



A SEASONAL STUDY OF CONVENTIONAL VS. PREBAITED
LIVE - TRAPPING FOR MEDIUM - SIZED MAMMALS

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THESIS



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CONVENTIONAL VS. PREBAITED LIVE-TRAPPING
FOR MEDIUM-SIZED MAMMALS

By

Phillip Burton Davis

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ABSTRACT

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A new prebaiting method for live-trapping medium-sized mammals, which has all the advantages of any conventional live-trapping technique but is more effective and efficient than conventional trapping techniques, was developed and tested seasonally. Trapping periods of 14 consecutive days in fall, winter, spring and summer resulted in 142 captures of 5 species of medium-sized mammals. A 3-way cross classification ANOVA revealed that season, trap size, and trapping method each had a significant effect on capture rate, but no detectable interaction between them occurred. Highest capture rates were recorded using the prebaited method with medium-size traps in the spring. An animal's susceptibility to being trapped appeared to reflect the amount of available food in its environment.

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INTRODUCTION

The present methods now being utilized to obtain mammal data for various reasons are generally not adequate to meet the many demands which have accompanied the growing concern for proper management and utilization of the environment in recent years. This concern peaked with the passage of the National Environmental Protection Act (N.E.P.A.) in 1969, requiring that an environmental impact statement which adequately addresses both beneficial and adverse effects of potential projects be prepared (U.S. Congress, 1970). At present, terrestrial ecology teams assigned to gather data for a sound ecological evaluation of particular habitats are in need of effective techniques to collect reliable mammal information. The method developed in this study was designed with this purpose in mind. Yet, with sentiment against the use of traditional "steel traps" increasing, an effective live-trapping method that does not injure animals may serve the needs of others as well.

Numerous methodologies for capturing, marking and estimating small mammal populations, primarily mice, have been developed and studied. Research comparing trap efficiencies (Weiner, 1972), trapping methods (Smith, 1968), trap responses (Smith, 1969) and population estimation techniques (French, 1971) are prevalent. Information available on live-trapping of medium-sized mammals, squirrels to raccoons, in contrast, is lacking. Live-trapping has

often been employed to obtain medium-sized mammals for closer observation (Baumgartner, 1940), or in an attempt to estimate population sizes (Nixon, 1967). However, research that analyzes the effectiveness and efficiency of various traps and trapping methods for obtaining data on medium-sized mammals needs to be performed.

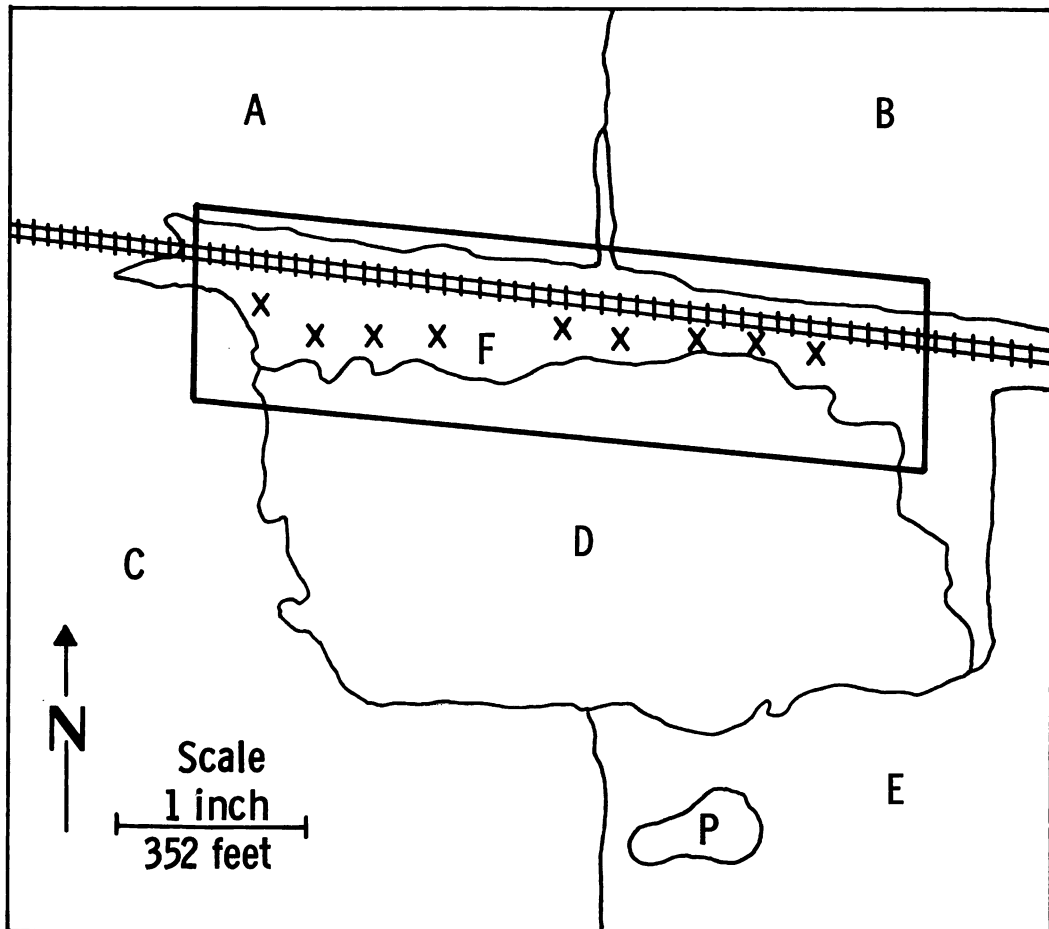
Specific study objectives were, 1) to develop an effective technique for live-trapping medium-sized mammals, 2) to compare the effectiveness of prebaiting and conventional trapping methods, 3) to determine overall and species specific effectiveness of various trap sizes, and 4) to examine these techniques on a seasonal basis.

