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Survival rate in a wintering population of Dark-eyed (Oregon) Juncos

Donald E. Payne

The Dark-eyed Junco (*Junco hyemalis*) is the most abundant species at my banding station in Eugene, Lane County, in western Oregon. The population of the Juncos that I handled seems referable to the "Oregon" Junco (*J.h. oregonus*).

For a number of years I have kept records on the date of arrival of the first fall individual, the number of juncos present through the winter, and the last date on which individual birds were trapped in the spring. At the suggestion of Chandler S. Robbins of the Bird Banding Laboratory, Migratory Bird and Habitat Research Lab, I have summarized these data in Table 1.

Length of season includes the first appearance of a junco at the station in the fall, and the date the last bird was processed in the spring. The total birds includes new birds, repeats and returns. The variation in the total birds taken is affected by such things as (1) bad weather, (2) the abundance or lack of local food, and (3) in the winter of '72-'73, a pair of Sharp-shinned Hawks which took up residence nearby and regularly harassed the flock.

Survival rates are usually calculated for birds banded and/or captured on the breeding grounds. However, a survival value can be calculated for birds returning to the same wintering area year after year. The data for Dark-eyed Juncos returning to my banding station are presented in Tables 2 and 3.

Minus the last year bandings as these birds have not had a chance to contribute to the next column. Which gives us totals as follows:

Thus it would appear that the population of Dark-eyed Juncos overwintering at my banding station experience a minimal annual survival rate of 78%. If some surviving banded birds did not return to my station, the actual survival rate of this population actually could be somewhat higher. This figure is appreciably higher than the values for most other small passerines. Comparative values for Dark-eyed Juncos overwintering in other parts of the country would be interesting and allow a better evaluation of the data presented here.

Table 1: Station statistics

Winter season	'69-70	'70-71	'71-72	'72-73	'73-74	'74-75
Length of season in days	206	204	179	220	185	192
Months of the birds at the station	Oct-May	Sep-Apr	Oct-May	Oct-May	Oct-May	Oct-May
New bandings	71	75	59	48	132	166
Total birds taken during season	139	290	112	234	286	346

Table 2: Summary of returns by years after banding

	1 year	2 years	3 years	4 years	5 years
1969-70	5	3	4	4	3
1970-71	5	6	3	2	
1971-72	3	3	2		
1972-73	14	9			
1973-74	3				
Total	30	21	9	6	3
Adjusted Total*	(-3) 27	(-9) 12	(-2) 7	(-2) 4	(-3) 0

*Minus the last year bandings. These birds have not had a chance to contribute to the next column.

Table 3: Survival rate by age groups

Year 1 to year 2 after banding	21:27	77%
Year 2 to year 3 after banding	9:12	75%
Year 3 to year 4 after banding	6:7	86%
Year 4 to year 5 after banding	3:4	75%
	39:50	78%

My sincere thanks to Chandler S. Robbins and Dr. Charles T. Collins for their help in organizing these data for publication.

(Ed. note: copies of Mr. Robbins' paper, "Suggestions on Gathering and Summarizing Return Data," are available free of charge. Send a stamped (26 cents), self-addressed envelope to: Mr. Chandler S. Robbins, Migratory Bird and Habitat Research Laboratory, Laurel, MD 20810.)

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