

ILLINOIS NATURAL HISTORY SURVEY

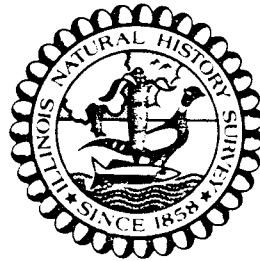
JOB COMPLETION REPORT

SURVEYS AND INVESTIGATIONS PROJECTS

As Required By

FEDERAL AID IN WILDLIFE RESTORATION ACT

ILLINOIS



Section of Wildlife Research

Federal Aid Project No. W-49-R(33)

Study XII: Raccoon Investigations

Job No. 5: Cooperative raccoon collections

By

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12 August 1986

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JOB COMPLETION REPORT
SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R-33

STUDY NO.: XII

JOB NO.: 5

JOB TITLE: Cooperative raccoon collections

ABSTRACT: Raccoons were examined and data collected at Perardi Bros. Fur and Wool, Inc., Farmington, Fulton County, Illinois, as they have been for the past 30 seasons. Five trips were made to the furhouse and 440 raccoons examined. Most of the data collected fell within the range of data collected at this same furhouse beginning with the 1955-56 season. Although the percentage of young-of-the-year animals was nearly 3% (61.36% in 1985-86 compared with 58.50% in 1984-85) higher than during the previous season, the percentage of young was 6% lower than the 31-year average (67.41%). I have no explanation for the lower percentage of young, but it has been below the 31-year average during all 5 of the most recent seasons. The number of young per parous female among the raccoons examined has been below the 31-year average during 4 of the past 5 seasons. Although the average litter size has remained near average during the past 5 seasons, it was slightly higher than average for 3 of the past 5 seasons. In 1985-86 the average litter size was 3.60 compared with the 31-year mean of 3.56. Although the percentage of young in the harvest (61.36%) was below the long-term average (67.41%), it increased from the previous season (58.50%). The average body weights of all sex and age groups were the same (parous females) or slightly lower in 1985-86 than they were in 1984-85; however, they were slightly higher in 1985-86 than the

31-year average for all groups except nulliparous adult females. Raccoons taken by trappers in 1985-86 were slightly heavier than the 13-year average and weighed only 0.2 pound less on average than raccoons taken by hunters. In all sex and age classes except juvenile males, hunters took the highest percentage (87.1%) and trappers the lowest percentage (11.0%) of the total harvest of any season during the past 13 seasons. High water over much of Illinois during the early part of the trapping season prevented many trappers from setting their traps. Extremely cold weather in early December no doubt also contributed to the lower take by trappers as did the relatively lower prices for pelts. Efforts spent hunting raccoons appear less related to price of fur than are efforts spent trapping. These results continue to indicate no major changes in the raccoon population in west-central Illinois. The harvest in 1985-86 decreased 23.6% from that for 1984-85. The harvest in 1985-86 was 206,278 compared with an average of 280,457 for the previous 10 seasons and 269,991 for 1984-85. The average pelt value for 1985-86 was \$13.80 compared with \$17.25 in 1984-85 and an average of \$18.88 for the previous 10 seasons. The decline in the harvest probably reflects adverse weather conditions (high water during the early part of the trapping season preventing trappers from setting traps and a short period of extremely cold weather early in December reducing the effort by hunters) more than any change in the numbers of raccoons. Young-of-the-year raccoons comprised 61.36% of the raccoons examined in 1985-86, there were 4.28 young per parous female,

females comprised 46.24% of the harvest, and the mean litter size for the 1985 breeding season was 3.60, which was essentially the same as the 31-year average (3.56). Adult males comprised 38.98% of the male harvest in 1985-86; 7.5% above the 31-year average. Parous females comprised 30.88% of all females in the 1985-86 sample. The 31-year average was 27.94% parous females. Juvenile males averaged 12.04 pounds and juvenile females 10.68 pounds. Adult males weighed 16.91, parous adult females 14.87, and nulliparous adult females 12.90 pounds. Weights vary up to 1.5 pounds from year to year but have shown no trends during the past 31 seasons in Illinois. Average weights of all groups except nulliparous adult females, for which sample sizes were small, were higher than average in 1985-86. The higher body weights are probably a reflection of the generally mild weather conditions during the 1985-86 hunting and trapping seasons. Hunters harvested 87.13%, trappers 11.03%, and cars 1.38% of the raccoons examined in 1985-86. The 13-year average was 78.25% harvested by hunters. Trappers accounted for the lowest percentage of animals for any of the past 13 seasons; no doubt a reflection of high water conditions and declining value of pelt prices.

JOB COMPLETION REPORT
SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R-33 STUDY NO.: XII JOB NO.: 5

JOB TITLE: Cooperative raccoon collections

OBJECTIVE: To collect data on the sex, age, weights, productivity, and condition of raccoons harvested in west-central Illinois.

PROCEDURES: Every other week during the raccoon hunting and trapping season a large furhouse (Perardi Bros. Fur and Wool, Inc., Farmington, Fulton County, Illinois) was visited and data were collected on 100 raccoons brought in by hunters and trappers. Most of the raccoons were caught within 100 miles of Farmington; however, the exact locations of capture were unknown. Animals were selected at random and data collected before and after the raccoons were skinned by employees of the furhouse. The data collected at the furhouse included body weight (nearest 0.1 lb), body length (nearest 5 mm), sex, how caught (hunter, trapper, or killed on road), condition of nipples for females, condition of penis for males, general health (animals with distemper were noted), and toes missing from previous encounters with traps. Specimens collected included one front leg (halfway between the wrist and elbow); penis bone, one testis and epididymis from each male; and the uterus and ovaries from each female. In the laboratory the epiphyses and bacula were examined--with other recorded information--to determine age, one testis was weighed, two ovaries were weighed, each epididymis was examined for the presence of sperm, and each uterus was examined and the number of placental scars counted. All information was recorded in

Similar data have been collected at this same furhouse beginning with the 1955-56 season. Except for the 1985-86 seasons, the data have been placed on floppy discs and tape, and, as time permits, programs will be written, data analyzed, reports written, and manuscripts prepared. Each year the data will be summarized in a series of tables and a figure (Tables 1-9, Fig. 1) and presented with the data for the previous years (back to the 1955-56 season).

Small differences--when they occur--in the data in the Tables from similar data presented in previous years are a result of placing the data on discs and tabulating the data by computer instead of by hand. A few corrections in interpretation of the data were made before entering them on the discs. Other minor differences result from rounding errors and from errors made by hand tabulation.

