

ILLINOIS NATURAL HISTORY SURVEY

JOB COMPLETION REPORT
SURVEYS AND INVESTIGATIONS PROJECTS
As Required by
FEDERAL AID IN WILDLIFE RESTORATION ACT



Section of Wildlife Research

Federal Aid Project No. W-49-R(34)
Study XII: Raccoon Investigations
Job No. 5: Cooperative raccoon collections

By
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12 June 1987

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JOB COMPLETION REPORT
SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R-34

STUDY NO.: XII

JOB NO.: 5

JOB TITLE: Cooperative raccoon collections

ABSTRACT: During the 1986-87 raccoon hunting and trapping seasons 100 raccoons were examined and data collected every other week at Perardi Bros. Fur and Wool, Inc., Farmington, Illinois. Similar collections have been made at the same place for the past 32 seasons. Data collected included body weight, body length, sex, how caught, condition of nipples for females and of the penis for males, general health, weight of the gonads, number of placental scars per uterus, presence of sperm in the epididymis, and age. Age was determined from the radius and ulna, penis bone, and sutures in the skulls of animals that weighed ≥ 12.0 lb. Except for a few very cold days in early December, temperatures were generally above normal during the 1986-87 hunting and trapping season. Snowfall was below average, but heavy rains in late October, late November, and early December resulted in a considerable amount of flooding, which prevented many trappers from trapping in their usual locations. High water also prevented some hunting in usual locations. Juveniles accounted for nearly 60% of the raccoons taken by hunters and trappers in 1986-87. Only in 1985-86, when weather conditions during the hunting and trapping seasons were similar to those in 1986-87, was there a lower percentage of juveniles in the catch. These weather conditions, rather than a change in the population, are believed responsible for the age composition of

the harvest during the past two seasons. Females contributed 46.67% of the animals examined in 1986-87 compared with the 32-year average of 47.71%. Males (both juveniles and adults) made up a significantly higher percentage of the animals examined in January than those examined in November and December. The approaching breeding season, which results in increased activity for both adult and juvenile males, is believed responsible for the seasonal difference in sex ratios. The average litter size for the 1986 breeding season was 3.25; the second lowest during the 32-year study. The low average litter size for 1986-87 does not indicate a trend and thus is not a reason for concern about the productivity of the Illinois raccoon population. Body weights of all sex and age groups in 1986-87 were above the long term averages; probably a reflection of the warmer than normal weather, which required smaller amounts of food for body maintenance, allowed raccoons to continue to feed during the season, and permitted juveniles to continue to grow. Average weights of raccoons taken by hunters and trappers were not significantly different. Trappers caught only 12.58% of all raccoons examined in 1986-87; the second lowest percentage of the past 14 seasons. The reduction in take by trappers was anticipated for both of the two most recent seasons because high water prevented trappers from setting their traps in many areas they usually trapped. The total catch of raccoons in 1986-87 was approximately 306,300, up about 48.5% from the previous season. The average pelt value was \$18.95, a 37.3% increase over the previous year.

JOB COMPLETION REPORT
SURVEYS AND INVESTIGATIONS PROJECTS

STATE OF ILLINOIS

PROJECT NO.: W-49-R-34 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 seasons a large furhouse (Perardi Bros. Fur and Wool, Inc., Farmington, Fulton County, Illinois) was visited and data were collected on 100 raccoons brought to the furhouse by hunters and trappers. Most of the raccoons were caught within a 100-mile radius of Farmington; however, the locations of capture were unknown. During each trip to the furhouse data were collected before and after the first 100 raccoons were skinned by employees of the furhouse. Data collected were body weight to the nearest 0.1 lb, body length to the 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 were one front leg (halfway between the wrist and elbow); penis bone and one testis and epididymis from each male; and the uterus and ovaries from each female. Skulls were collected from all parous females, from all males with extrusible penes, and from all raccoons whose weight was ≥ 12.0 lb. After returning to the laboratory, the epiphyses and bacula were examined--with

other information--to determine age, one testis was weighed, two ovaries were weighed, each epiphysis was examined for the presence of sperm, and each uterus was examined and the number of placental scars counted. Skulls were cleaned and the sutures examined for more precise determination of age. All information was recorded in standardized data sheets in a notebook.

Similar data have been collected at this same furhouse beginning with the 1955-56 season. Except for the 1985-86 and 1986-87 seasons, the data also have been stored on floppy discs and tape. Each year the data are summarized in a series of tables and a figure (Tables 1-9, Fig. 1) and presented with the data for the previous years (through the 1955-56 season). Eventually the data will be analyzed and manuscripts written.

