

The father, in the meantime, seemed totally unconcerned, flying about in a tree nearby and singing cheerily.

On July 18 at the western end of the white pine and hemlock woods we came upon a female Black-throated Blue Warbler (*Dendroica caerulescens caerulescens*) with food in her bill; she immediately swallowed the insect and scolded violently. The male appeared but seemed calm. We searched about in likely bushes and undergrowth for the nest but in vain. At last I heard a note something like a Chipping Sparrow's song, but about half as long; I went to investigate and there, completely hidden in a mass of ferns, about nine inches from the ground on two loose, dead branches was the nest; the baby whose hunger call had revealed the secret promptly hopped out. The mother warbler became beside herself with distress; she would fall from a branch to the ground and then creep about with wings and tail spread, chirping her loudest. The father flew around uttering the same excited notes, but making no special demonstration otherwise. The little mother's actions were so pitiful that we soon left, taking the empty nest with us; it was a beautiful structure lined with pine needles and covered on the outside with strips of birch bark.

NORMAN, OKLAHOMA.

AN IOWA BIRD CENSUS

BY E. D. NAUMAN

Early in the year 1914 the U. S. Bureau of Biological Survey issued a call for volunteers to try the innovation of taking a bird census on some tract of land to be selected by themselves. The writer having been in communication for some years with this Bureau, received such a request to make and report a bird count.

The idea looked somewhat utopian, but I determined to make a trial anyway. For that census I selected Tract A only. (See maps). Having had no experience in this line, of course the work was somewhat discouraging and unsatisfactory, and thinking this undertaking might never be repeated, I did not keep a copy of my figures.

But in 1915 a call was issued to have a second census taken to see, I suppose, how the two would compare with each other. That year I made counts for both Tracts A and B, but mislaid or lost my figures. Published accounts of the census showed that there were just three of us in Iowa who made and returned counts for those two years. When, however, the call came in 1916 for a third census, I concluded that this was to be a "continuous performance". So the counts on both tracts were made and the figures preserved annually ever since,

with the exception of one year when evidently the Bureau's blanks and instructions were lost, for they never reached me. The results of this series of counts are set forth in the appended tables.

The instructions issued by the Bureau of Biological Survey on this subject are in part as follows:

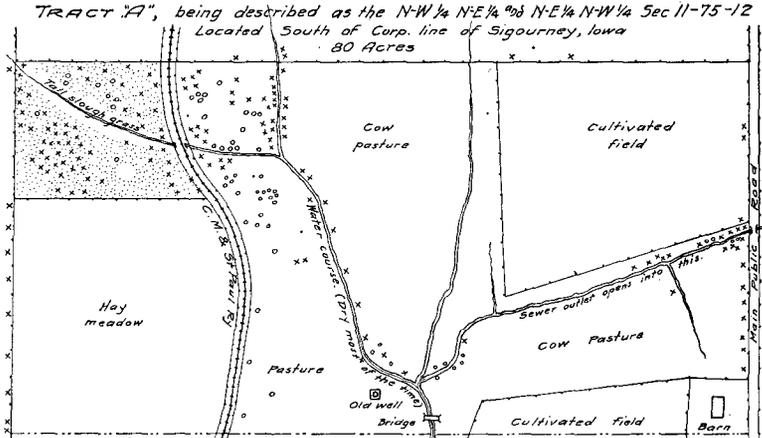
"Begin at daylight some morning at the height of the breeding season, and zigzag back and forth across the tract, counting the singing birds. . . . After migration is over each singing male may safely be counted as a pair. . . . In the latitude of Washington, D. C., (latitude 39 degrees N), the first count should be made about June 1; in the latitude of Boston work should not begin until at least a week later; south of Washington, a correspondingly earlier date should be chosen."

Then follow directions to make several recounts a few days later to correct any errors that may have been made at the first count.