The raccoon hunting season was similar in 1985-86 as in the five previous seasons. The hunting season in the Northern Zone was 15 November - 13 January for four of the previous five seasons and 13 November - 13 January for both the 1984-85 and 1985-86 seasons. The hunting season in the Southern Zone was the same for the past six seasons--25 November - 23 January. The raccoon trapping seasons were about the same in 1985-86 as in the five previous seasons. The trapping season in the Northern Zone was 15 November - 29 December for four of the previous five seasons and 13 November - 29 December for both 1984 and 1985. The raccoon trapping season in the Southern Zone was 25 November - 8 January for all six of the most recent seasons.

FINDINGS AND ANALYSIS:

1985-86 Hunting and Trapping Season

During 5 trips to the furhouse from 25 November 1985 through 21 January 1986, 440 raccoons were examined. The percentage young-of-the-year in the harvest and the young per parous female in the harvest were below average in 1985-86. The average litter size was average in 1985-86 and the percentage of nulliparous adult females among adult females was slightly higher than average. The percentage of young-of-the-year females (61.76%) was below average (66.06%) for the 31 years of this study but was somewhat higher than in 1984-85 (57.07%) (Table 1). Young-of-the-year females comprised 46.67% of all young examined; a figure that is only slightly higher than the 31-year average (46.38%). Parous females comprised 30.88% of the female harvest; a figure somewhat higher than the 31-year average. Adult males comprised 38.98% of the males examined in 1985-86 (Table 2). This figure was 7.50% above the 31-year mean but was 1.12% lower than in 1984-85. Young-of-the-year raccoons comprised 61.36% of all raccoons examined in 1985-86 compared with the 31-year average of 67.41% young-of-the-year. The overall sex ratio (46.24% females) was 1.73% below the 31-year average, 47.97% (Table 3). The average litter size (3.60) was only 0.04 above the 31-year average, 3.56 (Table 4).

Mean body weight of juvenile males in 1985-86 was 12.04 lb (Table 5) compared with 12.28 lb in 1984-85 and the 31-year average of 11.41 lb. Body weights of all age and sex groups except nulliparous adult females, which had a small sample size (Table 6), were higher than the 31-year average in 1985-86. The higher than average body weights found in 1985-86 are believed to be a result of mild weather during most of the season.

Thus, raccoons were more active than average and lost less body weight than they do in an average winter. The mean litter size (3.60, Table 4) was average for the entire study. Hunters accounted for 87.13% of the raccoons examined; the highest percentage for any year since records were kept (1972-73). Other data showed no substantial differences from the 31-year averages. Thus, if these data are indices to population changes--such as overharvest--they do not indicate major changes in the raccoon populations in west-central Illinois. We should watch the average litter size, percentage of young, and young-of-the-year per parous female to see if the higher figures in 1985-86 are the beginning of a trend.

Harvest figures for the 1985-86 season (Table 7) were 23.6% lower than for the 1984-85 season, and were 26.4% lower than the average number (280,457) for the 1978-79--1984-85 seasons. The hunting seasons in the Northern and Southern zones in Illinois were almost the same in 1985-86 as they were for the previous 5 seasons. The decline in harvest in 1985-86 probably reflects high water during the early part of the trapping season preventing trappers from setting traps and a short period of extremely cold weather early in December reducing the efforts by hunters rather than any change in the numbers of raccoons.

Age Composition

Young-of-the-year animals comprised 61.76% of the females examined (Table 1). This figure was a moderate increase over the 57.07% seen in 1984-85 but was lower than the 31-year average of 66.06%. Parous adults comprised 30.88% of the females, which was lower than the 31.31% found in 1984-85 but higher than the 31-year average of 27.94%. Nulliparous adults (7.35%) was slightly higher than the 31-year average of 6.01% (Table 1).

Young-of-the-year males (61.02%) comprised 1.12% more of the males examined than in 1984-85 and 7.50% less the 31-year (68.52%) average (Table 2). Of the 440 raccoons examined for age, 61.36% were young-of-the-year animals; 2.86% higher than the 58.50% observed in 1984-85 and 6.05% lower than the 31-year average of 67.41%. There were 4.28 young-of-the-year per parous female among the raccoons examined during the 1985-86 season. The 31-year average was 5.32 young per parous female. These figures do not represent the number of young animals per parous female in the population because young animals are more vulnerable than adults to hunters and trappers. Note that the 31-year average of dark placental scars per uterus--believed to represent the average litter size--was 3.56 (Table 4).

Sex Ratios

Females comprised 46.24% (Table 3) of the raccoons examined at Perardi Bros. Fur and Wool, Inc., during the 1985-86 season. This was a decrease of 3.01% from 49.25% in 1984-85 and was 1.73% below the 31-year average (49.97%). Of the 270 young-of-the-year raccoons examined in 1985-86, 46.67% were females (Table 1); a figure only slightly higher than the 31-year average of 46.38%. Females comprised 45.88% of the adult raccoons examined during the past season (Table 2); a figure that is 5.32% lower than the 51.20% found in 1984-85 and 3.24% lower than the 31-year average of 49.30%.

Placental Scars

Some of my earlier work has shown that placental scars persists longer in the wild than they do in captivity. Thus, the significance of a group of pale and a group of dark placental scars in the same uterus in a wild

female is not clear. They may represent two litters in one year (when the first litter is resorbed or lost at or near birth) or the pale scars may represent litters from the previous year. It seems reasonably clear that groups of single scars in a uterus and the groups of dark scars--when two groups of scars are present--represent the number of embryos implanted during the most recent breeding season (average litter size).

The mean litter size for the 1985 breeding season, as determined from single groups of scars and dark groups of placental scars when pale and dark groups were both present, was 3.60, which was essentially the 31-year average litter size (3.56) determined in this manner (Table 4, Fig. 1). If all visible scars in each uterus were combined, the average number of scars per uterus with 1 or more scars was 4.12 in 1985-86 (Table 4), and the 31-year mean was 4.36.

Body Weight

Weights of raccoons examined in west-central Illinois during the past 31 seasons have varied as much as 2.84 lb from year to year depending on age and sex (Table 5 and 6); however, annual variation is usually less than 1.0 lb and the weights have shown no trends. It seems that the annual variations in body weights are largely caused by weather conditions. Unusually mild weather during January will result in a proportionately larger number of raccoons caught during this month when the average weights are lower than they are in November and December. Also, unusually cold weather in December will result in less daily feeding by raccoons and an increased loss of weight. Except for a brief period of extremely cold weather in early December 1985 the weather during the 1985-86 season was generally milder than average. Thus, raccoons were more active than usual and lost less weight than average.

