
Wintering bird returns in north Florida

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Introduction

From 1966 to 1972, my wife and I banded small birds at a field station of the Florida State University located at the periphery of Tallahassee, Florida. During that period, the partly open, partly tree- and shrub-covered area (approximately 5.25 ha, or 13 acres) became increasingly surrounded by residential developments.

Repeated captures as well as two returns of transient songbirds (Nisbet, 1969), and a relatively large number of wintering birds, indicated to us that our banding activity might yield valuable information about philopatry in both transient and wintering bird species. We could not hope that our weekend banding activities could provide a basis for a statistical assessment of bird abundance, territoriality and return frequencies, but we did expect our data to give at least a general picture of these aspects. The residential development dealt a severe blow to these expectations, but it afforded us the opportunity to witness its far-reaching impact on the bird life of our banding area. This article summarizes our data on wintering birds.

Methods

The birds were captured with mist nets whose positions were not fixed, but were often adjusted according to the patterns of bird distribution and wind direction. Furthermore, the number of nets put up at any given time frequently was determined by our visual estimate of the abundance of birds. No approximate figure can be given for "netting hours," but the total effort expended each winter did not differ by more than perhaps 20%.

Most warblers and kinglets were netted along hedges and on paths cut through high weeds and shrubbery, while sparrows and other birds were usually caught in the open fields or under the deciduous trees of a pecan grove.

The more or less uninterrupted presence of our wintering species lasted from about November through mid-April. This, then, is the banding season for wintering birds that is referred to in our report. However, the pattern of bird casualties at a nearby TV tower (Stoddard and Norris, 1967)

shows that some migration occurs in this region throughout the winter. This was also evident from our banding data on Yellow-rumped Warblers (*Dendroica coronata*) (Homann, 1973). Consequently, our banding totals of "wintering birds" may well have included transient individuals.

Efforts were made to capture and band as many wintering birds as possible. However, following instructions received from the Bird Banding Laboratory, we excluded White-throated Sparrows (*Zonotrichia albicollis*) from this effort during the winter of 1967/68 and, in fact, released many of them unbanded.

Results

General account of banding activity

Over the period of 7 years, nearly 4,700 birds of 96 species were banded. The most common wintering species were Yellow-rumped Warblers, American Goldfinches (*Carduelis tristis*), and Field Sparrows (*Spizella pusilla*). Their contribution to the banding total was about 40%. It should be mentioned that birds which we captured chiefly during their fall migration and which we were certain were transients, made up approximately 25% of our banding total.

Wintering birds

Table I summarizes the banding totals of the most abundant winter residents in our banding area. The numbers include the newly-banded birds as well as the returning individuals, but do not include any repeats. Not listed are 30 Vesper Sparrows (*Pooecetes gramineus*) because only irregular banding efforts were expended on this species.

It is apparent from the data that several species became notably rarer over the years. This decline, like that of the transient birds and Yellow-rumped Warblers discussed previously (Homann, 1973), occurred as the result of the housing development around the banding area. Eastern Bluebirds (*Sialia sialis*), as well as White-crowned (*Zonotrichia leucophrys*), Bachman's (*Aimophila aestivalis*), and Vesper Sparrows had, in effect, vanished from sight and from our banding records by 1971. This

Table 1. Totals of captured wintering birds

	66/67	67/68	68/69	69/70	70/71	71/72
Y.-b. Sapsucker	0	3	0	6	4	6
Common Flicker	3	6	15	12	6	1
E. Meadowlark	10	11	17	7	5	(0)
Am. Goldfinch	21	58	177	41	16	2
Savannah Sparrow	24	24	4	1	1	0
White-cr. Sparrow	10	10	13	1	0	0
White-thr. Sparrow	18	(3)	26	30	42	12
Chipping Sparrow	22	16	6	4	2	(0)
Field Sparrow	40	24	46	34	64	(3)
Song Sparrow	(1)	11	16	21	11	(0)
Y.-rumped Warbler	291	305	346	223	141	69
Ruby-cr. Kinglet	(0)	5	22	11	10	5
E. Bluebird	14	7	21	0	0	0

