 90.94 percent caught 100 or less (Fig. 11). Relatively few trappers are extremely successful at catching muskrats. Of the effective trappers who responded, 182 (25.78 percent) 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 the 655 effective raccoon trappers who reported, averaged 9.06 and ranged from 1 to 221 (Tables 2, 13, 14). Less than the average season catch was taken by 70.69 percent of these trappers (Fig. 12). For the entire season, 85.95 percent harvested 15 or fewer raccoons and 93.58 percent trapped 25 or less. Only 16 (2.44 percent) 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, less than 10 percent of the effective trappers made season catches exceeding five pelts. The exceptions were: effective mink trappers - 12.58 percent of these individuals trapped more than five mink during the season; effective opossum trappers - 12.65 percent trapped more than five opossums during the season; and effective beaver trappers - 11.64 percent caught more than five beaver during the season.

The above data emphasize the inapplicability of bag limits (both daily and seasonal) to furbearer trapping. 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 these highly successful individuals. Bag limits could potentially increase harvests because of their goal-setting effect.

f. Pelt sales

Trappers sold an estimated 98.72 percent of their catch during 1978-79. The portion of each species sold ranged from a low of 48.56 percent for striped skunk to a high of 99.72 percent for muskrat (Table 2). The fraction of pelts sold in Illinois and out of state also varied among species (Table 16). Overall, 96.07 percent of the marketed portion of the trapped catch was sold in Illinois and 3.93 percent out of state. Hubert (1978) found that Illinois trappers sold 2.60 percent of their pelts outside the state in 1977-78.

g. Non-target catches

Accidental catches were reported by 274 (28.42 percent) of all trappers who responded to the 1978-79 survey (Table 17). In comparison, 32.35 percent of the active trappers made non-target catches. Trappers making accidental catches averaged 2.92 for the year. The estimated total number of non-target animals caught by trappers during the season was 16,205. As stated earlier, the estimated total furbearer catch by trappers was 761,947 (Table 2). Therefore, the accidental catch rate was 2.13 percent or 1 accidental catch for every 47 furbearers trapped. If rats and mice are excluded from any accidental catch list, the non-target catch rate would be 1.95 percent. Many respondents indicated that some or all of the animals they accidentally captured were released. An accidental catch rate of 3.12 percent was reported by Illinois trappers in 1977-78 (Hubert 1978).

h. Fur hunting by trappers

A total of 264 (28.12 percent) trappers reported that they hunted furbearers with gun and/or dogs in 1978-79 (Table 18). Their total hunting harvest was 2,379 pelts for an average of 9.01 per hunting trapper. This amounts to 6.48 percent of the total trapped catch in the sample. The raccoon was hunted by more trappers than any other species. Next in popularity was the coyote. Sampson (1973) reported that 33.6 percent of the trappers in Missouri hunted furbearers during the 1972-73 season.

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.

LITERATURE CITED:

Cochran, W. G. 1953. Sampling techniques, 2nd ed. Wiley and Sons, New York. 413 pp.

Hubert, G. F., Jr. 1978. Trapper harvest survey, 1977-78. Illinois Dept. of Conservation P-R Proj. Rep. W-49-R-25, Study II, Job 4. 36 pp.

Sampson, F. W. 1973. Fur harvest survey, 1972-73. Missouri Dept. of Conservation P-R Proj. Rep. W-13-R-28, Study X, Job 1. 16 pp.

Snedecor, G. W., and W. G. Cochran. 1967. Statistical methods, 6th ed. Iowa State Univ. Press, Ames. 593 pp.

DATA AND REPORTS:

Original data and reports in this investigation are on file in the Division of Wildlife Resources office, Illinois Department of Conservation, Springfield IL 61706.

