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A Report on Swan Lake, Nicollet County, Minnesota

by

Donald Smith

During the past fifty years articles have appeared in several magazines about Swan Lake and many state and federal official reports have been written about the lake as a waterfowl resort. It has been the subject of a Supreme Court battle in which certain forces were defeated in an attempt to drain the lake. During the drought of the 1930's persons representing southern Minnesota communities streamed into the office of the Conservation Commissioner all demanding that something be done to restore the lake after it had gone dry. Now at the present time frequent requests are received by the Minnesota Department of Conservation for aid in determining some means for improving Swan Lake. As a result of one of those requests a survey was made by the Waterfowl Division of the Pittman-Robertson Surveys and Investigations Project 11-R during the summer, fall and winter of 1946-47. The following is a condensation of the survey report which was written and submitted to state game administrators, who in turn forwarded it to the communities requesting the survey.

Introduction: Swan Lake is unspoiled by the deposition of soil from eroded land, free from the lusty destructive feeding activities of the German carp, miraculously undamaged by the ever

present greed for more farm land, lush with many forms of aquatic vegetation, and teeming with wild fowl during three seasons of the year. How often have old timers dreamed of again seeing lakes fitting such a description? How often have the young people longed to see a lake which mirrors for them this land of abundant lakes and streams as it was in the "good old days"? How many lakes are there left to us fitting such a description? Of the very few in this region, Swan Lake is outstanding. The challenge is laid before anyone to find a water area anywhere in Minnesota that annually produces more fur and more sport for duck hunters than Swan Lake, the destruction of which would result in an economic loss of staggering proportions to the surrounding communities. To illustrate: In 1945 the muskrat catch from Swan Lake amounted to an estimated \$125,000 or 8% of the total muskrat catch in the state and 3% of the total value (\$6,674,105) of the entire fur crop taken in Minnesota. On the opening day of the 1946 duck hunting season, there was one hunter for every three acres of water surface on Swan Lake and the great majority of them bagged their limit of birds. It is estimated that at the close of that opening day 25,000 ducks were taken from Swan Lake.

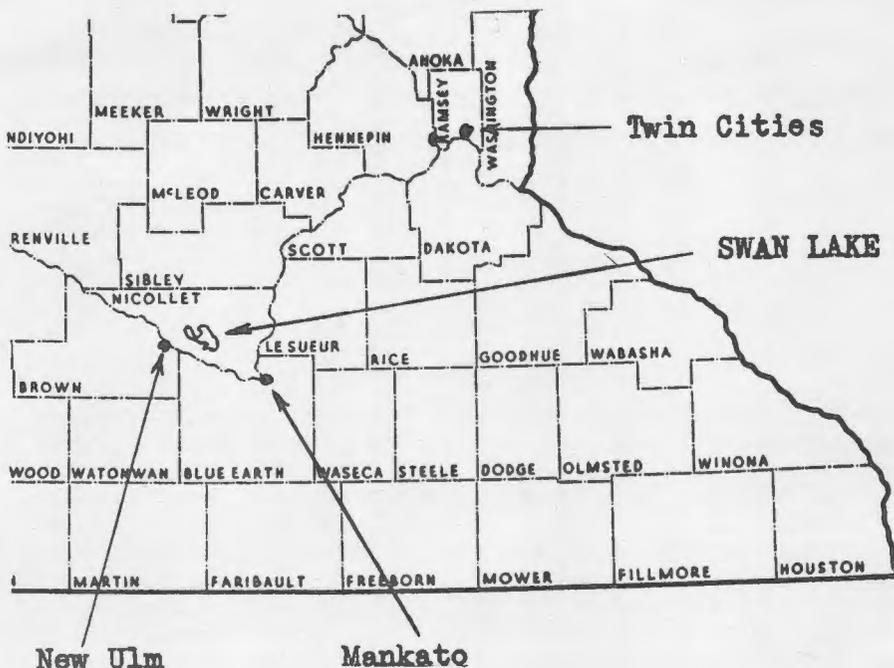


Fig. No. 1. Swan Lake location in relation to towns in southern Minnesota.

General Description: Figure No. 1 illustrates the location of Swan Lake in relation to centers of population. The lake is a shallow basin lying on a plateau formed of the drift from the Des Moines lobe of the Keewatin Ice Sheet which invaded Minnesota in the late Wisconsin glacial period. Swan Lake stands approximately 225 feet above the Minnesota River and 3 miles from it at the river's nearest point. The lake occurs in the Clarion-Webster soil type which is a dark colored prairie soil exceedingly fertile and unsurpassed in its production of corn, small grains, and hay crops.

The lake lies on the edge of the prairie in a very important waterfowl migration route. It is probable that many of the ducks coming down through Minnesota over lakes in Becker, Douglas, and Kandiyohi Counties stop over on Swan Lake during their

flight to the Mississippi River. It is a fact that many ducks follow in general the Minnesota River from Lac qui Parle-Big Stone-Traverse county and in so doing stop over on Swan Lake as it is by far the most attractive piece of water in the stretch between the western edge of Minnesota and the Mississippi River.

Its location along the edge of the prairie region also makes the lake important as a nesting ground for waterfowl.

Swan Lake has an area of 10,920 acres. Its drainage basin area is 32,700 acres. The ratio of the lake to its drainage basin indicates that it cannot maintain itself during drought periods. The lake naturally drains during wet years into the Minnesota River through Nicollet Creek which has its source near the southeast corner of the lake.

There are approximately 17 square miles within the meander line and the shoreline is approximately 50 miles in length. At the time of this survey the deepest sounding was 7 feet in Nelson's Narrow's. The lake averaged approximately 3 feet in depth over most of its area.

At the present time the lake contains little open water being for the most part covered by dense beds of bulrush which gives the lake a marshy appearance. It is choked with many varieties of floating and submerged aquatic plants.

Historical Discussion: Unlike many other lakes in this state Swan Lake was surveyed intensively at least twice by biologists before the last drought. Their reports give us some indication of the plant succession which will take place in the lake now that it has recovered from an almost complete drying. Mr. Harry C. Oberholser, an ornithologist of the Biological Survey, visited Swan Lake in 1917, and his report was published in part in the March, 1918, issue of the *Fins, Feathers and Furs* magazine which at that time was the official organ of the Game and Fish Division. Dr. Surber, then a biologist in the Minnesota Game and Fish Division, made an investigation of Swan Lake in 1923 and his report is also of great interest. Those surveys were made because the lake at that early period was attracting nation-wide attention. Agricultural interests in the face of considerable opposition were attempting to establish a judicial ditch system which would have drained the lake. In 1923 a petition was circulated among the farmers surrounding Swan Lake in an attempt to establish the drainage system which would have lowered the lake materially. The petition was signed by a considerable number of farmers and then was submitted to the Board of County Commissioners. It was not approved by that body. The case was appealed to the

District Court and was fought bitterly by members of "The Southern Minnesota Lake Improvement Association," an organization founded with one purpose, the saving of Swan Lake. The Association was ably represented in the court battle by one of its members, Mr. J. K. Schmidt, a well known Mankato attorney. This case is known officially as "JENSEN VERSUS NICOLLET COUNTY COMMISSIONERS," dated 1924. The case was again defeated in the District Court and the petitioners then appealed the decision to the State Supreme Court for review. The refusal of the District Court to permit the drainage of Swan Lake was supported by the Supreme Court and the opinion was heralded all over the United States as a major battle won against the forces constantly seeking more arable land. Carlos Avery, then Director of the Minnesota Division of Game and Fish, in a letter dated May 26, 1917, to the Nicollet County Board of Commissioners officially placed his Division in opposition to the Swan Lake drainage scheme.

One of the most important points about which there was considerable disagreement concerned the ordinary high water mark. The engineer for the petitioners claimed that this level was at an elevation considerably below the level prevailing at the time the petition was filed and the stage of the lake at that time constituted a flood stage, being three feet higher than the normal water stage. The attorney for the Association claimed that the ordinary and usual water level for Swan Lake was that which existed at the time the petition was circulated. Both sides presented considerable evidence to support their contention. It is noteworthy that the ordinary high water level for Swan Lake was not officially determined at that time nor has it been established since. Another point of significance which was brought out by Mr. Schmidt



Photo by J. Zorichak

Photo No. 1. Swan Lake from the air. Note intensive cultivation of the surrounding land.

was that there are two outlets to the lake, one a natural outlet, the other an artificial outlet. He claimed that the natural outlet had been "tampered with" in about the year 1886, and was again lowered after the petitioner's defeat.

In spite of winning the battle to save Swan Lake, the dry years of 1934 found Swan Lake considerably diminished in size and it had all but disappeared by 1936. When the lake was at its lowest stage the entire exposed bottom was a thick tangle of rushes, reeds and brush. All through the drought period the lake bottom was an excellent location for pheasant hunting. The dry lake bed contained large quantities of Canada thistle, ragweeds and other types of obnoxious vegetation which, according to some farmers surrounding the lake, spread out over the bordering farm lands causing considerable annoyance to farmers who were trying to keep their fields clean of such vegeta-

tive pests. Some of the lake bottom was actually cultivated and much of it was pastured. The evidence of this can be seen today where abrupt changes in vegetation mark old field lines. This was not the first time that the lake went dry during an extended drought period for in 1900-02 (reference letter from J. K. Schmidt to E. J. Ryan, House of Representatives, Wash. D. C.), the lake was also in that condition. These two periods were the only times that direct reference could be found to the complete drying of Swan Lake. Old residents in the vicinity claim that the lake dries about every thirty-five years and it is therefore likely that it has gone through a continuous cycle of drying and reflooding down through the ages.

It was natural that during the drought period duck hunters, trappers and other persons interested in Swan Lake should want to "do something" about restoring it. According to a letter

from E. V. Willard to the Lake Crystal Commercial Club dated March 2, 1934, there were many delegates and individuals which called upon him as Commissioner of Conservation and a large number of resolutions and communications were received by his office from southern and southwestern Minnesota all in the interest of the intensive development of Swan Lake as a refuge and hunting ground for aquatic wildlife. The Southern Minnesota Lake Improvement Association was particularly active in its attempts to find ways and means of restoring the water level of Swan Lake. It was some time in 1934 that Mr. Schmidt and Harry LaDue, both members of the Association, contacted Adolph F. Meyer and engaged him to conduct an investigation to determine the feasibility of bringing water into the lake bed in order that Swan Lake might be restored. Mr. Meyer was then as now a consulting hydraulic engineer ranking at the top of his profession. Mr. Meyer spent considerable time in the Swan Lake area obtaining data for a report he prepared and submitted to the Association in June, 1934.

Mr. Meyer studied three sources of water: Rush Creek, which is a small stream flowing north of Swan Lake eventually reaching the Minnesota River; the Minnesota River, and underground water. Mr. Meyer showed conclusively that due to the lake's small drainage basin, the lake could not maintain itself even during a normal year as the evaporation from the lake's surface would exceed the runoff into and precipitation on the lake itself. It was only during a succession of wet years that Swan Lake under natural conditions, would be found at a level existing at the time of the Oberholser and Surber surveys. During a succession of normal and dry years it was inevitable that the lake should eventually become dry.

It was considered impractical by Mr.

Meyer to try to restore and maintain the full surface area of the lake as it has been (and is now) in a state of nature. As an alternative he suggested that a lake area of only three square miles be established and maintained. This would have been a lake approximately the size of White Bear lake near the Twin Cities.

Mr. Meyer's report indicated that the least expensive and most practical method of establishing a lake area of minimum size was the pumping of underground water. It was his judgment that three wells could be sunk around Swan Lake at four or five mile intervals which would yield a permanent flow of about 500 gallons of water per minute each. This would be sufficient flow to maintain a lake area of three square miles during a drought era as severe as occurred in the 1930's. His estimate of the cost of sinking the three 14" wells to a depth of approximately 375 feet and of the purchase price of pump would total \$36,000 and the annual fixed charges plus operating cost would total \$13,800. There was no action taken as a result of Mr. Meyer's report and it was not long after its submission that the Southern Minnesota Lake Improvement Association lost its identity as an active organization.

Mother Nature has a way of doing things which seems to put man's efforts to do similar things to shame for in August, 1940, the rains came and Swan Lake was on its way back to regain most of its pristine glory lost during those black years of the 1930's. In 1943 the lake level had risen to approximately that found by Mr. Oberholser in his survey of 1917. Apparently the lake did not regain its depth, nine to twelve feet, and it probably never again will be as deep as it was before its last disappearance due to the accumulation of plant remains on the bottom. The depth, however, was great enough to support a large number of aquatic plants and



Photo by J. Zorichak

Photo No. 2. Aerial view of a portion of Swan Lake. Note abundance of river bulrush.

the inevitable process of plant succession has brought the vegetative picture of Swan Lake to a stage where it is almost unequaled in quantity and quality of waterfowl food and cover plants.

Wildlife Utilization: In 1947 Grady Mann, a graduate student in the wildlife management curriculum at the University of Minnesota, spent considerable time on Swan Lake. His estimates of the production of waterfowl on Swan Lake are of particular interest. By making systematic counts in the bays of the lake he estimated that there were 12,000 blue-winged teal, 3,000 ruddy ducks, 1,000 mallards, 1,000 redheads, and 200 wood ducks raised on Swan Lake in 1947. Mr. Mann also spent much time during the 1947 fall migration season on Swan Lake. The following estimates refer to the species and number of ducks which he believed used the lake as a feeding and resting ground: blue-winged teal - 20,000; baldpate - 15,000; lesser scaup - 10,000; mallards - 8,000; ruddy ducks - 8,000;

redheads - 7,000; ring-necked - 6,000; pintails - 3,000; shoveler - 3,000; wood ducks - 2,000; gadwalls - 1,000; green-winged teal - 1,000; American merganser - 800; black duck - 500; bufflehead - 500.

Swan Lake has not been noted as a blue bill lake, for in most years few lesser scaup are shot there; however, ring-necked ducks are taken in large numbers together with a moderate number of redheads and rarely a few canvasbacks. The lake is noted by duck hunters for its excellent 'teal' and mallard hunting as those two species comprise the bulk of the Swan Lake bag.

An aerial count of muskrat houses was made over Swan Lake in October, 1946. There were 4,288 houses counted on that date. It was estimated that if all the houses were occupied, there were approximately 10,300 muskrats in the lake during the fall of 1946. One beaver lodge was noted during the survey, but it appeared inactive; however,

two beavers were reported taken from the lake in 1945. The trend in muskrat numbers appears to be downward from a high in 1943. This may be due to over trapping and to a reduction in emergent vegetation. From estimates by farmers and others the number of houses on the lake in 1946 was about half that in 1945.

Although there has been only one positive record of carp in Swan Lake there are two points through which carp have access to the lake at times of high water. One of these is at the junction of Nicollet Creek with the newly constructed drainage ditch from Middle Lake which is infested with carp. The other point is one reported by the Nicollet County surveyor who states that now there is a connection between Swan Lake and Rush Creek through a ditch entering the lake at the north side. This will permit carp to run from the Minnesota River through Rush Creek into Swan Lake during the spring high water stage.

Vegetation: One of the most interesting and important steps in any biological investigation of a lake is the study of the aquatic vegetation present, its past development, and probable direction in the process of succession. It is now known that the water chemistry of a body of water governs to a considerable degree the kinds of vegetation it can support. A water sample from Swan Lake was analyzed by the Minnesota Bureau of Fisheries. It was indicated that the lake was a hard water type typical in its chemical composition of the waters in the gray drift of the Kewatin Ice Sheet underlain by pre-cretaceous formations being similar in this respect to Lake Waconia in Hennepin County. It is not a typical prairie lake such as Heron Lake and Lake Kandiyohi which lie approximately twenty-five and fifty miles respectively to the west. They are underlain by cretaceous formations and, consequently, are much

higher in the sulphates and generally higher in carbonates (Moyle, 1939).

A list of aquatic plants found in Swan Lake during the course of the investigation is presented below together with a grade of relative abundance:

Star duckweed (<i>Lemna trisulca</i>)	very abundant
Greater duckweed (<i>Spirodela polyrhiza</i>)	occasional
Water meal (<i>Wolffia columbiana</i>)	abundant
Bladderwort (<i>Utricularia</i> sp.)	rare
Coontail (<i>Ceratophyllum demersum</i>)	abundant
Sago pondweed (<i>Potamogeton pectinatus</i>)	common
Narrow leaf pondweed (<i>P. strictifolius</i>)	common
Fries' pondweed (<i>P. Friesii</i>)	occasional
Richardson's pondweed (<i>P. Richardsonii</i>)	occasional
Largeleaf pondweed (<i>P. amplifolius</i>)	rare
Flat stem pondweed (<i>P. zosteriformis</i>)	common
Floating leaf pondweed (<i>P. natans</i>)	common
Bushy pondweed (<i>Najas flexilis</i>)	occasional
Water weed (<i>Anacharis canadensis</i>)	occasional
Mud plantain (<i>Heteranthera dubia</i>)	occasional
Muskgrass (<i>Chara</i> sp.)	occasional
Wild celery (<i>Vallisneria americana</i>)	rare
Water smartweed (<i>Polygonum natans</i>)	occasional
Water starwort (<i>Callitriche palustris</i>)	rare
White waterlily (<i>Nymphaea tuberosa</i>)	occasional
Duck potato (<i>Sagittaria latifolia</i>)	common
Cattail (<i>Typha latifolia</i>) ..	occasional
Narrow leaf cattail (<i>Typha angustifolia</i>)	occasional
Blue flag (<i>Iris versicolor</i>) ..	occasional



Photo by M. Stenlund

Photo No. 3 A typical stand of river bulrush in Swan Lake. This simplifies the hunter's problem of camouflage.

- Spike rush (*Eleocharis palustris*) ..
..... occasional
- Soft stem bulrush (*Scirpus validus*)
..... occasional
- Hard stem bulrush (*Scirpus acutus*)
..... occasional
- River bulrush (*Scirpus fluviatilis*) ..
..... abundant
- Burreed (*Sparganium eurycarpum*) ..
..... occasional
- Banner grass (*Phragmites communis*)
..... occasional

One of the principal differences in the vegetation as seen in 1946 from that existing in 1917 and 1923 is the smaller number of aquatic plants present at the later date. In 1917 Oberholser and associates found seventeen more aquatic plants than were present in 1946. In addition two important duck food and cover plants, hard stem bulrush and wild celery, were abundant in 1917 but were rare in 1946. Apparently in the old days Swan Lake was covered by the round stem bulrushes while today it is choked with river bulrush, a plant vastly inferior to the round stem rush as a source of food and cover for waterfowl and muskrats. Perhaps the reason is that prior to the Oberholser survey Swan Lake had been flooded for a period of seventeen years, but it

had been inundated for only five years before the recent survey was made. Possibly within a few years if the wet cycle continues, the lake will again be taken over by the better variety of rush and by wild celery. It is a fact that the river bulrush is fast disappearing from the lake, for there are several bays now devoid of any emergent cover which two years ago were filled with river bulrush. There are small beds of hard stem bulrush now getting a foothold in some of those bays and in the main lake, and if they can hold their own against the inroads of muskrats, may in a few years occupy those now barren areas.

With the exception of only a few lakes in Minnesota Swan Lake is not exceeded in its tremendous quantity of duck foods. If water levels hold up well during the next several years, the quality of duck foods will undoubtedly improve by the addition of large beds of wild celery and wild rice.

Public Utilization: Estimates of the number of hunters using Swan Lake on the opening day of the 1946 waterfowl season ranged from two thousand to thirty-six hundred. This number included nimrods from all the surrounding communities as well as many from the Twin Cities.

In an area embracing 15 counties in the west central part of the state there is a ratio of 723 square miles of meandered water area to 270,796 people. In an area of similar size which includes 19 counties in the south central and southeastern portion of the state the same ratio is 200 square miles of water to 479,909 people. Of the 200 square miles available to the hunters in the southern region there is only one good duck lake in the total (Swan Lake) while in the west central zone there are many good duck lakes available to slightly better than half as many people. This is further evidence of the importance of Swan Lake to the communities near which it lies.

The Mississippi River bottoms, Lake Hanska, Heron Lake, and Swan Lake are the only four areas in southern Minnesota which now provide or in the past have yielded really good duck hunting. Hunting in the Mississippi River has been very poor during those years of abundant water. Lake Hanska and Heron Lake are not only carp infested but are largely "closed propositions." That leaves Swan Lake to handle the intense pressure exerted by the heavily populated southern Minnesota. It is in this zone of heavy hunting pressure that the carp have destroyed the aquatic vegetation in many lakes which formerly were good hunting sites. This fact throws an additional burden of hunting pressure on this one remaining duck resort which has not yet felt the effects of the carp. It is accurate to state that Swan Lake is the only good duck hunting lake available to the large population of duck hunters found in southeastern and south central Minnesota. This past season the hunting pressure was at an all time high on Swan Lake with approximately one duck hunter for every three acres of water surface. The local warden states that most of these hunters shot their limit the first day.

There is only one landing which provides hunters free access to Swan Lake. Prior to 1946 Nicollet landing was considered to be a public landing; however, certain facts came to light which prevented hunters from using the landing in the 1946 season. The County Commissioners have ordered a survey made of the road leading into Nicollet Landing and plan to extend the road to the water's edge in 1947. This will make two public landings available to the general public.

At present, farmers who control the shoreline of Swan Lake charge hunters a fee ranging from one to ten dollars for the right of driving into the shoreline to launch their boats. It is reported that one farmer on the west side of the March, 1948

lake collected approximately one thousand dollars from hunters during the past season.

Hunting on the lake has been improved in the past by the existence of a statutory refuge of approximately six hundred and fifty acres located around Anderson and Johnson Islands. The sanctity of the refuge is rigidly observed by local hunters who in turn prevent others from trespassing within its boundaries. The refuge is obviously put to the use for which it is intended by great numbers of ducks during the hunting season, and is an important factor in holding ducks on the lake throughout the season. Under present conditions hunting can be indulged in almost any place over the entire area of the lake surface without violating the open water shooting restriction. This leaves few places on the lake free from hunter disturbance other than the refuge.

To the casual observer who has not hunted on Swan Lake the appearance of the lake seems to indicate that the best hunting would be obtained from the numerous points and passes which the sinuous shoreline has created. This is not the case, however, for the best hunting is found along the boundaries of the refuge, and the wind direction and velocity determines which boundary line will provide the best "shoot" on any given day. The edges and islands of emergent vegetation particularly bordering the deep water south of Johnson's Island are the second best hunting locations. As the river bulrush disappears waterfowl will be able to feed and rest over an increasing area of open water, and the refuge will diminish in importance as a factor in retaining ducks in the locality and in providing good duck hunting in its immediate vicinity.

It is practically impossible to attach a dollar value to the sport of waterfowl hunting which Swan Lake provides to an enormous number of people.

However, it is possible and desirable to place such a figure on the annual fur crop taken from Swan Lake. By tapping three independent sources of information, it was estimated that during the 1945 muskrat season approximately five hundred trappers operated trap lines on Swan Lake. These same sources of information indicated that the average catch per trapper amounted to two hundred muskrats. The total muskrat harvest, therefore, on Swan Lake in 1945, was about one hundred thousand animals. The OPA ceiling price for muskrat pelts in 1945 was \$2.15, and it is noteworthy that 'rat pelts from Swan Lake were regarded as superior in quality and were much sought after by fur buyers. From an elementary calculation it is found that the total value of the 1945 muskrat crop from Swan Lake amounted to \$215,000.

In Job Closure No. 23 titled "Statistics of the 1945 Fur Catch" prepared by the Furbearer Division of P-R Project 11-R, it is stated that Nicollet County lead all others (counties) in muskrat production both in 1945 with a catch of 89.8 muskrats per square mile and 1943, with a catch of 123.2 per square mile. From the same source it was determined that the value of the Swan Lake fur crop in 1945 amounted to 3% of the total value (\$6,674,105.23) of all furs trapped and sold in Minnesota in the same year, and 8% of the total value (\$2,603,877.90) of all muskrats trapped in the state in 1945.

Of a total of twenty-six square miles of meandered water area in Nicollet County twenty square miles are accounted for by Swan Lake. The majority of muskrats taken in the county came from Swan Lake, and figures concerning the muskrat catch for Nicollet County apply almost directly to that lake. The 1943 catch was thirty-seven per cent greater than the 1945 catch in Nicollet County. Although the value per pelt was greater in 1945 than in 1943, the total value of the muskrat

catch from Swan Lake was even greater in 1943 than the \$215,000 figure for 1945.

The income from trapping muskrats on Swan Lake has been considerable for many years during which the lake was not dry. In 1933 a letter was written to Gov. Olson by W. E. Jensen, Asst. Cashier of the Nicollet State Bank, calling attention to the importance of Swan Lake to nearby communities. The following quotation is taken from that letter: "As an illustration of what the lake means to our town of Nicollet in a commercial way, not considering the number of sportsmen that visit our town in the fall of the year spending freely for provisions and ammunition, etc. During the trapping season a couple of years ago, the bank paid out to local trappers more than \$30,000 in checks for trappers residing in this community who caught the major part of their seasons' catch at Swan Lake, other towns adjacent to the lake have just as favorable reports."

Mr. Avery in his letter to the Nicollet County Board of Commissioners dated May 26, 1917, stated, "The catch of muskrats on Swan Lake is variously estimated by competent authorities at from three hundred to five hundred thousand rats annually, or from one-tenth to one-sixth of the production of muskrats for the entire state." And further in the same letter, "The production of fur in this territory which amounts to at least \$100,000 a year is a factor entitled to consideration."

From the U. S. Census of Agriculture, 1945, the total value of all farm produce in Nicollet County amounted to \$7,223,806 or \$26.50 per acre of farm land. The per acre yield of income from Swan Lake the same year amounted to \$19.54 in fur alone. The latter yield, in contrast to the yield from farm land was obtained from practically no investment, being for all practical purposes a gift of nature. If it were possible to attach a money val-

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ue to the recreation which the lake afforded duck hunters, and if that were added to the yield from the fur catch, the per acre annual yield of Swan Lake would be far higher than the annual income from an acre of farm land in Nicollet County which, it should be noted, ranks among the highest counties in production of farm products in the state.

In 1946, estimates of the number of trappers on Swan Lake varied from the same as in 1945 (514) to twice that figure. Due to a late fall windstorm which destroyed many houses in the deep water and to a reduction in the emergent vegetation from the previous year, the number of houses at the opening of the muskrat trapping season was considerably less than in 1945. Thus the competition for set locations was greatly accelerated over 1945. Several trappers interviewed after the opening day of 1946 remarked that the rush to establish trap lines that fall reminded them of a nylon stocking riot in a Chicago Department Store during the war. Twenty minutes after the opening hour all initial sets had been made; however, in 1945, one trapper remarked he was still finding houses to set traps in on the second day of the season. The catch of the 1946 season was approximately half the catch of 1945. This is based on interviews of trapper residents of Nicollet Village who averaged about eighty muskrats each for the season. It is evident that the muskrat population on Swan Lake is on a downward trend and will probably continue in this direction until the vegetation in the lake reaches the point where much of the lake surface is occupied by the round stem bulrushes. A few dead muskrats were found this year by several trappers, but the number was not large enough to be of economic importance. This is the first time, however, that trappers have reported dead muskrats on Swan Lake.

Recommendations: It was difficult to

arrive at very many ways in which Swan Lake could be improved. However, since one of the objects of the survey was to find means of improving the lake, the following recommendations were presented: The possibility of an invasion of Swan Lake by carp should be prevented at any cost. Therefore, the outlet to Nicollet Creek ought to be filled in to prevent carp access from Middle Lake and the Minnesota River. The ditch on the north side of the lake where it intersects the Rush Creek drainage basin should also be plugged. To accelerate the rate at which wild celery will normally expand its present beds, it was recommended that winter buds and seed pods of this species be heavily planted in Nelson's Narrows. It is also suggested that wild rice be planted in the bays where it was formerly abundant.

The public does not have adequate access to Swan Lake as there is but one public landing on the entire fifty miles of shoreline. It would be of great service to the hunting public if at least four additional public landings were established at points along the shores. Much of the shoreline at Swan Lake is heavily pastured. Due to the lack of nesting cover for blue-winged teal, mallards, and other ground nesting ducks and the rapidity with which this type of cover develops through the simple means of fencing out cattle, it is recommended that portions of the Swan Lake shoreline be leased under the new Pittman-Robertson Project 16-D or purchased outright from the Public Hunting Grounds Fund and that these portions be fenced.

None of the above recommendations will be of permanent significance unless Swan Lake is made a permanent body of water. Due to the tremendous benefits accruing to the public through the existence of Swan Lake it is deemed entirely feasible to spend a large sum of money to insure the continued existence of this lake. The figures pre-

sented in Mr. Meyer's report show conclusively that to attempt to keep Swan Lake at its present level during drought periods would be impractical. However, he indicates in the same report that it is feasible and desirable to maintain a minimum water area of three square miles by tapping underground water and pumping from that source into the lake bed.

Construction and material costs have approximately doubled since 1934 when Mr. Meyer prepared his estimates. At that time his estimates of the cost of the deep well installation and pumping system was \$36,000. It is probable that the cost of such a project today would be about \$80,000. Balancing the initial cost against the one million dollar return to trappers from the muskrat harvest on Swan Lake during the past five years, it would seem on the basis of insuring the continuance of the fur harvest alone that such an initial expenditure is justifiable. When the benefits to duck hunters in the southern section of the state are also credited to the project, it appears to leave little doubt that the project is justifiable.

From the handbook titled "Laws Relating to Game & Fish, 1945-46" the following quotation is extracted, "Not less than 50 per cent of the moneys received from the sale of licenses to take small and big game by hunting and trapping... shall be used for the acquisition and maintenance of public hunting grounds, game farms, and game refuges, and the improvement of natural propagation and breeding grounds. . . ." (97.49, Funds, subdivision 3, page 34). It appears in view of the statement presented above that the Division of Game and Fish can legally spend money to improve Swan Lake without making it a public hunting ground. It is emphasized that the most important improvement need of the lake

now is an engineering project to prevent the lake from drying up completely during the drought periods which are certain to come. No one can deny that Swan Lake is a natural propagation and breeding ground for waterfowl and muskrats.

When state and federal governments are spending billions to establish new water areas for public benefits it is little short of folly to turn a cold shoulder on methods designed to insure the continuance of proven benefits from water areas already in existence. If for some reasons no money is available from the public hunting ground fund to finance this project, it is suggested that the sportsmen of Minnesota turn a portion of their dollars which have been going to Ducks Unlimited for projects in Canada toward a fund to pay for the development of Swan Lake which will yield to Minnesota duck hunters and trappers a guaranteed return on their investment. It would be a sad commentary on the perspective of the Minnesota sportsmen if, when they willingly underwrite by a twenty-five thousand dollar contribution a "Minnesota Lake" in Canada, they should balk at raising a similar fund which, were it combined with a Federal Aid allotment, would establish permanently the finest waterfowl resort found not only in Minnesota but any place in the land!—Pittman-Robertson Program, St. Paul, Minnesota.

Editors Note: It will be of particular interest to readers to find that our statutes contain a statement allowing for the expenditure of state game and fish funds received from the sale of licenses for improvement of present breeding habitats for wildlife. Under this clause many other worthwhile projects might be undertaken in addition to the one suggested in this article for the maintaining of Swan Lake.—W. J. B.

Exotic Birds in North America

by

Forrest Lee

This paper consists of a summary by Forrest Lee of a panel discussion held at the January 7, 1948, meeting of the Minnesota Bird Club. Norman J. Ordal, Richard Straw, and Forrest Lee each discussed one of three sub-topics:

I. A History of Introductions of Exotics in North America and an Account of Legislation Concerning Importations of Foreign Birds. Norman J. Ordahl.

Little is known of the early history of the introduction of foreign birds into this country. Prior to 1900 no governmental records were kept. Phillips (7) provides the best reference for the topic. His sources include old letters, records of bird clubs, newspaper articles, etc. The earliest known attempt at introduction was with the Hungarian partridge in the latter part of the eighteenth century. This bird was stocked in New Jersey on the plantation of Richard Bache, son-in-law of Benjamin Franklin. George Washington's journal shows that in 1786 Lafayette sent the first specimen of "French partridge" to reach this country to Mount Vernon.

About the middle of the last century a period began during which efforts were made to introduce European song birds. German-American bird fanciers and various cage bird clubs led these activities. Between 1846 and 1850 the Natural History Society of Brooklyn is said to have brought over a number of birds including European goldfinches, linnets, bullfinches, skylarks and the notorious English sparrow. Between 1872 and 1874 the Cincinnati Acclimatization Society set free some twenty species and more than 3,000 individuals. During this same period a society in Cambridge, Massachusetts, liberated

many European goldfinches. In April 1870 some song birds were liberated in Lafayette Park, St. Louis, Missouri. Beginning in 1880 various pheasants and Asiatic game birds reached Oregon and Washington through the efforts of Judge O. N. Denny, then consul general at Shanghai. In 1877, as well as later, the American Accilmatization Society, liberated a number of birds in Central Park, N. Y. Between 1888 and 1907 the Portland, Oregon Song Bird Club founded by a German-American C. F. Pfluger imported many birds. The Country Club of San Francisco tried five or six common European species in 1891. In 1913, Henry Ford liberated 400 to 500 European birds on his estate at Dearborn, Michigan.

Thus we see how early importations were carried on by various groups without any legal restrictions. The spread of the English sparrow after the 1850 liberation in New York probably brought about the concern which resulted in legislation being enacted. In 1888, Dr. C Hart Merriam, Chief of the Biological Survey, in the Annual Report of the Department of Agriculture, recommended legislation to control introductions. He stated, "It seems desirable that a law be enacted conferring upon the Commissioner of Agriculture the power of granting or withholding permits for the importation of Birds and Mammals, - -."

In 1894 quarantine regulations were adopted in California which state that animals and birds detrimental to fruit trees are prohibited from being brought into the state. Alexander Craw, quarantine officer of the California State Board of Horticulture, in 1896, called attention to the need of legislation and

his annual report recommended the passage by congress of a law preventing the introduction of noxious animals.

There appears in the 1898 Yearbook of the Department of Agriculture a paper entitled "The Dangers of Introducing Noxious Birds and Animals" by T. S. Palmer, Assistant Chief of the Biological Survey. He cited the case of the English sparrow and recommended: "The introduction of exotic birds and mammals should be restricted by law and should be under control of the United States Department of Agriculture."

Federal legislation to control the importation of exotics was enacted in 1900 as the Lacey Act. Provisions of the Lacey Act state that "The Importation into the United States, or any territory or district thereof, of - - -, the English sparrow, the starling, and such other birds and animals as the Secretary of Agriculture may from time to time declare to be injurious to the interests of agriculture, is hereby prohibited, - - -". Further it states that "No person shall import into the United States or into any territory or district thereof any foreign wild animal or bird, except under special permit from the Secretary of Agriculture."

Cooke and Knappen (3) list the following nine species which by declaration of December 26, 1935, by the Secretary of Agriculture under authority of the Lacey Act may not be imported into the United States: skylark, starling, common myna, crested myna, European bullfinch, English sparrow, European yellow-hammer, green finch, and chaffinch.

II. Successful and Unsuccessful Introductions by Species. Richard Straw.

A. Successful Introductions.

Cooke and Knappen (3) list twelve non-game birds naturalized in North America:

1. Mute swans are found living in a

wild state along the Atlantic coast. These birds probably originated from flocks kept for ornamental purposes in New York and New Jersey.

2. The rock dove or common pigeon has been reported breeding on cliffs in several localities.
3. The Chinese spotted dove is now found in Los Angeles, Orange and San Bernadino Counties, California. It seems to be increasing in numbers.
4. The ring-turtled dove is a cage species now living wild in the park system of Los Angeles.
5. A small colony of Australian crested doves lives in the foothills behind Berkeley, California. They are not noticeably increasing in numbers.
6. The Mexican conure, a colorful parrot-like bird has been reported in the interior of Florida.
7. The European skylark is established near Victoria, Vancouver Island, B. C. Many attempts to introduce this bird in the United States have failed. In 1903, 99 of these birds were liberated near Victoria, B. C.
8. The European starling succeeded after introductions in Central Park, N. Y. in 1890 and 1891. Previous attempts to establish this bird failed.
9. The English sparrow was liberated in New York in 1850 through the efforts of the Brooklyn Institute.
10. The European tree sparrow was introduced in 1870 when 12 pairs were liberated at St. Louis, Mo. It is now found in two Missouri Counties and one Illinois County and has never been observed more than 100 miles from St. Louis.
11. The crested myna or Chinese starling was liberated in the vicinity of Vancouver, B. C. in 1897. By

1927 they were estimated to number over 20,000. Since then the population of these birds has decreased in that locality.

12. The European goldfinch has been liberated at a number of places. From 1935 to 1940 it was observed in New York State, New Hampshire, Massachusetts, Wisconsin, and California. This list should be supplemented by mention of game birds that have been successfully introduced.

1. Ring-necked pheasant. The first great success in introducing this bird came in the northwestern states. In 1881, 100 pairs were placed in the Willamette Valley of Oregon where they soon increased in a remarkable manner. This introduction resulted from the efforts of Judge O. N. Denny, then consul general at Shanghai.

