9-1-1977

Correspondence from Danny Bystrak and Chandler S. Robbins, 1977

Danny Bystrak

Chandler S. Robbins

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD AND HABITAT RESEARCH LABORATORY
LAUREL, MARYLAND 20811

September 1977

Dear Observer:

The enclosed machine listing is a printout of the data punched from your 1977 Breeding Bird Survey report. Hopefully you can take a few minutes to examine it and report to us any errors that you might find. Please check the species names as well as the numbers.

The summary sheets have been checked against the field sheets again this year, so you may find some discrepancies on the printout which are the result of our changing the summary sheet to agree with the field sheets. Mistakes still crop up from incorrect AOU numbers, keypunch errors and unreadable handwriting, so it pays to check. Discrepancies might also appear as a result of our standard procedure of deleting obvious migrants and records that appear to be recording or copying errors. Unusual species without details may have been considered as errors, so please remember to include details on the observation of any unusual species in the future.

If you find no errors, no communication from you is necessary concerning your 1977 run.

We extend our deepest thanks for the excellent support given to our program and look forward to an equally successful Survey next year.

Sincerely yours,

Danny Bystrak

Danny Bystrak
Biological Technician
Migratory Bird and Habitat
Research Laboratory

Enclosures

Discrepancy found on Lapland (KS 004) sheet for Upland Sandpiper, - 61 and 27 totals instead of 42 and 20.
Solitary Sandpiper omitted from Melrose (KS 001) - migratory.

BREEDING BIRD SURVEY NEWSLETTER 5

COVERAGE

Coverage in 1976 dropped slightly to 1,753 routes, but the number of comparable routes that could be used in the 1975-1976 analysis climbed to a new high of 1,485. The best-covered States were California (144 routes), Texas (92), New York (88), Pennsylvania (74), Ontario (66), Wisconsin (63) and Maryland (50). Prospects for 1977 coverage look very good except in a few western States, particularly Utah, Nevada and Idaho. Any help in increasing the number of routes covered would be of great value. As of today, all routes in the following States have been assigned for 1977: Georgia, Indiana, Kansas, Missouri, New Hampshire, North Dakota, Oklahoma, Rhode Island, Tennessee and Wisconsin.

PLEA FOR PROMPTNESS

Procrastination by a few observers is still our biggest problem in maintaining high and continuous coverage. Over 100 observers have not yet returned their "will or won't" slips for 1977, and these delays make it difficult to enlist replacements.

Again we urge all cooperators to submit their results by July 31. Our data processing unit sets aside a large block of time for entering BBS data on magnetic tape in June, July and August, and reports submitted on time are normally edited and entered promptly. Late reports, on the other hand, are subject to long delays and may cause the statistical analysis to be postponed for many weeks (as happened in 1976-77).

STATE SUMMARY

Since our last Newsletter, we have designed a computer program for preparing cumulative summaries for each species in each State and Province. The data are arranged by route within physiographic region and provide an interesting tabular summary of the results for each year, as well as the long-term mean for each route and the mean for each year.

The format also allows for easy perusal to detect inconsistencies. We have found this to be a great help in our continuing effort to detect errors and omissions in BBS data for prior years.

POPULATION TRENDS

A 10-year summary of the results of the Breeding Bird Survey is presently being compiled and on completion will be mailed to all persons who have participated in the Survey. Ten graphs similar to those that will be included in the 10-year summary are reproduced on page 3 of this Newsletter. On all charts the vertical scale shows the mean number of birds per route, appropriately weighted to compensate for differences in density of coverage in different parts of the United States and Canada. For purposes of this summary, regional boundaries follow State and Provincial lines. The Eastern Region includes all States and Canadian Provinces east of the Mississippi River. The Central Region includes Manitoba and all States from the Dakotas and Texas east to the Mississippi River, and the Western Region includes the remaining States (except Hawaii) and Provinces and Yukon Territory.

For all species except the Purple Martin (Figure 4) the population trend is summarized by means of one or more regression lines fitted by computer.

The Cattle Egret (Figure 1) is increasing dramatically in all three Regions. The most consistent increase is in the East, where the correlation coefficient ($r = .946$) of the curvilinear regression line indicates that the probability that the increase was due to chance alone is less than one in one thousand ($p < .001$). The average increase in Cattle Egrets in the East is 10 percent per year.

