RETURNS OF TRANSIENTS: RESULTS OF AN INQUIRY

By Ian C. T. Nisbet

Contribution No. 77 from the Hatheway School of Conservation Education, Massachusetts Audubon Society, Lincoln, Mass.

In EBBA News for November-December 1968, I published a request for records of returns of species which are known only as transients in the area of the banding station -- i.e., not known either to breed or to winter in the area. Although I knew that such returns were very rare, I was disappointed in the small number of convincing records which I received. It is still difficult to specify exactly how rare they are, but the records which I have collected have several other interesting features.

This report is concerned only with returns of transient passerine species. I excluded hawks and waterfowl from the inquiry because return records of these species are known to be more frequent, doubtless because they tend to be more concentrated in a limited number of places on migration. Two other records of returning non-passerines were sent to me -- one of a Semi-palmated Sandpiper in Illinois (K.E. Bartel) and one of a Saw-whet Owl in Wisconsin (Cedar Grove Ornithological Station per H. E. Mueller).

In Table 1, I have divided the records, somewhat arbitrarily, into two catagories: "good transients", in which the species is not known to breed or winter regularly within 100 miles or more; and "doubtful transients", in which the banding station lies on the edge of, or within, the breeding or wintering range of the species. Probably several of the "doubtful transients" were birds which bred or wintered near to the banding station, but in each case the banders knew of none which did so in the immediate vicinity. The most marginal case is the Pennsylvania Myrtle Warbler: the species winters sparsely at low elevations within the state, but definitely not at the banding station (Mrs. M.H. Clench).

To be set against this short list of positive records, there is a formidable list of negative records.

A. Cedar Grove Ornithological Station, Wisconsin. No transient return was obtained from 35,787 passerines banded during 6 years, 1958-63. The total included 7678 Swainson's Thrushes, 2243 White-throated Sparrows, 1701 Hermit Thrushes, 1553 Gray-cheeked Thrushes, 1544 Catbirds, 1462 American Redstarts, 1416 Red-eyed Vireos, 1275 Slate-colored Juncos, 1999 kinglets and 931 Traill's Flycatchers -- all designated as transients locally (Mueller & Berger 1967).

B. Blue Island, Illinois. No return was obtained from 10,200 White-throated Sparrows banded during 36 years, 1933-1968 (Karl E. Bartel).

TABLE 1

Species	Banding place, state and coordinates	Date of Banding	Date of Return	Sample Sizes	Reference
Good transients					
Tennessee Warbler	Homewood, Ala. (332/0864)	21 Oct. 67	18 Oct. 68	28/14	12
Yellow Warbler	Tallahassee, Fla. (302/0841)	18 Sep. 67	7 Sep. 68	31/53	15
Myrtle Warbler	Powdermill N.R., Pa. (401/0791)	16 Oct. 61	14 Oct. 62	28/201	7
Blackpoll Warbler	Raynham, Mass. (415/0710)	18 Sep. 62	20 Sep. 63	57/95	1
Blackpoll Warbler	Raynham, Mass. (415/0710)	25 Sep. 62	24 Sep. 63	57/95	1
Blackpoll Warbler	Sudbury, Mass. (422/0712)	9 Sep. 62	24 Sep. 63	2025/402	16
Blackpoll Warbler	Littleton, Mass. (423/0713)	18 Sep. 67	17 Sep. 68	613/32	11
No. Waterthrush	Tallahassee, Fla. (302/0841)	3 Sep. 67	10 Sep. 68	5/1	15
Doubtful transients					
Least Flycatcher	Long Point, Ont. (423/0800)	25 Jul. 67	10 May 68	566/191	17
Blue-winged Warbler	Jamesburg, N.J. (402/0742)	10 Aug. 59	14 May 62 29 Apr. 63	1/2	2
Nashville Warbler	Little Falls, Minn. (460/0941)	23 Aug.66	27 Sep. 68	(c.200)	9
Myrtle Warbler	Manomet, Mass. (415/0703)	18 Oct. 66	25 Oct. 67	268/707	10
Myrtle Warbler	Manomet, Mass. (415/0703)	10 Oct. 67	13 Oct. 68	707/264	10
Indigo Bunting	Thomasville, Ga. (305/0835)	20 Apr. 67	19 Apr. 68	11/1	20
White-thr.Sparrow	Powdermill N.R., Pa. (401/0791)	20 Oct. 66	27 Oct. 67	298/283	14
White-thr.Sparrow	Tobay Sanct., N.Y. (403/0732)	24 Oct. 64	17 Apr. 65 25 Apr. 65	173/?	19
White-thr.Sparrow	Norristown, Pa. (400/0752)	9 Oct. 54 12 Oct. 54	5 Oct. 56	273/116	18

Note: "Sample sizes" are the total numbers of birds of the species concerned banded in the season of banding and the season of return, respectively.