2. The European or Hungarian partridge has succeeded in western Canada and several of the midwestern and western states.

B. Unsuccessful Introductions.

The following list of introduced birds that have not succeeded in becoming established is based on information from Phillips (7). The list included only birds introduced from outside of North America.

1. Formosan, or Baikal teal were first brought to this country in 1909 from China. Later large shipments arrived.
2. The European teal has been commonly imported and has sometimes made its escape.
3. The Egyptian goose is kept as an ornamental species. It frequently escapes.
4. Some European corn crakes, or land rails were set free by the Cincinnati Acclimatization Society between 1872 and 1874.
5. Guinea fowl. An attempt was made

to make this fowl a game bird on Jekyll Island, Ga. about 1890.

6. The black grouse, or black game. This European game bird has been liberated, among other places, in Newfoundland, on Grand Island in Lake Superior, on Vancouver Island, B. C. and in the Adirondacks.

7. Capercaillie. Some of the locations where this game bird has been released are: Northern Maine; Grand Island, Mich.; Algonquin Park, Ontario; the Adirondacks; Newfoundland; and British Columbia.

8. Hazel grouse. Thirty-one of these birds were released on Grand Island, Lake Superior in 1905 and 1906.

9. The first specimen of the red-legged partridge to reach America was sent by Lafayette to George Washington in 1786. Others were brought to Illinois in 1896.

10. Early trials with Indian chukar partridge were in Massachusetts and Nova Scotia.

11. Nine common Francolin or black partridges were brought to Illinois in 1891, 1911 and 1912.

12. Bamboo partridges from China have been introduced in the state of Washington. This species seems to have first reached America in 1904 and 1905.

13. The migratory or Egyptian quail began to be imported into the Eastern States from Sicily and Messina, Italy, in 1875. Two hundred were set free in Vermont in 1877. These birds were found breeding in July, 1877. Some were observed breeding in other instances at locations of other liberations but after migration there was never any return movement. At the time, it was believed that most of the introduced birds migrated in a southeasterly direc-

- tion and perished at sea. Some are reported to have come aboard a ship hundreds of miles southeast of Cape Hatteras in November 18-77.
14. The migratory Chinese quail has been tried out in the state of Washington.
 15. Attempts have been made to establish the following pheasant species in the United States:
 - a - Reeves pheasant, a native of China.
 - b - Silver pheasant. In 1883 some were sent to Washington from China by Judge Denny.
 - c - Black-backed Kaleege pheasant.
 - d - Golden pheasant - The first of these birds to reach this country was probably a pair sent by Lafayette to George Washington in 1786.
 - e - Copper pheasant. Some of these birds sent by Judge Denny about 1885 were released on Protection Island in Puget Sound.
 - f - Japanese or green pheasant. A few of these birds were sent by Judge Denny about 1885. They were released on Protection Island in Puget Sound.
 - g - Prince of Wales pheasant.
 16. Sand grouse. This Asiatic species has been liberated in the state of Washington.
 17. Bleeding heart dove. Some are reported to have been released in the state of Washington.
 18. European wood pigeon. Thirty individuals were released in Bronx Park, N. Y. between 1910 and 19-13.
 19. The Australian shell parakeet, a cage bird, is occasionally seen living as an escape in California.
 20. The wood lark was introduced near Portland, Oregon by the Portland Song Bird Club in 1889.
 21. The robin redbreast of Europe has been tried in Oregon, Ohio, New York City, California and Michigan.
 22. The nightingale was liberated in considerable numbers in Cincinnati, New York, California and Portland, Oregon by the various song bird clubs.
 23. European thrushes have been liberated many times by song bird clubs.
 24. The European dipper was introduced during the Cincinnati experiments of 1872-73.
 25. Twenty pairs of the European blackcap warbler were brought over in 1907 by the Portland Song Bird Club.
 26. The European blue tit has been tried out near Vancouver, B. C.
 27. The European great tit was introduced at Cincinnati from 1872 to 1874.
 28. Java sparrows were liberated in Central Park, N. Y. in 1878. The importation of these cage birds is allowed by the Bureau of Biological Survey with the understanding that they are not to be liberated.
 29. The chaffinch has been liberated in New York, Cincinnati, Oregon, and California.
 30. The green finch was introduced at Portland, Oregon in 1889 to 1892.
 31. Thirty-five pairs of the brown or gray linnet were introduced at Portland, Oregon in 1889 to 1892.
 32. European siskins were released by the Cincinnati Acclimatization from 1872 to 1873 and by the Portland Song Bird Club in 1889.
- ### III. Factors Affecting Success or Non-success of Introductions.
- Forrest Lee.
- The previous lists indicate that there have been many more failures than successes with introductions. Little mention is made, concerning these early importations, of attempts to study the

requirements of the bird and the conditions of its native habitat. Such a study might permit the selection of an environment where an introduced species would be likely to succeed.

At this point it might be appropriate to discuss the factors involved in any bird population. Population is said to equal "Biotic Potential" over "Environmental Resistance". Biotic Potential is defined by Chapman (2) "as the inherent power of an organism to reproduce and survive; i.e., to increase in numbers". Inherent factors of reproduction include, maximum breeding age, minimum breeding age, number of young per year, etc. The ability of a species to withstand temperature extremes is an example of the survival aspect of biotic potential. Environmental resistance is the tendency of environmental influences to hold populations down so

they do not reach the proportions that might be possible through biotic potential. A predator might take five young ducks from a brood of ten. A predator acts as a factor of Environmental Resistance in reducing the number of young below that number which had resulted from the biotic potential of the species or parent birds. Leopold (4) lists decimating factors, welfare factors, and natural or climatic factors of environment. Decimating factors are hunting, predators, starvation, diseases and parasites, and accidents. Food, water, and cover are welfare factors. Climatic factors include rainfall, temperature, humidity, and sunlight.

It would seem then that in selecting a bird for introduction, the bird itself should be studied as well as its native environment and the new environment to which it might be brought. McAtee

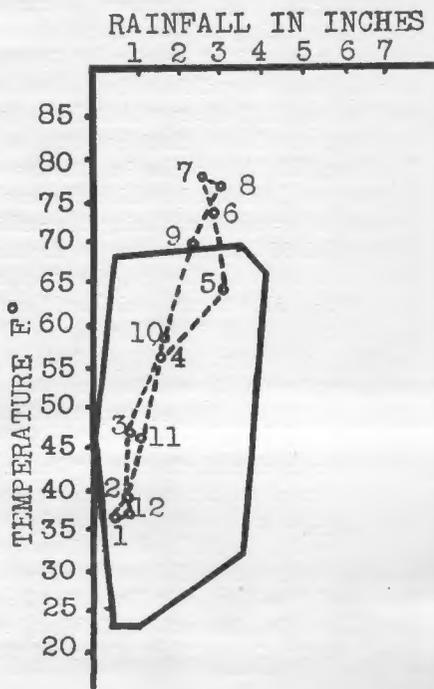


Fig. 1. Climograph for the Amarillo, Texas region adapted from McCabe et al (6.) The solid polygon indicates the European optimum for the Hungarian Partridge. It is a composite of climographs for various locations over the European range of this bird. The dotted line is the climograph for the Texas location. The numbers represent the various months of the year. Temperature and precipitation as environmental factors are outside the European optimum during the months of June, July, August, and September at Amarillo, Texas.

(5) mapped regions of the world having similar climatic conditions. One map of average annual precipitation correlates broadly with another very generalized map of the natural vegetation of the world. Two additional maps show regions with similar average July and average January temperatures. On the basis of his analysis McAtee provides a list of species recommended for introduction.

The climograph constitutes a further attempt to evaluate year-long temperature and precipitation as environmental factors. The climograph is a kind of chart on which monthly rainfall in inches is plotted against average monthly temperatures. (Fig. 1.) Twomey (8), working with the Hungarian partridge, constructed a "standard" climograph representing the European range of this bird. Various local climographs, from throughout the European range of the Hungarian partridge were superimposed upon each other and their extremities connected. The boundary of these extremities is known as the European optimum. Climographs of several locations where the Hungarian has been introduced were then superimposed on this "standard" climograph. Colfax, Washington has all months within the optimum limits. The Hungarian is reported to be doing well there. McCabe et al (6) report on a release of the Hungarian partridge in the region of Amarillo, Texas. A climograph was made for this region. McCabe states, "A comparison of this climograph with our others reveals that the Texas Panhandle, like the north central states, has an unfavorable nesting season since the months of June, July, and August lie well outside the European optimum, indicating that the area is too hot during the nesting season." This planting was not successful.

It was mentioned previously that the European skylark seems to be established in the vicinity of Victoria, Brit-

ish Columbia. According to Twomey (8) climographs show that conditions at Victoria, B. C. fall within limits of the European optimum for this species. Climographs of Portland, Oregon, San Jose, Calif., and Brooklyn N. Y. do not fall within these limits. Attempts to introduce the skylark at these places failed.

Cahn (1) shows how a climograph analysis was used to determine whether or not attempts should be made to introduce the ring-necked pheasant, Hungarian partridge and chukar partridge to the Tennessee Valley area. His conclusions are, "The conditions of the Tennessee Valley are obviously far beyond the range of those encountered by the birds in their native distribution. The climographic analysis leaves no hope that these birds can thrive or survive in the valley, hence any effort to raise them with a view of liberation is unwarranted."

Twomey's (8) summary contains some interesting statements which are quoted here. "Bird species of limited distribution live within a limited set of environmental factors which form the optimum conditions for that species." Further, "If that species be introduced into a new locality, in which the environmental conditions during the critical period of the year are too diverse from the native optimum, the species will not be able to maintain itself, and will disappear. In localities where the local optimum lies partially within the native optimum, the species may linger in a precarious state, or may be eliminated at any time by serious local disturbances in climatic factors." "Barring the factors of environment such as food and shelter, a species introduced into a new locality is destined to failure unless the optimum conditions of temperature and humidity coincide with those conditions in the native habitat, at least during the critical season of the breeding period."

McCabe et al (6) states, "The true effect of climate is often obscured by averages. Adverse climatic conditions become lethal in three ways, suddenness, severity, and duration, all of which may be absorbed in averages. Climatic conditions that in themselves would have no effect on wildlife may

be combined to produce a climatic complex that is detrimental."

In conclusion, it might be well to remember that climatic factors are not the only ones which may affect a bird in its reproduction and survival.—Minnesota Bird Club, Minneapolis, Minnesota.

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Winter Bird Counts, 1947-48

compiled by

Byron E. Harrell and Richard M. Straw

Winter bird counts by members of the Minnesota Ornithologists' Union resulted this year in more species and individuals than either of the last two years, totaling 4,838 individuals of 53 species. All groups except the Minnesota Bird Club reported an increased number of birds. Eighteen species were found this year that were not seen in 1946. Holboell's grebe, lesser scaup duck, white-winged scoter, sharp-shinned hawk, American rough-legged hawk, bald eagle, Wilson's snipe, snowy owl, flicker, raven, tufted titmouse, robin, bluebird, Bohemian and cedar waxwings, rusty blackbird, purple finch, and a rarity, spotted towhee. The 1946-47 list included ten species not reported in the recent census: pied-billed grebe, golden eagle, great gray owl, prairie horned lark, Canada jay, Hudsonian chickadee, brown thrasher, bronzed grackle, pine grosbeak, and white-winged crossbill. As usual, a number of these last species were known to be in the census areas, but did not appear during the counting periods.

The species and individuals seen are tabulated at the end of this report. Observers who participated and notes on their trips follow:

DULUTH BIRD CLUB

The results of ten trips by ten observers between December 21 and January 8 were combined for the report of the Duluth Bird Club.

On December 21, with a temperature of 20 to 27 degrees above zero and a 10 mph wind from the southwest, Mr. and Mrs. Ralph Boeder and Joel Bronoel covered Minnesota Point, Dr. Olga Lakela made observations on the North Shore from Duluth to Beaver Bay, and O. A. Finseth added records as he

walked twenty miles in the St. Louis River valley between Fond du Lac and Jay Cooke Park.

The Fond du Lac - Jay Cooke Park area was covered again on January 4 by Mr. and Mrs. Harvey Putnam, J. Bronoel, and O. Lakela, in calm weather, with a clear sky and melting temperatures.

Observations in the Duluth area were made on December 23 and 24 by O. Lakela, on the 28th by Sam Cox, who reported the temperature at 4-10 above and the wind five miles per hour, and on January 8, by Miss Mary I. Elwell. Records for Denbigh, by Mrs. Arthur Roberts, January 4, and by Mr. Boeder on the North Shore Jan. 8, also swelled the list.

MINNEAPOLIS AUDUBON SOCIETY

On December 26, eleven members of this organization in three parties, made observations at Theodore Wirth Park, Lake Harriet, the Minnesota River valley, and Nine Mile Creek. These groups covered territories which they report as being 40% river bottoms, 30% city parks, 20% open farmland, and 10% mixed woodland. Eleven miles were traveled on foot and twenty by automobile in a total of twenty-one hours in the field. The temperature ranged from 11 to 23 degrees above zero, with no wind. Observers were Miss Lula May Aler, Mrs. Scott F. Carmean, Miss Georgette Monroe, Mrs. C. R. Nelson, Mrs. Kenneth A. Phelps, Mrs. E. D. Swedenborg, Mrs. J. A. Thompson, Mrs. Clarence Tolg, Mrs. P. D. Tryon, Mrs. William Ure, and Mrs. R. H. Wells.

MINNEAPOLIS BIRD CLUB

Both sides of the Mississippi River from Minneapolis to Anoka were covered by twenty members of the Minn-

eapolis Club in their tenth annual census of this area on December 28. The day was mild and sunny, becoming overcast, and the temperature ranged from 20 to 21 degrees above zero. Two parties were made up by: Lewis Barret, Amy Chambers, Alice Fitzsimmons, John Futcher, Brad Gilbert, P. J. Gleason, Lola Johnson, Edith Kees, Judy Kees, Florence Nelson, Bill Pieper, Mr and Mrs. Henry Pratt, and John and David Pratt, George Rickert, Mr. and Mrs. M. H. Rosien, Milton Thompson, and Helen Towle.

Another census made on the afternoon of December 26 by Milton Thompson, Bill Pieper, and Dana Struthers was included in the totals reported for the club. They had clear weather, with a temperature of 15 degrees above zero.

MINNESOTA BIRD CLUB

Thirteen persons divided into three parties made the annual census of Cedar Creek Bog on December 28. Two groups traveled through the northern part of the bog, the third and largest covered the southern portion. The weather was reported as cold and cloudy. Those present were Ken Morrison, Mrs. C. Corniea, Oscar Owre, Lyman Newlin, W. J. Breckenridge, Lewis Barrett, Sam McIver, H. J. Paul, Jim and Dana Struthers, Mrs. I. A.

Lupient, Miss Theodora Melone, and Bruce Hayward.

ST CLOUD BIRD CLUB

On December 27 five members of this club censused the territories near the Teachers' College quarries, Sauk Rapids, and the St. Cloud Veterans' Hospital. The temperature was reported as being about 15 degrees above zero, and it was a crisp day with a raw wind. The observers were Mrs. Davis, Mrs. Lehrke, Mrs. Beacom, Loretta Rosenberger, and Monica Misho. A second trip on a cold New Year's Day added to the list of the earlier census.

ST. PAUL BIRD CLUB

Two censuses were taken by the St. Paul Bird Club, on December 27 and 28. The lists for both days were combined to make the report. The first trip was to Lake Vadnais, made by fourteen observers in two parties. Included were: A. C. Rosenwinkel, Mr. and Mrs. Carlyle Sather, Eileen Sather, Brother Pius, Leonard Lustig, Robert Walsh, Dorothy Sundry, James Achartz, Bob Keenan, Jack Olson, Tom Meyer, James Walters, and James Duchaine.

Several spots along the Mississippi River from South St. Paul to Hastings were checked on the second day by Bill and Dorothy Longley, Carlyle Sather, and J. Whipple.

The deadline for the June, 1948, issue of The Flicker is May 10, 1948. Book Reviews are popular and make good space fillers. The editor would appreciate getting material early. Typewritten manuscripts should be double-spaced. Refer to "Preparation of Copy for The Flicker," Vol. 19, June, '47, p. 58.

SUMMARY CHART OF CHRISTMAS CENSUS OBSERVATIONS

Species	Duluth Bird Club	Minneapolis Audubon Soc.	Minneapolis Bird Club	Minnesota Bird Club	St. Cloud Bird Club	St. Paul Bird Club	Totals
Holboell's Grebe	1						1
Mallard		6				54	60
Black Duck		3				2	5
Lesser Scaup Duck	2					2	4
American Golden-eye	89		175			238	502
White-winged Scoter	1						1
American Merganser						350	350
Goshawk				1		3	4
Sharp-shinned Hawk	1	1					2
Rough-legged Hawk			1			1	2
Bald Eagle						1	1
Ruffed Grouse	1			3			4
Ring-necked Pheasant		67	26		2	44	139
Wilson's Snipe		1					1
Glaucous Gull	2						2
Herring Gull	441						441
Great Horned Owl	1		6			1	8
Snowy Owl	1						1
Barred Owl	1					4	5
Flicker		1				1	2
Pileated Woodpecker	2			1		1	4
Red-bellied Woodpecker		4	1				5
Hairy Woodpecker	2	10	14	3	1	3	33
Downy Woodpecker	46	19	24	4	1	4	98
Blue Jay	29	62	20	12	8	31	162
Raven	1						1
Crow		2	4	1		24	31
Black-capped Chickadee	42	59	37	57	10	36	241
Tufted Titmouse		1				2	3
White-breasted Nuthatch	2	27	23	1	9	4	66
Red-breasted Nuthatch	6						6
Brown Creeper		3	6				9
Robin	7	5				3	15
Bluebird		1	1				2
Golden-crowned Kinglet	1	2	2				5

Bohemian Waxwing	100				4		104
Cedar Waxwing		100	1		26		127
Northern Shrike	4			1		1	6
Starling	25	6	84	10	2	254	381
English Sparrow	20	1138	114	11	100	100	1483
Red-winged Blackbird						1	1
Rusty Blackbird						1	1
Cardinal		23	8		2	18	51
Evening Grosbeak	12						12
Purple Finch			4	8	22		34
Redpoll	3	3		9		14	29
Pine Siskin	20	5		20			45
Goldfinch	1	6				21	28
Red Crossbill	2			15			17
Spotted Towhee		1					1
Slate-colored Junco		52	23	1	4	73	153
Tree Sparrow		8	1	3		59	71
Snow Bunting	60			18			78
Totals - Individuals	179	575	1616	1351	926	191	4838
Species	19	21	28	31	31	13	53

—Minnesota Bird Club, Minneapolis, Minnesota.

BOOK REVIEW

WINGS IN THE WILDERNESS by Allan D. Cruickshank. Oxford University Press, 1947. 255 pp., 125 illustrations. \$6.00

This is a book to delight all bird watchers. I have never before seen so many excellent photographs of birds crammed between two covers. Of course, it ought to be good because Cruickshank is probably the best bird photographer in the country. He combed his collection of some 30,000 negatives to select 125 of his favorite shots for inclusion in WINGS IN THE WILDERNESS.

The book is mainly a parade of beautiful and striking photographs. Water birds predominate, though all types are represented from the snowy egret to the starling. It is hard to select one above the others, but I think my favorite is titled "Dune Parade," depicting a flight of brown pelicans over an ocean beach.

Opposite each photograph is a descriptive paragraph that bristles with interesting facts about the species pictured. It is obvious that WINGS IN THE WILDERNESS was an expensive book to produce, though it is unfortunate that its price will tend to restrict the wide circulation it should enjoy.—Ken Morrison, Minnesota Representative of the National Audubon Society, Minneapolis, Minnesota.

Note: The above book is available at many book stores, or the National Audubon Society, 400 Public Library, Minneapolis 3, Minnesota.

Seasonal Bird Report

by

Mary Lupient

Except for the first week in January, the winter has been severe. In the Twin Cities, snow that fell on November 7, is still with us; there has been no thaw. Temperatures dropped to 42° below zero near the Canadian border and in the Twin Cities as far as -20°. Due to the fact that October was unseasonably warm, robins in numbers, bluebirds, and other species that migrate, lingered and were caught by the cold weather. Reports show that many of them survived and are still here. Robins evidently found food and shelter in many parts of the state and were reported as far north as Duluth for the Christmas Census. In St. Paul, E. V. Brewer saw a flock of 25 on January 7, 1948. There were records of bluebirds at various localities in the southern half of Minnesota during December and the first part of January. Meadowlarks were reported by George Rysgaard in Goodhue County on December 22, 1947, and by Dr. W. J. Breckenridge just north of Minneapolis on January 4, 1948. I saw five meadowlarks on January 3, 1948, in a field adjacent to the Minnesota River near the Minneapolis city limits. A farmer was spreading barnyard fertilizer and the birds were so tame that they flew close to him barely escaping the horses' hoofs at times. He told me that they had been there every day and at night went to the farm buildings for shelter.

Another uncommon record is that of a brown thrasher that up to this time, February 15, 1948, has stood the extreme cold and feeds daily at the homes of Dr. and Mrs. Malcolm Willey and Mr. and Mrs. Eugene Lehman in Minneapolis. On December 6, 1947, Mrs. J. H. Thompson, Minneapolis, banded a

bronzed grackle and another was seen on February 2, 1948, by Dr. W. J. Breckenridge and Harvey Gunderson. With it were Brewers and red-winged blackbirds. A red-headed woodpecker appeared at Onamia on December 1, 1947, and another still feeds regularly at the home of Joel Reisinger near St. Paul. Several flickers spent the winter in and near the Twin Cities. An account of the first Eastern Minnesota record of the spotted towhee appears elsewhere in this issue, written by Mrs. R. H. Wells, Minneapolis.

Evidently this was not a redpoll year as there were only a few scattered reports and in most cases the number of individuals was small. There were no reports on pine or evening grosbeaks, and not many snow buntings were seen. Besides the comparatively few counted on the Christmas census, three small flocks were reported near Robbinsdale by Mrs. A. D. Corniea. Miss Lulu M. Aler observed numerous pine siskins and cedar waxwings in Glenwood Park, Minneapolis, during the first part of January, but their numbers diminished as the winter progressed.

In and near the Twin Cities, a duck census was taken on January 10, 1948, for the U. S. Fish and Wildlife Service. The following observers participated: John Jarosz, Dr. W. J. Breckenridge, A. C. Rosenwinkel, R. A. Kortmann, Brother J. Pius, Robert Keenan, Lyman Newlin, Milton D. Thompson, and Don Smith. At the Plymouth Avenue roost there were 337 American golden-eyes and at the St. Paul airport there were 400 American golden-eyes. At the confluence of the Kinnickinnic River and the St. Croix River the unusual number of about 1,000 American golden-eyes

and 130 American mergansers were counted. A few ducks, including one canvas-back, were seen at Ft. Snelling on January 18, 1948, by Byron Harrell and Bruce Hayward.

Regarding the occurrence this season of old squaws, Dr. W. J. Breckenridge received the following communication from Dr. Olga Lakela, Duluth, dated January 26, 1948. "Today I drove to Two Harbors. Lake Superior is pretty well closed in as far as Largsmont. A strong northeast wind may change the condition any day, but you will have to go farther than Duluth for old squaws. No one has reported them yet, at least not to me. There were a few golden-eyes in open spots, and white gulls among the herring gulls. They appeared to be glaucous." The

only record of old squaws is one by Dr. W. J. Breckenridge and Harvey Gunderson who were at Grand Marais, February 3, 1948, and saw some flocks far out on Lake Superior. They said that American golden-eyes were regularly scattered along the North Shore and some American mergansers were observed. Also they reported the very remarkable occurrence of a buffle-head at Silver Creek on the North Shore.

Only one appearance of the tufted titmouse was noted this season. William Kilgore stated that one came to his feeder in Minneapolis on December 25, 1947. At Cedar Creek Bog, Harvey Gunderson saw a flock of red crossbills on October 24, 1947, and they were still there when the Christmas census was taken.—Minneapolis, Minnesota.

BOOK REVIEW

NORTHERN FISHES (Revised Edition) by Eddy and Surber, Minneapolis. University of Minnesota Press, 1947. 276 pages. \$4.00

Many fishermen may have absentmindedly put off getting Eddy and Surber's **NORTHERN FISHES** only to find it out of print when they finally got around to inquiring for it at bookstores. The rapid sellout of the first 5,000 prompted the Minnesota University Press to republish the book but before the authors permitted the reprinting they revised many features of the volume and enlarged it by 24 pages. The book, as many modern Ike Waltons have discovered, contains understandable answers to a great many questions regarding fish and fishing in general while the illustrations, keys, and descriptions will settle many arguments over just how certain fishes differ from one another. The book's information applies to the Upper Mississippi Valley states and adjacent portions of Canada.

The very informative introduction has been expanded by 18 pages and 4 interesting new illustrations. These preliminary sections are somewhat reorganized and include the new headings "Fishing Techniques", "Fish Populations", "Improving of Quality and Conditions of Fish Populations", "Laws and Propagation" and "Parasites of Fishes". The section on "Structural Features" is clarified by 4 additional diagrams. The body of the text is only slightly altered by some changes in scientific names in the families of Minnows (*Cyprinidae*), Catfish (*Ameiuridae*), and the Perch and Darters (*Percidae*), and some slight alterations in the keys in the Sunfish (*Centrarchidae*) and Sucker (*Catostomidae*) families. Finally the bibliography has been brought up to date by the addition of 24 new references. This volume should certainly find a place in the library of any outdoorsman who would like a good coverage of the wildlife of this part of the U. S.—**W. J. Breckenridge**, Minnesota Museum of Natural History, Minneapolis, Minnesota.

Editor's Note: This book may be purchased by MOU members at a ten per cent discount by sending your check to Mrs. Mary Lupient, Treasurer of the MOU, 212 Bedford Street S. E., Minneapolis 14, Minnesota.

March, 1948

NOTES OF INTEREST

SPOTTED TOWHEE SEEN IN EASTERN MINNESOTA—Soon after the big all-day snow storm of November 7, 1947, we noticed a beautiful adult male towhee on the ground eating the cracked grain. After a few days he became bold enough to follow the cardinals to the feeding shelf just outside the kitchen window where he also enjoyed the sunflower seeds.

On the Christmas bird count I put him down as our Minnesota migrant, the red-eyed towhee. My sister, writing from Hollywood, mentioned that a San Diego towhee had visited her bird bath on Christmas morning. Turning to Roger Tory Peterson's



Photo by W. J. Breckenridge

SPOTTED TOWHEE

FIELD GUIDE TO WESTERN BIRDS, I found under spotted towhee a number of subspecies listed, including the San Diego and the Arctic towhee. Mr. Peterson states that there is no apparent field difference in these subspecies. The color plate showed the white spots on the upper wings and back so magnified that a comparison to our Minnesota Towhee was necessary. In Peterson's 1947 edition, of his FIELD GUIDE TO EASTERN BIRDS, the Arctic towhee is listed under accidentals, as spotted, or Arctic towhee. He says it is similar to the eastern towhee but has rows of white spots on back and scapulars and that it wanders farther east in winter. After reading this I went immediately to the kitchen window, hoping the towhee might be there and sure enough he was! While he deliberately ate his fill undisturbed by other birds, I stood behind a curtain so close I could examine him thoroughly. No doubt he was the Arctic. His spots made heavy wing bars besides the white streaks on scapulars and back.

Dr. W. J. Breckenridge, Director of the University of Minnesota Natural History Museum, came over to check on its identity so we could have authority in listing it properly on our Christmas bird count. He said this bird had never been reported this far east in Minnesota before. He also said the word Arctic is a misnomer since the bird never really gets that far north.

In Dr. T. S. Roberts' BIRDS OF MINNESOTA published in 1932, the author refers to the Arctic towhee as a western species being found close to our western border in North Dakota. In the appendix to the latest edition of the above work, Dr. Roberts speaks of Arctic towhees being seen along the western border of Minnesota by Mrs. C. E. Peterson of Madison, Lac qui Parle County, in the fall of 1932. She trapped three birds in September 1934 which were sent to the University Museum. These skins are still in the study collection. Several others also reported seeing Arctic towhees in the fall of 1934 close to the Minnesota border. Dr. Brinckle banded over fifty at Northville, South Dakota. After referring to the unusual number in this part of the country in 1934, Dr. Roberts completes this article in the appendix by saying, "Possibly this exceptional eastward movement was caused by strong westerly winds and dust storms that prevailed that year."

Thursday, January 22, was the last day the beautiful towhee visited us. That night it was very cold, being way below zero. The last week he was here we were able to watch him closely every day just before bed-time. Around five o'clock he would go through a regular routine. That hour in the day the towhee was quite alone as most of the other birds had retired for the night. He would become very active, stopping to eat a few sunflower seeds on the shelf, flying quickly to the leafless lilac bushes, where he would flit about in a restless, agitated manner, flirting his tail and displaying the white of his outer tail feathers. Then he would dash to a brush pile next door, flitting about there a few minutes. He would spend about twenty minutes in this fashion and finally take a last leap into the air, moving in an undulating flight, land in a small pine tree in a neighbor's yard, no doubt to tuck his pretty black head with its red eye, under his spotted wing and relax.

Three different photographers took both motion and still pictures of the towhee. The one accompanying this article was taken by Dr. Breckenridge through our kitchen windows on a dull gray day.—Mrs. R. H. Wells, Minneapolis Audubon Society, Minneapolis, Minnesota.

Editor's Note: The name "Spotted" and "'Arctic'" have been somewhat confused in referring to this towhee. The name Spotted Towhee (*Pipilo maculatus*) refers to the species which has been subdivided into numerous races, the Arctic Towhee (*Pipilo maculatus arcticus*) being the most easterly in its distribution. The three specimens from western Minnesota in the Minnesota Museum of Natural History are of this race and presumably this bird also is of this race. However, since the races are indistinguishable in the field this bird should be referred to by its specific name only, the Spotted Towhee.—W. J. B.

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OBSERVATIONS ON THE MIGRATIONS AND SEX RATIOS OF DUCKS ON THE SAVANNAH RIVER REFUGE—The symbols and artifacts of slavery are still common on the Savannah River Refuge of the Fish and Wildlife Service. The 13,000-acre sanctuary, situated on both the South Carolina and Georgia sides of the river, is a vast marsh, interspersed with hammocks and dykes, lying 17 miles from the sea. Rice was grown here from the early 1800's until shortly after the Civil War.

Today the fireplace and chimney rubble of slave huts, moss-covered open cisterns, gaunt lone brick smokestacks (the ruins of rice mills), and lonely graves of black men lie half hidden amid the live oak, sweet gum, hickory, and youpon or holly.

Among these remains of the rice-growing era it was my pleasure to observe the fall, winter, and early spring movements of ducks and other waterfowl. The first flight, ten ringnecks, appeared on October 15, 1945, and three days later the earliest pintails dropped into an opening in the giant cut-grass. Ruddy ducks and blue-winged teal came on October 25. Black ducks did not appear until November 6, gadwall and baldpate on November 27, and finally on November 28, mallards. Lesser scaup did not come until December 5.

From mid-October until early December the ringneck was the most conspicuous and abundant duck on the Refuge. The post-breeding molt was still in progress when the birds arrived. Daily they brightened up. Soon the males of the year were nearly as colorful as the old males. Other species of ducks were still molting too. In one large pond of 135 acres feathers were floating all over the surface

and collecting in windrows on the shore.

By November 27, the majority of ringnecks had left the Refuge. Pintails were now the dominant species with gadwalls, baldpate, shovelers, and black ducks in lesser numbers. Ducks were definitely fewer after January 1. Many of them had probably moved south into Florida.

A northward movement of ducks into the Refuge began on February 4. By the end of the month most of the migrants had gone north with the advancing spring.

Yellow jessamine, the most fragrant flower in the wood, was in full bloom on February 20. Soon Cherokee roses, white with yellow centers, hung bright over holly and live oak, and the red trumpet flower climbed in the tallest trees. On some of the hammocks its blossoms fell to the ground and mingled with the purple mat of periwinkle that grew close about the half-hidden headstones.

By April 1, the last migratory ducks had departed, and only the resident summer ducks remained with the gaudy array of herons, gallinules, rails, and other marsh birds.

Sex ratio counts of ducks made during the fall and winter were not extensive enough but are given here as a matter of interest. Ringneck—males 244, females 176; lesser scaup—males 8, females 1; pintail—males 18, females 11; mallard—males 31, females 22; ruddy duck—6 and 7; buffle-head— 2 and 3; black duck— 2 and 2; blue-winged teal—3 and 2; and green-winged teal—6 and 3.—Arnold B. Erickson, Deephaven, Minnesota.



DULUTH BIRD CLUB PROJECT FOR THE CONSERVATION OF HAWKS, OWLS, AND SONG BIRDS—The indiscriminate slaughter of beneficial hawks in the Duluth area during migration in the fall of 1946, caused consternation among members of the Duluth Bird Club.

It was determined at that time that something must be done to avoid such a calamity in the future and a program was outlined for 1947 and thereafter.

The Duluth Bird Club petitioned the Duluth City Council for permission to place "No Hunting" signs in all city parks and outside of the park system, particularly on Hawk Hill where depredations have been committed. Permission was granted as well as the full cooperation of the Park Department and enforcement by the Police Department.

One hundred signs were secured by the Bird Club and placed in vital locations. The ceremony attending the posting of the first sign on the Skyline Boulevard was attended by the Chief of Police, Superintendent of the Park Department, local game warden, and the President of the Bird Club. Publicity was secured through pictures and articles in the local newspaper covering conservation of hawks and the penalties involved for violation of laws and the city ordinances governing the carrying of fire arms.

Many of the signs were destroyed and had to be replaced. Hunting areas were patrolled frequently by members of the Club. Opposition was encountered by hunters who state that we would never stop the shooting of hawks. The Police Department confiscated guns of some hunters. But the hawk migration came and was over and no hawks were killed on Hawk Hill where hundreds were slain last year. The general public had been awakened to the fact that it is unlawful to shoot beneficial hawks and to carry fire arms within the city limits.

The Duluth Bird Club wishes to thank Guy Atherton of the St. Paul Audubon Society for his assistance in securing signs, the Teachers Conservation Group of

the Duluth Public Schools for distribution of literature among school children, and members of the Bird Club for their efforts in posting signs and vigilance in watching hunting areas.—J. K. Bronoel, Duluth Bird Club, Duluth, Minnesota.

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BIRD NOTES FROM DULUTH—No large bird movements were noted last fall, but through the weeks from the last of August to the present, November 30, there was a progressive shifting in populations of arriving and departing species.

Shore birds were noted at Minnesota Point and along the North Shore rocks. The migration of black-bellied and golden plovers extended well into October. Along the beaches were the usual sanderlings, semi-palmated and piping plovers, pectoral sandpipers, Baird's sandpipers, and turnstones, but not in large numbers. Wilson's snipes and woodcock records were obtained in late October.

The fall migrating hawks escaped the slaughter they were subjected to in the fall of 1946, due to the cooperation of alerted members of the Duluth Bird Club and the local Park Department. Policing the hawk lane area at critical periods resulted in confiscation of firearms which discouraged the hunters, or at least slowed down their depredations. Some shooting was done, but the number of known kills was small.

On September 21, 1947, a flight of the red-tailed hawks was witnessed by a group of Bird Club members who were out to nail sanctuary signs in local parks. The flying hawks follow the rim of high hills in general, but some fifty were seen in a formation suggesting a whirlpool in currents high against the sky. Sparrow hawks were numerous especially along the country roads in the interior, near clearings, perching on wires and fence posts, until another Carolina locust was sighted. September 14, marked one flight through Duluth. Sharp-shinned hawks were fairly numerous, and two pigeon hawks were seen on September 3, annoying crows in the Point pines. Sam Cox of Duluth, sighted American rough-legged hawks in early November in the hawk lane area; also, an American woodcock in the swampy wood cover.

The last of the warblers seen in numbers on October 5, were magnolia, palm, and the myrtle—the latter remaining in the area almost through the month. A large number of swallows and martins congregated in the willows of beach additions, Minnesota Point throughout August. The last flight was seen during a club hike on September 14—cliff swallows were following the Point southward in high winds.

The warm fall weather was pleasant for the migrating brown creepers, sapsuckers, flickers, purple finches, and many other species, but the surprising snow on November 5, caught many of the hardier species in large numbers. About buildings were flocks of juncoes, song, white-throated, and Harris sparrows, looking for wind-blown seeds in snow drifts. Bluebirds and robins were stranded, but they fared well on a not too abundant crop of mountain ash berries.

Northern larks have been sighted on several occasions along the Lake Superior beaches; the snow buntings were first seen on October 19. The following list was obtained during a three-hour hike on Minnesota Point, November 23; scaup ducks, hooded mergansers, herring gulls, pinnated grouse, (Miss Hulda Adams reported 14 ruffed grouse from Temperance River, Cook County), great-horned owl, blue jay, chickadee, red-breasted nuthatch, robin, redpoll—first record, large flocks of juncoes, and hundreds of snow buntings; (barred owl, November 24, Campus glen.)—Olga Lakela, University of Minnesota Branch, Duluth, Minnesota.

HABITS OF THE AMERICAN MERGANSER—On June 21, 1947, I observed an American merganser, probably nesting in a hollow pine stub about ten feet high, at Mink Lake, Cook County. In three hours the female made two trips, being absent ten minutes from the tree each time, and each time upon return flew directly into the hole at the top—James C. Underhill, Duluth, Minnesota.