Young-of-the-year males weighed an average of 12.04 lb (Table 5) compared with 10.68 lb for young-of-the-year females (Table 6). Adult males averaged 16.91 lb (Table 5), parous females 14.87 lb, and nulliparous adult females 12.90 lb (Table 6). The 31-season averages were: young-of-the-year males, 11.41 lb; adult males, 16.70 lb; young-of-the-year females 10.61 lb; parous females, 14.22 lb; and nulliparous adult females, 13.25 lb. The average weight for all raccoons is of little or no significance because it varies according to the number in each age and sex group in the total sample; however, all raccoons weighed during the 1985-86 season weighed an average of 13.11 lb.

All sex and age classes, except nulliparous adult females, averaged heavier in 1985-86 than their 31-season average weights (Tables 5 and 6). All sex and age classes except parous females had slightly lower average weights in 1985-86 than in 1984-85.

Juvenile males killed by hunters weighed an average of 12.01 lb compared with 12.05 lb for juvenile males killed by trappers (Table 8). Adult males taken by hunters averaged 16.94 lb and those taken by trappers 17.20 lb. Juvenile females from hunters averaged 10.49 lb and from trappers 11.70 lb. Parous females killed by hunters weighed an average of 14.89 lb each and those killed by trappers 14.52 lb. Except for nulliparous adult females, which had only one taken by trappers in 1985-86, the mean weights of all age and sex groups were about the same for animals taken by trappers and those taken by hunters in 1985-86. Differences ranged from 1.21 lb more for juvenile females taken by trappers to 0.37 lb less for parous females taken by trappers. One nulliparous adult female taken by a trapper weighed 12.0 lb compared with an average weight of 12.96 lb for 14 nulliparous adult females taken by hunters. During most seasons trapped animals weigh a little less than raccoons taken by hunters, but in

most cases trapped animals weighed more in 1983-84, 1984-85, and 1985-86. I have no explanation for these results. During 13 recent seasons, 4,490 raccoons killed by hunters weighed an average of 12.66 lb each compared with 12.38 lb for 1,173 raccoons killed by trappers (Table 8). A preliminary analysis of the data for 5 recent seasons (not including 1978-79 - 1984-85) indicates no significant differences in body weights of raccoons taken by hunters and those taken by trappers.

Harvest by Hunters and Trappers

Hunters took 87.13% and trappers 15.62% of the raccoons examined. Hunters accounted for the highest percentage and trappers for the lowest percentage of all raccoons examined for any season during the most recent 13 seasons. High water over much of the state that prevented trappers from setting their traps, relatively low pelt values, and a brief period of extremely cold weather in early December no doubt all contributed to the lower number of raccoons caught by trappers in 1985. During the past 13 seasons, hunters accounted for 78.26% and trappers for 20.46% of the raccoons and cars for 1.28%. There were few differences in the various age and sex groups. Cars accounted for 1.41% of the juvenile females, 1.19% of the juvenile males, 1.13% of the adult males, and 1.57% of the parous females. Only one nulliparous adult female was killed by a car and brought to the furhouse during the 13-year period (Table 9).

RECOMMENDATIONS:

This study should be continued to allow for completion of the analysis of the data collected during the past 31 seasons and to collect additional data so that comparisons can be made with similar data from northern and southern Illinois.

DATA AND REPORTS:

Original data and related reports in this investigation are on file in the Section of Wildlife Research, Illinois Natural History Survey, Natural Resources Building, Champaign, Illinois 61820.

The data for the 1955-56 through the 1984-85 seasons have been placed on discs and tape so that the data can be analyzed by computer, when the programs have been written.

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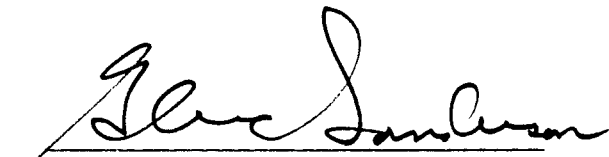
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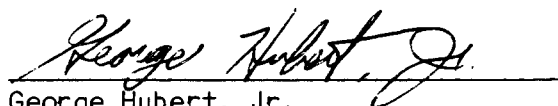
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Table 1. Age composition of female raccoons examined at Perardi Bros. Fur and Wool Co., Inc., Farmington, Fulton County, Illinois.

Season	Young-of-the-year (percent)	Parous Adults (percent)	Nulliparous Adults (%)	Young-of-the-year (percent females)	Yg/Parous F
1955-56	58.14 (25) ^a	41.86 (18)	(0)	32.50 (77)	4.28
1956-57	62.77 (86)	29.20 (40)	8.03 (11)	39.63 (217)	5.42
1957-58	71.91 (64)	24.72 (22)	3.37 (3)	49.23 (130)	5.91
1958-59	78.22 (97)	18.55 (23)	3.22 (4)	46.63 (208)	9.04
1959-60	67.30 (142)	27.49 (58)	5.21 (11)	47.02 (302)	5.21
1960-61	67.42 (178)	31.44 (83)	1.14 (3)	51.90 (343)	4.13
1961-62	66.67 (240)	28.33 (102)	5.00 (18)	48.19 (498)	4.88
1962-63	66.07 (294)	29.21 (130)	4.72 (21)	44.75 (657)	5.05
1963-64	63.72 (72)	28.32 (32)	7.96 (9)	49.66 (145)	4.53
1964-65	70.52 (177)	23.50 (59)	5.98 (15)	49.86 (355)	6.02
1965-66	64.28 (180)	32.86 (92)	2.86 (8)	49.59 (363)	3.94
1966-67	75.00 (108)	19.44 (28)	5.56 (8)	50.70 (213)	7.61
1967-68	67.57 (125)	26.49 (49)	5.94 (11)	45.13 (277)	5.65
1968-69	64.54 (162)	31.88 (80)	3.58 (9)	47.23 (343)	4.29
1969-70	65.16 (159)	27.87 (68)	6.97 (17)	42.86 (371)	5.46
1970-71	71.08 (177)	21.69 (54)	7.23 (18)	46.34 (382)	7.07
1971-72	67.03 (122)	24.72 (45)	8.24 (15)	46.21 (264)	5.87
1972-73	62.63 (181)	31.14 (90)	6.23 (18)	48.92 (370)	4.11
1973-74	60.45 (133)	32.73 (72)	6.82 (15)	38.33 (347)	4.82
1974-75	63.16 (180)	30.88 (88)	6.95 (17)	48.13 (374)	4.25
1975-76	70.26 (137)	23.08 (45)	6.67 (13)	45.82 (299)	6.64
1976-77	70.29 (168)	25.10 (60)	4.60 (11)	47.19 (356)	5.93
1977-78	78.83 (189)	19.14 (49)	7.03 (18)	49.09 (385)	7.86
1978-79	63.11 (154)	25.41 (62)	11.48 (28)	49.68 (310)	5.00
1979-80	69.14 (177)	28.52 (73)	2.34 (6)	51.60 (343)	4.70
1980-81	68.14 (154)	24.34 (55)	7.52 (17)	46.52 (331)	6.02
1981-82	56.82 (125)	35.45 (78)	7.73 (17)	44.33 (282)	3.62
1982-83	58.06 (108)	33.87 (63)	8.06 (15)	40.90 (264)	4.19
1983-84	66.18 (90)	26.47 (36)	7.35 (10)	45.00 (200)	5.56
1984-85	57.07 (113)	31.31 (62)	11.62 (23)	48.29 (232)	3.77
1985-86	61.76 (126)	30.88 (63)	7.35 (15)	46.67 (270)	4.28
Total or 31-yr Mean	66.06 (4,443)	27.94 (1,879)	6.01 (404)	46.38 (9,508)	5.32

