

STATE DISTRIBUTION OF RETURNS FROM  
BANDED DUCKS. THIRD PAPER—LOUISIANA,  
MAINE, MASSACHUSETTS, MICHIGAN,  
MINNESOTA, AND MISSOURI<sup>1</sup>

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As previously stated<sup>1</sup>, the purpose of this series of short papers, illustrated with dispersal maps, is to acquaint students of birds, sportsmen, conservation officials, and others with the information that is being obtained by the Biological Survey from banding work with migratory waterfowl. It is planned to publish detailed discussions of the data in future reports.

In explanation of the maps, it may be stated that the circumscribed areas indicate the points of banding in the several States. In some cases the number of local recovery records is shown within this area. From this area lines have been drawn to the different States and Provinces where the banded ducks have been reported; the figures represent the total number of records reported, including all the species. The status of each species is usually given in the accompanying statement. The terminals of the lines do not indicate exact points of recovery, but merely show that banded ducks have been reported from those States or Provinces. The data included are as compiled on July 1, 1932.

The first paper showed the distribution of ducks banded in Alberta; the second, ducks banded in British Columbia, California, Connecticut, Georgia, Illinois, Iowa, and Kansas; and this paper, ducks banded in Louisiana, Maine, Massachusetts, Michigan, Minnesota, and Missouri.

LOUISIANA

More ducks have been banded in Louisiana than in any other State, the total number being 15,574, principally the work of E. A. McIlhenny, of Avery Island. Mr. McIlhenny's interest in this means of investigation began in the days of the American Bird Banding Association, and since the work was taken over by the Biological Survey in 1920 his station has been in operation nearly every season. He has personally banded upwards of 11,000 birds, more than half of which were

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<sup>1</sup>First paper: *Bird-Banding*, Vol. 3, pp. 140-142, Oct. 1932.

Second paper, *Bird-Banding*, Vol. 4, pp. 19-32, Jan. 1933.

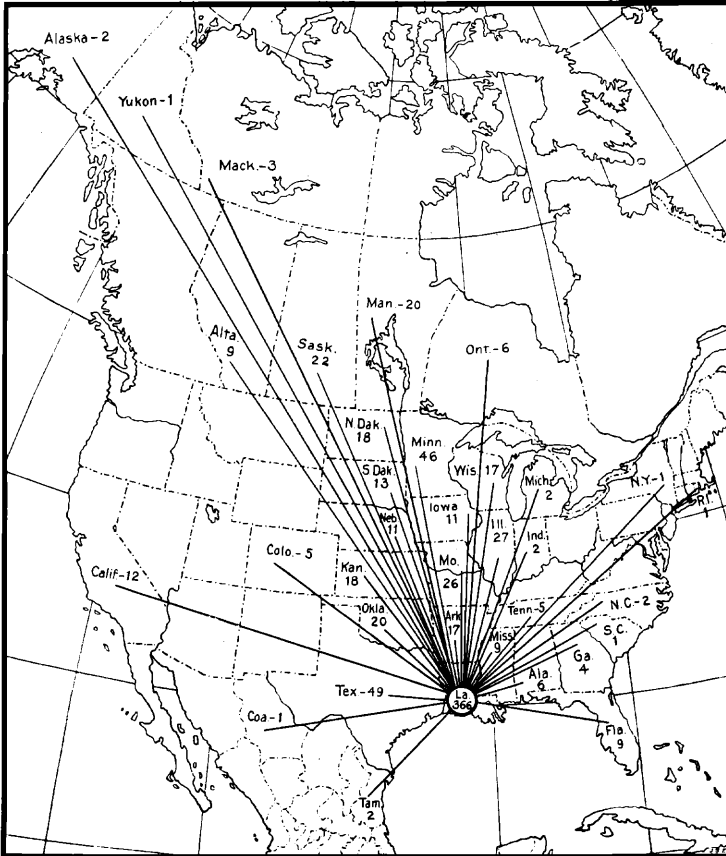


Figure 1. Distribution of Return Records from Ducks Banded in Louisiana.

