It is true, that where ever man lives upon this earth, he has his bird associates. They are a part of our normal environment, and being active during the day, as we are, they attract attention by their movements, size, coloration, and song. Hany wild creatures are conspicuous. due in some cases to their small size, and totheir retiring habits. This is also true with certain of the birds. It is possible for a person to live is normal life in a community, and if not particularly interested, can have various species near at hand, from year to year, and not know it. Pefore the coming of the white man to this continent. the Indian's interest in birds was only as a source of food, and the feathers as bodily covering, and ornament. In their simple knowledge at that time, supernatural importance was given to some large birds, as we learn from the legends of our native tribes. The early white man's interest was mainly that as a source of food. As the country was developed, and education brought inventions that made the pioneers life easier. the leisure which cane gave opportunity for cultural advance. Today. the study of birds gives profitable employment to the leisure of an ever increasing number of people.

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The pirds of Towa.

Birds did not have the protection by law until the begining of the present century. Prior to that time, for something like sixty years, an enormous connercial traffic was carried on. Hany persons hunted for the market as a livelihood. Certain species, considered game, could be found in the markets of our larger cities, at all seasons of the year. Finally the enormous draft on the wild species began to show its effect, in spite of the seeringly unlimited numbers of certain birds that formerly existed. Notably among these was the Passenger Pigeon, whose great flocks hid the sun, as they passed on their spring and auturn migrations. Sights like that, are vivid in the memory of our older folks. Today there is not a living example of this bird. During the market luming period, they were sold in the markets for as low as five cents a dozen. Today a preserved speciman is worth from seventy-five to one hundred and fifty dollors, depending on the condition of the speciman. The Laborador Duck, never corman, was at times found in the markets of New York City. Today there are not over three dozen specimans to be found anywhere, and these are nearly worth their weight in gold.

Formerly, smaller non-game birds, were killed for their plumage, thousands being used each year in the millinery trade. Records from one shop in New York City show, that from 350 tp 400 song birds were purchased daily, from local hunters. Education and proper laws long ago put a stop to that practise.

The trapping of live birds, of certain species, for cage-birds was for a long time a profitable business. With the passage of laws, this also ceased.

Fifty years ago, a very shall number of people were interested in birds, besides those who killed them for the table, and others who saw their value only in dollors and cents, as an article to sell. The progress made, up to the present day, in behave of the wild bird is vast, and was not done without great opposition of other interests. Scientific investigations have shown us their value as destroyers of insects and weed seeds. The larger birds, the hawks and owls, are natures check on the undue increase of mice, gophers, and other rodents. We know them to be agricultures greatest ally. We know them to be the guardian of the vegitable kingdom.

The life of a bird, while he goes about it with vin and evident enjoyment, is a serious business. They are beset by many dangers, each species has its energies, and death comes often and in a hundred different forms. The scheme of nature, in which the birds balance perfectly, seens to be most cruel, but with a little thought and figuring *MDICATES* we find out that it works out nost perfectioned could in the improved

upon. of that were formable

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If every hird that leaves has nest would live its normal life, seen there would be such numbers, that room for other forms of wild life would not exist. For example .- A pair of birds raised eight young last surmer. Together they migrated to the south. If these ten birds returned next spring and each pair were successful in raising eight young, ninty birds would leave for the south in the fall. In five or six years, the increase from the original pair would number in the thousands. The fact is accepted among ornithologists, that the number of birds that return north in the spring, is equal, on the average, to the number that came north to breed the spring before. The natural increase is lost, through accident, desease, as food for other forms of wild life, and other reasons. Blue Jays, Crows, Bronzed Grackles and others are not notorious nest robbers, taking both eggs and callow young. Certain marmals, including our house cat, take a heavy toll of both young and adult birds. Coopers and Sharp-shinned Hawks live nearly exclusively on a diet of song birds. Many are killed in storms. Thousands are killed by mechanical means, by striking telephone wires, fences, illuminated towers, light-houses on both ocean and inland shore, especially those with a fixed light, and numerous other agencies. It is certainly a case of the survival of the most fit.