The raccoon hunting season was similar in 1986-87 to what it has been in recent years. The hunting season in the Northern Zone was 15 November - 13 January and in the Southern Zone it was 25 November - 23 January. The raccoon trapping season was about the same in 1986-87 as in the six previous seasons. The trapping season in the Northern Zone was 15 November - 29 December and in the Southern Zone it was 25 November - 8 January.

FINDINGS AND ANALYSIS:

1986-87 Hunting and Trapping Season

Five trips were made to the furhouse to collect data during the 1986-87 season--24 November 1986, 8 December 1986, 22 December 1986, 5

January 1987, and 20 January 1987. One hundred raccoons--a number selected arbitrarily--were examined during each except the last trip, when only 65 animals were available.

The mean monthly temperature at Peoria (20 miles east of Farmington) for October 1986 was 1.3°F above normal. The average precipitation for October at Peoria was 4.64", 2.13" above normal for the month; 1.67" occurred 24-26 October. The average monthly temperature at Peoria for November was 3.6°F below normal, and although the monthly precipitation was 1.32", 0.64" below normal, 1.19" occurred 15-20 November. Precipitation in December (2.60") was 0.59" above normal but 2.50" of the monthly total occurred 1-10 December. There was only a trace of snow in December. The mean December temperature (30.9°F) was 3.1°F above normal, but 4-10 December 7 of 10 days had minimum temperatures of 3-19°F. For the entire month, 17 days had minimum temperatures of $\geq 25^\circ\text{F}$, 23 days had maximum temperatures of $\geq 40^\circ\text{F}$, and only 4 days had maximum temperatures of $\leq 32^\circ\text{F}$. Precipitation in January was 1.49", 0.11" below normal for the month, with the mean monthly temperature 3.7°F above normal. The mean daily temperature for 1-10 January was 30.25°F, 5.05°F above normal for the entire month of January. There was 7.8" of snow 1-10 January and 0.73" of precipitation during the same period.

Except for a few days of very cold weather in early December, weather was generally favorable for raccoon hunters during the 1986-87 season. Although November temperatures were below normal, the average daily minimum temperature was 28.50°F and the average daily temperature was 36.2°F for the month. Temperatures during the first 10 days of January were conducive to a higher than average harvest of raccoons by hunters; 8 of the 10 days had maximum temperatures of freezing or higher.

The higher than average rainfall in October, especially in late October, and the relatively heavy rainfall during the second half of

November resulted in a considerable amount of flooding during the trapping season in November. When the flooding began to subside, the cold weather in early December interfered with trapping. Thus, we anticipated that the percentage of raccoons taken by trappers would be below average in 1986-87.

In general, the weather conditions during the 1986-87 season (flooding early, several very cold days in early December, and warmer than average temperatures, especially in January, for most of the season) were similar to conditions during the 1985-86 season.

Age Composition

Young-of-the-year comprised 58.99% of the female harvest compared with a 32-year average of 66.01%, young-of-the-year males 60.48% compared with a 32-year average of 68.26%, and 59.78% of all raccoons compared with a 32-year average of 67.15% (Table 1, 2). The corresponding increases in the percentages of adults probably resulted from the warmer than average temperatures in late December and in early January. These warmer temperatures no doubt stimulated more than an average amount of hunting, and caused adults to be more active than usual as the breeding season approached. Although young-of-the-year raccoons made up 59.78% of all raccoons examined, they contributed only 47.88% of the ones examined during the two trips in January 1987. Only during one season (1984-85, 58.50%) during the past 32 was there a lower percentage of young animals than in 1986-87; however, weather, rather than a change in the percentage of young in the population, is believed responsible.

Sex Ratios

Females contributed 46.04% of juveniles examined in the 1986-87 season, compared with a 32-year average of 46.37% (Table 1). Weather

conditions apparently have little differential effect on the movements and vulnerability to hunters and trappers of young male and female raccoons except late in the season. Females made up only slightly below the 32-year average for adults--47.59% in 1986-87 compared with 49.27% (Table 2).

Thus, when adults and juveniles are combined, there were 46.67% females in 1986-87 compared with the 32-year average of 47.71% (Table 3).

