

previous year. The female was flushed from the nest, which was on the ground in the center of a clump of weeds. Both adults flew about over our heads scolding us while we examined the nest.

Further investigation of a similar tract of land across the highway from these two nests resulted in our finding a third nest, which contained one egg. This nest was also in a clump of vegetation in a field cultivated the year before. It was on the ground and constructed of soybean stems from the previous year's crop and lined with fine rootlets. It contained no mud. The nest and egg were collected and have been deposited in the Joseph Moore Museum, Earlham College, Richmond, Indiana. The following measurements of the nest were taken: outside diameter, 132 by 160 mm.; inside diameter, 90 by 92 mm.; inside depth, 52 mm.; and outside depth, 90 mm.

Two more nests were located in the vicinity of this one on May 30. Both were in the same type of situation as the second and third nests above and they contained young almost ready to fly. We noted that the nesting birds became very excited as we approached a nest site. By studying the intensity of their scoldings, we found one nest more easily. All five of the above nests were placed within an area roughly 300 yards wide and 880 yards long. It is quite likely that more nesting pairs were present, since we observed 18 adults on May 17, most of which were males.

Another nesting record was established on May 23, 1952, when Mr. and Mrs. Ray Crow, James B. Cope, and Robert Lewis discovered a nest containing five young and one egg in Pine Township, Porter County, Indiana. This nest was on the ground in an alfalfa field about 30 feet from the edge of a plowed field. Four males and two females were observed in the area at the time.

The nesting of this species has probably been overlooked for some years in Indiana. On areas where muck farming is practiced, it seems that the birds might be present. Brewer's Blackbirds were rather common in Newton County, Indiana, during late March, 1953. Many flocks were noted with Cowbirds (*Molothrus ater*), Red-wings (*Agelaius phoeniceus*), and Rusty Blackbirds (*Euphagus carolinus*). I made a brief visit to the Schererville area on May 11, 1953, and collected a male and a female Brewer's Blackbird; I observed 13 on the area at this time, but had no opportunity to search for nests. The specimens have been deposited in the Joseph Moore Museum.

I wish to thank Richard E. Phillips for permission to publish the above data and Frank E. Phillips for the accompanying photograph. Thanks are also extended to James B. Cope for supplying the data on the Porter County nest.—RUSSELL E. MUMFORD, *Route 1, Cortland, Indiana, August 11, 1953.*

Wintering Blue and Snow geese in northern Alabama.—Blue Geese (*Chen caerulescens*) and Lesser Snow Geese (*Chen hyperborea hyperborea*) in the eastern United States normally winter in the coastal marshes of the Gulf of Mexico. There are scattered winter records in the interior, but the establishment of a small flock wintering regularly on the comparatively recent impoundments of the Tennessee River is new and interesting.

Impoundment of the Tennessee Valley Authority's reservoirs on the Tennessee River began with the completion of Wheeler Dam in 1936, followed quickly by the completion of the Gunter'sville, Pickwick, Kentucky, and other dams. Prior to these impoundments, Blue and Snow geese were virtually unknown to residents of the Tennessee Valley. Howell's "Birds of Alabama," last printed in 1928, lists both species as only rare and irregular migrants in the state. With Wheeler Reservoir impounded in 1936, Blue

and Snow geese stopped briefly in the fall of 1937. Since then, these birds have stopped regularly on Wheeler each fall and are now noted each autumn on all the lower impoundments, including Guntersville, Wheeler, Wilson, Pickwick, and Kentucky reservoirs.

The establishment of the Wheeler National Wildlife Refuge in 1938 by the U. S. Fish and Wildlife Service on the middle third of Wheeler Reservoir provided an added incentive to the birds to stop and rest. While the stopovers have occurred regularly, numbers have varied widely. In 1939 the writer estimated that 2,000 were present on the refuge during late October and early November. In 1945, Mr. L. S. Givens, then refuge manager, estimated 5,000 present on the sanctuary during the fall flight. In other years the number present at the peak of the flight has varied from 100 to 1,000.

For both species the earliest fall arrival date for the refuge is October 2. Normally the peak of the flight occurs the last week of October and the first week of November. By the third week of November the flight is over and the migrating birds have passed on to the Gulf. Although rarely pure flocks of both species are noted, they are commonly mixed, with Snow Geese comprising from 5 to 10 per cent of each flock.

For ten years after the establishment of Wheeler Refuge the birds continued their status as fall migrants only. Occasionally single birds or small groups of 2 or 3 were noted in middle or late winter, usually in company with Canada Geese (*Branta canadensis*). These were assumed to be sick or crippled birds that failed to migrate. The first wintering in numbers occurred in 1948-49 when a flock of 20 Blues and 5 Snows remained until late March. During the winter of 1949-50, 400 Blue Geese and 30 Snows stayed over until early spring. Again, in the winter of 1950-51, 500 Blue Geese and 40 Snows were present until mid-March, although the winter was severe, with considerable snow and ice. Strangely enough, during the winter of 1951-52, characterized by mild weather, only a few stragglers were present. The winter of 1952-53 saw them present again, with an estimated 200 Blues and 15 Snows using the refuge until early spring.

The fluctuating waters of Wheeler Reservoir prevent the growth of any significant amounts of aquatic vegetation, and the waterfowl management of the refuge is based on the growing of agricultural crops on upland fields and leaving portions unharvested for wintering waterfowl.

A part of the land is also kept in small grain, alfalfa, and other green winter crops to provide grazing for geese. While Canada Geese make good usage of both browse crops and unharvested corn, the Blue and Snow geese seemed to depend entirely on natural mud flat vegetation until the winter of 1949-50. During that winter they made limited use of both browse and corn. Since then, they have fed regularly on upland fields.

While these geese are said to remain close to the Mississippi Valley on their northward migration, there have been indications, during the last few years, that there may be a limited spring flight through northern Alabama. Those birds that have spent the winter on Wheeler Refuge have left during the period between the last few days of February and mid-March. A few scattered flocks have been noted moving through this area in April. This has occurred with some regularity and as late as April 28. It is believed that these April birds have wintered elsewhere. It seems clear that the impoundment of the five lower reservoirs on the Tennessee River, aggregating over a quarter-million surface acres of water, is modifying both the winter range and the migration routes of these species to some extent.—THOMAS Z. ATKESON, *Box 1643, Decatur, Alabama, May 29, 1953.*