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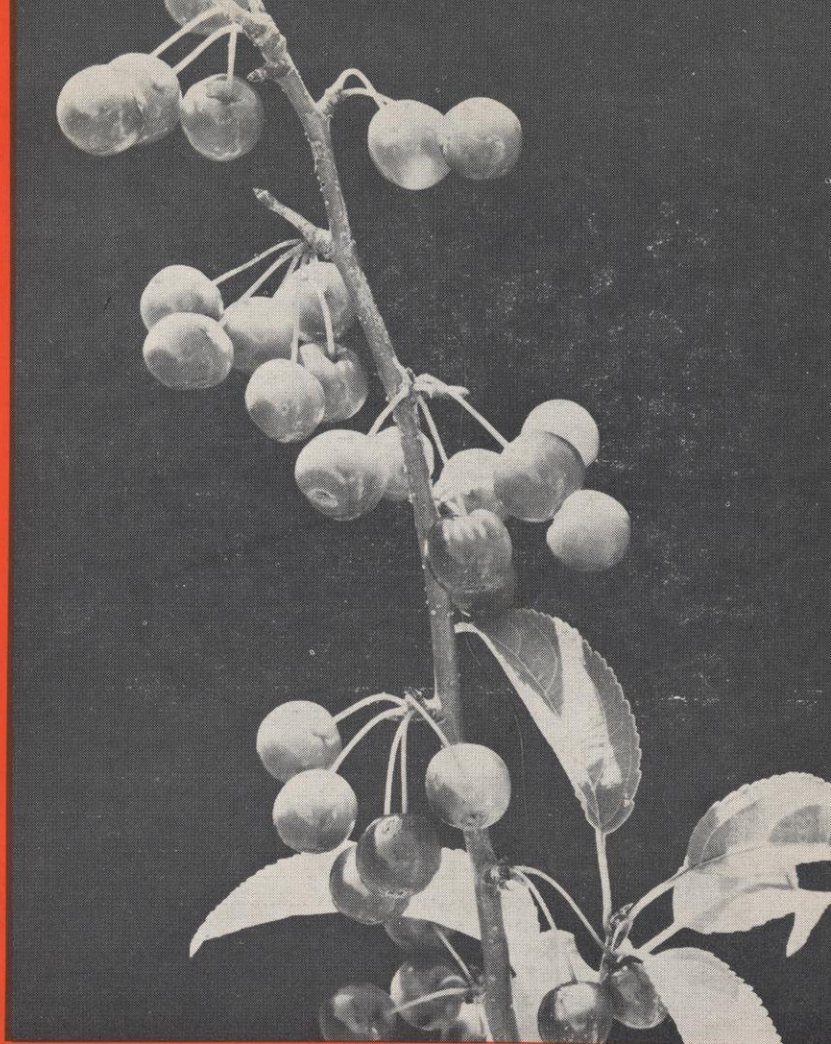
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The PASSENGER PIGEON

A Magazine of Wisconsin Bird Study

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Wisconsin has a stake in the

CONTINENTAL BALD EAGLE PROJECT

A Progress Report*

By ALEXANDER SPRUNT IV and RICHARD L. CUNNINGHAM

In the year that has passed since we first reported on the Bald Eagle Project, some solid progress has been made. This Project was originally planned in two phases, the first dealing with the numbers and distribution of the Bald Eagle. This phase is now well along toward completion. More about the second phase of the Project dealing with more detailed studies of Eagle biology will be mentioned later.

Winter Studies

Our studies on wintering eagles have followed the pattern set by our first winters' investigations, but have been refined and amplified somewhat. Our major effort this past winter has been to secure the best possible coverage of the United States during the month of January. Data gathered during our first year pointed to January as the month best suited to a winter count, because Eagle movements during that month are at a minimum level. The weather over much of the country was very bad during January, 1962, but this is a factor which will always have to be considered and allowed for. Forty-six of the 48 contiguous states reported eagles during this past census period .

No startling differences in the number of Bald Eagles have appeared, even though coverage was better in 1962 in most areas. A total of 3807 Bald Eagles were reported for the United States, exclusive of Alaska, during January, 1962. This compares with 3642 reported in January of 1961. The difference in these two figures, 165 Eagles, is certainly due to the improvement in coverage and does not indicate any increase in the number of Eagles' overall population. Florida again led all of the states in the number of Eagles reported, with 529 individuals. Illinois was second with 476, followed by South Dakota with 273 and Missouri with 246. Three other states, Oklahoma, Wisconsin and Iowa also reported over 200 Eagles each. These seven states accounted for 57% of all Bald Eagles reported.

These figures strengthen our previous findings concerning the distribution of wintering Bald Eagles. The three concentration areas defined last year have been further confirmed and a fourth has appeared.

The Middle West: This area has again claimed its position of first importance to wintering Eagles. Fully 57% of all Eagles reported in January were present in the 12 states making up this region. The Mississippi Valley again reported the heaviest concentration of birds with

*This progress report was presented by Mr. Sprunt at the National Audubon Society's convention at Corpus Christi, Texas, November 10-14, 1962. The highlights of the report are presented here with the kind permission of Mr. Sprunt.

1302 individuals in the Valley between southern Minnesota and Arkansas. This represents over one-third of the entire reported U. S. population. Further studies of this really amazing number of Eagles will be undertaken during the coming winter by National Audubon personnel.

Most of the Eagles present in middle western areas, other than the Mississippi Valley, are to be found around National Wildlife Refuges or artificial impoundments. A notable concentration of Eagles was present at Lake Andes in southeastern South Dakota. Nebraska, Kansas and Oklahoma also had large groups. In all, 2157 Eagles were reported in 12 midwestern states.

Florida: There is no question that Florida has no rival outside of Alaska. Some 529 Eagles were present in that state during January. This represents 14% of the total for the United States.

A very interesting thing was discovered in the Everglades National Park which may have a significant bearing on other areas. In January a roost was discovered made up almost exclusively of immature Eagles located in the Park, but away from the breeding areas of the 43 pairs of breeding adults. This clue may help to explain the lack of immature Eagles in nesting areas which has puzzled investigators in many parts of the country. There were 41 birds in this roost on at least one occasion of which only 4 were in the adult plumage. We would urge others to look for similar situations elsewhere.

The North West: Our coverage in two of the four northwestern states was not good during the past January. Counts were lacking in certain key areas in Idaho and for some unexplained reason, the number of Eagles reported from Oregon dropped from 287 in January, 1961, to only 50 in January, 1962. We feel certain that this was not an actual drop in population but is based on differing census techniques or some other artificial factor. This is being investigated further. Even with these setbacks, the northwest maintained its place as an important Eagle area with 386 birds or 10% of the national total.

The Middle Atlantic States: Greatly increased coverage resulted in the documentation of the importance of the Middle Atlantic states, especially the Chesapeake Bay Region, as an important Eagle wintering ground. The states of New Jersey, Delaware, North Carolina, Maryland and Virginia are included. The latter two are by far the most important. A total of 239 Eagles or 6% of the national total, were reported from this region. This is very difficult country to census due to the tremendous amount of shoreline and the lack of adequate roads.

The remaining 496 Eagles, 13% of the national total, reported from areas outside of those already mentioned, were spread through 24 states.

With only two years' data to draw upon, it is difficult, if not dangerous, to make any direct statement concerning trends. The figures from 1962, however, again emphasize the low number of immature birds present in the population. Last January only 24% of the Eagles reported to us were in the immature plumage. This represents a 2% drop in that percentage from the 26% figure for 1961. At the present level of our knowledge it is impossible to say whether this slight apparent drop is significant. We doubt that it is.

Movements and Migrations

We have not been able to gather as yet, enough detailed data to do more than hazard a guess at Eagle movements and migrations. Our best data comes from the Mississippi Valley and there some broad conclusions can be drawn.

Eagles start moving south from Wisconsin and Minnesota during September. This movement gains momentum during October. From that time until about Christmas or New Year's, a movement down the river is continually going on at one point or another. The return northward starts in late January or very early February and continues until about the middle of April when most of the birds seem to have reached their breeding grounds. There is a great deal that we do not understand about this movement and it is further complicated by birds which do not seem to move at all.

There does seem to be a difference in the timing and extent of movement according to ages. Immature Eagles move south earlier in the Fall and northward later in the Spring. They also tend to move farther south than most of the adults.

Nesting Studies

Studies on nesting eagles have been continued. Happily, we can report much better coverage in the eastern half of the United States for the breeding season just passed. Distribution of nesting report forms was again undertaken and the response from many people has been good. 515 active Bald Eagle nests were located during the course of the 1962 breeding season.

Four important nesting regions in the eastern United States have emerged from the data gathered. These are, Florida, the Middle Atlantic States, Maine and the Western Great Lakes area.

Florida: There were at least 257 active eagle nests in Florida this year. This is almost exactly half of all active nests located and certainly confirms Florida's place as the leading Eagle state, always excepting Alaska. The majority of these nests were concentrated along the west coast from the Everglades National Park to a point north of St. Petersburg and in the grazing and lake country in the center of the state.

Of the 257 nests reported as active, results were known in 163. Of these 163 nests, 93 were successful in rearing 125 young birds. These figures yield a nesting success rate of 57%, somewhat better than the percentage reported for 1961. Although a slight improvement in the percentage of success was noted this year, there was a drop in the number of young produced per successful nest, from 1.46 young per nest in 1961 to 1.34 young per nest this year. Whether or not this is a significant drop remains to be seen.

Middle Atlantic States: For the first time this year, a comprehensive study of the Chesapeake region was made both on the ground and by air. This work has given us a good picture of Eagle nesting conditions in the Middle Atlantic states. It is not a promising situation.

The Eagles of the Middle Atlantic States do not seem to be producing at all well, with an overall nesting success rate possibly as low as 7.7%. What is responsible is at present unknown. Raccoons or other

vertebrate predators have been suggested as a possible factor. Human disturbance is also known to have been implicated. Probably a number of factors will be found to be operating to depress the nesting success rate. All we can say at the moment is that more research is badly needed and will be carried on as soon as we are able to do so.

Maine: A number of nesting reports which were received in 1961 led us to believe that Maine would prove to be an area of Eagle nesting activity. With this in mind, Charles M. Brookfield of the National Audubon staff spent several weeks in that state this past summer and was able to locate 31 active nests. He has reason to believe that these 31 nests are perhaps only one-third of the number actually present and will return to Maine during this coming summer for further work.

Nesting success in Maine was not good. Of the 31 nests checked, only 8 produced a single eaglet each. This is a nesting success rate of only 25.8%, much lower than it should be. Preempting of nests by Great Horned Owls was a factor here, but other causes not yet understood, were probably more important.

Western Lakes States: We have been aware for some time that Michigan is an important Eagle state. Reports indicated that Wisconsin and Minnesota also had significant numbers of nesting Eagles, so during this past season, the senior author spent several weeks, from late May through most of July in Wisconsin. A short trip was also made into Minnesota. These investigations amply confirmed the suspicion that many Eagles nested in these three states. We now have records of 119 active nests in this region, 56 for Michigan, 41 for Wisconsin and 22 for Minnesota. Further work in the latter two states is sure to swell the total substantially.

In Michigan, 46 of the 56 known nests were checked. Seventeen or 36.9% were successful in producing a total of 25 young birds. The two peninsulas of Michigan again varied somewhat in their success rate. The Upper Peninsula, with more wild land and fewer people, showed a higher rate of success.

In Wisconsin, Eagles had even less success, with only 11 of 41 nests producing 17 young eagles for a success rate of 26.8%. A rather remarkable circumstance was that none of the nests located on or near either Lake Superior or Lake Michigan in any of the three states produced young. In Wisconsin, factors still undetermined, other than that of simple human disturbance, were definitely operating. Some of the nests which were in a position to be most disturbed by humans, such as on highly developed lakes, produced young while nests in inaccessible locations did not. More work is needed.

We were not able to give the time to Minnesota that it deserved. Only 22 nests were located and results were known in 15. Eleven of these nests reared 20 young Eagles, representing the highest percentage of success in the country with 73% successful. This represents 1.82 eaglets raised per successful nest. Whether this high percentage of success will hold up when a larger sample is available, remains to be seen. If it does, Minnesota and Wisconsin would make a fine study area for the comparison of two quite different rates of production.

Other Areas: Four-hundred sixty-seven or 81% of the 515 known active nests were in the areas already mentioned. The 48 remaining

nests were spread over 10 states. The most important groups were found in Ohio, Oregon, South Carolina and Georgia, with smaller numbers in Tennessee, Pennsylvania, Louisiana, Texas, Missouri and California. Taken as a group, these nests showed wide variation in success with Tennessee at the bottom with complete failure of all nests which were concentrated in the area of Reelfoot Lake. Ohio and Pennsylvania both showed fairly high rates of success. Samples in the other states were too small for adequate conclusions to be drawn.

To sum up, we had records of 515 active nests, mostly from the eastern United States. Results were known in 368 of these nests, 162 or 44% being successful and adding 228 young Eagles to the population.

The success of Eagle nesting over the country is not good. There is great variation from region to region and little or nothing is known as yet concerning the possible causes of either the low production rates or these observed variations. We are slowly gathering material which will enable us to pinpoint critical areas and we hope to be able to define more exactly the direction of possible future research efforts.