PREPARED BY: G. F. Hubert, Jr.
Furbearer Biologist
Div. of Wildl. Resources

APPROVED BY: T. B. Miller
Supervisor
Div. of Wildl. Resources

DATE: 28 January 1980

GH:jmm

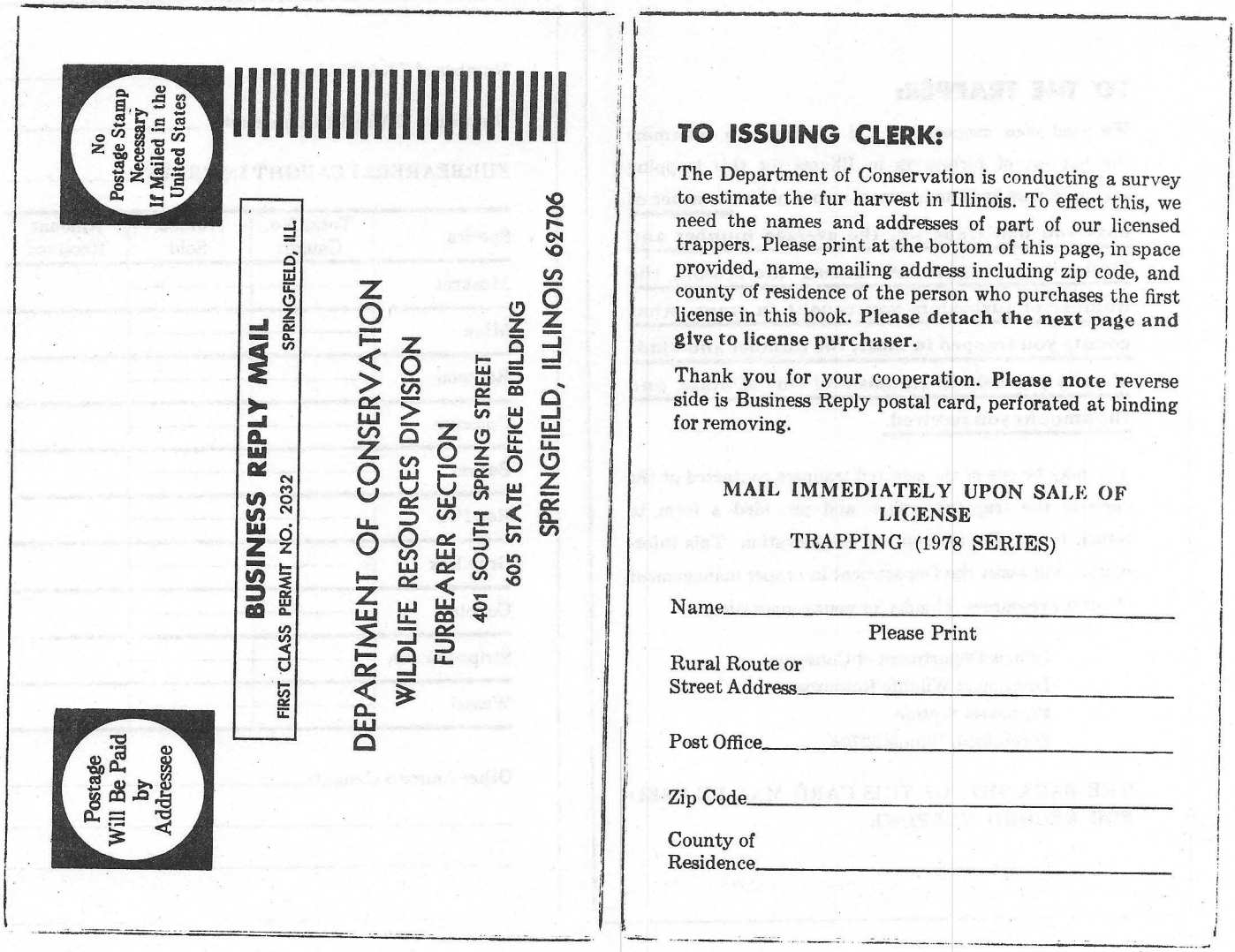

Figure 1. Mail survey address card issued to license vendors in 1978-79 post-season trapper mail survey.

TO THE TRAPPER:

We need your cooperation and assistance to determine the harvest of furbearers in Illinois for this trapping season. 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, the number and kinds of pelts you sold in Illinois and Out of State, and the amount you received.**

You may be one of the selected trappers contacted at the close of the trapping season and provided a form to return to the Department of Conservation. This information will assist the Department in proper management of our fur resources. Thanks for your cooperation.

Illinois Department of Conservation
Division of Wildlife Resources
Furbearer Section
Springfield, Illinois 62706

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 I CAUGHT IN TRAPS:_____

Species	Total No. Caught	Number Sold	Amount Received
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 1978-79 post-season trapper mail survey.

Illinois Department of Conservation
life and land and water

605 STATE OFFICE BUILDING • 400 SOUTH SPRING STREET • SPRINGFIELD 62706
CHICAGO OFFICE – ROOM 100, 160 NO. LASALLE 60601

1 1978-79

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 1977-78 season, there were 627,291 pelts sold by Illinois fur-takers for a value to them of $6,959,493. We need information on the trapped portion of the catch for the 1978-79 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 question #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.
Furbearer Biologist

GH:gh

1 1978-79

Figure 3. Letter of transmittal sent with initial mailing in 1978-79 post-season trapper mail survey.

Illinois Department of Conservation
life and land together

605 STATE OFFICE BUILDING • 400 SOUTH SPRING STREET • SPRINGFIELD 62706
CHICAGO OFFICE – ROOM 100 , 160 NO. LASALLE 60601

2 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
Division of Wildlife Resources

2 2

Figure 4. Letter of transmittal sent with first follow-up mailing in 1978-79 post-season trapper mail survey.

Illinois Department of Conservation
life and land together

605 STATE OFFICE BUILDING • 400 SOUTH SPRING STREET • SPRINGFIELD 62706
CHICAGO OFFICE – ROOM 100, 160 NO. LASALLE 60601

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
Division of Wildlife Resources

3

Figure 5. Letter of transmittal sent with second follow-up mailing in 1978-79 post-season trapper mail survey.

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY MAIL
First Class Permit No. 2032, Spfld., Ill.

Illinois Department of Conservation
Division of Wildlife Resources
Furbearer Section
First and Washington
Springfield, Illinois 62706

Postage Will Be Paid by Addressee

FURBEARER TRAPPING SURVEY
1978-79 SEASON

1. Did you trap for furbearers in Illinois during the 1978-79 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? _____
5. Indicate how many of each of the following types of traps you use:
   - Conibear or killer type traps _____
   - Steel jaw leg-hold traps _____
   - Cage type live traps _____
6. Please fill in all three blanks for each kind or furbearer you trapped in Illinois during the 1978-79 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 last season (birds, dogs, cats, etc.)? Yes ☐ No ☐
   If so, please list what kind and how many: _____
8. Do you also HUNT furbearers with gun and/or dogs? 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

Figure 6. Questionnaire form for post-season mail survey of Illinois resident trappers, 1978-79 season.

