University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Bird Control Seminars Proceedings | Wildlife Damage Management, Internet Center for

9-17-1970

STUDIES ON THE MOVEMENTS OF BLACKBIRDS AND STARLINGS IN THE WEST END OF LAKE ERIE

Maurice L. Giltz
The Ohio State University

Harold E. Burtt
The Ohio State University

Follow this and additional works at: http://digitalcommons.unl.edu/icwdmbirdcontrol

Part of the Environmental Sciences Commons

Giltz, Maurice L. and Burtt, Harold E., "STUDIES ON THE MOVEMENTS OF BLACKBIRDS AND STARLINGS IN THE WEST END OF LAKE ERIE" (1970). *Bird Control Seminars Proceedings*. Paper 218.
http://digitalcommons.unl.edu/icwdmbirdcontrol/218

This Article is brought to you for free and open access by the Wildlife Damage Management, Internet Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Bird Control Seminars Proceedings by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

STUDIES ON THE MOVEMENTS OF BLACKBIRDS AND STARLINGS IN THE WEST END OF LAKE ERIE

Maurice L. Giltz
Department of Zoology
The Ohio State University
and
Harold E. Burtt
Department of Psychology
The Ohio State University

Introduction

The operation of decoy traps at The North Central Farm, Vickery, Ohio, the Ottawa-Crane Creek-McGee Marsh Area, and on the Bass Islands in Lake Erie, has permitted the banding of thousands of Red-winged Blackbirds *(Agelaius phoeniceus),* Common Grackles *(Quiscalus quiscala),* Brown-headed Cowbirds *(Molothrus ater),* and Starlings *(Sturnus vulgaris).* The repeats and returns of these banded birds justify inferences concerning the sex and age ratios in the populations and the stability of the populations, as well as indicating the seasonal migrations and movements of the populations.

Materials and Methods

The catch of the decoy trap in Ohio is mainly Icterids and Starlings. This trap, often 40 feet by 80 feet in size, was invented by John Linehan of The U.S. Fish and Wildlife Service and developed to its present state on the shores of Sandusky Bay and Lake Erie at The North Central Branch of The Ohio Agriculture Research and Development Center. The construction and operation of the trap is discussed by Burtt and Giltz (1971), and the details of the species caught during six years of trap operation is discussed by Giltz and Burtt (1970).

Problems concerning the differences between the sex ratios of several species have resulted in several papers on the sex ratios of the catch (Burtt and Giltz 1969a, 1970a). In these papers it was shown that there is an increase in the proportionate number of females in the Red-winged Blackbird population and in the Brown-headed Cowbird population in the autumn. The data also indicated that 75 percent of 68,000 Red-winged Blackbirds caught were males.

The large number of returns made it impossible to show local migration by the usual method of drawing vectors from the place of banding to the place of the returns, so a more meaningful method was developed (Burtt and Giltz 1969b). This method indicates the proportionate number of birds moving to each direction from the banding

station as well as the proportionate number of local returns. This system of plotting the returns of banded birds was employed in charting the returns of 958 Starlings (Burtt and Giltz 1970b). By considering the banding seasons and the season and direction in which the return occurred, the movements of Starlings throughout the year are better understood. The charts of Burtt and Giltz (1970b) show that Starlings do not remain in the area of their banding very long and indicate a tendency to migrate in a northeast-southwest direction (Fig 1).

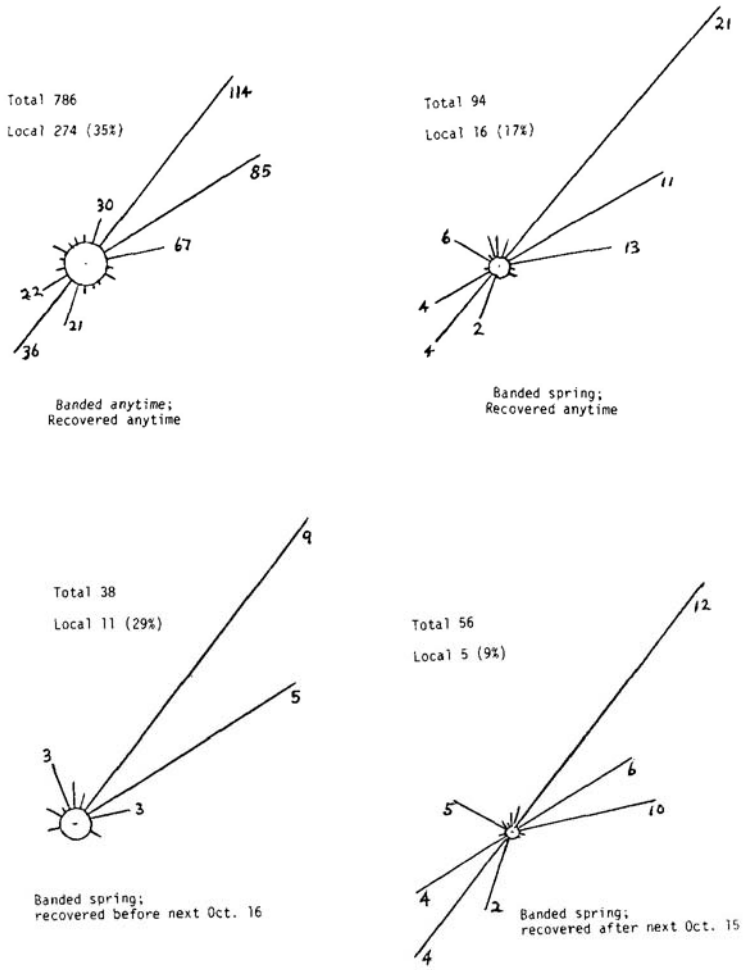

Figure 1. Recoveries of starlings banded in Columbus, Ohio (from Burtt and Giltz 1970b)