Causes of Mortality

Over the past two years we have been asked a number of times if we could pinpoint the major causes of Eagle mortality. More specifically, it has been questioned if shooting is still an important cause of losses. The answer is, of course, that we don't know, as this information is extremely hard to obtain.

In order to find some sort of an indication of causes of losses, however, we have carefully gone over all of the information in our files. This mostly consists of letters from cooperators, newspaper reports, magazine articles and the like, and can in no way be considered as really scientific data. We have hearsay evidence in the deaths of 118 different Eagles. These have been tabulated according to the cause of death and the following answers emerge. Ninety-one, or 77%, of these birds were shot. This is by far the largest percentage. Eleven, or 9%, were found dead, cause unknown. Eight, or 7%, were caught in steel traps set for mink, muskrat or other furbearers and an additional 8, or 7%, met their deaths through a miscellaneous series of incidents, such as electrocution on power lines, predation by vertebrates and even a heart attack.

From this very brief and cursory look at what data we have, however inaccurate it may be, we feel justified in saying that shooting is still an important source of loss and any steps that can be taken to reduce this loss should be instituted. We would like to suggest the initiation of a nationwide campaign to educate the public concerning the need for protecting Eagles and designed to teach the public, particularly the shooting public, to identify Eagles in all plumages. This task is given additional importance by the recent passage of the bill to protect the Golden Eagle.

We have made a start toward drawing up a series of recommendations of possible procedures designed to protect Eagle nesting habitat. This, when completed, will be presented to public land holding agencies such as the U. S. Forest Service, National Park Service, various State agencies, etc. We will probably be in a position to make concrete proposals along this line after the next breeding season.

Future Plans

The Continental Bald Eagle Project is moving ahead on schedule. We will plan to complete Phase I during the next year (1963) by continuing and expanding somewhat our winter studies, continuing to work in the field in the Chesapeake, Maine and in the Lake States, and will also try to step up the reporting of nesting birds from the western part of the United States.

We are in a position to begin work on Phase II of the Project concerning more detailed studies of Eagle biology. During the coming months, work will be started in key areas of Florida, British Columbia and in Alaska. These studies will include work on productivity, mortality, replacement rates and make a start at understanding aging techniques, molts and many other essential aspects of the Eagle's life and activities.

Editor's note: Mr. Sprunt also sends this information to WSO members: "It might be of interest to the readers of **The Passenger Pigeon** that I am again going to be in northern Wisconsin for a while next summer. I urge them to please report to me any observations on Bald Eagles, particularly nests. These reports should be sent to me at P. O. Box 231, Tavernier, Florida, or during the summer in care of the Audubon Camp of Wisconsin, Sarona, Wisconsin. It is my hope to cover more of northern Wisconsin during the coming season, possibly with wider intensive use of aircraft for more inaccessible regions. I would very much like to get as complete coverage in Wisconsin during the next summer season as is humanly possible. I will have to put in some time in Minnesota, too, but will probably spend a good deal of it in Wisconsin. Anything that you or your readers could do to help us with our coverage would be most appreciated."

How about it?



NEW SEASONAL EDITORS

The newest editorial staff members of **The Passenger Pigeon** are Mr. and Mrs. Harold Roberts, Stevens Point. They will edit the field notes for the summer seasons. They replace Roy and Martha Lound who have done yeoman service for WSO for many, many years.

Hal and Nancy Roberts have been WSO members since 1946. Hal has been interested in birds since his childhood days in Madison. Nancy's interest started in 1942. Hal majored in zoology at the University of Wisconsin. During World War II he birded in distant places, including Barro Colorado Island and the Canal Zone. He is a distributor and dealer of irrigation equipment, mainly in the central Wisconsin sand area. Hal and Nancy have four children who, until now, have somewhat limited their birding activities.

While Roy and Martha Lound will no longer have regular chores on the staff of **The Passenger Pigeon**, we'll look forward to their observations and reports in the years ahead. We appreciate their many contributions to the Society.

1960 in Review

By SAM ROBBINS

Any year seems outstanding when a new species can be added to the state list. 1959 seemed doubly so because two species—Ruff and Black-throated Sparrow—were positively identified, while a third—Ross' Goose—was added to the hypothetical list. But 1960 saw three additions to the state list when photographic evidence was obtained for the Cattle Egret, White-faced Ibis and Ross' Goose, raising to 352 the number of species whose presence in Wisconsin has been validated by specimen or photograph.

With the help of these exotics, Badger birders turned up 285 species during 1960. This is precisely the average total for the past ten years, and shows how rarities have a way of evening themselves off from year to year.

There are additional sight records—each of them well documented—for four species that must be considered hypothetical. Two of them (European Teal and Spotted Redshank) are Old World species never before reported from this state, and bring the number of birds on the state's hypothetical list to 19. A third (Laughing Gull) was already listed hypothetically because of previous sight records; a fourth (Common Eider) had previously been collected in the nineteenth century.

Pieces in a Jigsaw Puzzle

In scanning the seasonal summaries of field notes for 1960 that were published in **The Passenger Pigeon**, one can count up the names of 150 observers that appeared in these pages. In the Christmas Bird Count summary one will find the names of an additional 260 persons who participated in what is annually our largest cooperative project. Very few of these were professional ornithologists; nearly all were amateurs devoting limited amounts of spare time to the hobby of bird study, perhaps motivated more by a desire to relax and enjoy one's self than by a determination to contribute to scientific knowledge.

Yet ornithology—more than most other sciences—thrives on the contributions which large numbers of amateurs can make when they work together on cooperative projects. A contribution is made when an observer in northeastern Wisconsin reports the presence of a Red-bellied Woodpecker at his winter feeding station for the first time. Potentially valuable information comes when an observer reports that Yellow-headed Blackbirds have disappeared from the site of former nesting colonies. Useful data can be gleaned from the fact that the spring arrival date of the Baltimore Oriole was ten days later than usual.

Each ornithological observation is like a tiny piece of a huge jigsaw puzzle, and when sufficient pieces can be assembled and properly grouped, a picture begins to emerge. The field notes department of the Wisconsin Society for Ornithology is endeavoring to build up a network of observers in all parts of the state in order to collect as many pieces of the puzzle as possible. The quarterly summaries in each issue of **The Passenger Pigeon** strive to put together as much of the Wisconsin picture

as is possible with the limited number of available pieces. It is the purpose of this annual summary to relate the Wisconsin picture to the still larger picture of the distribution and migration of birds throughout the whole United States. Frequent reference will be made to **Audubon Field Notes** throughout this article, for it is here that one finds observations from all parts of North America collected and correlated.

THE LATE WINTER SEASON

One of the most conspicuous features of the winter of 1959-1960 for Wisconsin observers was the prevalence of Redpolls. Howard Winkler's summary of the 1959 Christmas Bird Count (**1960 Passenger Pigeon 5**) points out that the number of Redpolls increased ten-fold over the counts for the previous year. Subsequent reports show that a heavy flight continued through January, February and March, with stragglers remaining well into April and even into early May. Was this part of a national trend? Indeed it was! Summarizing the winter season, Douglas James and others (**1960 Audubon Field Notes 284-285**) used superlatives in describing a Redpoll flight that engulfed much of the territory between the Atlantic and the Rocky Mountains. The flight penetrated as far south as Colorado, Arkansas, Illinois, Indiana, Ohio, Pennsylvania, Virginia, and North and South Carolina. In fact, the irruption even reached Bermuda in significant numbers, where a peak of over 1000 birds was reported. Interestingly enough, while superlatives were used by observers in some regions in describing the Redpoll invasion, such language was not used by any Wisconsin reporter. A good flight, yes, but not necessarily heavier than flights of several other winters. The supposition is that there are some years when heavy flights reach Wisconsin with birds remaining here during the winter months. But in the winter of 1959-1960 Redpolls passed through Wisconsin and continued their invasion to more southerly locations.

Evening Grosbeak Pattern

There were parts of the United States—particularly in the east—where there seemed to be a very similar invasion of Evening Grosbeaks. But observations in Wisconsin made it clear that the pattern of the Grosbeak flight was quite different from that of the Redpolls. In Adams County the writer found the Evening Grosbeak to be more numerous than in other years, but this was because flocks of birds remained in the area all winter long, instead of moving through in November and December, and again in March and April. Observers in Appleton, Green Bay, Sauk City, Madison and other points in the southern half of the state, on the other hand, had practically no Grosbeaks. Fitting this picture into the larger, nationwide framework, one finds fewer Grosbeaks than usual to the west in the Dakotas and none in Colorado, none immediately to the south in Illinois, but a great many more than usual throughout the east. A first record for Mississippi was established this winter, along with several records from Alabama and Georgia. It is clear, as James points out (**1960 Audubon Field Notes 285**), that these were not midwestern birds but birds that rode the Appalachian Mountain flyway in the east. One even suspects that the few scattered Evening Grosbeaks noted in Ohio and Indiana had an eastern, rather than midwestern,

orientation. Birders in southern Wisconsin may have been disappointed not to have Grosbeaks this winter, but by recording this absence they have helped to fill in the national picture of this winter's flight.

Did Wisconsin Birders Goof?

In the case of the Snow Bunting, however, Wisconsin ornithologists did little to help with the natural picture. Aside from Alfred Bradford's comment (1960 *Passenger Pigeon* 148) that "we did not have our usual influx of northern birds, except Snow Buntings which seem to be about as numerous one year as the next," no mention was made of any sizable numbers of this species by a Wisconsin birder. But unusually large numbers were reported from such widely scattered locations as Delaware, New York, Ontario, Pennsylvania, Ohio, Indiana, Illinois, North Dakota and Saskatchewan; and additional records outside the usual winter range were established in Virginia, North Carolina and West Virginia. Since Snow Buntings could not possibly reach all these areas in major invasion proportions without passing through Wisconsin in exceptional numbers, it would appear that Wisconsin observers "goofed" either in their observation or their reporting.

The writer is still puzzled over the status of the Golden-crowned Kinglet this winter, recalling his comment (1960 *Passenger Pigeon* 149) "for the first time in my memory I have gone through an entire winter without having seen a single Golden-crowned Kinglet." Additional evidence of scarcity is offered by a comparison of Wisconsin Christmas Bird Count totals: only 21 in 1959-60, compared with 192 and 106 in the two preceding years, and with 154 and 82 in the two succeeding years. The national picture showed this species to be much more plentiful than usual along the Gulf Coast of Alabama, Louisiana and Texas. But between Wisconsin and the Gulf Coast there is no mention of either unusual abundance or scarcity! Perhaps Wisconsin observers are not the only ones who "goof" on occasion!

Significant Contributions

If space permitted, one might similarly examine the evidence of population fluctuation of nearly every other species that normally winters in Wisconsin, and show that Wisconsin observers are making a significant contribution to the over-all picture. Suffice it to say that Wisconsin was in general agreement with the rest of the nation on other northern visitants: Pine Grosbeaks a bit above normal in the north; Bohemian Waxwings, Northern Shrikes and Red Crossbills normal; Snowy Owls and White-winged Crossbills below normal.

While the main interest in the winter season centers on population fluctuations, attention is also given to the observation of rarities; and again the question arises about the relationship between Wisconsin observations and those from other parts of the nation. The outstanding rarity of the season was the Black-throated Sparrow that wintered in Madison from December 23, 1959, through April 22, 1960; but there is little to add to the extensive comments that have already been made (1960 *Passenger Pigeon* 26-7, 133, 147).

Less fantastic but still very noteworthy was the effort of a Bewick's Wren to survive a Wisconsin winter. This species generally stops singing early in July, and is hard to come by after that time. It probably re-

mains in the state until September most years, though there are two October records. Then in 1954 Alvin Peterson discovered one at Onalaska on November 19, and saw it off and on through December 7. Thus it was a real surprise when Tom Soulen discovered one in Madison on December 9, 1959. The bird was seen on three different subsequent dates, the last by William Hilsenhoff on January 23, 1960. This leaves February as the only month when this southern species has not been recorded in Wisconsin.

The Savannah Sparrow completed its cycle of the months when one was discovered by John Bielefeldt in Waukesha on February 6. Until 1960 the latest state record was January 11; this year this was exceeded both by Bielefeldt's bird and by a bird seen at Milwaukee on January 22 by Mary Donald.

Answers Still Needed

Did these birds survive the winter in the locations where they were seen? Did they perish in the cold, or from lack of food when heavier snows came? Did they move out and try to relocate in some other area? What happens to others of the unusual wintering species that are so often reported in the Christmas Bird Counts in early winter? Perhaps in the future more February re-runs of Christmas Bird Counts can be made, as were made at Mazomanie and Beloit. Perhaps more effort can be made in the future to follow up in January and February the birds of note that are still present in late December.

The possibility that displacement in mid-winter may occur is suggested by the discovery of a Catbird in Milwaukee on February 13 by Mary Donald. Apparently none was to be found in this area during December and January, but Russell Mumford reports for the Ohio-Indiana-Illinois-Iowa region (1960 *Audubon Field Notes* 312-313) that there was a major blizzard through his region on February 10, and that "Catbirds and Brown Thrashers were observed during the Christmas count period but not after February 15."

Similar speculation arises over James Sipe's well-documented record of seven White-fronted Geese in Rock County on February 21. In some years one would be tempted to call this early spring migration. But the earliest previous state record was on March 9, 1950, and in 1960 the last half of February and most of March was snowy and cold.

Birders who put their binoculars away after the Christmas Bird Counts and go into ornithological hibernation until spring migration gets well under way are missing out on the chance to make the kind of significant observations that are described above.

