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JOB COMPLETION REPORT  
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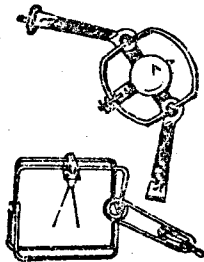
Study No. and Title: None

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Job Title: Fur trapper survey 1976-77

By

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29 June 1977



JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: None

STUDY NO.: None

JOB NO.: None

JOB TITLE: Fur Trapper Survey, 1976-77

ABSTRACT: A mail survey of all licensed fur trappers was conducted during the 1976-77 season to determine the annual trapper harvest of open season furbearers, the number of trappers catching each fur species, and the average catch per effective trapper. Each trapper was supplied with a report form-questionnaire and written instructions when he purchased his license. A total of 3,119 useable replies (17.5 percent) were received from an estimated 17,800 licensed trappers. Of the trappers reporting, 2,945 (94.42 percent) indicated that they took one or more furbearers in traps. Total trapper harvest of the 10 open season furbearers was estimated at 621,088 pelts. This catch was approximately 9 percent below the estimated harvest for 1975-76. Abundance indices based on the percentage of trappers catching each species and the average catch per effective trapper increased for beaver and coyote and declined for muskrat, mink, and raccoon when compared to the previous season. The former index increased and the latter decreased for opossum, red fox, gray fox, striped skunk, and weasel. The vast majority of effective raccoon trappers (88.9 percent) harvested from 1 to 15 raccoons during the season and 95.2 percent trapped 25 or less.

## JOB COMPLETION REPORT

### SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: None                      STUDY NO.: None                      JOB NO.: None

JOB TITLE: Fur Trapper Survey, 1976-77

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: Numbers of wild fur pelts taken by trappers in Illinois, the number of trappers catching each fur species, and the average catch per effective trapper by species during the 1976-77 season were estimated from a mail survey of all trappers licensed by the Illinois Department of Conservation. Each trapper was supplied with a pre-addressed, postpaid report form-questionnaire (Fig. 1) at the time he purchased his license. Written instructions to submit the report no later than 10 days after the close of the trapping season were provided on the back of the trapping license. Trappers were asked to include all furbearers caught, even though the pelts may not have been sold. In addition, the regulations applicable to the 1976-77 season made the annual report mandatory for all licensed trappers. No other mailings or trapper contacts were made.

The trapper harvest, number and percentage of effective trappers for each fur species and average catch per effective trapper for that species were tabulated. All calculations were based on trapper report cards received through 30 April 1977. A trapper was considered effective for a particular species if he reported trapping one or more of that species. Each person reporting no catch or indicating he did not trap was classified as ineffective. Any report form-questionnaires that were blank when received were considered unuseable. Reports which did not contain county in which caught information were included in the useable sample. All results were compiled on a statewide basis.

#### FINDINGS AND ANALYSIS:

##### 1976-77 Trapping Seasons

The 1976-77 trapping seasons for fur-bearing animals varied from 41 to 80 days in length (Table 1). Trapping seasons for all species except coyote, red fox, gray fox, and beaver were 55 days long in both zones. Canids could be legally taken in traps for a 41 day period. The beaver trapping season was 80 days in length and ran concurrently in both zones.

## Fur Trapper Survey 1976-77

Records of the number of trapping licenses sold by vendors operating under the control of the License and Permit Section, Illinois Department of Conservation, during the 1976-77 season were tabulated prior to compiling the trapper report form-questionnaires received. As of 1 June 1977, an estimated 17,800 resident trapping licenses had been issued for the 1976-77 season. When the trapper report file was closed on 30 April 1977, a total of 3,119 useable report form-questionnaires had been submitted. This represented a 17.5 percent response to the mandatory reporting requirement as compared to 18.8 percent the previous year. Brown and Yeager (1943) reported an average annual response of 19.5 percent to a similar survey in Illinois during the 1938-39 and 1939-40 seasons.

Of the 3,119 trappers who submitted useable reports, a total of 2,945 (94.42 percent) indicated they had taken one or more furbearers with a trap (Table 2). The three species most often caught by trappers were muskrat, raccoon, and opossum. The percentage of trappers catching a particular species varied from 4.20 for weasel to 78.04 for muskrat. Average season catch per effective trapper ranged from a low of 1.17 for weasel to a high of 30.03 for muskrat (Table 2). Average total season catch per effective trapper was estimated to be 36.95 furbearers.