The first indication that Redwings fly to altitudes when crossing Lake Erie which make them invisible to a casual observer on the ground, was made in 1958. The documentation of thousands of Blackbirds casually crossing Lake Erie in this manner made it possible to explain the sudden appearance of thousands of birds on the north or south shores of Lake Erie. The details of this behavior were the subject of a doctoral dissertation by David I. Richard (1968).

Beginning in the year of 1968, the traps on South Bass Island have been operated in the spring and autumn, as well as in the summer, and the returns of birds banded on the North Central Farm, between the years of 1964 and 1968, have been numerous. These returns will be the subject of future inferences concerning the migratings of the Red-winged Blackbird populations.

TABLE 1. COMPUTATION OF STABILITY INDEX*

Band No.	July												August									
	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10
873–																						
47128	√	-	-	x	-	-	-	x	-	-	⊗	⊗	⊗	⊖	⊖	⊖	⊖	⊖	⊗			
47130				√	-	-	x	x	-	x	-	-	-	⊗	⊖	⊖	⊗	⊖	⊖	⊖	⊗	⊖
47142						√	-	-	x	x	-	-	x	x	-	⊗	⊖	⊖	⊖	⊗	⊖	⊗
47151								√	x	-	x	x	x	-	x	-	-	⊗	⊗	⊗		
47168		√	-	-	-	x	-	-	-	-	x	-	⊗	⊖	⊖	⊗	⊖	⊖	⊗	⊗		
47180														√	x	-	-	x	x	-	-	x
47195																√	x					
47203																		√	-	-	x	-
47218														√	-	-	x	x	x	-	-	x
47231												√	x	-	x							
Stability Index												2	3		3	4		4	5	5	4	3	2
Number Banded												50	30		40	25		35	50	20	45	30	40
Lincoln Index												81	66		115	182		78	124	48	112	66	72

TABLE 2. AVERAGE DAILY STABILITY INDEX FOR SIX MONTHS*

		Number Banded	Average Index
Grackles	Grackles	1221	6.88
	Cowbirds	3954	1.84
Redwings	Redwings	6606	2.26
	Starlings	3486	1.01

*From Burtt and Giltz 1969c

In order to get a measure of the stability of the populations of Blackbirds at the west end of Lake Erie, a stability index was developed (Burtt and Giltz 1969c). Computation of this index, which is based on the assumption that birds that repeat at a trap ten days after their first visit, have been present in the meantime. The computation of this index (Table 2), is taken from the reference above. Inferences concerning the numbers of birds in this end of the lake can be made with greater accuracy by using this index.

Acknowledgments

Many of the studies mentioned here were aided by The Ohio Agricultural Research and Development Center, Wooster, Ohio, by the assignment of technicians and the making of their facilities and farms available for these studies. The Ohio State University, The College of Agriculture, The College of Biological Sciences, and The Franz Theodore Stone Laboratory, Put-In-Bay, Ohio have furnished personnel, as well as monies and facilities. The U.S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Divisions of Wildlife Services and Wildlife Research, have collaborated with monies, personnel, and planning of all phases of the study on Blackbirds. In addition, the Ohio Division of Wildlife has furnished study sites in the Resthaven Wildlife Refuge.

REFERENCES

Burtt, H. E., and M. L. Giltz. 1969a. Autumnal Changes in Sex-Ratios in the Red-Winged Blackbird and Sex Ratios in the Brown-headed Cowbird. Eastern Bird Band. Assoc. News 32(3): 122-127.

Burtt, H. E., and M. L. Giltz. 1969b. A Method of Presenting Recovery Data with Large Samples. Inland Bird Band. News 41(1): 13-16.

Burtt, H. E., and M. L. Giltz. 1969c. A Stability Index for Bird Populations. Inland Bird Band. News 41(2):43-45.

Burtt, H. E., and M. L. Giltz. 1970a. The Sex-Ratio for the Red-Winged Blackbird. Inland Bird Band. News 42(3):83-85.

Burtt, H. E., and M. L. Giltz. 1970b. Directional Trends for Starlings. Wheaton Club Bull. Vol. 15, Sept. 1970, pp. l-14.

Burtt, H. E., and M. L. Giltz. 1971. The decoy Trap. Eastern Bird Band. Assoc. News 34(1):25-31.

Giltz, M. L., and H. E. Burtt. 1970. Some Results From Trapping Blackbirds and Starlings in Ohio. N. E. Sect. The Wildlife Society Fish and Game Conf. Non-Game Session, Wilmington, Delaware. pp. 219-228.

Richard, D. I. 1968. The Movement Patterns of Populations of Red-Winged Blackbirds *(Agelaius phoeniceus)* In the Western Lake Erie Basin. Ph. D. Dissertation, The Ohio State University, Columbus. 122pp.