THE SPRING MIGRATION

As attention in winter is drawn mainly to population fluctuations, interest in spring tends to center on weather patterns and the effect they have on the progression of the northward migration flight. A fortunate few observers have schedules that are sufficiently flexible so that they can watch the weather and take to the field whenever conditions promise bird movement. Most observers must confine their field trips to weekends and hope that some of the major flight days fall on these weekends.

They know that it is during times of major flights that rarities are most likely to be found and record-breaking dates established.

At first it did not look as if there would be any early arrival record-breaking dates. It was consistently abnormally cold right through to March 27, with heavy snow in the states south of us. So thoroughly did winter dominate most of March that Russell Mumford, in describing an area that included parts of Kentucky and Missouri as well as Indiana and Ohio, was moved to comment (1960 Audubon Field Notes 391): "Practically no migration occurred prior to March 26, when a sudden rush of retarded migrants moved in quickly." Yet, it often happens that, within a rush of dammed-up migrants that are behind schedule, there are a few early stragglers of species that normally belong to a later flight. Thus, when the peak of this first rush of migrants reached well into Wisconsin on April 2, Edwin Cleary noted Bank Swallows at Green Bay two days earlier than the previous state record. The following day Ed Peartree found Rough-winged Swallows in Waukesha County, again two days earlier than the previous record for the state.

Record-breaking Dates

Thereafter the most favorable times for migration in Wisconsin, judging by comments on weather in **The Passenger Pigeon** and **Audubon Field Notes**, can be listed as April 11-14, April 20, April 23-24, May 3-5, May 14-17, May 20-21, May 25, and May 29-30. Note how six of the seven record-breaking dates fit this pattern:

Species	Date	County	Observer	Previous Record Date
Bobolink	April 12	Polk	Mildred Pedersen	April 25
Wilson's Phalarope	April 14	Dodge	Howard Winkler	April 19
White-eyed Vireo	April 23	Rock	John Wilde	May 3
Tennessee Warbler	April 24	Ozaukee	Wallace MacBriar	April 24
Nashville Warbler	April 24	Milwaukee	Ivy Balsom	April 25
Little Blue Heron	April 28	Dodge	William Schultz	April 29
Traill's Flycatcher	May 3	Dane	Keith Brown	May 5

Two record-breaking late dates also appear to fit this pattern: a Snowy Owl in Door County on May 29 (Harold Wilson), and a Water Pipit in Columbia County on May 31 (Howard Winkler).

In reviewing the rarities that turned up during the spring season, one again looks for evidence that what happens in Wisconsin may be part of a national trend. The discovery of Wisconsin's first Cattle Egret near Janesville by J. Harwood Evans on April 21 (1960 **Passenger Pigeon** 185) is a vivid example. Here is a species that was unknown in North America until 1952, but now has staged what might properly be called an "explosion" with reverberations reaching farther afield into new areas each year. It was only a question of time before some sharp pair of eyes should discover this species within our borders. Other new areas for the Cattle Egret this spring (and mostly this same month) included New Jersey, New York, Pennsylvania, Connecticut, Massachusetts and New Hampshire.

Related to this are the reports of Little Blue Herons in Dodge (April 28, William Schultz) and Waukesha (May 2-12, John Bielefeldt and Mr. and Mrs. C. E. Nelson) counties. These are only the third and fourth

state records for spring, but are apparently part of an influx that also brought records to Massachusetts, Ontario, New York, Ohio, Indiana and Iowa.

There appeared to be no such influx elsewhere to back up the isolated observation of the Summer Tanager in Outagamie County (May 10, Daryl Tessen). This constitutes the ninth state record. Aside from one observation in New York, this species was not recorded outside its usual range this spring.

The other rarities reported during this season were so phenomenal they must be considered hypothetical. William Hilsenhoff's observation of an adult Laughing Gull at Goose Pond in Columbia County on May 28 is well documented (1960 **Passenger Pigeon** 190-1). Since Wisconsin has no specimen or photographic evidence and only three previous sight records, this species still has not quite won a place on the list of birds positively recorded in the state.

The Common Eider won its place on the state list in 1875, but went unrecorded from 1891 until John Kraupa's record on March 24, 1960, at Two Rivers. This observation again was well documented (1960 **Passenger Pigeon** 189) and the bird was unquestionably an eider. But because of the similarity between the Common and King Eiders, and because of the unusual intermediate plumage of the bird, it seems best to consider the bird hypothetical. Interestingly enough, Chicago had a record of the Common Eider on February 1—within two months of the Two Rivers bird.

Two European Species

Even harder to believe, yet unmistakable, if snowflakes weren't playing tricks on Marion Stocking and Mr. and Mrs. David Cox, was the report of six Common (European) Teal in Columbia County on April 16 (1960 **Passenger Pigeon** 188-9). This is an Old World species, whose presence anywhere in North America is considered casual. Nearly every year one or two are reported from along the Atlantic Coast, most often around New York and New Jersey; but nearly always the reports are of single birds. If there has ever been a time when a concentration of six of these birds has been recorded in North America, the writer is unaware of it. Because of the imperfect conditions of observation occasioned by falling snow, because of the existence of aberrations in some Green-winged Teal, and because the species has never been recorded closer to Wisconsin than Ohio, there is an element of indefiniteness in this record.

As if this were not exotic enough, Howard Winkler went one better when he reported from Horicon Marsh on April 28 a Spotted Redshank—a European bird never before reported from North America! While it is obvious that such a record must be considered hypothetical in the absence of specimen or photograph, it is equally obvious from a study of the written report (1960 **Passenger Pigeon** 190) that this bird was carefully studied at close range. Winkler's diagnosis was aided by his familiarity with the bird in Europe, and was confirmed by Dr. Rand of the Chicago Museum. In response to Winkler's telephone call, the writer searched the area for the bird on the following day; but by that time a driving rain storm had moved in, and very few birds of any kind—much less a Spotted Redshank—could be found.

THE SUMMER PERIOD

The summer season was also an exciting one from the standpoint of "firsts" and "seconds:" a first record for the White-faced Ibis; first summer records for the Western Grebe, White-winged Scoter, Swainson's Hawk and Wilson's Warbler; second summer record for the Bay-breasted Warbler; second breeding records for the Short-eared Owl and Cerulean Warbler; a new breeding location for the Yellow-crowned Night Heron and Mockingbird and probable—though not conclusive—evidence of breeding Lincoln's Sparrows.

The identification of the White-faced Ibis is admittedly difficult, because Glossy Ibises are sometimes seen with bare skin near the base of the bill that may look light at a distance. The sighting of any kind of Ibis in Wisconsin is noteworthy, for we are far from the normal range of either the White-faced or the Glossy. The former regularly breeds only as far east as Colorado and Nebraska, but has been recorded in Michigan, Ohio and New York; the latter regularly breeds near the Atlantic Coast, but has been recorded in most of the states east of the Mississippi River, including twice in Wisconsin in recent years. The bird that was discovered at Horicon on July 6 by Richard Thompson and remained at least through July 14 merits a place on the state list because it was photographed by Refuge Manager Les Dundas, carefully and thoroughly written up by Harold Bauers (1961 *Passenger Pigeon* 11-12), and further confirmed by men of the caliber of Owen Gromme, Clarence Jung, John L. Diedrich, William Schultz and L. E. Hovell. No one can say with certainty why a White-faced Ibis should appear in Wisconsin. But a reasonable hypothesis can be built around the fact that a rookery that normally attracted 300 pairs near Galveston, Texas, was destroyed this spring. More than usual numbers were then reported in neighboring areas of eastern Texas; a late April observation was made in Nebraska; a dark ibis (White-faced or Glossy) was noted in May in Iowa; still another White-faced Ibis was photographed in Florida in June.

Catching Up on Some Species

First summer records for four other species are also unusual, but less so than for the ibis, for each has been reported in summer from neighboring states and provinces. The Western Grebe breeds as far east as southwestern Minnesota; the White-winged Scoter has been noted in Ontario in summer; summer observations of the Swainson's Hawk have been made in Minnesota and Illinois; and the Wilson's Warbler has been noted in summer near Duluth, Minnesota.

The second nesting records for the Short-eared Owl and the Cerulean Warbler are cases of "catching up" on something that may be happening unawares within our borders every year. There have been breeding records for the owl in Illinois, Indiana, Ohio and Missouri. The warbler has been noted so consistently from southern, central and northwestern Wisconsin, that the scarcity of breeding records speaks more of the difficulty in finding the nest than of the rarity of the bird. Melva Maxson's discovery of a nest in Rock County in 1951 apparently constitutes the first breeding record, and William Southern's observation (1962 *Passenger Pigeon* 9-11) in Washburn County is the second. The writer

would hazard the guess that this species may breed in over half of the state's counties every year!

Martha and Roy Lound's observations of the Lincoln's Sparrow and Bay-breasted Warbler (1961 **Passenger Pigeon** 13) further indicate that there is still much to be discovered about Wisconsin birds in summer, particularly in the northern counties. Each year something new seems to turn up in the north, as more observers do more investigating. In 1957 Edward Beals noted the presence of Tennessee and Black-throated Blue Warblers (no Wisconsin nesting records known) on the Apostle Islands; in 1958 Beals found a LeConte's Sparrow on the Apostle Islands, establishing a new area for this species, and Tom Soulen produced a summer record for the Ruby-crowned Kinglet; and in 1959 another new summer location for the LeConte's Sparrow was noted in Burnett County by William Southern, while the Roy Lounds established a first state breeding record for the Boreal Chickadee in Forest County. There is still much remaining to be discovered in future years.

Reluctantly it must be admitted that relatively little significant information was forthcoming in 1960 for the more common summer birds. By means of frequent trips to Goose Pond in Columbia County in June and early July, William Hilsenhoff testified to a surprising number and variety of waterfowl that can spend the summer on a prairie marsh in southern Wisconsin, as well as to the short period of time that elapses between late spring and early fall in shorebird migration. Dr. C. A. Kemper is to be commended for his documenting of decreased numbers of Robins and Bluebirds, but it is unfortunate his example was not followed by many other observers concerning many other species. The measurement of population fluctuations of common breeding birds is clearly one of the areas most in need of attention by Wisconsin observers.

THE AUTUMN FLIGHT

The autumn season is usually one of the most difficult to analyze. One reason for this is the more limited amount of field work done. Presumably observers feel less competent to identify birds in fall plumage. Invariably the number of reports that come in for the fall season are lower than the number of spring reports, and usually the reports that are submitted include data on fewer species of birds.

A second reason is perhaps the prolonged manner in which a fall migration takes place. It will be noted in **Wisconsin Birds** that for a large majority of species the periods of peak migration are longer in fall than in spring, and that for most species, that are neither summer nor winter residents, the period of fall migration is longer than that for spring.

Note how the prolonged nature of the fall migration is borne out by Wisconsin observers in 1960. The fall flight of shorebirds was under way by July 4, when the Roy Lounds found Least and Solitary Sandpipers in Burnett County. This was followed four days later by Bill Hilsenhoff's Columbia County sightings of a Semipalmated Plover, Lesser Yellowlegs, Solitary, Pectoral, Least and Semipalmated Sandpipers. One even wonders if Hilsenhoff's June 26 observations of Lesser Yellowlegs and a Black-bellied Plover deserve to be classed as early fall migrants, since these birds were not reported in two early June visits to the same

location. There are October reports for various species of shorebirds, and a Killdeer record on November 4 indicates that the shorebird migration lasted for at least four full months.

Much the same picture appears with the passerines. When Dr. Kemper trapped and banded an immature Swainson's Thrush in Chippewa County on July 2, one might surmise that this could be an aberrant wanderer rather than a true migrant. But when a second Swainson's Thrush was trapped and banded in Rock County on July 19 by Melva Maxson, followed six days later by the writer's observation of a Parula Warbler in Adams County, it becomes apparent that at least a trickle of fall passerine migration was under way well before the end of July. Turning to the end of the fall migration, and excluding blackbirds and other species that often attempt to winter in small numbers, one finds warblers and thrushes still migrating in late October and early November. Peggy Hickey banded a Tennessee Warbler at Madison on October 28, and a Nashville Warbler on October 31; Helmut Mueller recorded a Gray-cheeked Thrush at Cedar Grove on November 3; Marion Stocking observed a Ruby-crowned Kinglet at Beloit on November 18; Tom Ashman found a lingering Myrtle Warbler in Madison on November 20; and Walter Kugler discovered an errant Baltimore Oriole in Milton Junction on November 24.

With waterfowl it is very difficult to pick out the first early fall migrants; quite certainly there are the beginnings of build-up before the end of August, and there is strong likelihood that early stragglers may appear weeks before that. The end of the fall flight is governed by the freeze-up—usually not before mid-December in southern Wisconsin. Again, the fall flight appears to be spread out over better than a four-month period.

More Rarities

Within this extended fall migration period was an attractive list of rarities, headed by the first positive record of the Ross' Goose for the state. This species had gained hypothetical status for Wisconsin on the basis of a sight observation by Owen Gromme and J. J. Hickey in 1959; and attained full status on November 1, 1960, when one was shot in Rock County by Richard and Gary Morehart, photographed, and subsequently identified through careful detective work by Alan Rusch and Herbert C. Deignan (1961 *Passenger Pigeon* 49-51). In moving from its breeding grounds in northern Canada to its wintering territory in California, this species has been known to do considerable wandering—to Ontario, North Dakota and Illinois—but the identification is such a difficult one to make that the best possibility for future state records lies with the checking of hunters' bags.