The number of effective licensed trappers operating in Illinois during 1976-77 was estimated at 16,807 (Table 3). These trappers harvested an estimated 621,088 furbearers as compared to 689,901 in 1975-76, a decline of approximately 9 percent. Muskrats comprised the bulk of the harvest (67.19 percent). Raccoons and opossums accounted for another 24.46 percent. Least important was the weasel which made up 0.14 percent of the total catch.

### Indices of Furbearer Abundance

Two indices of furbearer abundance were calculated from the data supplied by trappers and compared to the previous year. These included the percentage of trappers taking each species and the average catch per effective trapper for that particular species. Unfortunately, certain changes which may or may not have been related to fluctuations in furbearer numbers took place between the years compared. First, the 1976-77 trapping season for muskrat, mink, raccoon, opossum, skunk, and weasel was 15 days shorter than the year before, while the coyote and fox seasons were 29 days shorter. Second, the number of trapping licenses sold increased from 14,681 to an estimated 17,800; this may have resulted in increased competition for trapping areas on a local level, thus reducing the average catch per trapper. Third, the market value of raw pelts increased for most species and no doubt served to increase trapping pressure and competition. Fourth, the weather during the 1976-77 season was far from ideal for trapping. Early freezes and continued low temperatures greatly reduced the activity and overall effectiveness of many trappers. Finally, drought conditions were present over much of Illinois during 1976 and may have altered furbearer populations on many of the smaller streams and impoundments in the state.

Muskrat abundance indices were noticeably lower than those for the previous year (Table 4). The average catch per effective trapper was over 21 percent less than in 1975-76. Probably, a combination of the above mentioned factors, along with a decline in muskrat numbers was responsible.

The indices for mink also declined, but not as much as those for muskrat (Table 4). The declines recorded were less than 9 percent in both cases. There may have been fewer mink in 1976-77, but it seems likely that the reduced seasons and poor trapping weather overshadowed any population changes that occurred between years.

Beaver indices increased slightly (Table 4). This species may still be increasing and expanding its range in Illinois. However, a slight rise in the value of raw pelts and increase in trapper numbers may have been the primary reasons for the upward trend.

Raccoon indices, especially the average catch per effective trapper, declined between years (Table 5). The aforementioned cold weather is probably the primary cause. Raccoons are known to be relatively inactive during cold weather. In addition, supporting data from other studies indicate the raccoon population in Illinois is stable or increasing.

The average catch per effective opossum trapper declined, but the percentage of trappers catching opossums increased between years (Table 5). A contributing factor may be an increase in the number of neophyte trappers as opossums are relatively easy to trap. The decline in average catch was probably related to the cold weather as opposed to population changes. Also, there is relatively little interest in opossums due to low pelt value, and many are taken in sets made for other species.

The indices for red and gray foxes remained fairly stable in spite of the drastically shortened seasons (Table 5). The value of fox pelts, especially gray fox, increased markedly during the past season. This increase no doubt served as an added incentive to trap for fox. In fact, trapper interest in foxes may be at an all time high. If this is the case, fox populations may be declining slightly rather than being stable, but the data are far from conclusive.

Skunk indices remained stable between years (Table 5). The present low value of skunk pelts compared to more easily handled species provides little incentive for trappers. Most skunks are undoubtedly taken in sets made for other furbearers, particularly coyotes and foxes. Many fur buyers refuse to purchase skunk pelts if they are not stretched and dried. The trapper indices for this species probably reflect an overall lack of interest in skunks rather than low population levels.

A noticeable increase in the percentage of trappers taking weasels occurred (Table 5). As with skunks, the indices seem to reflect trapper interest rather than population trends. Weasels may have been more vulnerable in 1976-77 due to the prolonged cold weather. Such a situation could easily account for the increased incidence of weasel catches.

Coyote indices increased over the previous year (Table 5). It appears that the coyote is continuing to increase in numbers and expand its range in Illinois. Higher raw pelt values and elevated trapper interest seem to have overshadowed the reduced season which was in effect for 1976-77. Also, coyotes are taken in sets similar to those used for foxes, and, as stated above, trapper interest in foxes is exceptionally high.



Distribution of Raccoon Harvest Among Trappers

The reported number of raccoons harvested by 2,276 effective raccoon trappers varied from 1 to 141 and averaged 7.10 (Table 2). Approximately 72 percent of these trappers took less than the average catch, while 88.9 percent harvested 15 or fewer raccoons during the season and 95.2 percent caught 25 or less (Fig. 2). Relatively few individuals are extremely successful at trapping raccoons. Of the trappers who reported, 19 (0.8 percent) stated their catch averaged one or more raccoons per day for the entire season.