Males were 51.76% of the juveniles examined in November and December and 59.49% of the juveniles examined in January. For adults, the figures were 48.51% and 56.98%, respectively. Thus, there was about an 8% increase in the percentage of males in both juveniles and adults from November-December to January. Although juvenile males become sexually active somewhat later than adult males, by January a substantial percentage of juvenile males (39.13% of 46 juvenile males examined in January 1987 had sperm in their epididymides compared with 100.0% in 47 adult males) are either sexually active or approaching this stage and would probably be more active than juvenile females at this season. This difference in activity late in the hunting season between juvenile males and females probably accounts for the consistent majority of males in the juveniles taken by hunters and trappers. The 32-year average is 46.37% females and only 3 years in 32 were more female than male juveniles taken, and then less than 2.0% more (Table 1).

Placental Scars

The average number of dark placental scars per parous uterus was 3.25. This number is believed to represent the average litter size for the 1986 breeding season. The 32-year average litter size is 3.56, and only one year (the 1963 breeding season, 3.16 average litter size) was below the figure for 1986. Although the average litter size is perhaps one of the

more sensitive factors to be considered in monitoring productivity of a raccoon population, the low figure in 1986 does not indicate a trend (Table 4, Fig. 1). The average litter size in 4 of the past 10 years has been above the 32-year average and only slightly below average for 2 additional seasons.

Body Weight

Body weights were above the long term average for all sex and age categories in 1986-87 (Table 5, 6). Body weights routinely fluctuate about a pound from year to year but have showed no trend in the past 32 years. Fluctuations in body weights are probably a result of weather conditions, which influence activity and thus the amount of feeding by raccoons--cold weather restricts activity and feeding. Weights late in the season are usually lower than they are earlier--for example, 101 adult raccoons weighed in November-December 1986 averaged 17.01 lb and 86 adults weighed in January 1987 averaged 15.91 lb. Thus, the warmer than average weather in late December 1986 and January 1987 probably contributed to more animals of lighter weight being taken but this lower weight was apparently partially compensated for by the generally mild weather during most of the 1986-87 season. Average weights of 198 juveniles weighed in November-December was 11.70 lb, whereas 80 juveniles weighed in January averaged 12.03 lb each. The generally mild weather in 1986-87 apparently allowed the juveniles to continue to grow and maintain their body weight, whereas in an average winter they would be expected to lose a greater percentage of their body weight during winter than adults.

The lack of a trend in body weights during the past 32 seasons indicates that the food supply for raccoons in Illinois is adequate to sustain current population levels. No doubt the nearly ubiquitous supply

of corn throughout most of Illinois makes a major contribution to the generally stable body weights of raccoons from year to year.

Body weights of raccoons taken by hunters and trappers do not differ significantly (Table 7). Although juvenile males taken by trappers weighed less (11.05 lb) than juvenile males taken by hunters (12.38 lb) in 1986-87, there is only a slight difference in the 14-year average weights for the two groups. There is only a small difference in the average weights of raccoons taken by hunters and trappers in the other sex and age groups, and parous females taken by trappers (15.72 lb) weighed a little more than those taken by hunters (15.44 lb). The averages of all raccoons taken by hunters (13.75 lb) and by trappers (13.84 lb) in 1986-87 were nearly identical. The 14-year average for all raccoons was 12.73 lb for those taken by hunters and 12.50 lb for those taken by trappers (Table 7).

Harvest by Hunters and Trappers

As indicated earlier in the present report, because weather conditions (flooding and some extremely cold weather early in December) were unfavorable for trapping early in the season, it was anticipated that trappers would take a smaller percentage of the raccoons in 1986-87 than they usually do. Trappers caught only 12.58% of all raccoons examined in 1986-87 (Table 8). This percentage was the second lowest (11.03% in 1985-86) of the past 14 seasons. Another factor contributing to the greater percentage of raccoons taken by hunters was no doubt the warm weather in January, after the trapping season had closed but while the hunting season was still open. Trappers caught a lower than average percentage of raccoons in 1986-87 in all sex and age groups (Table 8).

Adult males are apparently less vulnerable to trapping than other age and sex groups. Trappers took 17.19% of all adult males during the past 14

seasons and 20.71% of all other age and sex groups during the same time. When it comes to cars, nulliparous adult females avoid them more successfully than all other age and sex groups, including adult males. Only 1 of 200 adult nulliparous females examined during the past 14 seasons has been killed by a car (Table 8).

Number Taken and Average Pelt Value

Perhaps partly because of the relatively mild weather during most of the hunting and trapping seasons and partly because of the substantial increase in pelt value, approximately 306,300 raccoons were taken during the 1986-87 season (Table 9). This figure represents about a 48.5% increase from the 1985-86 season. The average pelt value for the same period increased from \$13.80 in 1985-86 to \$18.95 in 1986-87, approximately 37%.