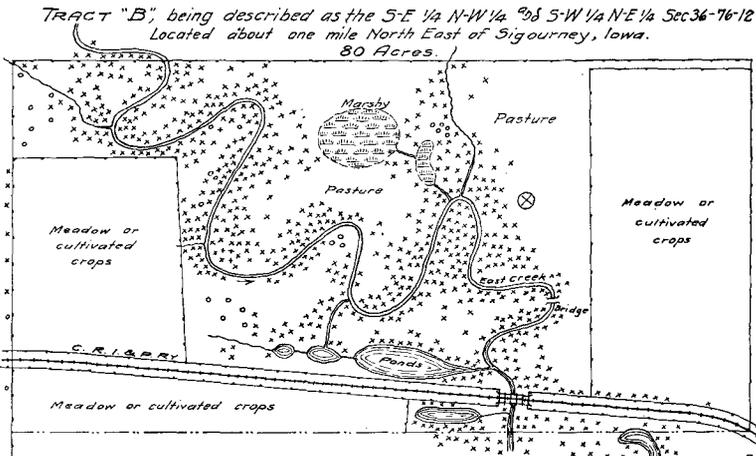
Now these instructions are good as far as they go and will, if carefully followed, produce fairly accurate results on tracts of land well cleared, and of most of the species inhabiting such tracts of land. However, the enumerator meets with many difficulties, not touched upon by the instructions, especially on rough and partly timbered land. For example: The larger owls are fully fledged and leave the nest about April 1; the Horned Larks are out and able to fly by April 15; Bluebirds, Robins, Screech Owls, Phoebes, all leave the nest in this latitude, which is slightly north of Washington, D. C., by May 15 to 20. Others like our Goldfinch do not nest until several weeks after the date fixed for the census. Another difficulty is with birds like the Dickcissel, Meadow Lark, and certain sparrows, who have the habit of resting on the posts and wires of the boundary line fences to sing. It is sometimes very difficult to determine upon which side of the fence they really belong; or if their nest is in a post of the line fence, whether to count it or not. Then we have difficulties in finding the owls, Whip-poor-wills and waxwings, because of their silence.

All those who have assisted the Government in the past by the making of bird counts have no doubt met with some or all of these difficulties and found ways of overcoming them. But for purposes of comparison and perhaps to aid those who may take up this work in the future, I will here state briefly how I have proceeded with the enumeration.

First, to place the early breeders where they belong, I have kept both tracts under observation during April and May. This was done



This map shows the conditions substantially as they were in June 1916, the date the first census was made, upon the land referred to as Tract A and here reported. Conditions upon this tract have been greatly changed. All the trees and bushes in the portion west of the railway have been destroyed. There has also been a cutting of about one half of the thorn bushes on the remainder.



EXPLANATORY
 Trees xxxxxx
 Thorn Bushes o°o°o
 Hazel Brush [stippled pattern]
 Wire Fences ————

About 1 acre of timber at the place marked X was cut since 1916, the year of the first census reported. Aside from this and the cutting of a few trees at various other places, conditions upon this tract have remained very nearly the same during the last 10 years.

by taking several walks over each tract and observing carefully the birds present. Second, The birds along the line fences were watched until their movements indicated whether they belonged in or out. The ones nesting in hollow posts of line fences were counted, if open toward the tract being enumerated and not counted, if opening was on the other side. Third, I have visited each tract, at least once for each census, late in the evening or after night, to determine whether owls, Whip-poor-wills, etc., were present. The waxwings make a slight lispng sound that aids one in their discovery.

The birds that both feed and nest in the tree tops are the hardest to place. A census of them even after the very best care and judgment has been used, is liable to be "a good guess." By sitting perfectly still for fifteen or twenty minutes at various places in the woods and watching and listening, one may form a good estimate of the number of these birds that live within the tract.

The returns upon these two tracts by themselves do not indicate that there is a decline in the numbers of our native birds, but that on the contrary there is a slight increase. This is, however, somewhat misleading. A closer analysis of our census figures from year to year, together with a consideration of conditions that existed at the same time upon adjacent territory, will show that it was merely a retreat to remaining cover and does eventually mean a decline in numbers.