Less than one week later another white bird made ornithological headlines when a Cattle Egret turned up at the C. E. Nelson farm in Waukesha County—a second record for the state. The Buff-breasted Sandpipers recorded in Washburn and Barron Counties in the last part of August by William Southern constituted the eighth and ninth state records. The Yellow-crowned Night Heron observed at Mishicot on September 3 by Bernard Brouchoud was a first record for any area north of Horicon Marsh.

In a few instances significant information about populations of certain species was garnered. The concentration of 27 Turkey Vultures seen on the WSO campout in Waukesha County on September 10 speaks of a gradual increase of this species within our borders. The writer found, upon moving to St. Croix County in the fall, that there was at least one small area in the state where the Franklin's Gull is by no means rare. In October, when fall plowing is in full swing, this species can be found by the dozens following the farmers' plows in and around Roberts. From "Operation Recovery" at Cedar Grove came statistics about the relative abundance of some passerine species. The Redstart appeared to be the most numerous of the warblers, with 422 trapped and banded. More surprising was the data on the empidonax flycatchers banded: 187 Traill's, 114 Yellow-bellied, 84 Least. Dr. Kemper's banding studies in Chippewa County for the same period showed 45 Least, 42 Traill's, 8 Yellow-bellied. At the moment these comparisons raise more questions than they answer; but as these and similar studies continue in future years, answers will emerge.

More Questions

Questions arise also as one views the entire autumn season and seeks to relate it to the whole national picture. Very few comments were forthcoming from Wisconsin observers about whether the passerine flight as a whole was above or below normal. On the one hand Dr. Kemper recorded an estimated 12,000 birds killed at the Eau Claire TV tower on September 21-22, apparently the largest tower or ceilometer kill reported anywhere in the United States that fall. On the other hand, the writer found the land bird flight in St. Croix County to show a striking decrease from what he had experienced in Adams County in previous years. At first he was willing to attribute the difference to changes in habitat and a lack of acquaintance with the area. But now, after experiencing two subsequent fall migrations, he is convinced that 1960 figures represent—at least in part—a real decline. Speaking of the fall warbler flight at Quincy, Illinois, T. E. Musselman reported "fewer than I've experienced in 50 years of bird study" (1961 *Audubon Field Notes* 46). In New Orleans, M. M. Meyer termed the fall movement "the worst I have ever seen . . . almost non-existent" (*Ibid* 46). Similar comments of scarcity came from Michigan, Tennessee, Florida and Texas. Did the hurricanes in the east set up weather currents that caused a major displacement? Did the birds pass overhead non-stop where observers were on the watch and pause instead in relatively obscure places? Was there a real decline in numbers? One can only hope that the ornithological task force of bird watchers will increase in coming years so that more complete data will become available.

THE EARLY WINTER SEASON

Traditionally Wisconsin observers end the year with a blaze of glory in the annual Christmas Bird Count. 1960 was no exception. A record-breaking number of 47 counts has been published, probably topping any other state in the nation. Of special note was the Hiles Count in Forest County, taken by the Roy Lounds and Tom Soulen. This count won top honors in North America for numbers of Purple Finches and

Red Crossbills, and ranked very close to the top for Pine Siskins, Gray Jays and Boreal Chickadees.

These counts reflected well the major trends of the season. In the northern counties it was the huge influx of Purple Finches, Pine Siskins, Red and White-winged Crossbills, and a lack of Redpolls and Evening and Pine Grosbeaks. In the southern counties it was a dearth of most northern finches, but a spectacular increase in hawks that prefer open terrain. Numbers of Red-tailed, Rough-legged and Marsh Hawks exceeded any previously recorded high winter populations. But if it seemed hard to believe that Madison could have 51 Red-tails and 30 Rough-legs on a Christmas count, consider the count at West Elgin, Ontario, where observers tallied 109 Red-tails and 89 Rough-legs! This hawk influx was spectacular all through the upper midwest. Wisconsin also proved itself to be a part of a Snowy Owl invasion by tallying 12 birds on eight separate counts.

Unraveling Migration Mysteries

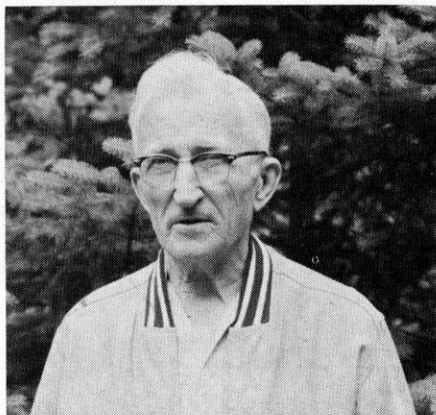
Three more rarities rounded out a most remarkable year. In scouting for the Lake Geneva Christmas count, C. O. Palmquist located a Barn Owl on December 26, 12 days later than the previous state record. Even more phenomenal was the discovery on the same day of a Pine Warbler in company with four Myrtle Warblers in a tamarack swamp. Never before had a Pine Warbler been recorded in Wisconsin after October 15. Unlike many warblers, the Pine does not restrict its diet to insects, but often varies its food preferences with seeds and berries. It is not surprising, then, that Bent should list the normal winter range as far north as Virginia and southern Illinois. A perusal of the 1960 Christmas Bird Counts from other areas shows the Pine Warbler to have been recorded in late December in Massachusetts, Delaware, Maryland, Virginia, West Virginia and Tennessee. The third outstanding rarity of December was the King Eider seen at Port Washington on December 11 by Dorothy and Carl Frister. This constitutes only the seventh state record, the first since 1953, and the fourth in the last 50 years. The observers are to be congratulated on the splendid documenting of this observation (1961 *Passenger Pigeon* 95).

In fact, all who contributed field notes for all or part of 1960 are to be congratulated. Those who read the national summaries of field notes in **Audubon Field Notes** cannot fail to notice that less attention is being given nowadays to the listing of glittering rarities, while greater attention is being given to the fluctuations in populations for the more common species. It is through a study of these fluctuations, and of the various factors that might explain these changes, that scientists will eventually unravel some of the mysteries of bird migration and of the ebb and flow of range and population features. Looking back over the contributions to knowledge made by Wisconsin observers in 1960, one can't help but wonder how much more might be discovered if the number of field observers who would send in regular quarterly reports could be doubled!

Roberts, Wisconsin



KARL W. KAHMANN



Karl W. Kahmann, Hayward, Wisconsin, WSO's first treasurer in 1939-40, died October 1, 1962, in Duluth, Minnesota. He was born in St. Louis, Missouri, on June 5, 1886, and moved to the Hayward area in 1925. An expert taxidermist, Karl was a naturalist and conservationist of some note in the state. His "Noah's Ark Studio" on Minnemac lake in Sawyer County is familiar to many who vacation in the area as well as to local people. His column about wildlife and sportsmanship appeared regularly in **The Sawyer County Record**.

He was very active in civic affairs and held many elective offices over the years. His work in the Masonic Lodge led to a citation by the Eau Claire Consistory in 1960 for "meritorious work in connection with the Ancient Accepted Scottish Rite." The Wisconsin Indian Head Association, a regional resort organization, recognized his help by conferring an honorary membership about a year ago.

He was affiliated with many national and state-wide conservation and nature study organizations as well, and was associated with the Field Museum and the American Historical Society.—Walter E. Scott.

By The Wayside . . .

Tame Song Sparrow at Green Bay Feeder. A Song Sparrow appeared at one of my feeders here in De Pere early in December. From that time on and throughout the winter he was a daily visitor. Finally he became very tame and would come when I called. I know it is a male because he sings a great deal. It was thirteen years ago at my home in Duck Creek that I last had a Song Sparrow visit my feeder daily during the winter.—Edwin Cleary, De Pere.

Blue-winged Warbler Nest Found. On June 24, 1961, members of the Citizens Natural Resources Association met at the Leopold Shack on the Wisconsin River in Sauk County at the invitation of Mrs. Leopold, a director. A Blue-winged Warbler was observed immediately upon arrival, but not until relative quiet during the afternoon board meeting were we able to watch it closely. Visits to a shadbush near the Shack were being made at about eight to ten minute intervals, always carrying food. Later examination located the nest in the bush, just off the ground. It was built of dried grass and other plant fibers and very well concealed by overhanging foliage. Two warbler young, one egg, and a young Cowbird were in the nest. A sharp thunder and rainstorm interrupted the feeding, but it was resumed as the storm abated. Besides Mr. Scott and myself, the birds and nest were seen by Owen and Roy Gromme, Professor and Mrs. Raymond Roark, J. T. Walker, Mrs. Harold Kruse, and others. —Mrs. Walter E. Scott, Madison.



WISCONSIN'S FAVORITE BIRD HAUNTS

NECEDAH

A large area in Juneau County, central Wisconsin, has been devoted primarily to the preservation and protection of migratory birds since its establishment in 1939. It is the Necedah National Wildlife Refuge, administered by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service in the Department of the Interior. Within its boundaries are included approximately 40,000 acres of water, marsh, and uplands which provide ideal habitat for many forms of wildlife. The Necedah National Wildlife Refuge, one of three large Federal waterfowl refuges in Wisconsin, is an important link in the chain of refuges extending from Canada to the Gulf of Mexico.

Over 200 species of birds have been recorded on the refuge. The status and abundance of these are shown in a leaflet entitled "Birds of the Necedah National Wildlife Refuge" which is available upon request from the Refuge Manager.

A trip to the Necedah Refuge during the peak of the spring or fall migration will reveal thousands of Canada Geese as well as Blue and Snow Geese, Whistling Swans, and 15 or more species of ducks. Peak populations of over 30,000 geese and 55,000 ducks have been recorded on the refuge during fall migration.

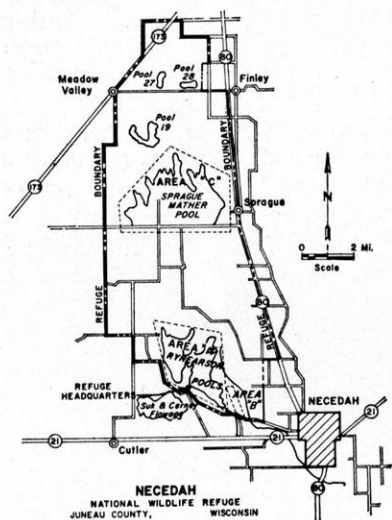
Although the refuge is not a major concentration area for shorebirds, the visitor in late spring or early autumn is likely to see flocks of Greater and Lesser Yellowlegs, Solitary, Pectoral, and Spotted Sandpipers, and Common Snipe. Upland Plovers, too, are summer residents of the grassy areas, and Woodcocks thrive in the wooded uplands. Also in the scrub oak and jack pine uplands, Wild Turkey, Ruffed Grouse, Sharp-tailed Grouse, and numerous songbirds can be observed. There are even a few Greater Prairie Chickens remaining on the refuge.

Three major impoundments have been developed which, in combination with several smaller ponds and marsh areas, provide excellent habitat for birdlife in general. Water levels in the impoundments are carefully manipulated to furnish optimum habitat conditions for waterfowl in particular. These impoundments, with tall grass edges, floating bogs, and mudflats interspersed with marsh areas and uplands, are wonderful sites for birding from the time the first spring migrants arrive until freezeup in late fall.

Many species of ducks nest and raise their young on the Necedah Refuge. The most common dabbling ducks nesting here are the Mallard, Blue-winged Teal, and Wood Duck. Of the diving species, the most common nesters are the Hooded Merganser and Ruddy Duck. A captive flock of Canada Geese was established on the refuge in 1939. Descendants of this flock now produce several broods of geese each year.

Each summer and fall, refuge personnel trap and band large numbers of waterfowl. Although major emphasis is placed on banding Canada Geese and Wood Ducks, many other species are banded as well.

Some of the more interesting recoveries of birds banded at Necedah Refuge include a Mallard recovered in the Northwest Territories, Canada, and two Blue-winged Teal recovered in South America.



The Rynearson Pool, or Area A, attracts most of the geese during migration. Sandhill Cranes are frequently seen here too, as are Swamp Sparrows, Yellowthroats, and Common and Black Terns. During the fall, Bald Eagles often congregate at this pool, and there are fairly recent records of Bald Eagles nesting on the refuge. Most species of surface feeding ducks and several kinds of divers may also be seen in season. Whistling Swans stop regularly in the spring and fall and large numbers of shorebirds can be observed when the mudflats are exposed. Dowitchers, Wilson's Phalaropes, and Stilt Sandpipers are but a few of the species that have been recorded here.

To reach Area A, take Highway 21 west from the town of Necedah for 4 miles. Watch for a large blue and white shield-shaped sign on the north side of the road pointing the way to the Necedah National Wildlife Refuge headquarters. The Rynearson Pool area lies directly beyond the Refuge headquarters buildings.

Area B is an attractive songbird area. It is representative of the jack pine-oak-forest type common in this part of Wisconsin. Among the many species found here are Rose-breasted Grosbeaks, Scarlet Tanagers, Indigo Buntings, Solitary Vireos, Yellow-throated Vireos, Pine Warblers, and Yellow Warblers. A refuge trail through these woods makes access easy and provide good vantage points for observing birds.