C. Bradley's Marsh, Paincourt, Ontario. No transient return was obtained from 29,975 birds banded during 11 years, 1958-68. Based on published lists for 6 years, warblers comprised about 33% of the total, kinglets 23%, sparrows and finches 18%, thrushes 8% and creepers 5% (Erickson & Wolcott 1965 and personal communication).

D. Jamesburg, New Jersey. No return was obtained from 1492 Myrtle Warblers, 682 Blackpoll Warblers, 408 Ruby-crowned Kinglets, or from any less common transients (except the Blue-winged Warbler in Table 1) banded during 6 years, 1958-63 (Mrs. J. Cardinali).

E. Powdermill Nature Reserve, Pennsylvania. The two transient returns listed in Table 1 were the only ones obtained from 1495 Myrtle Warblers, 2125 White-throated Sparrows, and 55,932 other birds banded during 8 years, 1961-68 (Mrs. M.H. Clench).

F. Long Point Bird Observatory, Ontario. The transient return listed in Table 1 was the only one obtained during 9 years, 1960-68. According to published reports (Russell et al., 1965-68), 76,286 birds were banded in the first 7 years, of which some 42% were sparrows and finches, 12% warblers, 8% thrushes, 5% orioles and 3% creepers.

G. Round Hill, Sudbury, Mass. The return listed in Table 1 was the only one obtained from 6084 Blackpoll Warblers banded during 7 years, 1962-68 (Howard 1967 and unpublished).

H. Allegheny Front Mountain, West Virginia. No transient return has been obtained from approximately 17,000 birds banded during 11 years (1958-68), most during 1965-68. According to the most recent published report (Hall 1967) most of the commoner banded species are transients, including Swainson's Thrush (11%), Blackpoll Warbler (10%), Tennessee and Black-throated Blue Warblers (6%).

I. Coastal stations. Except for the three doubtful transients from Manomet and Tobay in Table 1, no transient return has been reported from a coastal station, despite the enormous number (now approaching a million) of birds banded at Operation Recovery stations. This is not unexpected, however, because of the great preponderance of immature birds at the coastal stations: a returning transient must necessarily be adult.

DISCUSSION

The most striking feature of Table 1 is that all of the eight good records, and four of the nine doubtful records, were of warblers. This is not simply because especially large numbers of warblers have been banded on migration: some of the warblers which have been banded in

greatest numbers, such as the Yellowthroat, Ovenbird, Myrtle Warbler and American Redstart, breed or winter over very wide areas, so that there are few stations where they could give rise to good records of return transients. Moreover, many other species have been banded in numbers comparable to the warblers in Table 1. The most striking are Swainson's Thrush, White-throated Sparrow, Myrtle Warbler, Ruby-crowned and Golden-crowned Kinglets, each of which has been banded in numbers exceeding 5000 at at least one station in the Great Lakes region. Thus there appear to be some real differences between species.

Even among warblers, there is no consistant relation between the frequency of returns and the number of birds banded annually. At most stations, banding 1000 warblers each year for 5-10 years is clearly insufficient to give more than an even chance of a single return. However, four stations have reported returns from only a few hundred banded birds, three of them from only two years' banding. The Northern Waterthrush retrapped at Tallahassee, the only one of the species caught there in 1968 and one of only five banded in 1967, could be dismissed as an astonishing coincidence, but the same banding station obtained another return from a very small sample of Yellow Warblers. The odds against two statistical freaks at the same station are astronomical -- yet the Raynham, Massadusetts, station also obtained two returns, from only 271 Blackpoll Warblers banded over seven years. We have to conclude that these are not, in fact, statistical freaks.

Even in the same species of warbler in the same region, there appear to be significant differences between banding stations. At Sudbury, Massachusetts, only one return was obtained from 6084 Blackpoll Warblers bnaded during 7 years, yet two other Massachusetts stations obtained returns from much smaller samples. If even the Littleton return were statistically typical for the species, one would expect a dozen or more returns each year from a sample as large as that from Sudbury. If the Rayham returns were typical, one would expect a hundred or more each year at Sudbury. We have to conclude that some sites are much more likely to yield returns than others.

