For the past ten years it has been the writer's pleasure and good fortune to have as a hobby, in an amateur way, the study of birds. Always interested in the out-of-doors, it was not until 1932 that any particular effort was made to know nature as we all should. However, even before this time I did have one particular interest that I had been giving attention to for a number of years, the daily flight of the crows. Even to most people, the general public say, on numerous occasions their attention was attracted time and time again by the evening flight of the crows. For a number of years the crows would congregate in the trees atop the high hill above Warwood (suburb of Wheeling, W. Va.) in such a large flock that their calls and chatter could easily be heard by all the inhabitants living in Warwood. At a given signal, so it seemed, the evening flight would begin and continue until the stragglers were enveloped by the close of dusk. For a number of years, each fall, winter and early spring, this same plan of flight was carried out, congregating in this huge flock and then flying westward over the great Ohio Valley to their roost somewhere in the hills in the State of Ohio. By the time that some people were just thinking about getting up, the crows were back in West Virginia and already carrying out their day's activities.

In 1936, this procedure, for some unknown reason, was reversed - the crows roosting in West Virginia and apparently feeding in Ohio. Since that time this reverse in flight and feeding has occurred twice more, the last time during the fall of 1940. However, during the latter part of February another important change in the usual plan of flight again took place and it was on this occasion I eventually gave special attention to the flock of crows and made the notes on their activities which serve as a basis for this article.
Until February when I first noticed the change again, the crows could be observed each evening just about dusk in their long continuous flight, coming from Ohio as far as one could see and disappearing over the hill at Warwood, finally to their roost.

One evening as I came home from work my attention was taken by an unusual amount of activity by the flocking of the crows in the trees atop the ridge. I thought again, perhaps once more they had again reversed their flight. However, this time they seemed to be gathering from all directions and using these trees as a meeting point. Then as before, at a given signal they began to take to the air and this time they flew parallel to the ridge for about one mile and then disappeared over the top. This new procedure of flight was carried out during the spring and so gave me my opportunity for observations from our kitchen window at home which I used as my official observing post and for keeping an accurate record of the activities for my conclusions.

I decided to select a thirty-day period and each day from March 15 to April 20 (except Sundays), I made notes. Several times I went by foot atop the ridge to make further observations and experiments which I will mention later on in this paper.

From my record book I find on most occasions the crows begin to congregate in late afternoon, coming from all directions in small flocks to join the main group. They keep coming until the barren tree branches literally bend from the many perched birds. It takes the flock better than an hour to congregate and during this time, the continuous calling can be heard a great distance as I explained before. From my observations, both from my window post and from approaching the flock on foot, I am positive that certain birds are leaders and others act as sentinels or policy, so to speak. When the crows are ready to move several of the birds take to the air and give a call that certainly must mean "let's move" for the flight then begins. As the birds move along several crows will fly about 20 or 30 feet outside the main flock sometimes making a small turn-about, or flying back to make sure all is well and in order. These same birds seem to warn the rest against danger as one will observe when an approach is made on foot.

On several occasions, in company with others, we tried to get within gun range of these crows but failed even though we used the woods as a camouflage. Each time our approach neared the flock the so-called "sentinels" would apparently spot us and give a cry of warning and the entire flock would take to the air and move farther along the ridge. We continue our pursuit and follow the crows for about two miles along the ridge. At this point they made a huge turn about and made their way back to the original gathering point. You can believe me when I say, "Crows are really keen-eyes as well as cunning".

Once the flock begins its evening flight from my records, I find that the average time for them to pass by my observation post required about two hours. In most cases, the flight is continuous, with the birds coming past at the rate of one hundred seventy-five to over three hundred per minute. The heaviest flight usually comes shortly after the flock takes off, and again looking to the records, it shows that at least three hundred or more birds continue to pass by for twenty to thirty minutes. The flight becomes spotty near the end and on each occasion it seemed to be timed so that the last birds were always enveloped by the approach of dusk.

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An estimate in the speed of travel was attempted by measuring the distance between two points and then taking the time on several of the birds as they covered the marked distance. The results showed the average speed to be between twenty-five and thirty miles per hour.

The roosting place of the crows was finally located by members of the bird club after several expeditions were made on foot. It was found to be on a heavily wooded section of a well protected hollow. Later on it was learned that hunters had not only located the roost but several returned with guns. This could be one of the very best solutions for the crows' change of flight for in many of the sportsman's magazines and hunter's clubs, it was suggested when there was no other hunting available for the hunter to try his hand at crow shooting.

From my records, taking note of the number of birds to pass by my observation post during the various times of the flight, some reasonable estimate can be made of the number of crows in the flock. Thus I feel sure that 20,000 would be a conservative estimate. To further back this number, two other members of the bird club were asked to give their estimate in round numbers, and they gave the same figure.