* * *

WINTER BIRDLIFE OF 1947-48—When winter comes early to Minnesota this may be a stimulus for a marked exodus of migrating summer resident birds. Wintry blasts and knee deep snow also may be a sign for some birding enthusiasts to lay aside their binoculars, bird guide, and notebook until another spring migration begins.

However, Minnesota's winters offer an interesting challenge to the observer who goes afield looking for signs of bird life. Some days one sees very little evidence of avian fauna, while at other times birds may be fairly numerous. Certain areas seem to be entirely devoid of bird life in winter. Other localities where there is adequate cover and food may support a fair population of feathered creatures including an occasional summer bird. Some species of summer resident birds may remain in very small numbers in northern climes despite winter's low temperature, snow, and ice.

This past winter began early and was marked by a very heavy snowfall and cold weather in most of the state. On November 7, the first heavy snowfall of the season occurred. A November snowfall that totaled 17 inches for the month set a seven-year high for the Minneapolis area. In the vicinity of the Twin Cities three winter months of snowfall totaled 32 inches, as against a normal 21 inches of snow. November was characterized by unusually cold weather. The lowest November temperature in 51 years was recorded in Minneapolis on November 29, when the mercury dropped to 9 degrees below zero. December temperature readings were about normal for that month, while January weather was 6.2 per cent colder in the Twin Cities region than a normal January. Much of the state was blanketed by sub-zero temperature readings during January and early February. In the Twin Cities area seven of the first ten days of February were marked by below zero temperature readings.

In spite of the deep snow and prolonged cold it seems that during the past winter a small number of summer resident and half-hardy birds remained here in the North. Such species as robins, bluebirds, flickers, meadowlarks, brown thrashers, towhees, and red-headed woodpeckers have been observed this winter. These birds are of more than passing interest when the ground is covered with snow and ice and the mercury dips below zero.

The following notes concerning summer residents and half-hardy species are taken from my winter records.

MALLARD. As usual a flock of mallards, golden-eyes, and American mergansers wintered on the Mississippi River near the packing plants in South St. Paul. On February 7, a small flock of mallards were sighted at the Bass Pond, south of Minneapolis.

BLACK DUCK. Several black ducks were included in the waterfowl wintering in the vicinity of South St. Paul.

CANVAS-BACK. A single canvas-back was seen by different observers through the middle of January near Fort Snelling, where it was observed with a flock of mallards.

RED-TAILED HAWK. On December 12 a red-tailed hawk was seen near Lake Vadnais in Ramsey County; another one was observed on December 29, south of Waverly in Wright County; and on January 24, a third red-tail was noted near Rockford in Wright County.

FLICKER. A flicker was noted in a cottonwood tree on the north shore of Howard Lake in Wright County on December 6. Our family watched a male flicker in our yard at various times from November 23 to January 18. It seems likely that this was the same bird.

RED-HEADED WOODPECKER. On December 24, a red-headed woodpecker was seen near Waverly in Wright County.

PRAIRIE HORNED LARK. A horned lark flew up from a bare gravel shoulder beside the highway north of Howard Lake in Wright County on December 9.

CROW. On December 30 in Renville County a concentration of about 95 crows was found wintering in a wood lot. This was the largest group of crows that I noted all winter.

ROBIN. Two robins were feeding on the berries of the mountain ash near the University Farm in South St. Paul on November 19. On November 22 a robin was in our yard. One was found on December 29 in Wright County, another was seen on January 9 near Edison high school in Minneapolis. Mrs. Barrett and I saw a robin near St. Thomas College in St. Paul on February 1.

BLUEBIRD. A male bluebird flew across the road as I drove south of Waverly in Wright County on December 29; again on December 30 one was found wintering in McLeod County.

GOLDEN-CROWNED KINGLET. Two kinglets were observed in Anoka County on December 27. On February 1 Mrs. Barrett and I saw a golden-crowned kinglet near the Shriners Hospital in St. Paul.

CEDAR WAXWING. On December 27 a cedar bird was observed on the banks of the Rum River at Anoka.

PURPLE FINCHES. Four purple finches were feeding on seeds of the green ash on December 27 in Anoka County, while five finches were found the next day at Cedar Creek Bog in Isanti County.

MEADOWLARKS. Three meadowlarks were seen on December 6 in Wright County. Two of these larks seemed to be using a straw stack for a shelter. Another meadowlark was noted in McLeod County on December 30.

RED-WINGED BLACKBIRDS. On February 7 a small flock of red-wings were found wintering in Dakota County. —Lewis L. Barrett, Minnesota Bird Club, Minneapolis, Minnesota.

CALL NOTES

The St. Paul Bird Club has changed its name. Hereafter it is to be known as The St. Paul Audubon Society. This Club is to be the host at the annual meeting of the Minnesota Ornithologists' Union on May 15. The details of this meeting are printed elsewhere in this issue.

* * *

The Minneapolis Bird Club has recently selected the belted kingfisher as its club emblem. Stickers are to be printed and each member will be given one. The St. Paul Audubon Society has selected the cardinal as its emblem, and the Minneapolis Audubon Society has for many years had as its emblem our unofficial state bird, the eastern goldfinch.

* * *

Don L. Jacobs, who has contributed numerous articles for publication in *The Flicker*, received his Ph. D. degree from the University of Minnesota last March. His thesis was written on "An Ecological Life History of the Greater Duckweed (*Spirodela polyrhiza*)." It was published in the November, *Ecological Monograph*.

Shortly after receiving his Ph. D. degree Dr. Jacobs began teaching as an assistant professor at the Mankato State Teachers College. He has since been promoted to the rank of Associate Professor of Biology. He teaches botany, bacteriology, genetics and eugenics, field biology, histological methods, plant taxonomy, and photography.

On June 9, 1947, Dr. and Mrs. Jacobs were rejoicing over the arrival of their son and heir, Gary Don Jacobs.

In addition to all his other duties, Dr. Jacobs is giving a bird identification course at Mankato this spring. It is open to all interested bird lovers and especially those who are attempting to organize an Audubon Society there.

* * *

The Brewster Medal was awarded by the American Ornithologists' Union at their annual meeting in Toronto, Canada, in September, 1947, to Francis H. Kortright, author of *THE DUCKS, GEESE, AND SWANS OF NORTH AMERICA*, which was published in 1942.

The Brewster Medal, which is the highest award in the field of ornithology, is awarded by the American Ornithologists' Union to the author of the most important work relating to birds of the western hemisphere, published during the preceding six years.

The late Dr. Thomas Sadler Roberts was awarded the Brewster Medal on his monumental work, *THE BIRDS OF MINNESOTA*.

This distinguished award was also won by Roger Tory Peterson on his second edition of *FIELD GUIDE TO THE BIRDS*, because of its original contribution to the field identification of birds and because it has interested more people in birds than any other book in recent years.

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Kenneth Morrison, Minnesota Representative of the National Audubon Society, has been busy organizing Audubon Societies in southeastern Minnesota recently. The ground work has

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been laid and clubs are being organized at Winona, Rochester, Mankato, Owatonna, and Albert Lea.

According to the constitution of the Minnesota Ornithologists' Union, just as soon as ten members of any bird club have become members of the Minnesota Ornithologists' Union that club may become an affiliated society of the MOU. This will entitle their members to receive The Flicker.

Miss Helen Samuelson, who was one of the organizers of the St. Paul Bird Club, is now living in Los Angeles, and she describes life there as like a perpetual vacation. She is employed in the public library.

Miss Samuelson's delight in the study of birds makes her a valuable member of the Los Angeles Audubon Society, which she joined shortly after her arrival. In a recent letter to our St. Paul Club, she describes the activities of the Los Angeles organization. They have two field trips a month and two indoor meetings. There is also a National Audubon Screen Tours Club, and the Society is looking for a site for a nature camp.

She misses all of her Minnesota friends, including the robins. But there are mourning doves right in her back yard; always at least one sitting on the telephone wire cooing softly. The fuchsia bush which almost completely hides the bathroom window, is filled with delightful little humming birds which are continually flying back and forth, and a beautiful western bluebird sings often in the tall evergreen tree in the front yard. Many other birds serenade her from the palm trees outside her windows.

On a visit to Catalina Island, large eagles swooped down to greet the steamer. There were many unusual birds in Wrigley Park, the most interesting one to her being the Toucan, a colorful bird from Brazil, whose plumage is very brilliant and startling, the body of green or black being ornamented with red, orange, white and blue feathers. The bird's bill is almost as large as itself. (Guy Atherton)

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Mrs. Grace L. Hosmer, of Farmington, reports the presence of an apparently healthy mourning dove in her yard November 30, 1947. She thinks that the bluejays have become more troublesome in the past few years. She has long taken an active interest in birds, and was a steady attendant at the hearings on mourning dove legislation. The jays distress her by devouring many young birds. She has seen a jay drive a mourning dove off her nest and tear the nest to pieces; at other times they either ruin the eggs or eat the young birds. "The robins fight them, or try to, but the doves do not fight." Mrs. Hosmer had long considered the brown screech owls "nice little creatures" until she saw them in the robins' nests. She kept finding young dead robins with their heads missing, and on one occasion two little mourning doves. "The grackles will pick a mother robin to death on her nest." Mrs. Hosmer says she would do some shooting if she could handle a gun. (Guy Atherton)

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This issue of The Flicker ushers in the twentieth anniversary of the publishing of the magazine. The Minnesota Ornithologists' Union can be proud of its ornithological journal which has grown from a mimeographed issue to a thirty to forty-page printed magazine. It would be a splendid and worthwhile project to have an index printed for all the issues.

* * *

The Cooper Ornithological Club of California is now celebrating the 50th

Anniversary of the publishing of their magazine, the *Condor*, which has become recognized as one of the leading journals in the field of ornithology. Through the generosity of Mrs. Allan Brooks, the Cooper Club has been given the opportunity of publishing in their Anniversary number of the *Condor* a series of the more recent unpublished paintings by her famous husband, the late Major Allan Brooks.

Many of these magnificent paintings

are in color, and there are to be a number of sketches showing the steps he took in preparing his paintings. The publication of these beautiful and scientific pictures in the *Condor* will create a great deal of interest among bird students everywhere. The sketches will be highly prized by art students and educators also. The cost of publishing these colored pictures is being defrayed through voluntary contributions.

—S. C. H.



1948, MINNESOTA ORNITHOLOGISTS' UNION CONVENTION IN ST. PAUL

Now is the time to circle May 15 on your calendar.

That is the date when MOU'ers will converge on the Capitol City for their annual meeting. The St. Paul Audubon Society (formerly St. Paul Bird Club) will be the host club.

An MOU convention committee headed by Carlyle Sather and assisted by J. M. Rice, A. C. Rosenwinkel, Brother Pius, and others, is hard at work to make the 1948 meeting—the first one ever held in St. Paul—an outstanding one.

The tentative program calls for a morning field trip, possibly in the Fort Snelling area. Lunch will be served and then there will be an afternoon session devoted to the presentation of short papers and the annual business meeting of the MOU.

An evening program will feature motion pictures of bird life.

Each club president is asked to send a list of the persons who will attend the convention to Mr. Sather not later than May 8. Each club is responsible for the presentation of one paper at the afternoon session.

Mr. Sather's address is 1008 Minnehaha Avenue, St. Paul, Minnesota.—Kenneth Morrison, President.

TO MEMBERS OF THE MINNESOTA ORNITHOLOGISTS' UNION

The University of Minnesota Press has published a number of books of interest to naturalists, and an arrangement has been made whereby these books are available to MOU members. The trade discount goes to the Union treasury for aid in publishing *The Flicker*. A ten per cent discount will be allowed to members.

Orders and remittances should be sent to Mrs. I. A. Lupient, Treasurer, Minnesota Ornithologists' Union, 212 Bedford Street S. E., Minneapolis 14, Minnesota.

Birds of Minnesota, Roberts (2 Vols., De Luxe Edition)	\$25.00
A Manual for Identification of Minnesota Birds, Roberts	2.00
Canoe Country, Jaques	2.00
Snowshoe Country, Jaques	3.00
Reptiles and Amphibians of Minnesota, Breckenridge	2.50
A Laboratory and Field Manual of Ornithology, Pettingill	3.50
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Outdoor Theater

When keening Winter's pipes are still
And March has roared his roundelay,
The clever forest people bill
The program of their annual play.

The stage is set
with violet,
pasque flower and purple cress;
and the aspen leaf,
moonlit beneath,
pirouettes in the wind's caress.

The grouse's drum,
woodpecker's thrum,
brown thrush's tune,
green frog's bassoon,
harsh-toned oboe
of cawing crow,
low chime of rills
in woodland hills
and the myriad voices that call or sing
blend as the curtain goes up on "Spring."

Each actor takes his part with pride
And plays with might and main,
Till doubting April scatters wide
Her purse of silver rain.

—Guy Atherton.

(If your dues are in arrears or you are not a member of the Minnesota Ornithologists' Union, fill out the blank below and mail with your remittance to the treasurer. If you are a member, pass it on to someone who would like to join.)

THE MINNESOTA ORNITHOLOGISTS' UNION

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Date 19

Mrs. Mary Lupient, Treasurer
Minnesota Ornithologists' Union
212 Bedford Street S. E.
Minneapolis 14, Minnesota

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.....

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Member of Bird Club

(The Flicker, a quarterly ornithological magazine, is sent free of charge to all members.)

Purpose of the Minnesota Ornithologists' Union—"The promotion of interest in bird study and the binding together of bird clubs and individual bird students of Minnesota into a common organization."

Minnesota Ornithologists' Union

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Officers: President, Miss Dorothy Wassen; Vice President, Miss Ruth Johnson; Secretary-treasurer, Miss Edith Sanford.

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Officers: President, Miss Frances Riddle; Vice President, Ralph Boeder; Secretary, Miss Helen C. Smith; Treasurer, Miss Harriet Lockhart; Editor, Mrs. Evelyn Jones Putnam.

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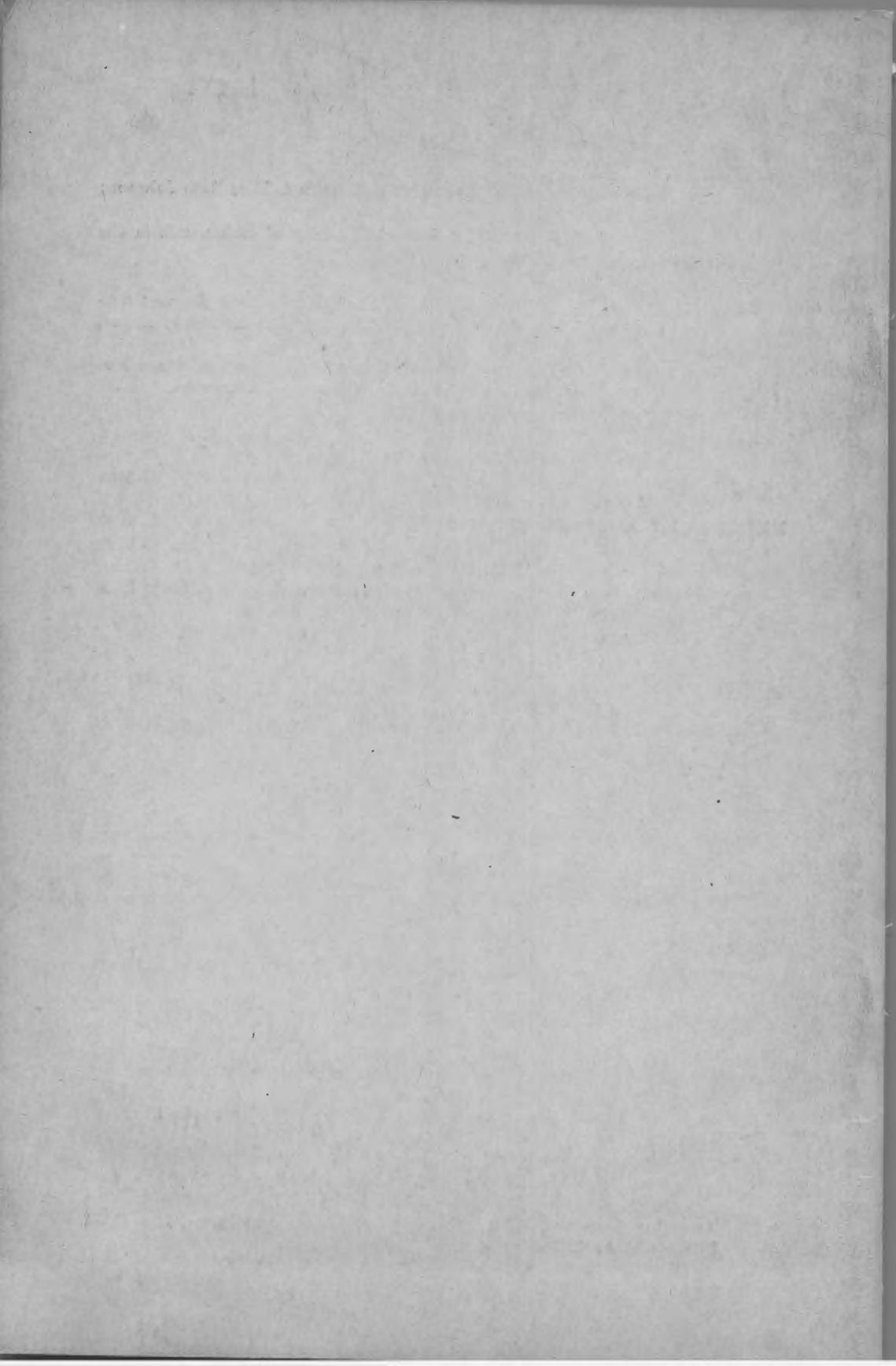
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Meetings are held at the St. Paul public library at 7:45 p.m., the fourth Thursday of each month from September through May.



THE FLICKER

VOLUME 20

JUNE, 1948

NUMBER 2



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THE FLICKER

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A Plug for the Marshes

by

Don L. Jacobs

Guarded forward and to the rear by their parents, a serpentine file of alert Florida gallinule chicks wove their way through the sedges and marsh grasses in search of wriggling insect larvae. In the open water beyond, several families of ruddy ducks and blue-winged teal swam in perfect formation. On an island of floating debris nine Caspian terns basked in the sunlight. The cry of a Forster's tern drew my attention upward. Two of these graceful birds were passing over; one carried a dragon fly larva in its bill. They continued on across the marsh and finally settled down among the cattails on the far side, about a mile away. I now could see constant processions of these birds leaving and approaching that area. One alighted in clear view on a nesting mound occupied by another adult and three young which scrambled for food. You may now have assembled that I was studying a prairie marsh in western Minnesota. In reality I was standing on a high ridge overlooking Mother Lake, an extensive area along the southern boundary of Minneapolis near Cedar Avenue.

Much of what is now south Minneapolis was at one time occupied by water-filled depressions separated by gravelly upland. The deeper depressions still contain lakes but the shallower ones which contained luxuriant marsh

vegetation and abundant marsh fauna have been gradually disappearing as the residential area spreads southward. One by one they are drained and filled in for home sites. It, perhaps, is inevitable that this encroachment continues since conditions associated with these marshes do not harmonize well with urban life. They are a source of foul odors, mosquitoes, and danger for young children. This presents a paradoxical situation to the naturalist because few habitats afford a greater opportunity for ornithological observations. The avian inhabitants of a marsh may produce some of the weirdest sounds and execute some of the most peculiar antics found anywhere in the bird world. Thus it is with considerable regret that I note the passing of each old marsh and focus my attention on the next one beyond. It was in the process of one of these shifts that I began the observations related here.

It is hoped that this article will not only be of immediate interest but that it will arouse some energetic bird lover to use it as a preliminary report for a more detailed quantitative study of the ecological relationships within this fascinating marsh. If such a study could be continued for several years it should yield some interesting data on the effects of urbanization pressure on the population of a natural marsh as well as producing a valuable record for fu-



Photo by Don L. Jacobs

Forster's Tern

Florida Gallinule

ture comparisons. It is quite likely that this marsh will remain for at least a few years since it contains more than six feet of water near the center and would be difficult to drain. It extends about one quarter of a mile on either side of Cedar Avenue and from about 58th Street southward almost one-half mile.

The preliminary observations, some of which have already been noted, were made from some distance away with the aid of a 20-power prism telescope. This made it possible to study the normal activity in the marsh as a whole. This was useful in ascertaining nesting concentrations, individual nest sites, feeding grounds, territorial disputes, etc. More detailed observations were made by wading through the shallow margins of the marsh with the aid of a rubber suit, and by poling a flat-bottomed metal tub-boat through the deeper portions. Several visits were made between June 21 and July 7, 1947. The outer margin of the marsh is chiefly grown up to spike rushes, sedges, bulrushes, and grasses. Inside of this is a zone of willows intermingled with cattails which continue well beyond into water that is three feet or more in depth. Beyond is a broad expanse of open water. The cattails are replaced by quillreed in some areas.

At least 19 species of birds were seen in the marsh, and only two of these were transients. Two black-crowned night herons were flushed on one visit and three at another time. However, the most interesting transient was the Caspian tern. Nine of these huge terns remained on this and the nearby Mud Lake Marsh at Portland and 66th Street for several weeks in June. The other species noted are the pied-billed grebe, American bittern, mallard, blue-winged teal, ruddy duck, Virginia rail, sora, Florida gallinule, coot, Forster's tern,

black tern, long-billed marsh wren, short-billed marsh wren, northern yellow-throat warbler, yellow-headed blackbird, red-winged blackbird, and swamp sparrow. Although neither the nests nor young of two of the species (American bittern and short-billed marsh-wren) were seen, there is little doubt that they nest regularly in the marsh. Young swamp sparrows, long-billed marsh wrens and northern yellow-throats were noted being fed by their parents out of the nest. Five empty wren nests were found. Twenty-nine red-winged and 16 yellow-headed blackbird nests were counted along the northeast margin of the marsh. They were all empty and birds in juvenile plumage were abundant in that area. At least three pairs of pied-billed grebes were seen in the marsh. One empty nest was found and two sets of young (4 and 6) were noted. Four families of mallards were counted; they included 10, 9, 7, and 5 young respectively. The two teal families contained 9 and 7 young respectively. A female ruddy duck with 5 young was observed near a broken down muskrat house that held a ruddy duck nest containing 4 eggs with dead embryos. A similar muskrat house supported 9 somewhat scattered eggs without embryos. This was probably a "dump nest". Two Florida gallinule families with 5 and 7 young respectively were counted. Another family of recently hatched young was observed leaving a nest but it was not possible to make a count. Sora and Virginia rail chicks were also seen with their parents but it was impossible to make counts. Numerous empty coot (?) nests were noted but since they are difficult to distinguish from gallinule nests they were not recorded. Six families of coots with 11, 9, 8, 8, 7, and 5 young were counted. Numerous black tern nests were noted but only four still contained eggs (3, 3, 2, and 2). Many

young were perched about the marsh but they were difficult to detect until the parents swooped down with food. A few of the young were beginning to fly. As usual these terns proved to be the self-appointed guardians of the marsh, hedge-hopping and dive-bombing with the skill of air corps men.

By far the greatest concentration of nests was on the east side of the marsh. That portion is farthest from the highway and most secluded; it affords the best cover due to a broad zone of rather dense vegetation; and it serves as the best feeding grounds since the decaying vegetation teems with insect larvae, snails, etc. There the Forster's terns too have found conditions most to their liking. Although the nesting period was drawing to a close, eleven nests with young on or near were found in that area on July 6. Most of the nests were concentrated in a small area of about an acre in the inner portion of the cattail zone of the northeast corner of the marsh. The nests are similar to those of the black tern being shallow depressions in damp mats of dead vegetation. They are often floating (sometimes on the shoulders of inactive muskrat houses), but are then usually anchored to clumps of cattails. The eggs are similar to but larger than black tern eggs. The young varied from those which were only two or three days old and covered with dark-spotted, buffy down to almost full-grown white birds with grey masks. The oldest ones were already beginning to fly. When undisturbed all of the young remained perched in family groups on or near their nests waiting for food deliveries from the parents. They are very alert, however, and as I approached, first the nearest ones and gradually those farther away left the nest. The largest ones swam into open water for safety but the small young lowered their heads and stealthily stalked off through the

cattails to a place of concealment where they remained motionless like inanimate clods.

The Forster's tern is one of the most beautiful and graceful birds of our marshes. During migration it is often mistaken for the common tern but during the nesting season there is little reason for doing so. The common tern nests on open sandy or rocky beaches or islands in large northern lakes whereas Forster's tern is a marsh dweller like the black tern. Actually the two species are quite distinct and despite their apparent similarity they differ in habitat preference, call, color, and morphology. One of the field characters which has proved most useful to me but which is never referred to in field guides is the appearance of the tail in flight. In normal flight the tail is held closed so that it appears to be a long, slender, central shaft protruding beyond the broader base of the tail. Only when the bird banks or dives or goes through some similar gyration is the deep forking of the tail evident. In the common tern the forking is almost always obvious and the tail shafts are noticeably shorter than those of the former species. At close range the character of the bill is sufficient to separate the two species. In the common species the bill is bright red-orange, with a black tip, whereas in Forster's tern it is somewhat longer with a duller yellow-orange color except for the black tip. While the calls of the two species differ they are distinguished with some difficulty unless both are present. The outer margins of the wings and tail are darker in the common than in Forster's tern but this is often difficult to distinguish in the field. The juvenile and fall plumages are easily distinguished by their head markings. In both species a dark mask is present but only in the common species does it continue as a band around the back of the head.

Perhaps some enthusiast will find this marsh sufficiently interesting and sufficiently convenient to carry on further studies and to make annual nesting censuses for the next few years. Such quantitative data could lead to a valuable ecological study. There are still numerous other marshes scattered throughout the Twin Cities area and

many of these would warrant detailed study before they disappear. There are few, indeed, who have waded, paddled, or poled their way through a marsh during the nesting season who do not recall the experience with warm delight.—Mankato State Teachers College, Mankato, Minnesota.

BOOK REVIEW

CANADIAN SPRING by Florence Page Jaques. Harper & Brothers, New York, New York. 1947. 6½ x 8¾ inches. 216 pages. Illustrated by F. Lee Jaques. \$3.50.

In CANADIAN SPRING the Jaques again share with their readers their delightful experiences in the out of doors. This time the locale is Canada—from Winnipeg through the wheat lands and prairies to the Canadian Rockies.

The marshes, which Mrs. Jaques loves so much, come alive for the reader, too, through her enthusiastic and vivid accounts of the courtship flights and displays of the ducks and grebes, the battling of the coots, the romping of the Canada geese, and the striking beauty of yellow-headed blackbirds. The little ruddy duck becomes the reader's "hero", too, as Mrs. Jaques sings its praises and, with her delightful sense of humor, records its antics.

Not only birds, but mule deer, antelope, moose, mountain sheep, mountain goats, bears, chipmonks, buffalo, marmots, and pikas become real friends when seen through Mrs. Jaques' eyes. And interspersed with birds and mammals are the wild flowers of early spring, to make this book a charming account of a journey through Canada by two keen observers.

Here is a book which puts into words for us the exultation we have all felt at times when in contact with the mysteries and wonders of the out of doors in the spring.—Vera E. Sparkes, Minneapolis Bird Club, Minneapolis, Minnesota.

A Day in the Life of a Farmer

by

Bennie Bengtson

This morning as I walked out to the barn, the milk pails dangling on my arm, a brown thrasher clinging precariously to the topmost twig of a small aspen was spraying all the world with his exuberant song. Every spring I look for him there in one of the aspens in a little grove just across the creek, some ten or twelve rods northeast of the house. Always on some morning early in May he greets me as I open the door, bound for the barn to do the morning chores. There he was again, a cascade of melody pouring out of his throat, apparently unable to sing with enough fervor to express his feelings.

"That's just how I feel, too!" I shouted, waving a milk pail over my head. "Spring does something to a fellow, doesn't it? Glad to see you back!"

I pushed open the back door of the barn and looked for the cows. Through the still bare branches of a little group of balm-of-gileads I saw them grazing on the side of the knoll some three hundred yards to the east.

"A southeast wind," I said, feeling a light mist drifting against my face, "usually means rain. The air smells like rain too. What a clean, astringent odor the combination of rain in the air and bursting balm-of-gilead buds makes!"

A meadowlark stationed on top of a fence post was saluting the morning with zest, but his song carried a query that somehow seemed irrelevant to the occasion.

"What makes — your feet — so sore?" he caroled. "What makes — your feet — so sore?"

"The top of the morning to you, friend," I said, rounding up the cows and heading them toward the barn, "but really, my feet aren't sore, they're quite comfortable. Perhaps, though, that's only your version of our 'How do you do?' It must be, for you're saying it all day long to everyone."

Streams of milk going into the pail made a tinny sound and the smell of warm milk came up. From the calf pens on the other side of the barn a row of expectant faces looked out at me; they knew their turn was coming soon. Out in the alley that led down the center of the barn sat a large brindled cat. Several times a minute he reminded me that he was there. I turned a stream of milk in his direction and he caught it dexterously in his mouth. The separating done I fed the calves and hung the can in the well to cool. That accounted for the chores.

A fence post auger and shovel on my shoulder I followed the pasture fence until I came to a pile of posts. These had been waiting here since early last fall—waiting for the winter frost to leave and for the day when I would have time to reset a portion of the fence that needed repair.

"This, I said, letting the auger and the shovel fall to the ground, "is the day. And I'd better not take on a longer stretch than I can finish today, or the cows will be out tonight."

From the creek flowing through the pasture a pair of mallards took alarm and, quacking loudly, moved a short distance downstream. Several red-winged blackbirds perching in the water willows along the little stream were engaged in a rehearsal and a woodcock that I startled amid watery meditations darted away in erratic flight.

About a quarter of a mile away, farther down in the pasture, is the big slough. Here, unless the season is very dry, several pairs of gadwalls nest, perhaps a pair or two of blue-winged teal, not to mention some mudhens and pied-billed grebes. In the tall reedy grass hang the irregularly rounded grass balls of the red-wings, and those of their larger cousins, the yellow-heads. Rather fickle is he of the yellow-head and I see him only one or two years in five. His raucous song, a painful effort even to the singer to judge by his contortions, isn't to be compared with the happy-go-lucky "con-quer-eee" of the red-wing.

Shovel in hand I stepped off the distance between each posthole. Digging up a spadeful of turf so that the auger would bite into the ground easier, I glanced at the stakes I had set up as a guide to make the fence straight—I was resetting it three or four feet outside the old fence to avoid the ridge of sand that had drifted into the fence row.

A vesper sparrow moved down the fence ahead of me, pausing to sing at nearly every post. I like the sincerity, and the simple homeliness, of his song. Not a renowned singer like the mockingbird or the skylark, he does the best he can with the gifts that are his. There is a touch of poignancy to the song, a hint of plaintiveness, and a wealth of fine honest heartiness and joy of living. The name is somewhat of a misnomer for he sings as well in the

heat of the day as he does toward evening. And when he sings, he sings—devoting all his time to it, taking a short rest between the strains.

Every now and then I find the nests in field and meadow, even though they are well hidden. Sunk to its rim in the ground within clumps of grass or weeds, the neat little bowl of fine dried grasses that is the vesper's home would be almost impossible to find were it not that as I approach, the bird on the nest flutters away, often simulating an injury. Cultivating I have found many, snugly tucked into the center of a hill of potatoes.

Occasionally, as I worked drilling holes with the auger, a meadowlark skimmed by in bubbling flight, gaining in ecstasy until he broke off in a splash of melody. Often, too, I heard the wiry, unmusical trill of a Savannah sparrow.

The sky continued overcast but the wind, swinging more to the southwest, had a warmish feel to it and I paused occasionally to rest a minute or two. The grove of aspens to the northeast of the farm buildings was fanutly washed with green; in another week the leaves would be well out. Some of the box-elders around the house had a reddish look to them, the silky, maroon-colored flowers were blossoming out. Down the creek a ways a willow resembling a huge feather duster—the pussy willows covered with yellow pollen.

Before going home at noon I went for the mail, crossing the barley field. The moist warm weather of the past few days had sprouted it and I could see the rows of wide-topped, pale-green shoots distinctly. From the willows and kinnickinnick along the creek came the plaintive whistles of a flock of white-throated sparrows who were scratching out tidbits among the dead leaves

that littered the ground. I paused for a moment on the plank that bridged the creek to listen to them and to the water purling softly as it slipped by underneath.

Mingled in the quiet song of the water I caught another, a low rich warble a little downstream. Cautiously I parted the bushes to discover half a dozen fox sparrows, handsome fellows with their reddish brown backs and heavily streaked underparts. They migrate through northern Minnesota simultaneously with the white-throats, bound for their Canadian summer homes. On a bright morning late in April I know they are on their way, when from woodland and shrubbery around our farm home comes the clear high-pitched refrain of the white-throats. By the first of June the last stragglers have passed and I see them no more until they return in the fall, southward bound and silent.

Going down to resume work on the fence after dinner I carried a wire stretcher and a gallon pail half full of staples also containing a hammer and a pair of fencing tongs. Great wedges of wild geese passed over, flying low on account of the clouds. Their wild honking made me restless, filled me with a longing to leave my earthly task and fare away with them on their journey into the glamorous faraway. But I had work to do—work and responsibilities which would keep me from wandering off in search of the exotic and romantic. Perhaps if I had the eyes of a Thoreau to see them, just as many adventures were awaiting me even here. So I set the posts in the holes I had dug and tamped them in securely. Then I began taking down the old fence and moving the wire.

A couple of prairie hens looked me over as they trotted about among the clumps of badger grass in the pasture, and once a pair of Hungarian partridges coasted quickly by. Prairie pigeons

(Franklin's gulls) drifted back and forth over the fields, their shrill exulting cries carrying a great distance through the calm moist atmosphere. At times one of them went into a stunting act, swooping earthward at a tremendous rate then turning up so sharply that the air shrieked through his wing feathers. They reminded me somewhat of the acrobats indulged in by the marsh hawk early in the spring, except that the hawks drop straight down, tumbling over and over, with their wings half open.

I see them about the farm more often than any of the other hawks, yet it is very rarely that a marsh hawk raids the chicken yard. With the exception of his spring acrobatics he is an unspectacular sort of fellow, generally flying low over field and meadow and pasture, twisting and turning in what must be the world's crookedest flight, on aerial reconnaissance for mice and ground squirrels. Many times I have watched him "hang up" briefly, then plunge down to rise again with a squirming rodent in his claws. Down in a corner of the hay meadow a pair have nested for years. The dull white eggs are laid in a nest of coarse grasses and weed stalks, placed on the ground near some small bushes.

Though gulls are as a rule associated in one's thoughts with the sea, at least two species besides Franklin's travel as far inland as the Red River Valley in Minnesota. In early spring when I go over the fields with a spring tooth harrow prior to seeding, several herring gulls are very apt to be patrolling the ground I have covered, looking for morsels the harrow has exposed. With them sometimes is a ring-billed gull, very similar in appearance to the herring, but smaller. Neither of these is ever as numerous as the so-called prairie pigeons, it being nothing unusual to see flocks of many hundreds of these pret-

ty black-headed little gulls on warm rainy days in spring and early summer.

A quarter of a mile away a neighbor was chugging back and forth across a field with a tractor. Putting in some of his oats, I concluded, for I saw a drill behind the tractor. The barking of the exhaust was especially distinct when he applied the brakes to make turns.

By the middle of the afternoon I was putting up the wire. Pulling harder and harder on the rope of the stretcher I tightened the wire gradually, watching for kinks that might snap it off. A striped ground squirrel down along the fence observed the strange phenomenon of a wire apparently moving of its own volition and with many a chip and a churr expressed his opinion of such goings-on.

Bracing my feet against the corner post I leaned into the pull and suddenly flew backwards full length on the ground as the wire snapped off. I scrambled up in time to see a coil of rolling wire toss the ground squirrel two or three feet into the air, his bushy tail waving furiously. Coming down he dived with desperate haste into the open door of his "dugout".

Working steadily I had the wire hung and the last staple driven by chore-time in the evening. Late in the afternoon the clouds lifted and the sunlight filtered through broken cloud wisps. As I followed the cattle homeward I saw a barn swallow, the first of the season, skimming the air gracefully just over the backs of the cattle, on the lookout for stray insects. A pair of mourning doves slipped by on musical wing and, headed for the slough in the pasture, a lone shypoke lumbered along in heavy and deliberate flight.

Approaching the little grove of balm-of-gileads just east of the barn I came upon a flock of masked bandits, gentle

desperadoes that appear irregularly during the fall migrations. Highway-men in appearance only, with a black mask across his face, the Harris sparrow is as quiet and modest in demeanor as any of his tribe. I stopped to watch them for a minute or two while the cattle walked on up the slope to the barn. One individual, perched in a low bush, began to sing, and I was surprised to hear almost the perfect duplicate of the vesper's song, slightly deeper in tone and a bit slower in tempo, but still an excellent copy. Half a dozen times he repeated the song, then resumed feeding on the ground.

Hardly a year passes but I see Harris sparrows, yet it was the first time I had heard one sing. It seems unlikely that the song was his own, that is, the song of his species, though it has never come to my attention that this bird is a mimic. Individuals of a species differ sometimes. I once heard a song sparrow that had a song very unlike that of other sparrows, a strain far superior, in my opinion, possessing a haunting sweetness most captivating. For three seasons I heard him and then he vanished, never to appear again. Perhaps this Harris sparrow was such an one, with a song dissimilar to his fellows, albeit a borrowed and not an original melody.

