

banded in 1925, without any attempt to select either form, 27, or 15.7%, were of the "Ringed" type. An adult "Ringed" Murre, banded by me on July 8, 1924, at the St. Mary Islands, was there recaught and again released by me on July 16, 1925, and another one banded by me on the same islands on July 11, 1924, was recaught and again released there on July 17, 1925. In both cases the birds appeared unchanged when caught the second time.

On July 20, 1923, in the Boat Islands, I banded an adult Common Murre which presented an intermediate aspect, as it had a faint white streak behind the eye, but had no white eye-ring. This bird has not been recaptured.

Continuation and development of these banding operations may be expected to yield additional information concerning these innocent waterfowl.

THE FOURTH BANDING EXPEDITION TO THE SANDY NECK BLACK-CROWNED NIGHT HERON COLONY

BY CHARLES B. FLOYD

It has been the custom each year since the founding of the Northeastern Bird Banding Association for a small group of enthusiastic members to visit the famous colony of Black-crowned Night Herons (*Nycticorax n. naevius*) at Sandy Neck, Barnstable, Massachusetts, to study its occupants and band their young. The proper time for this trip is the third week in June, regardless of the season, whether early or late, for then the fledgling herons are nearly full grown, and weather conditions are good.

This year (1925) marks the fourth expedition undertaken for this purpose, and has resulted in the banding of fifteen hundred herons, an increase of one hundred per cent over the greatest number banded on any previous trip. The total of all the young herons born in this colony on whom aluminum bands have been placed is now twenty-five hundred.

Details of this interesting colony and its environment are not necessary at this time, for our President, Alfred O. Gross, has recently made extended studies of the life-history of this

species and has published his conclusions*, which are now too well known to require comment here.

The first Volume of the just-issued "Birds of Massachusetts and other New England States," p. XXIV (Introduction), contains a plate showing the dispersal of this species during several fall seasons.

The present study of this heron colony is really an extension of the work undertaken here by the American Bird Banding Association, the results of which were published in "The Auk," Vol. XXVII, pp. 153-168, 1910, in an article by Leon J. Cole entitled "The Tagging of Wild Birds: Report of Progress in 1909."

We find, when undertaking work of this nature, that the stoutest clothing, overalls, and jumper are essential, together with heavy boots and a close-fitting hat. If it were possible to wear head-nets for protection against mosquitos, much comfort would be had, but they are not practical. Most of the actual banding is done in the tree-tops while the young herons lie quietly in the nest. Much time and effort are saved if, in advance of the actual banding, the long flat bands which are furnished for use on this species, size "X", are bent into a circle, but not quite closed, and the two small nibs on either side turned upright preparatory to locking the band about the tarsus. Ladders of about a twenty-foot reach aid very materially in the taller trees (pitch pines), which grow more sparsely than the shorter ones, and which are so dense that it is almost impossible to struggle between them and use the short six-foot ladders so indispensable here. Steel pliers with pointed jaws are required to close the bands properly. Let no one whose enthusiasm will lessen at the sight of dead birds, and impedimenta such as rotten eggs, bad odors, heat, mosquitos, poison-ivy, and the offensive habits of the young herons undertake this work.

The usual number of herons, estimated at four thousand, were found at the colony. The view that lies before one standing on the top of the highest dune that overshadows the trees below, alive with herons, old and young—the long miles of sand dunes, white and glistening in the sun that stretch far to the east and west, the sparkling blue waters of Cape Cod Bay on the north, and the quiet harbors of Barnstable and Yarmouth on the south—makes a picture that is printed in-

* "The Black-crowned Night Herons, *Nycticorax nycticorax naevius*, of Sandy Neck"—*The Auk*, Vol. XL, pp. 1-30, 191-214, 1923.

delibly upon the mind of the bird-bander, whether he views it for the first or for the hundredth time.

After carefully canvassing the entire area occupied by the herons, we came to the conclusion that there were more birds here this year than ever before, and that the colony had extended to the south. There seemed to be two distinct nesting-areas that, while adjacent, were quite different. The tall trees, many of them dead, holding old nests which have been occupied each year and rebuilt many times and almost white from the excrement of the occupants, stand well apart and are quite in contrast to the young pines, unstained and unbroken from use, growing close together, with new nests near the ground. The nests, all of the same construction, are built of sticks and twigs, with a thin lining of roots. The idea was advanced that the taller, stained trees were occupied by the oldest members of the colony, and as the young of previous years reached the breeding age (the third year) they were forced to occupy the lower, newer growth. However, we found no actual facts to substantiate this theory.

The herons appeared to have had a splendid breeding-season. Most of the nests contained well-grown young, from three to five in number, though the average was probably nearer the former than the latter figure. The number of dead birds upon the ground, partially eaten by foxes and skunks, was small, and in only a few nests were dead fledglings found with the living ones. The percentage of infertile eggs was trifling. The growing birds were vigorous, well fed, and feathered. Several crow's nests with young were discovered among the trees in the area occupied by the herons, and we observed instances where they had carried away and eaten the blue eggs of the herons. In one heron nest were two young, hardly more than hatched, which were warm and partly consumed by some marauder.

We began work the first day at seven o'clock, daylight-saving, in a cold east wind driving before it a heavy mist—weather conditions best suited to obtain the maximum result, as the young birds in the tops of the trees remained clustered together for protection against the elements. The disinclination of the young herons to climb out of the nest helped us considerably in the banding. On the day following, when the weather cleared and the sun shone into the nests, the occupants immediately forsook them to climb out to the tips of the boughs and bask in the sun's warmth, where it was impossible to secure them.

In several of the older nests sharp twigs pointed upwards, and in such nests herons were found in many cases bleeding from cuts in their tender underparts or legs. It is believed that these wounds were caused by the pointed sticks. The resulting foul nests due to blood mixed with decaying fish and excrement gave rise to a swarm of maggots which actually ate into the wounds of the young birds, and yet those thus attacked seemed vigorous and well. This condition was observed only in the older nests.

During the first day nine hundred birds were tagged. The second day in the colony was in direct contrast to the preceding one, being clear and warm. In the dense growth of the smaller trees the heat was terrific. By six A.M., standard time, the young were lively, and with the rising sun the birds left their nests to perch on the tips of the boughs. Warm days meant livelier birds and fewer banded. Thus the operations on this date totalled three hundred birds only.

Our admiration was aroused at the ability of the young herons to spring from their nests and clamber fearlessly out to the ends of the limbs and cling there tenaciously; or, in other cases and without hesitation, to flop or fall onto the limbs of the next tree and scramble among them, using their bills like parrots in climbing, or hooking their long necks over the limbs and grasping the branches with their toes. In no part of the colony, with one exception, did we discover any but adults in the light plumage of maturity.

The third and final day of our work was a repetition of the second day. We completed our quota of three hundred, making the total for the trip fifteen hundred.

We found that the system employed of marking the trees by tying a piece of white string about the trunk of each one after we had banded the tenants to be a most valuable plan in that this method saved useless climbing and prevented our missing any nests. On the trip next year we shall probably use red twine in place of white, for that color is more conspicuous.

Since this work began splendid results have been obtained. Recoveries have been made as far north as Quebec, and westward as far as Michigan. To the south one bird has been reported in Porto Rico, several in Florida, one in Jamaica, and one in Haiti. Another year we hope to have traps in operation which, if successful, will enable us to secure information on the homing instinct in this species if it exists.

Auburndale, Mass., December, 1925.