Judging from observations made so far this year, I believe there to be little reduction, if any, in the size of the flock. This winter the crows have moved their meeting place farther down the ridge towards Wheeling and each evening they congregate, coming once more from Ohio and roosting in the West Virginia hills.

---418 Warwood Avenue
Wheeling, W. Va.

Editor's Note

Of interest to local bird students is an article by Maurice Brooks and William Lunk appearing under General Notes in THE AUK (Vol. 59, Jan. 1942) concerning "White-winged Crossbills and Sitka Crossbills summering in the West Virginia spruce belt".

Brooks and Lunk in company with I. B. Boggs and Gene Frum observed a large flock of White-winged Crossbills (Loxia leucoptera) feeding in the spruce trees at the Dolly Sods fire-tower in Randolph County. This was on June 9, 1941, and attempts to collect specimens were unsuccessful. This is the first summer record for the species in West Virginia.

At Gaudineer Knob in Randolph County, the authors saw both White-winged and Red Crossbills on several occasions. Lunk, on June 10, collected a single male Red Crossbill, and then on June 11, collected a male and female. The specimens were sent to Ludlow Griscom who identified them as Loxia curvirostra minor, the Sitka Crossbill.

According to Brooks and Lunk the best time to find crossbills in West Virginia spruce belt is "during the first three weeks in June when the young spruces are often bearing good flower crops. The individual carpels of these flowers are loaded with waxy grains and have a decided sweetish taste".
SOME USES I HAVE FOUND FOR "ALONG THE TRAIL"

During the winter of 1940-41, the Brooks Bird Club cooperated in the supervision of nature study work, primarily planned for use in the Brooke County 4-H club work. The plan included publication of a series of pamphlets on birds entitled, "Along the Trail" (THE REDSTART Vol. VIII No. 9, pp. 65-67, June 1941).

When the Brooks Bird Club began planning "Along the Trail", the issue was placed before the Nature Club of Union High School (Benwood, W. Va.). A sufficient number of members, 130, voted to subscribe and began reading the articles and coloring the bird pictures. To the great surprise of the writer, these boys and girls of high-school age enjoyed the coloring work and began noticing more birds near their homes. Then, as spring and the unit of work on birds for Biology class approached, the writer decided to use copies of the birds for classroom work, to be supplemented with reports from books and magazines, observations by the pupils, and field trips. Not wishing to spend more time than had been allotted for bird study, the pupils were required only to color and study fifteen of the birds, with the other fifteen available, if they wished to do them, and about 120 of the pupils did! Of the 130 pupils, 125 completed the first 15 birds and 115 completed all thirty birds, for the most part showing that they had paid close attention to general color and specific markings. The mere completion, however, is not the most significant outcome of the use of this project as a learning aid, but the stimulus to further bird study.

During the first week of June when the first Union High School Girls' Camp was in progress at Oglebay Park, much interest was shown in birds by those persons who had used the "Along the Trail" birds in nature club or Biology class work so that they requested early morning field trips and afternoon field trips as well. When a bird song was pointed out, immediately one or more would describe the bird accurately enough for identification, and on several occasions were able to name birds when seen, basing their identification on the pictures they had colored.

When the writer went to Camp Y-Ota, on Lake Erie, as nature counselor for the summer, about twenty copies of "Along the Trail" were taken along. The youngsters in camp were from eight to twelve years of age, and 17 of them colored the pictures, not so well as had the high school group, but well enough to show colors of various common birds. In this way, many common birds were observed and identified.

The writer is thoroughly convinced that such a project as "Along the Trail" is valuable to nature study and gives invaluable use as a teaching aid. However, such use should always be followed, wherever possible, by more work on birds (it can also be applied to any other phase of nature - trees, flowers, mammals, insects, etc.) but if no other outcome results, interest is aroused in the fact that many species of birds are common enough for amateurs to identify, laying the first foundation for further study in this line. Coloring pictures may seem like "child's play" to some persons but the writer believes this to be a good method to learn bird colorings and specific markings.
The Brooks Bird Club deserves much credit for beginning "Along the Trail", and it is hoped that they will continue and expand the project.

--Mabel W. Hopwood
1800 Marshall Street
Benwood, West Virginia

WEST VIRGINIA CONSERVATION

We are very proud to recommend through these pages, the publication entitled, "West Virginia Conservation". This official publication of the Conservation Commission of West Virginia serves not only as a magazine of information publicizing the activities of the commission, but also as an out-of-doors magazine somewhat different from the usual run of such publications.

At the present time each issue is composed of twenty-four pages on good paper stock. Each cover is adorned with an excellent photograph and numerous photographs and line drawings make the text attractive.