In contrast, the Black Tern (Figure 2) has been decreasing at an average rate of 12 percent per year in the Eastern Region ($p < .05$).

Barn Swallows are expanding their range southward through the Gulf Coast States, as indicated by the tremendous increase in Alabama (Figure 3) where the average annual increase ($p < .001$) is 26 percent and where the number of birds per route is rapidly approaching the average for the entire Eastern Region. The Barn Swallow population for the Eastern Region also is increasing ($p < .005$), although at a much slower rate (+ 2% per year).

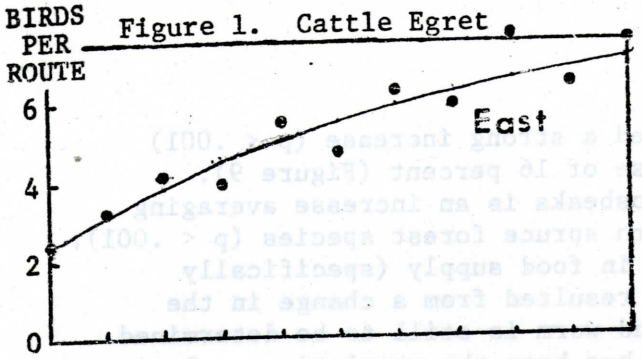
Purple Martins have registered an overall increase ($p < .05$) in the East, averaging 4 percent per year despite two recent disasters in the Appalachian Mountain Region. In Figure 4, Appalachian populations for those physiographic regions most seriously affected by the prolonged rains from Hurricane Agnes in June 1972 are compared with populations for the entire Eastern Region. Since some of the BBS routes were covered before Agnes struck and some were not covered until afterward, part of the decline is registered for 1972 and part in 1973. Note that a similar decline in Purple Martins occurred when Hurricane Abby stalled in the southern Appalachians in June 1968.

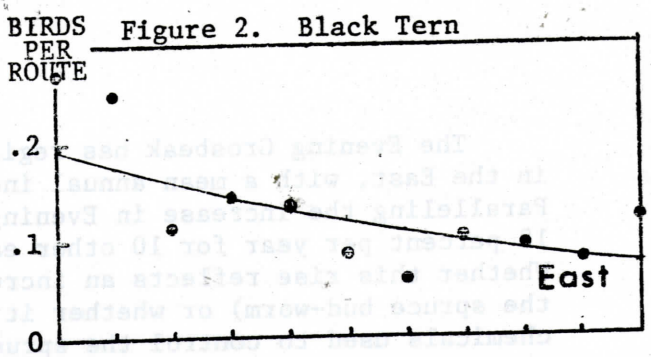
Carolina Wren populations in the East (Figure 5) remained fairly stable during the period of normal winters from 1966 through 1970, then rose consistently during the next 6 years during a period of unusually mild winters in the East. The spectacular increase ($p < .001$) during the period 1970-76 was brought to an abrupt close during the exceptionally severe winter of 1977, the result of which will be reflected in the 1977 Breeding Bird Survey. The average annual increase in Carolina Wrens from 1970 through 1976 was 10 percent.

Continental populations of the Loggerhead Shrike (Figure 6) are declining at an alarming average rate of 4 percent per year ($p < .02$). Populations of this species will warrant close examination during the next few years.

Although Starling populations (Figure 7) are stable in the East, they are increasing in the Central Region at an annual rate of 4 percent and in the Western Region ($p < .01$) at a rate of 8 percent per year.

In addition to studying population trends of individual species, we are examining trends for groups of closely related species and for groups of species associated with specific habitats. All warblers in the genus *Dendroica*, for example, are summarized in Figure 8, which shows a strong increase ($p < .001$) in the Eastern Region, averaging 9 percent per year, as contrasted with a decline in the West ($p < .01$) averaging 5 percent per year.