The importance of the inroads made upon insects and weed seeds by birds can not be under estimated. The Tree Sparrow, one of our most numerous winter birds, is prabably one of the greatest destroyers of weed seed. Prof. Beal, while in the U.S. Dept. of Agriculture, estimated that each Tree Sparrow ate at least one-fourth ounce of weed seed daily. This estimate was made by the stomach examination of specimans. He stated, that counting ten birds to the acre, this birds destroys in the state of Iowa, 1,750,000 pounds of weed seed, which is equal to 895 tons.

It has been found, that certain species, while growing up in their nest, will consume their own weight in insects, brought to them by the parent birds, between dawn and dark.

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Certain of our birds have been sufferers from age old prejudice and hostility. Most important among these are the Hawks and Owls, and the various water-birds who include fish in their diet. To find out how successful this prejudice is carried from one grneration to another, and how much false propaganda is taken for actual facts, one need only to discuss the value of hawks and owls with the average farmer, or speak of heron, bitterns, and pelicans with a person who fishes. In regard to the birds of prey, we fail to accept the fact, that in their relation to man, we must judge then by comparative values. Late in the last century, Dr. A.K.Fisher, made an exhaustive investigation and the results were published by the U.S.Dept. of Agriculture. Stomach contents of 2700 of the birds of prey were examined. Many later investigations have been made and all of Dr. Fishers findings have been substantiated. Prabably the hawk most in evidence here in our general region is the Red-tailed Hawk, and is also the most persecuted. Dr.Fisher examined the stomachs of 562 of this species. He found that 515 contained remains of mice, and other mammals, reptiles, and insects. 54 contained remains of game birds and poultry. 51 of other birds. Judging by comparative values, this hawk is benificial at least 85%. Other species of hawks are benificial nearly 100%, seldom killing either a game or song bird, or poultry. Three species of hawks are condermed by all, The smaller Sharp-shinned, and Coopers Hawk, and the large Goshawk. The last mentioned appears only during the winter. in this region, and in such small numbers that the effect is negligible. Sad to say, very few Sharp-shinned or Coopers Hawks are killed by either the general run of farmers or sportsmen. They hunt about under cover of trees, bushes etc and dart out after their prey like a bullet. Thus they are seldor seen in their daids on the poultry yard. But the large, slow moving Red-tail, who goes about his business in the open and in the plain sight of man, gets the blame for most of the damage done by the two smaller spec ies. The Red-tail is shot, cought in steel traps, and poisoned.

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Being a scavenger, this hawk is easily attracted to a dead chicken and the steel trap. The long continued persecution has reduced this bird greatly in numbers in the late years. No one can deny that this hawk will not at some time or other prey on poultry. Certain individuals get the habit, and these can easily be disposed of. To dispose of dead poultry by throwing them out in the fields, is a sure means of attracting these birds and perhaps give them a taste for this class of food.

During the fall of 1933, the writer received 10 Red-tails that had been shot or trapped by farmers. None of these contained either poultry or other wild bird. All had eatter mice of two species, one a rat, and all had partaken rather heartily of grasshoppers.

In their relations with man, the birds have aroused every shade of opinion among the people. The sportsman has a dislike for any bird that invades the field that he considers game. Too many farmers see only the loss of an accasional chicken, and do not appreciate the value of most hawks and owls as destroyers of vermin. The fisherman is hostile, because certain birds eat fish. We become exasperated when birds of the thrush family devour the fruit in our berry patches, but forget that we have stripped the land of most of the fruit bearing plants on which they formerly fed.

Therefore, while we give just praise to those species that prey enof tirely on insects, and make successful agriculture possible, and to the destroyers of weed seeds, we must look me intellegently upon those species that do conflict with man, and weigh our judgement on scientific truths and facts.

Education and a love of the beautiful has has brought our appreciation of the birds to a high level. Thus, birds, divested of sordid cosiderations are coming more and more into the lives of the many, to bring joy and satisfying diversion.

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