

RADIAL DISPERSAL AND SOUTHWARD MIGRATION OF WOOD DUCKS BANDED IN VERMONT

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This paper involves an analysis of the dispersal and migratory movements of Wood Ducks (*Aix sponsa*) with use of recoveries of birds banded in Vermont. Data from Vermont were chosen because this state is located in the more northern part of the Wood Duck's range and because a relatively large number of recoveries were available of birds banded there. All of the recoveries available on 10 March 1976 of Wood Ducks banded in Vermont were obtained from the Bird Banding Laboratory, Migratory Bird Populations Station, Laurel, Maryland, for use in this study.

METHODS AND MATERIALS

The data were selected to include only birds recovered before a second migratory period passed after banding. Thus, the recoveries show what can be assumed to be direct flights from Vermont, the hatching or breeding grounds, to recovery sites. Selection was made also to include only birds shot by hunters. The time and rate of the major southward migration was determined by averaging recovery dates.

RESULTS AND DISCUSSION

A total of 3,096 recoveries was obtained, and 1,403 of these were selected for use in this study. The distribution of the 1,403 recoveries is shown in Figure 1. The largest proportion of the recoveries was made in Vermont or elsewhere nearby, but some birds were scattered over a wide area in southeastern Canada and the eastern United States, a substantial part of the eastern portion of the range of the Wood Duck. Some few birds made relatively long flights, with one going more than 2,250 km to Texas and one more than 1,290 km to Newfoundland.

The band recoveries show the largest number of birds moving southward; however, they also show movements in other directions than southward. Single birds went in a northerly direction each to Newfoundland and Nova Scotia, and 13 birds went in a westerly direction to Ontario. These were direct flights showing northward and westward movements after the breeding season. Earlier I noted northward movement of Wood Ducks after the breeding season (Stewart, 1972) and pointed out that Wood Ducks in Ohio make a radial movement in late September and early October, flying various distances in all compass directions (Stewart, 1958). The dispersal flight is made ahead and independently of recognized southward migration.

In their southward migration the banded Wood Ducks started their movement in early or mid-November and continued it at least until mid-December, the average date on which the birds were shot being progressively later to the southward (Fig. 2). The progressively later dates to the southward suggest that the birds moved southward with the advancing season. The largest per-

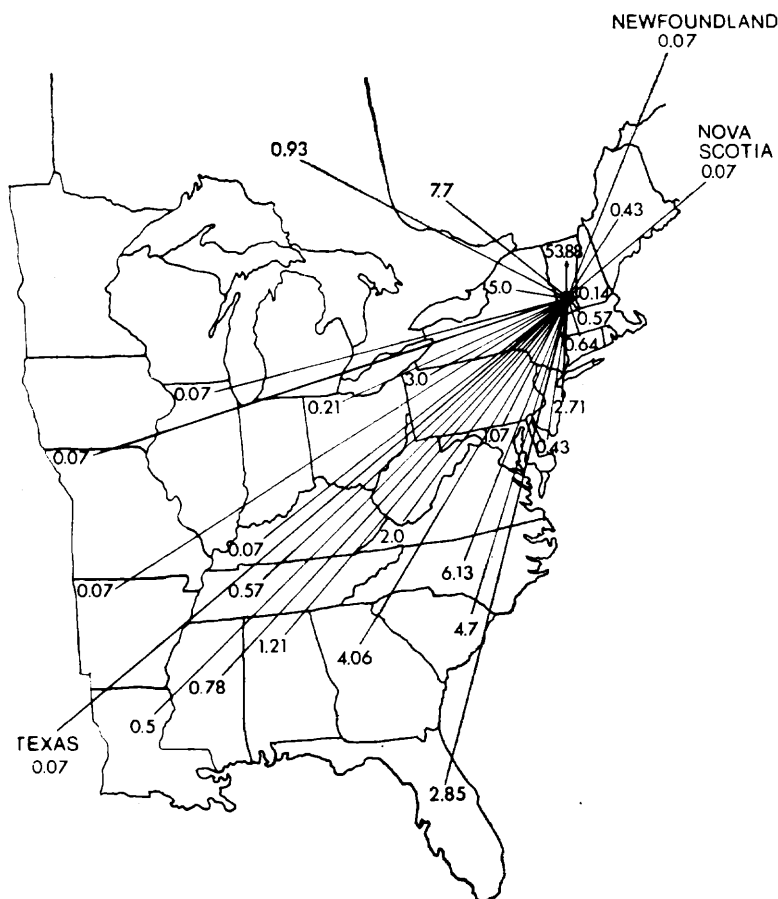


FIGURE 1. Percentages of 1,403 Wood Ducks recovered in different states and provinces after one dispersal and one migratory period.

percentages of recoveries were taken in the Atlantic coastal states, partly because the birds were funnelled into a lane by the Atlantic Ocean. However, more importantly it seems probable that these birds followed their preferred habitat southward. Wooded swamps provide favored habitat for Wood Ducks, and these birds moved southward largely on a strip of land containing swampy habitat, the Princess Anne, Pamlico, Talbot, Penholoway, Wicomico, and Sunderland terraces. According to Fenneman (1938) the greatest swamps are on the Princess Anne and Pamlico terraces, but the other terraces also contain an abundance of swampy habitat.

Dispersal movements of Wood Ducks are characterized by marked differences in the length of the flights made by different birds. Likewise, some birds may remain throughout the winter where they went in their dispersal flight, even far north of their



FIGURE 2. Average dates on which banded Wood Ducks were shot in different regions, the regions being outlined with heavier lines than state boundaries.

breeding grounds. Thus, the Wood Duck recovered in Newfoundland on 2 December 1968 was banded in Vermont on 6 September 1968. The literature also contains numerous reports of Wood Ducks remaining in the more northern regions beyond the usual time for southward migration, with such occurrences being reported during mid-January in Ontario (Baillie, 1951), during January in Massachusetts (Morgan and Emery, 1956), and during late January in Idaho (Low, 1952).

SUMMARY

With use of 1,403 recoveries of Wood Ducks banded in Vermont, an analysis was made of movements of the species. The birds made

radial movements after the nesting season and before the regular southward migration, with a small part of the population making relatively long flights but most making short flights. Birds on their southward migration appeared to move gradually southward, following swampy habitat. Some Wood Ducks remained beyond the migration season far north of their hatching or breeding grounds.

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