STUDY AREA

The study area is located in the center of section 36 of T.4N.R.1W in Ingham County, Michigan. Vegetative communities and present land use of areas surrounding the study site are indicated in Figure 1.

Soils are predominantly somewhat poorly drained Conover loams. The woodlot to the south has poorly drained Brookston loams and the agricultural fields to the north are located on well-drained Miami loams. This interspersed pattern of contrasting soils, accompanied with the change in drainage, results in a diversity of vegetation.

The vegetation structure present on the area is diagrammed in Figure 2. Boundaries for the area were established on the north, where herbaceous growth was absent, and to the south, where the crown cover of overstory trees prevented a growth of understory and herbaceous species. Thus, the study area is an agricultural-forest transition zone (Figure 2).



Legend

Study area boundary ———

Vegetative community boundary ———

Railroad +++++

A&B Agriculture fields, corn production, fallow in fall, winter, spring (1974-75)

C Herbaceous field

D Second growth beech-sugar maple woodlot

E Subdivision with lawns and landscaping

F Agriculture-forest transition

P Pond

Stations

Figure 1. Vegetative communities and present land use on and adjacent to the study area.

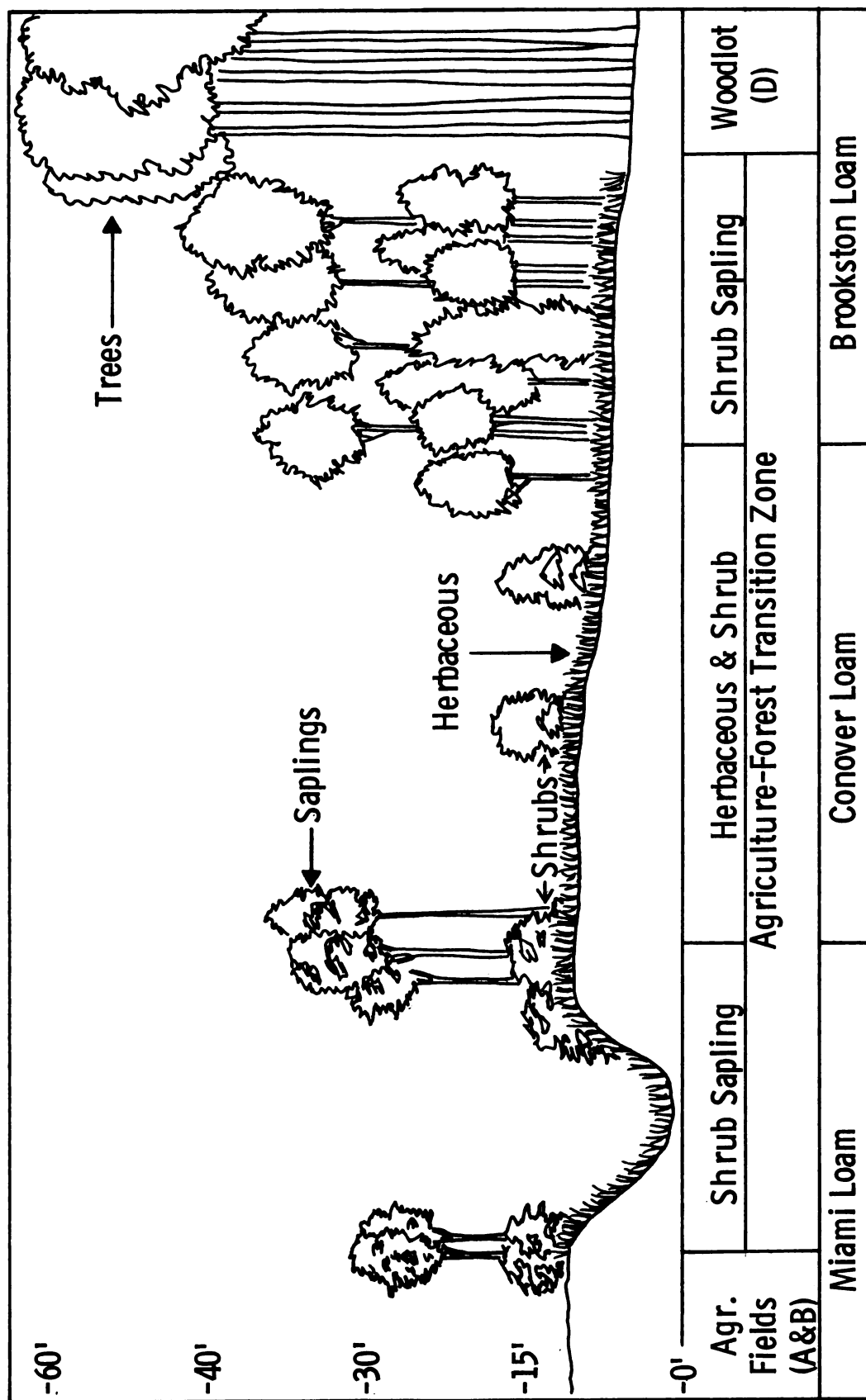


Figure 2. A representative bisect of the study area.

METHODS

Placement of Traps

Ten field stations were located approximately 100 feet apart, with points numbered sequentially from east to west, 1-10. At each station, 3 sites approximately 10 feet apart were chosen and marked for trap placement. One large (10" X 12" X 32") (Figure 3), medium (9" X 9" X 26"), and small (6" X 6" X 19") Tomahawk single door collapsible live-trap was placed at each station. An effort was made to place all traps in a similar position at each station. A set is considered to be a station with 1 trap of each size. Two methods of trapping were employed, with conventional at odd numbered stations and prebaiting at even numbered sets.