^a Numbers in parentheses indicate sample sizes.

Table 2. Age composition of raccoons examined at Perardi Bros. Fur and Wool Co., Inc., Farmington, Fulton County, Illinois.

Season	Males		All Raccoons Young-of-the- year (%)	Percentage of adults that are females
	Young-of-the- year (%)	Adults (%)		
1955-56	71.23 (52) ^a	28.77 (21)	66.38 (116)	46.15 (39)
1956-57	68.23 (131)	31.77 (61)	65.96 (329)	45.54 (112)
1957-58	75.86 (66)	24.14 (21)	73.86 (176)	54.35 (46)
1958-59	68.94 (111)	31.06 (50)	72.98 (285)	35.06 (77)
1959-60	73.06 (160)	26.94 (59)	70.23 (430)	53.91 (128)
1960-61	62.74 (165)	37.26 (98)	65.08 (527)	46.74 (184)
1961-62	62.77 (258)	37.22 (153)	64.59 (771)	43.96 (273)
1962-63	73.33 (363)	26.67 (132)	69.89 (940)	53.36 (283)
1963-64	58.87 (73)	41.13 (51)	61.18 (237)	44.57 (92)
1964-65	74.17 (178)	25.83 (62)	72.30 (491)	54.41 (136)
1965-66	62.24 (183)	37.76 (111)	63.24 (574)	47.39 (211)
1966-67	65.62 (105)	34.38 (55)	70.06 (304)	39.56 (91)
1967-68	69.72 (152)	30.28 (66)	68.73 (403)	47.62 (126)
1968-69	69.35 (181)	30.65 (80)	66.99 (512)	52.66 (169)
1969-70	72.60 (212)	27.40 (80)	69.22 (536)	51.52 (165)
1970-71	77.07 (205)	22.93 (61)	74.17 (515)	54.14 (133)
1971-72	73.20 (142)	26.80 (52)	70.21 (376)	53.57 (112)
1972-73	66.08 (189)	33.92 (97)	64.35 (575)	52.68 (205)
1973-74	73.79 (214)	26.21 (76)	68.04 (510)	53.87 (163)
1974-75	64.67 (194)	35.33 (106)	63.93 (585)	49.76 (211)
1975-76	72.32 (162)	27.68 (62)	71.36 (419)	48.33 (120)
1976-77	70.68 (188)	29.32 (78)	70.50 (505)	47.65 (149)
1977-78	68.29 (196)	31.70 (91)	70.90 (543)	42.41 (158)
1978-79	68.42 (156)	31.58 (72)	65.68 (472)	55.55 (162)
1979-80	68.03 (166)	31.97 (78)	68.60 (500)	50.32 (157)
1980-81	68.60 (177)	31.40 (81)	68.39 (484)	52.94 (153)
1981-82	66.24 (157)	33.76 (80)	61.71 (457)	54.28 (175)
1982-83	71.56 (156)	28.44 (62)	65.35 (404)	55.71 (140)
1983-84	65.09 (110)	34.91 (59)	65.57 (305)	43.81 (105)
1984-85	59.90 (121)	40.10 (81)	58.50 (400)	51.20 (166)
1985-86	61.02 (144)	38.98 (92)	61.36 (440)	45.88 (170)
Total or 31-yr Mean	68.52 (5,067)	31.48 (2,328)	67.41 (14,121)	49.30 (4,611)

^a Numbers in parentheses indicate sample sizes.

Table 3. Sex ratios of raccoons examined at Perardi Bros. Fur and Wool Co., Inc., Farmington, Fulton County, Illinois.

Season	Number Females	Number Males	Percent Females
1955-56	54	73	42.52
1956-57	145	192	43.03
1957-58	89	87	50.57
1958-59	126	161	43.90
1959-60	211	219	49.07
1960-61	269	263	50.56
1961-62	364	411	46.97
1962-63	448	495	47.51
1963-64	125	124	50.20
1964-65	251	240	51.12
1965-66	281	294	48.87
1966-67	145	160	47.54
1967-68	193	218	46.96
1968-69	255	261	49.42
1969-70	263	292	47.39
1970-71	249	266	48.35
1971-72	182	194	48.40
1972-73	289	286	50.26
1973-74	222	290	43.36
1974-75	290	300	49.15
1975-76	195	224	46.54
1976-77	239	266	47.33
1977-78	256	287	47.15
1978-79	244	228	51.69
1979-80	244	256	51.20
1980-81	226	258	46.69
1981-82	220	237	48.14
1982-83	186	218	46.04
1983-84	136	169	44.59
1984-85	198	202	49.25
1985-86	203	236	46.24
Total or 31-yr Mean	6,810	7,387	47.97

Table 4. Placental scars in raccoon uteri collected at Perardi Bros. Fur and Wool Co., Inc., Farmington, Fulton County, Illinois.