RECOMMENDATIONS:

Data should continue to be collected in order to monitor the reproduction, health, and physical condition of the Illinois raccoon population. Data collected on this project are available to make comparisons with data from similar collections made in northern and southern Illinois.

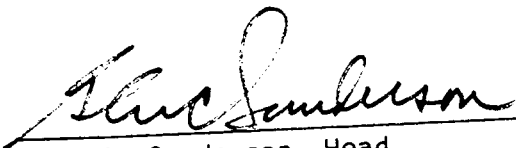
DATA AND REPORTS:

The original data from this investigation are on file at the Section of Wildlife Research, Illinois Natural History Survey, Natural Resources Building, Champaign, Illinois 61820. Annual Job Completion Reports from the project are on file at the same location and are submitted to the Division of Wildlife Resources, Illinois Department of Conservation, Springfield, Illinois 62706.

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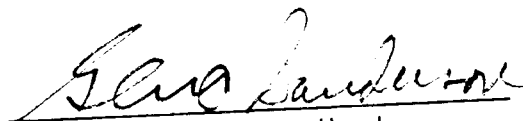
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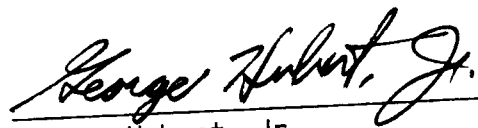
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Table 1. Age composition of female raccoons examined at Perardi Bros. Fur and Wool Co., Inc., Farmington, Fulton County, Illinois.

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
1986-87	58.99 (128)	32.26 (70)	8.76 (19)	46.04 (278)	3.97
Total or 32-yr Mean	66.01 (4,571)	28.08 (1,949)	6.09 (423)	46.37 (9,786)	5.28

^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)
1986-87	60.48 (150)	39.52 (98)	59.78 (465)	47.59 (187)
Total or 32-yr Mean	68.26 (5,217)	31.74 (2,426)	67.16 (14,586)	49.27 (4,798)

^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
1986-87	217	248	46.67
Total or 32-yr Mean	7,027	7,635	47.71

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
1986-87	68	24	68	46	221	1.92	3.25	3.93
Total or 32-yr Mean	1,832	562	1,832	1,461	6,493	2.60	3.56	4.35

^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)
1986-87	12.21 (150)	17.79 (98)	14.41 (248)	13.69 (465)
32-year Mean	11.44 (5,119)	16.73 (2,386)	13.13 (7,505)	12.50 (14,366)

^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)
1986-87	11.32 (128)	15.43 (70)	13.80 (19)	12.86 (217)
Total or 32-yr Mean	10.63 (4,521)	14.26 (1,923)	13.26 (418)	11.81 (6,861)

^a Numbers in parentheses indicate sample sizes.

Table 7. 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 1986-87.

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)
1986-87	12.38 (128)	11.05 (19)	(0)	17.82 (86)	17.58 (12)	(0)	11.35 (113)	11.07 (15)	(0)
Mean of Means	11.46 (1,742)	11.29 (390)	10.95 (24)	17.03 (879)	16.63 (184)	15.85 (11)	10.69 (1,458)	10.48 (406)	9.97 (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)
1986-87	15.44 (56)	15.72 (12)	14.60 (1)	13.80 (19)	(0)	(0)	13.75 (402)	13.84 (58)	14.60 (1)
Mean of Means	14.56 (637)	14.63 (208)	13.63 (10)	13.75 (176)	13.71 (43)	15.50 (1)	12.73 (4,892)	12.50 (1,231)	11.83 (72)

Table 8. Percentage of raccoons killed by hunters, trappers, and cars and brought into Perardi Bros. Fur and Wool Co., Inc., Farmington, Illinois, 1972-73 and 1974-75 through 1986-87 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)
1986-87	87.20 (402)	12.58 (58)	0.22 (1)	81.16 (56)	17.39 (12)	1.45 (1)	88.28 (113)	11.72 (15)	0.00 (0)
Mean of Means	78.90 (4,890)	19.90 (1,229)	1.20 (76)	75.39 (639)	23.03 (204)	1.58 (11)	77.29 (1,491)	21.40 (411)	1.31 (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)
1986-87	87.76 (86)	12.24 (12)	0.00 (0)	87.07 (128)	12.92 (19)	0.00 (0)	100.00 (19)	0.00 (0)	0.00 (0)
Mean of Means	81.30 (885)	17.62 (186)	1.05 (11)	80.72 (1,717)	18.18 (407)	1.10 (26)	75.83 (158)	23.15 (41)	1.02 (1)