A spectator observing the pageant of the outdoors never knows what may be right around the corner. There is an infinite variety in nature and the unexpected will sometimes appear in even the commonplace and everyday. Not all birds of the same species look, act, and sing in exactly the same manner at all times; squirrels, foxes, and deer adapt themselves to living as our neighbors in many amusing and curious ways; even plants and flowers at times vary their usual routine and appear in strange places and seasons.

The milking and other work done I walked across the yard toward the house. The evening chorus of the frogs seemed finer and more tuneful than ever before, and I sat down on the porch steps to enjoy its weird cadanc-

es. One by one the lights were turned on in the sky above as the dusk deepened—another day in the life of a farmer, a day of pleasant work, of quiet joys, and little events was done.

Kennedy, Minnesota

RED EPAULETS

*The liquid notes from the swampland
Are intoned by a gay sonneteer,
And murmurs of gentle complaining
By the skillful chief engineer.
The strands of reed should be equal;
The rushes must veil the nest.
"Use velvety down, says the husband
"For our little one's place of rest."*

*Red epaulets trim his shoulders,
And purple hues enliven his coat.
His wife wears somber biege dresses;
No music will purl from her throat.
Her heart is golden and whispers
The joy of each long busy day.
The blackbirds encircle the meadows
Vague mysteries call them away.
—Myrta Albertson Wells.*

Goldfinches in St. Paul

by

Brother Pius

During the last five years I have made a study of goldfinches with Brother Hubert Lewis and some of the students. The territory covered was principally the open fields included in the bend of the Mississippi River bounded on the north by Randolph Street, although we also covered some outlying districts. This district is about five square miles in area and includes the Highland Park district.

When in September 1942 I began to go on bird hikes with Brother Hubert, he remarked to me, "I have been noticing a great number of nests in old thistles and I think that they are goldfinch nests. This year I intend to concentrate on them." Starting our hikes about the middle of June, we would leave Cretin High School and go in a different direction each day for an hour or two. We found our first two nests in this way on July 31. One contained one egg, the nest being later abandoned; the other was a completed nest without eggs. On August 11 it had five light blue eggs and on August 16 five young without feathers. In 1944 we found our first nest on July 14, in 1945, on July 7; in 1946, on July 6; and in 1947, on July 10. In every case, the nest was just being started. During the first year we were not so successful in finding the nests, but we ended up with forty-eight nests on which we obtained data, and sixteen more that were already completed when we found them. The nests are not easy to find as they blend in with the thistle. In searching clumps of thistles Brother Hubert was always the first to see the nest. Knowing that there was a nest

in a certain clump and that I was anxious to find one first, he directed me to the clump; but I returned with a negative report. He said that there must be a nest there and he went over and pointed it out to me. Later I had the same experience with some of the boys. Seeing a female leave a thistle, I would send a boy over to find the nest, but eventually I would have to go and show it to him. Many of our nests were alongside of highways and railroad tracks, and some others were close to isolated houses. Each year we found about ten nests a few blocks east of Cleveland Avenue alongside of busy Highland Parkway.

When Brother Hubert made the first report of his discovery of 48 goldfinch nests in thistles, Dr. Roberts was a little skeptical, but having had experience with Brother Hubert on previous occasions, especially in regard to the prothonotary warbler nesting in this vicinity, he became enthusiastic as in 50 years he had received only one report of a goldfinch building in a thistle. I myself was greatly surprised during the past year when William Kilgore said, "And I was the one that found the nest."

In getting records of the goldfinch nests, I was most strikingly impressed with the fact that there are exceptions to every rule. Our data on every nest would be about the same, but occasionally we would find something different. Another thing that I noticed is that there are a great number of people so interested in birds that they put out food for them.

The goldfinch nest, wedged in a three-pronged crotch and fastened at the top to each prong, is a very pretty cup-shaped one when first made. The nest of the yellow warbler is similar, except that it is fastened at the bottom and not at the top. The goldfinch starts by pulling up fibers in the crotch, which we called the foundation, and afterwards begins to weave the nest. Sometimes the goldfinch begins by piling fibers in two or three adjacent thistles before she finally makes up her mind as to which one she really wants.

When completed, the nest has an inside diameter of about two inches and a depth of about one and one-half inches. The walls are about one inch thick and are easily spread as more room is needed. The nest is delicately lined around the side with soft down from the Canadian thistle, and so thickly lined at the bottom that it resembles a mattress. The bulk of the nest is made from fibers stripped from thistles, grass, and down from the Canadian thistle, the latter maturing faster than other thistles. On a few occasions we witnessed a goldfinch peeling a fiber from a thistle stalk. Generally there would be a soft coping around the top of the nest, but we found a number of nests that were a little rough at the top. Sometimes we found four prongs to the crotch, but the nest would be fastened to only three of them. At the end of the season the nest is almost entirely flattened out and fouled on the edges. Practically all of the nests were found in the tall thistle, *Cirsium altissimum*. We did, however, find a few nests in the swamp thistle, the golden rod, sweet clover, sumac, and in trees. We never found any nests in either the Canadian or the bull thistles. The height of the nests ranged from two to six feet, the greatest number being about four feet high, although we found two that were about 30 feet high

in poplars back of Cretin High School. The average time for building a nest is about a week, although in the beginning of the season it may be a little longer and in the middle of the season, somewhat shorter. While the nests are very sturdy, a number of them become slanting, for some prong of the thistle may grow faster than others. On many occasions we straightened out a slanting nest and tied it up. Last year, however, I came across one that was at an angle greater than 45 degrees and I couldn't straighten it. Later I was surprised to find that the bird had pushed back the bottom of the nest and had made a bottom of one side of it. The droppings of the young were on the ground instead of on the sides of the nest as is usually the case. Generally the first egg was laid as soon as the nest was completed, but on a few occasions it did not appear for quite awhile.

Last year a nest was built in a small tree below my window. It was completed in about a week, and although the bird continued to sit on it for another week, I never saw an egg in it. I did, however, hear blue jays around every morning before I had risen. I think perhaps they had taken the eggs as fast as they were laid. I also noticed that several sparrows used to fly into the small tree. Finally the goldfinch abandoned the nest.

The goldfinch lays an egg on successive days until there are six eggs. Again we found exceptions. Sometimes it would miss a day, but I am inclined to think that on such occasions the final number does not amount to six. It may be that in such cases a blue jay or some other enemy gets an egg. In the majority of cases five eggs hatch, but there are a great number of nests with four and six eggs hatching and a few at the end of the season with only

two hatching. During the first year we generally found about four or five eggs to the nest. Later we were greatly thrilled to find a nest with six eggs. In the successive years six eggs seemed to be the predominant number. When first laid the eggs are white, but as incubation proceeds they gradually turn to a bluish color. The stage of incubation is indicated by the shade of blue. In size the eggs are about .7 inches by .5 inches, but again we found exceptions. We found a few that seemed to be only half of the normal size, but these hatched equally well. The time of incubation is about two weeks—twelve to fourteen days. During that time we tried not to disturb the bird; however, in three different years we came across a goldfinch that we could pet while she was on the nest. When the young had left the nest we occasionally found one or two eggs that did not hatch.

When first hatched the young are yellow. On a few occasions we were lucky to be at the nest when the egg was breaking, and we saw the eggshells being carried away. One finds quite a variety of colors in the young of other birds when they are first hatched. The chickadees are red, and to our surprise we noticed that the Brewer's blackbirds, which at first are yellow, turn to a blackish gray after a few days. At the end of six days the goldfinch has black feathers, after eight days yellow feathers, and after ten days it has its full plumage. The young generally leave the nest after fourteen days. On some occasions we found two or three young on the nest after twenty days. I was under the impression that the young do not come back to the nest after once leaving it, but this observation leads me to believe that they sometimes do. On other occasions we accidentally frightened the young off the nest before their time, but they would

not remain on the nest when we tried to put them back. On one occasion, however, when we had scared the young from the nest in the morning, we found the six of them back on the nest in the afternoon as we passed the nest on our way home. Although the young are ordinarily about the same size, last September I found one nest with three young of different degrees of development. The middle sized one had a swollen eye caused by the cold.

We found nesting toleration of the goldfinch to be about forty feet. If another nest is built within that distance, the insides will be pulled out. But here again we encountered a remarkable exception. A short distance from Edgecumbe Road, near the archery targets in Highland Park we found two families of five young in adjoining thistles about two feet apart. Both families were successfully raised. Each year we also found a few nests of clay-colored sparrows, song sparrows, and indigo buntings in thistles. The goldfinch does not object to other species building within forty feet of it. On one occasion we found an indigo bunting in the bottom of a thistle and a goldfinch higher up. There seem to be two waves of building for the goldfinch, the second wave coming about the middle of August. In this case a second nest will be about fifteen feet from the original one.

Each year we found nests in the approximate place in which they were the previous years. I am wondering if they were built by the same birds year after year. Dr. Breckenridge suggested that I band some of these birds to find out. It may be too late to do so in this vicinity, however, as buildings are beginning to usurp the better habitats.

The keeping of records is quite a task when one has so many nests. We found that we had to put numbered tags on the thistles containing the nests. Here again we ran into difficulty.

The string on some of the tags wore out and although we generally found some tags on the ground, we were unable to locate others. We also found that grasshoppers chewed some of the tags. On one occasion they ate the number off the tag, but we could still figure it out from the outline they left. We obtained a reading on most of the nests every two weeks and at least two readings on every nest. We passed some nests every day and managed to get detailed reports on them.

I found it convenient to keep records of the development of the nests on graph paper. On the vertical axis I allowed two weeks for the building of the nest, one week for laying eggs, two weeks for incubation, and two weeks for raising the fledglings. On the horizontal axis, I listed the nests as they were found and put the date of subsequent readings in their proper place on the line allowed for each nest. A heavy horizontal graph line of the first reading on each nest showed the condition in which the nest was found, while at the top of each line allowed for a nest, the success or failure was recorded.

Some years the nesting season seemed to begin two weeks later than usual. This appeared to be due to cold weather and rain. The number of nests we found also seemed to be dependent upon whether or not we had a good crop of thistles. Does the goldfinch take to tree-nesting when the crop is poor? One year we found about twenty nests in thistles around the rifle range at Fort Snelling, but we were surprised the next year to find that although a few nests had been started in thistles, the only good nests we found were in small trees. As the soldiers had left Fort Snelling that year, some predatory animal may have forced the goldfinch higher. Last year one of the officers

who didn't like thistles had them cut down. The result was that we found only a few nests near the rifle range.

In 1943, as stated before, we found 48 nests in progress and 16 after completion; in 1944, we found 153 nests; in 1945, 170 nests; in 1946, 220 nests; in 1947, 80 nests. The decrease in data gathered in 1947 was due to the absence of Brother Hubert, to excessive rainy weather in July, to a poor crop of thistles, and to the destruction of some of the habitats that were used for new buildings.

Brother Hubert has reduced the records of the nest of each year to the date when the first egg was laid in each nest. He kept graphs which showed that the maximum peak is about August 1, and that there is another peak on August 25, although the time of reaching the peak varies a little from year to year.

Our records showed that each year, the number of nests that fail to produce mature young is about one-third. This is due to several causes. Humans destroy quite a number either accidentally or on purpose. In walking through fields some people are not observant and accidentally knock over nests. As the goldfinch frequently builds its nest close to the road, it is cut down by the maintenance department of the city. On a number of occasions we put a tag on the thistle requesting the men not to cut down this particular thistle but they always saw the tag too late. Graders destroyed quite a number of other nests. Some nests are robbed by people. One year the young disappeared in a field at Seventh Street and Saint Paul Avenue and another year they disappeared at Montcalm and Watson Avenue. We met one man who told us that breeders of canaries cross them with goldfinches to

produce good singers. Some animals or birds destroy a few nests and some are abandoned. On two occasions, I know definitely that the female of an abandoned nest was killed.

Weather is the cause of the destruction of other nests for high winds and rain destroy a number of them. In 1946, it rained for three days straight in September and we found dead young in the nests in all sections of our territory. Last year we found only two nests with dead young in them. One of them was a heart-breaker as it would have made a record for being the latest nest.

While getting the nesting records of the goldfinch, we enjoyed the song of the bird. We noted three distinct songs. In flight it seems to be dee-dee-deere with a rising inflection on the last syllable uttered three times in succession. The AUDUBON BIRD GUIDE records it as per-chic'-o-ree. When we first came into their territory we were greeted with an inquiring dee-dee with a rising inflection uttered once. When they are accidentally scared off the nest, they go about 100 feet away and keep up a continuous whang-whang.

We had many interesting experiences on our trips. We frequently met groups of boys that wanted to talk, and we learned many things from them. Frequently they would mention the name of a boy that shot a goldfinch or some other bird. They also told how they trained certain animals and birds. We ended up by encouraging them to protect wild life.

On one occasion when we were near Montreal and Fairview with some of the students we became very thirsty.

Noticing a small boy in his front yard, I asked him if we could get a drink of water. He was delighted to accommodate us. When I noticed some thistles in a field back of his house, I asked him if he would like to have us find a goldfinch nest for him. As he was very anxious to see one, we looked around and in a short time we found two nests with young in them. I told him not to show them to others. He replied, "I want to show them to my mother as she is very much interested in birds." Of course we agreed. Frequently when we pass a house, the owners become curious to find out what we are doing; but when they find out that we are interested in birds, they become very friendly and generally end up by saying that they, themselves, are the best bird feeders in St. Paul.

In summarizing, I would say that our data on goldfinch nests shows a general pattern in the development of the nests which admits of some deviation and exceptions. It takes about one week to build the nest, one week to lay the eggs, two weeks to incubate the eggs, and two or more weeks to raise the fledglings. As the goldfinch is a late nester, it is not bothered much by having the cowbird lay eggs in its nest. Only a few nests were found with cowbird eggs in them. On many occasions we noticed that the goldfinch seems to be very friendly. One time, while we were looking at the nest, the two proud parents got on a low wire above us hitting their bills together, and occasionally taking a glance at us. When the season is over, we miss their cheery song and experience a slight feeling of loneliness.—Cretin High School, St. Paul, Minnesota.

Wildlife of the Red Lake Game Refuge

by

Lewis L. Barrett

To many Minnesotans it is quite satisfying to learn that the North Star state still contains such areas as the Red Lake Game Refuge where an abundant wildlife may be observed comparatively undisturbed by man. Approximately 365 miles northwest of the Twin Cities, in the bog north of Red Lake is a vast undisturbed area which still remains. Within this area many species of wildlife abound including some big game mammals which are either lacking or seldom seen in other parts of Minnesota.

That the Red Lake Game Refuge retains much of the appeal of the wilderness can be vouched for by members of the animal ecology class of the University of Minnesota Biological Station who visited this area on August 24 and 25, 1947. During our two-day stay in the area we drove over 150 miles in the refuge which has about 225 miles of roads.

The Red Lake Refuge is a part of the Red Lake Game Preserve which includes more than 1,000,000 acres of land. The Red Lake Refuge covers approximately 434,580 acres while the public hunting ground is included in the remainder of the Red Lake Game Preserve. The Red Lake Game Preserve is located in Beltrami, Lake of the Woods, Roseau and Koochiching counties. It extends from Red Lake north-

ward to Lake of the Woods and Pigeon River. The Red Lake Refuge embraces portions of the Red Lake Game Preserve in northern Beltrami and southern Lake of the Woods Counties. The Red Lake Refuge is the largest managed game refuge and public hunting grounds in the state. The refuge is 42 miles long from north to south and is 20 miles across from east to west at the widest point.

The history of the area presents an interesting background. During the first World War an extensive project was run through this part of the state. On the section lines the main drainage ditches were run from east to west with lateral ditches feeding into them. The peat soil with a layer of sand below it was unproductive, so many settlers after attempting to farm the land moved out of this area.

In order to relieve the counties of the heavy assessment burden caused by the extensive drainage program and the bond issues arising therefrom, the Legislature passed several laws whereby this burden was passed to the state. The first of these laws was passed in 1929, which set aside all of Lake of the Woods County south of Rainy River, the upper portion of Beltrami County, and the northwestern portion of Koochiching County, covering 1,182,240 acres in the Red Lake Game Preserve.

In the early 1930's there were very

few beaver in this area and only an occasional moose was found. In 1933 work was started to restore water levels. About 125,000 acres had water levels partially restored by the construction of dams in drainage ditches creating ample pools for migratory waterfowl, moose, beaver and other fur bearers, and furnishing a supply of water for fire protection. This policy of increasing the area of water storage has greatly improved the habitat for such wildlife as beaver and moose with corresponding increases in their numbers.

Ever since this area was designated as a wildlife management project by the 1929 State Legislature, the settlers scattered throughout the preserve were a difficult problem. In 1934 the U. S. Resettlement Administration approved and developed a land utilization project known as the "Beltrami Island and Pine Island Resettlement Projects." This program included the removal and resettlement of isolated and distressed settlers. As a part of this plan, the U. S. Resettlement Administration authorized extensive unemployment relief work projects for the improvement of the areas affected and asked the Minnesota Conservation Department to indicate and plan this kind of work. As a result, since 1936, the following projects have been initiated: a comprehensive planting of game food producing plants, conservation of water by impounding dams, construction of fire-breaks, patrol trails, truck trails and telephone lines, erection of patrol and shelter cabins, clearing where necessary and other improvements. The Civilian Conservation Corps assisted with construction work including road building. The U. S. Soil Conservation service carried on a reforestation project beginning in 1938 through 1941. Large plantings of red or Norway pine were made in 1938. Other species of trees planted include white pine, white cedar, white spruce and tamarack. Some of

these pine plantings were highly successful with only about a 5 per cent mortality.

On July 1, 1940, the Minnesota Department of Conservation took over the operation of the Red Lake refuge under a 50-year lease, under the terms of which the Federal Government made the equipment and buildings available for use within the area. This included Norris Camp, which consisted of 30 or more buildings, a lot of equipment such as trucks and road machinery.

There are 3 camp grounds within the area. These include Norris Camp ground, which is about 15 miles south of Roosevelt, Faunce Camp ground and Bemis Hill Camp situated near Warroad.

Our first introduction to the Red Lake bog was north of Washkish where we stopped along the road. The boggy character of the land was evident as we walked along a drainage ditch. All one had to do to make the ground quake under him was to jump up and down. Among the animals found in this area were the mink, frog, common toad, jumping mouse, and a garter snake. Signs of a muskrat were in evidence. Suckers, chubs, and trout were swimming in a drainage ditch. Red-winged blackbirds were the most conspicuous birds. Quaking aspens were the most abundant trees and in addition there was bog birch, sand bar willow, balsam willow, and pussy willow. Sedges and grasses were well represented in the open bog including wool grass, reed grass, brome grass and satin grass. Other herbs included blue flag, arrowhead, St. John's wort, swamp bell flower and marsh shield fern.

As we traveled along the highway there were aspen islands interspersed with open areas. In some of these, dead trees loomed up like black sentinels to remind man of past fires. A part of this area was invaded by fire in 1936.

After leaving Roosevelt we entered Red Lake Refuge from the north. Fringed gentians were in blossom along the roadside. In the water-filled ditches yellow pond lilies and arrowheads were growing with cattails bordering the ditches. Mallards, blue-winged teal, and a single baldpate were feeding in the shallow water. There was considerable evidence of high water kill to the willows and aspens along the flooded ditches. Eastern kingbird and tree swallows were using the dead stubs in their feeding operations. Red-tailed hawks circled overhead.

Within two miles of the Norris ranger station we saw our first moose. Altogether we saw four moose near the roadside. There two groups each of which included a cow moose and a calf. One cow and her calf ambled across a boggy area to enter an aspen island. From time to time the cow

moose would pause as she headed west. There was apparently sufficient water and food in this area to attract these big game mammals. In less than a half hour after entering the refuge from the north end we had experienced one of the high lights of our entire trip as these four moose presented a sight that would be long remembered.

Arriving at Norris Camp ground we located our camp in a beautiful stand of Norway pine. While a red squirrel chattered in a Norway Pine, a thirteen-striped ground squirrel scampered across an open area of the camp ground.

In a nearby stand of Norway and Jack pine a 15-minute check revealed 11 species of birds with 20 individuals counted. The following table is based upon observations in a mixed pine stand from 1:45 P. M. to 2:00 P. M. with a light north wind blowing:

TABLE I

Species	No. Individuals	Part of Tree Being Used
Black-capped chickadee	3	Mid branches
Pine warbler	2	Crown
Myrtle warbler	1	Mid branches
Wood peewee	2	Dead middle limbs
Black and white warbler	1	Trunk
Scarlet tanager	1	Mid branches
Chipping sparrow	2	Ground and lower branches
Slate-colored junco	5	Ground and lower branches
Brown creeper	1	Trunk
Least flycatcher	1	Dead middle limbs
Blackburnian warbler	1	Crown

Within five minutes of completing this count 1 male and 2 female crossbills were found opening pine cones in this area.

Growing below the Norway and Jack pines were balsam fir, June berry, spreading dog bane, blueberry, bearberry, wild sarsaparilla, false lily-of-the-valley, Princes pine, wintergreen,

horsetails and bracken ferns.

When we visited the headwaters of Roseau River we found considerable evidence of beaver workings. A large beaver dam could be easily observed from the bridge which crossed the stream. This beaver dam has been known to be actively maintained by beaver since 1937. The pool above the

dam was being used by the following waterfowl: 6 pied-billed grebes, 2 mallards, 4 ring-necked ducks and 2 wood ducks.

Beaver dam No. 2 had plenty of fresh signs of beaver workings including a house, slides, canals, and fresh cuttings. Considerable quaking aspen had been recently cut, and also a few balsam poplar. Some of the aspen were 8 inches in diameter where they were cut off about 18 inches above the ground. Some of the chips, near the fresh cuttings, were 6 to 8 inches long. Smaller branches were trimmed from the main trunks. In some areas much down timber showed that sometimes the trees fell in such a way that they could not be extricated by the beaver. The beaver had changed his environment to a great degree in this portion of the refuge.

Beaver dam No. 3 provided for a drop of about four feet in the water level above and below the dam. This dam had provided good cover for waterfowl. There was a good growth of cattails and sedges which had apparently attracted some of the red-winged blackbirds. Dead tree stubs had attracted tree swallows, kingbirds, and cedar waxwings. Kingfishers and hooded mergansers had been attracted to this pond. Nearby a tree showed the workings of a pileated woodpecker.

The beaver population in the refuge is controlled by trappers who are permitted to take out the surplus animals. In some areas of the refuge beaver have flooded roadways. In such instances the beaver is live trapped, tagged, and moved to another area. Then the dam is dynamited. In one case a trapped beaver was moved, and 72 hours later it showed up 23 miles from the point where it was released.

As we traveled toward Elk Ridge we began seeing a white-tailed deer. A doe stood on the road, while a little fur-

ther along a big buck deer stood in an open meadow. We passed a number of food plots which had been planted to oats, buckwheat, rye and alfalfa. Deer, moose, elk, birds and other animals use these food plots.

A Northern Plains skunk ambled along the road. A gravel pit off the road revealed wolf tracks and droppings. Elk Ridge showed no evidence of big game, but we did find coyote tracks on the road.

A porcupine was feeding in an aspen. A flock of 13 ruffed grouse were found where they had probably been feeding in a patch of blueberries. One of the grouse lingered and displayed its plumage to advantage before flushing.

Our next stop was the airport which is located about one mile south of Norris camp. The airport is 3,600 feet long. It can be utilized in patrolling this extensive area by airplane. It was the base of operations from which the aerial survey was made of the Red Lake Game Preserve in the winter of 1946.

As we walked thru the Jack pine bordering the airport we observed that the area was free of hazel brush, while in some places reindeer moss covered the ground. A doe deer came out on the airport field which was planted to rye and oats. About 200 chipping sparrows arose from the field and flew into the conifers. A robin and wood peewee called from the Jack pine. As the day's light gave way to darkness and moonlight, three nighthawks flew over the airport.

Sitting around the campfire that evening we felt that this was a great spot for wild life, while off in the distance a coyote called. While lying in our sleeping bags under canvas the night sounds brought to us included the call of the whip-poor-will and great horned owl.

The next morning on a ride out on the Roosevelt road we saw two female deer standing in the road, while further along a buck deer disappeared into the brush. Great blue herons arose along the roadside ditches and flew into the rising sun.

Back at camp, while eating breakfast, we fed two Canada jays which would come down within 20 feet of where we were standing to pick up pieces of bread.

We had set out about 110 mouse traps the previous afternoon. These traps were divided between the following habitats: Jack pine, carex bog, and cedar fir. No small mammals were in the traps the next morning. A longer period of trapping than just one night would be desirable.

In the Cedar-fir association other trees noted included black spruce, canoe birch, ironwood, and tamarack. The shrubs included hazel brush, red osier dogwood, blackberry, raspberry and blueberry. The mossy hummocks were interspersed with clumps of bunchberry and a luxuriant growth of club mosses. Nearby grew clintonia, marsh marigolds, and trilliums. We saw a white-footed deer mouse, red squirrel, two ruffed grouse, wood peewee, hairy wood pecker, red-eyed vireo, leopard frogs, woodfrogs, and American toads. A deer bed and a moose bed and droppings were noted.

In the carex bog which bordered the creek, in addition to sedges, the following plants were growing: hoary alder, sandbar willow, raspberry, blue-joint grass, brome grass, tall meadow rue, Joe Pye weed, golden rod, and Canada thistle. A song sparrow and kingfisher frequented the carex bog.

After passing the Faunce Ranger Station and Camp ground we traveled along the Oakes road. There was lots of evidence of moose and deer in this

area as their tracks were numerous on the roadway. Red-tailed hawks, Canada jay, eastern kingbird, robin, flicker, and ruffed grouse were found near the road. It passed through a big bog that included white cedar, black spruce, and tamarack. The black spruce was growing here in abundance. In some parts of the bog the black spruce trees were 150 years old, and yet their trunks were only a few inches in diameter. In the bog where some of these black spruce grow there is a permanent layer of ice about 4 to 8 inches below the surface so these are truly cold swamps. Some of the creeks have a reddish color due to the drainage from the muskeg.

It was in a black spruce bog that we found spruce grouse and had an excellent opportunity to observe the habits of this bird. The grouse was flushed from the sphagnum moss on the floor into a black spruce tree. During the next half hour we had a chance to learn why this game bird is sometimes called "fool hen." It is very trusting and apparently is not too much disturbed by man as we observed from the following incident. Our guide, James Laughy, who is supervisor of the Red Lake Game Refuge, gave us a very interesting demonstration on how to snare a spruce grouse. He used a leather shoestring and about a 13-foot tamarack pole. On several occasions the leather loop was in contact with the grouse's head and it avoided the snare by pulling in its neck, turning its head, shifting its position on the limb or moving to another limb. As we sat on a soft cushion of sphagnum moss that covered the bog watching this performance, it seemed incredible how tame and fearless was this creature of the wild. We were within 30 feet of the tree where the bird perched upon a limb and yet it seemed to lack caution and seemed oblivious to our presence. Possibly the protective coloring of the

bird and its frequent contact with man helped account for its trusting behavior. After the tenth attempt to slip the loop over the grouse's head it flew about 35 yards and perched on a black spruce limb about 16 feet from the ground. On the next attempt the grouse was snared and pulled off the limb of the tree. We had witnessed a performance that one would scarcely believe unless one actually saw it happen.

In the hand this male Canada spruce grouse had red superciliary crests or combs that stood erect over each eye. The plumage was barred and spotted with black, white and gray, the throat was black and the black tail had a rufous band at the tip.

In addition to spruce grouse other bird life of the spruce bog included golden-crowned kinglets, black-capped chickadees, and white-throated sparrows. Very little light seemed to get to the forest floor deep in the bog. Here we found growing a clump of 10 showy lady slippers. Nearby the twin flower, round leaved pyrola, and bishops cap seemed to be quite tolerant to the lack of light on the forest floor.

Continuing on the Oakes road we sighted a female deer near the north branch of the north fork of Rapid River. Up ahead of us a bay lynx or bobcat loped across the road. Stopping to examine its tracks we found that they were almost as large as a silver dollar. Although we did not find any further signs of the bobcat, we did see a Hudsonian chickadee. One young fawn deer still wore the spotted coat of this year.

Our next stop was a white cedar stand used as a deer wintering yard. The cedar had been heavily browsed up to 8 or 9 feet above the forest floor. This stand was about 90 per cent white cedar, and above the duff on the ground it was practically free of vegetation and brush. Some trees had to be fell-

ed in winter in this particular deer yard to prevent starvation.

Near Frank Pete's cabin we observed the naval bombing range. Much of the grass in this open field as well as some of the large white pine had been burned as a result of bombing operations. Two barn swallows nests were found at Frank Pete's cabin. One nest contained three large young, while the other nest also sheltered young birds. Near the gravel pit were four holes about 4 feet deep by approximately 5 feet in diameter. These sand traps proved to be a good spot for collecting as they contained the following animals: 14 American toads, 9 leopard frogs, 2 wood frogs, 1 tree frog, a dead cinereous shrew and the remains of a rabbit, possibly a cottontail.

Returning toward Oakes camp a white-tailed doe deer was sighted, and within a mile of that cabin a buck deer stood near the road. Near the Oakes camp we saw our first brush wolf or coyote. A shot from our guide's gun sent it traveling eastward on the Dave Pepin road.

After our morning's ride we could not help but feel that this fascinating area with its abundance of wildlife had tremendous possibilities for future observations. In our brief stay in the refuge during the two days we had seen 12 deer including 8 does, 2 bucks and 2 young deer. During the 1946 deer hunting season 1,364 deer were known to be shot in the public hunting ground of Red Lake Game Preserve. There were some signs that deer were overabundant in the refuge as indicated by the high browse line in the white cedar swamp. Of the other preferred deer foods there was some red osier dogwood and wintergreen. Moose and deer will eat the same winter food and so there may be some conflict here where these two mammals are too abun-

dant. Moose seem to be slowly increasing in numbers in the Red Lake Game Refuge. During our stay in the area we saw four moose. At certain times of the year some sections of the refuge have contained as many as 30 moose according to the supervisor of the refuge. As a result of the aerial survey of this area in March, 1946, it was estimated that there were 2,600 moose in Red Lake Preserve.

Elk were not seen by our party although they regularly occur in the Red Lake Game Preserve. The American elk or wapiti was once abundant in Minnesota but it became extinct. In October, 1936, 27 elk consisting of 12 adult females, 9 males and 6 immature animals which had been held in captivity in Itasca State Park, were released in northwestern Beltrami County in the Red Lake Game Refuge. During the winter of 1935-1936 the elk were kept under close observation. Though the winter of 1936-1937 these animals progressed very well with only one known fatality which occurred in February, 1937. In the fall of 1937, a total of 46 elk were counted and, at that time, 5 known fatalities had occurred. The herd had broken up into small groups, ranging as far as 20 miles from the point of release.

By 1940 the elk herd had built up to about 100 animals. They had extended their range considerably as some elk were found as far as 100 miles away from the point of release. In 1944 the elk herd was estimated at 300 according to the 7th Biennial Report of the Conservation Department. The elk were found to be traveling farther and farther away from the refuge, and during the later part of June, 1944, they did serious damage to the crops in the farming area of Roseau County.

In the aerial census of big game taken on March 4-13, 1946, on a 494

square mile portion of the Red Lake Game Preserve 71 elk were counted. This area contained the bulk of the better elk range, leaving only small bands which remain uncounted outside the census area. The largest band counted included 60 elk. Three haystacks only one-fourth mile from these animals had been used for winter feeding. There is conflict between the elk and farmers upon whose crops they feed, and during the summer of 1947 three elk were shot by farmers who claimed crop damage.

Minnesota is the only state in which caribou have survived in the wild. The history of the woodland caribou is closely tied up with the Red Lake bog. Here in 1912 were found the only caribou remaining in the state. It was a herd of approximately 33 caribou. By 1928 the herd had been reduced to 13 animals. In 1935 only five animals were left, and in 1947 only 3 cows remained. In order to re-establish caribou, in the last remaining state of the Union where this big game mammal was still to be found, additional caribou were brought in from Canada during the winter of 1937-1938. Ten caribou were obtained from the Province of Saskatchewan. Two of these were adult males, and eight calves, sexes divided. One calf died soon after its arrival in Minnesota.

During the spring of 1940 four calves were born. One of the three remaining native caribou died during the summer of 1940, apparently from causes associated with old age. This sick caribou had been transported earlier in the year to Carlos Avery Game Refuge where efforts to help her regain her health had failed. The herd late in 1940 contained 2 native caribou, 9 imported caribou, and the 4 calves produced in the spring of 1940 or a total of 15 animals. In 1943 there were believed to be 14 caribou in the refuge area. Unfortunately,

poor field conditions prevented a count of the caribou during the aerial census of big game in March, 1946. James Laughy reported having seen a caribou in October, 1946, and tracks of these animals were reported during that winter. Evidently there is a possibility that caribou remain in the Red Lake Preserve.

Black bear are reported fairly abundant in the refuge, and we did see signs of these large mammals. In addition to the brush wolf or coyote the timber wolf is found here as 43 of these two species together were trapped in the refuge in the last year. Bobcat are fairly common while Canada lynx are very seldom seen here. Signs of fox, probably red fox were evident. Badger are unusual in the area and there are few racoons. Both the long-tailed and short weasel are common. Mink and muskrat frequent the waterways. Other fur bearers found in this area include: otter, fisher, marten, red and fox squirrel, and snowshoe hare.

The birdlife of the refuge is one of the chief attractions of that area, although many birds are not calling or singing in August. Of special interest was such birds as the Canada jay, spruce grouse, Hudsonian chickadee, red crossbills, golden-crowned kinglet, ruffed grouse, scarlet tanager and whip-poor-will. Of the waterfowl the mallards were most abundant, but there were not many local ducks observed. The most abundant hawk was the red-tailed hawk, and they seemed to be very noticeable in the vicinity of Elk

Ridge. The marsh hawk, sharp-shinned hawk and sparrow hawk were observed to be present in rather small numbers. The goshawk which is found in the refuge in winter is controlled along with fur bearers which are considered predators. We were not able to find any ravens in the area although this bird is said to occur there and is regularly seen in winter. A complete list of the birds observed during our stay in the refuge on August 24 and 25 totaled 55 species, and they are as follows: pied-billed grebe, great blue heron, mallard, baldpate, blue-winged teal, wood duck, ring-necked duck, hooded merganser, sharp-shinned hawk, red-tailed hawk, marsh hawk, sparrow hawk, Canada spruce grouse, ruffed grouse, great horned owl, whip-poor-will, nighthawk, belted kingfisher, flicker, red-headed woodpecker, hairy woodpecker, downy woodpecker, eastern kingbird, least flycatcher, wood peewee, tree swallow, barn swallow, Canada jay, blue jay, crow, black-capped chickadee, Hudsonian chickadee, white-breasted nut-hatch, brown creeper, house wren, short-billed marsh wren, robin, bluebird, golden-crowned kinglet, cedar waxwing, red-eyed vireo, black and white warbler, myrtle warbler, blackburnian warbler, pine warbler, northern yellowthroat, red-winged blackbird, scarlet tanager, goldfinch, red crossbill, vesper sparrow, slate-colored junco, chipping sparrow, white-throated sparrow and song sparrow.—Minnesota Bird Club, Minneapolis, Minnesota.

Seasonal Bird Report

by

Mary Lupient

The weather during February, 1948, was about average with intermittent spells of cold and mild weather, but the first part of March was marked by extreme cold. On March 11, the temperature dropped to 26° below zero in the Twin Cities and to 30° below at International Falls. This record cold spell followed severe storms that occurred throughout the state during early March. The weather moderated during the last part of the month and the spring migration began at about the usual time.

Rusty and red-winged blackbirds were migrating in great flocks by March 19; bluebirds, robins, meadow-larks, killdeer, and gulls were reported by several observers from March 17 to 20. At the same time hawks in numbers were passing through the area around the Twin Cities. Species of hawks observed were: sparrow hawk, marsh hawk, red-tailed hawk, American rough-legged hawk, sharp-shinned hawk, broad-winged hawk, and red-shouldered hawk. Dr. Olga Lakela reported that the red-tailed hawk, sharp-shinned hawk, and marsh hawk were observed by the Duluth Bird Club on April 11. An adult male duck was banded on March 24 by Byron Harrell, Dana Struthers, and Harvey Gunderson. March 27, two pigeon hawks were seen at Marietta by Franklin Willis who also reported about 1,000 pintails and mallards feeding in a cornfield on March 28. That the duck migration occurred at about the usual time was evidenced by the fact that A. C. Rosen-

winkel reported the following ducks at the Izaak Walton Bass Pond on March 25: mallard 50, black duck 2, lesser scaup 12, baldpate 2, buffle-head 6, golden-eye 10, American merganser 16, red-breasted merganser 2 (with the ducks were 2 coots). Other species of ducks had arrived by April 3. Each year wood ducks nest in the old trees at the home of Dr. and Mrs. W. J. Breckenridge. This year they came on March 31.