Lesser Scaups. The Pintail ranks second in point of numbers, followed by the Blue-winged Teal. In addition to these, many Mallards and Ring-necked Ducks, and a few each of the Black Duck, Canvas-back, and Greater Scaup, have been banded.

The writer started a waterfowl-banding station at the Paul J. Rainey Wild Life Sanctuary, south of Abbeville, in January, 1929. This work was aided by the American Wildfowlers, and was conducted in coöperation with the National Association

of Audubon Societies. Archie V. Hull, of Brigham City, Utah, was employed by the Wildfowlers to continue the work. At that time 105 Canvas-backs, 52 Pintails, 50 Mallards, 38 Ring-necks, 18 Redheads, 5 Black Ducks, and 3 Lesser Scaup Ducks were banded. The work was resumed by the writer in December, 1929, and yielded 644 Lesser Scaups, 1 Mallard, and 1 Canvas-back. Since that time the station at the Rainey Sanctuary has been operated by the superintendent, Richard Gordon, who has placed bands on nearly 3500 ducks, mostly Lesser Scaups, with many Ring-necks, Mallards, Pintails, and Canvas-backs, and one each of the Ruddy and the Black Duck.

From these bandings, return records to the number of 764 are available for study (Fig. 1). Of these, the Lesser Scaup leads with 321 returns, followed by the Pintail with 137; the Blue-winged Teal, 115; Ring-necked Duck, 77; Green-winged Teal, 41; Mallard, 40; Canvas-back, 18; Redhead, 6; Gadwall and Wood Duck, 4 each; and the Black Duck, 1.

It is significant that of all the ducks banded in Louisiana, which is the southern terminus for a large part of the flight down the Mississippi Valley, only three have been subsequently recovered in Mexico. Two of these were Pintails, killed near Matamoros, State of Tamaulipas, and the third was a Green-winged Teal, recovered in the State of Coahuila. It appears that the majority of the ducks wintering in Louisiana come from the Prairie Provinces, principally Saskatchewan and Manitoba, but it is noteworthy that several records have been received from the sub-arctic regions of Mackenzie, Yukon Territory, and Alaska. Both of the Alaskan records and the one from Yukon are of Pintails. The Mackenzie records are of two Lesser Scaups and one Ring-neck.

Roughly, the flight zone may be said to extend west to the Dakotas, Nebraska, and Kansas, and east to Wisconsin and Illinois. This is quite definitely shown by the sharp reduction in the number of return records reported from neighboring States, both to the east and to the west of this group.

The possible significance of the 12 recoveries in California can not be explained at present other than that it suggests the probability that some birds of the Mississippi Valley flight regularly become associated on the breeding grounds or during the early stages of autumn migration with Western flocks and that they may travel south together. Seven of the California recoveries were Pintails, four were Green-winged Teals, and one a Canvas-back. Both the Pintail and the Green-winged Teal have breeding ranges that extend north well within the Arctic Circle so it is easy to understand how mixing may occur.

Of special interest are the records on the Atlantic coast. Of the 18 returns reported from this section, extending from Florida north to Rhode Island, 16 are of the Lesser Scaup, the remaining 2 being of a Ring-necked Duck and a Blue-winged Teal that were recovered in Georgia. The data for the Lesser Scaup would indicate an important migration route that extends south along the Atlantic coast and then in an east and west direction along the Gulf coast, the existence of which has not been previously suggested. One Lesser Scaup (A656387) banded by the author at the Rainey Sanctuary on December 4, 1929, was recaptured six days later at Dover, Georgia.

#### MAINE

Waterfowl-banding in Maine was instituted through the cooperation of Joseph Pulitzer, of St. Louis, Missouri, who started a banding station near Bar Harbor in October, 1921. Assisted by Frank Thompson and later by E. M. DeMeyer, he operated this station each season until the autumn of 1927. In all, 759 Black Ducks were banded there in the seven years.