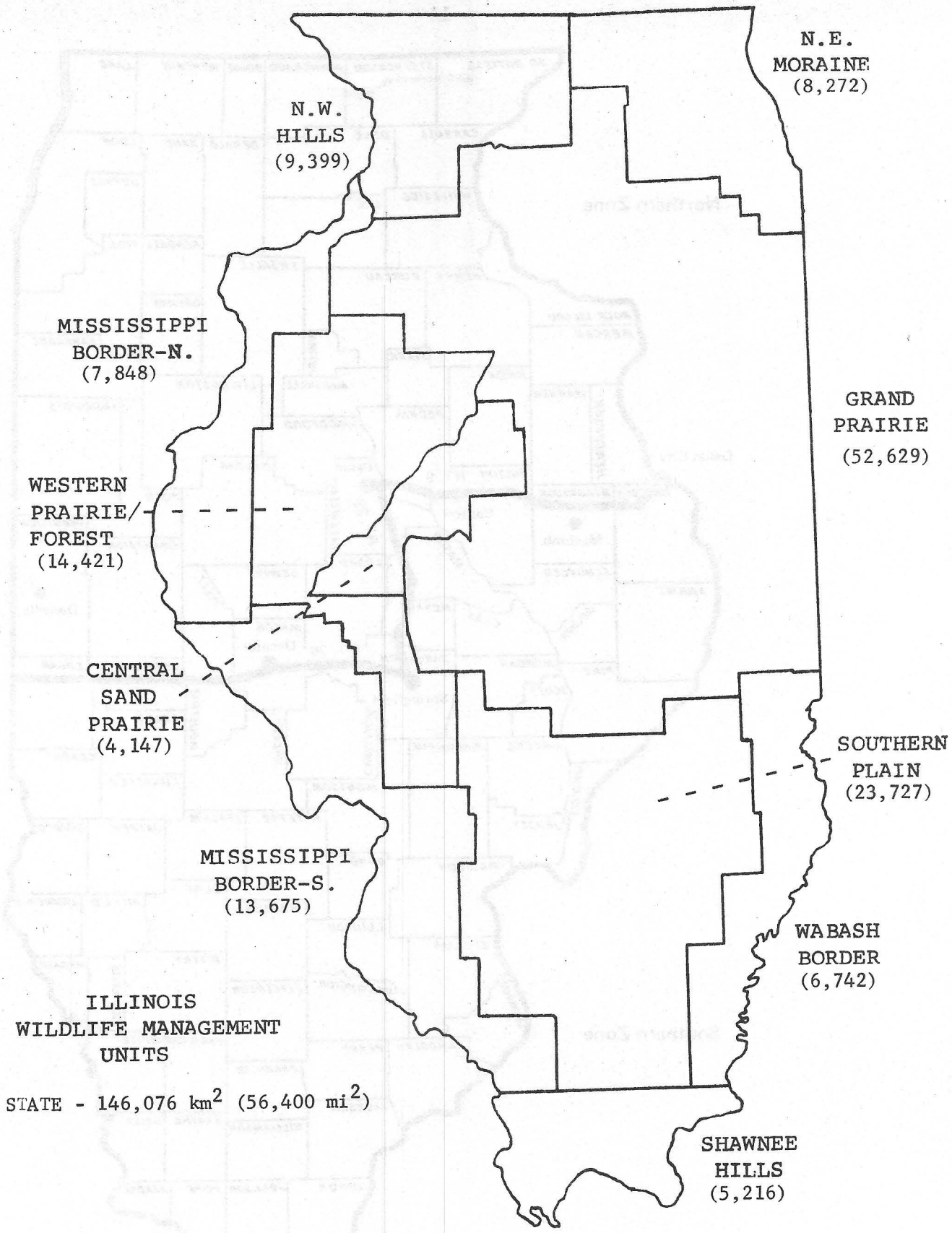

Figure 7. Area (km^2) of wildlife management units in Illinois.

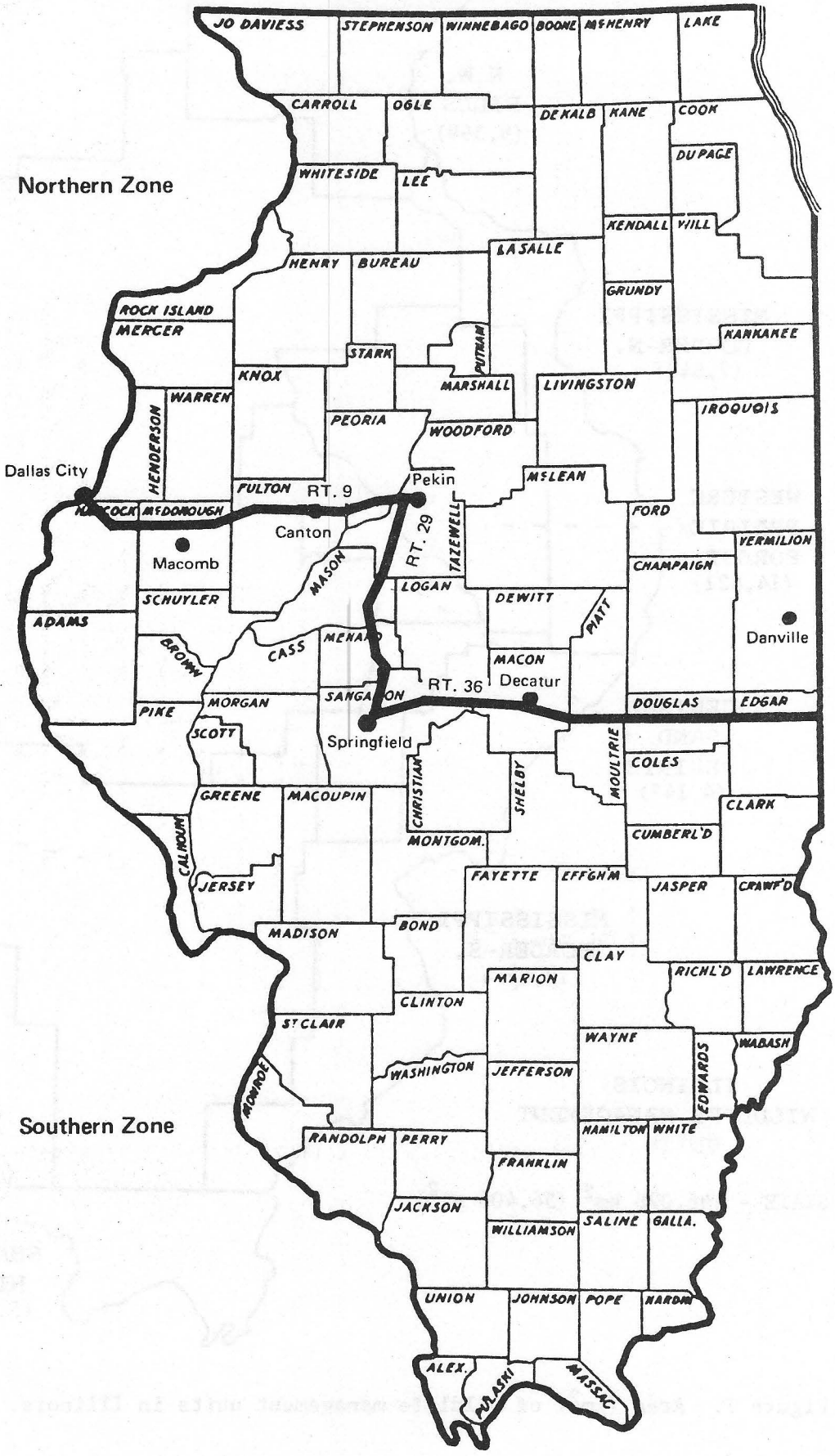

Figure 8. Furbearer management zones for the 1978-79 season.

