

DO WE REALLY SHOOT MIGRANT DOVES?

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INTRODUCTION

Since 1949, Kentucky has been conducting studies of mourning doves. The generally accepted idea was and is that our harvestable dove population is composed largely of northern doves, moving through Kentucky on their southward migration.

Banding of nestling doves was begun in 1950, primarily in attempt to determine the winter range of Kentucky doves. With increased banding of nestlings each year, more and more began to show up in hunters' bags—in Kentucky!

After five years of banding it appears that we should be highly concerned with our own locally produced stock, which it would seem comprises at least a large portion of the doves harvested within our state; especially when the season begins September 1. Moreover, it is indicated by analysis of complete band returns, that other states having a September season may be in the same position.

All references to band recoveries used in this paper are based on the direct returns of doves that were banded as nestlings. Analysis of band returns from birds banded after flight has been attained, hence of indefinite origin, cannot be considered complete. A direct return as used here is one from a bird taken within the first hunting period following banding, and before one migratory cycle could have been completed. From what is known at this time, birds might wander anywhere after completing a migration; neither is it certain that they would return to their home areas to nest. In migratory birds, band returns other than direct returns of birds banded as nestlings are incomplete. Analyses of incomplete returns are apt to be misleading.

INFORMATION LEADING TO THIS THEORY

Between 1950 and 1954, biologists and others in Kentucky banded nine hundred and seventy-two nestling doves; from which we have obtained fifty-nine direct returns. (See Table I.) This constitutes a 6.1 percent recovery ratio. Of the fifty-nine direct returns, forty-seven (79.7%) were made within the state. Eleven (18.6%) were recovered out of the state, but after the first of October of the year banded. One band (1.7%) was recovered out of the state before October of the year banded. This bird was taken in Tennessee.

To date there have been no recoveries of bands in Kentucky from doves banded in states north of Kentucky to indicate that we were shooting some migrant doves.

Most band recoveries in Kentucky are being made within a mile or so of the place banded. To revive an old supposition; unbanded birds should act the same as banded birds.

Through the current season there have been six bands returned with the wings of doves of known age when banded. Molt characteristics are as listed:

<i>Hatching Date</i>	<i>Age in Days When Shot</i>	<i>Stage of Primary Feather Molt</i>
July 15	47	Primary # 4— $\frac{1}{4}$ " out of sheath
June 27	67	Primary # 6— $1\frac{1}{2}$ " long
June 17	86	Primary # 7—half grown
June 1	94	Primary # 7—2" long
*May 6	119	Primary # 9—almost fully grown
*May 1	122-133 (depending on date shot)	Primary # 10—half grown

When considering the percent of the kill that falls within this range of juvenile and "adult" doves, the possibility of shooting local stock may be more readily understood.

* Both the latter two doves would be counted as adults, as white tipped primary coverts were absent.

The month banded had little effect in the returns. Band returns were from doves banded for April through August. More doves were banded in May and June and more doves were recovered from May and June bandings, thus showing that early hatched doves do not necessarily move out early. (See Table II.)

SUPPORTING INFORMATION FROM OTHER STATES AND AREAS

There were unknown factors regarding populations in other states which would have a bearing on the validity of this reasoning from Kentucky data alone; letters were sent to the several states listed in Table I requesting the following information:

When was the period of peak production and peak population in the northern states? It was found during the Southeastern Cooperative Dove Study that dove nesting terminated about the same time in the northern and southern states. Table II shows that peaks of nesting periods and peak populations in the north occurred at approximately the same time as in Kentucky. Would it be possible for the populations to reach a peak in all states at the same time and still contribute to the peak in Kentucky?

Were there any doves banded as nestlings in the northern states that would afford the possibility of their being recovered in Kentucky? Banding of nestling doves has been conducted to some extent in the northern states for several years; hence there was opportunity to recover them in Kentucky.

If hunting seasons in the South did not occur in September, there would be little chance of their recovering Kentucky banded doves that had moved out early. A check of the records showed that in the southeastern states since 1930, which would include dates of band returns used here, 126 or 75% have opened in September. This is based on a possible 168 seasons—seven states for twenty-four years.

DISCUSSION

Table I shows the results of 204 direct returns of doves of known origin. This may appear to be a small amount of returns, and actually may be too small to give definite conclusions. However, to constitute a 2% recovery ratio, which would be considered a high average for all states banding nestlings, 204 returns would require the banding of 10,200 nestlings doves (with all states concerned participating this number of nestlings could be banded in one year).