Conventional Method

Traps were placed in the field, baited, set and checked the next morning. This procedure was continued for 14 days in each trapping period, and then the traps were removed.

Prebaiting Method

Traps were placed in the field, baited with enough food to last several days, and locked open so animals could freely go in and out of the trap. After 6 days, the trap was set so that it would operate normally and then it was checked the next morning.



Figure 3. Large single door collapsible Tomahawk live-trap located at set 3 in winter.



Figure 4. Vegetation present at set 3 (above) in summer.
Note the large difference in deciduous leafy cover.

The following assumptions were made in regard to the above methods:

1. Trap sets of both methods were in the same habitat type.
2. Trap sets of each method were independent of one another.
3. At each station an animal had equal exposure to each trap size.

Bait

Ears of dried field corn, one end of which was smeared with peanut butter, were used in both the conventional and prebaiting methods. However, quantity of bait differed with 2 ears (Figure 3) in conventional traps and 10 ears that were broken in half in pre-baited traps.

Marking

Animals were marked in the trap with a commercial Nyansol fur dye (Taber, 1971). Different body areas were doused with the dye to produce distinctive patterns and were recorded (Appendix, Tables A6-A10). For convenience, the dye was carried in a plastic detergent bottle which, when tipped, poured out a steady stream of dye that could be easily directed for marking.