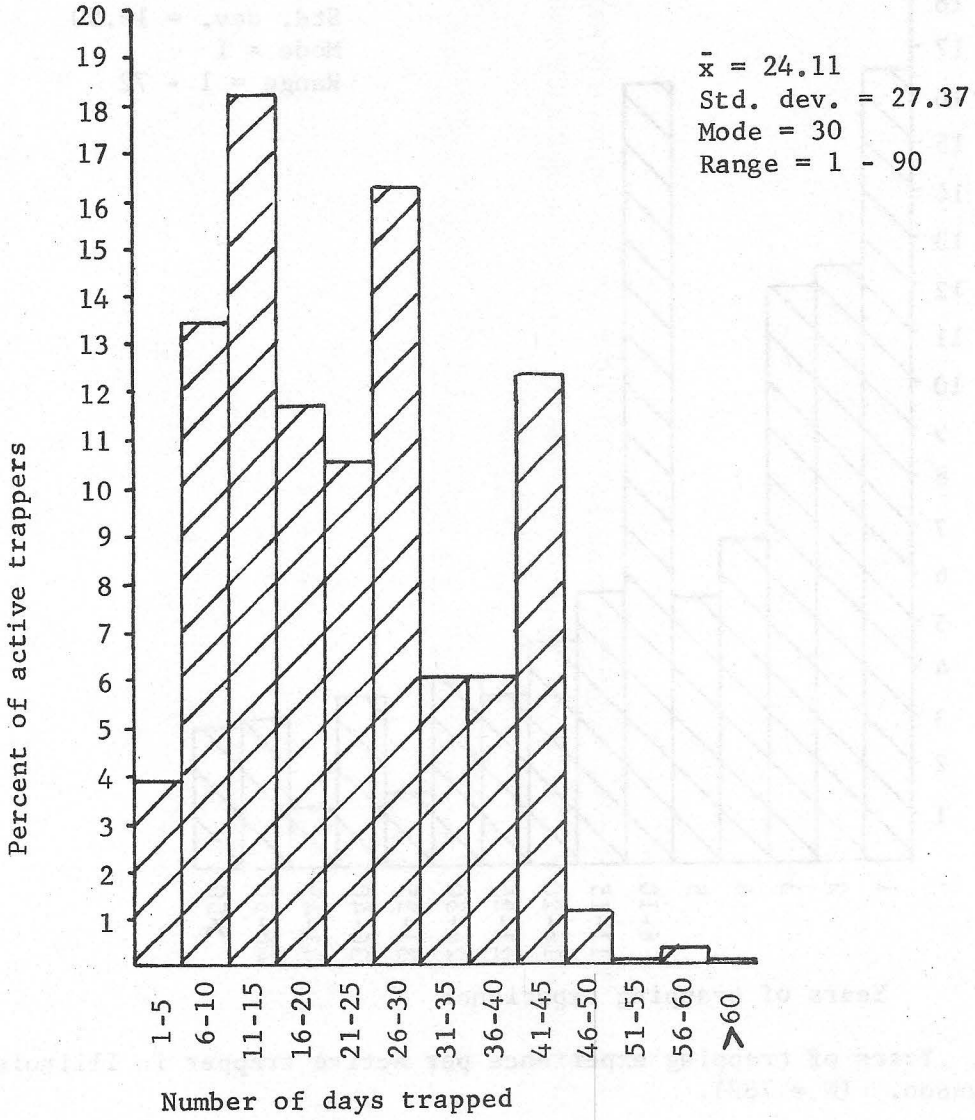

Figure 9. Distribution of number of days trapped per active trapper in Illinois, 1978-79 season. (N = 782).

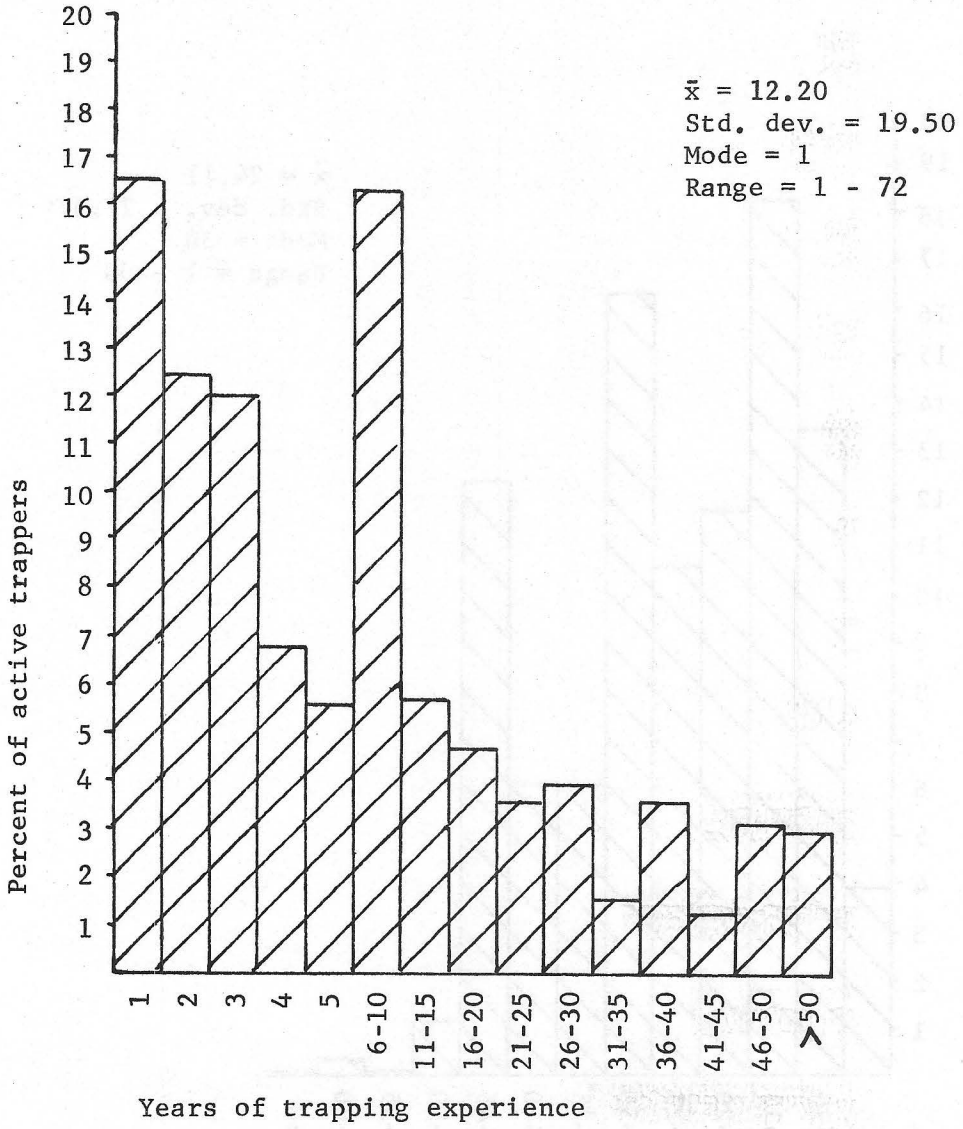

Figure 10. Years of trapping experience per active trapper in Illinois, 1978-79 season. (N = 782).