Table 9. Average values and numbers of Illinois raccoon pelts, from 1968-69 through 1986-87. ^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)
1986-87	18.95	306,261 (Hubert 1987)

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

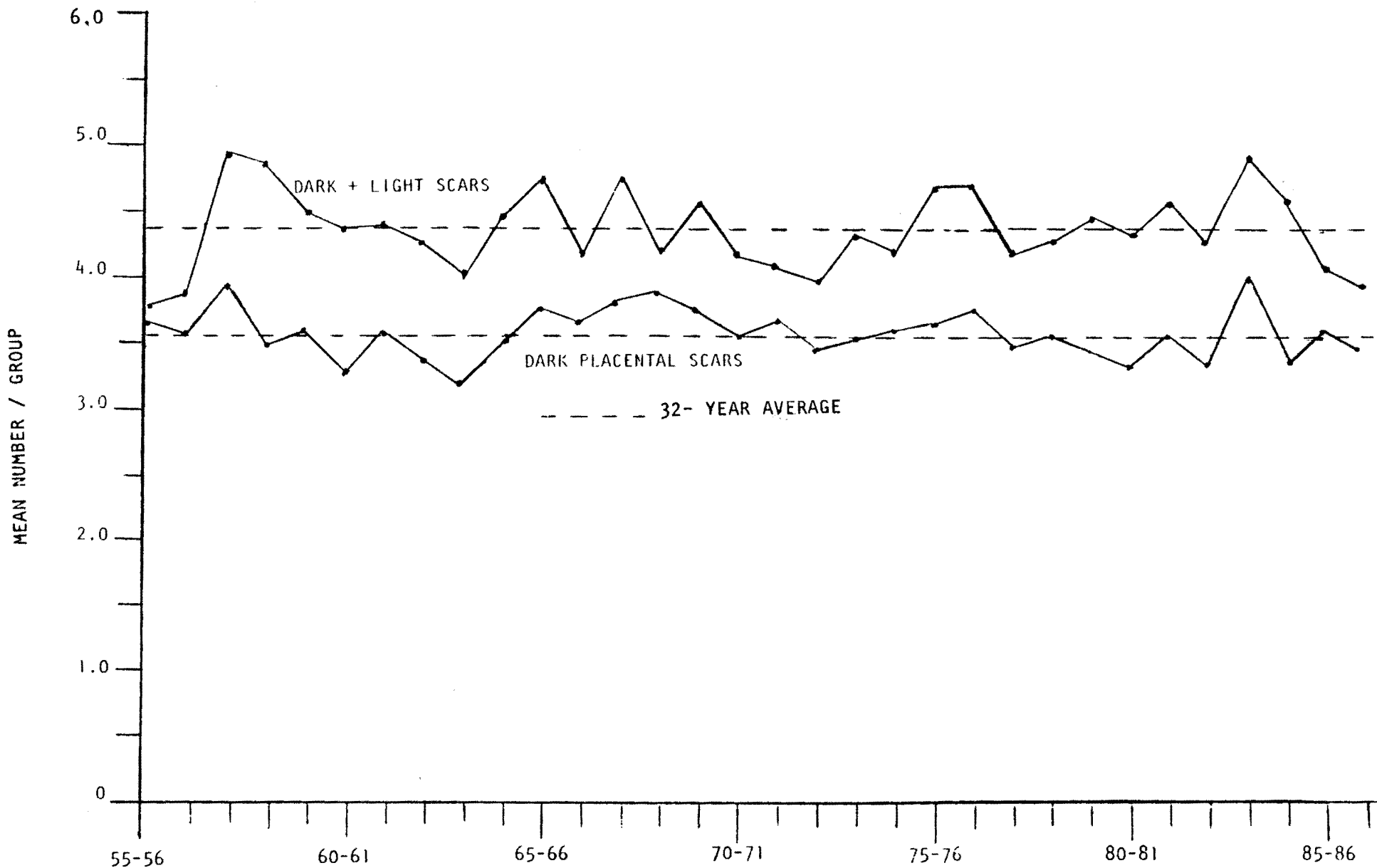


Fig. 1. Average number of placental scars observed per parous female examined at Perardi Bros. Furhouse, Farmington, Illinois--1955-56 through 1986-87 seasons. "Dark" scars represent uteri with only one group of scars whether dark or light and the dark scars when both light and dark scars were present 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.