GENERAL NOTES

Use of Wood Duck Nest Boxes by Common Grackles.—Common Grackles (*Quiscalus quiscula*) normally nest colonially in evergreens, vine-covered trees, and other types of dense vegetation (Bent 1958:376–377; Pitts 1974); occasionally Common Grackles build their nests in cavities (Bent 1958:377). Although Wood Duck (*Aix sponsa*) nest boxes are frequently used by European Starlings (*Sturnus vulgaris*), Northern Flickers (*Colaptes auratus*), and Eastern Screech-Owls (*Otus asio*) (Bellrose 1955, VanCamp and Henny 1975), we found only 3 references to duck nest box use by Common Grackles. Nero (1957) and Baker (1971) each described 1 Common Grackle nest in a duck nest box, and Lumpkin (1972) found 11 nests of Common Grackles in Wood Duck nest boxes.

We studied Wood Duck nesting biology at one of the sites described by Lumpkin (1972). The study area was a long, narrow 1.2 ha island in Kentucky Lake near Eva, Benton Co., Tennessee. Tennessee Wildlife Resources Agency (TWRA) personnel installed Wood Duck nest boxes on the island in the late 1960's. Seventy-three nest boxes with a total of 100 compartments were present each of the 2 years (1981 and 1982) of our study. Prior to each nesting season, TWRA personnel removed debris from boxes and added nesting material. In 1981 straw was used as nest material; wood shavings were used in 1982. Most boxes were 2–3 m above ground; all boxes were attached to trees. In 1981 we checked 90 compartments during each of 5 visits to the island. In 1982 we checked all 100 compartments weekly from mid-March until late May.

The dominant tree species on the island was sweet gum (*Liquidambar styraciflua*). Much of the island, especially the western end, had a dense understory containing shrubs and vines such as poison ivy (*Rhus radicans*) and Japanese honeysuckle (*Lonicera japonica*). Buttonbush (*Cephalanathus occidentalis*), with some willow (*Salix* sp.), surrounded the island.

In 1981 Wood Ducks nested in 57 (63%) of the 90 cavities checked, and grackles nested in 19 (21%). During 1982 Wood Ducks nested in 44 of the 100 compartments (44%) and grackles nested in 20 (20%). Grackle nests in nest boxes were concentrated each year on the west end of the island. Grackles also built nests in the dense vegetation on the west end of the island, but we did not attempt to find all of these nests. All data reported here were gathered from nests in nest boxes.

Grackle nests (n = 39) were built primarily of vines, such as honeysuckle. Clutch size (n = 7) ranged from 4 to 6, with a mean of 5.0. Most eggs were laid in the third week of April, and hatching occurred during the first week of May. The fates of 35 eggs, in 7 nests, were determined in 1981; 31 (89%) hatched, and 25 young (71% of the eggs laid, or 81% of the eggs that hatched) fledged. No data on clutch size, hatching, or fledging are available for 1982, as we removed the nests soon after construction to determine if renesting would occur. No renesting in nest boxes was observed. The fledging success we observed is higher than success rates reported from studies of grackles using open nests. In Wisconsin, 47% of 288 eggs produced fledglings (Petersen and Young 1950); in Ohio, 33% of 80 eggs produced fledglings (Maxwell and Putnam 1972); and, in Tennessee, none of 81 eggs produced fledglings (Pitts 1974). Wood Ducks laid eggs on 2 partially completed grackle nests. Eggs in one of these nests were opened by a predator; the size of the holes in the eggs implicated Common Grackles. Our visits in 1981 were too infrequent to accurately determine how many Wood Duck nests were destroyed. In 1982, 11 of the 44 Wood Duck nests were destroyed. These nests typically had some eggs missing, and some of the remaining eggs had puncture marks. The puncture marks were similar in diameter to the beak of a Common Grackle. Other potential nest predators of the implicated size, such as European Starlings, were not seen on the island. The absence of claw marks on the nest boxes, the undisturbed nest linings, and the gradual disappearance of eggs indicate mammals were not the nest predators. Female Wood Ducks usually abandoned their nests after 1 or 2 eggs were punctured or broken but not removed. In 1 clutch of 13 eggs, all but 2 of the eggs were removed over a period of 2 weeks; the female Wood Duck was observed incubating after the clutch had been reduced to 9, but she eventually abandoned the nest. Nestling Wood Ducks in one nest were decapitated and dismembered, possibly by grackles.

A factor influencing Wood Duck and Common Grackle interaction is the amount of overlap in their nesting seasons. Wood Duck egg laying began in March, peaked in late March, but continued through May. Grackle courtship activities, nest-site selection, and nest construction took place primarily in late March and early April followed by egg laying in late April. Grackles searching for nest sites or food were likely to encounter incomplete, and unguarded, clutches of Wood Ducks. Such clutches would seem to have been especially vulnerable to grackles.

Our observations were not complete enough to give a clear description of Wood Duck and Common Grackle interactions on the island. We do not know if the grackles and Wood Ducks were competing for nest sites; the presence of vacant nest boxes each year suggests the two species were not competing. We do not know with certainty that grackles were the predators that destroyed the Wood Duck eggs, although circumstantial evidence implicating the grackles is strong. Assuming grackles were the predators, we do not know if the grackles were accidentally finding Wood Duck nests while foraging, or if the grackles were deliberately searching for and inspecting nest boxes. Perhaps the most important question that remains unanswered involves the overall impact of the grackles on Wood Duck nesting success on the island. It is possible that Wood Ducks whose nests were destroyed later renested on the island or elsewhere.

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Additional Comments on the Migration of Northern Idaho and Eastern Washington Ospreys.—Melquist et al. (Bird-Banding 49:234–236, 1978), summarized the migration pattern of northern Idaho and eastern Washington Ospreys (*Pandion haliaetus*) based on recovery of 14 birds. Here we report the temporal and geographic distribution of 15 additional recoveries which support and in some cases amend our earlier conclusions regarding the migration pattern of this nesting population. Recoveries made prior to the first fall migration are excluded from our analysis.

Some birds depart northern Idaho on fall migration in early September (Table 1, No. 1, which was recovered 460 km south of its banding site). The movement south may occur at a rapid pace since we have recoveries from the Mexican States of Sinaloa (25.5°N lat.) as early as 17 September (No. 2, a bird banded at Donnelly in central Idaho) and