To reach Area B, go northwest from Necedah on the Grand Dike Road. Leave your car at the second ditch, approximately 3 miles from town. From there, walk north along the refuge trail which begins directly east of this ditch.

The Sprague-Mather Pool, or Area C, is one of the easiest to reach and provides some of the best vantage points for watching waterfowl and marshbirds. A dike along the southern edge of the flowage is an ideal hiking route. Vehicles are not permitted on this dike. A colony of Great Blue Herons and Double-crested Cormorants is to be found in the dead timber in this flowage. This rookery contains over 300 nests. Several species of diving ducks utilize this area as do large concentrations of Canada Geese and surface feeding ducks. The marsh and borrow pits below the dike provide the ideal habitat for marsh-dwelling birds. Soras, Virginia Rails, Long-billed and Short-billed Marsh Wrens, Hooded Mergansers, Green-winged Teal, and Wood Ducks frequent these areas.

To reach Area C, follow Highway 80 north from Necedah about 8 miles to the town of Sprague. Turn west at Sprague. The dike along the south edge of the Sprague-Mather Pool runs along the north side of this road. About 3½ miles west of Sprague, turn north on a township road and drive three-quarters of a mile along the dike. For the visitor who wants to stay in his car, this stretch of road provides the best birding trip on the refuge.

Visitors to Necedah Refuge are welcome. However, to assure protection and to minimize disturbance of the birds on the area, access must be controlled. Anyone who wants to make a birding trip on the refuge should first check with the Refuge Manager to obtain a special free permit. At that time, visitors can also obtain additional information about good birding areas, and road conditions.

Gerald L. Clawson

BOOK REVIEWS

SILENT SPRING. By Rachel Carson, drawings by Lois and Louis Darling. Houghton Mifflin Company, Boston, 1962. 368 pp., \$5.00.

No best-selling book of this decade is likely to draw such varied and widespread comment as **Silent Spring**. Supreme Court Justice William O. Douglas, in a review for The Book-of-the-Month Club has said, "This is the most important chronicle of the century for the human race." Generally favorable reviews have appeared in **Saturday Review**, **The New York Times Book Review** and **Scientific American**. Unfavorable criticism has been fairly well confined to professional journals such as **Nutrition Reviews**, **Chemical & Engineering News** and **Chemical Week**. Two chemical manufacturers have published short, vicious parodies, "A Town in Harmony" and "The Desolate Year," depicting the plight of civilized man in the absence of the pesticides whose unwise use Miss Carson deploras.

A book capable of exciting this much commendation, and wrath, should be interesting; **Silent Spring** was as hard to put down as a rare,

*Available from the WSO Supply Department.

superior "who-done-it." This book is a well-written, fairly well organized, exhaustive (and occasionally exhausting) documentation of the evils that can arise from the use of chemical pesticides.

DDT and its cousins in the family of chlorinated hydrocarbon insecticides receive particular attention from Miss Carson. Their toxicity to humans has been recognized for a long time. Miss Carson repeatedly cites cases where indiscriminate use of these compounds had disastrous effects upon wildlife. That the toxicity of DDT for birds could become magnified because of a tendency to accumulate in the bodies of earthworms was new information for this reader. Many other unforeseen side-effects are told and retold; poisoning of fish by wash-off from sprayed fields or forests; explosive bounce-back of a particular pest because the insecticide also killed off the natural enemies of the pest, permitting it to expand at will the next season; immunization of flies and other insects against insecticides by enforced natural selection. These and a host of other examples point to the futility of the wholesale spraying of thousands of acres with broad-spectrum insect killers as an effective means for controlling any particular insect enemy of man.

Miss Carson has deliberately used many eye-catching phrases and similes in her book. "Rivers of death," "rain of death," "wave of poisoning," "tide of chemicals," and other colorful expressions have drawn caustic comment from Miss Carson's detractors. And yet, the "Madison Avenue approach" to advertising and labeling has apparently created a strange reluctance to mark a thing for what it is. The bottle of ant poison of 30 years ago was plainly marked POISON and further tagged with a skull and cross-bones for the benefit of those who could not or would not read. Today's 5% DDT household aerosol can may be labeled boldly COMBUSTIBLE MIXTURE because that is required by various fire codes. Three quarters of the way through the directions, in fine print, appear the pussyfooting precautions: "Use in a ventilated room. Avoid inhalation or prolonged contact with skin. Keep away from children. Harmful if swallowed. Avoid spraying on food or cooking utensils." Some cans further instruct the user to remove pets and cover fish bowls while spraying. It is questionable whether 10% of the purchasers get this far in reading or following the instructions. An "Agricultural Chemical Safety Code" lists similar warnings but I have seen no definite statements that precautions are necessary because these materials can kill humans, livestock and wildlife if misused.

Chemical insecticides are here to stay. Their benefits have been proven many times. Unwise use has resulted in the problems Miss Carson documents. It should be a fascinating challenge to the ingenuity of chemists, biologists and all other bio-scientists to devise selective materials, methods of application, and non-chemical means to control harmful pests with a minimum of damage to all other forms of life.

One important technical journal, **Chemical Engineering**, has published an editorial on **Silent Spring** which closes, "Is it best for the industry—and for the public—that pesticides be looked upon, anywhere, as friendly commodities rather than poisons? As engineers and chemists, we can take pride in the fact that good safety practices have practically eliminated toxicological risks from our plants and laboratories. Let's show the same concern for the public welfare."

If consideration of the facts enumerated in **Silent Spring** helps to promote sensible use of these powerful tools through voluntary efforts, its purpose will have been accomplished.—F. T. Ratliff.

THE LIFE OF BIRDS. By Joel Carl Welty, illustrated by Norman Tolson. W. B. Saunders Company, Philadelphia, 1962. 546 pp., \$12.95.

An outstanding book which brings to mind such words as "treasury" and "richness." In 23 clearly written chapters Dr. Welty covers an amazing amount of material. In general, this is somehow done without being sketchy, and still the end product is not so fact-filled that one has so "wade" through the book.

Starting with a chapter on flight adaptations, Welty next presents a survey of the birds of the world (following the classification of Wetmore). Chapters 3 through 8 deal with anatomy and physiology, 9 and 10 with behavior. Then follow in order: song, territory, courtship, and four chapters on the various aspects of breeding. Chapter 18 on populations is particularly good. The later parts of the book cover ecology, geography, flight, migration, orientation, and evolution.

The illustrations by the late Norman Tolson are almost universally excellent and add to the attractiveness of the format. **The Life of Birds** contains about 250 figures, nearly half of which are photos. These are well chosen to illustrate particular points, and are carefully integrated with the text. With few exceptions the photographs are of excellent clarity.

A bibliography of nearly 900 titles, including many foreign authors, is indicative of the thoroughness of this book. This reviewer stumbled onto one error of citation, looked for more, did not find any. The 21-page detailed index is a splendid bonus. It is a pleasure to recommend this book to WSO members. None of them have one anything like it.—Howard Young.

LIFE HISTORIES OF NORTH AMERICAN BIRDS OF PREY. By Arthur Cleveland Bent. Dover Publications, Inc., New York, 1961. Part 1, 416 pp., 102 plates, \$2.35; Part 2, 491 pp., 92 plates, \$2.35. Two-volume set, \$4.70.

LIFE HISTORIES OF NORTH AMERICAN WILD FOWL. By Arthur Cleveland Bent. Dover Publications, Inc., New York, 1962. Part 1, 250 pp., 46 plates, \$2.35; Part 2, 318 pp., 60 plates, \$2.35. Two-volume set, \$4.70.

LIFE HISTORIES OF NORTH AMERICAN SHORE BIRDS. By Arthur Cleveland Bent. Dover Publications, Inc., New York, 1962. Part 1, 430 pp., 55 plates, \$2.35; Part 2, 422 pp., 66 plates, \$2.35. Two-volume set, \$4.70.

Ornithologists are clapping their hands these days at hearing the news that Bent's monumental Life Histories series is being reprinted. And, as they say, at popular prices, too. They're all clapping their hands except those who already have copies of the reprinted volumes—these astute birders just have smug, satisfied smiles on their faces.

These aren't just ordinary reprints. They're the real thing—same pages, same plates, same print—exactly like the originals except slightly reduced size, measuring $5\frac{3}{8} \times 8\frac{1}{2}$ inches in sturdy, paperbound editions.

To date three two-volume sets have been reprinted. **Life Histories of North American Birds of Prey**, like all volumes, was originally published by the Smithsonian Institution, United States National Museum. Part 1, first issued in 1937, covers the California Condor, vultures, kites, hawks and American Osprey. Part 2, issued in 1938, details the falcons, hawks, caracaras and owls.

Wild Fowl, originally published in 1923 and 1925, considers mergansers, ducks, teals, Gadwall, Widgeon and others in Part 1, and ducks, eiders, scoters, geese, swans and others in Part 2.

In **Shore Birds**, Part 1, first published in 1927, you will find the phalaropes, snipes, woodcocks, sandpipers, godwits and others, and in Part 2, first issued in 1929, the willets, oyster catchers, tattlers, plovers, curlews and others.

Seasoned ornithologists need no introduction to Arthur Cleveland Bent's detailed, documented works. The newcomer to bird study will find that the life history of each species is thoroughly explored and is written in a style that is fascinating to read. Each species is treated under two broad headings—habits and distribution. Generally, under habits, you will find spring, courtship, nesting, eggs, young, plumages, food, behavior, voice, field marks, fall, and winter; distribution covers range, breeding range, winter range, spring migration, fall migration, casual records, and egg dates.

Dover Publications plans to reprint the entire 20-volume set. I am please to call your attention to the presently available volumes and recommend them as additions to your personal library. I hope to do the same for editions that will be reprinted in the future.—Nils P. Dahlstrand.



Proposed Changes in Articles of Incorporation

The Board of Directors voted on March 23, 1963, to have the following proposed revisions of the Articles of Incorporation brought up for action at the Society's annual meeting this spring and voted to recommend passage. This matter will be acted upon at the annual meeting to be held at Chippewa Falls on Saturday, May 25, 1963.

The Articles of Incorporation are similar to those voted at the 1957 annual meeting (see 1956 Passenger Pigeon 167-8 and 1957 Passenger Pigeon 78). A major purpose of the proposed revision is to amend Article VI to create greater operating flexibility by permitting amendment of the By-Laws as necessitated rather than waiting for the annual meeting. A second major purpose is to amend Article II, Section 2, to relax the absolute requirement that Life and Patron dues accrue to the endowment and further to permit use of income from the endowment for the support as well as the increase and improvement of publications. Other amendments are minor in nature and serve only to clarify working within the Articles and facilitate meeting statutory requirements. These include placing the classification of memberships and dues more clearly within the By-Laws (Article III, Section 2); increasing the maximum number of Directors, in addition to the Constitutional Officers, to twelve (Article IV, Section 2); and state that the restated Articles supersede all prior Articles and Amendments (Article VII).

ARTICLES OF INCORPORATION

Resolved, that the Articles of Incorporation of The Wisconsin Society for Ornithology, Inc., be amended and restated to read as follows:

Article I. Name. The name of this Corporation shall be The Wisconsin Society for Ornithology, Inc., hereinafter referred to as the Society. The registered agent of the Society shall be Walter E. Scott, 1721 Hickory Drive, Madison, Dane County, Wisconsin. The principal office of the Society shall be the address of the Treasurer, Mrs. Alfred O. Holz, 125 Kolb Street, Green Bay, Brown County, Wisconsin.

Article II. Purposes. Section 1. The purpose of the Society shall be to stimulate interest in and promote the scientific study of birds in Wisconsin toward a better understanding of their biology and the basis of their preservation and conservation.

Section 2. The Society shall be empowered to use all lawful methods to carry out the above purposes including, but in no way intending to restrict to, authority to accept gifts of money and both personal and real property, and to lease the same from others; to give, lease or sell its various assets; to join with others, both individual and corporate, including all government agencies; to set up trusts, create preserves, and otherwise act to further its general purposes.

Section 3. The Society shall maintain an endowment to which monies, gifts, bequests, or devises specifically directed thereto shall accrue and which shall include all monies, gifts, bequests, and devises previously accrued thereto. Only the interest or earnings from said fund may be used, the specific purpose being to support, improve, and increase the Society's publications or to further the development of ornithological education in Wisconsin as determined by the Board of Directors. Such fund shall be invested as provided for Trust Funds under the Wisconsin Statutes as now provided or as they may be amended hereafter.

Article III. Membership. Section 1. Any person of good character who is interested in bird study may be nominated by a member in good standing and admitted to membership on receiving the approval of the Board of Directors. Such membership may be terminated as provided by the By-Laws.

Section 2. Classifications of membership, dues, and rights of members shall be as set forth in the By-Laws.

Article IV. Officers. Section 1. The Officers of the Society shall be a President, Vice-President, Secretary, Treasurer and Editor, all of whom shall be elected for a term of one year at the annual meeting of the Society and shall take office on the date of their election and hold the same until their successors are elected.

Section 2. The Board of Directors shall be the five above elected Officers, who shall be known as the Constitutional Officers, together with such other members, not less than five nor more than twelve, who shall be elected to said Board by the Constitutional Officers and who shall hold office at the will of the Constitutional Officers, as more fully determined in the By-Laws.

Article V. Meetings. Section 1. At least one membership meeting shall be held during each calendar year. Ten days notice shall be given all members of any membership meeting.