Season	Number of Parous Uteri	No. Groups of Scars		Total Number of Scars		Mean Litter Size		Mean No. Visible Scars/Uterus
		Pale ^a	Dark ^b	Pale	Dark	Pale	Dark	
1955-56	16	1	16	2	58	2.00	3.62	3.75
1956-57	29	4	29	9	103	2.25	3.55	3.86
1957-58	18	7	18	18	71	2.57	3.94	4.94
1958-59	23	10	23	31	80	3.10	3.48	4.83
1959-60	57	25	57	50	204	2.00	3.58	4.46
1960-61	77	33	77	87	250	2.64	3.25	4.33
1961-62	74	26	74	59	265	2.27	3.58	4.38
1962-63	122	41	122	108	409	2.63	3.35	4.24
1963-64	31	11	31	25	98	2.27	3.16	3.97
1964-65	56	21	56	52	197	2.48	3.52	4.45
1965-66	81	26	81	81	303	3.12	3.74	4.74
1966-67	28	6	28	13	103	2.17	3.68	4.14
1967-68	49	16	49	45	188	2.81	3.84	4.76
1968-69	80	9	80	22	311	2.44	3.89	4.16
1969-70	66	19	66	52	249	2.74	3.77	4.56
1970-71	54	11	54	35	191	3.18	3.54	4.18
1971-72	42	7	42	17	153	2.43	3.64	4.05
1972-73	75	12	75	36	258	3.00	3.44	3.92
1973-74	70	14	70	54	247	3.86	3.53	4.30
1974-75	87	21	87	52	312	2.48	3.59	4.18
1975-76	44	15	44	45	161	3.00	3.66	4.68
1976-77	56	18	56	53	210	2.94	3.75	4.70
1977-78	48	13	48	32	167	2.46	3.48	4.14
1978-79	60	20	60	43	214	2.15	3.57	4.28
1979-80	73	28	73	71	253	2.54	3.46	4.44
1980-81	54	24	54	54	179	2.25	3.31	4.31
1981-82	75	31	75	75	269	2.42	3.59	4.59
1982-83	61	23	61	58	203	2.52	3.33	4.28
1983-84	36	11	36	32	145	2.91	4.03	4.92
1984-85	62	21	62	73	205	3.48	3.31	4.48
1985-86	60	14	60	31	216	2.21	3.60	4.12
Total or 31-yr Mean	1,764	538	1,764	1,415	6,272	2.63	3.56	4.36

^a Presumably from the previous breeding season.

^b Presumably from the most recent breeding season.

Table 5. Mean body weights (lb) of male raccoons weighed at Perardi Bros. Fur and Wool Co., Inc., Farmington, Illinois.

Season	Young-of-the-year	Adults	All Males	All Raccoons
1955-56	10.86 (34) ^a	15.92 (20)	12.74 (54)	11.76 (97)
1956-57	11.50 (128)	15.96 (59)	12.90 (187)	12.39 (322)
1957-58	12.15 (59)	18.25 (16)	13.45 (75)	12.78 (155)
1958-59	11.21 (108)	16.12 (49)	12.74 (157)	12.13 (280)
1959-60	11.07 (149)	15.98 (56)	12.41 (205)	11.92 (411)
1960-61	11.23 (153)	17.15 (88)	13.39 (241)	12.64 (496)
1961-62	11.12 (255)	15.59 (153)	12.80 (408)	12.23 (765)
1962-63	11.46 (350)	17.19 (128)	13.00 (478)	12.45 (911)
1963-64	10.43 (70)	16.21 (51)	12.86 (121)	12.20 (232)
1964-65	10.99 (176)	16.44 (62)	12.41 (238)	11.86 (484)
1965-66	11.48 (178)	16.15 (106)	13.22 (284)	12.53 (558)
1966-67	11.56 (104)	17.09 (55)	13.47 (159)	12.53 (303)
1967-68	12.26 (152)	16.68 (64)	13.57 (216)	12.94 (399)
1968-69	11.57 (181)	16.90 (80)	13.26 (261)	12.65 (511)
1969-70	11.27 (211)	15.34 (80)	12.39 (291)	11.81 (535)
1970-71	12.45 (204)	17.96 (60)	13.70 (264)	13.06 (512)
1971-72	12.29 (140)	17.24 (52)	13.63 (192)	12.91 (374)
1972-73	11.27 (188)	15.59 (96)	12.73 (284)	12.16 (573)
1973-74	11.38 (213)	15.39 (76)	12.43 (289)	12.16 (507)
1974-75	11.24 (194)	15.75 (106)	12.83 (300)	12.18 (583)
1975-76	11.42 (155)	16.49 (60)	12.84 (215)	12.14 (396)
1976-77	10.61 (188)	16.17 (77)	12.23 (265)	11.58 (502)
1977-78	10.32 (195)	16.30 (91)	12.22 (286)	11.45 (541)
1978-79	10.12 (155)	17.20 (72)	12.36 (227)	11.92 (470)
1979-80	10.39 (166)	17.86 (78)	12.78 (244)	12.30 (500)
1980-81	11.56 (176)	17.44 (82)	13.43 (258)	13.04 (483)
1981-82	11.25 (156)	16.97 (80)	13.19 (236)	12.77 (456)
1982-83	12.60 (156)	18.12 (62)	14.17 (218)	13.76 (404)
1983-84	12.46 (110)	17.77 (56)	14.24 (166)	13.60 (302)
1984-85	12.28 (121)	17.36 (81)	14.32 (202)	13.47 (400)
1985-86	12.04 (144)	16.91 (92)	13.94 (236)	13.11 (439)
31-year Mean	11.41 (4,969)	16.70 (2,288)	13.09 (7,257)	12.50 (13,901)

^a Numbers in parentheses indicate sample sizes.

Table 6. Mean body weights (lb) of female raccoons weighed at Perardi Bros. Fur and Wool Co., Inc., Farmington, Illinois.