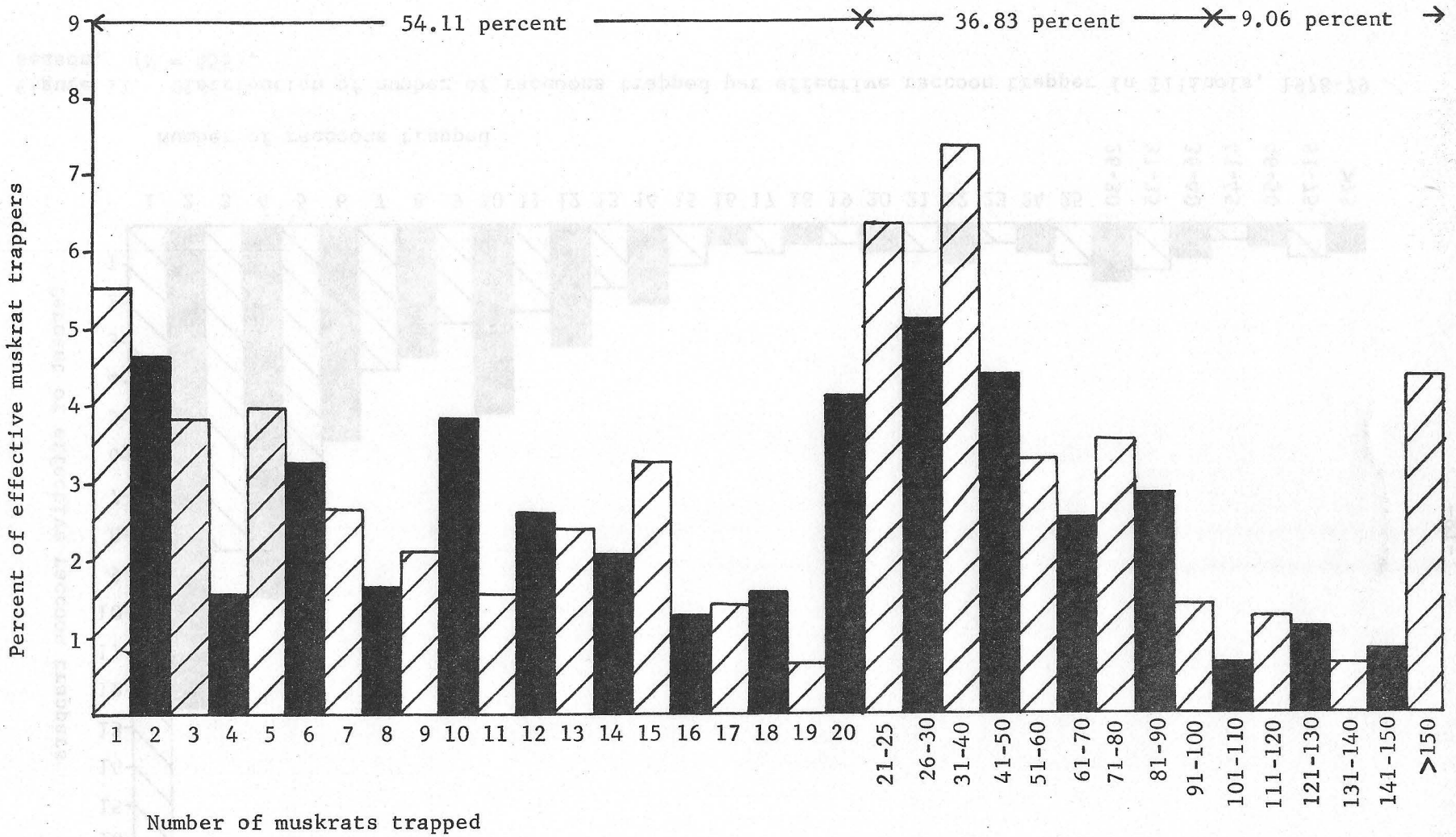

Figure 11. Distribution of number of muskrats trapped per effective muskrat trapper in Illinois, 1978-79 season. (N = 706).