Time of Observations

Traps at odd numbered sets were baited and set to capture animals every day for 14 consecutive days in November, January, March and June. Due to vandalism, traps were rendered inoperable for two days in

January. Even numbered sets were prebaited, locked open and set for capture on the 6th and 13th nights of the same two week periods. All traps were removed from the field during the interim periods. During each trapping period, traps at odd numbered stations were checked each morning at sunrise, and animals captured were marked, recorded, and released. If bait had been eaten, the trap was rebaited and set for capture. Even numbered stations were observed on only two mornings in each period, the 7th and 14th. On those days, captured animals were marked, recorded, released, and traps were baited and locked open.

Analysis

A three-factor analysis of variance was performed to determine if season, trap size, trapping method or any combination of them affected capture rate. To determine if mean capture rate varied with trap size or season Newman-Keuls multiple range tests were run.

RESULTS

During the four trapping periods, 142 captures of 5 different species of medium-sized mammals were recorded (Table 1). Season, trap size and trapping method each had a significant effect on capture rate, but no detectable significant interaction occurred between them (Table 2).

Season

According to a Newman-Keuls multiple range test, capture rate in the fall was significantly lower than in the summer and spring, but the same as in winter. However, the capture rate in winter was not significantly lower than the capture rates in spring or summer (Table 3). This relationship is shown graphically in Figure 5.

Trap Size

There was no significant difference between capture rates in large and medium traps, but capture rates in small traps were significantly lower than in medium or large traps (Table 4). A comparison of capture rates and trap size by species indicates that this trend occurs in 4 of the 5 species studied (Table 5). However, capture rate of red squirrels in the small traps appears to be higher than in the large traps.

Table 1. A seasonal comparison of trapping data for conventional and prebaiting methods.

Season		Trapping Method	
		Conventional	Prebaiting
Fall	Number of trap nights	210	30
	Number of captures	11	10
	Number of animals	11	9
	Number of recaptures	0	1
	Number of species	4	2
	% of traps sprung	6.2	0
	% capture rate in large traps	10	40
	% capture rate in medium traps	5.7	40
	% capture rate in small traps	0	20
	% capture rate	5.2	33.3
Winter	Number of trap nights	180	15
	Number of captures	11	6
	Number of animals	9	5
	Number of recaptures	2	1
	Number of species	3	1
	% of traps sprung	2.2	0
	% capture rate in large traps	5.0	60
	% capture rate in medium traps	8.3	40
	% capture rate in small traps	5.0	20
	% capture rate	6.1	40
Spring	Number of trap nights	210	30
	Number of captures	34	17
	Number of animals	26	11
	Number of recaptures	8	6
	Number of species	5	4
	% of traps sprung	5.2	3.3
	% capture rate in large traps	23	50
	% capture rate in medium traps	20	80
	% capture in small traps	6	40
	% capture rate	16.2	56.7
Summer	Number of trap nights	210	30
	Number of captures	38	15
	Number of animals	32	15
	Number of recaptures	6	0
	Number of species	5	4
	% of traps sprung	9	6.6
	% capture rate in large traps	21.4	50
	% capture rate in medium traps	22.9	80
	% capture rate in small traps	10	20
	% capture rate	18.1	50

Table 2. Analysis of variance of capture rate in relation to season, size of trap, and trapping method.

Source of Variance	Interaction	df	Sum of Squares	Mean Squares	F Ratio	Significance
Season (A)		3	8636.93	2878.98	3.937	*
Size (B)		2	7701.98	3850.99	5.266	*
Method (C)		1.	17517.69	17517.69	23.953	**
	AB	6	3894.61	649.10	.888	NS
	AC	3	1904.72	634.90	.868	NS
	BC	2	802.30	401.15	.549	NS
	ABC	6	4258.71	709.79	.971	NS
Error		96	70207.79	731.33		
Total		119	114924.73	965.75		

* Significant at $P < 0.05$; NS, not significant at $P < 0.05$.

** Significant at $P < 0.01$.

Table 3. Newman-Keuls multiple range test to determine where the significant seasonal difference occurs.