The accompanying map (Fig. 2) illustrates a situation that is more or less paralleled by that of the Mallards that in autumn congregate in southern British Columbia, namely extreme localization.<sup>2</sup> The banding was done chiefly between the middle of September and the end of October, and the data indicate that the birds marked were almost entirely local breeders. Evidence to support this statement is found in the fact that in subsequent seasons only three Maine birds were recovered at more northern points. Information from sportsmen and others points to a late flight that probably is composed chiefly of the ducks from the coastal breeding grounds northward to the Maritime Provinces and Labrador. For this reason it is important that waterfowl-banding be resumed in this State and continued throughout the period that ducks are present.

While a few Black Ducks banded in Maine have been reported from nearly every State south to and including North Carolina, it seems evident that the bulk of the birds of this species that breed in the New England region do not make such long migratory flights as do those from breeding grounds in the interior. This is indicated by a review of the records of the Black Ducks banded in Michigan, appearing in the present paper, and to an even greater extent by data from

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<sup>2</sup>Second paper: *Bird-Banding*, Vol. 4, pp. 19-32, Jan. 1933.

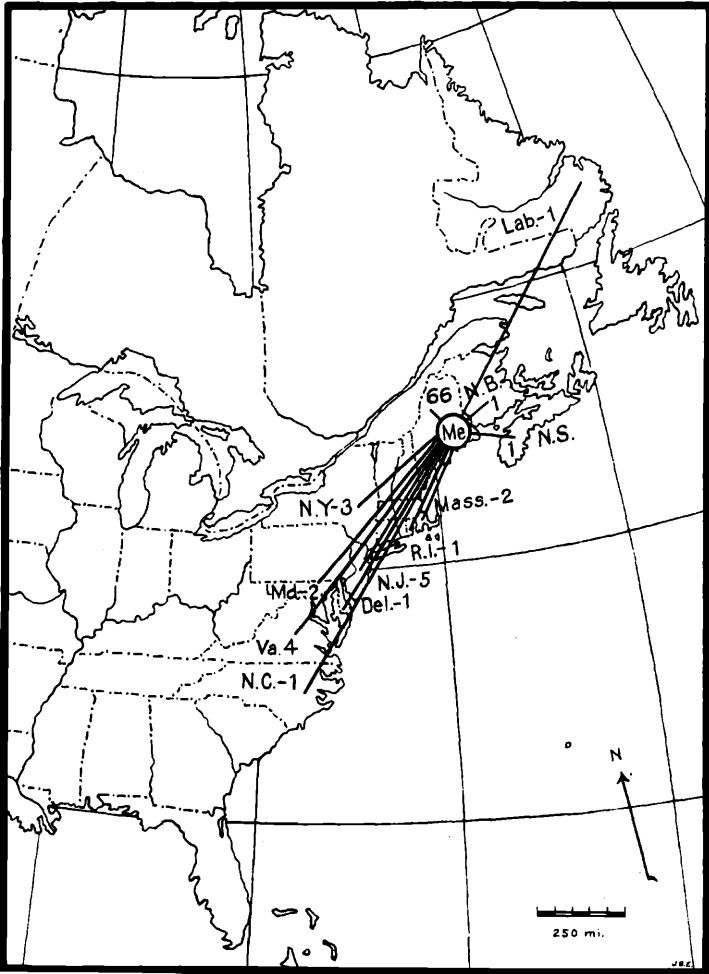


Figure 2. Distribution of Return Records from Ducks Banded in Maine.



Figure 3. Distribution of Return Records from Ducks Banded in Massachusetts.

banding work in Ontario, which will be included in the fourth paper of this series.

#### MASSACHUSETTS

Several years ago Dr. John C. Phillips banded a few ducks, mostly Mallards, at Wenham Lake, but systematic operations in Massachusetts were not begun until 1928. In November of that year Arthur Rotch, of Boston, started banding work

at Brewster and has continued during each successive season. His total to July 1, 1932, was 592 birds, of which 589 were Black Ducks and the remaining 3 Mallards.