Section 2. At least thirty voting members of the Society as set forth in the By-Laws shall be necessary to constitute a quorum for the transaction of business at a membership meeting.

Article VI. Amendments. Section 1. The Articles of Incorporation may be amended and restated at any membership meeting by a two-thirds majority of the voting members present, but only after such proposed amendments have been published in a regular publication of the Society which publication shall have been in the mail, addressed to the members, at least ten days prior to the opening of the membership meeting.

Section 2. The By-Laws may be amended at any regularly held meeting of the Board of Directors. A quorum for the purpose of amending the By-Laws shall consist of at least ten members of the Board, at least three of whom shall be Constitutional Officers, and voting by proxy shall not be permitted.

Article VII. Effect. These restated Articles of Incorporation supersede and take the place of all heretofore existing articles of incorporation and amendments thereto.

THE CATTLE EGRET

1. Observations at Horicon

By RICHARD A. HUNT

The intent of this note is to establish the fact that two Cattle Egrets were collected at Horicon Marsh on June 3, 1962. These specimens are now in the possession of the Milwaukee Public Museum. They represent the first specimens of this species collected in Wisconsin.

Reports of Cattle Egrets were common for the Horicon area during May, 1962. The birds which I collected were part of a group of five Egrets frequenting the Alvin Schrank farm located on the periphery of the federal refuge at the junction of Dodge County highways "Z" and "H." Mr. and Mrs. Carl Frister reported these birds to me on May 15. However, it was not until June 2 that I found them on the Schrank farm.

Mr. Schrank's comments seem of interest here: "The Cattle Egrets appeared on my farm about May 1, 1962. They associated with my cattle and became quite tame. For part of the month of May there were 12 Egrets with the cows. Four of the birds remained as a distinct group, but sometimes fed with the other Egrets. On some occasions the Egrets came into the barnyard near the house and sat on the fence posts. A number of birdwatchers had observed the Egrets and photographed them. The Egrets generally appeared between 8:00 and 9:00 A. M. when the cows were put in the south pasture. The cows were usually resting in the early morning and the Egrets sat around waiting for the cows to start feeding. The Egrets could be seen walking around catching insects as the cows grazed. Permission was granted to collect the Egrets for the Museum."

The presence of Cattle Egrets at Horicon Marsh seems associated with the unusually warm weather that occurred in early May, 1962. Other uncommon birds observed in that period at Horicon included the Glossy Ibis and the Yellow-crowned Night Heron.

Whether or not the Cattle Egrets nested at Horicon Marsh is not known. I noted in a St. Louis, Missouri, newspaper published about August 1, 1962, the discovery of a nesting colony of Cattle Egrets near that city. It seems likely that this "relatively recent invader from the Old World" will also become a common visitor to Wisconsin and perhaps even a nesting species.

Wisconsin Conservation Department
Horicon, Wisconsin

2. Habits and Identification

By ROBERT G. FRANKOWIAK

Illustrated by the Author

Since the first Cattle Egret, *Bubulcus ibis* (Linnaeus), was reported in Wisconsin on April 21, 1960, by Mr. J. Harwood Evans, Janesville, several additional records of its appearance in the state indicate that this bird may eventually become a regular visitant.

This May, Mr. Richard A. Hunt, Wisconsin Conservation Department biologist, observed five Cattle Egrets working the farmlands bordering the Horicon Marsh wildlife area. This encouraging news raises hope that the birds may attempt to nest on the great marsh. Many local birdwatchers and other visitors to the marsh have had the pleasure of viewing these interesting birds closeup for the first time.

Some of the people who saw these strange birds spent frustrating moments paging through their field guides attempting to identify them. Our old standby field guides and books do not list the Cattle Egret. Mr. Hunt received many calls requesting sources of information and illustrations. He was hard pressed, himself, to find comparative descriptions and field marks for other white herons which are commonly mistaken for Cattle Egrets. He wrote the Milwaukee Public Museum requesting the bird department to prepare a brief article and drawings on the Cattle Egret and other white herons which would be useful for comparative and identification purposes.

A Bird of the Old World

The Cattle Egret is a bird of the Old World. About twenty years ago, it first appeared in South America and slowly extended its range northward, and by the spring of 1952 it was sighted in Florida and Massachusetts. By 1960 it was reported in many of the northeastern states and had drifted westward to Minnesota. No one knows what prompted these birds to extend their range to many parts of the New World.

Insects comprise the main diet of the Cattle Egret although it will eat frogs and small fish. The bird likes to frequent marshes and grassy fields and can often be seen in company with grazing cattle, picking insects from the beasts' bodies. If this Egret takes hold in our dairy state, it will find a challenging number of cows to befriend.

When a bird is sighted, the student should note that the smaller size and color markings of the Cattle Egret distinguish it from other white herons or egrets found in Wisconsin. The Cattle Egret is not an all-white heron, although it appears so at a distance. The crest and nape, dorsal and lower neck plumes are tawny or ochraceous-salmon, according to Ridgway's book, *Color Standards and Nomenclature*. The bill is orange and the legs and feet are ochre-orange with a tinge of green.

The Cattle Egret is most likely to be confused in Wisconsin with such birds as the Common Egret, Snowy Egret, and the Little Blue Heron which is white in its immature stage. All these birds vary in their field marks. Their haunts and habits are similar, feeding chiefly on fish, frogs, snails, worms, and other aquatic life of marshes, ponds, swamps,

and rivers. The Horicon Marsh wildlife area is an excellent place to study these birds, for on a good day a person may possibly see any one or all of these species.

The **Common Egret** is a fairly common visitor to the marshes of southern Wisconsin and is the largest of the birds mentioned. Its average size of 40 inches, black legs and feet, and all-white plumage makes it easy to differentiate from the Cattle Egret, Snowy Egret and immature Little Blue Heron.

The **Snowy Egret's** yellow feet, black bill and yellow lores are unmistakable marks which distinguish it from the Cattle Egret and Little Blue Heron although these birds appear similar in size. The Snowy Egret and Little Blue Heron are both about 25 inches in length whereas the Cattle Egret is 20 inches long.

The **Little Blue Heron**, although uncommon in the state, has been seen often enough in the immature phase to be called an occasional visitant. The immature birds are pure white, except for the tips of the primary feathers which are bluish gray. The legs and feet are olive or dull greenish-yellow and the bill is bluish with a black tip.

It is believed and hoped that the Cattle Egret will continue to increase its range and population in the coming years. The bird's presence has prompted Mr. Owen J. Gromme, in his forthcoming book, **Birds of Wisconsin**, to devote an additional full color plate to the Cattle Egret and other rare or unusual bird visitants to the state. Wisconsin is a bird-loving state and the addition of the Cattle Egret to our beautiful fields and marshes is a welcome sight.

Milwaukee Public Museum
Milwaukee, Wisconsin

Editor's note: You may want to remove artist Frankowiak's drawing of the white herons, trim it to size, and incorporate it in your favorite field guide. The insert is perforated along the fold for your convenience.

News of our neighbors

The Minnesota Ornithologists Union Annual Winter Meeting

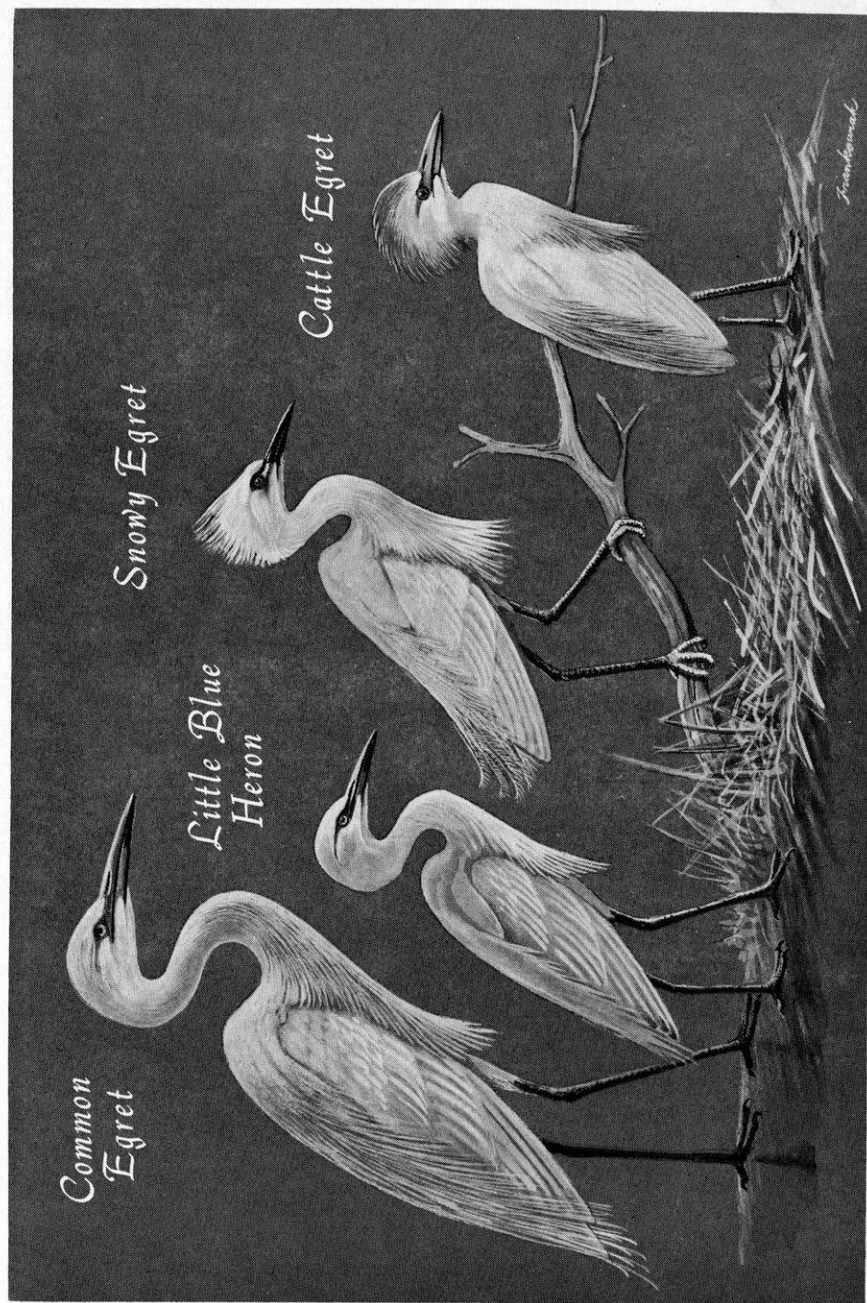
A Report

By **CHARLES A. KEMPER**

The meeting was held December 1, 1962, at the Museum of Natural History, University of Minnesota, Minneapolis.

Forest Strnad, President of the NOU, made introductory remarks.

John Tester, who had the opportunity to spend some time in England this summer, 1962, presented a talk on the British Wildfowl Trust. He presented colored slides of this extremely famous and unique refuge on the Severn River in southwestern England. Here just about every species of goose, duck, swan and screamer in the world wanders about unmolested and completely unafraid of the thousands of human visitors (100,000 per year). The rare Nene Goose of Hawaii has been so suc-



WHITE HERONS BY ROBERT G. FRANKOWIAK

cessfully bred here that they recently sent 45 back to Hawaii! Excellent pictures were shown of such birds as the Spurwing Goose of Africa, Red-breasted Goose of Siberia, Emperor Goose of Alaska, Black-necked Swan (southern South America), Australian Shell Duck, and many common and exotic species. Any tourist or student is welcome at this fabulous place under the direction of Peter Scott.

Dennis Raveling of the Museum staff presented an original paper, "What Can Be Gained From TV Tower Mortalities." He showed a summary of his work with Tennessee Warblers collected at the WEAU-TV tower in Eau Claire, Wisconsin. These have been compared with specimens from museums all over the United States. Measurements and weights and careful sexing and aging point up interesting data. He found that the most significant variables were bill and tarsus measurements. The northernmost breeding birds of male sex had shorter bills and tarsi. His data on measurements of wings reveal females are smaller. There are also slight color differences in the adults and immatures and sexes. This data is very helpful to banders for sex and age determinations. It also enabled him to determine that in 1961 the northernmost Alaskan and Canadian Tennessee Warblers were later in migration than the Ontario group.

TV tower studies are also an excellent tool for studying migratory population dynamics, sex ratios, adult-immature ratios, etc. There is to date no other way to determine these things. In his series of Tennessee Warblers the sex ratio was equal as was the adult-immature ratio.

Thus, from the study of just one species a tremendous amount of material hitherto unavailable to ornithologists has been gleaned.

Satellites, Radar and Heavy Water

In a paper by Dwain Warner, Curator of Birds at the Museum, the use of radio transmitters and radio monitors in determining Canada geese movements was discussed. The University of Minnesota staff is pioneering this method of study. Captured geese were released with tiny radios strapped to their stomachs or backs. The signals were monitored from ground tracking stations. This method is in its infant stages but offers promise. The audience was startled when the speaker suggested using a satellite in earth orbit to monitor and transmit radio signals from migrating geese. This could be used for not only geese, but whales, porpoises, turtles, albatrosses, penguins, etc. So far NASA has been unresponsive to such a project.

Our own Sam Robbins presented a paper on "Fall Warblers." He discussed difference in populations of warblers in Adams County and St. Croix County. Although only 200 miles apart there are some significant differences. The Nashville, Palm, Wilson and Mourning Warblers are more numerous in the area of Roberts. Almost all other warbler species were more common in Adams County.

