FORESTRY COMMISSION

REPORT ON FOX SNARING TRIALS IN SCOTLAND AUTUMN/WINTER 1968/69

Project 315: Y/11.

SUMMARY

1. The trials were run from 23rd September 1968 to 26th March 1969 on eight Forestry Commission forests in South and East Scotland Conservancies.

2. The snaring trials were carried out jointly by the local Forestry Commission staff and the Department of Agriculture for Scotland. The data used in this report was obtained from the 'Weekly progress reports' and 'Individual fox reports' submitted by the Department of Agriculture. The statistical analysis was done by Mr. D. Stewart of the Forestry Commission's Statistics section.

3. Equal numbers of two types of snare, free-running and self-locking, were set on each forest. 155 foxes and 132 other animals were caught. Details of the results are tabulated in Appendix I to this report.

4. The trial did not show that either type of snare was significantly more efficient or less cruel at catching foxes than the other.

INTRODUCTION

1. The Humane Traps Panel Scotland, on which the Forestry Commission is represented, is concerned to find adequate control methods to replace the gin trap. It is still legal to trap foxes with gins in Scotland, but their use is to be prohibited in the foreseeable future (no actual date yet fixed). The Humane Traps Panel has been seeking a replacement trap with little success. Following reports of the successful use of snares by F.C. trappers, the Panel asked the F.C. to conduct trials on their efficiency and cruelty in liaison with D.O.A.S. officials in winter 1967/68. Partly as a result of foot and mouth restrictions these trials were uninformative in that few foxes were caught.

2. The Autumn/Winter 1968/69 trials were extended in time, area, and number of snares set, to try and increase the catch to 200 foxes in order to attain the objectives of the 1967/68 trial. These were:

a) To measure the relative efficiency of both free-running and self-locking snares.

b) To measure their relative cruelty.

TIME OF TRIALS

3. The trials began as planned on 30th September in all but two forests where (due to pressure of other work) the dates of commencement were the 23rd September and 21st October. The termination dates also differed because of adverse weather conditions in some places and a scarcity of foxes in others. The duration of the trials for each forest is shown in the Appendix: Table V.

METHOD

4. An equal number of free-running and self-locking snares were set on each forest at all times. The number of snares set varied from forest to forest and the number set in any one forest sometimes differed from week to week.

5. As far as possible, all snares were set in the same way. The snare was pegged to the ground and the loop was made with a diameter of 8" at 6" from the ground. The free-running and self-locking snares were set alternately approximately 50 to 75 yards apart along fox paths. Each snare was set in the open away from any object that a captured fox could wind itself around.

6. All snares were visited daily seven days a week. A record was made of all the animals caught in each type of snare. Any snare that had been run without catching was recorded by type and an estimate of the cause made. When a snare had caught an animal or had been damaged in any way it was replaced with one of the same type.

7. A special report form was made out for every fox caught. The information required by the form included: sex; age; weight; type of snare; an estimate of the length of time it was held (a number of snares at Pitmedden and Edensmuir were fitted with time clocks) and an estimate of the degree of disturbance to the ground. A visual assessment and a post-mortem examination were also made to determine the degrees of damage each fox had sustained externally and internally.

8. A weekly progress report was completed by the Department of Agriculture's Field Officers giving general information on numbers of snares used and of animals caught.

9. Information from the two report forms is summarised in Tables II to IV.

TREATMENT OF RESULTS

10. The object of these trials was to compare the free-running with the self-locking snare in terms of relative efficiency at catching foxes and cruelty to the animals caught. The data relating to these two points was extracted from the two sets of report forms and summarised for analysis in the following way.

a) The numbers of foxes caught were totalled separately for both types of snare. (Table II. Col. a.) Similar totals were made for other animals caught, (Table I. Cols. b.) and snares run without catching, (Table I. Cols. f.)

b) To compare the numbers of catches in one type of snare with the numbers caught in the other, it was necessary to know the number of times it was possible, for each type of snare, to catch an animal. This figure was ascertained by multiplying the number of snares put down in a week by the number of nights they were set. A grand total was made from the weekly totals (see Table I. Cols. a, b, c). Where it was stated on the form that the snares were made inoperative by snow this period was omitted.

c) A scale of damage was used for both visual and post-mortem examinations: none (0); slight (1); moderate (2); severe (3). In order to compare the relative cruelty of the two types of snare, it was necessary to lump these categories as a) slight (0 + 1) and b) moderate to severe (2 + 3). The total number of foxes in each of these two categories for each snare type was compared. Separate tables have been compiled for the visual and post-mortem examinations. (Tables IIIa and IIIb).

d) The remainder of the data given on the report forms was considered either insufficiently replicated or influenced by other factors that made it unacceptable for analysis. Appendix II is a report by J.R.A. Blackwood of the Department of Agriculture for Scotland which includes a summary of most of the information not analysed for this report.