"West Virginia Conservation" can be expected to grow in value with T. D. Gray, Director of the Commission, in charge. John W. Handlan, Editor, is a charter member and past president of the Brooks Bird Club. As THE REDSTART developed under Handlan's leadership, there is little we can add to outline his ability.

Each issue contains a number of monthly features, news items, and articles of general interest. Included in the featured articles each month are those by the head of each division of the Commission. This gives each department head an opportunity of explaining the means and value of the work being done.

We suggest that everyone interested in the out-of-doors send to the Editor, West Virginia Conservation, Charleston, West Virginia, fifty cents for a year's subscription. (A dollar bill will be easier to send and will cover a two-year subscription.) We can personally guarantee that you will receive satisfaction with each issue.

--Russell West
113 Edgewood Street
Wheeling, West Virginia

FIELD NOTES

Gulls and Terns on River:

During the week of July 1, 1941, a number of large birds were observed soaring along the Ohio River near the south end of Wheeling Island. Upon closer observation, these birds proved to be two different species, namely, the Herring Gull, Larus argentatus, and the Common Tern, Sterna hirundo. Several birds of each species were noted.

As far as the writer has been able to check on these birds, this proves to be one of the few summer records we have in Ohio County for either species.
The weather at the time of observation, and prior to, was cool and damp with storms in various sections.

Charles Conrad
418 Warwood Avenue
Wheeling, W. Va.

FIELD NOTES

Myrtle Warbler in Putnam County, W. Va.:

On November 11, 1941, I watched a single Myrtle Warbler, Dendroica coronata, as it moved among shrubs along a highway in Putnam Co., West Virginia, about two miles from Nitro. The bird was examined with the help of good binoculars at an approximate distance of 40 feet. Myrtle Warblers were fairly common in Cabell Co., adjoining Putnam, in February, March, and April, 1941, and presumably the bird seen November 11 is a part of the region's winter population.

J. W. Handlan
409 41st Street
Charleston, W. Va.

Nighthawks in a City Business District:

As a newspaper editorial worker at Huntington, Cabell county, West Virginia, in the spring and part of the summer of 1941, my duties kept me in the City's business district until 1 o'clock A.M. five nights a week. Nighthawks, Chordeiles minor, first were noted above the business section on May 3, when eight birds were seen in the late afternoon. From that date until I removed from Huntington July 12, many of this species were seen and heard virtually every night. The voices of foraging Nighthawks could clearly be discerned over the noise of city traffic anywhere in the considerable business section of this city of 75,000 population.

Frequently it was possible to catch fleeting glimpses of Nighthawks as they darted from the darkness overhead into the areas of light cast by street lamps or electric signs. On occasion I have estimated that at least a dozen birds were flying overhead, judging by their voices.

--J. W. Handlan
409 41st Street
Charleston, W. Va.

Bank Swallows:

Upon arriving at Camp Y-Ota (Youngstown Y.W.C.A. camp) on Lake Erie, near Conneaut, Ohio great numbers of Bank Swallows were noticed flying over the water. Their nests were soon discovered in a high clay bank at the edge of the Lake. About 30 of the nesting holes dotted the top of the bank. One after another of the swallows flew over the water, presumably in search of insects.

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Their droppings were found quite frequently on the water as well as many bits of insect legs, wings, exoskeletons, and antennae. (Many of these were probably undigestible parts of the Swallows diet.)

The nests were loosely constructed of straw, with a feather lining.

It was during June that the young hatched, and by the first of August, great numbers of the swallows began congregating on the telephone and electric wires, sometimes filling up every inch of available space and staying there for hours, now and then swooping out for some insect food.

--Mabel W. Hopwood
1800 Marshall St.
Benwood, W. Va.

EDITORIAL

WANT TO START A GOOD ARGUMENT

On the inside of the back cover of the November 1941 issue of West Virginia Conservation the above question was headlined. Editor John Handlan continues - "The editor is seriously considering a few 'good arguments' for presentation in the pages of West Virginia Conservation. - - - - - You suggest the controversial questions and we'll find people to take the opposing sides of the arguments".

The Editor will have little difficulty in finding a large number of subjects that would be of interest to his readers. The Editor of THE REDSTART and its readers have an additional suggestion to make to West Virginia Conservation. Many of the subjects which may be offered for debate will come within the scope and knowledge of the members of the Brooks Bird Club. On these topics we offer to insert, through the pages of our publication, our own ideas to be considered along with those of the sportsmen and technicians associated with West Virginia Conservation.

This suggestion, if accepted, will make the arguments more complete by introducing an entirely different angle than that which is usually considered on the pages of sportsmen's magazines. It will also tend to show both sportsmen and naturalist (amateurs both) that their ideas are not so divergent as perhaps they now believe. So bring on your arguments - we'll put in our "oar".

--K. W. H.