Comparison ¹ of seasons (B vs. A)	Difference (XB - XA)	SE	q	p	Conclusion
Sp vs. F	37.408-17.080=20.328	4.937	4.117	4	Reject Ho: Usp=Uf *
Sp vs. W	37.408-21.341=16.067	4.937	3.254	3	Reject Ho: Usp=Uw NS
Sp vs. S	37.408-34.073= 3.335	4.937	.675	2	Accept Ho: Usp=Us NS
S vs. F	34.073-17.080=16.993	4.937	3.441	3	Reject Ho: Us =Uf *
S vs. W	34.073-21.341=12.732	4.937	2.578	2	Accept Ho: Us =Uw NS
W vs. F	21.341-17.080= 4.261	4.937	.86	2	Accept Ho: Uw =Uf NS

¹ F = fall, W = winter, Sp = spring, S = summer.

* Significant at P < 0.05; NS, not significant at P < 0.05.

Table 4. Newman-Keuls multiple range test to determine where the significant trap size difference occurs.

Comparison of trap size ¹ (B vs. A)	Difference ($\bar{X}_B - \bar{X}_A$)	SE	q	p	Conclusion
M vs. S	34.407-16.248=18.159	4.275	4.247	3	Reject Ho: Um=Us *
M vs. L	34.307-31.770= 2.637	4.275	.618	2	Accept Ho: Um=U1 NS
L vs. S	31.770-16.248=15.522	4.275	3.631	2	Reject Ho: U1=Us *

¹ S = small, M = medium, L = large.

* Significant at P < 0.05; NS, not significant at P < 0.05.

Table 5. Comparison of capture rates and trap size by species for all seasons combined.

Species	Scientific Name*	Capture Rate in % by Trap Size		
		L	M	S
Opossum	<i>Didelphis marsupialis</i>	50.0	42.9	7.1
Raccoon	<i>Procyon lotor</i>	55.4	42.5	2.1
Fox squirrel	<i>Sciurus niger</i>	38.5	38.5	23.0
Cottontail rabbit	<i>Sylvilagus floridanus</i>	31.4	47.0	21.6
Red squirrel	<i>Tamiasciurus hudsonicus</i>	23.5	41.2	35.3

*Scientific names after Burt (1957).

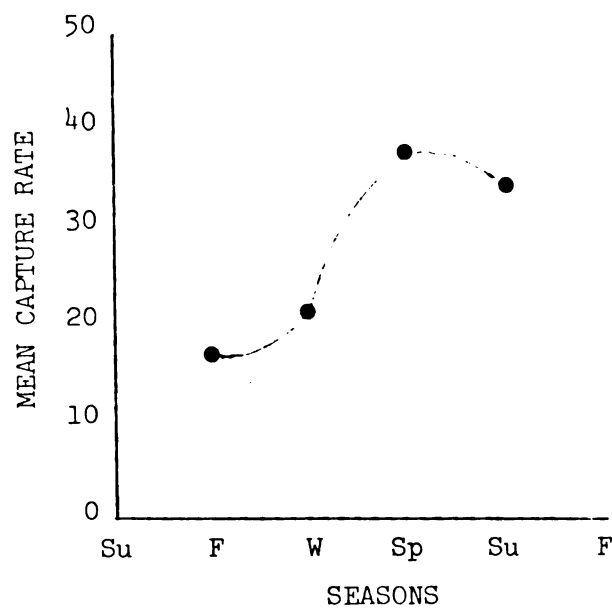


Figure 5. Mean capture rates at 4 seasonal periods.

Trapping Method

The capture rate using conventional trapping methods was significantly lower ($P < 0.01$) during all 4 seasons than when the prebaiting method was employed (Tables 1 and 5).

DISCUSSION

The study area and adjacent woodlot (Figure 1) is typical of isolated farm woodlots found in southern Michigan that were commercially cut about 40 years ago. These woodlots often support a wide variety of vegetative species and are frequently located on poorly drained soils. They are, therefore, not cleared for agricultural production due to the expense involved in installing drainage systems. Although many consider these woodlots as non-productive areas, they provide adequate habitat to meet either the annual or seasonal requirements of many animal species. The value of these 5- to 25-acre woodlots to wildlife species may be underestimated, as the present study area illustrates (Appendix, Tables A6-A10). It is believed that such woodlots, even though small, should be viewed as valuable wildlife habitat for mammalian species, and that further encroachment on and removal of these areas should be avoided whenever possible.

