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East Offaly Badger Research Project (EOP): Interim Report for the Period, January 1989 to December 1995

L.A. Dolan, J.A. Eves, D. Bray and U. O'Sullivan

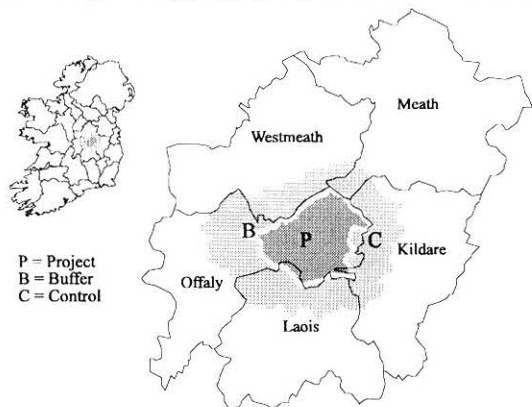
Introduction

The East Offaly Badger Research Project (EOP) was continued during 1995. The objective of this observational study is to monitor and analyse the effect of the intensive control of a tuberculous badger population on the tuberculin testing outcome in the associated cattle herds. These data are compared with the data from the cattle herds in a surrounding control area in which there is no badger control programme (Fig. 1).

Figure 1. The Project, Buffer and Control Areas of the East Offaly Badger Research Project.

Results

The badger trapping programme continued



during 1995 and the results are presented in Table 1. The proportion of badgers trapped in the Buffer Zone in the first year was 16 per cent. This figure doubled in 1990 and continued to increase in the subsequent years, to reach 56 per cent in 1994 and 53 per cent in 1995 (Table 2).

The tuberculin testing data for the Project and Control Areas are presented in Table 3.

These data show that there was a decrease in the number of reactor animals identified in both areas over the seven year period. This decrease was 40 per cent greater in the Project Area compared to the Control Area. When the figures are compared as reactor animals per thousand animal tests (APT), then the decrease was 50 per cent greater in the Project Area.

Discussion

The APT value for the Project Area has reduced even further in 1995 to 0.46, while the APT in the Control Area has not changed from the 1994 figure. The APT for the Control Area was 1.7 times greater than the APT for the Project Area in 1991. This figure has risen to 4.6 times in 1995.

Value comparisons of the tuberculin testing data between the Project and Control Areas, from 1982 to 1992, showed that there was a statistically significant difference in the risk of a herd breakdown between herds in the two areas in 1991 and 1992, the lesser rate being in the Project Area. As the number of herds suffering a breakdown decreased after 1992, no difference in herd breakdown rate was apparent (Williams and O'Mairtin, 1994). However, when the numbers of reactors per breakdown were analysed there were significantly fewer reactors identified in herds in the Project Area that had suffered a breakdown (O'Mairtin and Williams, 1995).

2. East Offaly Badger Research Project the APT values for the Project and Control Areas, 1988 - 1995.

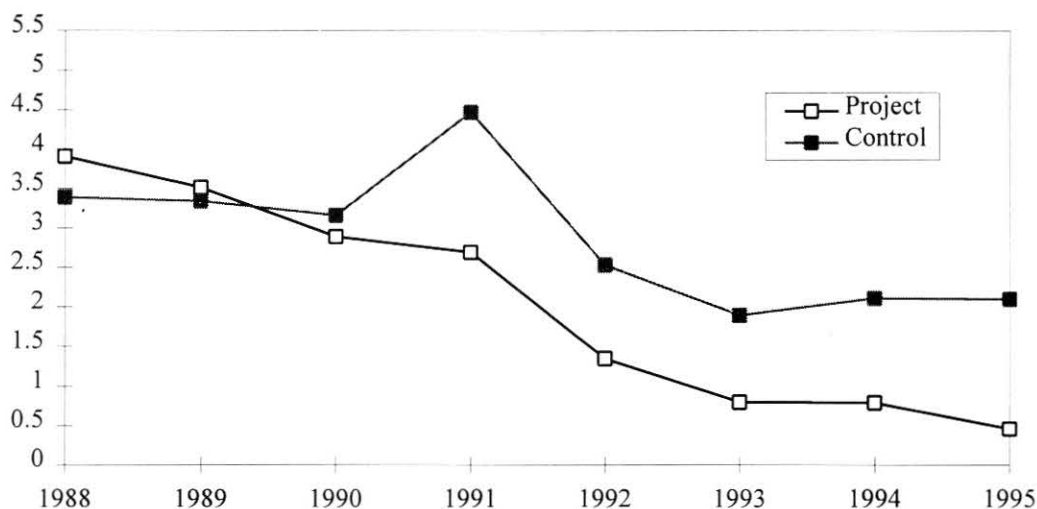


Table 1. East Offaly Badger Research Project
The number of badgers trapped and the number found to be tuberculous in the Project Area and Buffer Zone from 1989 to 1995, inclusive.

Year	Project Area	Buffer Zone	Total
1989	700 94 (13)*	137 25 (18)	837 119 (14)
1990	197 24 (12)	103 3 (3)	300 27 (9)
1991	117 13 (11)	74 8 (11)	191 21 (11)
1992	108 7 (6)	72 2 (3)	180 9 (5)
1993	63 8 (13)	51 2 (4)	114 10 (9)
1994	50 3 (6)	63 2 (3)	113 5 (4)
1995	29 2 (7)	33 2 (6)	62 4 (6)
Total	1264 151 (12)	533 44 (8)	1797 195 (11)

() * number and percentage of badgers found to be tuberculous on gross post-mortem examination.

Table 2. East Offaly Badger Research Project
The proportion of the badgers snared in the Buffer Zone, by year.

Year	'89	'90	'91	'92	'93	'94	'95
%	16	34	39	40	45	56	53

This appears to have continued in 1995, though no formal statistical analysis has been completed as yet.

An analysis of data from 1989 to 1994 using Geographical Information System (G.I.S.) technology demonstrated that there was a statistically significant association between the distance to setts where tuberculous badgers were captured and herd breakdowns (Eves, Hammond, Dolan, Griffin, Martin and Collins, in press).

Table 3. East Offaly Badger Research Project The number of tuberculin reactors, APT and per cent change, by year, in the Project and Control Areas.

Year	Area	No. of Reactors/year	APT/year*
1988	Project	326	3.91
1989		362	3.51
1990		299	2.89
1991		194	2.69
1992		89	1.35
1993		54	0.80
1994		54	0.79
1995		30(-91)	0.46(-88)
1988	Control	910	3.39
1989		982	3.34
1990		904	3.16
1991		979	4.47
1992		594	2.53
1993		404	1.90
1994		443	2.11
1995		430(-53)	2.10(-38)

*Reactor animals per 1,000 animal tests.

() per cent change from 1988 figure.

The continuing high proportion of the badgers that have been snared in the buffer zone confirms that immigration of badgers is occurring on a regular basis. Consequently, the badger population in the Control Area is also being reduced to some extent.

A recent study of the control of a tuberculous badger population conducted in an area of South West England concluded that the control programme undertaken there had a significant effect on the level of tuberculosis in the associated cattle (Clifton-Hadley and others, 1995).

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