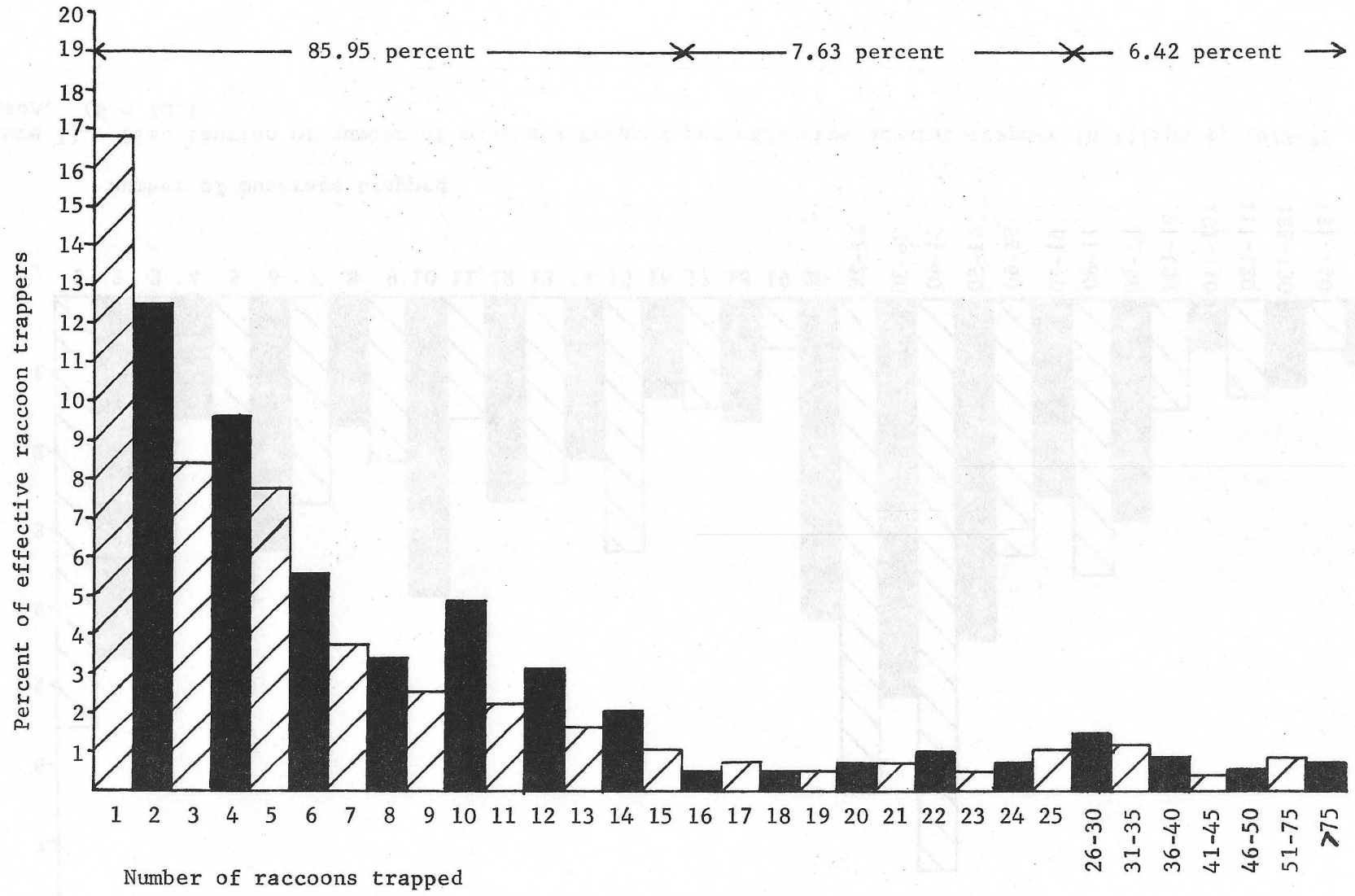

Figure 12. Distribution of number of raccoons trapped per effective raccoon trapper in Illinois, 1978-79 season. (N = 655).

Table 1. Illinois fur-bearing mammal trapping seasons for 1978-79.

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-12 Feb (90)	25 Nov-22 Feb (90)
Red Fox, Gray Fox, Coyote	30 Nov-29 Dec (30)	30 Nov-29 Dec (30)

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

Table 2. Summary of statewide data from post-season mail survey of Illinois resident trappers, 1978-79 season. (N = 965).

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	14,266	73.16	39.57	564,497	99.72	562,916
Mink	8,346	42.80	3.18	26,534	99.03	26,277
Raccoon	13,236	67.88	9.08	120,134	99.45	119,473
Opossum	6,709	34.41	2.91	19,541	92.07	17,991
Red fox	3,213	16.48	2.57	8,265	99.21	8,200
Gray fox	2,364	12.12	2.01	4,748	99.10	4,705
Beaver	2,081	10.67	2.55	5,314	83.75	4,450
Striped skunk	3,193	16.37	2.60	8,306	48.56	4,033
Weasel	606	3.11	1.20	727	71.43	519
Coyote	1,516	7.77	2.56	3,881	94.02	3,649

[a]N = 900.

Table 3. Summary of muskrat trapper and harvest data for wildlife management units in Illinois, 1978-79, from post-season resident trapper mail survey. (N = 706).

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	1,819 (12.75)[b]	19.35	58.64	106,666 (18.90)[b]	1,134.87
Northeast Moraine	869 (6.09)	10.51	43.74	38,010 (6.73)	459.50
Mississippi Border-North	787 (5.52)	10.03	40.69	32,023 (5.67)	408.04
Mississippi Border-South	1,738 (12.18)	12.71	32.41	56,329 (9.98)	411.91
Western Prairie/Forest	1,556 (10.91)	10.79	29.91	46,540 (8.24)	322.72
Central Sand Prairie	424 (2.97)	10.22	46.95	19,907 (3.53)	480.03
Grand Prairie	4,487 (31.45)	8.53	45.26	203,082 (35.98)	385.87
Southern Plain	1,960 (13.74)	8.26	20.57	40,317 (7.14)	169.92
Wabash Border	525 (3.68)	7.79	37.08	19,467 (3.45)	288.74
Shawnee Hills	101 (0.71)	1.94	21.40	2,161 (0.38)	41.43
Statewide	14,266(100.00)	9.77	39.57	564,497(100.00)	386.44

[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, 1978-79, from post-season resident trapper mail survey. (N = 413).

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	910 (10.90)[b]	9.68	2.71	2,466 (9.30)[b]	26.24
Northeast Moraine	627 (7.51)	7.58	3.65	2,289 (8.63)	27.67
Mississippi Border-North	202 (2.42)	2.57	4.10	828 (3.12)	10.55
Mississippi Border-South	970 (11.62)	7.09	2.90	2,813 (10.60)	20.57
Western Prairie/Forest	808 (9.68)	5.60	3.80	3,070 (11.57)	21.29
Central Sand Prairie	243 (2.91)	5.86	2.58	627 (2.36)	15.12
Grand Prairie	2,768 (33.17)	5.26	3.64	10,076 (37.98)	19.15
Southern Plain	1,333 (15.98)	5.62	2.33	3,106 (11.71)	13.09
Wabash Border	404 (4.84)	5.99	2.75	1,111 (4.19)	16.48
Shawnee Hills	81 (0.97)	1.55	1.75	142 (0.54)	2.72
Statewide	8,346(100.00)	5.71	3.18	26,534(100.00)	18.16

[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, 1978-79, from post-season resident trapper mail survey. (N = 655).

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	1,616 (12.21)[b]	17.19	6.62	10,698 (8.90)[b]	113.82
Northeast Moraine	768 (5.80)	9.28	6.68	5,130 (4.27)	62.02
Mississippi Border-North	829 (6.26)	10.56	15.51	12,858 (10.70)	163.84
Mississippi Border-South	1,557 (11.76)	11.39	8.51	13,250 (11.03)	96.89
Western Prairie/Forest	1,535 (11.60)	10.64	9.57	14,690 (12.23)	101.87
Central Sand Prairie	445 (3.36)	10.73	9.00	4,005 (3.33)	96.58
Grand Prairie	3,920 (29.62)	7.49	9.49	37,201 (30.97)	70.69
Southern Plain	1,779 (13.44)	7.50	8.33	14,819 (12.34)	62.46
Wabash Border	565 (4.27)	8.38	10.79	6,096 (5.07)	90.42
Shawnee Hills	222 (1.68)	4.26	6.27	1,392 (1.16)	26.69
Statewide	13,236(100.00)	9.06	9.08	120,134(100.00)	82.24

[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, 1978-79, from post-season resident trapper mail survey. (N = 332).