Season	Young-of-the-year	Parous	Nulliparous Adults	All Females
1955-56	9.24 (25) ^a	12.32 (18)	(0)	10.53 (43)
1956-57	10.68 (85)	13.47 (39)	12.86 (11)	11.66 (135)
1957-58	11.33 (56)	14.16 (21)	13.21 (3)	12.14 (80)
1958-59	10.79 (96)	13.71 (23)	11.14 (4)	11.35 (123)
1959-60	10.40 (137)	13.74 (58)	12.28 (11)	11.44 (206)
1960-61	10.53 (175)	15.03 (77)	13.38 (3)	11.92 (255)
1961-62	10.76 (237)	13.25 (102)	12.81 (18)	11.57 (357)
1962-63	10.64 (287)	14.28 (125)	13.86 (21)	11.84 (433)
1963-64	10.39 (72)	13.88 (31)	11.85 (8)	11.47 (111)
1964-65	10.25 (174)	13.84 (57)	14.42 (15)	11.34 (246)
1965-66	10.48 (178)	14.34 (88)	13.82 (8)	11.82 (274)
1966-67	10.74 (108)	14.08 (28)	12.55 (8)	11.49 (144)
1967-68	11.13 (123)	14.72 (49)	13.10 (11)	12.21 (183)
1968-69	11.08 (161)	14.01 (80)	12.60 (9)	12.07 (250)
1969-70	10.03 (159)	13.44 (68)	12.06 (17)	11.12 (244)
1970-71	11.31 (176)	15.04 (54)	14.90 (18)	12.38 (248)
1971-72	11.12 (122)	14.79 (45)	12.65 (15)	12.16 (182)
1972-73	10.19 (181)	14.12 (90)	13.20 (18)	11.60 (289)
1973-74	10.71 (131)	13.86 (72)	11.33 (15)	11.79 (218)
1974-75	10.22 (179)	13.89 (88)	12.22 (16)	11.48 (283)
1975-76	10.42 (129)	13.62 (41)	13.19 (11)	11.31 (181)
1976-77	9.81 (167)	13.69 (59)	11.45 (11)	10.85 (237)
1977-78	9.69 (188)	13.08 (49)	13.21 (18)	10.59 (255)
1978-79	9.74 (154)	14.97 (61)	13.63 (28)	11.50 (243)
1979-80	10.47 (177)	14.99 (73)	14.40 (6)	11.85 (256)
1980-81	11.30 (151)	15.53 (55)	14.25 (19)	12.58 (225)
1981-82	10.61 (125)	14.53 (78)	14.52 (17)	12.30 (220)
1982-83	11.70 (108)	15.60 (63)	14.93 (15)	13.28 (186)
1983-84	11.63 (93)	15.24 (36)	15.77 (7)	12.80 (136)
1984-85	10.87 (113)	14.86 (62)	14.91 (23)	12.60 (198)
1985-86	10.68 (126)	14.87 (63)	12.90 (15)	12.15 (203)
Total or 31-yr Mean	10.61 (4,393)	14.22 (1,853)	13.25 (399)	11.78 (6,644)

^a Numbers in parentheses indicate sample sizes.

Table 7. Average values and numbers of Illinois raccoon pelts, from 1968-69 through 1985-86. ^a

Season	Average Value	Average Number Harvested
1968-69	\$ 3.11	49,429
1969-70	2.44	62,949
1970-71	1.35	52,866
1971-72	2.95	68,174
1972-73	5.37	85,536
1973-74	7.36	181,776
1974-75	8.03	No Data
1975-76	14.00	310,593
1976-77	17.17	187,377
1977-78	18.00	237,315
1978-79	27.25	292,728
1979-80	25.50	381,006
1980-81	19.40	314,777 (Hubert 1981)
1981-82	22.50	314,963 (Hubert 1982)
1982-83	14.55	292,189 (Hubert 1983)
1983-84	13.15	203,633 (Hubert 1984)
1984-85	17.25	269,991 (Hubert 1985)
1985-86	13.80	206,278 (Hubert 1986)

^a Data from Sanderson and Hubert (1980), except as noted.

Table 8. Average body weights (lb) of raccoons killed by hunters, trappers, and roadkills and examined at Perardi Bros. Fur and Wool Co., Inc., Farmington, Illinois--1972-73 and 1974-75 through 1985-86.

Season	Juvenile Males			Adult Males			Juvenile Females		
	Hunters	Trappers	DOR	Hunters	Trappers	DOR	Hunters	Trappers	DOR
1972-73	11.31 (113)	11.21 (36)	14.90 (2)	15.65 (60)	15.57 (23)	15.55 (2)	9.93 (112)	10.58 (41)	10.80 (1)
1974-75	11.24 (91)	11.40 (32)	12.50 (1)	15.71 (49)	14.99 (15)	14.95 (2)	10.46 (83)	10.14 (24)	10.30 (4)
1975-76	11.44 (120)	10.93 (34)	8.70 (1)	16.57 (45)	16.14 (14)	17.00 (1)	10.17 (90)	11.01 (35)	(0)
1976-77	10.76 (154)	9.99 (33)	11.20 (1)	16.30 (67)	15.12 (9)	15.60 (1)	9.88 (139)	9.56 (27)	7.77 (3)
1977-78	10.31 (183)	10.58 (28)	8.65 (6)	16.30 (74)	14.54 (17)	(0)	10.56 (116)	7.82 (45)	10.88 (4)
1978-79	10.02 (117)	10.15 (32)	10.00 (1)	17.43 (56)	16.37 (11)	17.45 (2)	9.64 (113)	9.67 (29)	9.74 (5)
1979-80	10.49 (128)	10.12 (33)	8.18 (4)	18.00 (66)	16.95 (12)	(0)	10.56 (138)	9.92 (37)	7.70 (1)
1980-81	11.78 (137)	11.37 (34)	9.95 (4)	17.49 (69)	17.14 (13)	(0)	11.29 (109)	11.31 (37)	10.98 (4)
1981-82	11.41 (119)	10.79 (36)	9.40 (1)	17.05 (64)	17.37 (15)	12.80 (1)	10.69 (96)	10.55 (31)	(0)
1982-83	12.69 (136)	11.99 (20)	(0)	18.16 (48)	17.98 (14)	(0)	11.96 (82)	10.84 (24)	(0)
1983-84	12.42 (89)	12.72 (20)	10.90 (1)	17.84 (46)	17.59 (10)	(0)	11.74 (69)	11.83 (24)	(0)
1984-85	12.13 (104)	13.71 (14)	12.50 (1)	17.19 (68)	18.24 (13)	(0)	10.91 (92)	10.78 (21)	(0)
1985-86	12.01 (123)	12.05 (19)	14.50 (1)	16.94 (81)	17.20 (6)	17.60 (2)	10.49 (106)	11.70 (16)	11.58 (4)
Mean of Means	11.38 (1,614)	11.29 (371)	9.94 (24)	16.97 (793)	16.52 (172)	15.93 (11)	10.64 (1,345)	10.39 (391)	10.02 (26)