In the year 1916 conditions on both tracts were very favorable for the birds. Both tracts had plenty of trees and bushes and some land which was not being pastured by live stock or pastured very little. But at that time a large portion of the other land nearby was in the same favorable condition for the birds. Consequently we see that there was not an abundance of bird population on either tract. However the following winter (1916-1917) a great deal of the brush and timber near both tracts was cut and removed, while there was no such destruction upon either tract. The census of 1917 shows a marked increase of the numbers of birds on both tracts, indicating clearly that when the birds came and found their nesting places destroyed they merely retreated to the places where cover still remained.

Conditions upon Tract B continued to be about the same up to the winter of 1921-1922. But during these years there was some destruction of cover going on upon adjacent territory and we see the bird population increase from 95 to 122 pairs. In the winter of 1921-1922 there was some cutting and destruction of timber upon Tract B, and the following season the census shows an abrupt decline in numbers. Since that time very little change has taken place upon Tract B.

However, a small tract of land covered by trees and brush located about eighty rods west was cleared away in 1923 and 1924 and our census figures indicate that some of the birds from that place came to Tract B to live.

During all these years, however, conditions upon Tract A kept generally getting worse for the birds. All the trees, bushes and brush west of the railroad and a good portion of those east of the railroad were destroyed. By 1923 the bird population, which had been eighty-five pairs in 1917, had fallen to sixty pairs. But during the winter of 1924-1925 a tract of trees and thornbushes located sixty rods south of this tract, was destroyed, causing some of the birds to take refuge in the somewhat meager cover offered by Tract A. This fact, together with the increase in the number of redwings, explained herein later, caused the bird population to jump from sixty to eighty pairs.

The movements of certain species considered individually is also of more than passing interest. For example, the Grasshopper Sparrow lived upon Tract A in considerable numbers up to the years 1921 and 1922. During those two years their favorite meadow was converted into a corn field and these birds left, not even one remaining. In 1923 the farmer began reseeding this meadow and part of the birds came back. In 1924 and 1925, the meadow being re-established, the birds were back in their usual numbers. The cutting of small trees and bushes on the railroad right-of-way on Tract B in 1923 and 1924 caused the numbers of the Maryland Yellow-throat to decline from eight to four pairs.

The extraordinary increase in numbers of the Red-winged Blackbird on both tracts is accounted for as follows: During the spring of 1925 and up to the time of the taking of the bird census there had been a great deficiency in rainfall here. All the ponds and marshes in the vicinity of Tract A had dried up early in the season. So the redwings could not find much comfort there. But one of the water courses across Tract A is fed by a sewer outlet of Sigourney, which causes the grass and rushes to grow luxuriantly and the birds being attracted by these propitious surroundings, came here to live.

Up to the spring of 1924 there was a marsh or shallow pond of an acre or more in size situated eighty rods south of Tract B. This marsh had for many years been the summer home of a flock of redwings. That spring this marsh was drained, and broken up for corn. Some of the birds then came over and established their new home at the ponds of Tract B, and more of them came in the spring of 1925.

TABLE SHOWING CENSUS RETURNS ON TRACT A

(NOTE—Census was not taken for year 1919 because the request for the same, blanks and instructions from the Bureau of Biological Survey did not reach me.)