The distribution of raccoon harvest among trappers this past season was similar to 1975-76. The majority of trapped raccoons are taken by approximately 15 percent of the effective raccoon trappers. Many trappers who catch raccoons probably do so incidentally. As a result, any attempt to reduce raccoon harvest by trappers should be aimed at the highly successful trappers. Reductions in season length along with later seasons offer the most potential for accomplishing this goal. However, no reason for trying to significantly reduce the raccoon catch exists at this time.

REFERENCES:

Brown, L. G. and L. E. Yeager. 1943. Survey of the Illinois fur resource. Ill. Nat. Hist. Surv. Bull. 22(6):435-504.

RECOMMENDATIONS:

This investigation provides the only source of detailed trapper harvest data for all open season species of furbearers. The information serves as a base for assessment of population trends, trapper activity, and regulatory management. The study should be continued and modified to provide a random method of obtaining trapper harvest, activity, and characteristic information on a regional (wildlife management unit) basis to secure the detailed data necessary for a more comprehensive management program.

DATA AND REPORTS:

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

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DATE: 29 June 1977

Table 1. Illinois furbearer trapping seasons for 1976-77.

Species	Trapping season dates	
	Northern zone	Southern zone
Muskrat, mink, raccoon, opossum, striped skunk, weasel	13 Nov - 6 Jan (55) <sup>a</sup>	20 Nov - 13 Jan (55)
Red fox, gray fox, coyote	27 Nov - 6 Jan (41)	4 Dec - 13 Jan (41)
Beaver	18 Dec - 7 Mar (80)	18 Dec - 7 Mar (80)

<sup>a</sup> Number in parentheses is season length in days.

Table 2. Fur harvest by Illinois trappers who reported their catch during the 1976-77 season.  
(N=3,119)

Species	Number of effective trappers	Percent of trappers taking species	Total number reported trapped	Average catch per effective trapper
Muskrat	2,434	78.04	73,110	30.04
Mink	1,331	42.67	3,288	2.47
Raccoon	2,276	72.97	16,167	7.10
Opossum	1,988	63.74	10,450	5.26
Red fox	640	20.52	1,770	2.77
Gray fox	536	17.18	1,115	2.08
Beaver	285	9.14	930	3.26
Striped skunk	577	18.50	1,229	2.13
Weasel	131	4.20	153	1.17
Coyote	237	7.60	609	2.57
All species	2,945	94.42	108,821	$\bar{x} = 36.95$

Table 3. Estimated number of effective trappers and total state-wide harvest of trapped furbearers by species in Illinois, 1976-77, based on trapper reports.

Species	Estimated number of effective trappers	Estimated number trapped
Muskrat	13,891	417,286 (67.19) <sup>a</sup>
Mink	7,597	18,765 (3.02)
Raccoon	12,988	92,215 (14.85)
Opossum	11,345	59,675 (9.61)
Red fox	3,652	10,116 (1.63)
Gray fox	3,059	6,363 (1.02)
Beaver	1,627	5,304 (0.85)
Striped skunk	3,292	7,012 (1.13)
Weasel	748	875 (0.14)
Coyote	1,353	3,477 (0.56)
All species	16,807	621,088 (100.00)

<sup>a</sup> Numbers in parentheses are percentages.

Table 4. Indices of aquatic furbearer abundance in Illinois.

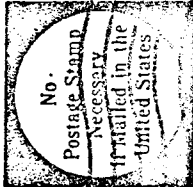
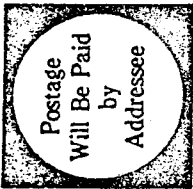
Season	Muskrat		Mink		Beaver	
	Percent E.T. <sup>a</sup>	Number per E.T.	Percent E.T.	Number per E.T.	Percent E.T.	Number per E.T.
1975-76	83.52	38.07	45.81	2.70	8.83	3.05
1976-77	78.04	30.04	42.67	2.47	9.14	3.26

<sup>a</sup> Effective trapper.

Table 5. Indices of terrestrial furbearer abundance in Illinois.

Season	Raccoon		Opossum		Red Fox		Gray Fox		Skunk		Weasel		Coyote	
	Per- cent E.T. <sup>a</sup>	Number per E.T.	Per- cent E.T.	Number per E.T.	Per- cent E.T.	Number per E.T.	Per- cent E.T.	Number per E.T.	Per- cent E.T.	Number per E.T.	Per- cent E.T.	Number per E.T.	Per- cent E.T.	Number per E.T.
1975-76	76.54	9.11	58.85	5.70	20.33	3.05	15.05	2.11	18.32	2.19	2.75	1.22	5.28	2.21
1976-77	72.97	7.10	63.74	5.26	20.52	3.26	17.18	2.08	18.50	2.13	4.20	1.17	7.60	2.57

<sup>a</sup> Effective trapper.