The relationship of capture rate and season shows that animals were more susceptible to capture in the spring than at any other time. This susceptibility may reflect food availability, for a decrease in natural food might decrease an animal's resistance to enter a trap for food. Food availability, although not sampled quantitatively, appeared to be highest in the fall with fleshy fruit and abundant mast. This decreased in the winter and was also greatly

reduced in the spring. In the summer there was a wide diversity of vegetative foliage and herbaceous growth. The contrast between vegetation present in summer and winter is apparent from Figures 6 and 7. If capture rates did in fact reflect food availability, then why was there no corresponding significant difference between capture rates in summer and winter? Perhaps fat reserves that were built up by animals in the fall, in combination with natural foods, were enough to prevent a decrease in an animal's resistance to enter a trap. However, spring appears to be the most stressful season with both fat reserves and natural food supplies being reduced to levels that may lower an animal's resistance to entering a trap.

No significant difference was detected between capture rates of large and medium traps for the species studied (Table 4). Therefore, medium traps would ordinarily be preferable to large traps since they are less expensive, smaller, easier to carry and just as effective. Small traps are not preferable to medium or large traps since their capture rates were significantly lower in all 4 seasons (Table 1). This was perhaps due to animal size, since many of the animals captured in medium and large traps were too large to enter a small trap. When traps to be used for a project are being selected, a consideration of both animal and trap size would result in a savings of cost and time, as well as be accompanied with an increase in trapping efficiency and effectiveness.

Advantages that are associated with conventional live-trapping methods are also present with the prebaiting method. Live-trapping can be safely done by most individuals, nontarget species are usually not injured, and animals can be observed, tested, marked and released



Figure 6. Study area in winter with vegetative foliage and herbaceous growth absent.



Figure 7. Study area right of center in Figure 6 in summer with a diversity of vegetative foliage and herbaceous growth.

or transported unharmed (Figure 8). In addition, with public sentiment against "steel traps" increasing, live-trapping may be an important part of a good public relations program. For example, if the opossum with her 5 young were in a leg-hold trap instead of a live-trap, most citizens encountering this would tend to be upset. If she were seen as pictured in Figure 9, an unpleasant response would probably be less likely.

The greater effectiveness of the prebaiting method (Table 1), may be due to the fact that traps that were prebaited allowed animals of the same and different species to freely go into and out of the traps with a positive reward of food. Such positive reinforcement may decrease an animal's resistance (fear or wariness) to enter a trap. Social facilitation may also be operating where one animal watches another's feeding behavior and adopts it. Scent of man may be a deterrent which is also decreased with the prebaiting method, since the trap or bait is not touched by man for several days. At that time, the positive reinforcement of food may be a greater attractant than in the scent of man a deterrent.

Amount of time and effort expended using conventional trapping methods exceeds that expended using the prebaiting method. Set up and removal time in the field are the same for both methods. However, prebaiting traps were checked fewer times, since they were locked open for part of each trapping period. During each season, 15 trips were made to the field for the conventional method and 5 trips made for the prebaiting method. Since capture rates are greater with the prebaiting method, it is not only more effective, but more efficient as well. This savings in time and effort equates to money, a concern in all investigations.



Figure 8. Raccoon that was captured in a large trap, marked, and released.



Figure 9. Opossum with 5 young in a large trap.

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APPENDIX

Table A6. Seasonal trapping data on opossum (*Didelphis marsupialis*).

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
F	11-17-74	C	L	5	Central dorsal	1
F	11-17-74	C	M	5	Left hind quarter	2
F	11-17-74	C	L	3	Left ear	3
F	11-19-74	C	M	3	Rostrum	4
F	11-24-74	C	L	9	Right hind quarter	5
W	1-18-75	C	L	3	Juvenile, center dorsal	6
Sp	3-3-75	C	M	9	Tail	7
Sp	3-4-75	C	M	9	Killed	8
Sp	3-6-75	C	M	3	Left side	9
S	6-15-75	C	M	5	Left front foot	10
S	6-17-75	C	L	3	Neck	11
S	6-19-75	C	L	9	Female with 5 young	2
					Left hind quarter	
S	6-20-75	C	S	9	Female with 5 young	2
					Left hind quarter	
S	6-21-75	P	L	2	Right front quarter	12

Table A7. Seasonal trapping data on raccoon (*Procyon lotor*).