In states where dove hunting occurred, North or South, whether in September or on through February, over 75% of the total direct recoveries were made within the state banded. In Pennsylvania, four recoveries were made late in September in the same area in which they were banded.

In states where no dove hunting occurred this ratio was reversed, *i. e.*, over 72% were recovered out of the state banded. What would this have been had they hunted?

An overall average of 6.4% of the total recoveries were taken outside the state banded prior to the first of October of the year banded. Does this signify that 93% of the doves had not migrated by October 1?

In the southern dove hunting states, less than 20% of the returns were from outside of the state banded, whether recovered in September or through February. Would this mean that at least 80% of the shootable population would be of home-grown stock irrespective of the dates of the season?

It is not presumed that this analysis is conclusive. However, the facts are sufficient to merit more detailed investigation.

Doves are migratory, but to what extent?

For the benefit of doves as well as dove hunters each state should strive to ascertain the origin of the birds present during the hunting season, and by so doing it might become necessary to take a more decisive part in the formulation of management practices.

Dove seasons are now being regulated on a flyway basis. For any given state, area or locality this would not allow added protection for doves after a poor reproductive season, nor added benefits to the hunter after a good reproductive season. This may be acceptable in the light of our present information, but it must be admitted that knowledge of the origin of the shootable

population is most important in the management of a migratory species; especially where management is basically the regulation of harvest. Ideally, regulations should be made in accordance with known production levels; whether it be on a flyway, state or local area basis would depend on the extent of dove movements up to and during the hunting seasons.

ACKNOWLEDGMENTS

Inquiries on band returns of nestlings and/or periods of peak production and periods of overall population peaks were sent to states listed in Table I. Replies were received from all states contacted. For those states not having data on banding, the material was furnished by Mr. Harold Peters, United States Fish and Wildlife Service, Peachtree-Seventh Building, Atlanta, Georgia.

Game Department personnel that supplied information used in this paper are listed below:

- Louisiana—John D. Newsom, Dove Study Leader, Louisiana Wildlife and Fisheries Commission, P. O. Box 1041, Alexandria, Louisiana.
- Mississippi—Henry Bobbs, Jr., Dove Study Leader, Mississippi Game and Fish Commission, P. O. Box 451, Jackson, Mississippi.
- Missouri—Howard M. Wight, Biologist—Dove Studies, Missouri Conservation Commission, Wildlife Conservation Building, Columbia, Missouri.
George S. Graff, 830 Jefferson Street, St. Charles, Missouri.
- Indiana—William E. Ginn, Study Leader and Russell Mumford, Study Leader, State Department of Conservation, Indianapolis, Indiana.
- Ohio—Dr. Eugene H. Dustman, Leader, Ohio Cooperative Wildlife Research Unit, Ohio State University, Columbus, Ohio.
- Illinois—John C. Calhoun, Project Leader, Illinois Department of Conservation, Wenona, Illinois.
- Pennsylvania—Roger Latham, Chief, Wildlife Research Division, Pennsylvania Game Commission, Harrisburg, Pennsylvania.
Dr. Ward M. Sharp, Leader, Pennsylvania Wildlife Research Unit, State College, Pennsylvania.
Merrill Wood, Associate Professor Zoology, Pennsylvania University, State College, Pennsylvania.
- Michigan—L. A. Davenport, Federal Aid Coordinator, Department of Conservation, Lansing, Michigan.
- Wisconsin—Fred H. Wagner, Game Biologist, Game Management Division, State Conservation Commission, Madison 5, Wisconsin.

TABLE I
LIST OF DIRECT RECOVERIES BY STATES

State	Total Number of Direct Recoveries Reported	Total Recovered in the State Where Banded	Total Recovered Out of State BEFORE Oct. 1st of the Yr. Banded	Total Recovered Out of State AFTER Oct. 1st of the Yr. Banded
<i>Southern</i>				
Alabama	5	4	1	0
Arkansas	6	2	2	2
Louisiana	21	19	1	1
Mississippi	9	3	0	6
North Carolina	5	5	0	0
Tennessee	2	2	0	0
TOTALS	48	35 72.9%	4 8.3%	9 18.8%
<i>Border</i>				
Kentucky (967)	59 6.1%	47 79.7%	1 1.7%	11 18.6%
Missouri	13	9	0	4
Illinois	10	5	0	5
TOTALS	82	61 74.4%	1 1.2%	20 24.4%
<i>Northern</i>				
Indiana *	10	1	0	9
Ohio *	33	10	1	22
Michigan *	12	0	0	12
Wisconsin *	11	0	6	5
Pennsylvania	8	4	1	3
TOTALS	74	15 20.3%	8 10.8%	51 68.9%
GRAND TOTALS	204	111 54.4%	13 6.4%	80 39.2%

* No dove hunting.