Season	Parous Females			Nulliparous Adult Females			All Raccoons		
	Hunters	Trappers	DOR	Hunters	Trappers	DOR	Hunters	Trappers	DOR
1972-73	13.67 (51)	14.86 (30)	(0)	12.74 (17)	14.65 (4)	(0)	12.01 (353)	12.69 (134)	14.34 (5)
1974-75	13.85 (40)	13.64 (18)	13.00 (1)	12.09 (8)	12.00 (3)	(0)	12.22 (271)	12.12 (92)	12.08 (8)
1975-76	13.78 (35)	13.02 (7)	(0)	12.49 (10)	14.30 (1)	(0)	12.14 (300)	11.96 (91)	12.85 (2)
1976-77	13.56 (54)	12.65 (11)	12.70 (2)	11.92 (7)	9.63 (3)	(0)	11.73 (421)	10.74 (83)	10.78 (7)
1977-78	12.94 (40)	13.91 (9)	13.30 (1)	13.28 (13)	12.88 (4)	(0)	11.94 (426)	10.42 (103)	8.67 (11)
1978-79	14.94 (45)	14.45 (13)	(0)	13.12 (23)	15.98 (5)	(0)	11.90 (354)	11.70 (90)	11.70 (8)
1979-80	14.87 (50)	15.20 (23)	(0)	14.98 (5)	15.00 (2)	(0)	12.42 (387)	12.00 (107)	8.08 (5)
1980-81	15.66 (42)	15.12 (13)	(0)	14.05 (13)	14.68 (6)	(0)	13.41 (370)	12.80 (103)	10.46 (8)
1981-82	14.50 (49)	14.57 (29)	(0)	15.34 (11)	13.00 (6)	(0)	12.84 (339)	12.62 (117)	11.10 (2)
1982-83	15.56 (43)	15.69 (20)	(0)	15.25 (13)	12.80 (2)	(0)	13.79 (322)	13.64 (80)	(0)
1983-84	15.39 (25)	16.34 (7)	12.40 (4)	15.68 (4)	16.10 (2)	15.50 (1)	13.61 (233)	13.66 (63)	12.65 (6)
1984-85	14.74 (51)	15.12 (10)	(0)	14.85 (19)	15.20 (4)	(0)	13.38 (334)	13.99 (62)	12.50 (1)
1985-86	14.89 (56)	14.52 (6)	15.80 (1)	12.96 (14)	12.00 (1)	(0)	13.10 (380)	12.88 (48)	13.98 (8)
Mean of Means	14.50 (581)	14.55 (196)	13.18 (9)	13.74 (157)	13.82 (43)	15.50 (1)	12.06 (4,490)	12.38 (1,173)	11.67 (71)

Table 9. Percentage of raccoons killed by hunters, trappers, and cars and brought into Perardl Bros. Fur and Wool Co., Inc., Farmington, Illinois, 1972-73 and 1974-75 through 1985-86 seasons.

Season	All Raccoons			Parous Females			Juvenile Females		
	Hunters	Trappers	DOR	Hunters	Trappers	DOR	Hunters	Trappers	DOR
1972-73	70.93 (349)	28.05 (138)	1.02 (5)	62.82 (49)	37.18 (29)	0.00 (0)	68.10 (111)	31.29 (51)	0.61 (1)
1974-75	72.66 (271)	25.20 (94)	2.14 (8)	69.84 (44)	28.57 (18)	1.59 (1)	72.17 (83)	24.35 (28)	3.48 (4)
1975-76	76.34 (300)	23.16 (91)	0.51 (2)	83.33 (35)	16.67 (7)	0.00 (0)	72.00 (90)	28.00 (35)	0.00 (0)
1976-77	83.03 (416)	15.37 (77)	1.60 (8)	84.06 (58)	11.59 (8)	4.35 (3)	81.88 (131)	16.25 (26)	1.88 (3)
1977-78	80.85 (439)	16.94 (92)	2.21 (12)	80.00 (40)	18.00 (9)	2.00 (1)	79.38 (154)	18.56 (36)	2.06 (4)
1978-79	78.65 (356)	19.61 (90)	1.74 (8)	76.79 (43)	23.22 (13)	0.00 (0)	76.82 (116)	19.87 (30)	3.31 (5)
1979-80	76.60 (383)	22.40 (112)	1.00 (5)	68.49 (50)	31.51 (23)	0.00 (0)	78.41 (138)	21.02 (37)	0.57 (1)
1980-81	76.46 (367)	21.67 (104)	1.88 (10)	76.36 (42)	23.64 (13)	0.00 (0)	72.00 (108)	24.67 (37)	3.33 (5)
1981-82	73.85 (336)	25.71 (117)	0.44 (2)	62.82 (49)	37.18 (29)	0.00 (0)	75.40 (95)	24.60 (31)	0.00 (0)
1982-83	80.00 (324)	20.00 (81)	0.00 (0)	68.25 (43)	31.75 (20)	0.00 (0)	77.78 (84)	22.22 (24)	0.00 (0)
1983-84	76.72 (234)	21.31 (65)	1.96 (6)	69.44 (25)	19.44 (7)	11.11 (4)	74.19 (69)	25.81 (24)	0.00 (0)
1984-85	84.13 (334)	15.62 (62)	0.25 (1)	83.61 (51)	16.39 (10)	0.00 (0)	81.42 (92)	18.58 (21)	0.00 (0)
1985-86	87.13 (379)	11.03 (48)	1.84 (8)	88.52 (54)	9.84 (6)	1.64 (1)	84.25 (107)	12.60 (16)	3.15 (4)
Mean of Means	78.26 (4,488)	20.46 (1,171)	1.28 (75)	74.95 (583)	23.46 (192)	1.57 (10)	76.45 (1,378)	22.14 (396)	1.41 (27)