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	344 (5.12)[b]	3.66	2.29	788 (4.03)[b]	8.38
Northeast Moraine	344 (5.12)	4.16	2.59	891 (4.56)	10.77
Mississippi Border-North	424 (6.33)	5.40	4.19	1,777 (9.10)	22.64
Mississippi Border-South	1,071 (15.96)	7.83	3.11	3,331 (17.06)	24.36
Western Prairie/Forest	586 (8.74)	4.06	2.34	1,371 (7.02)	9.51
Central Sand Prairie	202 (3.01)	4.87	4.00	808 (4.14)	19.48
Grand Prairie	1,859 (27.71)	3.53	2.68	4,982 (25.51)	9.47
Southern Plain	1,313 (19.58)	5.53	2.42	3,177 (16.27)	13.39
Wabash Border	364 (5.42)	5.40	3.61	1,314 (6.73)	19.49
Shawnee Hills	202 (3.01)	3.87	5.40	1,091 (5.58)	20.92
Statewide	6,709(100.00)	4.59	2.91	19,541(100.00)	13.38

[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, 1978-79, from post-season resident trapper mail survey. (N = 159).

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	303 (9.43)[b]	3.22	2.27	688 (8.33)[b]	7.32
Northeast Moraine	202 (6.29)	2.44	3.00	606 (7.34)	7.33
Mississippi Border-North	141 (4.40)	1.80	1.29	182 (2.20)	2.32
Mississippi Border-South	243 (7.56)	1.78	1.50	364 (4.41)	2.66
Western Prairie/Forest	364 (11.32)	2.52	2.50	910 (11.02)	6.31
Central Sand Prairie	141 (4.40)	3.40	4.71	664 (8.04)	16.01
Grand Prairie	1,273 (39.62)	2.42	2.57	3,272 (39.61)	6.22
Southern Plain	323 (10.06)	1.36	3.06	988 (11.96)	4.16
Wabash Border	162 (5.03)	2.40	3.12	505 (6.11)	7.49
Shawnee Hills	61 (1.89)	1.17	1.33	81 (0.98)	1.55
Statewide	3,213(100.00)	2.20	2.57	8,265(100.00)	5.66

[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, 1978-79, 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	222 (9.40)[b]	2.36	1.18	262 (5.52)[b]	2.79
Northeast Moraine	121 (5.13)	1.46	1.33	161 (3.39)	1.95
Mississippi Border-North	61 (2.56)	0.78	1.67	102 (2.15)	1.30
Mississippi Border-South	243 (10.26)	1.78	1.75	425 (8.95)	3.11
Western Prairie/Forest	81 (3.42)	0.56	3.25	263 (5.54)	1.82
Central Sand Prairie	121 (5.13)	2.92	2.00	242 (5.10)	5.84
Grand Prairie	647 (27.35)	1.23	1.97	1,275 (26.86)	2.42
Southern Plain	626 (26.50)	2.64	2.19	1,371 (28.88)	5.78
Wabash Border	141 (5.98)	2.09	3.43	484 (10.20)	7.18
Shawnee Hills	101 (4.27)	1.94	1.60	162 (3.41)	3.11
Statewide	2,364 (100.00)	1.62	2.01	4,748 (100.00)	3.25

[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, 1978-79, from post-season resident trapper mail survey. (N = 103).

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	243 (11.65)[b]	2.59	2.83	688 (12.96)[b]	7.32
Northeast Moraine	81 (3.88)	0.98	1.50	122 (2.30)	1.47
Mississippi Border-North	141 (6.80)	1.80	2.71	382 (7.19)	4.87
Mississippi Border-South	162 (7.77)	1.18	2.62	424 (7.98)	3.10
Western Prairie/Forest	222 (10.68)	1.54	2.73	606 (11.41)	4.20
Central Sand Prairie	162 (7.77)	3.91	2.25	364 (6.85)	8.78
Grand Prairie	889 (42.71)	1.69	2.68	2,383 (44.88)	4.53
Southern Plain	141 (6.80)	0.59	1.71	241 (4.54)	1.02
Wabash Border	20 (0.97)	0.30	4.00	80 (1.51)	1.19
Shawnee Hills	20 (0.97)	0.38	1.00	20 (0.38)	0.38
Statewide	2,081(100.00)	1.42	2.55	5,314(100.00)	3.64

[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, 1978-79, from post-season resident trapper mail survey. (N = 158).

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	323 (10.13)[b]	3.44	4.12	1,331 (16.02)[b]	14.16
Northeast Moraine	242 (7.60)	2.93	2.08	503 (6.06)	6.08
Mississippi Border-North	161 (5.06)	2.05	2.00	322 (3.88)	4.10
Mississippi Border-South	283 (8.86)	2.07	2.79	790 (9.51)	5.78
Western Prairie/Forest	263 (8.23)	1.82	2.62	689 (8.29)	4.78
Central Sand Prairie	61 (1.90)	1.47	2.00	122 (1.47)	2.94
Grand Prairie	1,051 (32.91)	2.00	2.83	2,974 (35.80)	5.65
Southern Plain	647 (20.25)	2.73	1.81	1,171 (14.10)	4.94
Wabash Border	101 (3.16)	1.50	2.20	222 (2.67)	3.29
Shawnee Hills	61 (1.90)	1.17	3.00	183 (2.20)	3.51
Statewide	3,193 (100.00)	2.19	2.60	8,306 (100.00)	5.69

[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, 1978-79, from post-season resident trapper mail survey. (N = 30).

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 (13.33)[b]	0.86	1.25	101 (13.91)[b]	1.07
Northeast Moraine	-	-	-	-	-
Mississippi Border-North	-	-	-	-	-
Mississippi Border-South	20 (3.33)	0.15	1.00	20 (2.75)	0.15
Western Prairie/Forest	20 (3.33)	0.14	1.00	20 (2.75)	0.14
Central Sand Prairie	-	-	-	-	-
Grand Prairie	222 (36.68)	0.42	1.18	262 (36.10)	0.50
Southern Plain	101 (16.67)	0.43	1.20	121 (16.67)	0.51
Wabash Border	81 (13.33)	1.20	1.25	101 (13.91)	1.50
Shawnee Hills	81 (13.33)	1.55	1.25	101 (13.91)	1.94
Statewide	606 (100.00)	0.41	1.20	727 (100.00)	0.50

[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 12. Summary of coyote trapper and harvest data for wildlife management units in Illinois, 1978-79, from post-season resident trapper mail survey. (N = 75).