An eared grebe was observed on April 11 in Lac Qui Parle County by Franklin Willis. Several horned grebes and one Hoelbell's grebe were on the lakes in Minneapolis, April 18, and on April 24 I saw a Western grebe on Lake Nokomis.

A flock of about 400 Canada geese tarried at Rochester for several days. Dr. W. J. Breckenridge, who took motion pictures of them, said they lived in the open water in one of the city parks and at Maywood about five miles up the river. He saw them on March 22. The migration of waterfowl at Wheaton was about normal. Mr. and Mrs. Wallace E. Peterson were there on April 15, and stated that besides the ducks there were about 500 white pelicans. Near Willmar they saw great flocks of Lapland longspurs,

The earliest date this season for the whistling swans was on March 28. Eight were seen by A. C. Rosenwinkel at the Cedar Avenue bridge near Minneapolis. March 30, Mrs. C. E. Peterson and Franklin Willis observed about 100

in a small slough near Marietta. Four large flocks were found along the Minnesota River from Shakopee northward by Mr. and Mrs. Wallace E. Peterson on April 4. They numbered about 400 in all. By April 10 the whistling swans had arrived at Superior Bay, Duluth. Eighteen were reported by Dr. Olga Lakela.

Pectoral sandpipers and both the greater and lesser yellow-legs had arrived by April 7, upland plover were observed May 4 by Dr. W. J. Breckenridge, and on May 5 I saw willets at the Izaak Walton Bass Pond. Eleven Wilson's phalaropes also were feeding in a pond south of Minneapolis on this date.

The various species of swallows, sparrows, thrushes, and rails arrived in ordinary numbers and on the usual dates. In the Twin City area the first myrtle warbler was reported an April 18, and by May 9, date of this writing, there were flocks of them; also, a few yellow, palm, orange-crowned, pine, and black and white warblers, as well as the Grinnell's and Louisiana water-thrushes, and the oven-bird. The blue-headed vireo and least flycatcher were here also.

Interesting observations include one by the Minneapolis Bird Club. They saw a Franklin's gull at the Izaak Walton Bass Pond on April 18. The following interesting note was taken from a report dated March 28, and sent to the Museum of Natural History by Franklin Willis, Marietta: "Returning home just before dusk I noticed a flock of Eastern bluebirds in the trees along our dive. I called my mother and we walked out to look at them. They were quite wary and all but two flew at our approach; they remained perched on a fence. It was my mother who noticed that one of the bird's breast was light blue, nearly the same shade as its back. The other, supposedly the female, was a light brown color and not streaked." Mr. Willis identified them as mountain bluebirds.

The following arrival dates published by the Thunder Bay Field Naturalists' Club, Port Arthur, Canada, may be of interest to those who observe the migration: March 24, robin; April 4, Canada geese at Kaministiquia; April 7, killdeer; April 10, flicker; April 11, Western meadowlark; April 15, bronzed grackle.—Minnesota Bird Club, Minneapolis, Minnesota.

Deadline for September Issue

The deadline for the September issue of *The Flicker* is August 10. If your Club has elected new officers, that information must reach the editor before the manuscripts are sent to the printer or the change cannot be made until the next issue comes out.

NOTES OF INTEREST



Photo C. O. Bjore

YOUNG BALD EAGLE

feet from this spawning bed, we saw the remains of two eagle's nests in one tree—an enormous cottonwood.

On this same day we saw quite a flock of ducks at Judd Lake, but they were too wary for easy identification, but I guessed that they were pintails. We thought this was quite late for any ducks to be spending their time on Alaskan lakes.

It was also on this day, October 9, late in the afternoon, when we were favored with a lucky shot at a young "Brownie." We had to hurry our skinning operations in order get back to camp before darkness set in as the trails thereabouts are pretty hard to follow in the dark. We therefore did not do a very careful job of skinning, so the next day we put the pelt on a pole for cleaning off the excess fat. This brought several Alaska jays and some would come within a few feet to pick up the pieces of fat.

SOME BIRD OBSERVATIONS IN THE WILDS OF ALASKA—All summer long we had planned a bear hunting trip in Alaska, so on the morning of October 6, 1947, my friend and guide, Fred C. Judd, and I left Anchorage, Alaska, by pontoon equipped airplane for an 85-mile trip into the wilderness to Judd Lake, named for my guide for his 17 years of trapping there.

While hunting for bears, we kept our eyes open for birds, too. On October 9 as we were hiking along the shore of Judd Lake, on our way to the bear trails, we saw two young bald eagles ahead of us moving from tree to tree as we moved along. I hoped to get a picture while they were still by the shore line so made quite a few exposures. I got a picture of one of the eagles sitting on a broken-off spruce. I cautiously moved forward with the camera set for a quick shot and got the other young eagle just leaving its perch. It then left to join its mate farther in the woods.

About a mile farther on we came to a salmon spawning bed and naturally a feasting place for these eagles and the Alaska brown bear. About 100

If anyone is planning to make a bird survey in country such as we were in I would advise him to have not only bird hunting equipment but to be outfitted as a hunter as well for he will need a high powered rifle for protection from bear, moose, and wolverines.

On October 11 our plane came back for us, and we were homeward bound after six days of a perfect outing.—C. C. Bjore, Route 2, Sebeka, Minnesota.

WINTERING OF BROWN THRASHER IN MINNEAPOLIS—Early in November, 1947, I noticed a brown thrasher and a catbird at my feeding station in southeast Minneapolis. A daily check showed the last appearance of the catbird on November 21. On November 26 I began recording the visits of the thrasher and noted temperatures. This record was carried through the winter, for the bird has survived to this writing (April 12, 1948). It was a strange sight to see a brown thrasher in one's yard in Minneapolis at 27 below zero, or to see it on the feeder, brushing aside snow in its search for food.

The bird was provided daily food. It ate finely ground corn, ground hamburger—both cooked and raw, and canned fish, but chiefly ground suet. Crumbled cookies, bread crumbs, and cake were also eaten.

On days when there was melting weather, the bird would come close to the house and lap water that dripped from icicles on the eaves. On numerous occasions it was also observed eating snow.

Living in a house with large glass exposure, I was earlier troubled with birds flying into the plate glass and being killed. At certain times of the day and in certain lights, the plate glass reflected like a mirror all trees and outside growth. I finally solved the problem by hanging wide-meshed fish nets in front of the glass. I have never seen a bird fly into the nets, but since they were hung no bird has gone against the windows.

Possibly this inability to distinguish real objects from clear reflections, accounts for a curious incident my wife and I saw repeated several times at the Izaak Walton Bass Pond early this spring. The water was high and came up around the bushes on the shore in which a number of song sparrows were flitting about. Occasionally one in its flight would plunge into the surface of the water. The bank bushes were highly reflected and may have appeared as perches to which the birds mistakenly flew.—Malcolm M. Willey, Minnesota Bird Club, Minneapolis, Minnesota.

OCCURRENCE OF BARROW'S GOLDEN-EYE IN MINNESOTA—March 28, 1947, there was only a small, narrow stream of open water under the Cedar Avenue bridge which spans the Minnesota River near Minneapolis. While standing on this bridge that morning, I saw one lone duck paddle out from behind a clump of dry reeds and swim leisurely along just beneath me. There were distinct crescents in front of the eyes and the head had a purplish cast. I was near enough to positively identify it as the Barrow's golden-eye which is very rarely seen in the Mississippi valley. In his *LOGBOOK OF MINNESOTA BIRD LIFE* Dr. T. S. Roberts reports only one observation of this bird, which was in 1930. He states as follows, "A pair of Barrow's golden-eyes seen at Cass Lake May 5th to 7th by Messrs. Austin and Kittredge was exceptional." In *BIRDS OF MINNESOTA* he mentions a few sight records and also the fact that one was shot by Mr. T.

Surber at Lake of the Woods in 1912. The skin of this bird was sent to a laboratory in Iowa and was later lost in a fire that destroyed the building.—Mary Lupient, Minnesota Bird Club, Minneapolis, Minnesota.

WHISTLING SWANS IN HOUSTON COUNTY—On April 3, 1948, while driving in the afternoon from La Crosse, Wisconsin, along the Mississippi River on the Minnesota side, there were ten whistling swans in a slough along Highway 16. This slough is in the Federal Game Refuge about three miles south of La Crosse, Minnesota.

In driving north from the Iowa line in the morning there was nothing on the river but the usual assortment of ducks. However, I did see a bald eagle that was in the act of changing from immature to adult plumage, and the plumage on the neck certainly presented a mottled appearance. There was one duck hawk south of Brownsville, but this is not unusual as they seem to like the rocky bluffs along the river.

On the fifth of April I again had occasion to drive to La Crosse and was much pleased to see the ten swans still in the same location both in the morning and afternoon on the return trip. This time they were associated with about 25 baldpate ducks.

On both days the swans were about 300 yards from the highway and busily engaged in feeding. The presence of cars stopping and people getting out to see them did not excite the swans in the least. This is the first time I have had the opportunity of viewing the whistling swans under such ideal conditions.—Chas. A. Stewart, New Albin, Iowa.

TWO INTERESTING BIRD INCIDENTS—About five o'clock in the afternoon, about the middle of April, the family was about to sit down to supper. We heard a blow on the south side of the house like a stone being thrown at the house. I rushed out the back door, and on the concrete walk was a duck lying, standing over it was a male duck hawk in adult plumage. The observation distance was about 15 feet. As soon as I appeared the hawk flew away. I picked up the dead duck and on examination found its neck broken. It was a male wood duck. This was most certainly the closest view I ever expect to have of a duck hawk.

Apparently the wood duck had been in a small lake a short distance south of the house. The falcon must have missed his "stoop" and a chase resulted. The duck in his efforts to elude the hawk had made for the grove of trees in which my house is located and did not see the house in time, going head on into the side.

Saw-whet Owl. About three years ago, on a winter's night when the moon was shining brightly, my wife called to me from her bed room asking me what the bird on her window sill was. I took a flashlight and threw the beam on a little saw-whet owl perched on the window sill. He stayed in the light beam for about a minute and then flew away. My wife said she heard a scratching on another window on which the shade was pulled just before seeing the owl on the sill.

For several nights previous to this incident I had heard a barred owl hooting on the hill back of my house and I believe that the little owl on the window sill to escape the barred owl.—Chas. A. Stewart, New Albin, Iowa.

Editor's Note: There are frequent records of the great horned owl praying on smaller owls but few if any records of the barred owl doing this.—W. J. B.

CALL NOTES

A paragraph in the "Call Notes" of the last (March, 1948) issue of *The Flicker* stating that this number "ushers in the twentieth anniversary of the publishing of the magazine" is particularly significant at this time. It took real faith, strength, and dogged determination of many persons to bring it about. Stepping from a mimeographed publication to a printed magazine was a real accomplishment.

A bit of the past history and present fact may be interesting to the members of the MOU. Some eight or ten years ago printing costs were so prohibitive that it seemed inadvisable to continue the publication of the magazine. It was then that the State Reformatory people of St. Cloud agreed to print it as a project for the young men of that institution. This offer of cooperation saved *The Flicker* as the cost could then be kept within the amount that the Union was able to pay.

The work the Reformatory's print shop is expected to do for the various units of the state government at the present time is so great that all non-governmental work has been cancelled except for the *Flicker*. The members of the MOU appreciate this continued cooperation and want to thank the leaders of the institution, especially Max Davidson, head of the print shop, for making this exception in the case of *The Flicker*. Undoubtedly the magazine would again be threatened with being discontinued were it not for this act of generosity on the part of these men.

The Wilson Ornithological Club honored two of our Minnesota ornithologists by electing them to office June, 1948

at their annual meeting at Columbus, Ohio, in November, 1947. Dr. Olin Sewall Pettingill, Jr. of Carleton College, Northfield, was elected President of the Club, and Dr. W. J. Breckenridge, University of Minnesota, Minneapolis, Second Vice President. The 1948 meeting will be held at Madison, Wisconsin. The date has not yet been set.

The Audubon Wildlife Tours, that proved so popular last summer, will again be conducted at Itasca State Park in northern Minnesota in July and August under the direction of Ken Morrison, Minnesota Representative of the National Audubon Society. Be sure to include some of these conducted wildlife tours in your vacation plans.

The Minnesota Bird Club, at its meeting on May 5, voted to retain the same officers for next year since they have done such a splendid job of stirring up enthusiasm within the club. One of the features this year has been a get-acquainted social half-hour after the program with light refreshments in the form of a silver tea. Some excellent programs have been put on under the chairmanship of Dr. Warner. Summaries of a few of these programs have been published in *The Flicker*. The June meeting is to be a picnic at the Izaak Walton League Bass Pond.

Donald K. Lewis, who is on the staff at the Minnesota Museum of Natural History at the University of Minnesota, will be stationed at Itasca State Park during June, July, and August working as the Park Naturalist.

The Minnesota Museum of Natural History staff under the direction of Dr. W. J. Breckenridge and in cooperation with the Minnesota Department of Conservation and the Division of State Parks is busy laying out Nature Trails in the St. Croix State Park. They plan to lay out trails in Scenic State Park and Gooseberry Park also before the summer is over.

Major and Mrs. Charles H. Snyder and Robert Janssen, members of the Minneapolis Bird Club, volunteered to cooperate with the Louisiana State University in their nocturnal bird migration study during the full moon period of April.

Because of the cloudy weather in Minneapolis at the time, the results were rather disappointing. Mrs. Snyder, however, reported seeing a pair of large birds silhouetted against the moon. She said they were either herons or bitterns. Four or five smaller birds were seen, but they flew too fast and were too small to identify. Robert Janssen saw no birds, but heard a flock of great blue heron fly over.

Studies recently carried on at Louisiana State University have demonstrated that it is practical and desirable to make counts at night of migrating birds by use of a spotting scope or astronomical telescope focused on the

moon. The number of birds seen in this measurable portion of the sky furnishes an index to the total number passing over a given observation station.

If enough observations can be obtained to be of statistical significance the data will reveal to what extent night migrants follow set pathways, whether the flights are continuous in equal volume throughout the hours of darkness, and the effect of meteorological conditions upon migration.

The Wisconsin Society for Ornithology, Inc. is launching a program, beginning in 1948 to gather information about the breeding birds of Wisconsin by means of work maps of the state showing the outlines of the counties and their names. A small red dot will be placed on the map in the proper location for every nesting record received. Each species is to have its own map. The details of this project are given in the January, 1948, issue of *The Passenger Pigeon*. Some of the maps will be exhibited at their annual convention each year.

J. J. Hickey, author of *A GUIDE TO BIRD WATCHING*, has recently become a member of the University of Wisconsin where he is working in the Department of Wildlife Management. Mr. Hickey is a noted ornithologist.

SUGGESTIONS FOR 1948 NESTING RECORDS

It would greatly facilitate the compiling of Minnesota nesting records if everyone would record the information on 3 x 5 cards, one card for each species. Send these card to the Editor or Dr. W. J. Breckenridge as early in September as possible so the data can be compiled for publication in *The Flicker*.

Sample Card

Species:

Observer:

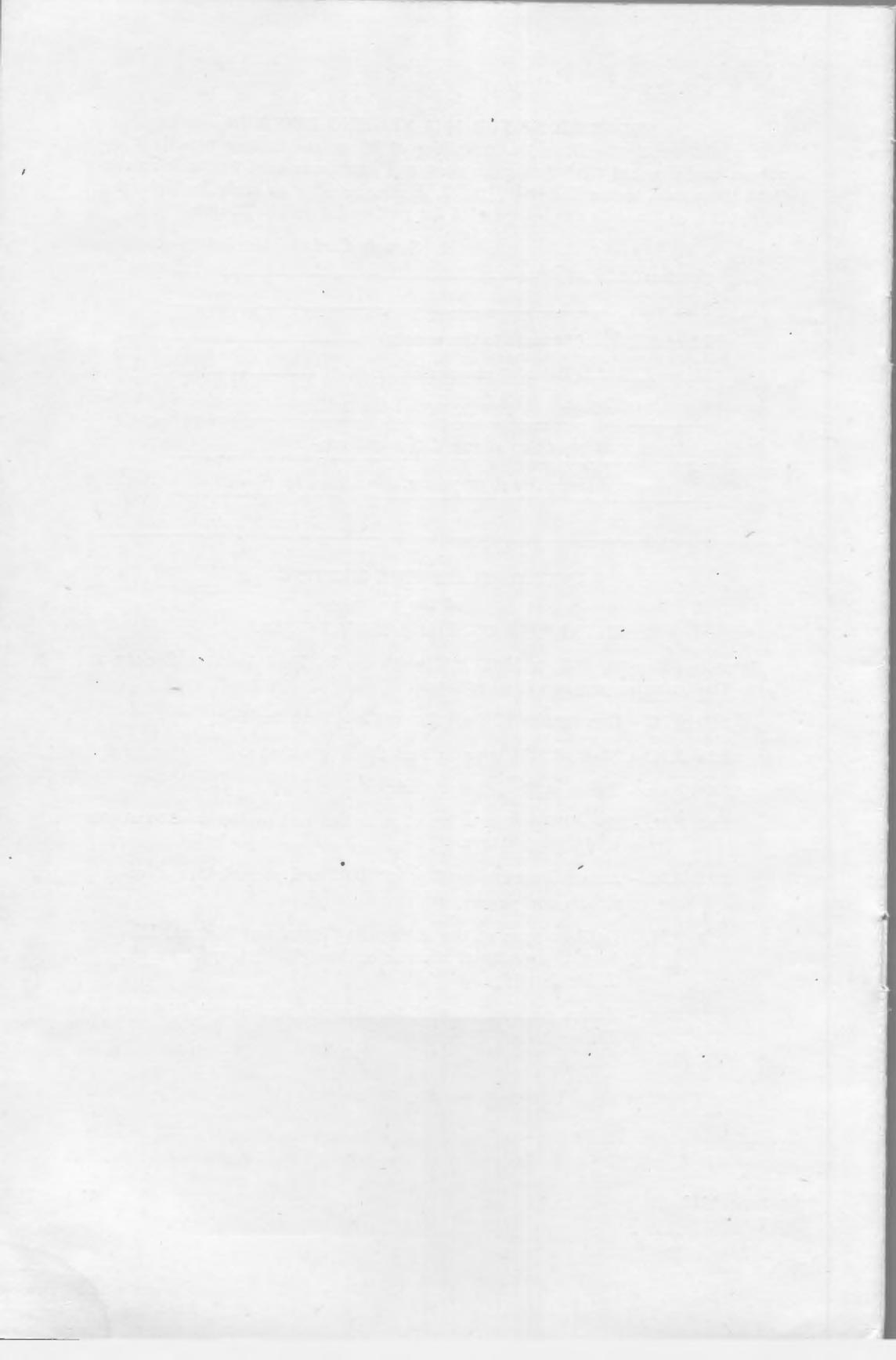
Place:.....(At least to the county)

Data:(Dates of observation, number
of eggs or young; revisit the nest,
if possible, giving dates and con-
dition of nest or young.

ANNUAL STATEWIDE MEETING of the MINNESOTA ORNITHOLOGISTS' UNION

Saturday, May 15, 1948, is **MOU DAY** with the St. Paul Audubon Society as host. The tentative program is as follows:

- 9:00 A.M. - Registration at the Officers' Club, Fort Snelling.
- 9:15 A.M. - Start of field trips in Fort Snelling vicinity.
- 12:00 Noon - Lunch at the Officers' Club.
- 1:15 P.M. - Round-table discussion of activities and problems of local bird organizations.
- 2:00 P.M. - Annual business meeting of MOU and presentation of ornithological papers.
- 7:00 P.M. - Exhibits open at the Minnesota Museum of Natural History, University of Minnesota, through courtesy of Dr. W. J. Breckenridge.
- 8:00 P.M. - Motion pictures of wildlife. Museum of Natural History, University of Minnesota.



Minnesota Ornithologists' Union

Affiliated Societies

CLOQUET BIRD CLUB

Officers: President, Miss Dorothy Wassen; Vice President, Miss Ruth Johnson; Secretary-treasurer, Miss Edith Sanford.

Meetings are held the first and third Thursday of each month in the Cloquet High School at 7:30 p.m.

DULUTH BIRD CLUB

Officers: President, Miss Frances Riddle; Vice President, Ralph Boeder; Secretary, Miss Helen C. Smith; Treasurer, Miss Harriet Lockhart; Editor, Mrs. Evelyn Jones Putnam.

Meetings are held the second Thursday of each month of the school year at 7:30 p.m. at the Duluth Branch, University of Minnesota.

MINNEAPOLIS AUDUBON SOCIETY

Officers President, Mrs. G. R. Mägney; Treasurer, Mrs. W. W. Wilcox; Recording Secretary, Mrs. A. M. McLeod; Corresponding Secretary, Mrs. S. A. Gile; Field Secretary, Mrs. J. A. Thompson; Auditor, Mrs. Gaylord Davidson.

Meetings are held the first Friday of each month at 2 p. m. at the Walker Branch Library. Field trips during April and May on Tuesdays and Fridays.

MINNEAPOLIS BIRD CLUB

Officers: President, Miss Florence Nelson; Vice President, George Rickert; Secretary, Mrs. Charles Snyder; Treasurer, Mrs. Edith Kees.

Meetings are held the first and third Tuesdays of each month at 7:30 p.m. at the Minneapolis Public Library Museum.

MINNESOTA BIRD CLUB

Officers: President, Harvey Gunderson; Vice President, Miss Theodora Melone; Secretary, Mrs. I. A. Lupient; Treasurer, Byron Harrèll.

Meetings are held the first Wednesday of each month, except June, July, August,, and September, at 8:00 p.m. at the Minnesota Museum of Natural History, University of Minnesota.

ST. CLOUD BIRD CLUB

Officers: President, Miss Monica Misho; Vice President, Mrs. Charles Beacom; Secretary-treasurer, Miss Loretta Rosenberger.

Meetings are held the first Wednesday of each month from October through March in the committee room of the public library at 8:00 p.m.

T. S. ROBERTS ORNITHOLOGICAL CLUB

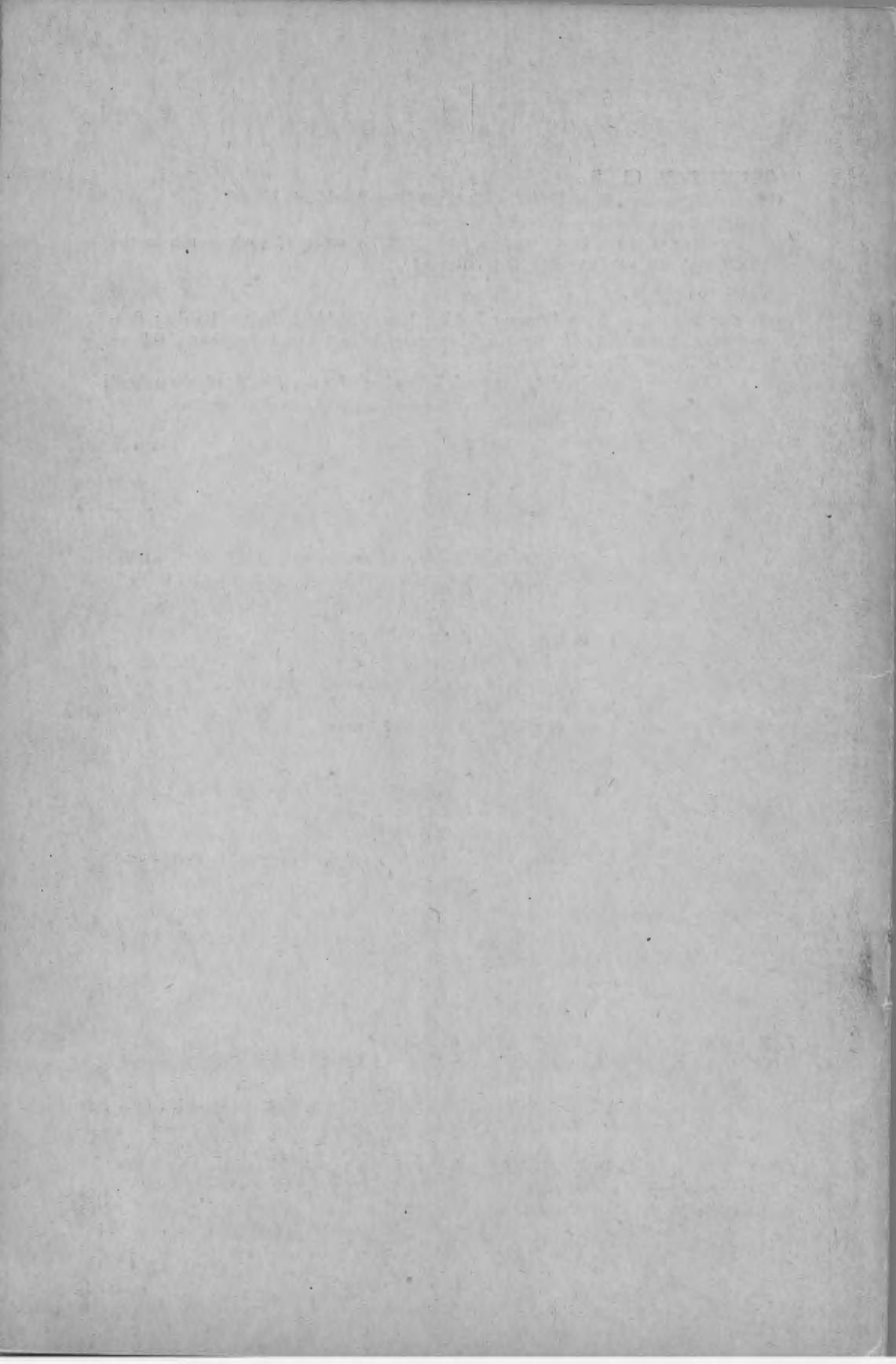
Officers: President, Miss Mavis Scott; Vice President, Robert Fox; Secretary-Treasurer, Miss Dolores Olson; Advisor, G. W. Friedrich.

Meetings are held bi-monthly February through May at the St. Cloud State Teachers College.

ST. PAUL AUDUBON SOCIETY

Officers: President, Kenneth Morrison; Vice President, Leonard Lustig; Treasurer, R. A. Kortmann; Corresponding Secretary, Miss Dorothy Sundry; Recording Secretary, Miss Ruth Arnquist; Directors at Large, Mrs. R. M. Elliott and A. C. Rosenwinkel.

Meetings are held at the St. Paul public library at 7:45 p.m., the fourth Thursday of each month, from September through May.



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THE FLICKER

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Western Minnesota Spring

by

El Vida Peterson

Minnesota is accustomed to the capricious moods of Nature. It is said to make a hardy race of us. Sometimes She is open-handedly generous and breathtakingly beautiful, only to turn mean and spiteful in the next instant. My husband and I were treated to both moods in a trip we took to Lake Traverse to catch the geese migration, but Nature was so generous that we didn't mind the parting slap She gave us.

We started at 8 a. m., April 15, for Wheaton, Minnesota, determinedly closing our eyes to the meadow larks, horned larks, blue birds, blackbirds, line after line of ducks seemingly jet-propelled to the North. If we yielded, nightfall would undoubtedly find us still in the vicinity of Lake Minnetonka.

Near DeGraf a salmon wash on a pair of wings brought hot tires and cold pavement together in shrieking protest. There were six marbled godwits with bills buried deep in the casual water of a plowed field: not at all the kind of a slough we had expected shore birds to frequent. The call, which the experts say is 'go-wit, go-wit, go-wit,' grated unpleasantly on our ears. The birds seemed insolently unafraid. We had to rush within six feet before

flushing them. That black on the end of that long red bill must be pure camouflage so that it can probe in wet, sticky dirt and still show a clean face to its public!

The flatter prairie country showed water in every slight depression, indicating that the great bulk of shore birds would probably find it more to their liking than the Twin Cities flyway this year.

Near Morris the wind seemed to be whirling huge drifts of leaves—musical leaves. Lapland Longspurs, they were. They rose in waves immediately in front of a team of horses pulling a spreader sifting odoriferous Golden Guernsey over the freshly raked field. We were to see other flocks of longspurs and in each case the affinity was the same: Lapland longspurs, freshly turned earth, Golden Guernsey.

The longspurs were confident that their camouflage was complete and would allow us to get within five feet or so before flying. We would be conscious of a couple of birds, only to find a dozen or so flushing immediately in front of us. One beautifully colored male concealed himself behind two short stalks of corn, watching slyly through the half-inch crack between and allowed me to come within two

feet before he said, "Oh, oh. Gotta go."

Near Wheaton and the Red River valley snow still lay in large drifts in the sheltered places. Many sloughs in the prairie country were still completely ice bound, but those open had their quotas of ducks. There were a few buffleheads and a few ruddy ducks, but we saw no green-winged teal. The numbers of redheads and canvasbacks amazed us. The shore bird population seemed confined to an occasional killdeer and now and then a greater or lesser yellow-legs. Blackbirds were noted by their comparative absence. Meadowlarks, robins, horned larks, and yellow-headed blackbirds were present in numbers comparable to those about the Twin Cities. The horned larks seemed to have a more somber dress. Pheasants were fairly numerous.

Nature could be generous, and was. We had chosen this date with no definite information as to the geese migration. When we arrived, the greater part of Lake Traverse was still ice-bound. Mud-Lake, immediately to the north, was open and some Canada geese were found there close enough to the highway for excellent views through binoculars. About 5:30 P. M. they started rising in both small and large flocks from the center of the lake going northwest, evidently to feed.

The next morning was cloudy and we arrived at the north end of Mud Lake about 8 a.m. to find long lines of geese arriving from the northwest and the northeast. The majority of the geese dropped down to rest in the center of Mud Lake, but a narrow peninsula of ground not too far away from the highway was packed shoulder-to-shoulder with Canada geese and a few blue and white-fronted geese.

Then we noticed long lines of geese dropping down into the grassy slough on the north side of the highway (Club

House Lake). Driving around on the South Dakota side of the lake we found a small rise where the car could be driven right to the edge of the bluff, providing a grandstand seat to view immediately below the thousands of snow and blue geese with white-fronted geese here and there. While we were watching, the entire flock rose as a single bird, like a well-trained army in maneuvers obeying the bark of a command. They circled for a few moments and then dropped back into the water, seemingly still in formation.

Evidently the blue and snow geese had arrived just that morning. There had been no evidence of them the evening before and a chap to whom we talked during our first evening there said that normally the blue and snow geese did not arrive until several weeks later than the arrival of the Canadas. He also had been out the evening of the 15th, (the day we arrived), and had not seen the blue or snow geese.

It was this man's opinion that Lake Traverse had been spoiled as the main geese flyway when the U. S. Engineers had built the dams at the ends of Traverse and Mud Lakes. It kept the water so high that the aquatic foliage on which the geese feed was drowned out. That probably accounts for the larger numbers of geese on the very shallow Club House Lake. This man said that before the dams were put in there would be thousands of geese where now there were hundreds; that he had seen the time when no goose could move two feet in any direction without pushing another goose out of the way.

A pair of horned grebes "made haste from the shore" as we crossed the north end of Lake Traverse, and a pair of black-crowned night herons decided they had business elsewhere. A lone Savannah sparrow posed coyly on

a rock. The ducks were predominantly redheads and lesser scaup, and overhead the ring-billed gulls were flying and dipping.

Driving down the Minnesota side of Lake Traverse we noted that the southwest wind had cleared the opposite shore of ice. On the northeast corner of the lake a few great blue herons had already selected their apartments in a small heronry, and were either standing on the nests, or flying lumberingly about. A few miles farther a pair of swans appeared as though they were settled for a long stay. On a spit of land on a small island in the lake was a study in black and white—cormorants with their snaky heads pointed to the sky like the dead-stick remnants of a flooded forest, and clean snowdrifts of big white pelicans. Franklin's Gulls were following the plowmen, not in the huge flocks that followed my father's plow when he was a farmer in the Dakotas and I was a very little girl, but still in considerable numbers.

At Brown's Valley we crossed into South Dakota, coming up along Lake Traverse again. It was here that Nature decided on her grandiose gesture. Neither of us had even seen a pelican before, but here before us these huge birds, who combine the impossible combination of the ludicrous and the pompous, began to rise off the water in large numbers flying toward the thermal up-draft at the edge of the bluffs. Then those huge wings were set, and a flock of 150 to 200 birds did the outside spiral of a whirlwind—round and round—flashing white and shadow—up and up—so high that even our Carl Zeiss 12-power binoculars could not find them in the sky. There were two other "whirlwinds" of lesser size in the sky at the same time. Had we been five minutes later there would have been nothing to see.

That was Nature's final curtain. She

then closed her fist tightly. Out beyond the bluffs of the valley, to Sisseton and the top of the low range of hills, back by way of Veblen and Claire City, there was a lot of water but an almost complete absence of bird life. Nearing the valley again, we found another pair of swans in a large marshy lake.

Five o'clock in the afternoon found us on the same bluff overlooking Club House Lake. The geese were disturbed and very vocal about it. Some farmer, undoubtedly deciding "it was good enough for his father and by golly it was good enough for him", was doing his spring housecleaning by burning the long grass all around the lake. Even so, the fire evidently did not frighten them so that few had left.

Ten seconds after my wistful remark, "I suppose it is too much to ask that they all fly again as they did this morning", the large mass of geese sparked by the same instant impulse, rose and circled in the air for several moments before settling back into the water. That was our last view of them.

The next morning Nature took some dust from Kansas, Missouri, Oklahoma, mixed it with the local stuff and threw it at us all the way home. The one bright spot in a nasty day was the sight of the Pasque flower (*Anemone pulsatilla*—South Dakota state flower) blanketing a fire-blackened hillside. We left the Minnesota Valley at Montevideo, and found Spring showing increasing signs of advancement as we came east. Bird life was very scarce. We saw only a lone red-shouldered hawk, several small flocks of longspurs, a couple dozen each of the lesser and greater yellow-legs at a pond in a small town, and surprisingly, a Franklin's gull as far east as Hutchinson. Nature was up to her old tricks again, but we didn't mind. We loved her.— Minneapolis, Minnesota.

Some Nests Seen On Bird Hikes

by
Brother Pius

When nests are found on bird hikes, one has an excellent opportunity to observe the birds closely and to learn their songs readily. As a result one learns to identify the birds more easily than when one gets only a fleeting glimpse of them.

Before going to Big Sandy this summer I had been checking nests of a horned lark, a chickadee, some brown thrashers, and a blue jay in St. Paul. I noticed that the horned lark laid one egg a day until it had four eggs and then started incubating on April 15. The chickadee started to excavate March 28, was carrying building material April 20, and began to feed young May 15. The young left the nest at nine o'clock in the morning June 1, sixteen days being required to raise the fledglings. A brown thrasher started incubating three of its eggs and a cowbird egg on April 29, and two others started about May 6, one with four eggs and the other with five. The clutch of four eggs hatched out May 19, and the young left the nest May 31; the one of five eggs hatched out May 20 and the young were near the nest on June 1. In each case it took about fourteen days for incubation and twelve days for raising the young. In another nest the young left June 19. One of the brown thrasher nests was on the ground. The height of the others ranged from three to seven feet.

At 847 S. Lexington Avenue, St. Paul, a blue jay started building May 1 and had two eggs May 7 when the eggs disappeared. The culprit in this case may have been a red squirrel for

a blue jay was seen pursuing one nearby. The blue jay then built another nest twenty feet away and had four eggs on May 22. The young were on the ground early in the morning about June 22 and by eight o'clock the mother had taken them away. At this same address on July 8 when the temperature was in the nineties, it got too hot for the young in a wren house and they left the nest in the afternoon. By eight o'clock the mother had led them away.

During the second and third week of June of this year, I again had an opportunity to make a survey of a five-acre plot on the east side of Big Sandy Lake, Aitkin County, where I obtained results similar to those of last year. I found nests of the yellow warbler, red eyed vireo, catbird, eastern kingbird, phoebe, song sparrow, least flycatcher, veery, and purple martin. On hikes in the neighboring territory, I saw and heard singing a number of song sparrows, veerys, catbirds, least flycatchers, northern yellow-throats, red-eyed vireos, and yellow warblers, and I found nests of the black tern, the bank swallow, and the spotted sandpiper.

I found the yellow warblers to be the most interesting. There were seven of their nests on the plot that I surveyed. Six of the nests were in bushes but one of them was at a height of fifteen feet in a slender tree. One nest was started on June 8 and finished after four days. In two nests an egg was laid each day until there were four eggs and in two others, until there were five eggs. Other nests contained eggs when I found

them. The incubation period of one nest was nine days. Mrs. Butterworth, who has the property adjoining the place I surveyed, was going to send me a record of how long it took to raise the fledglings in two of the nests, but she reported that the eggs were taken from one nest and the young from the other. I found one yellow warbler's nest containing two of its own eggs and a cowbird egg. I removed the latter as I noticed last year that it took a yellow warbler three days to bury the egg. On examining the nest two days later, I was surprised to see two young warblers. I then opened the cowbird egg and found it to be in an advanced state of incubation. Two days later the young disappeared. After the disaster I was surprised to find that the male continued to sing. Perhaps another nest was being built in the vicinity.

A catbird built a nest in a vine that covered a window of our lodge, the eggs in the nest being visible from inside the building. She laid an egg a day until there were four eggs on June 10. We then noticed that the male fed the female on the nest until June 16, when we saw both birds feeding one young in the nest. What was responsible for the disappearance of three of the young?