Season	Adult Males			Juvenile Males			Nulliparous Adult Females		
	Hunters	Trappers	DOR	Hunters	Trappers	DOR	Hunters	Trappers	DOR
1972-73	70.24 (59)	27.38 (23)	2.38 (2)	77.40 (113)	21.23 (31)	1.37 (2)	80.95 (17)	19.00 (4)	0.00 (0)
1974-75	74.24 (49)	22.73 (15)	3.03 (2)	75.21 (91)	23.97 (29)	0.83 (1)	50.00 (4)	50.00 (4)	0.00 (0)
1975-76	75.00 (45)	23.33 (14)	1.67 (1)	77.42 (120)	21.94 (34)	0.64 (1)	90.91 (10)	9.09 (1)	0.00 (0)
1976-77	88.46 (69)	10.26 (8)	1.28 (1)	81.82 (153)	17.65 (33)	0.53 (1)	71.43 (5)	28.57 (2)	0.00 (0)
1977-78	82.10 (78)	17.89 (17)	0.00 (0)	82.38 (159)	13.99 (27)	3.63 (7)	72.73 (8)	27.27 (3)	0.00 (0)
1978-79	81.16 (56)	15.94 (11)	2.90 (2)	78.29 (119)	21.05 (32)	0.66 (1)	84.62 (22)	15.38 (4)	0.00 (0)
1979-80	83.54 (66)	16.46 (13)	0.00 (0)	75.30 (125)	22.29 (37)	2.41 (4)	66.67 (4)	33.33 (2)	0.00 (0)
1980-81	84.15 (69)	15.85 (13)	0.00 (0)	77.97 (138)	19.77 (35)	2.26 (5)	62.50 (10)	37.50 (6)	0.00 (0)
1981-82	79.45 (63)	18.99 (15)	1.26 (1)	76.28 (119)	23.08 (36)	0.64 (1)	62.50 (10)	37.50 (6)	0.00 (0)
1982-83	77.42 (48)	22.58 (14)	0.00 (0)	86.62 (136)	13.38 (21)	0.00 (0)	86.67 (13)	13.33 (2)	0.00 (0)
1983-84	79.66 (47)	20.34 (12)	0.00 (0)	80.91 (89)	18.18 (20)	0.91 (1)	57.14 (4)	28.57 (2)	14.29 (1)
1984-85	83.95 (68)	16.05 (13)	0.00 (0)	87.40 (104)	11.76 (14)	0.84 (1)	82.61 (19)	17.39 (4)	0.00 (0)
1985-86	91.11 (82)	6.67 (6)	2.22 (2)	86.01 (123)	13.29 (19)	0.70 (1)	92.86 (13)	7.14 (1)	0.00 (0)
Mean of Means	80.81 (799)	17.99 (174)	1.13 (11)	80.23 (1,589)	18.58 (388)	1.19 (26)	74.43 (139)	24.93 (41)	1.10 (1)

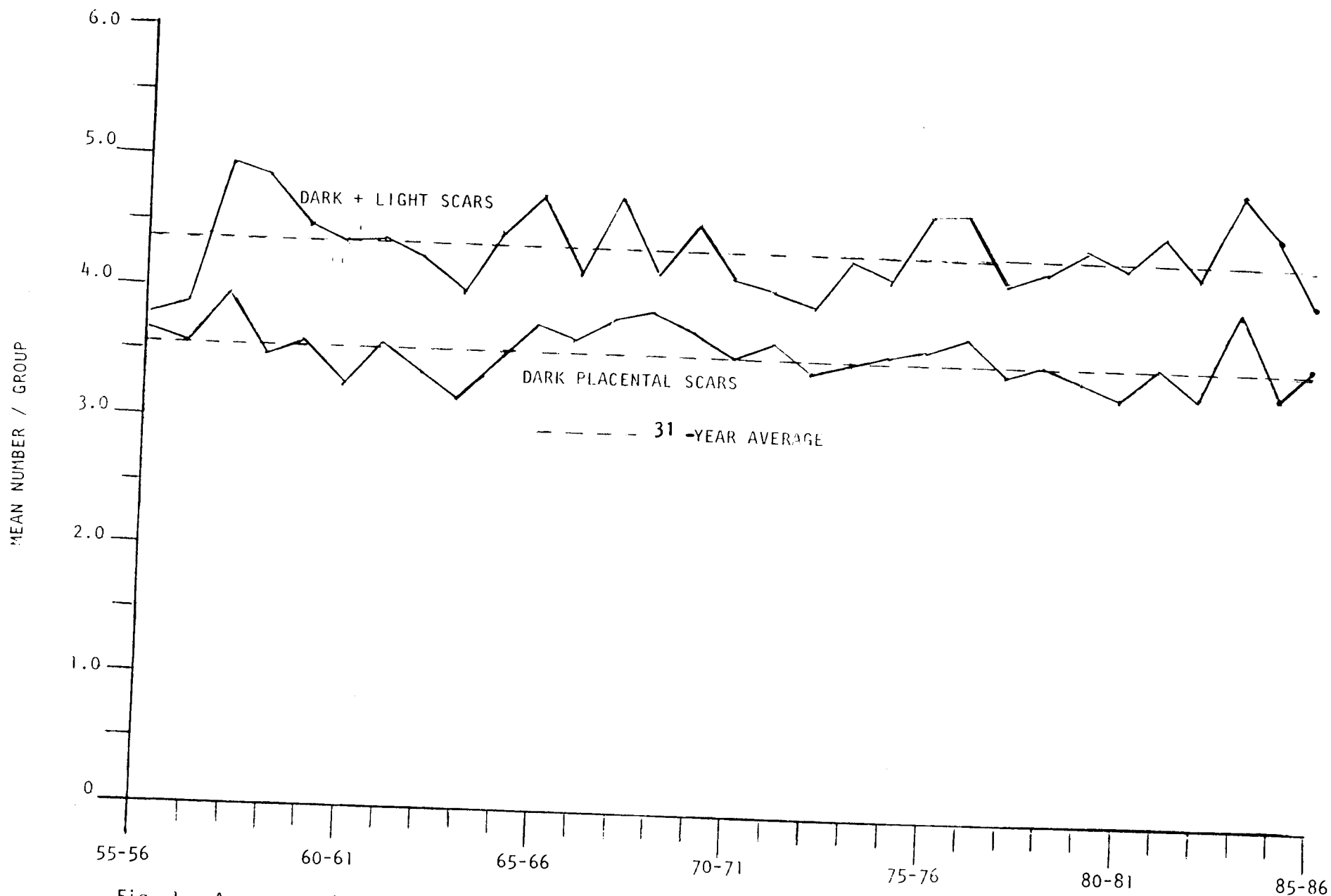


Fig. 1. Average number of placental scars observed per parous female examined at Perardi Bros. Furhouse, Farmington, Illinois--1955-56 through 1985-86 seasons. "Dark" scars represent uteri with only one group of scars whether dark or light and the dark scars when both light and dark scars were present in the same uterus; the "dark + light scars" represent all scars visible in the uterus of a parous female. The average number of "dark" scars is believed to represent the average litter size.