Waterfowl-banding at the O. L. Austin Ornithological Research Station, at North Eastham, on Cape Cod, was begun in June, 1930. This station is in continuous operation during the time waterfowl are present in numbers. The total number banded, as here considered, is 682, of which 622 were Black Ducks, 55 Canada Geese, 2 Wood Ducks, 2 Red-breasted Mergansers, and 1 an Old-squaw.

Return records from these combined bandings total 168, divided into 153 for the Black Duck, 13 for the Mallard, and 2 for the Wood Duck.

Further evidence of the restricted migration performed by some of the Atlantic coast Black Ducks, is found in a consideration of these data (Fig. 3). It seems obvious that there must be many of these ducks that do not migrate south extensively or with any degree of regularity. The southernmost records in the present series are the two recovered in Virginia (the return for North Carolina is for a Mallard, and the Georgia record is for a Wood Duck), and, as the map shows, there are few from intermediate points. Also the breeding grounds apparently are principally near the coast, north casually to Labrador. The single record for North Dakota is of a Mallard and, in the light of our present knowledge, it has no particular significance.

#### MICHIGAN

Through the active coöperation of the State Department of Conservation, waterfowl-banding in Michigan was started in 1928, under the direction of Dr. Miles D. Pirnie. A trapping station was placed in operation at Munuskong State Park, near Pickford, in the able hands of Dr. Karl Christofferson. In 1920 Doctor Christofferson took charge of Blaney Park, where he started a new station, while the one at Munuskong continued with Willard Ferguson in charge. In addition to the Mallards, Black Ducks, Wood Ducks, Pintails, Teals, and other ducks taken by the trapping stations, a large number of hand-reared Mallards also have been banded and released.

In 1931, Doctor Pirnie left the Department of Conservation to become Director of the Kellogg Bird Sanctuary, at Augusta. At this point he immediately resumed operations and has banded more than 2000 Mallards, Black Ducks, Gadwalls, Baldpates, Pintails, Green-winged Teals, Wood Ducks, Red-heads, Canvas-backs, Lesser Scaups, and Canada Geese.

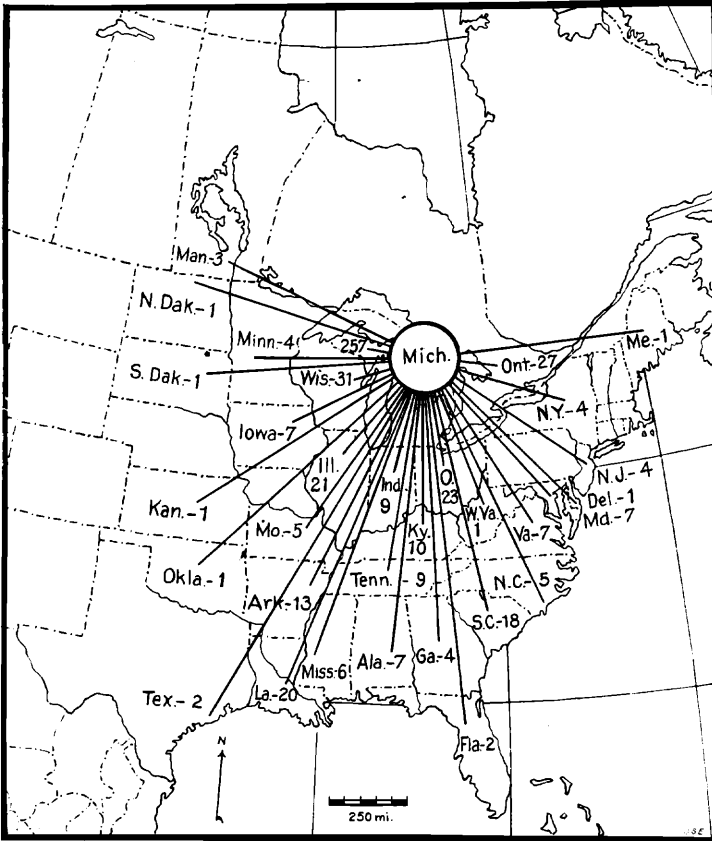


Figure 4. Distribution of Return Records from Ducks Banded in Michigan.

