

AN EARLY EXPERIMENT IN THE HOMING ABILITY
OF WILDFOWL

By EDWARD A. McILHENNY

FOR several years prior to 1918 I had been quite active in banding migratory wildfowl and non-game birds, using the bands supplied and recorded by the American Bird Banding Association, with headquarters in the American Museum of Natural History, New York, Howard H. Cleaves, recording secretary.

Before 1918, a good many thousands of birds had been banded at my station at Avery Island, Louisiana, and the returns from these birds covered a wide territory north, east, and west of the banding station.

Besides many returns taken at a distance from the place where banded, I yearly retrapped at Avery Island a considerable number of the banded birds who had made one or more northern and southern migrations after being banded.

When studying these returns, I wondered just how strong the homing instinct was developed in wildfowl, and whether they would have the inclination and power to return to their normal winter territory if forcibly sent out of it.

In order to test this idea, I made arrangements with Dr. Arthur A. Allen, who was then, as now, a member of the faculty of Cornell University at Ithaca, N. Y., to receive and liberate such migratory wildfowl as I might send him from Avery Island. As these birds were to be liberated at a point east of the Allegheny Mountains, they would be in the Atlantic or eastern migration route, and it would be natural to suppose that they would join others of their species in this flyway during succeeding migrations.

On February 28, 1918, I sent to Dr. Allen, by express, a total of 67 birds, as follows: 28 Mallards (*Anas platyrhynchos platyrhynchos*); 18 Pintails (*Dafila acuta tzitzihoa*); 18 Green-winged Teal (*Nettion carolinensis*); 3 Coots (*Fulica americana americana*). These birds were delivered to Dr. Allen at Cornell on March 4, but, due to the lakes and ponds being frozen over, it was thought advisable to hold them in captivity until there was some open water in which they could secure food. A warm spell and thaw occurred during the middle of March, and the birds were liberated on Cayuga Lake at Ithaca on March 15. All the birds were in good condition on arrival at Ithaca, and when liberated, with the exception of two Teals dead and one Teal which died shortly after arrival.

When the birds were liberated, northward migration of both Pintails and Mallards had begun, so the liberated birds were at once in contact with their own species.

