

A CHANGING NESTING HABITAT OF THE WOOD DUCK

BY T. E. MUSSELMAN

RECENTLY, students of nature have become aware of an unexplainable change in the selection of nest sites by the Wood Ducks (*Aix sponsa*) living in the swamps of the Illinois and Mississippi rivers. Formerly, these birds almost invariably nested in holes or cavities in the lowland soft maples, black or white oaks, sycamores, and even pecan trees. Before 1900, there were few references in literature to these birds nesting within the limits of the river towns. Recently, however, increasing numbers have deserted the lowlands and have actually penetrated to the very hearts of our river towns where they have nested in holes in the trees along the streets, showing favoritism to sites in parks, cemeteries, and courtyards. There are at least two recent authentic records of Wood Ducks which moved to town and there nested in covered chimneys (Peoria and Chillicothe, Illinois).

At the meeting of the Wilson Ornithological Club in Champaign several years ago, the Illinois State Natural History Survey showed a motion picture of the nesting activities of a mother Wood Duck which had used a hole ten feet up in a sycamore tree situated in the corner of the city square at Bath, Illinois. Everybody in that little river town knew of this nest, and the moment the first duckling crawled out of the nest hole, squeaking in its excitement, all traffic along the state highway was stopped or detoured for the several hours necessary for all the baby birds to scramble out of the nest cavity and for the mother to lead them safely across the dangerous concrete road, then down the bank into the slowly flowing Illinois River. At the completion of the picture I heard exclamations of surprise that a duck as wild as this 'Woodie' would venture into the very heart of a community to build its nest.

A letter from Mr. Frank Bellrose informed me that a number of Wood Ducks had nested recently within the borders of Havana, Illinois, several of which flew six or eight blocks back from the river to nest in trees about the County Courthouse yard. The same year three similar nests were discovered in the heart of Beardstown. One was situated in a sycamore tree. When the mother finally took off her little brood, she faced the insurmountable task of leading her flock through four blocks of residential streets and four additional blocks in the business district. Unfortunately, the neighborhood children and their dogs had a field day from which not a single baby Wood Duck escaped.

A letter from Dr. Aldo Leopold informs me that at Burlington, Iowa,

Wood Ducks fly to the top of a bluff, one hundred feet above the river, and there nest regularly in convenient holes. Similarly, at Keokuk, at least two nests were reported this past year (1947) high on the bluffs within the city limits. Three nests were reported within the city limits of Hannibal, Missouri, and an additional nest was discovered fifteen feet up in a tree within a stone's throw of the famous Mark Twain cave, although hundreds of persons visit this cavern weekly throughout the season.

At Quincy, for a number of years, there have been at least two nests in South Park and two additional nests in the Woodland Cemetery which lie at the top of a bluff one hundred feet high and perhaps a half-mile back from the river. However, 1946 climaxed the invasion. On June 24, somewhere in Madison Park, a brood of babies emerged; four were waddling in the water in the street gutter, an additional three were found in a neighboring fish pond, and two others were seen in neighboring yards. The mother may have deserted the ducklings as she was never seen. Madison Park is two miles from the Mississippi River and a mile from the nearest creek. Many authors, especially those of years ago, suggest that the mother Wood Duck carries her young, particularly when the nests are a considerable distance from the water. In the dozen or more instances in which I have watched baby Wood Ducks emerge from the nest holes, I have never seen one instance when the mother attempted in any way to transport or carry the ducklings.

On July 3, three calls to me told of a mother Wood Duck with seven ducklings. She had difficulty leading them through the streets and took temporary asylum in a goldfish pool. That evening the babies were captured as they scurried along the gutter of the street, and were retained in a wire trap which was placed in a small garage. Twice the mother entered this small building but evaded capture, as local conservationists wished to transport her and her tiny brood to the river for release. While these little 'Woodies' were being secured, another call was received from a block up the alley. Three additional babies were running single-file across a yard,—no doubt they belonged to the same brood.

The following day a call came from a mile away, that young Wood Ducks were being captured by neighborhood children. Many of these babies were retrieved and taken to a farm near the swamps and given to a Mallard hen whose eggs were about to hatch. Her rightful eggs were placed under a broody chicken which as foster mother seemed satisfied with the substitution of the baby Wood Ducks. Four days later a farmer, Walter Ruths, discovered a scattered brood from

which he captured two. These he placed in a box, from which the ducklings easily escaped by climbing the sides. These made a total of four known broods, hatched within a few blocks of my home, a distance of several miles from the river and its associated swamps.

The answers of river men, hunters, and scientists, whom I questioned as to the cause of this change in nesting, vary. Some feel that the building of government dams has backed water over the floodlands whereby many former nest trees have been killed. Recently, the demand of the furniture trade has caused the cutting of the large, lowland soft-maple trees, thus reducing many of the available nest sites. Others credit the trouble to predation. Certainly Wood Ducks do suffer from the attacks of many predators, including snakes, raccoons, opossums, cats, squirrels, and Great Horned Owls. Even flying squirrels and bees take possession of an occasional site.