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
F	11-19-74	P	L	2	Center back and down right side	1
F	11-23-74	C	L	5	Right side	2
F	11-25-74	C	M	5	Left ear	3
F	11-25-74	C	L	3	Left hind quarter	4
Sp	3-2-75	C	M	9	End of tail	5
Sp	3-6-75	C	L	1	Diagonal stripe left side	6
Sp	3-7-75	P	L	4	Right front foot	7
Sp	3-11-75	C	M	5	Right ear	8
Sp	3-12-75	C	L	1	Right hind quarter	9
Sp	3-12-75	C	M	1	Left side near front	10
Sp	3-12-75	C	L	3	Right front quarter	11
Sp	3-12-75	C	L	9	Injured right front foot	12
Sp	3-13-75	C	L	1	Top of right hip	13
Sp	3-13-75	C	L	9	Entire tail	14
Sp	3-14-75	P	L	2	Dorsal towards head	15
Sp	3-14-75	C	L	3	Center dorsal	16
Sp	3-14-75	P	M	6	Left side center	17
Sp	3-14-75	C	L	7	Tail at base to first ring	18
Sp	3-14-75	P	L	10	Left front shoulder	19
Sp	3-14-75	P	M	10	Entire tail	14
S	6-15-75	C	L	5	Stripe across back perpendicular to spine	20
S	6-16-75	C	S	1	Juvenile right ear	21
S	6-17-75	C	L	1	Juvenile base of tail	22
S	6-18-75	C	L	7	Tail at base to first ring	18
S	6-18-75	C	L	3	Stripe from shoulder to shoulder	23
S	6-18-75	C	M	7	Juvenile tip of tail	24
S	6-18-75	C	L	9	Front legs	25
S	6-19-75	C	M	9	Juvenile center back	26
S	6-20-75	C	L	1	Both ears	27
S	6-20-75	C	L	3	Right front quarter	11
S	6-20-75	C	M	7	Juvenile right side	28
S	6-21-75	P	L	4	Stripe right front to left hip	29
S	6-21-75	P	M	6	Top of right hip and foot	30
S	6-21-75	P	M	10	Entire back	31
S	6-22-75	C	M	9	Juvenile left ear	32
S	6-23-75	C	M	1	Neck	33
S	6-23-75	C	M	9	Right side and front foot	34
S	6-24-75	C	L	9	Juvenile between the ears	35
S	6-25-75	C	M	9	Juvenile left hip	36
S	6-26-75	C	M	9	Entire back	31

Table A7 (Cont'd)

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
S	6-26-75	C	L	5	"V" on back	37
S	6-27-75	C	L	1	Right ear	21
S	6-27-75	C	M	9	Front left foot injured	38
S	6-28-75	C	M	3	Unmarked, last day	39
S	6-28-75	C	L	9	Unmarked, last day	40
S	6-28-75	C	M	9	Unmarked, last day	41
S	6-28-75	P	M	10	Unmarked, last day	42

Table A8. Seasonal trapping data on fox squirrel (*Sciurus niger*).

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
Sp	3-3-75	C	M	5	Female center dorsal	1
Sp	3-13-75	C	L	7	Male center dorsal	2
Sp	3-14-75	P	L	8	Female left front shoulder	3
S	6-16-75	C	L	1	Female right front shoulder	4
S	6-21-75	P	L	8	Male left front shoulder	5
S	6-21-75	P	M	8	Left hind hip	6
S	6-22-75	C	S	1	Right hind hip	7
S	6-24-75	C	S	3	Left side	8
S	6-28-75	C	S	5	Unmarked, last day	9
S	6-28-75	C	M	7	Unmarked, last day	10
S	6-28-75	P	L	6	Unmarked, last day	11
S	6-28-75	P	M	4	Unmarked, last day	12
S	6-28-75	P	M	8	Unmarked, last day	13

Table A9. Seasonal trapping data on cottontail rabbit (*Sylvilagus floridanus*).