Among the birds sent to Dr. Allen for liberating at Ithaca were

N _o	Species	Where Taken	Date	Retaken	Date
43110	Green-winged Teal ♂	Avery Island, La.	Feb. 12, 1917	Shot at Badger, Minn.	April 28, 1920
43111	Green-winged Teal ♂	Retrapped at Avery Island, La.	Feb. 27, 1917	Shot 70 miles east of Denver, Colo.	Nov. 2, 1918
43125	Green-winged Teal	Avery Island, La.	Feb. 27, 1918	Shot at Morrison, Ill.	Nov. 8, 1919
22286	Green-winged Teal ♂	Retrapped at Avery Island, La.	Feb. 12, 1917	Killed at Caddo, Texas.	Nov. 7, 1924
22298	Green-winged Teal ♂	Avery Island, La.	Feb. 27, 1918	Shot at Chamberlain, So. Dak.	Dec. 7, 1919
36830	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Derouen, La.	Oct. 28, 1919
36833	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Quill Lake, Sask., Canada.	Jan., 1920
36837	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Forake, Oshage, Okla.	Sept., 1920
36838	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Great Chemier, La.	Dec. 21, 1918
36840	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Lockport, La.	Nov. 11, 1920
36845	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Blue Jacket, Okla.	Nov. 21, 1918
36847	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Lake Thompson, So. Dak.	Nov. 19, 1919
36853	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Last Mt. Lake, Sask., Canada	Dec. 1, 1924
36854	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Washington, Iowa.	Oct. 25, 1918
36855	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Hudson Bay Co. Post, Eastmain River, James Bay, Canada.	Fall, 1919
36856	Mallard ♂	Avery Island, La.	Feb. 27, 1918	Shot at Albany, Ontario.	Sept., 1918
35786	Pintail ♂	Avery Island, La.	Feb. 27, 1918	Shot at Camrose, Alberta.	Sept. 24, 1918
35787	Pintail ♂	Avery Island, La.	Feb. 27, 1918	Retrapped at Avery Island, La.	Sept. 24, 1920
35793	Pintail ♂	Avery Island, La.	Feb. 12, 1917	Retrapped at Avery Island, La.	Feb. 9, 1922
36132	Pintail ♀	Retrapped at Avery Island	Feb. 27, 1918	Found dead at Ross, No. Dak.	June, 1921
36150	Pintail ♀	Avery Island, La.	Feb. 12, 1917	Shot at Manitoba, Canada.	May 21, 1918
35156	Pintail ♀	Retrapped at Avery Island	Feb. 27, 1918	Retrapped at Avery Island	Feb. 9, 1922
36221	Pintail ♀	Avery Island, La.	Feb. 27, 1918	Avery Island, La.	Oct. 28, 1922
36222	Pintail ♀	Retrapped at Avery Island	Feb. 27, 1918	Avery Island, La.	Feb. 9, 1922
36230	Pintail ♀	Avery Island, La.	Feb. 12, 1917	Shot at Derouen, La.	Nov. 15, 1920
36293	Pintail ♀	Retrapped at Avery Island	Feb. 27, 1918	Shot at Oshkosh, Wis.	Aug. 5, 1919
36259	Pintail ♀	Avery Island, La.	Feb. 12, 1917	Caught at Cayuga Lake, Ithaca, N. Y.	Dec. 1, 1918
36268	Pintail ♂	Retrapped at Avery Island	Feb. 27, 1918	Shot at Avery Island, La.	Nov. 19, 1919
36279	Pintail ♀	Avery Island, La.	Feb. 12, 1917		

ten Pintails and four Green-winged Teal that had been banded by me at Avery Island during the winter of 1917, and retaken in my banding traps on February 27, 1918. As these banded birds were already recorded with the American Bird Banding Association, I left the original bands on them, making them part of the express shipment. These fourteen birds had already made at least three migrations—two south and one north, before being sent out of their winter home by express.

A total of 29 birds or 43 per cent were recorded as returns or retakes, 26 being reported as kills by hunters, and three being recorded as retakes in the traps at Avery Island. These twenty-nine returns were recorded over a period of seven years, as follows: 8 in 1918; 7 in 1919; 6 in 1920; 2 in 1921; 4 in 1922; 0 in 1923; 2 in 1924. The detail of these returns by species, date and location, is shown below:

These return records are illuminating, for they show the great majority of the birds returned to the Mississippi Valley Flyway, pointing to a decided "homing instinct" in migratory wildfowl, when forcibly sent from their regular migration route.

Since this first test shipment made in 1918, I have sent large numbers of ducks, both east and west, to points selected by the U. S. Biological Survey, as being locations of duck abundance in the eastern and in the western migration routes. The shipments were made in lots of one hundred or two hundred birds, consigned to a Federal Game Protector, who received instructions from Washington to accept the birds, check the band numbers, and liberate them as soon as possible after their arrival. The points for liberation selected in the east were: Washington, D. C.; Cambridge, Md.; North Eastham, Cape Cod, Mass. The western points were: Berkeley, Calif.; Lake Malheur Bird Reservation at Voltage, Ore.; Moise, Mont.

Hundreds of returns have been recorded from the birds forcibly sent by express from their normal winter home, and in the great majority these returns have been from the Mississippi Valley Flyway. Some of these shipments, tightly cooped, traveled a distance by express exceeding 2,000 miles, yet the individuals found their way back to their home migration route, all of which points strongly to the fact that ducks have a well-developed homing instinct.

It is also of interest to note that the percentage of returns recorded was 43 per cent and is far greater than the normal 10 or 12 per cent now recorded yearly from the hundreds of thousands of birds banded. These data prove that hunters paid more strict attention to birds they killed on which they found bands in the early days of bird-banding than they do now.

Avery Island, La.