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Survival tables for Starlings, Red-winged Blackbirds, and Common Grackles

Paul A. Stewart



Introduction

Roosting congregations of blackbirds and Starlings (*Sturnus vulgaris*) have posed major problems, real or imagined, in recent winters in the southeastern United States, with extensive killing programs resulting. Unfortunately, killing of the birds is being effected without appropriate knowledge of the harm and benefits imparted to humans by the birds or even a full knowledge of survival rates of the birds without the killing program.

Presumably goaded by the urgency of this situation, Fankhauser (1971) prepared survival tables for Starlings, Red-winged Blackbirds (*Agelaius phoeniceus*), Common Grackles (*Quiscalus quiscula*), as well as Brown-headed Cowbirds (*Molothrus ater*) with use of data from birds banded as adults and hence of unknown age when banded. With banding recovery data continuing to accumulate, it now seems appropriate to generate survival tables for blackbirds and Starlings using data from birds which were nestlings and hence of known age when banded. An adequate number of recoveries of Brown-headed Cowbirds banded as nestlings is still unavailable, and this report is restricted to analysis of data from Starlings, Red-winged Blackbirds, and Common Grackles.

Methods

This report makes use of data obtained from the Bird Banding Laboratory, including all Starlings, Red-winged Blackbirds, and Common Grackles banded as nestlings before 1 January 1970 and killed or found dead before 1 July 1977. Selection of the records was also made to include only birds represented with exact dates of recovery and only birds not involved at the time of banding in experimental procedures other than application of the bands.

Results and discussion

Data given in Table 1 show the average annual rate of survival of Starlings to have been 48.1 percent,

with the oldest bird living only into the seventh year. In Table 2 data are given for 168 Red-winged Blackbirds showing an average annual survival rate of 52.5 percent, with the oldest bird living into its tenth year. Also, in Table 3, data for 287 Common Grackles show an average annual survival rate of 51.2 percent, with the oldest bird living into its tenth year.

With Starlings having an average annual survival rate of 48.1 percent and Red-winged Blackbirds and Common Grackles having survival rates of 52.5 and 51.2 percent, respectively, Starlings show a slightly lower survival rate than the other two

Table 1. Survival table for Starlings banded as nestlings.

Age in years	No. alive at start of year	Percentage survival
0-1	152	48.7
1-2	74	51.4
2-3	38	44.7
3-4	17	52.9
4-5	9	88.9
5-6	8	50.0
6-7	4	0.0
Average		48.1

Table 2. Survival table for Red-winged Blackbirds banded as nestlings.

Age in years	No. alive at start of year	Percentage survival
0-1	168	59.5
1-2	100	65.0
2-3	65	47.7
3-4	31	58.1
4-5	18	72.2
5-6	13	53.9
6-7	7	85.7
7-8	6	33.3
8-9	2	50.0
9-10	1	0.0
Average		52.5

Table 3. Survival table for Common Grackles banded as nestlings.

Age in years	No. alive at start of year	Percentage survival
0-1	287	51.2
1-2	147	63.9
2-3	94	63.8
3-4	60	63.3
4-5	38	68.4
5-6	26	65.4
6-7	17	64.7
7-8	11	54.5
8-9	6	16.7
9-10	1	0.0
Average		51.2

species. Also, with Starlings living only into their seventh year and Red-winged Blackbirds and Common Grackles living into their tenth years, the maximum life span for Starlings is indicated to be shorter than that of the other two species.

Although I used data from birds banded as nestlings and Fankhauser (*op. cit.*) used data from birds banded as adults and hence older birds, Fankhauser reported some much longer life spans than I found. Thus, he reported a maximum life span of 16.5 years for Common Grackles; whereas, my oldest Common Grackle lived only into its tenth year. It is indicated that most Common Grackles die far short of their potential life span. That most grackles die far short of their potential life span is further indicated in the data given by Fankhauser. Thus, one female Common Grackle lived 10 years longer than the maximum of 6.5 years for 282 other birds, with a second living 3 years longer than the other 282. Only 0.7 percent of the a sample lived beyond 39.4 percent and only 0.4 percent lived beyond 57.6 percent of the potential life span. With one bird in a sample of 284 birds living 10 years longer and another living 3 years longer than any others, the need for a much larger sample is strongly indicated.

In view of the fact that my data on survival rates came from birds banded as nestlings, it is notable that the first year survival rate was the same and nearly the same as the average for all years for the

Common Grackle and Starling, respectively. For the Red-winged Blackbird the first year survival rate was somewhat higher than the average, 59.5 versus 52.5 percent. With younger birds being relatively inexperienced in coping with problems of survival, a lower survival rate would be expected in the first year as compared with later years.


Fankhauser (*op. cit.*) found survival rates of grackles taken as returns an average of 9.0 percentage points lower than for those taken as recoveries, showing a difference in survival rates resulting from the method of encounter. This difference could be expected, for the birds taken as returns were still alive when encountered and their times of death accordingly later and unknown. On the other hand, the birds taken as recoveries involved birds dead when encountered and thus unable to provide additional encounter records. I have used only data from birds within a few days of known age at the time of banding and for which the time of death was known, thus covering the complete life spans.

In working with birds banded as nestlings, I had the disadvantage of having data from birds of unknown sexes. Thus, I am unable to make comparisons of differences in survival rates between the sexes. In the preparation of the survival tables presented in this paper, I have attempted to provide standards against which age, sex, and locality groups can be measured when and where sufficient data are available.

Acknowledgment

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Literature cited

- Fankhauser, D.P. 1971. Annual adult survival rates of blackbirds and starlings. *Bird-Banding*, 42(1):36-42. 
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