| NAME | 1916 | 1917 | 1918 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 |
|--------------------------------------|------|------|------|------|------|------|------|------|------|
| Killdeer | | | | | | | 1 | 1 | 1 |
| Bobwhite | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 6 | 5 |
| Mourning Dove | 1 | 4 | 3 | 3 | 5 | 3 | 3 | 2 | 3 |
| Sparrow Hawk | | | | | 1 | | | 1 | |
| Screech Owl | 1 | | | | | | | 1 | |
| Yellow-billed Cuckoo | 1 | 1 | 2 | 1 | | 1 | 1 | | |
| Hairy Woodpecker | | | | | 1 | 1 | | 2 | 1 |
| Downy Woodpecker | | 1 | | | | | | | 1 |
| Red-headed Woodpecker | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 1 | 1 |
| Northern Flicker | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 |
| Nighthawk | | 2 | 1 | | 1 | | 1 | 1 | 2 |
| Kingbird | 1 | 1 | 1 | 2 | | | 1 | 1 | 1 |
| Crested Fly-catcher | | 1 | 1 | 1 | | 1 | 1 | | |
| Phoebe | 2 | 1 | 1 | | 1 | 1 | | | 2 |
| Wood Pewee | 1 | 3 | 2 | 1 | 1 | 1 | 1 | | 1 |
| Acadian Fly-catcher | | 1 | 1 | | | | | 1 | 1 |
| Prairie Horned Lark..... | 1 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 1 |
| Blue Jay | 2 | 2 | | 1 | 3 | 1 | 2 | 2 | |
| Cowbird | 2 | 4 | 3 | 3 | 2 | 1 | 2 | 2 | 1 |
| Red-winged Blackbird | | | | | | | | 1 | 6 |
| Meadowlark (<i>magna</i>) | 4 | 4 | 3 | 6 | 4 | 6 | 5 | 4 | 5 |
| Meadowlark (<i>neglecta</i>) | | | | | | | | 1 | |
| Orchard Oriole | | | 1 | 1 | | | | | |
| Baltimore Oriole | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 |
| Bronzed Grackle | 1 | 2 | 1 | | | | | | |
| Goldfinch | | 2 | 1 | 2 | 3 | 3 | 3 | | 3 |
| Vesper Sparrow | | | | 1 | | | 2 | 1 | 1 |
| Grasshopper Sparrow | 5 | 6 | 10 | 6 | | | 3 | 6 | 6 |
| Lark Sparrow | | 1 | | 1 | 1 | 1 | | | |
| Field Sparrow | 5 | 4 | 5 | 2 | 1 | 1 | | 2 | 1 |
| Song Sparrow | 2 | 1 | 2 | 3 | | | | | |
| Cardinal | | | | | 1 | | | | 1 |
| Rose-breasted Grosbeak | 1 | | | | 1 | 1 | 1 | | 1 |
| Indigo Bunting | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | |
| Dickcissel | 7 | 7 | 2 | 3 | | 4 | 3 | 7 | 7 |
| Barn Swallow | | 1 | | 1 | 1 | 1 | 1 | 1 | |
| Bank Swallow | 1 | 3 | 4 | 1 | 2 | 2 | 1 | 1 | 2 |
| Migrant Shrike | 1 | | | 1 | 1 | 1 | | | |
| Red-eyed Vireo | | 2 | | | | | | | |
| White-eyed Vireo | 1 | | 1 | | | | | 1 | 1 |
| Maryland Yellow-throat | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 4 |
| Catbird | 2 | 3 | 2 | 2 | 2 | 3 | 1 | 2 | 2 |
| Brown Thrasher | 2 | 3 | 3 | 2 | 2 | 3 | 4 | 3 | 4 |
| House Wren | 1 | 1 | 1 | | 1 | 2 | 1 | | 2 |
| Tufted Titmouse | | 1 | | | | | | | |
| Chickadee | | | 1 | | | | | | |
| Robin | 6 | 6 | 6 | 5 | 6 | 5 | 3 | 3 | 5 |
| Bluebird | 1 | 2 | 2 | 2 | 1 | 4 | 6 | 2 | 4 |
| Number of species..... | 30 | 35 | 32 | 30 | 29 | 30 | 29 | 31 | 32 |
| Number of breeding pairs..... | 61 | 85 | 73 | 64 | 56 | 62 | 60 | 64 | 80 |