Melvin Dyer of the University Staff presented some of his studies using another exciting new tool of the biologist—radar. Blackbird concentrations in the millions are seen at Sand Lake National Wildlife Refuge. The radar scope is photographed with a time lapse movie camera. The film is then analyzed in the laboratory. So far this is a pilot study evaluating the tool as much as the blackbird movements. Conclusions are not yet complete.

William Marshall of the Minnesota Conservation Department presented a 16-mm film entitled "Grouse Movements as Determined by Radio Telemetry." Here studies using radio transmitters attached to grouse have really advanced to a point of real practical value. It would appear that we are really on the threshold of a biological breakthrough. With radio telemetry the biologist can determine the location of individual wild grouse any time of the day or night, can determine whether the grouse is asleep, flying, drumming or walking. Three grouse were eaten by Great Horned Owls. The radios on the carcasses continued to transmit, enabling the biologist to locate exactly the scene of predation.

Other papers were "Nocturnal Movements of Birds at Sand Lake National Wildlife Refuge as Determined by Radar," by Dwain Warner and Melvin Dyer. There is no doubt that a great deal will be learned in the future about the great mystery of bird migration using radar. Already we can detect the astonishing phenomenon of birds migrating at altitudes of over 10,000 feet. All this without oxygen and pressure cabins!

Eugene LeFebvre, a graduate student, presented a paper, "Energy Metabolism Studies of Birds Using D_2O_{18} (heavy water)." This was an important but very technical study. By using radioactive isotopes the physiologist is on the threshold of new knowledge in solving the mystery of how birds are able to migrate great distances with a minimum of fuel.

Vincent Heig discussed "Birds in Relation to the Dissemination of Fungi." Here again is a new study opening up that may be of significance.

After the meeting an informal banquet was held by the Minnesota bird banders. Slides were shown by the banders. Techniques were discussed and a wonderful cameraderi prevailed. It is hoped this bird banders meeting will become an annual affair.

The members of the MOU were issued a cordial invitation to the WSO convention at Chippewa Falls on May 24, 25 and 26, 1963.

733 Maple Street
Chippewa Falls, Wisconsin



NEWS . . .

The Necedah "Favorite Bird Haunts" story on page 81 is one of 30 included in the WSO book by the same name. This story, plus a few others, have never been printed in **The Passenger Pigeon**. Others will appear in future issues.

Incidentally, if you don't have a copy of **Wisconsin's Favorite Bird Haunts**, you're missing a real bet. This book gives detailed descriptions of 30 top-notch birding spots in the state. It's a perfect companion for your travels during the coming spring and summer seasons. The book

may be purchased from the Supply Department for \$1.75, minus, of course, WSO members' 10% discount.

As long as we're on the subject of favorite bird haunts, how about telling others about yours? **The Passenger Pigeon** is anxious to publish additional stories. Why not write up your favorite birding area and send it to the editor? Stories are especially needed from the northern half of the state. They should be 1200 to 1500 words and accompanied by a map. Refer to published stories for format.



FIELD NOTES

By HAROLD A. BAUERS

Winter Season

December, 1961-February, 1962

The winter of 1961-62 was a season of heavy snow cover and prolonged low temperatures. In the north country and in the mountains of the west it was also a season of very low food supply for wildlife. Possibly, in respect to some species of birds, it was a year of exploding populations, while in others it may have been a year of low numbers. The factors of food supply, overpopulation, and weather all seemed to play an important role in the exciting displacement of species that occurred this winter.

On their Christmas Count at Hiles, Roy and Martha Lound noted the low food supply level of the area. Conifers and birch trees were barren of cones and seeds and low vegetation was buried under snow. Their observation was backed up by Dr. Paul D. Rudolf, Lake States Forest Experiment Station, who reported (Technical Notes, No. 615) that "the 1961 forest seed crop was, generally, the poorest since 1949."

Grosbeaks and Waxwings

Large numbers of Evening Grosbeaks, Pine Grosbeaks, and Bohemian Waxwings invaded Wisconsin during the winter. Everyone in Wisconsin, who did any amount of birding at all, saw these species, sometimes by the hundreds. Dr. J. J. Hickey considers the Evening Grosbeak flight at Madison the finest since 1949, and Bohemian Waxwing flight unequalled in Dane county since 1932. Dr. Douglas James (*Audubon Field Notes* Vol. 16, No. 3) refers to the Evening Grosbeaks, nationwide, as the most prodigious invaders of the season. They came early, in the greatest numbers, and penetrated south almost to the Gulf Coast. Dr. James also considers that the Pine Grosbeaks invaded the northern states in the greatest numbers of the century, if not for all time. The movement of Bohemian Waxwings he compares as equal to or exceeding that of 1958-59, the last time this species appeared in Wisconsin in large numbers.

From *Audubon Field Notes* we also learn that the western mountain areas experienced severe winter weather with resulting low food supplies. Such species as the Clarke's Nutcracker, Townsend Solitaire, Mountain Bluebird, the thrushes and other western species invaded the lowlands in record numbers and penetrated eastward into Missouri and in smaller numbers as far as Ontario, Canada. Knowing this, the re-

ports of a Clarke's Nutcracker at Land O' Lakes in November, a Varied Thrush wintering at a Chippewa Falls feeder, and numerous reports of Oregon Juncos from throughout the state begin to fall into perspective. These were not extra-limital oddities, but were the adventurous members of a large west-to-east movement of birds in search of food. If only we had been able to cover the state more thoroughly with observers during this year of invasion from two directions.

Unusual Finds

It is encouraging to record that winter field note coverage did continue to improve. 59 reports were received, representing the observations of 68 members. A number of these reports gave evidence of much careful and enjoyable observation afield or, in some cases, careful attention to the host of birds which appeared at the home feeders. 54 counties were mentioned in the reports, indicating that birds were being sought out at times in more than two-thirds of our counties. This is not enough, but is better than it has been in the past. Dane, Waukesha, Rock, Dodge, Outagamie, Polk and Vernon counties appeared to receive the most consideration. On the debit side, eight counties from which Christmas Counts were forthcoming supplied no further winter data.

The season produced a total of 120 species, only one or two less than the preceding years in which weather conditions were more favorable to overwintering. The numbers of individuals of any species, other than those invading from the north, were generally very much reduced. The "outstanding" finds of the season were the Dickcissel at Beloit, first of the species to be found here in mid-winter, and the Varied Thrush at Chippewa Falls. The latter was far out of its normal range and had been reliably reported only four times in the past. Unusual finds were the Golden Eagle at Crex Meadows, Peregrine Falcon at Hales Corners, the Myrtle Warblers in St. Croix and Dane counties, the Hoary Redpolls in Brown and Forest counties, the Gray-checked Thrush at Appleton, and the Swainson's Hawk in Dane County.

Weather Data

A summary of weather data, gleaned from publications of the U. S. Department of Commerce Weather Bureau at Madison and the Wisconsin Conservation Department, follows: December opened with four days of unseasonably mild temperatures during which open water again appeared on many lakes and streams. Beginning on the 5th, a series of cold fronts brought subnormal temperatures so that by the 15th even the larger lakes in the south were covered with ice. Precipitation was average for the month. Two state-wide snow storms on the 8th and 9th and on the 11th and 12th deposited a blanket of snow of from four inches in the southeast to 22 inches in Vilas County in the north.

January was severely cold, cloudy and windy. Half of the days averaged 15 to 20 degrees below normal. Snowfall was plentiful in all sections except a strip along the Mississippi River from Pepin to La Crosse counties. Deer in the north were tightly yarded by the end of the month and concern was felt that starvation conditions would soon develop. Snow depth reached 35 inches in Taylor and 46 inches in Rusk counties. Greatest total snowfall for the month, however, was in the southeast at Racine.

February continued to be cold and cloudy. Snowfall was heavy, approaching all-time records for the month in some areas. On the 18th and 19th blizzard conditions followed by light sleet and freezing drizzle or rain were reported in all sections of the state. Aircraft pilots reported the west end of Lake Superior frozen over. The month ended bitterly cold with many localities setting new low records for the day on the 28th.

Here is a summary of the season's records:

Pied-billed Grebe: Two were seen. One on December 16 in Waukesha County (John Bielefeldt), one on the Madison Christmas Count.

Great Blue Heron: One in Waukesha County January 1 (Bielefeldt), three on the Adams Christmas Count and one at Wautoma (Mrs. Merwood Chipman); still present in Adams County January 21 (Gary and Donn Stout).

Black-crowned Night Heron: One seen December 2 at Lincoln Park, Milwaukee (Mr. and Mrs. Elmer Basten). One sighted at Janesville on December 24 by Alan Dunwiddie, Jr., observed in the same area by Mr. and Mrs. Rudy Ohm, photographed by Professor Hadow of Milton College, last seen by J. Harwood Evans on January 21.

American Bittern: One lingering in Dodge County to December 16 (Mr. and Mrs. Winfield Severson). This species has not been seen in winter since 1956.

Canada Goose: Reported on seven Christmas Counts. 350 wintered at the Green Bay Wild Life Sanctuary (Edwin Cleary), 10 at Wausau (Mrs. Spencer Doty). 2000 estimated still present at Horicon January 10 (the Seversons). No spring arrivals in Jefferson County through February (Elizabeth Degner).

Mallard: As usual, wintered wherever open water was available south of a line from St. Croix to Lincoln to Brown counties.

Black Duck: Reported from the same areas as the Mallard with the addition of three found at Brule, Douglas County, on the Christmas Count.

Gadwall: One at the Juneau Park Lagoons, Milwaukee, December 31 (Mr. and Mrs. Robert Erickson). Two wintered in Dane County (Wm. Hilsenhoff).

Pintail: Single birds wintering at Milwaukee, in Dane County (Hilsenhoff), and in Jefferson County (Degner).

Shoveler: Single birds on Madison and Milwaukee Christmas Counts.

Wood Duck: Single birds in Waukesha, Rock and Jefferson counties.

Redhead: Reported from Dane County, December 1 (Thomas Ashman) and from Milwaukee, January 2 (Mary Donald).

Ring-necked Duck: Only report was for one observed at close range in the Milwaukee South Shore area (the Ericksons).

Canvasback: A few were seen in the Milwaukee harbor on December 5, January 1, and February 24 (the Ericksons, Mary Donald), 43 on the Lake Geneva Christmas Count.

Greater Scaup: All reports are from the southern Lake Michigan ports.

Lesser Scaup: Northern-most areas claiming this species at Christmas Count time were Wausau, Green Bay and Kewaunee; all later reports are from Dane, Waukesha, Milwaukee, Rock and Walworth counties.

Common Golden-eye: Generally noted wherever open water was available. However, the first reports from Price and Barron counties occurred only after the west end of Lake Superior had frozen over. Two of them first appeared on the river at Park Falls February 28 (Katherine Fuller) and 60 were found on that date on the Cedar River south of Rice Lake (Eugene Butler).

Bufflehead: Reported only on Lake Michigan from Kewaunee to Racine.

Old Squaw: On February 23, Conservation Warden Pat Burhans observed two pairs at the Hustisford Dam on the Rock River in Dodge County—a rare inland occurrence (N. Barger, Dick Hunt). On March 11 with Lake Superior believed frozen over, Conservation Department personnel found a dead bird on the road south of Iron River, and Ranger Bernard Klugow observed another in open water 33 miles inland from Lake Superior in Bayfield County. All other reports are on Lake Michigan.

Ruddy Duck: Six at Port Washington on December 31 (Wallace MacBriar). Seen at Milwaukee on January 1 (Donald).

Hooded Merganser: Reported from Dane County on December 22 (Mrs. R. A. Walker) and from Milwaukee on January 2 (Donald). Seven were seen on the Lake Geneva Christmas Count.

Common Merganser: Only a few wintered off Peshtigo (Harold Lindberg). Otherwise quite generally reported throughout the winter from counties along Lake Michigan and the Wisconsin and Mississippi rivers. The iced-over condition of Lake Superior may have had some influence on a concentration of 24 birds on the Red Cedar River on February 28 (Eugene Butler), the only late winter report from a northern county.

Red-breasted Merganser: 30 individuals were counted on six Christmas Counts, all of them along Lake Michigan except Walworth County. No reports were received for this species during the last two months of the period.

Goshawk: Helmut Mueller writes, "More Goshawks than usual seen this fall at Cedar Grove." Three were reported on Christmas Counts, one at Hiles (Tom Soulen) and two at Wautoma (Wm. Boose).

Sharp-shinned Hawk: Dr. Hickey and Thomas H. Nicholls considered this species quite common at Madison, perhaps attracted to birds concentrated at feeding stations. Also reported in St. Croix County December 19 (Sam Robbins), Waupaca on January 23 and several times thereafter (Florence Peterson), and in Jefferson County February 22 (Degner). Found during the Christmas Count period at Madison, Milwaukee, New Richmond, Oconomowoc, Portage and Stevens Point.

Cooper's Hawk: Also considered by many observers to be more common this winter than usual. At least 13 were noted on nine Christmas Count reports. Also seen in Dane County December 22 (Mrs. Walker) and January 28 (Ashman), Waukesha County on December 26 (Bielefeldt), Eau Claire County on December 28 (Robbins), at Appleton on January 2 (Alfred Bradford), on several dates in February in Outagamie County (Daryl Tessen), Jefferson County on February 3 (Degner), and in Rock County February 25 (Ned Hollister Bird Club).

