GENERAL NOTES

Relative distribution of Mallard and Black Duck in winter.—The material in the first forty-year period (1900–1939) of the Bird-Lore Christmas censuses is well suited for illustrating the relative distribution of the two closely related ducks, the Mallard and Black Duck. I have tabulated the reports for these species on the basis of birds-per-hour of censusing in each state during the period. The ratios between the species are derived from the average birds-per-hour figures for each state by dividing Black Duck figures by Mallard figures where Black Ducks outnumber Mallards, and Mallard figures by Black Duck figures where the opposite is the case. This process reduces the ratio to a basis of unity for the outnumbered species.

Because the habits of the two species are so similar, it appears unlikely that either species was reported in undue proportions—as conceivably could be true for species of widely divergent habits or habitat selection. There is the possibility, however, that female Mallards were misidentified for Black Ducks and *vice versa,* but the probabilities are that any errors in one direction compensated any in the other in the central region of overlapping ranges. The result on either side of this region presumably would be to increase the apparent proportion of the less-abundant species, for observers tend to identify a commoner species as a less-common one more often than the reverse. In any event, this would influence only the apparent *rate* of change to any extent. The general pattern would remain substantially the same.

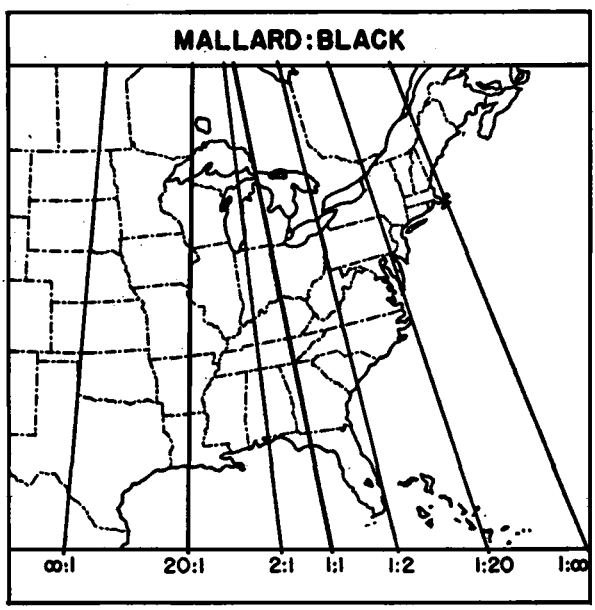
The ratio varies from a high of 153.04 Black Ducks to one Mallard in Rhode Island on the eastern edge of the Mallard range, to a high of 590.67 Mallards to one Black Duck in Minnesota on the western edge of the Black Duck range (Table I).

TABLE 1

MALLARD-BLACK DUCK WINTER RATIO OF ABUNDANCE (1900–1939)

	Mallard	Black Duck		Mallard	Black Duck
Massachusetts	1	138.25	Michigan	1	2.54
Connecticut	1	16.59	Ohio	1	2.02
Rhode Island	1	153.04	Kentucky	5.53	1
New York	1	24.78	Tennessee	4.14	1
Pennsylvania	1	20.69	Mississippi	5.87	1
New Jersey	1	119.60	Louisiana	12.22	1
Delaware	1	107.89	Texas	116.95	1
Maryland	1	15.90	Wisconsin	8.89	1
Virginia	1	2.08	Indiana	3.68	1
West Virginia	1	7.34	Illinois	10.74	1
North Carolina	1	9.13	Minnesota	590.67	1
South Carolina	1	2.49	Iowa	466.13	1
Georgia	1	2.40	South Dakota	475.99	1
Florida	1	1.94	Missouri	143.00	1
Alabama	—	—	Arkansas	304.30	1
Ontario	1	39.23			

The ratios have been mapped and lines drawn to indicate the areas of relative change (Text-figure 1). The two species are about equally abundant along a line reaching from Michigan to Florida. (Although lines are used for illustrative purposes, it must be remembered that these lines actually indicate zones of change.) East of this line, the Mallard declines rapidly in relative abundance and reaches a ratio of one Mallard to two Black Ducks, then one Mallard to twenty Black



TEXT-FIGURE 1.—The ratio lines indicate zones of change in the relative abundance of Mallard and Black ducks; they are not fixed boundaries of change. The ratio varies from an "infinite number" of Mallards to one Black Duck, to one Mallard to an "infinite number" of Blacks.

Ducks, and finally one Mallard to an "infinite" number of Black Ducks. The reverse of this is true to the west of the even-distribution line, but the Blacks drop out more rapidly than the Mallards did to the east as evidenced by the closer approach of the lines of 2 : 1 and 20 : 1, respectively. The distance between the 20 : 1 and *infinity* : 1 lines is accounted for by the greater opportunity for Black stragglers in the interior than for Mallard stragglers in the Far East.—LEONARD WING, *The State College of Washington, Pullman, Washington.*

Is the Starling population decreasing in northeastern United States?—For about 15 years the Starling has been the most abundant bird in northeastern United States. Accurate counts of such an abundant, gregarious, and active species are almost impossible. Because of their filthy roosting and flocking habits, these exotics have become most obnoxious, especially in the District of Columbia, where the birds have wintered in staggering numbers. Although no exact figures can be given, it seems evident that peak numbers were reached six or eight years ago, a small but noticeable decline taking place each succeeding year.