REARING FOUNDLING DUCKLINGS IN CAPTIVITY

Of all the inland nests, certainly those in Woodland Cemetery, Quincy, have been most interesting, as Wood Ducks have returned to the nest trees for several years, thus allowing local conservationists to study the nesting habits and watch the ducklings emerge, year after year. Several seasons ago, I received a telephone call from the sexton of this Cemetery, who had found two Wood Duck nests, both of them in holes in black oak trees. One of the nests was approximately sixty feet above the ground. How the babies could tumble safely from that height without damaging themselves is more than I can understand, yet apparently for several years the different broods took the tumble safely. The sexton became so interested in their welfare that he refused to cut the grass immediately under that tree, thus giving the babies a cushion when they fell. The other nest was but fifteen feet above the ground.

When a telephone call informed me that the ducklings were coming out of the lower nest hole, I drove hurriedly to the cemetery, where I used my binoculars to watch the ducklings appear. One had already tumbled to the ground where a workman had placed a wire trap over it so that it could not escape. Five minutes later another baby's head emerged from the hole. Suddenly, it started climbing, almost running up the rough bark, squealing *cheep, cheep, cheep* in wild excitement. After it had progressed three or four feet, its tiny claws slipped on a smooth section of bark and down it fell. It hit the ground, bounced an inch or two, recovered itself, and started to run with all of its tiny might, still peeping at the top of its voice.

The mother Wood Duck circled, apparently in great distress, and

as we put the second baby in the wire trap, the mother alighted on the ground and eventually approached within six feet of the babies. After a quick inspection, she jumped into the air and flew to a neighboring tree, alighting on a limb from which she watched. Twenty minutes later, another small head appeared at the opening. This baby started up another limb, chirping excitedly as it climbed. As it approached a projecting piece of bark, it jumped horizontally to the side, approximately eight inches, where it again caught the rough bark, and not until it had progressed for six feet did it slip and fall to the ground. Every fifteen or twenty minutes a similar exodus occurred until at one o'clock there were sixteen baby Wood Ducks in the trap.

In former years, the mother Wood Ducks had often led their babies to the edge of the cliff nearest the river where several were injured when they fell over the precipice. To prevent this, we followed the gently declining ravine a block downward and there placed the trap. When the mother discovered her babies, we released them, and the last we saw of them, she was leading them, single file, toward a swamp nearly a mile distant.

About six o'clock that evening, a man drove his automobile up to my farm and handed me a box. In it were six baby Wood Ducks. When I asked him where he found them, he told me that a mother Wood Duck was leading her babies toward the river and that she had flown in front of an automobile and had been killed. He had retrieved six of the babies from a water hole in the gutter. They were cold, so I wrapped an electric-light bulb with cloth and placed it in a box carpeted with a layer of sawdust. Soon I had the satisfaction of seeing them snuggle up to the light which afforded them the heat they needed.

Half an hour later, another automobile drove in. The driver had three baby Wood Ducks which looked as though they were dead. However, I sponged them with warm water until I noticed signs of life. One by one they recovered sufficiently to be added to the six which were already enjoying the warmth of the light bulb. Two additional deliveries were made that evening, making a total of sixteen baby Wood Ducks—I believe the full complement of tiny birds which I had watched leave the black oak tree in Woodland Cemetery that morning.

I keep a flock of fifteen to twenty bantam hens which are broody most of the summer. These are used to incubate sets of Bob-white eggs that are disturbed by farmers as they cut their hay. I decided to try my luck with one of these. The mother selected was a small buff cochin bantam hen which had been brooding for several weeks on two or three eggs of a previous season's 'vintage.' After dark, the sixteen babies were tucked safely under this foster mother. Fortu-

nately a cover of hardware cloth was placed over the top of the box. In the darkness the little hen apparently accepted them. The next morning, when she saw the tiny black ducklings, she could not understand her flock and began picking at them. The babies were terror stricken and began climbing the rough sides of the box but would fall back into the alfalfa pulp on the floor.

I removed the ducklings and carried them to my pasture where an unused metal trough, filled with water and streaked with green spirogyra, looked inviting. There a few water bugs were enjoying a stagnant bill of fare, so I had hopes that the tiny ducklings would get some food. When they were released, they took to the water and thoroughly enjoyed themselves, but not one duckling would eat. Fortunately, they could not climb the curved sides of the metal trough, so were safe from escape. Although there was a little landing board upon which they could rest and dry, none of them would take advantage of it, but all stayed in the water until they were saturated and cold.

Again they were removed to the box with the light bulb. Three times during the day they were released. Although they drank, they always gathered in mad confusion at the opposite end of the trough. Even when I left them alone, they were unable to accustom themselves to the strange surroundings.