On June 12 I found, on the ground, a veery nest with four eggs in it. On the following day there were three young and one egg, and on the third day the nest was empty. While walking along the Prairie River I discovered another veery nest about a foot above the ground. There were three eggs in the nest and about ten feet away lay a broken egg.

A phoebe was feeding young in a nest under the eaves of our lodge on June 13. A least flycatcher had young out of the nest June 14.

On June 16 I found a red-eyed vireo nest with two of its eggs and a cowbird egg. The nest was at a height of seven feet. In passing under the nest the next two successive days, noticed that the female would not fly off the nest and I suspected that she was incubating as the yellow warbler did under similar conditions. I saw another red-eyed vireo nest being built about three feet above the ground. It was nearly completed on June 16. Nearby I found four used vireo nests about four feet and two about twenty feet from the ground. I do not know whether or not they were from this year.

Each time that Brother Anthony and I passed a certain point in a canoe, we always saw a spotted sandpiper. On June 15 we landed to look for its nest, which we found after a few minutes. The nest had four eggs in it. Two days later as I got out of the canoe to look at the nest, I saw a garter snake four feet long coiled very near the nest. Brother Anthony destroyed the snake. Mr. John Graff, on whose property the nest was located, informed me that one of the eggs hatched at noon on July 2, and that he had to return to town before the other eggs hatched. From these observations we calculated that the incubation period of the spotted sandpipers was at least seventeen days.

Brother Anthony and I found two black tern nests in a swamp beside Prairie River. On June 16, one nest had two eggs in it and the other had three. There were about a hundred terns flying over the swamp. Noticing the direction in which great blue herons were flying, Brother Anthony and I decided to canoe up the Prairie River to look for a heronry. After three miles the river became shallow and narrow and we had to make many S-turns remove some obstructions, and lift others

to get under them. We landed a few times in places where a heronry might be expected but we didn't find one.

After returning from Big Sandy Lake I took two trips to Pig's Eye Island with some of the boys in order to see how barn swallow nests in Mr. Larson's cow barn. There are always three or four nests in his barn, a new nest being built each year on top of an old one. Last winter these nests became so high that he decided to remove them. This year there are six nests with plenty of birds to keep down insects and mosquitoes. The birds came back May 1. On June 24, one nest had six feathered young, three had five young without feathers, one had one egg, and one had four eggs. On July 8, the young had left one nest, three nests had feathered young, and two had five eggs each. Two of the young flew off one nest. When I put them back in the nest, they remained there! The above records show that it takes about sixteen days to raise the fledglings.

Mr. Larson, as well as his son, takes

much interest in birds. He told us that when he plows in the spring he always moves killdeer nests, and he added that the young of these nests hatch out. Frequently he sees the killdeer put on the broken-wing act. He also mentioned that the bobolinks have departed when he cuts his hayfield. This year we saw three pairs of bobolinks in his field and found one of their nests suspended halfway up in a sturdy clump of weeds. The nest was attached at the top to seven weed stalks. In the same field we found three red-winged blackbird nests similarly built. I was surprised to hear from Mr. Larson that rose-breasted grosbeaks help to keep his potato plants free from potato bugs. During the fall and winter he is able to tell the time of day by the golden-eye ducks. These fly over his house at a definite time each day on their way to and from their roosting place, which is about a mile from his house.

Up to date on our hikes this year, we have been able to observe thirty species of birds around their nests.

—Cretin High School, St. Paul, Minn.

DEADLINE FOR THE DECEMBER ISSUE

The deadline for the December issue is November 10. Send your manuscripts to the new editor, Dr. Duwain W. Warner, Minnesota Museum of Natural History, University of Minnesota, Minneapolis 14, Minnesota.

Seasonal Bird Report

by

Mary Lupient

Except for the first ten days of July when the temperature hovered around 100°, the weather in Minnesota has been mild up to date of this writing, August 10. Precipitation during the months of May and June was below normal. The weather bureau reported that it was the first time in the history of the state that there had been eighteen consecutive spring days without rain. except for showers June 4, the severe drought that began in May was not broken until about the middle of June. The growth of crops was retarded and for a time, endangered. Also the nesting of ducks may have been affected to some extent as many sloughs in the southern half of the state dried up, leaving no sites for late nestings. However, reports in general are favorable as to the number of ducks.

Dates of the spring migrations were about as usual. No large warbler waves were reported from any part of the state. Observers who spent much time in the field saw only single individuals of some species. Mrs. Frances Davidson who made daily observations during May in Minneapolis stated that it was the poorest warbler year in her experience. They must have passed without stopping because during the first part of July I made extensive observations along the North Shore of Lake Superior as far as Lutsen as found as many nesting warblers as there have been normally other years. Reports from other areas in northern Minnesota are to the effect that bird life, including warblers, is as abundant as usual. Blue-winged warblers and yellow-breasted chats were found to be

quite common in southeastern Minnesota by members of the staff of the Minnesota Museum of Natural History, who spent some time in that area during the spring season. They found a blue-winged warbler nest and several young of the yellow-breasted chat. The discovery of two Nashville warbler nests in Anoka County was reported by Harvey Gunderson June 11 and June 14 respectively. This is a far south nesting record for this bird. In this same area during June, Mr. Gunderson saw a pine warbler but no nest was found.

All of the species of shore birds that normally migrate through Minnesota were reported from various parts of the state. Flocks of the small "peeps" were still in the vicinity of Minneapolis June 2. By the latter part of July shore birds were returning southward and August 9 large flocks of them fed in the Minnesota River bottomlands.

Byron Harrell and Bruce Hayward made observations at Heron Lake June 3 and found the usual colony of Franklin's gulls. There were thirty-eight nests from six to sixteen feet apart, all containing eggs or young and eggs.

The Forster's tern nested this season east of its usual habitat. A. C. Rosenwinkel found nine birds sitting on nests June 12 in the Cedar Ave. slough near Minneapolis.

Between forty and fifty American egrets were seen at Shakopee during the latter part of July. At Tanners

Lake near St. Paul there were five, August 1, and near the Isaac Walton Bass Pond there were two, August 8. The first Minnesota nesting record of the American egret was investigated by Dr. W. J. Breckenridge at Pelican Lake, Grant County, this season. Dr. Breckenridge found a nest with three young in it and another young about fifteen feet away.

From all reports the dickcissel was not abundant in Minnesota this year, although it was found to be generally

distributed throughout the eastern part of the state by members of the staff of the Museum of Natural History.

An interesting report is that of a male orchard oriole that came daily during the drought in June to the bird bath at the home of Dr. and Mrs. Malcolm Willey in Southeast Minneapolis. There is the possibility that it nested in the vicinity though no nest was found.—Minnesota Bird Club, Minneapolis, Minnesota.

NOTES OF INTEREST

1948 ANNUAL MEETING OF THE MINNESOTA ORNITHOLOGISTS UNION—One hundred and forty-three bird enthusiasts from all parts of the state gathered on Saturday, May 15, at the Fort Snelling Officer's Club for the annual meeting of the M. O. U. Eight organizations were represented, with six members-at-large also attending. President Kenneth D. Morrison announced that he expected the Mankato Bird Club would affiliate with the M. O. U., which would make a total of ten participating organizations.

The morning was devoted to group field trips along the Minnesota River Bottoms, and 106 species of birds were seen in this area and at Woman Lake on Cedar Avenue, visited by one group. The complete list of birds noted is as follows:

Double-crested cormorant	Forster's tern
Great Blue Heron	Common tern
Green heron	Black tern
Black-crowned night heron	Mourning dove
American bittern	Nighthawk
Mallard	Chimney swift
Blue-winged teal	Ruby-throated hummingbird
Redhead	Belted kingfisher
Ring-necked duck	Flicker
Ruddy duck	Red-bellied Woodpecker
Cooper's hawk	Hairy woodpecker
Sparrow hawk	Downy woodpecker.
Ring-necked pheasant	Kingbird
Sora	Arkansas kingbird
Brown Thrasher	Crested flycatcher
Robin	Phoebe
Wood thrush	Alder flycatcher
Olive-backed thrush	Least flycatcher
Gray-cheeked thrush	Wood pewee
Bluebird	Horned lark
Ruby-crowned kinglet	Orange-crowned warbler
Cedar waxwing	Nashville warbler
Starling	Yellow warbler
Yellow-throated vireo	Magnolia warbler
Blue-headed vireo	Myrtle warbler
Black and white warbler	Black-throated green warbler
Warbling vireo	Blackburian warbler
Tennessee warbler	Chestnut-sided warbler
Coot	Palm warbler
Killdeer	Grinnell's water-thrush
Spotted sandpiper	Louisiana water-thrush
Solitary sandpiper	Northern yellow-throat
Herring gull	Wilson's warbler
Ring-billed gull	Redstart

English sparrow
Bobolink
Eastern meadowlark
Western meadowlark
Yellow-headed blackbird
Red-winged blackbird
Orchard oriole
Baltimore oriole
Brewer's blackbird
Bronzed grackle
Cowbird
Cardinal
Tree swallow
Bank swallow
Rough-winged swallow
Barn swallow
Purple martin
Blue jay
Crow

Black-capped chickadee
White-breasted nuthatch
House wren
Winter wren
Long-billed marsh wren
Catbird
Rose-breasted grosbeak
Indigo bunting
Purple finch
Goldfinch
Red-eyed Towhee
Vesper sparrow
Chipping sparrow
Clay-colored sparrow
Field sparrow
Harris's sparrow
White-throated sparrow
Swamp sparrow
Song sparrow

Following luncheon in the Officer's Club the annual business meeting was held, with President Kenneth Morrison presiding.

Mr. Lewis Barrett, chairman of the T. S. Roberts Memorial Committee, reported that the Minneapolis Board of Park Commissioners had changed the name of the Lake Harriet Bird Sanctuary to the T. S. Roberts Bird Sanctuary, and that the M. O. U. was planning to mark the entrances to it with memorial boulders. Help was asked for from members in the Twin Cities area to assist in the preparation for this work. Several members offered assistance. As a practical measure, the personnel of the T. S. Roberts Memorial Committee was changed to include only Twin Cities people.

Miss Theodore Melone of the Committee for Relief of European Ornithologists made an appeal for contributions of clothing and money for this cause, and a collection was taken.

A discussion of conservation activities and needs was led by the president, who is also chairman of the Conservation Committee, and in addition Mrs. Evelyn Putnam reported on the progress of the hawk protection campaign in Duluth.

A resolutions Committee, composed of William H. Longley, Mrs. George Lehrke and Mrs. Evelyn Putnam, prepared seven resolutions which were adopted at the evening session.

The following slate of officers for the coming year was chosen by the Nominating Committee and elected by the membership: President: Mr. Joel Bronoel, Duluth; vice-President: Mr. A. C. Rosenwinkel, St. Paul; Secretary: Miss Vera E. Sparkes, Minneapolis; Treasurer: Mrs. I. A. Lupient, Minneapolis; Editor of THE FLICKER: Dr. Dwain W. Warner, Minneapolis.

On behalf of the Duluth Clubs Mr. O. A. Finseth invited the M. O. U. to hold its 1949 meeting in Duluth.

Three papers by members were presented following the business session: "Winter Bird Observations" by Mr. Joel Bronoel, Duluth; "History of the T. S.

Roberts Ornithology Club of St. Cloud" by Gwendolyn Lovering, St. Cloud; and "The Future of Minnesota Ornithology" by Dr. Dwain W. Warner, Minneapolis.

After adjournment of the business session a few of the officers and leaders of the various clubs gathered for an informal round-table discussion of the problems of program planning, and some helpful suggestions were made.

The evening session was devoted to a presentation of color films of Minnesota bird life by Dr. Walter Breckenridge, at the Museum of Natural History on the University of Minnesota campus.

By their careful planning, the St. Paul Audubon Society, host to the Minnesota Ornithologists' Union for the first time, made this meeting a very enjoyable and profitable one for all who attended.—Miss Vera Sparkes, Minneapolis, Minnesota.

ANNUAL MEETING OF DULUTH BIRD CLUB—The Annual Spring Field Trip of the Duluth Bird Club took place Sunday, May 23. Among the 78 individuals attending the meeting were 22 Canadians from Port Arthur and Fort William paying a return visit to Duluth. This group included Claude E. Garton, president of the Thunder Bay Field Naturalists' Club, Dr. A. E. Allin, past president, Keith Denis, secretary, and two exchange teachers, Miss Elaine Little of Liverpool, England, and Miss Esther Turpin of Vancouver, British Columbia. Mr. and Mrs. Carlyle Sather of St. Paul also attended the meeting.

The weather was very fair with temperatures in the sixties. During the day the club visited Park Point, a small island in the harbor, and Sunshine Lake and Schultz Lake. Although there was no marked migration of either shore birds or warblers through the Duluth area on May 23, 97 species were identified, 13 of them warblers and 18 species of shore birds, the most unusual being the kno.—Evelyn J. Putnam, Duluth Bird Club, Duluth, Minnesota.

ROBERTS BIRD SANTUARY MEMORIAL COMPLETED—M. O. U. members will be pleased to learn that the memorial boulders designating the Roberts Bird Sanctuary on the north shore of Lake Harriet in Minneapolis have been placed and inscribed. This work was authorized at the 1946 annual meeting of the M. O. U. as a part of the organization's tribute to our pioneer Minnesota ornithologist, Dr. Thomas Sadler Roberts. A more complete report on this project will appear in the next issue of THE FLICKER.—Walter J. Breckenridge, Minnesota Museum of Natural History, Minneapolis, Minnesota.

INTERESTING BIRD RECORDS AT THE CANADIAN LAKEHEAD DURING 1947—The region about the Canadian Lakehead is very similar to that of the north-eastern angle of Minnesota and the same species of birds are expected. The following observations made in the area between Fort William and the Minnesota border at Pigeon River during 1947 may be of interest to members of the M. O. U.:

AMERICAN ROUGH-LEGGED HAWK. On June 15, Col. L. S. Dear and I observed a hawk of this species near Flint, less than 25 miles from the Pigeon River. One had been seen by Mr. C. E. Garton on May 3, in the same general region. Considered at the time to be a migrant, it may have been the same bird which we saw on the later date.

LINCOLN'S SPARROW. On June 15, Col. Dear and I located a nest of Lincoln's Sparrow near Flint. It contained 4 well-incubated eggs. The nest was placed on the ground in a low area beside a country road which bordered a swamp. The adult was very shy, and it was only after several hours of observation that we were certain of their identification.

GREATER SCAUP DUCK. These ducks were first observed at Fort William on April 26, when 12 were noted on Thunder Bay. A few were still present on May 11. Col. Dear reported them at Whitefish Lake in mid-October.

RING-BILLED GULL. This bird occurs uncommonly at the Canadian Lakehead. After 9 years of bird watching, we saw our first ring-bills locally on May 4, 1946 when three were observed. On May 10, 1947, two were seen in the same small area of Fort Williams Harbour.

MOURNING DOVE. I saw a dove in a Fort William city park on May 11. This bird rarely occurs in the local area and local ornithologists consider themselves fortunate if they see one each season.

BREWER'S BLACKBIRD. The only known breeding colony for Ontario is within the City of Port Arthur. They appeared again in 1947, and nested in the usual area.

WHITE PELICAN. This rare straggler has been reported locally on only a few occasions. One was noted in Port Arthur Harbour on September 17. It became very tame and practically lived in one of the industrial plants along the water-front where it was fed by the workers. It departed in mid-November.

NORTHERN RAVEN. These birds have been occurring here with increasing frequency during recent winters. Arriving in September and October, they remain until March, feeding about the fox and mink ranches. On October 26, near Whitefish Lake, we were privileged to hear their usual croaks as well as the rarely described bell-like notes which occasionally are included in their repertoire.

SPRUCE GROUSE. After being scarce for several years, these birds were locally common in the fall of 1947. One of these areas was along the Deven Road, 40 miles south-west of Fort William and only 10 miles from Minnesota. North-west of the Lakehead, flocks of up to 50 birds were reported in the late fall.

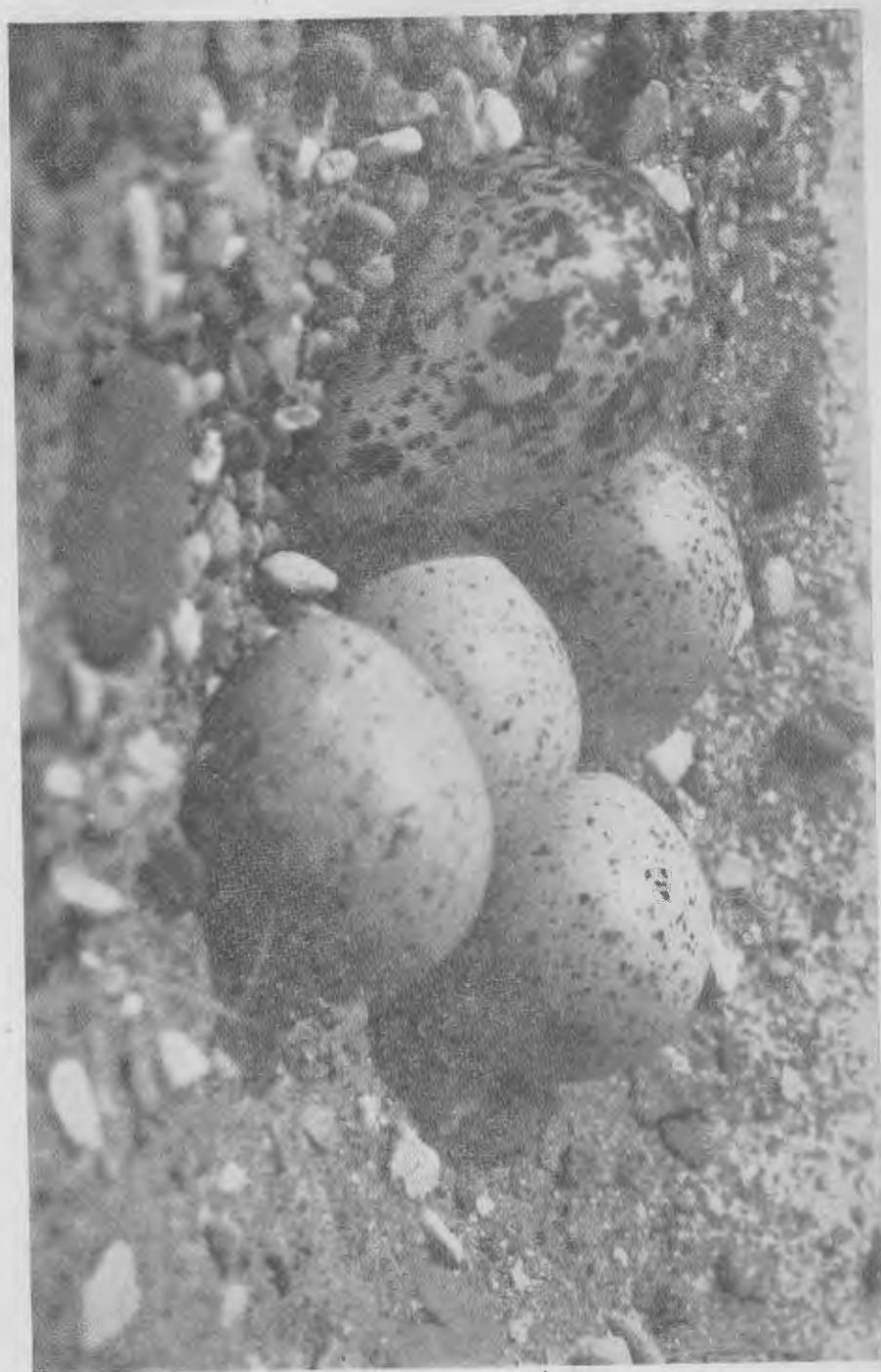
RING DOVE. (*Streptopelia decaocto*) On October 4, I collected a domesticated form of this Old World bird 10 miles west of Fort William. It is now in the Royal Ontario Museum Zoology Collection. On November 10, I saw another of these doves which had been taken alive in Port Arthur where it had been under observation for some time. Undoubtedly, these exotics were escapes from captivity, but we have been unable to find any clue as to where they originated.
—A. E. ALLIN, FORT WILLIAM, ONTARIO.

A KILLDEER EGG IN A PIPING PLOVER NEST—During a field trip of the Duluth Bird Club on May 23, 1948, members of the club found a nest with 4 eggs of the piping plover on Park Point, Duluth, within a hundred feet of

KILLDEER EGG IN PIPING PLOVER NEST

Photo by Henry Gilbert





the air base. The eggs were being incubated on that date. A week later Mr. Henry Gilbert found a fifth egg in the nest, that of the killdeer, as shown in the accompanying photograph. At the end of the following week no piping plovers were found in the area, the nest apparently having been deserted. Consequently Dr. Olga Lakela collected the unusual set of eggs for the collections at the Duluth Branch of the University of Minnesota.—Evelyn J. Putnam, Duluth Bird Club, Duluth, Minnesota.

WINTER RECORDS OF BRONZED GRACKLES AND RED-WINGED BLACKBIRD NEAR FORT WILLIAM, ONTARIO—On February 7, 1948, Mr. and Mrs. C. H. Philpott, Fort William, Ontario, reported a small flock of blackbirds wintering in Crooks Township, twenty-five miles south-west of Fort William and only ten miles from the Minnesota border at Pigeon River. We visited the area on March 7 in company with Mr. and Mrs. Philpott and Col. L. S. Dear and observed four bronzed grackles (*Quiscalus quiscula versicolor*) and one female red-winged blackbird (*Agelaius phoeniceus*). Three families of settlers who had been feeding them reported there had been a dozen grackles in the flock originally.

I have been unable to find any other record of the red-winged blackbird wintering at the Canadian Lakehead. The bronzed grackle, however, has been reported previously on two occasions. On February 7, 1939, I saw one in the City of Port Arthur, and on December 26, 1947, one was observed in that city by members of the Thunder Bay Field-Naturalists' Club while conducting the Christmas Bird Census.—A. E. ALLIN, Fort William, Ontario.

BIRDS NESTING IN CEDAR CREEK FOREST—The area locally known as Cedar Creek Forest is located on the Anoka-Isanti County boundary, Section 27, R 23W, T 34N, and was formed as an ice-block lake in a pitted sand-outwash area. Thus we have a semi-northern bog within easy reach of the Twin Cities. While doing a study of small mammals in this area, incidental bird observations were made which seem of sufficient interest to record. The particular area of study, wholly in Anoka County, is a rectangle 235 feet wide beginning on the sedge mat at the edge of the lake, extending back 575 feet through white cedar-sphagnum and onto an upland of maple-basswood climax known as Crone's Island.

It would seem that the sedge mat would have red-winged blackbirds nesting there, but the first one seen anywhere around the lake was during the first part of July when a lone male was singing in a tamarack. Appropriate for sedge mat, though, was a swamp sparrow's nest with 3 eggs and one cowbird egg found on May 31.

Beyond the sedge mat is the area of white cedar, with rather sparse undercover, except for some openings where plants of the sedge mat penetrate. The veery was one of the species which nested here. Two nests were found about seventy feet apart. The first was found on May 31, when the veery was flushed from the nest, but there were no eggs. On June 12 there were 3 eggs and on June 14 there was one egg and two young. The other veery nest was first seen on June 12 when it contained two eggs and a cowbird egg. Another bird nesting in the white cedar area was the Nashville warbler, a typically northern bird of the tamarack and spruce bogs of the Canadian zone. The farthest south nest of this species during recent years mentioned by Dr. Roberts in "The Birds

of Minnesota" was one in Mille Lacs County. The present nesting range was extended to Anoka County when a nest with four eggs was found. The nest was open at the top, rather than having the usual side entrance, so considerable time was spent in identifying the bird. It was very secretive, running about on the ground and hopping up onto the lower branches, never remaining quiet. On June 14 a second Nashville warbler's nest was found only 70 feet from the first. This contained one warbler egg and one cowbird egg.

On the island of deciduous forest, there was a whip-poor-will's nest. It was a very simple nest and when found on May 29, consisted of one egg on the leaves of the forest floor. The following day there were two eggs. On June 20 Byron Harrell found two downy young on the nest. These had left by June 30th. The most common bird in this deciduous area was the ovenbird. A nest was found on May 31 which contained two eggs and one cowbird egg. One young cowbird, one young ovenbird and an infertile egg were present on June 13. On the following day the young left the nest.—Harvey L. Gunderson, Museum of Natural History, University of Minnesota, Minneapolis, Minnesota.

BIRDS OF INTEREST AT WHITEWATER STATE PARK—During the week from June 27 through July 4, 1948, I made observations on 65 species of birds in this state park of only 688 acres. My efforts were directed principally to the search for the more unusual birds of southeastern Minnesota. From these observations the following notes are worth recording:

Turkey Vulture—On June 29 I watched one soaring overhead. The bird passed directly over me, giving an excellent view of the two-tone pattern of its underparts in flight.

Red-tailed Hawk—A pair was seen.

Red-shouldered Hawk—I observed a pair of these hawks also within the park.

Broad-winged Hawk—Only a single individual was seen during the week.

Whip-poor-will—I heard a number calling late in the evenings.

Pileated Woodpecker—Several of these large woodpeckers were seen in the park.

Yellow-bellied Sapsucker—Fairly numerous.

Cliff Swallow—I found about 120 nests of this species under the bridge at the north entrance to the park and estimated the number of adults at about 150 birds. A few young had already left the nests. Some had apparently left too early for we saw two on the ground unable to fly.

Wood Thrush—One was seen feeding a young cowbird.

Blue-winged Warbler—I observed a single, singing bird on June 29.

Cerulean Warbler—At least six different males were heard in full song but no nests were found.—A. C. Rosenwinkel, St. Paul Audubon Society, St. Paul, Minnesota.

SPARROW HAWKS MOVE INTO A MARTIN HOUSE—Our neighbor has a martin colony of some 10 to 11 pairs in his 30-room martin house. The martins have allowed 3 or 4 pairs of English sparrows to nest in the same house this year after a good deal of initial quarreling. About May 10 a pair of sparrow hawks arrived on the scene causing great excitement among the martins, sparrows and us. The hawks finally began nesting operations after trying out sev-

eral rooms. The martins executed some beautiful squadron dive-bombing, at times scoring actual hits on the crowns of the hawks. After retiring for 10 or 15 minutes after such a "hit," the hawks invariably returned and proceeded to "take over." The entire colony was in almost continuous uproar and excitement. Nesting and feeding operations were interrupted and the colony dwindled to about half the original number.

Finally, on May 18, after we had watched the martin colony disintegrate and had seen the hawks eat six sparrows and 2 nestling robins, the hawks were destroyed. Now everything is peaceful and Nature is tranquil. Everybody is happy—martins, sparrow-tenants, and all of the nearby neighbors of our pet martins. This is another case of a protected and ordinarily harmless and beneficial bird becoming a nuisance locally.

These hawks seemed to be very old birds, having rough, scaly legs as one sees on old chickens.—A. C. Rosenwinkel, St. Paul Audubon Society, St. Paul, Minnesota.

FERRUGINOUS ROUGH-LEG (*Buteo regalis*) IN MINNESOTA IN JULY—

On July 28, 1948, during field studies by staff members of the Minnesota Museum of Natural History in Roseau County, Messrs. Harvey Gunderson, Bruce Hayward and the author saw two of these hawks (light phase) in the region 5 miles northwest of Warroad and about 3 miles south of the international boundary. The hawks, when first seen, were perched on bare stubs of a fire scarred tree close by the road. They made several short flights to other stubs which were scattered over the extensive patches of coarse grass, weed-grown fields and clumps of second growth brush (mostly aspen). The steady, deep strokes of the wings suggested the flight of a large heron or owl. One of the hawks which may have been a young bird called several times in a high-pitched but rather weak voice as it followed the other over the flat land toward the west.

This observation of one of Minnesota's least known species is of special interest in that it adds the only recorded summer observation of the present century to the few reports we have of its occurrence here. The only previously recorded observations in northwestern Minnesota were made by P. B. Peabody (T. S. Roberts, "The Birds of Minnesota," Vol. 1, p. 328, 1936) who stated that it was fairly common there, both as a breeding bird and as a migrant, during the latter part of the last century. It has been seen only rarely in migration in other parts of the state.

While the ferruginous rough-leg is undoubtedly rare in Minnesota, it may still nest in the extreme northwestern counties and may be more regular in migration than records indicate. Observers should watch for this bird, the largest of our hawks. In its dark phase it is hardly distinguishable from the American rough-legged hawk except by its larger bill. Light phase birds may be confused with the osprey but this hawk is smaller. Birds in the light phase are distinguishable from other species by their almost white underparts, except for the dark reddish flanks and thighs which show as a V-shaped mark in flight; by a white patch in each spread wing when seen from the back and by the white basal portion or more of the upper side of the tail.—Dwain W. Warner, Minnesota Museum of Natural History, University of Minnesota, Minneapolis, Minnesota.

CALL NOTES

Dr. Don L. Jacobs has accepted a position as an instructor at the University of Georgia at Athens. He will start work at the beginning of the fall quarter. For the past year he has been an Associate Professor of Biology at the Mankato State Teachers College.

* * *

The Lakeview Branch of the Duluth Bird Club has merged with the Duluth Bird Club.

* * *

Two new bird clubs have recently become affiliated with the Minnesota Ornithologists' Union. They are the Range Naturalists Club of Virginia, Minnesota, and the Mankato Audubon Society of Mankato.

* * *

The American Ornithologists' Union will hold its annual meeting in Omaha, Nebraska, on October 11-15, 1948. The sessions will be held in the Joslyn Memorial Art Museum where the second Omaha Invitational Exhibition of work by over fifty contemporary bird artists will be on display in one of the galleries. It is hoped that as many M.O.U. members as possible will be able to attend these meetings.

* * *

During the summer Mr. William Longley has been a member of the field research staff of the University of Minnesota which has been making a study of the natural history of arthropod-borne virus encephalidities of the Upper Mississippi Valley. This project, under the direction of Dr. A. L. Burroughs, University of Minnesota, was made possible by a National Institute of Health grant in aid. Mr.

Longley's work has been principally with birds and their ecto-parasites in an effort to determine the primary reservoir of this type of sleeping sickness.

* * *

Dr. Gustav Swanson has accepted the chairmanship of the newly formed Department of Conservation of Cornell University, Ithaca, New York. The Swansons' new address is 154 Pearsall Place, Ithaca, New York.

* * *

The editor wishes to take this opportunity to express his gratitude to the many M. O. U. members for their generous and kind assistance in the preparation of this issue of THE FLICKER. Special thanks go to the former editor, Miss Severena Holmberg, who turned over to me so comprehensive a set of publication data that my problems have been relatively minor.

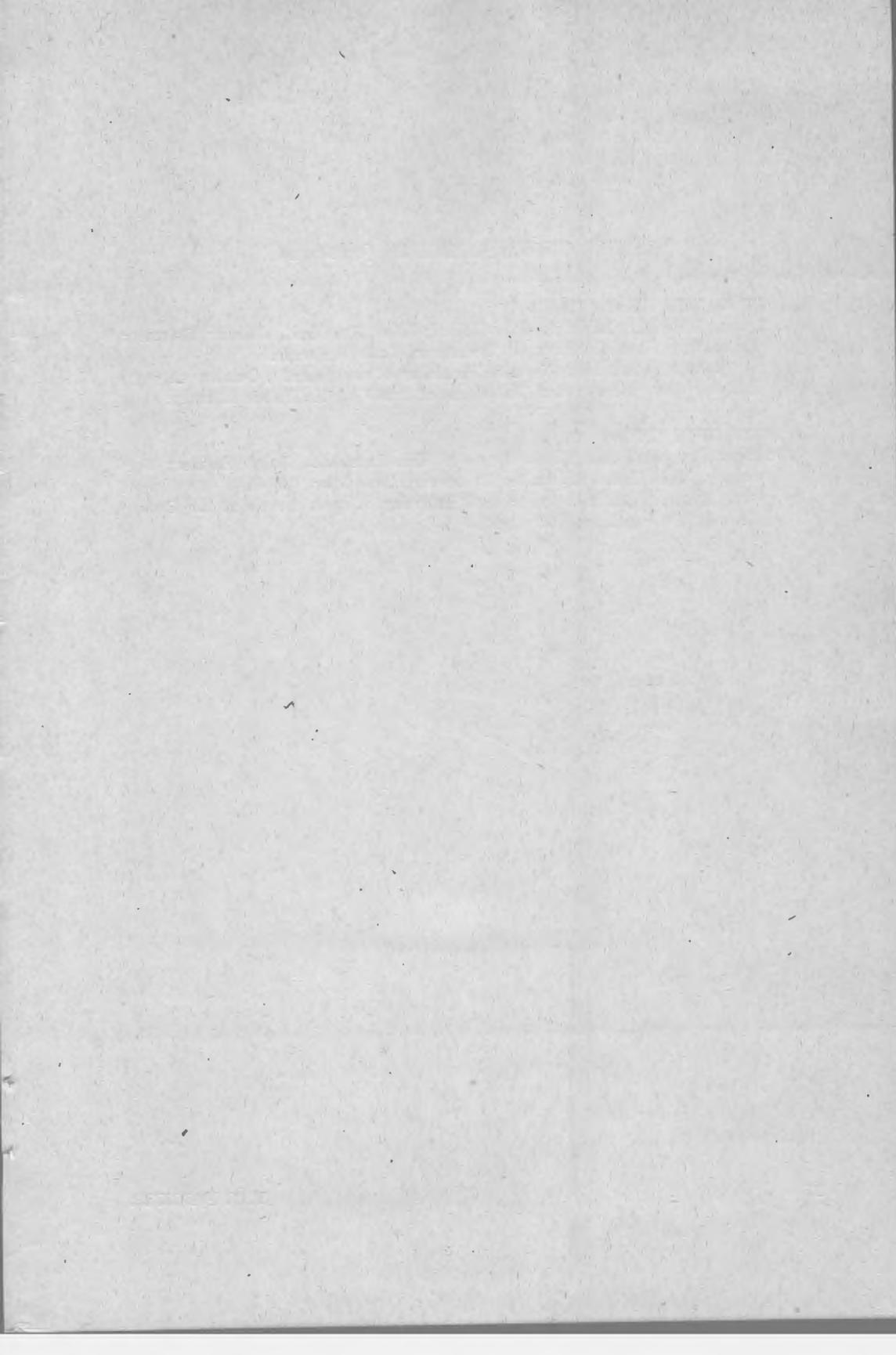
Since the primary function of THE FLICKER is to convey to others our own observations on the birds of this region and thereby increase our knowledge and appreciation of this form of animal life, it is especially desirable that everyone interested in birds take careful and complete notes whenever he is in the field.

It is imperative that the species under observation be identified correctly. Other data of special importance which one should record are: dates of observations; observer; general localities; specific habitats in which the bird feeds, nests, rests and roosts; numbers of each species seen; feeding habits; nesting data; relationships with its own and other species and behavior. Information on no spe-

cies is complete and for many our records of even migration and nesting localities and dates are scant or non-existent. It is, of course, essential that all field observations be accurate in every detail. Preparation of manuscripts for submission to THE FLICKER should bear this same accuracy.

The editor may deem it advisable in some instances to re-word or make other changes in manuscripts. A contributor will be notified of any major changes made and will be able to re-check his manuscript if the paper is received sufficiently in advance of publication deadline.—D. W. W.





"AFFILIATED SOCIETIES" (continued)

RANGE NATURALISTS' CLUB

Officers: President, Mrs. Dorothy Beard; Vice President, Jalmer Halunen; Secretary, Vera F. Barrows; Treasurer, Ruth Ambrose.

Meetings are held the third Thursday of each month, October through May at 7:00 p. m. in the Clubrooms of the Virginia Public Library.

DULUTH BIRD CLUB

Officers: President, Mr. O. A. Finseth; Vice President, Ralph Boeder; Secretary, Miss Helen C. Smith; Treasurer, Miss Mira Childs.

Meetings are held the second Thursday of each month at the Duluth Branch, University of Minnesota.

Minnesota Ornithologists' Union

Affiliated Societies

CLOQUET BIRD CLUB

Officers: President, Miss Dorothy Wassen; Vice President, Miss Ruth Johnson; Secretary-treasurer, Miss Edith Sanford.

Meetings are held the first and third Thursday of each month in the Cloquet High School at 7:30 p. m.

MINNEAPOLIS AUDUBON SOCIETY

Officers President, Mrs. G. R. Magney; Treasurer, Mrs. W. W. Wilcox; Recording Secretary, Mrs. A. M. McLeod; Corresponding Secretary, Mrs. S. A. Gile; Field Secretary, Mrs. J. A. Thompson; Auditor, Mrs. Gaylord Davidson.

Meetings are held the first Friday of each month at 2 p. m. at the Walker Branch Library. Field trips during April and May on Tuesdays and Fridays.

MINNEAPOLIS BIRD CLUB

Officers: President, George Rickert; Vice President, Mrs. Preston Haglin; Secretary, Mrs. Mildred Snyder; Treasurer, Mrs. Edith Kees.

Meetings are held the first and third Tuesdays of each month at 7:30 p. m. at the Minneapolis Public Library Museum.

MINNESOTA BIRD CLUB

Officers: President, Harvey Gunderson; Vice President, Miss Theodora Me'one; Secretary, Mrs. Mary Lupient; Treasurer, Byron Harrell.