The only overall generalization that seems possible is that for most species (at least in the places that have been samped) one has to band 1000 or more individuals annually for 5-10 years to have even a fair chance of obtaining a return; however, some warblers, in some places, are much more prone to return than this.

Originally, I had hoped to be able to make more precise estimates of return rates than are indicated by this vague generalization. Nevertheless, there are two types of interpretation that can be made, at least tentatively. First, the enormus difference between return rates of different species implies that some species have a tendency to "home", at least weakly, to a point between their breeding and wintering places.

The areas indicated for this "homing" -- inland in New England and the Gulf Coast states -- are areas where warblers are believed to fatten up in autumn in preparation for long migratory flights. If subsequent records confirm that these are indeed also especially favored areas for returns, this will suggest that some warblers "home" to specific fattening-places. Second, the rates of return in other areas, where homing is weak or non-existent, can be used to estimate the extent to which birds scatter on migration. The more variable an individual bird's routes from year to year to year, the lower the frequency of returns will be, or, what amounts to the same thing, the more birds one has to band before obtaining returns. In another article I will use the data on returns to estimate in this way the variability of individual routes.

At present none of these conclusions can be made at all precise. One purpose of this discussion is to draw attention to the paucity of facts on this topic. First, I doubt that I have obtained all the records of return transients, and I would like to appeal for any further unpublishedrecords, positive or negative. Second, my discussion has suggested an area where further banding can yield really valuable information -- in concentration of transient warblers on the coastal plain of the Atlantic and Gulf States.

DATES OF RETURN

One unexpected result of this survey is the striking agreement between the dates on which individual birds were netted at the same station in different years. Five of the eight birds in the first half of Table 1 were retrapped within two days (allowing for leap year in 1968) of the date on which they were banded, and five of the seven birds in the second half which were retrapped in the same season were within seven days. This suggests that individual birds tend to migrate near the same date in different years, so that an individual which is early in one year tends to be early in the next.

This suggests a way to detect returning transients among species which breed or winter at the banding station. A bird which lives near the station for most or all of the migration season is likely to be netted at any time during its stay. Hence if it returns in another year, there is unlikely to be (except by chance) a close agreement between the dates of handling. When there is close agreement, this is a good reason to suspect that the individual bird concerned is in fact a transient. It would be very interesting for some large banding stations to analyze their return records according to date, to determine whether there are many cases of close agreement.

REFERENCES

1. Anderson, K. S. & Maxfield, H. K. 1967. Warbler returns from southeastern Massachusetts. Bird-Banding, 38:218-233.

2. Cardinali, J. 1963. Blue-winged Warbler return. EBBA News, 26:106.

3. Erickson, R. C. & Wolcott, M. J. 1965. Report on six years of banding at Bradley's Marsh banding station. Ontario Bird-Banding, 1 (3): 1-22.

4. Hall, G. A. 1967. The allegheny Front bnading project, 1964-66. Redstart, 34:106-111.

5. Howard, D. V. 1967. Five years of mist netting (1962-1966) at Round Hill, Sudbury, Massachusetts. Records of New England Birds, 33 (2): iii-vi.

6. Russell, D.J.T. et al. 1965-68. Long Point Bird Observatory (Annual reports 1962-66). Ontario Bird-Banding, 1(1):3-44; 2(2):2-51; 3(2): 30-78;4(2):50-81.

7. Leberman, R. C. 1963. Bird-banding at Powdermill, 1962. Res. Rep. 10, Powdermill Nature Reserve, Carnegie Museum, Pittsburgh.

8. Mueller, H. C. & Berger, D. D. 1967. The relative abundance of species caught in mist nets during fall migration at Cedar Grove. Passenger Pigeon, 29:107-115.

9. Ryan, L. S. 1969. A Nashville Warbler return -- exceptional or merely interesting? EBBA News, 32:32.

Unpublished information has also been supplied by:

10. Mrs. K. S. Anderson
11. J. Baird
12. M. L. Bierly
13. Mrs. J. Cardinali
14. Mrs. M. H. Clench
15. P. H. Homann
16. Mrs. D. V. Howard
17. Long Point Bird Observatory (per J.O.L. Roberts)
18. R. J. Middleton
19. F. S. Schaeffer
20. Mrs. E. V. Wade