At night I took each tiny bird and force-fed it with a mash which the State Conservation Department had compounded. However, they would not eat voluntarily and I was fearful that the entire brood would starve before another day had passed. In desperation, I again placed them under the broody bantam hen. She seemed to accept them with a great deal of motherly concern. Then I had an inspiration. Driving to town, I secured two electric insect-exterminators. These were hung on opposite sides of the house with a bucket half filled with water under each. As the lights were turned on, swarms of moths, caddis flies, beetles, and other insects circled the attraction, then flew into the hot wires. Few were killed; most of them fell, wriggling, into the water below, minus a wing or two. By midnight I had an abundance of insects which I placed in a container ready for my next day's experiment.

Imagine my delight the following morning to find that the little hen had accepted her brood and was trying to feed them sand and mash. They were running back and forth, playing about in the alfalfa meal.

In rearing quail babies, I employ cages about fourteen inches high and six by ten feet across. One of these was moved into the side yard and a hole was dug in the ground to house a washpan. After pouring in a generous cover of sand, I filled the pan with cistern water. The

hen and her duckling babies were then released within the pen. The little mother immediately moved to the mash and began to cluck to her babies, but the ducklings were not interested in the mash nor did they understand her feeding call. They were attracted by two handfuls of wriggling insects on top of the water. The famished babies slipped into the pan and began devouring the insects with apparent satisfaction. When the hen saw her babies in the water, she was frantic. She lowered her wings and tried to scare them from the pan, but the hungry ducklings refused to leave until they had literally gorged themselves. As I watched them, I was somewhat fearful that they might not recognize the hen as their mother. However, they were cold, and finally one by one they crawled from the water, walked single-file over to the hen and as they disappeared under her feathers, I knew that the battle was won.

Each day involved some work as the pen had to be moved to fresh soil and a new hole had to be dug for the pan, thus causing negative criticism from the better half of my family! At the end of the month, my light bill gave definite proof that the insect-killing machines had been running overtime, but as I watched the babies grow I was willing to face both criticism and expense. After four weeks, the baby ducklings became interested in the mash and soon developed into strong, husky, eager little 'wildings' which never entirely trusted any of us, yet tolerated us from a fair distance.

One afternoon, when the ducklings were about a third grown, I propped up the side of the cage, and the little fellows began chasing crickets and grasshoppers through the grass. The day of the insect-exterminators was past. Shortly before dark, the bantam hen returned to the cage and the sixteen ducklings waddled home in single file. They wanted their supper of mash. I lowered the cage and they were safe for the night. From this time on they were released each day. They grew very rapidly, yet every night they returned to eat their mash and to sleep in the safety of the cage. Flight feathers appeared in their wings and it was a joy to watch the flock washing themselves and diving in a little pond that I constructed in a neighboring ditch. When they were about two-thirds grown, one of the drakes followed a grasshopper into the high grass where it disturbed a rabbit which jumped from its bed and ran boldly across the yard. The duckling was so surprised it jumped into the air, then circled the house in its first flight, much to the surprise of the other ducklings. Within a week they were all flying. The trips became longer. They circled the barn, then flew to a neighbor's pond where they enjoyed the deeper water and the abundance of crayfish. Wanderlust drew them

away until they finally flew several miles down to the swamps north of Quincy Bay, but every night they returned to the farm. They wanted their supper of mash. One evening I did not drop the trap. The bantam led them out and tried to take them into the chicken house. Instead, the sixteen babies flew to the ridgepole at the top of the shed and there squatted comfortably. The mother bantam was thoroughly disturbed but finally drew caution aside and flew up and perched among her babies. A week later several of the ducklings failed to return. From time to time the numbers became fewer until but one baby Wood Duck returned each night. All of the Wood Ducks had been banded, and the last of them deserted on the twenty-sixth of August.

This past spring, a farmer at Beardstown discovered a Wood Duck nesting in a hole in a pecan tree where she was covering thirteen eggs. She was killed by a predator and partly eaten in the hole, and several eggs were broken, so the farmer took what remained of the clutch to his chicken house and placed them under a Plymouth Rock hen. When the ducklings hatched, the broody mother accepted them readily. The babies were started on cottage cheese mixed with starting mash and small pieces of hard-boiled egg. Of course this was supplemented with insects caught by the little family as it ranged throughout the pasture. All lived for four weeks and were thriving when a stray dog discovered them and killed the entire flock. Rearing ducklings from eggs is much easier than retrieving foundling ducks lost among the streets of towns. The mortality on such cases is reaching unfortunate proportions. Some program such as supplying nesting boxes about the swamps or locating the holes in trees along our city streets and either filling the cavities with concrete, or removing the eggs and incubating them under foster parents, should be attempted. I feel certain that within a few blocks of my home four or five dozen Wood Ducklings perished this past year because of the mothers' inability to lead their babies to proper feeding grounds. During 1947 we had a somewhat similar experience, but fortunately the mortality in young ducks was not so great as in 1946.

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Illinois