

fects the stream flow at different seasons to such an extent that the supply of fish may be materially decreased.

During forest fires, game and other wild animals may be surrounded by flames and killed outright. If they succeed in escaping to adjoining areas they come into direct competition for food and shelter with the game already on that area and the chances of survival are lessened for all.

U. S. BIOL. SURV.

NIGHTHAWK MIGRATION NOTES

A decade ago the Nighthawk was a common summer resident in this part of Iowa. It returned in numbers each spring and made the Iowa environment its summer home; when it remigrated southward in the fall its ranks had been enlarged by many individuals—a result of safe nesting grounds to be found here. Without the sight of this graceful, long-winged bird, widely circling the sky in its erratic flight maneuvers, and producing the well-known sound so aptly described as tearing a piece of cloth, the calm summer evenings would have lacked a certain amount of charm that the regular evening nature chorus did not contain, however varied and interesting the latter might be. For years the Nighthawk added an important bit to the associations of city and rural life.

Now it is changed. The Nighthawk is no longer a summer neighbor and is surely missed. While it is true that a few Nighthawks are still summer residents here, the cases are isolated, and the bird can be classed only as a rare summer resident. The reason for this evidently cannot be laid to decrease in numbers of the species, but to a change in nesting grounds, which has perhaps been forced by the growing practice of the over-industrious farmer of turning every available acre of pasture or other semi-waste land into tillable soil to increase his own profits. Their natural nesting grounds become scarcer every year.

While it is apparent that the Nighthawk has appreciably decreased in many parts of the United States, it is not probable that it will ever become extinct, or perhaps any less abundant than at the present time. It seems to be very erratic in migration and choice of nesting grounds, sometimes being unusually abundant at a certain place for a time, then suddenly disappearing almost entirely for several seasons, as seems to be the case in my region.

Being especially interested in this subject, I have kept yearly records since 1919, and these show that the bird does not stop here to breed, probably going farther north, because it passes through in numbers in the fall migration and is not present in the summer. These records, given in part below, pertain to Buchanan County, with the exception of the 1919 Cedar Rapids record.

My 1919 list contains but three records of the bird. The first date is May 25, when a lone bird was noted at Cedar Rapids, Iowa; the others were August 23, two birds, and August 28, a flock of 25 (approximately).

In 1920 the Nighthawk was noted only three times, as follows: May 10, 1; August 30, several; September 12, 1.

The next season, 1921, the Nighthawk made a much larger represen-

tation on my records, nearly 100 birds being seen, and these on twelve dates. The first date was May 22, the last September 19, but none were seen during the period from June 12 to August 21, which includes the season for rearing their young. All but fifteen of the birds were seen after August 21.

My this year's record is much larger than that of 1921 and, judging from the size of the fall migration, the species is increasing its numbers rapidly. I made twenty-two records of the bird from May 19 to September 9; four of these dates were for spring migration, two for summer residents, and the remainder for fall migration. Roughly counting, there were 385 birds in all.

On the evenings of June 19 and July 2 (1922), while driving in Independence, Iowa, I saw one or two Nighthawks, but aside from these I made no other summer records for this county. I might add that on the evening of July 4 I noted several of the birds maneuvering in the air above the fairgrounds at Manchester, the county seat of an adjoining county. It was good to hear them again, even though it was above the clamor of a vigorous Iowa Fourth of July celebration. On August 21 the bird made its reappearance and was seen, in varying numbers, every day with three exceptions from then to September 9. During this period 372 birds were seen, according to my daily records. Owing to inaccuracies in counting or estimating the larger flocks, this figure represents only the approximate number. Their usual daily number varied from 3 to 20, although on September 1 about 45 were seen, and September 9—the last day—about 200 passed southward. These birds were all silent and, while most of them seemed to be proceeding in rather a leisurely fashion, some appeared to hunt in one vicinity for several days. Regarding the last day's migration (September 9), I take this excerpt from my journal: "It was cloudy all afternoon, with the clouds growing darker and heavier along toward evening, and at this time the Nighthawks were first seen. In all directions they were to be seen, some in rather large flock formations and others trailing along by themselves or far from a flock. Many were so high in the air that they looked more like specks than birds, and all seemed to be hunting food in a leisurely and not directed manner. It is very hard to estimate so many scattered individuals, but after surveying the locality I decided that 200 would be a conservative estimate. About 5:00 it began raining and many Nighthawks could be seen flying about high in the air in the rain."

A little over a year ago I raised the question of whether or not the Nighthawk was decreasing.* A number of people responded and each expressed the belief that the species had been declining rapidly and was becoming scarce in his or her particular region. Data were received from the following places: Hampton Falls, N. H.; Cincinnati and Collins, N. Y.; Cambridge, Md.; Elkader and Nashua, Iowa; Carrington, N. Dak.; Edge-wood, Lower Arrow Lake, British Columbia. I am much interested in this subject and any further information relative to the migratory movements and status of this wandering species will be gratefully received.

FRED J. PIERCE.

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* *Bird-Lore*, Vol. 23, No. 4, July-August, 1921, p. 197.