Meetings are held the first Wednesday of each month, except June, July, August, and September, at 8:00 p. m. at the Minnesota Museum of Natural History, University of Minnesota.

ST. CLOUD BIRD CLUB

Officers: President, Miss Monica Misho; Vice President, Mrs. Charles Beacom; Secretary-treasurer, Miss Loretta Rosenberger.

Meetings are held the first Wednesday of each month from October through March in the committee room of the public library at 8:00 p. m.

T. S. ROBERTS ORNITHOLOGICAL CLUB

Officers: President, Miss Mavis Scott; Vice President, Robert Fox; Secretary-Treasurer, Miss Dolores Olson; Advisor, G. W. Friedrich.

Meetings are held bi-monthly February through May at the St. Cloud State Teachers College.

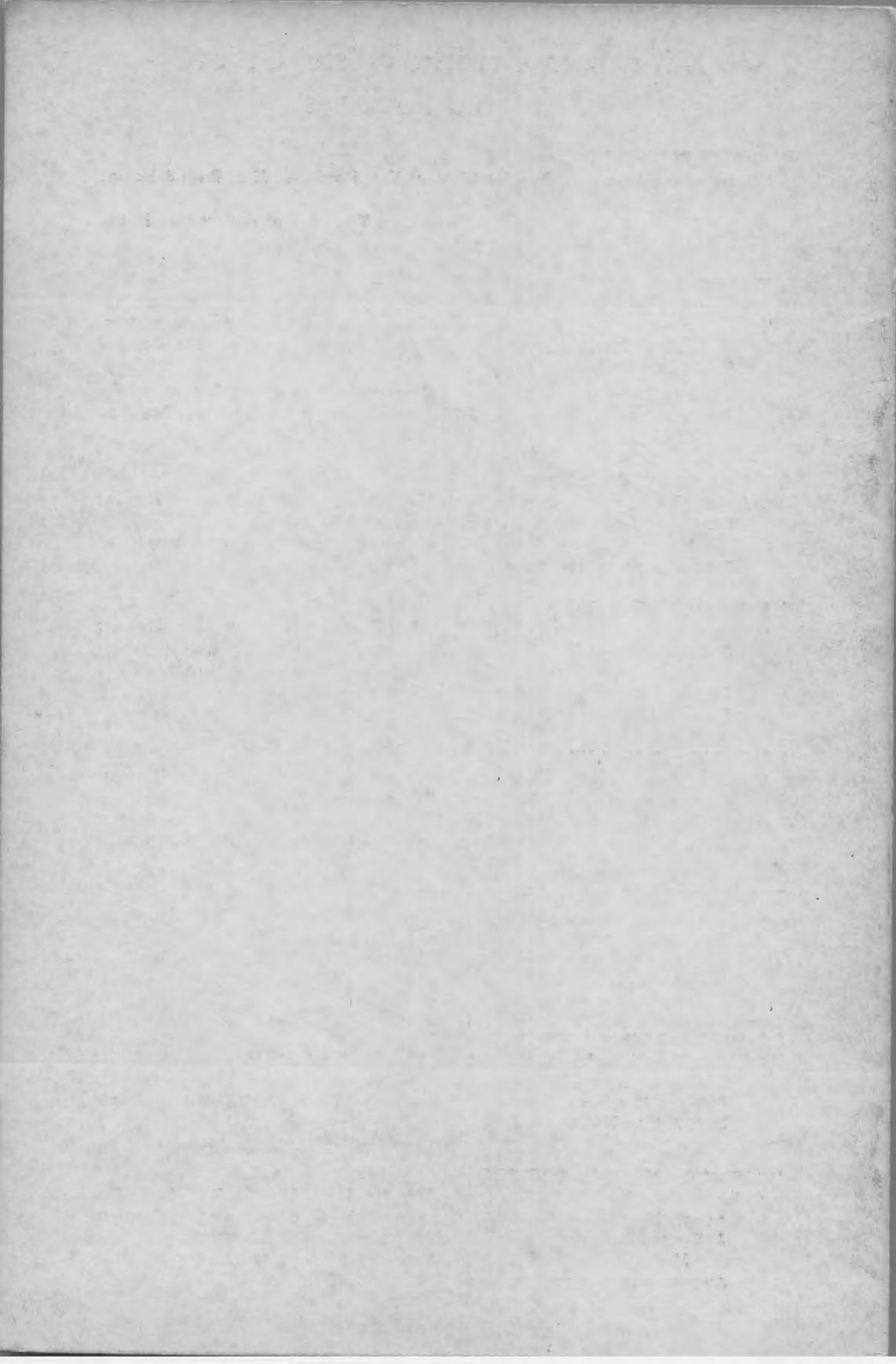
ST. PAUL AUDUBON SOCIETY

Officers: President, Leonard C. Lustig; Vice President, Dr. Vernon L. Whipple; Treasurer, Marvin H. Adams; Corresponding Secretary, Miss Dorothy Sundry; Recording Secretary, Mrs. Charles E. Hart; Directors-at-Large Mrs. Arthur H. Savage, J. M. Rice.

MANKATO AUDUBON SOCIETY

Officers: President, T. E. Thompson; Vice President, Mrs. H. B. Elford; Secretary, Miss Libbie Williams; Treasurer, Miss Martha Cunrath; Directors, J. George Lynch and Dr. H. Bradley Troost.

Meetings are held the first Thursday of each month (except July, August, and September) at Mankato State Teachers College.



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UNIVERSITY OF MINNESOTA

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The Flicker

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The Audubon Society

by

Kenneth D. Morrison

Most corporations issue annual reports to their stockholders.

Since many Minnesotans are members of the National Audubon Society, and thus "stockholders" in a great nation-wide conservation organization, it may be worthwhile to report some of the aims, accomplishments, and obstacles that tell the story of our first year-and-a-half of pioneering for the Audubon cause in Minnesota.

The program in this state was set in motion when the writer was appointed Minnesota Representative of the National Audubon Society on June 1, 1947. Some of the progress since that date is on the records in black and white, but some of it is intangible. Fewer people say "What's that?" when the Audubon Society is mentioned. We are gradually dispelling the myth that the Society's major interest is in seeking out smaller and smaller birds in larger and larger trees. The general public is beginning to recognize the Society as a potent force for constructive conservation—the sort of conservation that starts in the schools and builds a love for the out-of-doors in the boys and girls of today who will probably decide the everlasting fate of American wildlife, to say nothing of many of our other natural resources.

Perhaps we can best evaluate our Audubon program in Minnesota by examining these 10 phases of it:

1. BRANCHES

On June 1, 1947, there was one branch of the National Audubon Society in Minnesota. It had just been formed in St. Paul. At this writing there are nine branches and one affiliate located in these communities: Albert Lea, Duluth, Rochester, St. Cloud, St. Paul, Minneapolis, Mankato, Winona, Owatonna, and Virginia-Eveleth. Eight of these cities had no nature organization of any sort until Audubon Societies were formed. Today each of these local societies is stimulating interest in nature and conservation among the townspeople and all are recognized as constructive influences in their communities. They are becoming strong organizations and are at the same time contributing to the growth and influence of the National Audubon Society. We have served these groups by helping them to organize, attending some of their meetings and advising them on procedure and policy. At intervals we have sent a news-letter to all of the branches so as to keep each in contact with the activities of the others

and to provide a means of transmitting news and ideas from the regional office.

There is now an Audubon branch or affiliate in every community of more than 20,000 population in Minnesota. We are in contact with interested people in many smaller towns, as well as in adjacent states; hence we are anticipating the formation of still more societies during the coming year.

2. MEMBERSHIP

Partly because of the development of local branches, National Audubon membership more than doubled in Minnesota during the first year of operation of the regional office. Although this is gratifying, our membership is still only a fraction of what it should be, and we must again look to our present members to advance the cause by enlisting new members. In this respect, the Audubon Central Committee — a state-wide group of boosters for the Audubon program—has been of invaluable aid.

3. REGIONAL HEADQUARTERS

In view of the fact that the Science Museum and the National Audubon Society have many objectives in common, the Minneapolis Public Library invited the Society to establish its center of activity in the Library Museum. We are greatly indebted to Mr. Glenn Lewis, Librarian, and Mr. Milton Thompson, Museum Director, for their fine cooperation. We now have a centrally located regional headquarters from which to direct all phases of our Audubon program in Minnesota and the adjacent states.

4. SERVICE DEPARTMENT

In order to acquaint our members and others with the various materials that are available through the Society, a Service Department is maintained at regional headquarters. Such items as binoculars, nature and conservation books and leaflets, bird prints and

charts, stationery, etc. are obtainable there.

5. AUDUBON JUNIOR CLUBS

Last year we had 11,164 Minnesota boys and girls enrolled in 518 Audubon Junior Clubs. Nationally there were 12,559 clubs with 311,768 members. We believe that these clubs are tremendously important because they open the eyes of many youngsters to nature for the first time. Learning to enjoy the observation of birds, plants, mammals, etc., is the first step in becoming a conservationist. Our ambition is to expand greatly the work of the Audubon Junior Clubs in this region because we know that juvenile naturalists do not become juvenile delinquents, and because it is quite generally agreed that the solution to many of our conservation problems lies in the schools.

6. AUDUBON NATURE CAMP SCHOLARSHIPS

We have to look to the teachers to offer the sort of inspirational leadership that develops youthful naturalists and conservationists. In many cases, teachers are not prepared to offer such leadership because they have not had the necessary training. The curricula of most of the teachers colleges are still inadequate in this respect. To meet the need, the National Audubon Society has established four nature camps—in Maine, Connecticut, Texas, and California. Since we believe that many Minnesota teachers should have the opportunity to return from one of these camp sessions with the inspiration and know-how to teach effectively nature and conservation, and because each of these camps is distant from Minnesota, we have encouraged the creation of Audubon Nature Camp scholarships. Organizations that have already created \$100 scholarships are the Minnetonka Garden Club, the St. Paul Audubon Society, and the Minnesota Conservation Federation. Many more such

AUDUBON CLUBS REACH EIGHT MILLION MARK

Harriette Roe, fifth-grade student at the Jefferson School, St. Paul, is presented an award for being the 8,000,000th enrolled in the Audubon Junior Clubs. Displaying the award is Kenneth Morrison, regional representative of the National Audubon Society.

—Minnesota Conservation Department photo by W. Wettschreck, courtesy of Audubon Magazine.



scholarships are needed. Can you get one established in your community?

7. AUDUBON WILDLIFE TOURS

For two summers we have conducted Audubon Wildlife Tours during July and August in Itasca State Park, Minnesota. The purpose of these tours is to acquaint visitors with the remarkable natural history and the conservation problems of the area. The tours, which are conducted by station wagon, are offered five days a week and have attracted tourists and Audubon members from more than twenty states. Many persons have had their first contact with the Audubon Society and with the pleasures of nature field trips by means of these tours.

8. AUDUBON SCREEN TOURS

Five communities—Minneapolis, St. Paul, Northfield, St. Cloud, and New Ulm—now offer Audubon Screen Tours. This lecture series, which brings the finest wildlife photographers and naturalists to the participating cities, has been received with tremendous enthusiasm and has done a great deal to promote the aims of the whole Audubon program.

9. WILDLIFE PROTECTION

We have given counsel to a number of people who are in the process of establishing private wildlife sanctuaries in Minnesota. By means of articles to the press and talks to various organizations and schools, we have sought to create a better understanding of the role of such persecuted species as the predatory birds and mammals and the fish-eating birds. We have publicized the various state and federal laws pertaining to wildlife protection in the hope of abating the destruction of many protected species by persons in ignorance of the protective laws at present in force.

10. PUBLIC INFORMATION

We have attempted to inform the

public about the objectives and accomplishments of our Audubon program in Minnesota in the following ways: (a) news releases to newspapers, radio stations, and state magazines; (b) special feature articles to newspapers; (c) talks to organizations of all sorts; (d) personal contacts with conservation officials and leaders.

Our aim at all times has been to increase public awareness of the value and need of conservation of our wildlife, plants, soil and water, and of the relation to human welfare of their intelligent treatment and wise use. We have stressed the necessity of understanding the intricate interrelationships that exist among all natural resources and have attempted to develop what has been called an "ecological conscience."

In all of this work we have sought the cooperation of other conservation organizations and agencies, realizing that the battle is a long tough one and that new recruits may turn the tide.

The possibilities for increasing the effectiveness of our Audubon program in Minnesota are almost unlimited. We suffer from the chronic ailment of poverty of funds compared to the job that needs to be done.

We see tens of thousands of dollars being raised for many worthwhile projects and cannot help but wish that even a fraction of that amount were available for the extension of Audubon activities in this area.

We are deeply grateful for the help and support that has been so graciously extended by Audubon members and others who by their actions have indicated their agreement with John Kieran's statement:

"For ourselves and our children, for health and happiness, we should join

THE FLICKER

in the fight to preserve and protect the wildlife that remains of the vast heritage that was once the wonder and treasure of this country. Alone, one person can do little. But many thousands, in an efficient organization, can do great work. The National Audubon

Society is such an organization, wide in scope, strong in principle, rich in ideals and fearless in action for the fine things we cherish today and the hopes we have for the future."—National Audubon Society, Public Library Museum, Minneapolis 3, Minnesota.

Wanted Bird Observations

The information upon which the Audubon reports are based is used by the Section of Distribution and Migration of Birds of the Fish and Wildlife Service. For this purpose, Dr. Aldrich is attempting to standardize their reports by using a card for each species. One card is used for fall and winter, another for spring. The Audubon reports are divided into four seasons. This would mean that for the fall migration you would have to send the cards to me and I would have to send them back so you could record the winter observations, after which the completed card is forwarded. Since this would require a lot of postage and work, I would suggest that for each season you could write a summarized account of a few typewritten pages including weather observations and forward this to me. Then forward your cards, in addition to the summarized account, only after the winter season and summer season. Whether you care to use these cards or not is dependent upon whether or not you care to contribute regularly and frequently to the U. S. Fish and Wildlife Service. Even though you do not care to use the cards, your seasonal summary would be very useful for the Audubon Reports. The following deadlines should get the summaries to me in time:

Fall migration	December 1
Winter	April 1
Spring	June 1
Breeding season	August 1

Below is a copy of the suggestions which Dr. Aldrich has made to the Season Editors. You may find these suggestions helpful in preparing your summary:

1. Do not give weather data that are not indicated by you as relevant to some phase of bird activity. Mean temperatures are seldom as important as extremes or durations of certain climatic conditions.
2. Avoid long listings of species and dates which are apt to be dull, but rather try to summarize in sentence form the significant facts brought out by these data. Significant dates, localities, and numbers of individuals should be included, however.
3. Tendencies, trends and fluctuation in population which can be pointed out are especially interesting and useful.
4. Organize discussions under natural groupings such as waterfowl, shorebirds, land birds, etc., to make the reports easier to refer to and to locate desired information."—Harvey L. Gunderson, Season Editor, Museum of Natural History, University of Minnesota, Minneapolis 14, Minnesota.

Minnesota Nesting Records, 1948

by

Theodora Melone

The 1948 nesting records for Minnesota show a growing interest among our members in making observations during the nesting season. Fifty-two observers sent records this year, an increase of sixteen over 1947. Those whose records were received include: Mrs. E. F. Chapin, A. C. Rosenwinkel, Henry Gilbert, Mrs. C. Sather, Bob Farmes, George Reuter, Jean Redman, Thomas Meyer, Mark Keith, Mr. and Mrs. Arthur Roberts and son Henry, Rodger Juten, Margaret Odlaug, Rex Chipman, Mrs. Hommes, Mrs. Kitts, David Wilson, John Pratt, J. S. Fitcher, Mary I. Elwell, Mrs. Harvey Putnam, Margaret Brown, Kenneth Torgerson, Mr. and Mrs. Arthur V. Waid, Mr. Finseth, Mr. and Mrs. Joel Bronoel, Mr. and Mrs. Ralph Boeder, Tilford Moore, Adabeth Moore, Ethel Moore, Olga Lakela, Dana Struthers, Lulu May Aler, W. J. Breckenridge, Joe Knapp, Brother Pius, Dwain W. Warner, William Longley, Severena C Holmberg, Franklin Willis, Eldeen and Don L. Jacobs, Lewis L. Barrett, Joseph Rogina, Ruth and Morrie Self, Harvey Gunderson, George W. Lehrke. Those who obviously had an especially active field season are Eldeen and Don Jacobs, Lewis Barrett, William Longley, Brother Pius and Franklin Willis.

Thanks to the energy of this year's observers and their increased numbers, twenty more species were found than in 1947. (Forty species found this year were not found last year, and twenty

of last year's discoveries were not seen this year). In 1948, 117 species were recorded, nests with eggs—exclusive of colonies of Great Blue Herons, Herring Gulls, Bank and Cliff Swallows—counted up to 519, new nests still without eggs were 124, and the number of broods seen was 316.

A carefully kept record of Goldfinch nests kept by Brother Pius will appear in a separate article and does not, therefore, appear here. That is also true of a number of observations made by Dr. Dwain Warner.

Among the many Cowbirds hosts recorded are Wood Thrush, Song Sparrow, Vesper Sparrow, Chipping Sparrow, Red-eyed Vireo, Yellow Warbler, Warbling Vireo, Mourning Warbler, Catbird, Indigo Bunting, Junco, Brown Thrasher, Cardinal, Rose-breasted Grosbeak, Red-wing Blackbird, Goldfinch, Redstart and Oven Bird.

The key to the records that follow is given below:

A—number of nests

B—date

C—condition, i. e. b for building, e for eggs, y for young, ce and cy for Cowbird eggs and Cowbird young, blank space for new but still unoccupied nest.

Where more than four nests or broods are recorded, only the earliest and the latest dates are given below. However, all observations received during the 1948 nesting season have been transcribed and added to the Species File in the Museum of Natural History.

MINNESOTA NESTING RECORDS (Continued)

	A	B	C	D	E
Loon		8/6	4y	Clearwater	Barrett
Holboell's Grebe	1	5/23	b	Nicollet	Jacobs
		7/3	4y	Nicollet	Jacobs
Eared Grebe	4	7/3	4, 4, 3, 2e	Nicollet	Jacobs
		7/10	y	Nicollet	Jacobs
Pied-billed Grebe	1	5/16	2e	Dakota	Holmberg
		8/3	6y	St. Louis	Roberts
Great Blue Heron	175	4/20	b	Anoka	Longley & Warner
	.10	5/22	b	Ramsey	Brother Pius
American Egret	1	7/10	4y	Grant	Breckenridge
Green Heron	5	5/22	b	Ramsey	Brother Pius
		7/14	4y	Wright	Longley
Black-crowned Night Heron	20	4/20	b	Anoka	Warner
	5	5/22	b	Ramsey	Brother Pius
American Bittern	3	6/5	4, 4, 4e	Lac Qui Parle	Willis
		7/19	1y	Hennepin	Longley
Least Bittern	1	6/6	5e	Nicollet	Jacobs
	4	7/10	y	Nicollet	Jacobs
Mallard	1	5/13	10e	St. Louis	Knapp
		7/17	6y	Beltrami	Pratt
American Pintail	1	5/27	9e	Lac Qui Parle	Willis
		7/2	7y	McLeod	Barrett
		7/2	10y	McLeod	Barrett
Blue-winged Teal	1	5/30	9e	Nicollet	Jacobs
		8/6	7, 8, 12y	Wright	Longley
Wood Duck		5/28	20y	Hennepin	Aler
		7/1	11y	Wright	Barrett
Redhead	1	6/5	10e	Lac Qui Parle	Willis
		7/22	8y	Renville	Barrett
Ruddy Duck	1	6/13	6e	Nicollet	Barrett
	2	6/13	6, 6e	Nicollet	Jacobs
	1	7/3	7e	Nicollet	Jacobs
Red-breasted Mer- ganser	1	6/25	8e	Cook	Jacobs
Cooper's Hawk	1	5/6	e	Ramsey	Brother Pius
		6/29	2y	Ramsey	Brother Pius
	1	5/16	5e	Goodhue	Barrett
Red-shouldered Hawk		5/20	4y	Anoka	Breckenridge
Broad-winged Hawk	1	5/5	1e	Ramsey	Self
	1	5/10	3e	Ramsey	Self
	1	6/5	1e	Ramsey	Self
Marsh Hawk	1	5/30	5e	Ramsey	Longley
	1	6/5	4e	Lac Qui Parle	Willis
	1	6/5	1e, 2y	Blue Earth	Jacobs
Osprey		7/31	4y	Clearwater	Barrett

MINNESOTA NESTING RECORDS (Continued)

Duck Hawk			y	St. Louis	Struthers
Sparrow Hawk	1	3/25	6	Ramsey	Brother Pius
		7/22	4y	Renville	Barrett
Ruffed Grouse	1	5/16	5e	Goodhue	Barrett
		7/19	7y	St. Louis	Lakela
Ring-necked Pheasant	1	5/8	3e	Renville	Barrett
		7/18	8y	Jackson	Moore
King Rail	1	7/21	3y	Renville	Barrett
		7/22	3y	Kandiyohi	Barrett
Sora	1	5/13	9e	Ramsey	Longley
		5/20	8e	Ramsey	Warner
		6/7	5y	Hennepin	Aler
		6/22	3e	Wright	Longley
Florida Gallinule	1	5/30		Lac Qui Parle	Willis
		5/23	15e	Nicollet	Jacobs
		6/6	19, 7e	Nicollet	Jacobs
		7/3	8, 6, 5, 4, 3e	Nicollet	Jacobs
Coot	1	5/23	10e	Nicollet	Jacobs
		9/4	3y	Lac Qui Parle	Willis
Piping Plover	1	5/23	4e	St. Louis	Lakela
		6/12	31e, 4y	St. Louis	Boeders, Bronoels Finseth
Killdeer	1	4/14	2e	Ramsey	Brother Pius
		7/1	4y	Lac Qui Parle	Willis
Spotted Sandpiper	1	5/23	2e	St. Louis	Brown
		7/2	3e, 1y	Aitkin	Brother Pius
Wilson's Phalarope	3	5/30	4, 4, 4e	Nicollet	Jacobs
		6/13	4, 3e	Lac Qui Parle	Willis
Herring Gull	248	6/11		Lake	Putnam, Elwell, Chapin, Lakela
		6/25	1e	Cook	Jacobs
Forster's Tern	14	7/3	3, 2, 1e	Nicollet	Jacobs
Common Tern	20	6/12	e	St. Louis	Boeders, Bronoels Finseth
Black Tern	2	5/23		Nicollet	Jacobs
		5/25	1e	Ramsey	Warner
		5/25	2e	Ramsey	Warner
		7/3	e, y	Nicollet	Jacobs
Mourning Dove	1	4/22	2e	Lac Qui Parle	Willis
		8/20	2y	Blue Earth	Jacobs
Black-billed Cuckoo	1	5/29	3e	Hennepin	Breckenridge
		6/29	2e, 1y	Wright	Longley
		7/5	4y	Lac Qui Parle	Willis
Screech Owl		5/28	3y	Hennepin	Barrett
Barred Owl		6/23	2y	Fillmore	Warner
Nighthawk	1	7/5	1e	Blue Earth	Jacobs

MINNESOTA NESTING RECORDS (Continued)

		7/12	y	Ramsey	Brother Pius
		7/20	1y	St. Louis	Gilbert
Belted Kingfisher	1	5/28	y	Lac Qui Parle	Willis
	1	5/28	7e	Lac Qui Parle	Willis
Flicker	1	4/23	b	Lac Qui Parle	Willis
		7/10	y	Ramsey	Moore
Red-bellied Woodpecker		6/24	3y	Fillmore	Warner
Red-headed Woodpecker	1	6/16	4e	Lac Qui Parle	Willis
	1	7/5	y	Blue Earth	Jacobs
		7/12	y	Blue Earth	Jacobs
Hairy Woodpecker		5/30	y	Ramsey	Longley
Downy Woodpecker	1	5/22	y	Lac Qui Parle	Willis
	1	5/30	b	Ramsey	Longley
Kingbird	1	5/30	b	Ramsey	Longley
		8/15	3y	St. Louis	Lakela
Arkansas Kingbird		7/23	3y	Kandiyohi	Barrett
		7/25	5y	Rousseau	Warner
Phoebe	1	5/2		Washington	Longley
		7/24	y	Beltrami	Pratt
Least Flycatcher		6/14	4y	Aitkin	Brother Pius
Wood Pewee	1	6/20	e	Houston	Barrett
Horned Lark	1	4/6	3e	Ramsey	Brother Pius
	1	7/6	4e	Lac Qui Parle	Willis
Tree Swallow	1	5/6	b	Ramsey	Brother Pius
		7/2	3y	Hennepin	Aler
Bank Swallow	20	5/22		Ramsey	Brother Pius
	4	7/8	6, 4, 2, 1y	Wright	Longley
Rough-winged Swallow	1	5/27	b	Blue Earth	Jacobs
Barn Swallow	1	5/22	b	Blue Earth	Waid
		9/1	3y	St. Louis	Lakela
Cliff Swallow	15	6/13		St. Louis	Putnam
	10	6/26		St. Louis	Barrett
Purple Martin	1	5/11		Ramsey	Moore
	1	5/28	1e	Lac Qui Parle	Willis
	30	6/16	y	Aitkin	Brother Pius
		7/23	y	Ramsey	Moore
Blue Jay	1	5/1	4e	Lac Qui Parle	Willis
		7/5	y	Ramsey	Moore
Crow	1	4/18	5e	Lac Qui Parle	Willis
		6/24	y	Cook	Jacobs
Black-capped Chickadee	1	3/28	b	Ramsey	Brother Pius
		6/1	y	Ramsey	Brother Pius
White-breasted Nuthatch		4/25	y		Rosenwinkel

December, 1948

MINNESOTA NESTING RECORDS (Continued)

		5/14	5y	Nicollet	Jacobs
		5/23	4y	Hennepin	Longley
House Wren	1	6/7	7e	Blue Earth	Jacobs
	1	8/8	7y	Lac Qui Parle	Willis
Long-billed Marsh Wren	3	5/30		Nicollet	Jacobs
	5	7/1		Wright	Longley
	2	7/3	6e, 5y	Nicollet	Jacobs
Catbird	1	5/23	1e	Blue Earth	Jacobs
	1	6/29	4e	Wright	Longley
Brown Thrasher	1	4/26		Ramsey	Brother Pius
		8/2	1y	Ramsey	Longley
Robin	1	4/9	b	Ramsey	Self
	1	7/9	3y	Crow Wing	Holmberg
Wood Thrush		7/2	y	Blue Earth	Jacobs
Hermit Thrush	1	6/23	4e	Cook	Jacobs
	1	7/25	1e, 3y	Rouseau	Warner
Veery	1	6/12	4e	Aitkin	Brother Pius
	1	6/16	3e	Aitkin	Brother Pius
Bluebird	1	4/17	b	Ramsey	Brother Pius
		6/23	y	Wright	Longley
Blue-gray Gnat-catcher	1	5/16		Goodhue	Barrett
Cedar Waxwing	1	6/12	b	Lac Qui Parle	Willis
	1	6/29	3e	Wright	Longley
Migrant Shrike	1	5/14	7e		Jacobs
Starling	1	4/19	b	Ramsey	Moore
	3	7/1	y	Blue Earth	Jacobs
Red-eyed Vireo	1	6/5	b	Blue Earth	Jacobs
	1	6/16	b	Aitkin	Brother Pius
Warbling Vireo		7/4	5y	Blue Earth	Jacobs
Black and White Warbler		6/25	y	Cook	Jacobs
Prothonotary Warbler	1	6/29	e or y	Houston	Warner
Blue-winged Warbler	1	6/18	3y	Fillmore	Gunderson and Warner
Tennessee Warbler		8/1	4y	St. Louis	Putnam
Nashville Warbler		6/23	y	Cook	Jacobs
Yellow Warbler	1	5/30	1e, 1ce	Ramsey	Longley
	1	6/28	4y	Aitkin	Brother Pius
Myrtle Warbler		7/25	2y	Rouseau	Warner
		6/25	y	Cook	Jacobs
Black-throated Green Warbler		8/8	2y	Douglas (Wis.)	Putnam
Oven Bird	1	6/11	5e	St. Louis	Roberts
Louisiana Water-					

MINNESOTA NESTING RECORDS (Continued)

thrush	1	5/2	b	Washington	Longley
Connecticut Warbler		7/29	1y	Rouseau	Warner
Redstart	1	6/19	1cy	Fillmore	Warner
English Sparrow	4	4/17	b	Ramsey	Brother Pius
	4	8/17	5, 4, 3, 2y	Wright	Longley
Bobolink	1	6/13	2e, 4y	Houston	Barrett
		8/6	3y	Lac Qui Parle	Willis
Eastern Meadowlark	2	5/13	5, 5e	St. Louis	Keith & Knapp
Western Meadowlark	1	5/31	2e	Nicollet	Jacobs
	1	6/21	4e	Lac Qui Parle	Willis
Yellow-headed Blackbird	1	5/13	b	Ramsey	Longley
	22	6/13	57e, 12y	Nicollet	Barrett
Red-winged Blackbird	1	5/9	2e	Hennepin	Barrett
	1	7/15	1e, 3y	Wright	Longley
Orchard Orioles	2	6/6	3e	Ramsey	Longley
Baltimore Oriole	1	4/25	1e	Lac Qui Parle	Willis
		7/5	y	Blue Earth	Jacobs
Brewer's Blackbird	1	5/9	4e	Hennepin	Barrett
		7/9	2y	Wright	Longley
Bronzed Grackle	1	5/9	4e	Anoka	Barrett
		7/19	8y	Ramsey	Moore
Cardinal	1	5/15	2e, 2y 2cy	Blue Earth	Jacobs
	1	5/16	7e	Goodhue	Barrett
	1	5/23	1e, 1ce, 2y	Blue Earth	Jacobs
Rose-breasted Grosbeak	1	5/16 ¹		Goodhue	Barrett
	1	5/29	2e, 1ce	Lac Qui Parle	Willis
	1	6/12	2e	Lac Qui Parle	Willis
Indigo Bunting	1	6/10	1ce	Blue Earth	Jacobs
	1	6/13	3ce	Blue Earth	Barrett
	1	8/6	1e, 3y	Ramsey	Brother Pius
Goldfinch	1	6/23		Wright	Longley
	1	9/5	y	Ramsey	Brother Pius
Red Crossbill		6/13	3y	St. Louis	Elwell & Lakela
Savannah Sparrow	1	6/11	4e	Lac Qui Parle	Willis
	1	6/17	2e	St. Louis	Redman & Reuter
Le Conte's Sparrow		7/29	y	Rouseau	Warner
Vesper Sparrow	1	5/23	4y	Lac Qui Parle	Willis
	1	6/7	4e	Lac Qui Parle	Willis
	1	6/9	3e, y	Blue Earth	Jacobs
Slate-colored Junco		6/17	3y	St. Louis	Lakela
		6/18	1cy	St. Louis	Lakela
Chipping Sparrow	1	6/10	2cy	Blue Earth	Jacobs
		6/12	1y	Ramsey	Moore
		8/6	2y	St. Louis	Lakela

MINNESOTA NESTING RECORDS (Continued)

Clay-colored Sparrow	1	8/4	2e	Ramsey	Brother Pius
Field Sparrow	1	6/9	4y	Houston	Warner
Swamp Sparrow		6/26	y	Cook	Jacobs
Song Sparrow	1	4/29	2e, 1ce	Hennepin	Farnes
	1	6/18	y	Cook	Jacobs

—Minnesota Bird Club, Minneapolis, Minnesota

Destruction of Double-crested Cormorants

Information on the wholesale slaughter of this species on its rookeries and elsewhere in Minnesota during 1948 by organized groups and shooting parties has reached the editor's desk. Is this killing justifiable? Or are these people misinformed as to the true relationships of this species to fish and the fishing industries? Or is this unprotected bird being shot largely in the name of "sport" at times when the game seasons are closed? In an effort to determine these correct relationships and to evaluate properly the worth of this species, we must learn many more facts. Toward that end I urge that each member of the M. O. U. send to this office whatever information he may have concerning this cormorant in Minnesota.—Editor

Seasonal Report

by

Mary Lupient

The weather during the latter half of August and nearly all of September was marked by heat and unusual drought. Up to September 20 when the first break came, the temperature rose daily to above 90 degrees F. Vegetation became dry and sere throughout the state and there was apprehension that there would be much destruction caused by forest fires. There were some fires in the North Woods on the Range but they were controlled to the extent that the areas burned were not large. The hunting season was closed for four days as a precautionary measure against the starting of fires and was later extended for an equal number of days.

Some hunters reported that they killed a daily bag limit of ducks; others found ducks scarce. The general opinion among hunters and observers indicated that the decline of duck population has been arrested somewhat. November 7 there was a larger concentration of Mallards in the Minnesota River lowlands than has been seen by this observer since 1943. There was a sprinkling of Gadwalls and Pintails besides a few Blue and Snow Geese. A greater number of Mallards and fewer Blue-winged Teal was the report of A. C. Rosenwinkel this season. Migration dates for ducks and geese so far are about normal and at date of this writing, November 18, the northern ducks are passing through the state.

No great warbler waves were reported by anyone. From September 19 to September 23 there was a steady migration of birds through Southeast Minneapolis. They traveled singly or in small bands, among them being Rose-breasted Grosbeaks, Flycatchers, Juncos, White-throated Sparrows, Lincoln's Sparrows and many Flickers and several species of warblers. August 19 I made observations along the North Shore of Lake Superior near Lutsen where great numbers of birds nest, particularly sparrows and warblers. Except for two Mourning Warblers that were carrying food I saw none of the warblers and sparrows that I found earlier during the nesting season. However, there were several small flocks of Pine Siskins and numerous Cedar Waxwings in the area. A heavy rain August 22 in Duluth evidently brought down migrating warblers for there were many of them on lawns and in trees busily feeding.

Dr. Dwain W. Warner made observations September 6 at Frontenac. He reported the following: Sanderling 1, Buff-breasted Sandpiper 1, Pectoral Sandpiper 12, Semipalmated Sandpiper 25, Baird's Sandpiper 4, Palm Warblers Bay-breasted Warblers, Blackburian Warblers, Black and White Warblers, Chestnut sided Warblers, Yellow Warblers, Sora Rails, Virginia Rails, Herring Gulls, Ring-billed Gulls and 1 Duck Hawk.

The hawk migration occurred principally from October 11 to October 20. Species observed were Duck Hawk, Ferruginous Roughleg Hawk, and Sharpshinned Hawk. Dr. Warner reported that an immature Bald Eagle was killed at Faribault, October 16.

The Franklin's Gull is a rare visitor as far east as the Mississippi River area but September 24 I observed a mixed flock of about 40 Franklin's Gulls and Bonaparte's Gulls just south of Minneapolis. They flew high, wheeled and soared and appeared to be catching flying insects. Their flight resembled that of the swallows. October 3 the Franklin's Gulls were still there but the Bonaparte's Gulls had gone. A. C. Rosenwinkel also reported this flock of Franklin's Gulls October 2.

Except for Killdeer, Wilson's Snipe and a few stragglers of some of the common species, nearly all of the shore birds had migrated by September 15. A notable record was made by Mrs. C. R. Proctor who saw about 100 Golden Plovers just north of Minneapolis. The "Logbook of Minnesota Birdlife" lists only a few fall records for this species.

Mrs. C. E. Peterson, Madison, Minnesota, who has made observations for many years, reported that the migration this fall through that area was very small. She saw both the male and female Black-throated Blue Warbler, October 31 and November 1. Also on November 1, she saw Pine Siskins, Purple Finches, and Golden-crowned Kinglets.

A Canada Jay pertly talked to Mrs. Cora A. Corniea, October 24 from her feeder at Cedar Creek Bog thirty-five miles north of Minneapolis. About a dozen Snow Buntings were in this same vicinity November 10.

American Pipits were seen by Dr. Warner, October 31, near Cannon Falls. A Brown Thrasher is again living in the neighborhood of the home of Dr. and Mrs. Malcolm Willey. It will be interesting to know if it stays all winter. They had a Brown Thrasher for a steady boarder last year until spring.

Dr. W. J. Breckenridge recorded a rather late date for the Mourning Dove. He saw 4 of them November 9.—Minneapolis, Minnesota.

Deadline for the March, 1949, issue of THE FLICKER is February 15. The earlier your articles reach the editor's desk, the sooner you will receive your March issue.

NOTES OF INTEREST

THOMAS S. ROBERTS BIRD SANCTUARY—It seems desirable at this time to make a rather complete report to M. O. U. members on the Dr. Thomas S. Roberts memorial.

At the annual M. O. U. meeting on May 18, 1946 a committee was appointed to plan a memorial to Dr. T. S. Roberts. The original members of this memorial committee, which was appointed by President Walter J. Breckenridge, were as follows: Mrs. Gaylord Davidson, Mrs. Richard Elliott, Mr. George Friedrich, Dr. Olga Lakela and Mr. Lewis L. Barrett, Chairman of the committee. Mrs. Gaylord Davidson and Mr. George Friederich were unable to serve on the committee because of ill health. Mr. William Kilgore was asked to act as a member of this committee. Dr. W. J. Breckenridge and Mrs. Harry W. Rice were appointed to the committee by the chairman. Mrs. Richard Elliott served as secretary for all committee meetings.