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 (5.33)[b]	0.86	1.50	122 (3.14)[b]	1.30
Northeast Moraine	-	-	-	-	-
Mississippi Border-North	141 (9.33)	1.80	1.57	221 (5.69)	2.82
Mississippi Border-South	141 (9.33)	1.03	1.86	262 (6.75)	1.92
Western Prairie/Forest	283 (18.67)	1.96	3.64	1,030 (26.52)	7.14
Central Sand Prairie	41 (2.68)	0.99	10.50	430 (11.07)	10.37
Grand Prairie	263 (17.33)	0.50	1.54	405 (10.43)	0.77
Southern Plain	384 (25.33)	1.62	2.47	948 (24.41)	4.00
Wabash Border	162 (10.67)	2.40	2.75	446 (11.48)	6.62
Shawnee Hills	20 (1.33)	0.38	1.00	20 (0.51)	0.38
Statewide	1,516(100.00)	1.04	2.56	3,881(100.00)	2.66

[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 1978-79 post-season mail survey of Illinois resident trappers. (N = 965).

Species	Total effective trappers	Percent effective trappers	Total season catch
Muskrat	706	73.16	27,936
Mink	413	42.80	1,313
Raccoon	655	67.88	5,945
Opossum	332	34.40	967
Red fox	159	16.48	409
Gray fox	117	12.12	235
Beaver	103	10.67	263
Striped skunk	158	16.37	411
Weasel	30	3.11	36
Coyote	75	7.77	192

Table 14. Estimated number of effective trappers, average season catch, and total trapper harvest by species in Illinois for 1978-79 season based on post-season trapper mail survey. (N = 965).

Species	Estimated number of effective trappers	Estimated average season catch	Estimated total harvest
Muskrat	14,266 ± 556[a]	39.57 ± 4.45[a]	564,497 ± 68,445[a]
Mink	8,346 ± 621	3.18 ± 0.42	26,534 ± 4,113
Raccoon	13,236 ± 586	9.08 ± 1.12	120,134 ± 15,976
Opossum	6,709 ± 596	2.91 ± 0.34	19,541 ± 2,891
Red fox	3,213 ± 466	2.57 ± 0.49	8,265 ± 2,011
Gray fox	2,364 ± 410	2.01 ± 0.33	4,748 ± 1,138
Beaver	2,081 ± 387	2.55 ± 0.52	5,314 ± 1,477
Striped skunk	3,193 ± 464	2.60 ± 0.47	8,306 ± 1,939
Weasel	606 ± 218	1.20 ± 0.15	727 ± 276
Coyote	1,516 ± 336	2.56 ± 0.82	3,881 ± 1,523

[a] 95% confidence interval.

Table 15. Distribution of harvest among effective trappers for eight species of furbearers in Illinois, 1978-79, from post-season resident trapper mail survey.

Total season catch	Percentage of effective trappers for species							
	Mink (413)[a]	Opossum (332)	Red fox (159)	Gray fox (117)	Beaver (103)	Striped skunk(158)	Weasel (30)	Coyote (75)
1	40.20	43.07	54.72	58.98	52.43	49.37	80.00	53.33
2	23.73	20.18	22.64	20.51	18.45	21.52	20.00	18.67
3	11.62	12.95	3.77	5.98	8.74	10.12	-	10.67
4	6.78	6.63	6.29	5.98	6.80	6.33	-	8.00
5	5.09	4.52	3.14	2.56	1.94	3.16	-	-
6	3.39	3.31	1.26	1.71	1.94	2.53	-	4.00
7	0.73	2.11	0.63	1.71	2.91	1.90	-	2.67
8	2.42	1.21	1.26	0.86	2.91	1.27	-	-
9	0.73	1.21	0.63	-	-	-	-	-
10	0.73	2.11	0.63	1.71	0.97	-	-	-
11	0.48	0.60	1.26	-	0.97	0.63	-	-
12	0.97	0.30	0.63	-	0.97	-	-	-
13	0.48	-	-	-	-	-	-	-
14	0.48	-	1.26	-	-	-	-	-
15	0.48	0.90	-	-	-	1.90	-	-
16-20	0.48	0.60	1.88	-	0.97	1.27	-	1.33
21-25	0.73	-	-	-	-	-	-	1.33
>25	0.48	0.30	-	-	-	-	-	-

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

Table 16. Distribution of pelt sales by trappers for 10 species of furbearers in Illinois, 1978-79 season, from post-season resident trapper mail survey. (N = 952).

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	27,225	26,197	96.22	1,028	3.78
Mink	1,273	1,215	95.44	58	4.56
Raccoon	5,796	5,589	96.43	207	3.57
Opossum	882	837	94.90	45	5.10
Red fox	393	363	92.37	30	7.63
Gray fox	232	216	93.10	16	6.90
Beaver	206	194	94.17	12	5.83
Striped skunk	194	172	88.66	22	11.34
Weasel	26	22	84.62	4	15.38
Coyote	178	171	96.07	7	3.93
Totals	36,405	34,976	96.07	1,429	3.93

Table 17. Summary of non-target catches by trappers in Illinois, 1978-79 season, from post-season resident trapper mail survey. (N = 964).

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	132	268	2.03	13.69	5,420
Dog	84	141	1.68	8.71	2,855
Squirrel	26	46	1.77	2.70	931
Rabbit	38	67	1.76	3.94	1,352
Rat	14	49	3.50	1.45	991
Mouse	8	18	2.25	0.83	364
Crow	21	34	1.62	2.18	688
Blue jay	16	25	1.56	1.66	505
Hawk	5	5	1.00	0.52	101
Owl	6	7	1.17	0.62	142
Bird-Unspecified	60	112	1.87	6.22	2,270
Other (e.g. Opossum, fish, badger, turtle)	16	29	1.81	1.66	586
Totals	274	801	2.92	28.42	16,205

Table 18. Summary of fur hunting activities of trappers in Illinois, 1978-79 season, from post-season resident trapper mail survey. (N = 939).

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	222	1,940	8.74	23.64	40,290
Opossum	52	138	2.65	5.54	2,863
Red fox	52	114	2.19	5.54	2,366
Gray fox	18	33	1.83	1.92	685
Striped skunk	12	21	1.75	1.28	437
Coyote	54	133	2.46	5.75	2,758
All species	264	2,379	9.01	28.12	49,399