11. The data shown in Tables II, III and IV were subjected to chi-square tests for statistical analysis. (Yates correction was applied to the data before evaluating chi-square since the numbers involved were relatively small).

RESULTS

12. The following results were obtained from the analysis:

a) There was no significant difference between the numbers of foxes caught in the free-running snare and the numbers caught in the self-locking snare.

b) The number of times the self-locking snare had been 'found' was very significantly higher than the number of times the free-running snare had been 'found'. 'Found' is defined as being the number of foxes caught plus the number of other animals caught plus the number of times the snare was run without catching.

c) The number of other animals caught in the self-locking snare was significantly higher than the number caught in the free-running type.

d) The amount of visual damage was very significantly lower for the free-running than for the self-locking snares.

e) There was no significant difference in the amount of post-mortem damage on the foxes caught in either type of snare.

f) The visual assessment of damage was very significantly lower than the post-mortem damage for the free-running snare.

DISCUSSION

13. 155 foxes were caught; 67 in free-running and 88 in self-locking snares. Although there were more captures in the self-locking snares the difference was not sufficient to prove one snare more efficient at catching foxes than the other.

14. When the number of catches for all animals was added to the number of times snares were run and did not catch, the totals indicated that the self-locking snares were more easily 'found' than the free-running ones. The statistical analysis did in fact show the difference to be very significant suggesting that there was a bias towards an animal contacting a self-locking snare. However, this bias might be attributed to the non-randomised alternate siting of the two types of snare rather than to a difference in efficiency of the two snares. The significantly higher catch of animals other than foxes in self-locking snares might also be due to the factor introduced by non-randomisation.

15. The Field officers operating the trials were of the opinion that the self-locking snare caused more distress to captured foxes and this appeared to be substantiated by the visual reports of damage. However, statistical analysis showed that, although visual assessment of damage to animals caught in the free-running snares was significantly lower, the post-mortem analysis of damage done by the free-running snare was not significantly different from that done by the self-locking snare. This would indicate that there is little actual difference in the suffering caused by the two types of snare. A point in favour of the free-running snare might be the less obvious external damage when considered in relation to public opinion.

16. The types of snare used for these trials hold foxes, rather than kill rapidly. Previous experience with snares indicated that the longer a captured fox was left in a snare during the daytime, the greater the self-inflicted damage. As a result all snares were visited if possible in the morning to try to minimise the amount of suffering. Only 11 foxes were found dead in snares and in 3 of these cases, death was not directly due to snaring. An estimate of the time that captured foxes had been held in snares was made by assessing the amount of ground disturbance. This was not accurate as it depended on the individually variable reactions of the animal on being caught.

17. The snares were set in the open to give as much uniformity of setting as possible on all areas. This meant that some of the best snare sites were, in the opinion of some of the field officers and trappers not used. The field personnel also felt that modifications could be made to the two snare-types which might improve them.

18. As was expected the technique of snaring used was not selective for foxes and a similar number of other animals were caught, including the wild cat which might be considered undesirable by conservationists. The other animals caught included rabbits, hares, badgers, dogs, roe deer and sheep. A complete list is given in Table IV.

CONCLUSIONS

1. There was a tendency towards the self-locking snare being more likely to catch all animals than the free-running snare. This tendency could not be attributed to any particular virtue of this type of snare, but is more likely to be due to the non-randomised layout of the snares.

2. The trials did not produce any other evidence to show that one type of snare was more efficient at catching foxes or less cruel than the other.

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Mammal Research
2nd May, 1969.

Distribution:

Mr. J.A. Spencer	1
Mr. H.V. Thompson	1
Mr. H.G. Lloyd	1
Mr. R.A. Blackwood	1
Secretary to Humane Traps Panel	11
File	5
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Appendix I. Tables of Results.