BIRDS PER ROUTE
Figure 1. Cattle Egret
East
0
2
4
6


BIRDS PER ROUTE
Figure 2. Black Tern
East
0
.1
.2

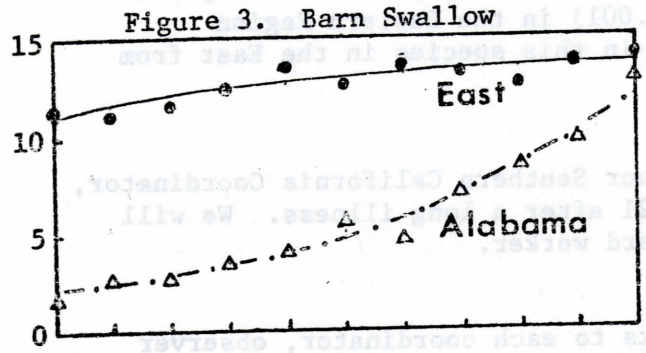


Figure 3. Barn Swallow
East
Alabama
0
5
10
15

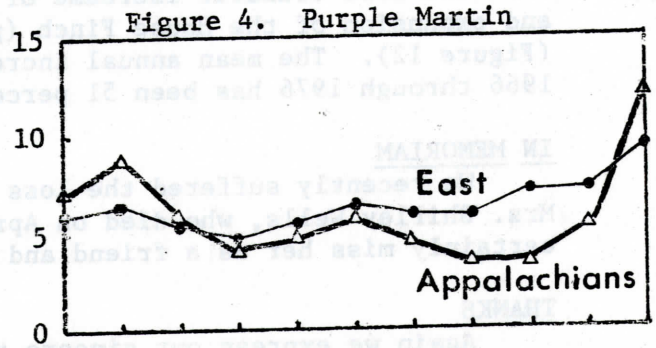


Figure 4. Purple Martin
East
Appalachians
0
5
10
15

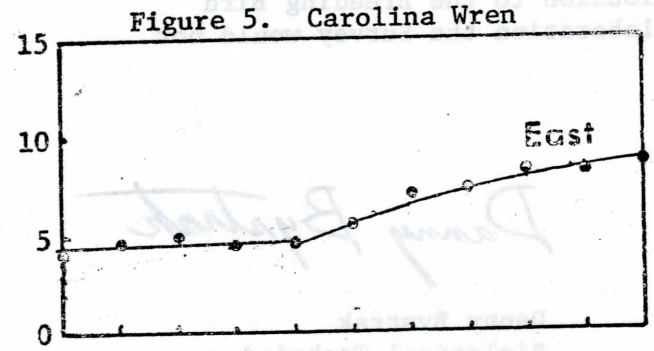


Figure 5. Carolina Wren
East
0
5
10
15

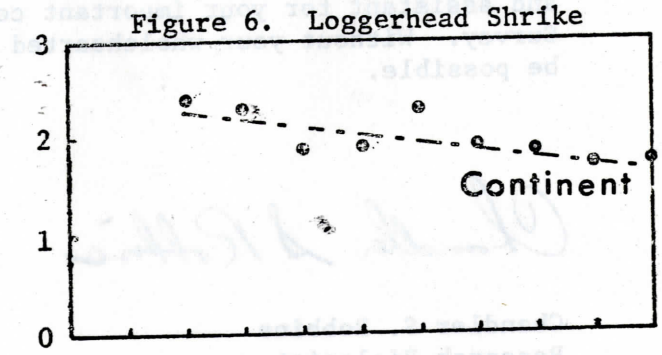


Figure 6. Loggerhead Shrike
Continent
0
1
2
3

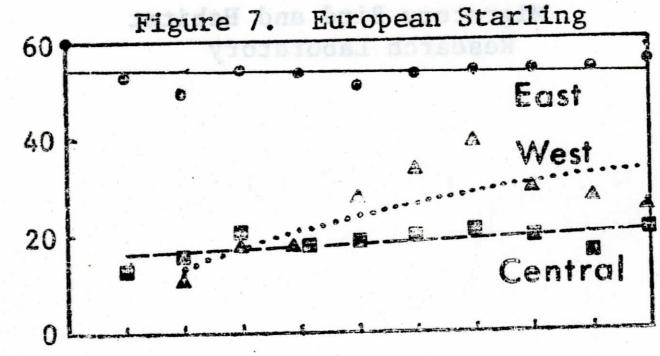


Figure 7. European Starling
East
West
Central
0
20
40
60

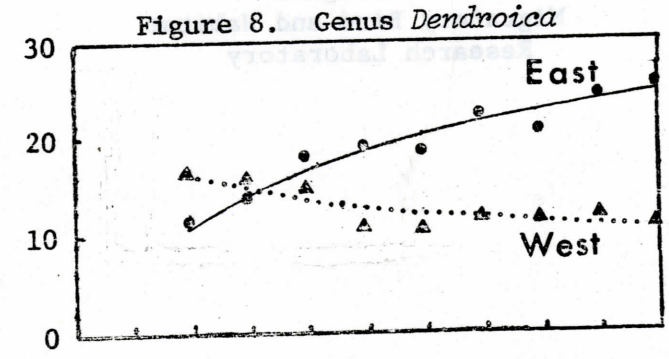


Figure 8. Genus Dendroica
East
West
0
10
20
30

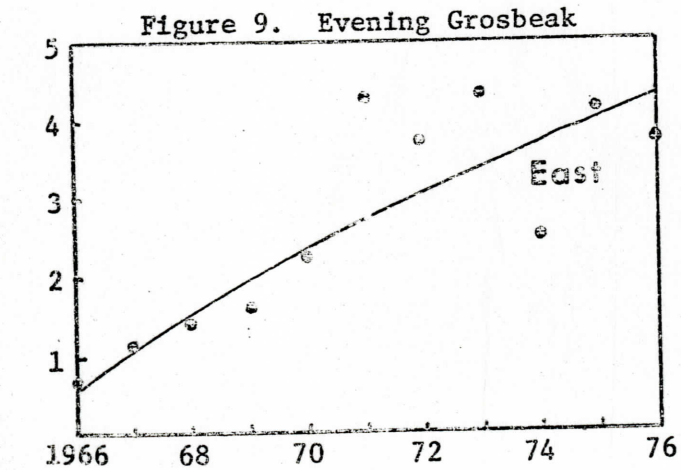


Figure 9. Evening Grosbeak
East
1
2
3
4
5
1966
68
70
72
74
76

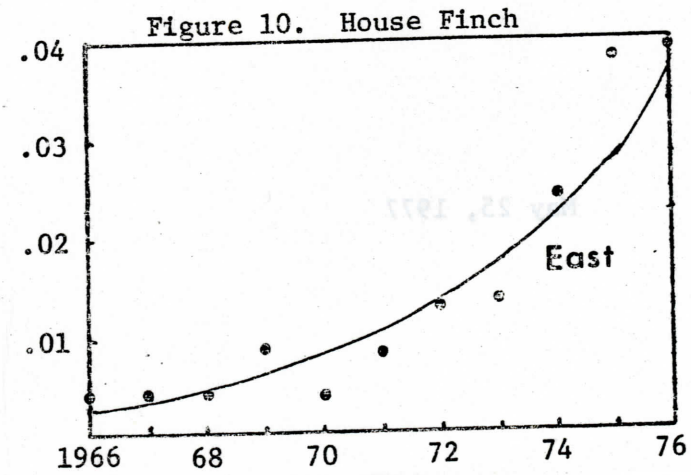


Figure 10. House Finch
East
.01
.02
.03
.04
1966
68
70
72
74
76

The Evening Grosbeak has registered a strong increase ($p < .001$) in the East, with a mean annual increase of 16 percent (Figure 9). Paralleling the increase in Evening Grosbeaks is an increase averaging 18 percent per year for 10 other eastern spruce forest species ($p < .001$). Whether this rise reflects an increase in food supply (specifically the spruce bud-worm) or whether it has resulted from a change in the chemicals used to control the spruce bud-worm is still to be determined.

The most dramatic increase of all has been the population explosion and expansion of the House Finch ($p < .001$) in the Eastern Region (Figure 12). The mean annual increase in this species in the East from 1966 through 1976 has been 51 percent.

IN MEMORIAM

We recently suffered the loss of our Southern California Coordinator, Mrs. Shirley Wells, who died on April 21 after a long illness. We will certainly miss her as a friend and a hard worker.

THANKS

Again we express our sincere thanks to each coordinator, observer and assistant for your important contribution to the Breeding Bird Survey. Without your wholehearted collaboration the Survey would not be possible.

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