

### Are Our Wild Birds Becoming Scarce?

By Wm. H. Moore.

This question is a poser. In the case of some species it can be easily answered in the affirmative, with others a negative answer would be correct.

Some of the conditions affecting the supply of our birds are climatic, and human. That climatic conditions affect the numbers of birds and bird travel is easily understood by those who study the habits of birds. Let us suppose we have a nice warm period in the month of April. Many birds of several species will come north in goodly numbers. If the warm period is of two or three days duration and early in the month these travellers are not in so much of a hurry as they would be later in the season. Some would pass on northward and we would see them no more.

If this short warm spell be followed by a cold period of two weeks or more, what happens? Had the first wave of migration moved past our field of observation the chances are that every few of the same species still south of us would reach us for the summer season; for by the time the next warm period comes they may have begun nesting and stay through the nesting period.

Then again, if the early migrants only get as far northward as to bring them within our field of observations, they may be detained by climatic conditions until they have begun to think seriously of family affairs and settle down with us and rear their broods in our locality. Then on the next wave of migration their numbers are increased by still others of the same species and there is with us an abundance of certain species. A few years ago migration was so regulated that for two seasons the robins (*Merula migratoria*) were so numerous that a neighbour remarked, there was hardly a bush for each pair to nest in.

Climatic conditions may so affect insect life also that the supply of insects may be either great or small, and thus insectivorous birds are with us in greater or less numbers. So we find that it is necessary to have data for a great many years in order to arrive really at any fair conclusion as to whether or not the numbers of our birds are increasing or decreasing, from climatic conditions alone.

Now let us see how man affects the supply. Without a doubt the game birds are decreasing in numbers, they are so persistently hunted and killed by man. Some species that nest in swampy ground

have had to move onward as the march of agricultural improvement has drained those wet places and so restricted the extent of territory available for breeding purposes. This is also the case in regard to those places where food could be found in abundance for some species. But if man has helped exterminate some birds he has helped extend the range and numbers of some others.

Many of the birds of our fields must have increased in numbers since the advent of the agriculturist in America, because the area available for feeding and breeding must certainly have increased. The birds of the upland meadows and waysides must now be in greater numbers than before there were such meadows.

Where man grows fruits and grains new insect pests come in and live, and thus more food is available for the birds. There is no doubt but that the birds of eastern America are each year slowly moving northeastward, increasing their range and adapting themselves to their new environments.

In another way the march of civilization has increased the range and numbers of birds. All have noticed the swarms of swallows that live about some barns. They must be more plentiful here than before there were such places available for nesting sites.

To sum up the whole question,—we find that while some birds have decreased in numbers it is just as likely that others are more numerous than they were a century ago. It is possible that a bird student observing faithfully for a score or more of years in a single locality may determine whether or not the birds in that locality are increasing or decreasing in both numbers and species.

In addition to the foregoing in which Mr. Moore has opened in such an interesting way the causes of the increase or decrease of birds the REVIEW has obtained the opinions of Dr. Ora Willis Knight, author of that valuable book for our bird students "The Birds of Maine." In submitting the proofs of Mr. Moore's article to Dr. Knight the REVIEW invited him to give from his wide knowledge and experience of bird life, any further data bearing on this important question. In reply he states that he fully agrees with the general tenor of Mr. Moore's article, and adds:

"The whole subject of increase or decrease in numbers of our native birds may be summed up in a few words. Those species, which are capable of