F.R. = Free-running snare. S.L. = Self-locking snare.

Table I Numbers of snares set & catches.

Forest	(a) Range of numbers of snares set in any one week	(b) No. nights snares set	(c) No. possible catches for each snare type	(d) No. foxes caught Snare type F.R.	(d) No. foxes caught Snare type S.L.	(d) No. foxes caught Total	(e) No. other animals caught Snare type F.R.	(e) No. other animals caught Snare type S.L.	(e) No. other animals caught Total	(f) No. snares run Snare type F.R.	(f) No. snares run Snare type S.L.	(f) No. snares run Total
Speymouth	40-80	156	5780	11	12	23	13	30	43	16	6	22
Monaughty	40-80	134	4775	3	5	8	1	5	6	9	8	17
Bin	30-80	131	5115	6	7	13	6	10	16	15	19	34
Pitmeddon	40-80	135	3625	6	17	23	3	16	19	82	133	215
Edensmuir	40-50	118	2925	8	11	19	8	12	20	67	95	162
Carron	20-100	173	5500	12	16	28	4	7	11	97	59	156
Dalbeattie	46-74	171	4819	18	16	34	7	5	12	53	99	152
Ae	80-86	129	5196	3	4	7	3	2	5	97	86	183
Totals		1147	37,735	67	88	155	45	87	132	436	505	941

Table II Number of foxes caught.

	Alive F.R.	Alive S.L.	Dead F.R.	Dead S.L.	
Dog	33	42	3	6	
Vixen	29	39	1	1	
Young (no sex given)	1				
Total	63	81	4	7	155

Table IIIa Estimate of damage to foxes by visual inspection.

Damage	Alive when caught F.R.	Alive when caught S.L.	Alive plus dead F.R.	Alive plus dead S.L.
Moderate to Severe	10	38	13	42
Slight	53	43	54	46

Table IIIb Damage to foxes by post-mortem examination.

Damage	Alive when caught		Alive plus dead	
	F.R.	S.L.	F.R.	S.L.
Moderate to Severe	24	43	27	47
Slight	39	38	40	41

Table IV Other animals caught.

Animal	F.R.	S.L.	
Badger	4	0	
Dog	3	0	
Feral Cat	1	0	
Grouse	1	0	
Brown Hare	16	34	
Mountain Hare	9	21	
Pheasant	0	2	
Rabbit	1	10	
Roe Deer	6	15	
Sheep	3	3	
Wild Cat	1	2	
Total	47	87	132

Table V Duration of Trials.

Forest and Conservancy.	Dates on which snares were set.
Speymouth E(S)	30.9.68 - 28.12.68: 4.1.69 - 8.2.69: 23.2.69 - 26.3.69.
Monaughty E(S)	30.9.68 - 8.2.69: 23.2.69 - 25.3.69.
The Bin E(S)	30.9.68 - 28.12.68: 5.1.69 - 1.2.69: 23.2.69 - 8.3.69.
Pitmeddon E(S)	30.9.68 - 23.12.68: 8.1.69 - 14.2.69: 23.2.69 - 14.3.69.
Edensmuir E(S)	21.10.68- 24.12.68: 12-31.1.69: 9-15.2.69: 23.2.69 - 23.3.69.
Carron S(S)	30.9.68 - 22.3.69.
Dalbeattie S(S)	30.9.68 - 20.3.69.
Ae S(S)	23.9.68 - 28.12.68: 5.1.69-25.1.69: 16.2.69-28.2.69.

APPENDIX II

Fox Snaring Trials
Autumn/Winter 1968/69

Trials began

Ae Forest - 23rd September 1968
Edensmuir Forest - 21st October 1968
Remainder - 30th September 1968

Trials completed

Monaughty Forest - 22nd February 1969 (21 weeks)
Ae Forest - 1st March 1969 (23 weeks)
Bin Forest - 8th March 1969 (23 weeks)
Remainder - 22nd March 1969 (25 weeks except Edensmuir Forest - 22 weeks)

Foxes caught

Speymouth	23*	(Snares set 80)
Monaughty	8*	(" " 80)
Bin	13	(" " 80)
Pitmedden	23	(" " 50)
Edensmuir	19	(" " 50)
Carron	28	(" " 70)
Ae	7	(" " 80)
Dalbeattie	34	(" " 50)
	155	(" " 540)

* Includes fox which had broken F.R. snare and was found dead on fence off site.