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
F	11-19-74	P	M	4	Both front feet	1
F	11-19-74	P	L	6	Center and down left hind	2
F	11-19-74	P	S	8	Tail	3
F	11-19-74	P	M	10	Center back left hind foot	4
F	11-20-74	C	M	7	Right front shoulder	5
F	11-24-74	C	L	3	Right front foot	6
F	11-26-74	P	M	4	Killed and eaten by weasel	7
F	11-26-74	P	L	6	Left hip	8
F	11-26-74	P	S	8	Center back left hind foot	4
F	11-26-74	P	L	8	Left front shoulder	9
F	11-26-74	P	M	10	Right hind center back foot	10
W	1-12-75	C	M	3	Left hip	8
W	1-16-75	C	L	3	Center dorsal towards rear	11
W	1-16-75	C	M	3	Left hip	8
W	1-16-75	C	S	3	Left hind foot	12
W	1-17-75	C	M	3	Center dorsal	13
W	1-17-75	C	S	3	Between ears	14
W	1-17-75	P	L	2	Front center dorsal	15
W	1-17-75	P	M	2	Right ear	16
W	1-17-75	P	L	6	Left hip	8
W	1-17-75	P	M	6	Died	17
W	1-17-75	P	S	8	Both ears and between	18
W	1-17-75	P	L	10	Right hind foot	19
W	1-21-75	C	M	3	"X" on back	20
W	1-21-75	C	S	3	Both sides	21
W	1-22-75	C	M	3	Right ear and left side	22
Sp	3-1-75	C	L	1	Left front foot	23
Sp	3-1-75	C	S	3	Right front foot	6
Sp	3-1-75	C	M	9	Left hind foot and right front foot	24
Sp	3-3-75	C	L	3	Both hind feet	25
Sp	3-4-75	C	L	7	Center and down left hind	2
Sp	3-5-75	C	M	3	Center dorsal towards rear	11
Sp	3-6-75	C	L	9	Rear end and tail	26
Sp	3-7-75	P	M	2	Left hip	8
Sp	3-7-75	P	S	2	Rostrum entirely exposed	27
Sp	3-7-75	C	S	3	Left hind foot	12
Sp	3-7-75	P	M	4	Between ears	14
Sp	3-7-75	P	L	8	Center dorsal and both sides	28
Sp	3-7-75	P	M	10	Sole of left hind foot	29
Sp	3-7-75	P	S	4	Center dorsal back	11
Sp	3-7-75	P	M	8	Tips of both ears	30
Sp	3-8-75	C	M	5	Right side of head	31

Table A9 (Cont'd)

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
Sp	3-9-75	C	L	9	Killed by dog	32
Sp	3-10-75	C	L	9	Left hind foot and right front foot	24
Sp	3-11-75	C	M	3	Tail	3
Sp	3-12-75	C	M	5	Right side of head	33
Sp	3-12-75	C	M	7	Both ears and between	18
Sp	3-14-75	P	M	2	Left hip injured	8
Sp	3-14-75	P	S	2	Rostrum entirely exposed	27
Sp	3-14-75	P	M	8	Forehead and base of ears	34
S	6-15-75	C	L	1	Juvenile rostrum	35

Table A10. Seasonal trapping data on red squirrel (*Tamiasciurus hudsonicus*).

	Season and Date	Method	Trap Size	Set Number	Marking	Animal Number
F	11-21-74	C	L	3	Underside	1
W	1-21-75	C	L	3	Dorsal center	2
Sp	3-5-75	C	L	1	Left front foot	3
Sp	3-6-75	C	S	1	Left front foot (dead)	3
Sp	3-11-75	C	S	1	Dead unmarked	4
Sp	3-13-75	C	M	3	Dead unmarked	5
Sp	3-14-75	P	S	6	Right front leg	6
S	6-18-75	C	M	1	Left hind leg	7
S	6-20-75	C	S	3	Right hind leg	8
S	6-21-75	C	M	1	Tail	9
S	6-21-75	P	M	2	Neck	10
S	6-21-75	P	S	10	Right shoulder	11
S	6-22-75	C	M	3	Left side	12
S	6-27-75	C	M	3	Right side	13
S	6-28-75	C	S	3	Unmarked, last day	14
S	6-28-75	P	L	4	Unmarked, last day	15
S	6-28-75	P	M	2	Unmarked, last day	16

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