| NAME | 1916 | 1917 | 1918 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 |
|--|------|------|------|------|------|------|------|------|------|
| Maryland Yellow-throat | 1 | 2 | 4 | 3 | 4 | 8 | 8 | 6 | 4 |
| Catbird | 1 | 2 | | 2 | 3 | 3 | 4 | 3 | 5 |
| Brown Thrasher | 1 | 2 | 2 | 2 | 2 | | 1 | 2 | 1 |
| House Wren | 2 | 2 | 1 | 4 | 4 | 4 | 6 | 9 | 9 |
| White-breasted Nuthatch | 1 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 2 |
| Tufted Titmouse | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 2 |
| Chickadee | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 |
| Blue-gray Gnatcatcher | | | | | | | | | 1 |
| Robin | 6 | 5 | 3 | 7 | 8 | 5 | 5 | 7 | 5 |
| Bluebird | 2 | 2 | 2 | 3 | 3 | 1 | 2 | 2 | 3 |
| Eng. Spar'ws, nesting in hollow trees in woods | | | | | 3 | 2 | | | |
| Number of species..... | 38 | 40 | 40 | 46 | 43 | 41 | 41 | 41 | 45 |
| Number of breeding pairs..... | 76 | 95 | 103 | 113 | 122 | 106 | 111 | 122 | 119 |

Generally speaking we may learn from a consideration of the census together with surrounding conditions, that the birds are being cuffed and buffeted about from place to place mainly by man who, thoughtless of the great benefits received from them and thinking only of his own immediate gain, is destroying one tract of cover after another, leaving the birds to struggle on in their vain attempts to maintain themselves, while in fact they are being reduced in numbers just in proportion to the destruction of their natural homes.

CONCLUSION

A most pleasing sight to the average human eye is a fine country estate with buildings all neatly kept and well painted; with fine groves of shade trees all well trimmed up and orchard trees all neatly pruned; with fences all made of glistening steel posts and wires and the fence rows all clear of grass, bushes and trees; with swamps and ponds all drained and every foot under careful cultivation.

But a farm so kept offers little comfort and hospitality to the feathered messengers of song and good service. Neither do superficial glances at a farm, orchard or garden disclose the presence of innumerable bugs, worms and borers. The destruction of our native birds and their nesting places is mainly to blame for the increasing difficulties farmers and horticulturists have with insect pests in the production of food for humanity. Bug poisoning contrivances are numerous, their use is expensive and requires much time and labor. The birds would be glad to do most of this work if they were encouraged and protected. Birds make their homes where they find shelter and protection. Their food being mainly insects, they can find it most anywhere.

Every farm should have a timber lot occupying at least one-tenth of its size. In it underbrush and bushes should be permitted to grow. This will not injure the trees and the larger trees can be used for wood and lumber at proper times, if replanting is attended to, without detracting from the value of the lot as a bird harbor. Ponds maintained at suitable places will not only serve to attract some most valuable birds but can be used as water reservoirs for live stock as well. A few bushes and trees along fences will help to attract the birds.

For so small a consideration, the birds will stay and serve us, some in winter, more in summer, some the whole year round. Thus shall the aesthetic beauty of the world be enhanced and our deliverance from the vast army of insect pests be made sure.

SIGOURNEY, IOWA.

BIRDS OF THE RED RIVER VALLEY OF NORTHEASTERN NORTH DAKOTA

BY H. V. WILLIAMS

[Concluded from the WILSON BULLETIN, March, 1926, page 33.]

Sparrow Hawk—*Cerchneis sparveria sparveria*. So far have not separated this bird from the Desert variety, but it undoubtedly is found here for previous records show it taken on all sides of this district. Common during migration from the early eighties onward.

Desert Sparrow Hawk—*Cerchneis sparveria phalaena*. Very likely the most common of the two Sparrow Hawks found here, and is a common migrant and breeds quite commonly. A mounted specimen in the collection taken April 12, 1907. Two others in the University of Michigan collection taken August 8, 1913, and June 27, 1914. Earliest arrival, April 18.

Osprey—*Pandion haliaetus carolinensis*. A few years ago this was a very rare bird here, but of late years they are becoming more common especially along the Red River where quite a number have been seen. A mounted specimen is in the collection taken at Grafton, September 25, 1920. One in the University of Michigan Museum taken August 9, 1923, and one taken April 23, 1923, and April 29, 1924. Earliest arrival, April 29. Rare in the eighties on the big slough. More common along the Red River.

Barn Owl—*Tyto alba pratincola*. A very rare straggler this far north. I have only one record, taken at Gilby, North Dakota, September 4, 1922, by D. V. Eastman.