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Nº H 23881

**TRAPPER'S REPORT—Season of 1976-7**

Species	County in which caught	Number
Muskrat		
Mink		
Raccoon		
Opossum		
Red Fox		
Gray Fox		
Beaver		
Skunk		
Weasel		
Coyote		
Other		

Figure 1. Trapper report form-questionnaire supplied with trapping license during 1976-77 season.

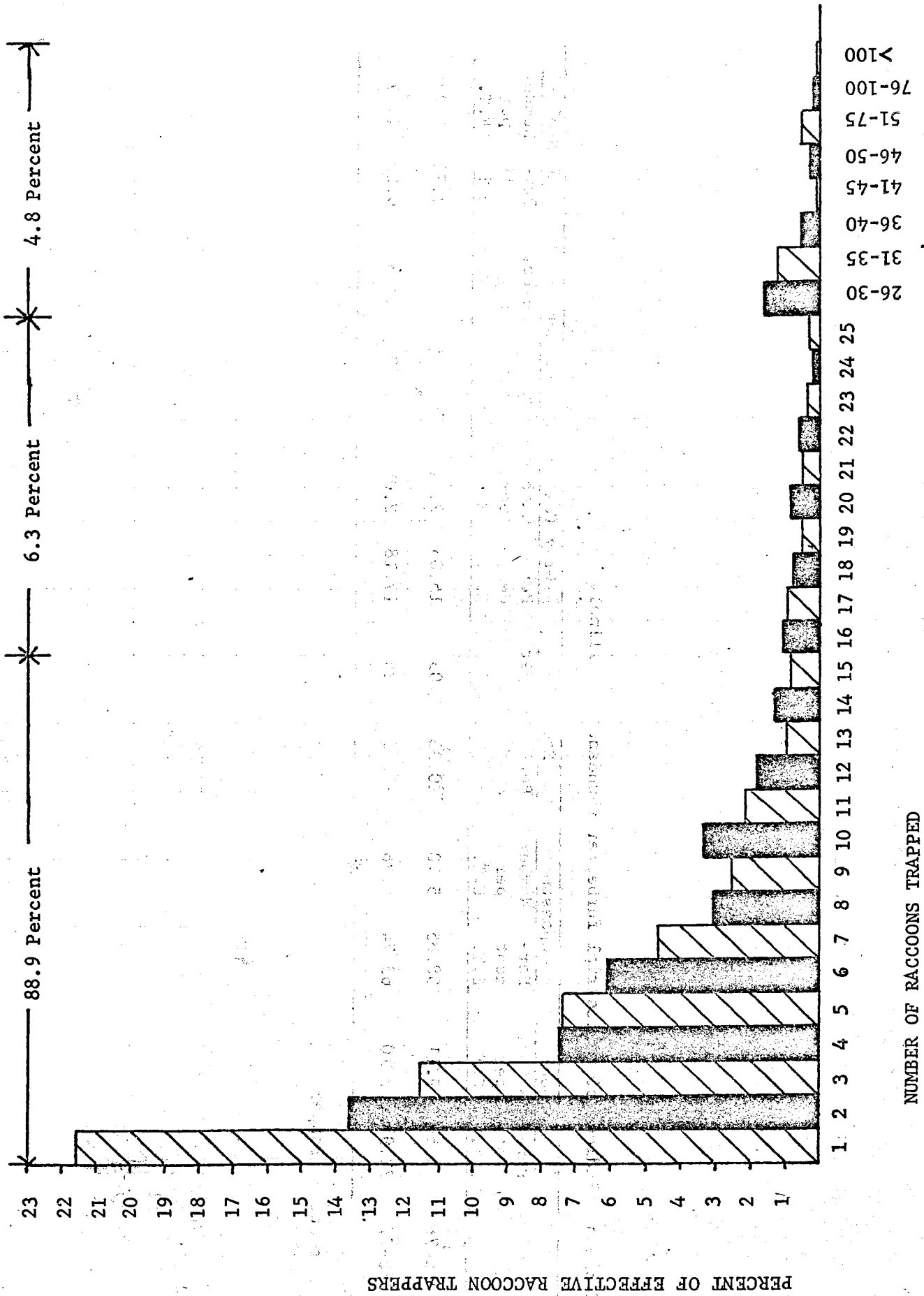


Figure 2. Distribution of number of raccoons trapped per effective raccoon trapper in Illinois, 1976-1977 season. N = 2,276.