Frank E. Swartz, of Milford, banded a few Mallards and Black Ducks during the autumn of 1928.

The total number of ducks banded in Michigan (as of July 1, 1932) is 4474. These have produced 623 returns, of which 351 were of Black Ducks, 248 of Mallards, and the others were scattered in small numbers through seven species. As in other similar cases where much banding has been done during the open shooting season, a large number of local returns



were obtained. Of the 257 birds recovered within the State 185 were Black Ducks and 63 were Mallards.

In contrast to the almost sedentary habits of some of the Black Ducks on the North Atlantic coast, many individuals of this species banded in Michigan have traveled south to South Carolina (10), Georgia (3), Florida (2), Alabama (6), Mississippi (2), Louisiana (14), and Texas (1). In other words, there seem to be regular and well-defined flights for this species (and for the Mallard) down the Mississippi Valley via Wisconsin and Illinois, and to the lower Atlantic coast by way of southern Ontario and the Ohio marshes on the south shore of Lake Erie. It is noteworthy that records west of the States bordering the Mississippi River (Fig. 4) are few and scattered. The single cases from the Dakotas, Kansas, and Oklahoma, and one from Texas, were of Mallards. On the other hand, most of the birds recovered from the North Atlantic coast were Black Ducks.

Evidence strongly indicates that most of the birds banded in Michigan were locally bred, but a few may have been from Ontario and the Northwest.

#### MINNESOTA

The first waterfowl-banding in Minnesota for the Biological Survey was done in 1927, when George T. Baker started a station at Bemidji, in the north-central part of the State. The number of ducks banded at this point is 508, chiefly Mallards and Lesser Scaups, with a few Black Ducks, Wood Ducks, Blue-winged Teals, and Greater Scaups.

In 1928, J. M. Eheim banded 156 ducks, mostly Mallards, at Hutchinson; during the spring of 1930, A. E. Forder banded 180 Mallards at Thief Lake; and in June of that year Dr. Oliver L. Austin, Jr., banded 3 Mallards and a Golden-eye at Cass Lake.

The total number of ducks thus far banded in Minnesota is 848, from which 94 return records have been received.

While the data are not extensive, they nevertheless clearly illustrate the flight passing through Minnesota from the Prairie Provinces of Canada and continuing down the Mississippi Valley to the Gulf coast. The records from the Dakotas, Kansas, and Texas indicate that in addition to the flight through the Mississippi Valley there is a tendency for many birds from this north-central region to join the flocks passing southward across the Great Plains (Fig. 5). All six of the Kansas records are of Mallards, while two of those from Texas