Numbers in parentheses indicate low banding effort expended on this species (applicable netting hours down by more than 25%)

Table 2. Repeats and returns of wintering birds

	0		1			2			3			4		
	n	rep	n	ret	%	n	ret	%	n	ret	%	n	ret	%
Y.-b. Sapsucker	19	13 (5)	19	2	11	13	2	15	9	1	11	-	-	-
Common Flicker	43	11 (9)	36	6	17	24	1	4	9	0	0	-	-	-
E. Meadowlark	50	7 (7)	45	3	7	38	2	5	21	0	0	10	0	0
Am. Goldfinch	315	8 (7)	297	1	.3	256	1	.4	79	0	0	21	0	0
Savannah Sparrow	54	13 (12)	48	4	8	24	1	4	-	-	-	-	-	-
White-cr. Sparrow	34	11 (6)	20	2	10	10	0	0	-	-	-	-	-	-
Wh.-thr. Sparrow	131	27 (24)	119	23	19	77	6	8	47	1	2	21	1	5
Field Sparrow	211	54 (41)	144	25	17	110	11	10	64	0	0	40	1	3
Song Sparrow	60	9 (9)	49	5	10	28	1	4	12	1	8	-	-	-
Y.-rumped Warbler	1375	128 (106)	1306	23	2	1165	4	.3	942	4	.5	596	0	0
Ruby-cr. Kinglet	53	16 (7)	48	3	6	38	0	0	27	1	4	5	0	0

Legend: Below the name of the bird is given the total number of returns, and in parentheses the number of individuals returning once, twice, three times, etc., in that order. In the first column (year 0 = banding year) the total number of captured birds is given, then the number of repeats (rep) during the same winter, followed by (in parentheses) the number of repeating individuals (the totals include returning, previously banded individuals and their repeats, resp.). In the other columns, the number n designates the "possible returns" (see text for additional explanations), followed by the number of returns (ret) and its percentage of n.

eliminated from the bird-watcher's map one of the very few regular wintering grounds of the White-crowned Sparrow in the Tallahassee area (H.M. Stevenson, pers. comm.).

A list of recaptures and returns of wintering birds is given in Table II. The number *n* is the number of "possible" returns. Possible return-years were those years during which the particular species was abundant enough to yield a capture total (excluding repeats) of at least 20% of the recorded maximum. The number *n* was calculated from the banding totals during the preceding year(s) and includes previously recaptured birds. For example, if a bird was recaptured in the year after banding, a return in the subsequent year was considered twice — as a return in a first year (year 1) and a second year (year 2).

Our data thus allow an assessment of the regularity with which the wintering birds returned to their wintering grounds, so long as it maintained the same attraction for them. To further aid in the evaluation of our data, a separate tabulation (below the species name) provides information about the number of individuals making up the total number of returns.

When comparing the results for the various species, it should be noted that Common (Yellow-shafted) Flickers (*Colaptes auratus*), Eastern Meadowlarks (*Sturnella magna*), and Field Sparrows were breeding in the Tallahassee area, but they were not — or were very sparsely — breeding in the immediate vicinity of our banding area or on the banding area itself. Nevertheless, it is possible that the wintering populations of these species may have included local residents. As it was pointed out above, a distinction between winter residents and transients could not always be made.

Not listed are returns of some of the rarer species. For example, in accordance with the high return probability established by Erickson (1969) for wintering Northern (Baltimore) Orioles (*Icterus galbula*), a single male oriole banded by us in January 1971 may have returned in the subsequent winter because one banded individual was sighted by us; unfortunately the bird was not caught. Of 30 banded Vesper Sparrows, we had 1 return. Also, 1 Killdeer (*Charadrius vociferus*) of a total of 2 banded was retaken during the next winter.

We also had negative results: Of the totals of 50 Chipping Sparrows (*Spizella passerina*) and 42 bluebirds, we registered not a single return.