The aforementioned memorial committee met at the Museum of Natural History, University of Minnesota on December 30, 1946. At that time the committee discussed numerous suggestions which had been received from various people for memorials to Dr. Roberts. A list of these suggestions which were individually discussed at some length follows:

1. A memorial edition of "Bird Portraits In Color."
 2. A sequel to "Log Book of Minnesota Bird Life."
 3. A medal to be awarded yearly, or at stated intervals, for distinguished service in ornithology and related subjects.
 4. A birding area to be named in honor of Dr. Roberts with suitable markers or plaques installed.
 5. Improvement, such as erecting a small building for shelter, to be made in certain bird watching areas including Cedar Creek Bog and Frontenac.
 6. The M. O. U. might raise funds for a Thomas S. Roberts lectureship on Minnesota birds.
 7. A Thomas S. Roberts Scholarship to be founded at the University of Minnesota.
 8. A Thomas S. Roberts Memorial Bird Sanctuary to be founded on lands of various habitats for bird observation. This land would have to be purchased.
 9. A Thomas S. Roberts Memorial Contest for Minnesota school pupils to be inaugurated, with books on ornithology offered as prizes.
 10. A Thomas S. Roberts Habitat Group to be donated to the Natural History Museum of the University of Minnesota. This project was undertaken by a group of Dr. Roberts' friends who contributed funds for the Swan Habitat group.
- No definite decision was made at this first committee meeting as to the exact nature of the memorial which was to be established. At a later date a sub-committee consisting of Dr. W. J. Breckenridge, Mrs. Elliott and Lewis L. Barrett met with Mrs. Margaret Harding of the University of Minnesota Press to discuss the possibility of publishing a pocket sized edition of "Bird Portraits In Color." This committee also looked into the possibility of publishing other memorial books but because of high publishing costs this procedure seemed unwise.

On May 12, 1947, the memorial committee met at the Natural History Museum



Photo by Harvey Gunderson

**Three Generations of Thomas S. Roberts stand by one of the Boulders
marking the new Roberts Bird Sanctuary.**

From a practical viewpoint it seemed desirable at this time to add more Twin City people to this memorial committee. Accordingly, the committee was enlarged to include Miss Evelyn Behrens, Mrs. G. R. Magney and Mr. Milton Thompson. They were in attendance at this meeting. It was the consensus of this committee that a Dr. Thomas S. Roberts memorial should be established at the Lake Harriet Bird Sanctuary in Minneapolis. Dr. Roberts during his lifetime frequently "birded" in the Lake Harriet region, and naming this sanctuary in his honor seemed a fitting memorial to Minnesota's foremost pioneer ornithologist. Dr. Breckenridge, Mrs. Elliott and Mrs. Magney were appointed as a sub-committee to look into the cost of inscription of the words "Thomas Sadler Roberts Bird Sanctuary" upon two granite boulders. Mrs. Rice, Miss Behrens, Mrs. Magney and Mr. Thompson were appointed to a sub-committee to petition the Minneapolis Park Board for official change of the name of the Lake Harriet Bird Sanctuary to the Thomas Sadler Roberts Bird Sanctuary.

At the annual meeting at St. John's University on May 17, 1947, the M. O. U. went on record as undertaking to pay the cost of the Dr. Roberts memorial in Minneapolis and that these costs should be prorated to the various M. O. U. affiliated societies according to the number of members in the various clubs.

At a regular meeting of the Board of Park Commissioners of Minneapolis held on June 4, 1947, the following resolution was adopted: "Be it resolved, by the Board of Park Commissioners of the City of Minneapolis that that part of Lyndale Park lying north of the Lake Harriet Drive and extending from the branch of Lake Harriet Drive leading to Lake Calhoun eastward to the roadway on the west side of the Lyndale Rose gardens, being that portion now enclosed within woven wire fence and generally known as the Bird Sanctuary, be given the name of Thomas Sadler Roberts Bird Sanctuary in honor of Thomas Sadler Roberts, one of the earlier and outstanding ornithologists of the United States and a resident of this city from 1867 until his death in 1946, with the exception of certain brief absences." A brief biography of Dr. Roberts also was included in the original resolution. A copy of this resolution was received by Mrs. Harry Rice from Mr. Howard J. Moore, Secretary of the Board of Park Commissioners.

On October 16, 1947, the Memorial committee again met in the Museum of Natural History at the University of Minnesota. At this meeting additional plans were formulated for the T. S. Roberts Bird Sanctuary. Late in the fall of 1947 Dr. Breckenridge, Mr. Francis Jaques, Mr. John Jarosz, Mr. H. F. MacKenzie of the Lee M. Bogle Company, and Mr. Lewis L. Barrett visited gravel pits and selected the boulders to be used as markers. Mr. MacKenzie represented the monument concern which incised the lettering on the boulders. The M. O. U. is much indebted to him for his generous assistance in the selection, moving and placing of the boulders.

At the annual meeting of the M. O. U. on May 15, 1948, at Fort Snelling, a progress report on the work of the memorial committee was made. During the spring of 1948 members of the Memorial Committee accompanied by Mr. F. K. Dhanin, assistant superintendent of the Minneapolis Park Board, selected sites for the two granite memorial boulders to be erected at the entrances of the Thomas Sadler Roberts Sanctuary. Mr. Harvey Gunderson, Mr. John Jarosz, Mr. George Richert and Dr. W. J. Breckenridge dug the holes and laid the concrete bases upon which the boulders were set and during the summer of 1948 the

granite boulders were inscribed by the Lee M. Bogle Company under the supervision of Mr. MacKenzie.

A financial statement covering all costs incidental to the moving, setting and inscribing of the granite boulders has been turned over to Mrs. I. A. Lupient, M. O. U. Treasurer, and this will be published in her annual financial statement. Any M. O. U. member at large who wish to make contributions toward this project are asked to please send them to Mrs. I. A. Lupient of Minneapolis.

The contributions of Dr. Thomas S. Roberts to the bird lore of this state are legion, and these will live through the years to come. Many bird students who knew Dr. Roberts feel that the people of Minnesota who are interested in bird life might consider that the Thomas Sadler Roberts Bird Sanctuary is but one of many memorials which will honor the name of Minnesota's outstanding ornithologist.—Lewis L. Barrett, Minneapolis, Minnesota.

WHEN MARTINS MAKE NEWS IN DULUTH—For the third consecutive day Bill Krueger of Radio Station KDAL on the 5:45 p.m. news period reported the gathering of Purple Martins at Minnesota Point. He was much concerned over the housing shortage and the attendant increases in rent. Lest another day be too late, I cast aside my dinner preparations and hurried to the Point to witness one of Nature's magnificent dramas.

According to Bill Krueger, the martins were taking over the Point. Already at 6:00 p.m. the telephone lines, row upon row, were studded with twittering martins in thousands, while other thousands were on the wing over the bay, and still others were arriving apparently in an endless stream. There were two centers of concentration, one about two miles out from the aerial bridge in the vicinity of the sandbar island; the other four miles out and with a much larger center covering some six blocks in Oatka Beach Addition area.

That evening of August 13 was still and warm with a temperature of 76 degrees F. In the humid air hung swarms of gnats, milling 'round and 'round just above one's head. Against the western sky lay clouds at different levels—luminous with edges gilded with the level rays of the sun. Against the sunlit sky the martins flew from the southeasterly direction. They crossed Superior Bay from the Wisconsin side, following the Point over the land or over the waters of the bay. They streamed in several lines, some skimming the water with wing tips, others higher and higher, cutting across the air lanes of the sea planes in flight, without disturbance or concern, all directed toward Oatka Beach where a large flock was gathering, cloud-fashion.

Each fall the flocking of the martins at Minnesota Point has received local acclaim. The 1948 migration was heavier, continuing over a longer period of time, mostly through the second to the third week in August. At each dawn the flocks left for their feeding grounds somewhere in Wisconsin, to return toward sunset to their preferred roosting site, the willow thicket of the Oatka beach marsh.

In the afterglow following the sunset, the crimson clouds were darkened by the flocks of thousands of martins wheeling high and low and far out to the bay beyond the willow marsh. But the return flight was still continuing; and the birds, perched on the wires earlier, joined the flocks in the air. In the ensuing dusk the full harvest moon in line with the Point became brighter. In the encircling flocks centers of concentration formed—spiraling funnel-fashion directly down to the shrubs. Some flew down directly, but a larger number descended in concerted flight that most resembled a wheel or a funnel. At 7:40 the sky was

almost clear of martins, but still in the dusk a few stragglers were arriving, among them were Barn Swallows.

I moved closer to the willows. The roosting center was well in the middle of the 29-acre beach addition. It staggered imagination to realize that so small an area could hold so many birds, without "housing shortage." Once in the shrubs the birds remained still on their roosts to chant in unison. The twittering became a subdued rhythmic flow of sound reminiscent of a cataract with rushing water that wanes to a murmur at a distance. At 8:40 the murmur was barely audible, but occasionally a happy warbling broke forth from hearts too full to contain it.

The martins in repose cleared the stage for ensuing drama of the night. From the shrubs emerged bats and nighthawks; they flew low and silently, sweeping the gnat-filled air. And then at my feet beneath willow branches, the crickets fiddled away for the sheer joy of it. At 9:40 at home, my unprepared dinner convinced me that one does not live on bread alone.—**Olga Lakela, University of Minnesota, Duluth, Minnesota.**

WHITE PELICANS IN NICOLLET COUNTY AND THE FATE OF A CRIPPLED BIRD—During the last two weeks of April in 1948, it was the good fortune of the Mankato Audubon Club to see a flock of nearly two hundred Pelicans. They had apparently been resting and feeding on Swan and Middle Lakes in Nicollet County for some time.

This flock remained in the vicinity for about a week or ten days. During this time we were able to obtain a number of photographs. However, it was the misfortune of one of the beautiful birds to be shot and crippled while on Swan Lake. There he was to remain unknown to us until on July fourth when Don Jacobs and I were on the lake protographing Least Bitterns and looking for a Black-crowned Night Heron rookery that had been reported on Johnson Island, an area that is game reserve. No rookery was present this year.

We sighted the pelican in an area known as "South Bay" about a mile away. It appeared to be an American Egret, but later proved to be the hapless pelican. We loaded our cameras, and paddled the canoe in his direction. We expected to see the bird fly, but he stood on the log until we got within a hundred feet of him. All this time in our excitement, we were shooting foot after foot of movie film.

Jacobs, in the front of the canoe, was able to obtain some fine colored slides and I, in the stern, secured some black and whites.

The bird finally became frightened and tried to fly. It was only then that we realized he was hurt. The end joint of his right wing had been broken, apparently by a rifle shot. After a hot and heavy chase in a wind trying to outmaneuver the bird, we cornered it against an island and were able to capture it.

We tied the bird down in the canoe and that evening took it to Sibley Park Zoo in Mankato where he was welcomed by the attendants. We found, however, that the bird had gangrene in the wing. The Zoo keeper consulted a weterinarian who removed the wing.

The bird has recovered fully and enjoys an average of three to five pounds of "carp" daily which the attendants at Sibley Park toss to him. There he remains, possibly the only white Pelican in captivity in Minnesota.—**Ron Anderson, Mankato, Minnesota.**

HARBOR ISLAND, ST. LOUIS BAY, DULUTH—Efforts are being made by the Duluth Bird Club to perpetuate Harbor Island as a bird sanctuary. This island is the only major nesting grounds of the Common Tern and Piping Plover in the Duluth area. It has been customary in the past for boys and dogs to overrun the island during incubation periods and it was feared that the terns and plovers would eventually leave for other nesting grounds. To prevent such an occurrence the Duluth Bird Club posted the island during the month of May with "Bird Sanctuary" signs and through newspaper publicity and the schools, the residents of Minnesota Point were asked to remain off the island during the incubation period from June 1st to July 15th. Periodic visits to the island during this period indicated that the residents in this area were cooperating with the Bird Club in remaining off the island.

Although the weather in 1948 was more favorable for nesting than 1947 and perhaps our check this year was more thorough than last year, the following results were obtained on June 12th by the Boeders, Broncoels and O. A. Finseth. These are compared with the observations made during a similar period in 1947.

	1948			1947		
	Nests	Eggs	Young	Nests	Eggs	Young
Common Tern	20	53	None	9	No	record
Piping Plover	10	31	4	1	2	2
Spotted Sandpiper	3	11	0			
Red-winged Blackbird	7	12	8			
Catbird	1	4				
Brown Thrasher			1			

The Northern Yellow Throat, Yellow Warbler, Blue-winged Teal, Killdeer, Black Tern, Song and Clay-colored Sparrows are known to nest on the island although no nests were observed.—J. K. Bronoel, Duluth Bird Club, Duluth, Minnesota.

A MALLARD WITH TWISTED WINGS—On August 7, 1947, we visited the Minneapolis Star and Journal's Glendalough Game Farm at Battle Lake, Minnesota. Mr. Axel Hanson, the stout genial superintendent, showed us around the grounds and proudly called our attention to the flock of several thousand Mallards that thronged the lake shore and the water. Mallards are raised here every year, banded in the fall, and then sent on their way south.

As we stood watching the birds feed and swim and pursue one another through the water, we noticed a duck which seemed to be having trouble with her wings. Again and again she pecked at and preened her primaries, but the feathers still looked as ruffled and unkempt as ever. On closer view we saw that there was something radically wrong with her wings. Both hands or wing tips appeared to be twisted so that the under surface of the primaries faced out like the palm of one's hand. The duck could not bring her primaries down against the sides of her body; they stuck out like sore fingers in the wind. If the dorsal surface of the hands had actually been twisted to the ventral position, the ends of the primaries would have pointed toward the duck's head. The fact that they pointed in the normal direction showed that only the primaries themselves were upside down. Thus a reversal of the position of the primary feather buds must have occurred as a freak development during the embryonic life of the duck. If this is true each new set of primaries after each molt would grow out in the same outlandish manner.—Arnold B. Erickson, Paul R. Highby, and David B. Vesall, St. Paul, Minnesota.

INTERESTING FALL RECORDS—On an interesting hike through McMenemy Swamp's woodlands and the pine forest at Lake Vadnais on November 6, 1948, I saw, among other species of birds, two Rough-legged Hawks, a number of Red-breasted Nuthatches and one Hudsonian Chickadee. I heard several of the latter. Black-capped Chickadees and Golden-crowned Kinglets were especially numerous in the pines. I saw one Myrtle Warbler. Wood Ducks were more abundant in my usual haunts than ever before. Between 25 and 30 were noted in an open water slough across the road from Lake Owasso.

I heard repeatedly a call that reminded me of that of the Red Crossbill. It always came from the tops of the pine trees though a careful search revealed no birds that day. However, on November 11 on a walk through the same area, I observed a flock of 12 Red Crossbills giving the same calls as they settled down in several bare popular trees at the edge of the pine woods. About one-third of them were red-plumaged adult males with dark wings. At 100 feet, even with binoculars, the bills did not show the crossed mandibles but appeared long and stout. These birds were quite noisy, especially in flight.

On the latter date I saw a few Redpolls in this same area. Fifteen or more Wood Ducks were still there along with two Pied-billed Grebes, several dozen Coots, a few Mallards, more than 100 Ring-necked Ducks and about 20 American Goldeneyes. These last were the first I had seen this season.—A. C. Rosenwinkel
St. Paul Audubon Society, St. Paul, Minnesota.

BIRD REACTIONS TO BANDING—Techniques of bird banding and results of returns are often recorded and discussed; but less often are the reactions of the birds to being banded reported. There have been a number of actions displayed by the birds at our station that my husband and I have found interesting.

We began our bird banding hobby last spring at our home on White Bear Lake. The highlands in the area are grown up to oak woods with willow and cat-tail marshes occupying the low ground. With one marsh only 100 yards off, our most frequent visitors were the blackbirds, mainly Red-wings, coming to feed on the corn and bread that we had scattered about the yard and on a path leading into a ground trap. Our trapped Red-wings and Brewer's fluttered excitedly about attempting to escape and we soon found that we had to be on hand almost immediately to retrieve such birds before they injured themselves by thrusting their bills through the screening or beating their wings against the trap. On the other hand a trapped Grackle soon resumed feeding after the doors had fallen or, holding a piece of bread in its bill, tried calmly to find a way out. The blackbirds on release did not soon forget their experiences of being banded and would land on the swamp's edge and persistently peck at the band. One newly banded Brewer's Blackbird was seen to shake its leg about in the water as if trying to wash off the foreign object. Other blackbirds have been observed bathing thoroughly after banding, perhaps to rid themselves of the human touch. Feeding is usually resumed by the birds after about five minutes.

"Shorty," a Red-wing, made himself well known through the spring by leaving his tail behind when the trap door closed too quickly. He then became an outstanding blackbird of a well populated marsh, being conspicuous for his awkward balancing and abnormal appearance. In spite of this incident he returned to the baited trap more than any other bird and in about six weeks had grown a new tail.

Of many nestings near our house, we watched especially carefully a pair of banded robins who laid three sets of eggs and succeeded in raising two broods of young. As the young neared maturity, our curiosity gave them no peace. We waited for the day we could band the nestlings. This was done just as the young were ready to leave the nest. It was a very upsetting experience for the adult birds.

During the nesting season a female Robin and a Catbird were banded. Their mates, in both cases, protested our actions by flying excitedly at us during the banding process. A Catbird expressed grief for his trapped mate by crying pitifully. Both Catbirds and Brown Thrashers cried and screamed continually while in the trap and in the hand until released.

The birds weren't the only ones whose appetites led them to our traps, for the squirrels were a regular nuisance, often getting into our automatic trap. On finding themselves imprisoned they put up a more effective fight than the birds and usually escaped leaving repairs to be made.

Our careful banding has brought no harm to the birds, and we are pleased to find that the wildlife about our station seems to have increased and thrived on the baited traps in spite of the annoying disturbances we have forced upon them in our handling and banding operations.—Ruth and Morrie Self, White Bear Lake, Minnesota.

REPORT ON M. O. U. AID TO EUROPEAN ORNITHOLOGISTS—Members of the M. O. U. who attended the annual meeting at the Officers' Club at Fort Snelling, St. Paul, will be interested to know that their money contributions to help needy ornithologists in Europe amounted to almost forty dollars, and that we have now heard from three of the families to whom food packages were sent. The families have asked that their thanks be conveyed to all the people who so kindly contributed toward these gifts. We are glad to quote below from their letters:

Kurt Hagemann, Hannover, Germany (Translation)

"To our great surprise we received recently from your friends a large food package. You could hardly imagine what joy it brought to us, especially to my wife who has the trouble of taking care of us. We had not realized that you wished to help us in this respect, too. I cannot adequately express to you all our thanks."

Walter Hoesch, Luneburg, Germany

"I am writing to ask you to be so kind to convey to the group of Minnesota Ornithologists my sincere thanks for the CARE package which was received by me last Friday.

The package came as a big surprise and is most appreciated by my family and myself as solid proof of the existence of international goodwill and interest in the common cause.

The contents of the package were suitably assorted to fill the present average needs of a family in Germany of today. My wife feels much relieved by the receipt of cocoa, sugar and milk powder, which are so helpful in providing proper nourishment for our 6-month old baby."

Frau Bernhard Schneider, Leipzig, Germany. (Translation)

"A very special joy was given to us by the food package; it came just in time when we were low on groceries, and it helps us to get over the hardest times. The

thought that there are in America so many ornithologists who think of us and are trying to help us in such a nice manner, helps us to carry our troubles easier. Please tell all your friends that have helped us."

Readers who may be interested in sending more food can easily do so by mailing a check for any amount to Miss Theodora Melone, Geology Library, Pillsbury Hall, University of Minnesota, Minneapolis 14, Minnesota.

It was previously reported that the M. O. U. contribution went for clothing. This was a misunderstanding, as all of it went for food.—Miss Theodora Melone, Minneapolis, Minnesota.

THE CARDINAL EXTENDS ITS NESTING RANGE TO WESTERN MINNESOTA—A pair of Cardinals was observed at the Madison Nursery the first week in April, 1948, and have continued to stay through the summer. The many evergreens and various plantings of other trees and shrubs furnish an ideal location for these birds. The gardener across the way maintains a feeding shelf primarily for chickadees but the Cardinals soon discovered the sunflower seeds and feed here early and late.

Great anxiety was caused for a time due to the rash behavior of the pair. Regularly at 5:00 a. m. they perched outside the bedroom window of the gardener and his wife and persisted in beating themselves against the window pane. The addition of a window screen prevented further worry for their safety.

On May 10 the female was brooding on the nest but this first attempt was unfruitful. The second nesting was successful. The male parent and young were observed flying about the area on August 4.

The Cardinals have many feathered neighbors sharing the area, but neighbors which are generous enough to accept them peacefully.—Mrs. C. E. Peterson, Madison, Minnesota.

CARDINALS NORTH OF TWO HARBORS—One of my science students brought a male Cardinal to me on October 25, 1948. It and several others, he said, had been shot by hunters in the woods above Two Harbors. It is interesting to record the Cardinal that far north, for we have received no records of its occurrence in the Duluth area for several years. It is also deplorable that some men and boys use any bird on the wing for a target. Often our most useful insect eaters, the Hairy and Downy Woodpeckers and chickadees who live with us all year, are found shot.—Evelyn J. Putnam, Duluth Bird Club, Duluth, Minnesota.

HERRING GULL NESTS ON KNIFE ISLAND, LAKE SUPERIOR—The following observations on Herring Gull nests were made on Knife Island on June 10, 1948, by Ralph Boeder and the author. These are compared with observations made on the same area by the same authors June 4, 1946.

1948		Number of nests	Contents
		126	Empty
		40	1
		11	2
		9	3
		1	4
1948	Total: Nests	187	93
1946	Total: Nests	93	16
December, 1948			110

Number of Young Gulls

	Alive	Dead
1948	267	5
1946	73	9

The marked increase in number of nests and young and apparent greater degree of nesting success in 1948 is believed due to ideal nesting conditions. Severe storms which occurred during the spring of 1946 destroyed many nests on the rocky shores of the island.— J. K. Bronoel, Duluth Bird Club, Duluth, Minnesota.

A SIGHT RECORD OF THE ROCK WREN— On the afternoon of April 18, 1948, a party made up of Mrs. E. O. Wilson of Montevideo, Mrs. C. E. Peterson of Madison and myself visited Salt Lake for the purpose of observing shore and water birds. Salt Lake is a large alkali slough on the border of western Minnesota. It used to be bordered on the south with low alkali flats but now most of this area is flooded after several years of heavy spring run-off. At the time of our visit the water was very high and the old shoreline was under water.

There were no shorebirds to be seen and as we stood by the roadside one of us noticed a strange bird in a junk pile in the ditch. The head, back and tail were grayish brown with the rump being more of a brownish tinge. Through the glasses, small dark bars could be seen on the back, wings and tail. The throat was grayish white with the breast slightly lighter and obscurely streaked with dark. It had a long, slightly curved bill and long tail and appeared to be six or seven inches in length. It had a very amusing and distinctive habit of bobbing up and down at the knees. It was very active and had a highly inquisitive manner, running quickly here and there and peering into tin cans and old tires and all the time being entirely silent. The posture was unwrenlike with the tail being on nearly the same plane as the head and back. We watched it for about fifteen minutes from distances varying from ten to twenty feet using 6x and 8x binoculars.

A study of reference books led us to believe it was a Rock Wren and examination of the study skins at the University Museum further strengthened our belief. On May 13, 1922, Mr. Alfred Peterson of Pipestone collected a Rock Wren in the rock quarry at Pipestone. The specimen is now in the University Museum. He also saw another wren of this species at Dell Rapids, South Dakota, on July 20, 1924, which is only a few miles from the Minnesota line. So, as far as I know, this is the second record for Minnesota. Unfortunately the bird was not collected.—Franklin Willis, Stewartville, Minnesota.

All clubs or individuals who cooperate in taking the Christmas Bird Count should mail their notes to the editor as soon after the count as possible so the data can be compiled for publication in the March issue of THE FLICKER. The dates for the Christmas Count are December 25 through January 2.

CALL NOTES

Meet the new president of the St. Cloud Bird Club. At the first meeting of the St. Cloud Bird Club this year, Mr. H. H. Goehring of the biology department at the St. Cloud Teacher's College was elected president. He is a pal of Mr. George Friedrich's, so we know he is good.

It seems that Mr. Goehring has traveled around a bit. He was born in Wisconsin, received his B. E. at the Milwaukee Teachers College, and his M.A. at the University of Wisconsin. He has done graduate work at the University of Minnesota Biological Field Station in Itaska Park. He says the work in Itaska Park is most interesting. That would be a nice way for more of us to spend our summer vacation. .

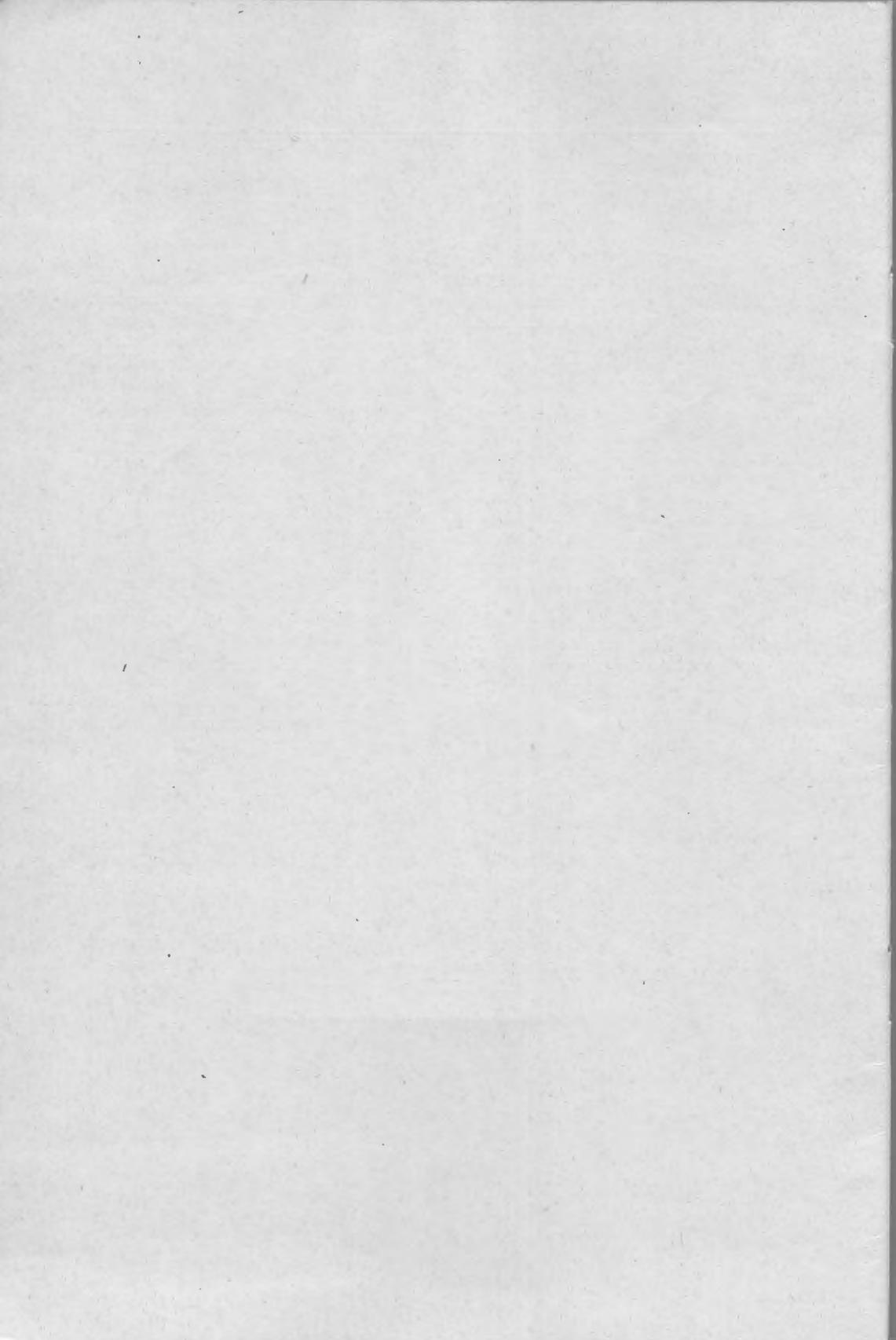
After teaching school in Minot and Dickinson, he joined the St. Cloud Teacher's College staff in 1946.

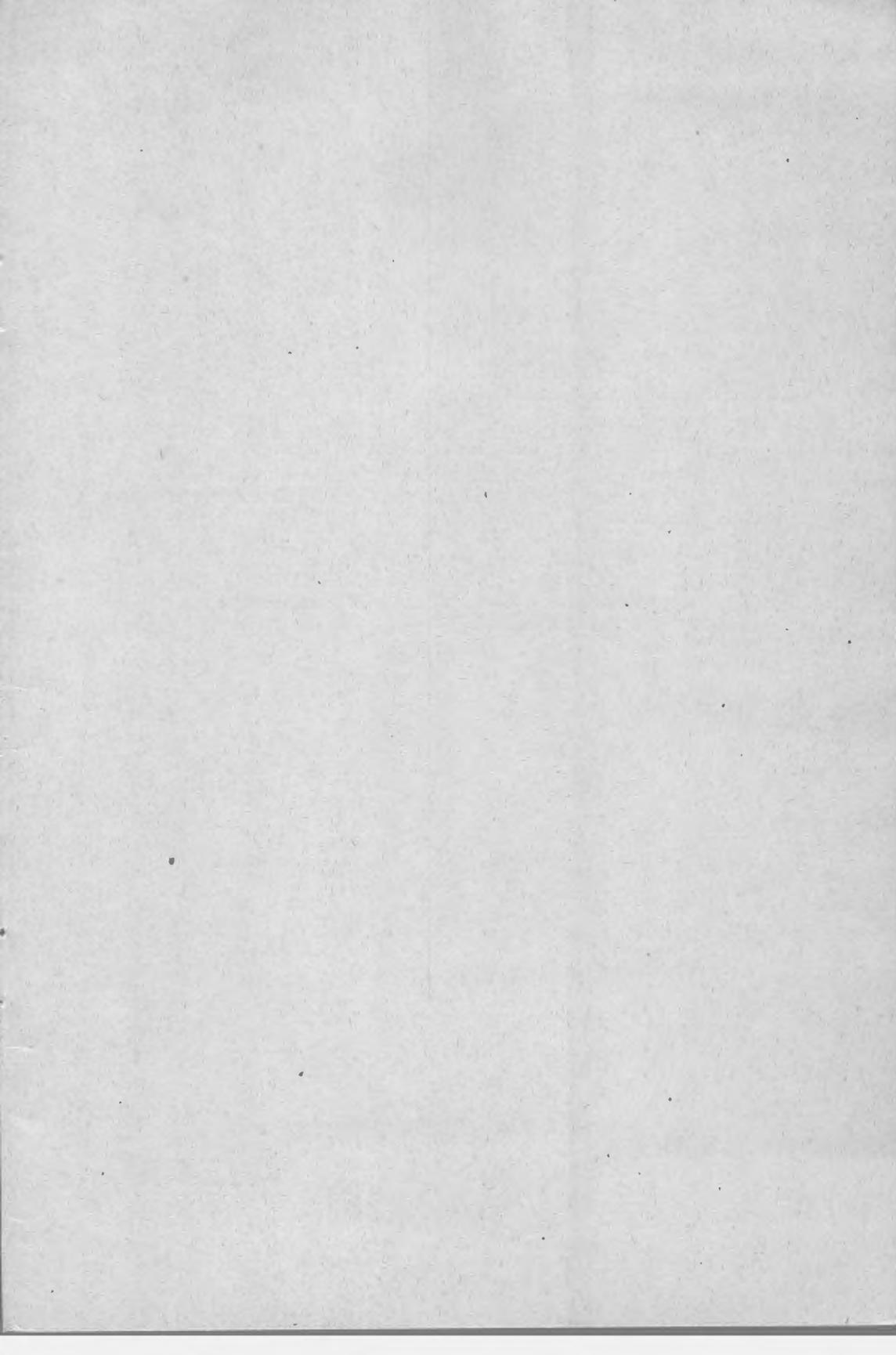
Mr. Goehring likes it here. He likes the birds and the outdoor life. He resembles Oliver Wendell Holmes in one respect: his hobby is so far removed from his regular work. In his spare time he likes to pound with hammer and nails—cabinet making. Maybe it isn't so far removed. He may be making bird houses — **Monica Misho, St. Cloud Regional Editor.**

The following M. O. U. members from Minnesota attended the American Ornithologists' Union Meetings which were held in Omaha, Nebraska, October 11 to 15: Dr. Olin Sewall Pettingill, Jr., Secretary of the A. O. U., Mr. Harvey Gunderson, Mr. Byron Harrell, Mr. Forrest Lee and Dr. Dwain W. Warner. Dr. Warner presented the paper, "Patterns of Shifting Ranges Among Some Birds in Minnesota." This was a discussion of the recorded movements, their rates and directions, of a number of species of birds into and across Minnesota during the last century and included a short summary and analysis of possible reasons for these movements.

Now is the time to make plans to attend the Wilson Ornithological Club meetings in April, 1949. These meetings will be held in Madison, Wisconsin, April 21-24.

This meeting will give M. O. U. members an opportunity to meet and exchange ideas with the many people working with the birds of a neighboring state, Wisconsin. The rest of this country and Canada will also be represented there by ornithologists whose papers and discussions will be most interesting and stimulating to each of you. —D. W. W.





"AFFILIATED SOCIETIES" (continued)

RANGE NATURALISTS' CLUB

Officers: President, Mrs. Dorothy Beard; Vice President, Jalmer Halunen; Secretary, Vera F. Barrows; Treasurer, Ruth Ambrose.

Meetings are held the third Thursday of each month, October through May at 7:00 p. m. in the Clubrooms of the Virginia Public Library.

DULUTH BIRD CLUB

Officers: President, Mr. O. A. Finseth; Vice President, Ralph Boeder; Secretary, Miss Helen C. Smith; Treasurer, Miss Mira Childs.

Meetings are held the second Thursday of each month at the Duluth Branch, University of Minnesota.

Minnesota Ornithologists' Union

Affiliated Societies

CLOQUET BIRD CLUB

Officers: President, Miss Dorothy Wassen; Vice President, Miss Ruth Johnson; Secretary-treasurer, Miss Edith Sanford.

Meetings are held the first and third Thursday of each month in the Cloquet High School at 7:30 p. m.

MINNEAPOLIS AUDUBON SOCIETY

Officers: President, Mrs. G. R. Magney; Treasurer, Mrs. W. W. Wilcox; Recording Secretary, Mrs. A. M. McLeod; Corresponding Secretary, Mrs. S. A. Gile; Field Secretary, Mrs. J. A. Thompson; Auditor, Mrs. Gaylord Davidson.

Meetings are held the first Friday of each month at 2 p. m. at the Walker Branch Library. Field trips during April and May on Tuesdays and Fridays.

MINNEAPOLIS BIRD CLUB

Officers: President, George Rickert; Vice President, Mrs. Preston Haglin; Secretary, Mrs. Mildred Snyder; Treasurer, Mrs. Edith Kees.

Meetings are held the first and third Tuesdays of each month at 7:30 p. m. at the Minneapolis Public Library Museum.

MINNESOTA BIRD CLUB

Officers: President, Harvey Gunderson; Vice President, Miss Theodora Melone; Secretary, Mrs. Mary Lupient; Treasurer, Byron Harrell.

Meetings are held the first Wednesday of each month, except June, July, August, and September, at 8:00 p. m. at the Minnesota Museum of Natural History, University of Minnesota.

ST. CLOUD BIRD CLUB

Officers: President, H. H. Goehring; Vice President, Mrs. Charles Beacom; Secretary-treasurer, Miss Loretta Rosenberger.

Meetings are held the first Wednesday of each month from October through March in the committee room of the public library at 8:00 p. m.

T. S. ROBERTS ORNITHOLOGICAL CLUB

Officers: President, Miss Mavis Scott; Vice President, Robert Fox; Secretary-Treasurer, Miss Dolores Olson; Advisor, G. W. Friedrich.

Meetings are held bi-monthly February through May at the St. Cloud State Teachers College.

ST. PAUL AUDUBON SOCIETY

Officers: President, Leonard C. Lustig; Vice President, Dr. Vernon L. Whipple; Treasurer, Marvin H. Adams; Corresponding Secretary, Miss Dorothy Sundry; Recording Secretary, Mrs. Charles E. Hart; Directors-at-Large Mrs. Arthur H. Savage, J. M. Rice.

MANKATO AUDUBON SOCIETY

Officers: President: T. E. Thomson; Vice President, Mrs. H. B. Elford; Secretary, Miss Libbie Williams; Treasurer, Miss Martha Cunrath; Directors, J. George Lynch and Dr. H. Bradley Troost.

Meetings are held the first Thursday of each month (except July, August, and September) at Mankato State Teachers College.

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY
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Lectures: [Number]
Date: [Date]

PHILOSOPHY 102: [Title]
Lecturer: [Name]
Lectures: [Number]
Date: [Date]

PHILOSOPHY 103: [Title]
Lecturer: [Name]
Lectures: [Number]
Date: [Date]

PHILOSOPHY 104: [Title]
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