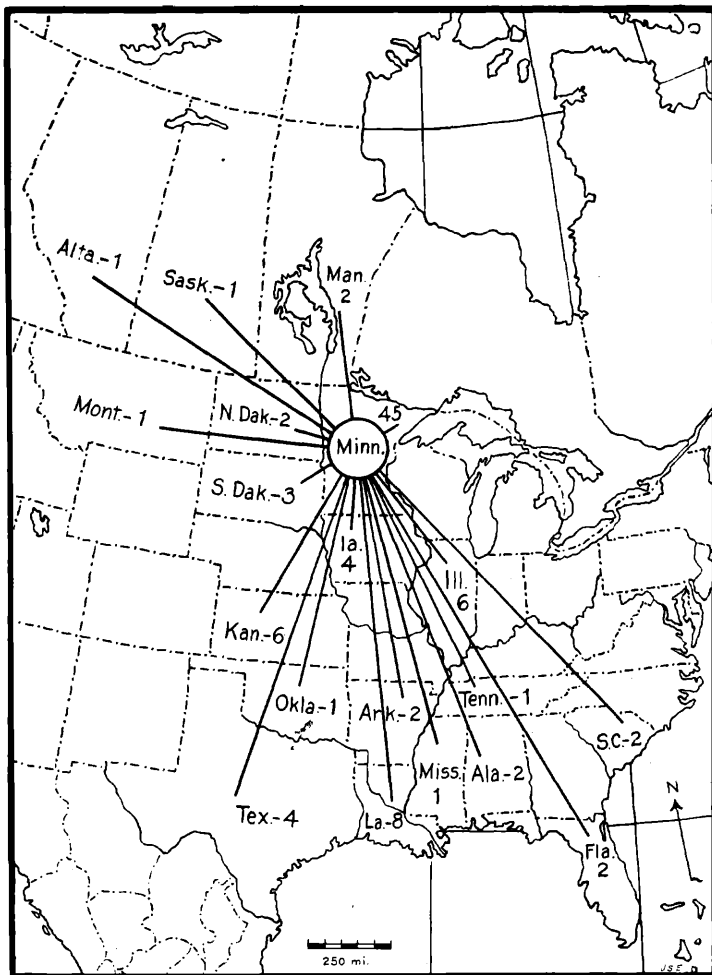


Figure 5. Distribution of Return Records from Ducks Banded in Minnesota.

are of this species. Both records from Florida are of the Lesser Scaup.

Two Mallards returns are of sufficient interest to be given in detail. No. 233204, banded at Hutchinson on October 6, 1929, was killed in Fergus County, Montana, on October 16, 1930; and No. A693891, banded at Bemidji on October 13,

1931, was retaken almost exactly a month later, on November 14, 1931, at Green Sea, South Carolina.

#### MISSOURI

The total number of ducks banded in Missouri up to July 1, 1932, was 3178.

Banding work in this State was started in 1922 through the interest and coöperation of Joseph Pulitzer and Clark McAdams, of St. Louis. A station was placed in operation on the grounds of the Cuivre Island Club, near Firma, where the superintendent, Van Walton, banded 2145 birds, mostly Mallards, with a few Black Ducks, Baldpates (Widgeons), and Pintails. This station remained in operation through the season 1924-25.

Stimulated by the success of the Cuivre Island station, Mr. Pulitzer and Mr. McAdams were instrumental in the establishment of a second station at the Marais Temps Claire Club, at Portage des Sioux. Work here was begun by the keeper, John Broeker, in 1924 and continued until the spring of 1928, during which time 953 ducks—Mallards, Black Ducks, Baldpates, Pintails, Blue and Green-winged Teals, and Shovellers were banded.

In March, 1926, T. E. Musselman, of Quincy, Illinois, banded 72 Mallards and 8 Pintails at Scobey Lake.

From this work, 944 return records are available for study, of which 875 are of Mallards.

These data well illustrate the great importance of the flyway that follows the Mississippi River and the Plains region from the indicated breeding grounds in the North Central States, Manitoba, Saskatchewan, and eastern Alberta, south to Louisiana and Texas (Fig. 6). The normal boundaries of this migrational highway are clearly shown as Wisconsin, Illinois, eastern Tennessee, and Mississippi on the east, and the Dakotas, Nebraska, Kansas, Oklahoma, and eastern Texas on the west. Along this broad highway flows the most important stream of bird travel on the North American Continent. As was noted by the return records from ducks banded in Louisiana, there is a sharp reduction in the number of returns from the States to the east and west of those marking the boundaries of this flight (p. 88).

There are, however, some interesting strays from the main flight, a few of which are worthy of detailed report. The most northern record is for a Mallard (200515) banded in January at Cuivre Island and recaptured during the following June at Willow Lake, northeast of Fort Simpson, Mackenzie. All the Alberta records are of Mallards, as is also the single one from