Distribution Appendix.

Foxes dead in snares

Forest	Date	Sex	Snare	Estimated time held	Weather
Dalbeattie	3.10.68	Vixen Cub (8½ lbs)	S.L.	1-2 hrs.	Mild and wet.
Bin	16.10.68	Dog (16 lbs.)	F.R.	10 hrs.	Dry and windy.
Carron	4.11.68	Dog (12 lbs.)	S.L.	18 hrs.	Snow and frost.
Pitmedden	2.12.68	Dog (17 lbs.)	S.L.	12 hrs.	Dry.
Dalbeattie	27.12.68	Dog (17½ lbs.)	S.L.	12-14 hrs.	Dry and very cold.
Pitmedden	18. 1.69	Dog (23 lbs.)	S.L.	½ hr.	Wet.
Dalbeattie	31. 1.69	Vixen (12 lbs.)	F.R.	8-10 hrs.	Cold with snow showers.
Dalbeattie	12. 2.69	Dog (12 lbs.)	S.L.	? hrs.	Dry and slight frost.

N.B. (1) On 5th December 1968 in Pitmedden a dog fox was found dead in a S.L. snare which had become entwined round a young tree.

(2) The two foxes found dead off the site (Speymouth and Monaughty) are not included above.

Clock Snares (Pitmedden and Edenmuir)

Date	Time snare seen	Elapsed time	Disturbance to ground	Weather	Snare	Sex/Weight	Round neck	P.M. damage
21.10.68	9.0 a.m.	3½ hrs.	Slight	Dry	S.L.	Dog (13 lbs.)	Yes	Moderate
28.10.68	10.0 a.m	4½ hrs.	Severe	Heavy Rain	S.L.	Dog (12 lbs.)	Yes	Moderate
5.11.68	8.30 a.m.	2½ hrs.	Slight	Frost	F.R.	Dog (13 lbs.)	Yes	Slight
9.11.68	10.30 a.m.	1½ hrs.	Very slight	Frost	S.L.	Dog (16 lbs.)	Yes	Moderate
26.11.68	9.30 a.m.	10½ hrs.	Moderate	Dry	F.R.	Vixen (14 lbs.)	Yes	Moderate
4.12.68	10.0 a.m.	13½ hrs.	Moderate	Dry	F.R.	Vixen (13 lbs.)	Yes	Severe
15. 1.69	10.30 a.m.	5½ hrs.	Moderate	Frost	S.L.	Dog (22 lbs.)	Yes	Severe
16. 1.69	10.15 a.m.	2 hrs.	Slight	Dry	F.R.	Dog (18 lbs.)	Yes	Slight
20. 1.69	10.30 a.m.	4 mins.	Very slight	Frost	F.R.	Dog (16 lbs.)	Yes	Very slight
12. 2.69	10.0 a.m.	5½ hrs.	Moderate	Snow	S.L.	Dog (15½ lbs.)	Yes	Moderate

Preliminary analysis of results

Foxes caught - 155 (67 FR & 88 SL - 1: 1.3)

By neck - 133

Other than by neck - 22 (12 FR & 10 SL)

Dead when found - 11 (4 FR* & 7SL**)

* Includes 2 foxes which had broken snares and were found off site.
** Includes fox in snare round young tree.

Alive when found - 144

(1) Nil or slight P.M. damage - 77

Caught by neck - 63 (30 FR & 33 SL)

Caught other than by neck - 14 (9 FR & 5SL)

(2) Moderate or severe P.M. damage - 67

Caught by neck - 62 (23 FR & 39 SL)

Caught other than by neck - 5 (1 FR & 4SL)

Disturbance to ground

(1) Nil or slight - 56 (24 FR & 32 SL)

Caught by neck - 50

Caught other than by neck - 6

Dead - 3

Alive - 53 (15 showed moderate or severe P.M. damage.
(38 showed nil or slight P.M. damage.

(2) Severe - 35 (18 FR & 17 SL)

Caught by neck - 30

Caught other than by neck - 5

Dead - 4 (including both foxes on fences off site)

Alive - 31 (20 showed moderate or severe P.M. damage
(11 showed nil or slight P.M. damage.

Other Animals caught - 132 (46 FR & 86 SL - 1:1.87)

Snares run - 937 (432 FR & 505 SL - 1:1.16)