TABLE II
RECOVERIES IN KENTUCKY BY MONTH Banded

Month Banded	1950	1951	1952	1953	1954	Total
April	-	3	-	-	6	9
May	-	-	2	5	7	14
June	1	1	1	4	5	12
July	-	1	1	2	2	6
August	3	-	-	1	2	6

TABLE III
RESULTS OF QUESTIONNAIRE

<i>State</i>	<i>Peak Nesting Period</i>	<i>Peak Population Period</i>
Indiana	June and July	August and September
Ohio	Late April and May *	August and September
Illinois	Information Not Available	Information Not Available
Pennsylvania	May 15 to June 15	August and September
Michigan	June and July	August
Wisconsin	May - July	Late August
Kentucky	May 15 to June 15	August and September

* Referred to as "peak of nest establishment".

APPENDIX

There were some differences in band records as reported by the State and by the Fish and Wildlife Service. For reference this list contains band numbers used in this paper. Bands recovered less than fifteen (15) days after banding and over (1) year after banding were not used.

	ALABAMA	
49-342118	49-342145	513-38000
533-40607	533-44510	
	ARKANSAS	
49-316202	513-06082	49-340527
513-19070	513-19317	513-19379
	LOUISIANA	
49-310977	49-330630	49-358819
513-84963	533-23401	533-23402
513-88359	513-84429	513-69820
49-310947	49-358688	40-358613
533-42602	533-42621	533-42642
533-42951	533-43308	533,43789
533-57357	533-58403	533-58613
	MISSISSIPPI	
513-05061	513-05092	513-05146
513-05149	513-05254	513-05267
513-05320	513-05348	513-05393
	NORTH CAROLINA	
41-307881	41-337078	41-337080
48-365401	49-325502	
	TENNESSEE	
49-317101	A-448639	
	MISSOURI	
49-319112	49-319131	49-319178
49-319162	49-364133	49-364101
513-98180	533-01932	533-01972
533-01957	533-01971	49-319150
533-01960		

	PENNSYLVANIA	
A-404971	48-334406	513-89951
513-87273	513-87290	513-87291
533-11038	513-87241	
	OHIO	
513-76621	513-49839	49-369825
513-44490	48-369042	513-44011
50-315116	48-359165	513-12715
513-27348	513-49874	513-44218
513-76636	513-27217	50-315186
50-315291	50-315185	50-315132
533-13686	533-13542	543-67027
533-13778	533-87035	38-35386
42-357074	42-357130	47-307495
47-307496	513-44324	533-13778
533-13686	533-13542	543-67027
	MICHIGAN	
A-372143	B-266580	B-269951
C-304711	C-312071	C-324406
C-324410	C-324411	34-319808
34-319861	36-301182	42-345203
	WISCONSIN	
B-373356	37-324611	41-329451
48-303489	513-16808	513-16909
513-16931	513-19905	513-45724
513-45729	Wisc-1214	
	ILLINOIS	
36-400656	46-307939	49-315634
513-49475	513-99915	513-99954
513-99982	533-30120	533-30121
533-30130		
	INDIANA	
10119	218942	A-361752
A-407702	A-413931	A-431661
B-309049	38-313111	38-313138
513-06479		
	KENTUCKY	
49-361912	513-07547	513-07548
513-07546	49-341234	513-07554
513-07753	513-07756	513-07754
513-07549	49-341822	49-361196
49-361659	513-07949	513-07993
49-341431	49-341838	513-07103
513-07107	513-33052	513-33739
513-33753	513-33772	513-33783
513-33791	513-33919	513-33999
513-97236	513-97412	513-33965
513-97295	513-97297	513-97397
513-97400	513-97419	513-97501
513-97502	513-97805	513-97811
513-97828	513-97851	513-97852
513-97871	513-97881	513-97886
513-97917	533-53025	533-53042
533-53050	533-53056	533-53087
533-53121	533-53313	533-53321
533-53327	533-53335	533-53070
533-53077	533-53103	