Discussion

Our results contain no real surprises. As expected,

a high rate of returns was found for larger birds such as the meadowlark and the two woodpeckers. Our data also confirm the findings of many other studies (e.g. Johnston and Downer, 1963; Mewaldt, 1976; Payne, 1976; Keiper and Klinger, 1977; Fisk, 1978) that fringillids have a high degree of attachment to their wintering grounds. Even though the percentage of our documented returns remained generally far below the 37% found by Mewaldt (1976) for the White-crowned Sparrow, our sporadic banding yielded return frequencies which were close to those of other reports — c.f. Johnston and Kowner, 1963: 17% for the Indigo Bunting (*Passerina cyanea*); and Payne, 1976: 8% for the Dark-eyed Junco (*Junco hyemalis*). This suggested that the flocks of our sparrows represented very stable populations of wintering birds.

Similarly, the very high rate of multiple repeats found for the Ruby-crowned Kinglet (*Regulus calendula*) indicated a strong winter-territoriality in some individuals of this species. In fact, three of the four returning individuals had been repeatedly caught during their year of banding. Hence, transients may have contributed significantly to the banding total of this species and thus obscured a rather high return percentage.

Relatively few returns were registered for Yellow-rumped Warblers and American Goldfinches. In a previous publication (Homann, 1973), it has been noted that our Yellow-rumped Warblers covered a rather wide range during their daily foraging excursions, and that migratory movements throughout the winter months may explain the observed fluctuations of our wintering population of this species.

The low return rate for goldfinches can be attributed to their habit of forming flocks which do not take up residence in a small territory but roam over large areas in search of food. Chipping Sparrows, for which we had no returns, may behave in a similar way — in marked contrast to the Field Sparrow which had a comparatively high rate of return. Fisk (1978) has reported returns of goldfinches to their South Florida wintering grounds, but no data are given on the total number of banded birds.

Our data suggest that populations of different species of songbirds may not be affected in the same way by changes occurring in specific wintering grounds. The significance of the wintering site is well recognized for large birds — the Whooping Crane (*Grus americana*) being a famous example. That we are less aware of similar requirements for small birds is probably because of our inability to

associate breeding populations with specific wintering sites. It should be well worth-while, therefore, to investigate further how our songbirds can cope with the rapid changes that are presently occurring all over their wintering range. During the past winters, such changes were accompanied in southern United States by unusually cold weather. Its impact should be reflected not only in banding totals of transient birds (see, for example, Clark 1978) but also in the abundance of breeding birds in various regions of the country. The documented sharp decline of the Whitethroat (*Sylvia communis*) and other songbirds in Europe has been attributed to conditions in their winter quarters (Berthold, 1973), and is a grim — and instructive — precedent.

Acknowledgement

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On 19 May 1979 while banding at the Port Huron State Game Area during the Michigan Bird Banders Association Spring Bandout, I caught a Gray Catbird (*Dumetella carolinensis*) with a pale gray iris. This is the first catbird I have seen in the spring with this color iris.

During the summer and early fall (through September) all the early HY catbirds I have banded have had this color iris. These individuals also have a yellow mouth; this catbird had a black mouth. The earliest recorded nesting of the Gray Catbird in southeast Michigan is 14 May; this nest had 3 eggs (Kelley, A.H. 1978. Birds of Southeast Michigan and Southwestern Ontario. Cranbrook Institute of Science, Bloomfield Hills, Michigan.) Thus, I believe that this bird could not have been an HY individual.

An observation of an AHY Gray Catbird with a gray iris

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The most recent information on aging catbirds indicates that a brown iris can be used to determine SY catbirds through April. After April all catbirds should have a plum or deep red-colored iris (Bird-Banding Laboratory. 1977. North American Bird Banding Manual, Vol. 2. U.S. Fish and Wildlife Service; and Sheppard, J.M. and M.K. Klimkiewicz. 1976. An update to Wood's Bird-Bander's Guide. *North American Bird Bander*, 1:26.). I can find no references that mention a gray iris in spring (AHY) catbirds. Since this eye color is characteristic of early HY catbirds, it seems probable that this bird should have been aged as an SY bird. I would suggest that all banders check the eye color in spring to see how often a gray iris occurs and attempt to determine if it is safe to age these individuals as SY birds. It is possible that the gray iris on this bird was an abnormality and thus cannot be used as a criterion to age catbirds. Further study should clarify the matter. ♦

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