Red-tailed Hawk: The wintering population was average in some areas and below average in others. The species was found on five fewer Christmas Counts than the year before and the numbers counted at Madison and Waukesha were much below normal. Commenting for the season as a whole, Daryl Tessen noted fewer birds in Outagamie County. Earl and Veratine Weber saw very few in Vernon County. On the other hand, Harold Kruse found them in the usual numbers in Sauk County. The Elmer Bastens observed eight along Lake Shore Drive in Ozaukee County on January 27 and February 11; Owen Gromme noted eight on a short drive in Fond du Lac County on January 28. These numbers they considered normal for the area covered. The Ned Hollister Bird Club's recount on February 25 found only twelve birds in Rock County, 10 less than were noted on the Christmas Count.

Red-shouldered Hawk: Relatively few reports. One wintered in Dane County (Hilsehoff). 12 were found on nine Christmas Counts in Dane, Columbia, Green, Manitowoc, Milwaukee, Racine and Waukesha counties. Single birds were seen in Milwaukee January 9 (Donald), Waukesha County January 13 (Bielefeldt), and in Rock County February 25 (Ned Hollister Bird Club).

Swainson's Hawk: Mr. and Mrs. Robert Erickson are believed to have encountered a low soaring Swainson's along Highway 30 east of Madison on December 14. Their careful description indicates perfectly this infrequent western species.

Rough-legged Hawk: Apparently state-wide in distribution throughout the winter period, but in lesser numbers than in the winter of 1960-1961. The only pattern that emerges on a basis of the reports is one of greater abundance in flat, open terrain and lesser numbers in heavily wooded areas. Daryl Tessen calls it the most abundant hawk in Outagamie County during the winter.

Golden Eagle: One was seen on Crex Meadows, Burnett County, on February 2 by N. R. Stone.

Bald Eagle: 70 were counted on the Christmas Count in Adams County and 30 at Mazomanie for the highest totals in the state. Also reported from Burnett, Chippewa, Columbia, Dodge, Douglas, Juneau, Oneida, Pierce, Portage, St. Croix, and Wood counties. Unusual occurrences were an adult on January 8 in Waukesha County (Mr. and Mrs. Paul Hoffmann) and one flying over Milton in Rock County on January 18 (Melva Maxson). Sam Robbins found nine at Prescott in Pierce County. Of 29 observed in the Petenwell Dam area on February 8, only three were immatures (Bauers).

Marsh Hawk: Numbers were much below normal. Lingered to December 6 in St. Croix County (Robbins). One was found as far north as Brown County on the Christ-

mas Count, and one or two were noted to winter in Dodge County (the Seversons). Scanty late winter reports are from Dane County (Ashman) and the southern tier of counties only.

Peregrine Falcon: An unusual observation of one of these birds was made during the Christmas Count period at Hales Corners (Mary Donald). The only previous winter report for this species came in 1953 from Lake Geneva.

Sparrow Hawk: Noted throughout the winter as far north as St. Croix County (Robbins), Outagamie County (Bradford, Tessen), and Brown County (Cleary).

Ruffed Grouse: The Conservation Department considers populations for this species improved somewhat over the past year, especially in the hardwood forested areas, but nowhere near the peak of ten years ago.

Greater Prairie Chicken: The Fred Hamerstoms report the "chickens" as wintering very successfully and the numbers up slightly in Portage County.

Sharp-tailed Grouse: Only report was of two seen on the Grantsburg Christmas Count. The Conservation Department considers this species as just about holding its own wherever it is found.

Bobwhite: "This has been another rough winter on Bobwhite," writes Harold Kruse from Sauk County in March. "No sign of the nice covey we had here in December." The past several winters have been so hard on this species that the Conservation Department considers populations as barely adequate for brood stock in most areas and will not permit hunting of these birds. On the 46 Christmas Counts this year they were found in only nine areas, with high counts of 66 in Waushara and 59 in Wood counties. Other observations of interest were a covey of eight in Pierce County (Robbins), seen in Rock County December 30 (Mrs. Mahlum), and three coveys in Waupaca County (Florence Peterson).

Gray Partridge: Populations also generally low, but holding up best in Brown, Outagamie, Manitowoc and Sheboygan counties. Tessen thinks there are up to 220 within a 7½ radius of Appleton. Also reported from Milwaukee, Waukesha, Columbia, Dane, Kewaunee, St. Croix (Robbins), Washington (Mrs. Earl Schmidt), Rock (Bernice Andrews and Frances Glenn), and Waushara counties (Mrs. Chipman).

Ring-necked Pheasant: Listed on most reports south of Burnett, Polk, Wood and Brown counties. Populations are considered somewhat better than in the years just past, but nowhere near what they were in the mid-1950's. Large winter flocks were noted in some southeastern counties.

Turkey: February 8 at Meadow Valley, Juneau County (Bauers).

American Coot: Wintered in smaller numbers than in any recent year. Not more than nine were found through the period at Madison (many observers) and a few stayed at Oconomowoc (Edward Peartree, Mrs. Earl Sauer). Seen in Milwaukee December 22 (Donald) and on the Christmas Counts at Lake Geneva (43) and Horicon (one).

Killdeer: Only report was of one on the Christmas Count at Waukesha. It was not reported again by any observer from that area.

Common Snipe: The Christmas Count period produced eight individuals at Lake Geneva, Waukesha, Oconomowoc and Two Rivers. The Manitowoc birds were last reported on January 1 by John Kraupa. One bird found in Dane County, January 1 (Eugene Roark).

Herring Gull: Indications are that the wintering flocks along the Lake Michigan shoreline were smaller than usual. Also occurred through the winter period in Outagamie and Waukesha counties. The only inland reports came from Walworth, Rock, and Dane counties.

Ring-billed Gull: Present in St. Croix County until December 5 (Robbins) and Waukesha County to December 12 (Mrs. Sauer). Last seen in Rock County December 7 (Andrews and Glenn). Found at Lake Geneva on the Christmas Count. Alfred Bradford found this species following manure spreaders in the fields of Outagamie County through much of the winter. Otherwise occurred through the winter only at Milwaukee (Donald).

Bonaparte's Gull: Reported only from Racine. 150 were present from December 6-17 (the Ericksons); 50 were still found there on the Christmas Count.

Mourning Dove: The severe winter seems to have had little effect on the winter range of this species, though numbers may have been reduced. Found wintering as far north as Polk County (Mrs. Lester Pederson), Waupaca County (Mrs. Russell A. Rill) and Marinette County (Lindberg).

Barn Owl: One of a pair that nested in a silo at Oconomowoc was still present on January 7 (Gordon Hammel).

Screech Owl: Reports were not significantly different than in other years. Wintered as far north as St. Croix County (Robbins) and Outagamie County (Tessen). Dr. Charles Kemper considered them more common than usual in Chippewa Falls this winter and Mrs. Mahlum noted that one wintering in their tobacco shed in Rock County began hooting evenings on February 28.

Great Horned Owl: Reported from 15 counties, about par for the winter. Dr. Kemper also felt that this species was more numerous than usual at Chippewa Falls.

Snowy Owl: Perhaps not more than 20 individuals were reported from 12 widely scattered counties during the winter. Only Green Bay and Milwaukee appeared to have more than one bird in the area. Howard Young noted one owl lingering near his home in La Crosse for nearly a month.

Barred Owl: One in a weakened condition was captured by Thomas Nicholls on February 8 at Madison during a heavy snowstorm. The bird died after eight hours and a check of its crop showed that it had not eaten for a day or more. This owl had a foreign band on it.

Long-eared Owl: Much less common than usual this winter. Only eight reported from Madison and five from Hales Corners. Single birds also found in Rock, Dodge, Milwaukee, Columbia and Waukesha counties.

Short-eared Owl: Only five individuals found on three Christmas Counts at Beloit, Madison and New Richmond. Seen December 14 and January 18 in St. Croix County (Robbins). The largest number seen in one day (7) were found on January 14 in Dodge County (the Seversons).

Saw-whet Owl: One at Madison on December 23 (Christmas Count) and on February 7 (Nicholls).

Belted Kingfisher: Christmas Counts produced 17 individuals at 11 locations as far north as St. Croix and Manitowoc counties. Late winter records showed birds still present in Adams (Gary and Donn Stout), St. Croix and Pierce (Robbins), Richland (the Ericksons), Waupaca (Peterson), Dane (Mrs. Walker, Ashman) and Vernon counties (the Webers).

Yellow-shafted Flicker: Madison turned up five, Lake Geneva and Mazomanie three, and six other areas, including Grantsburg and Hudson, had one or two during the Christmas Count period. Singles also appeared at Clintonville (Mrs. Rill), Waupaca (Mrs. Peterson), in Sauk County on January 1 (Ashman) and in Jefferson County January 13 (Degner).

Pileated Woodpecker: An amazing number of reports originating in 24 counties throughout the north and central parts of the state, the southern-most being Vernon, Dane, and Waukesha. Largest numbers were reported in counties along the Mississippi and Wisconsin rivers.

Red-bellied Woodpecker: Fred Babcock found one wintering on Black Oak Lake, five miles west of Land O'Lakes, for a far northern winter record. Occurred regularly again as far north as Polk (Mr. and Mrs. John S. McKenney), Wood (the Stouts), Waupaca (Mrs. Peterson) and Brown counties (Cleary).

Red-headed Woodpecker: A good sprinkling of reports from locations south of a line from Grantsburg to Two Rivers. Occurred in small numbers except in the areas of Mazomanie and Lake Geneva where they were more plentiful.

Yellow-bellied Sapsucker: One on the Madison Christmas Count and one at a feeder in Waupaca (Mrs. Peterson).

Black-backed Three-toed Woodpecker: Found only by Raymond Stefanski at Armstrong Creek in Forest County on December 23.

Horned Lark: The usual pattern. Reported in considerable numbers all over the state till late in December, the month of January producing a few records only from Outagamie, Dodge, Ozaukee, Waukesha, Vernon, Jefferson (here Elizabeth Degner found many all winter long) and Rock counties. Migrants were noted beginning January 27 in Richland County (the Ericksons), February 2 to 4 in Rock (Mahlum), Waukesha (Peartree) and Columbia counties (Mr. and Mrs. R. B. Dryer). Reached Sauk County (Kruse) and Dane County (Mrs. Walker) by February 6, Washington County February 7 (Mrs. Schmidt), Outagamie and Brown counties by February 10, Polk County February 16 (Mrs. Pederson) and Douglas County February 28 (Klugow).

Gray Jay: In addition to those found on Christmas Counts in Vilas, Ashland, Burnett, Oneida, Lincoln and Langlade counties, Norman Pripps found these through the season at Springstead in Iron County and Sam Robbins saw eight in Sawyer and Bayfield counties on December 23.

Common Raven: Common in Price County and northward all season (Hilsenhoff). Flock of 75 in Burnett County on January 11 (Stone). On Christmas Counts noted as far south at Outagamie and Wood counties.

Boreal Chickadee: Found on Christmas Counts in Price, Oneida and Langlade counties. One appeared January 11 at a feeder in Brule (Klugow) and one came to a feeder at Park Falls (Katherine Fuller).

Tufted Titmouse: Reports from 17 counties as far north as Barron, Chippewa, Wood, Waupaca and Outagamie.

Red-breasted Nuthatch: Audubon Field Notes (Winter 1961-1962) asserts that this species passed through the state and wintered more commonly farther south in the central states. It appeared on half of the Wisconsin Christmas Counts but later reports, though state-wide, indicate a low wintering population. Wintered in Iron (Pripps), Polk (the McKenneys) and Waukesha counties (Mrs. Paul Downey, Bielefeldt), one at a feeder in Outagamie County (Tessen), a few in Sauk County January 1 (Kruse), in Vernon County till January (Margaret Morse) and in Dane County February 3 and 27 (Mrs. Walker, Nicholls).

Brown Creeper: Spread throughout the state at the time of the Christmas Count. Noted all winter in Polk (the McKenneys), St. Croix (Robbins), Outagamie (Tessen), Dane (James Zimmerman), and Waukesha counties (Mrs. Sauer, Bielefeldt). Seen January 19 in Columbia County (the Dryers) and January 22 in Iron County (Pripps). An increase in numbers noted the last days of February in Rock County (Ned Hollister Bird Club), Waukesha County (Peartree), and Sheboygan (Harold Koopman) may have been early migrants.

Winter Wren: Only report was of one on the Hales Corners (Milwaukee County) Christmas Count.

Mockingbird: Mr. and Mrs. Robert Erickson considered it a fine wedding anniversary treat when they found three Cardinals and a Mockingbird in their back yard in Racine on December 2. One illusive bird was seen again occasionally in Appleton through the winter (Tessen).

Brown Thrasher: An injured bird wintered at the Leo Meyer feeder in Green Bay (Cleary). Two stayed around a farm home in Rock County where feeding was done on the ground (Mrs. Mahlum). Single birds were found at the end of December in Madison and Milwaukee. One at Beloit February 25 (Ned Hollister Bird Club).

Robin: Howard Young saw many in La Crosse during the winter. Milwaukee had 13 on the Christmas Count and 30 more were seen at other points. A few remained in the state as far north as Waupaca, Brown, and Outagamie counties. Bernard Klugow found a group of eight on February 10 south of Shell Lake, Washburn County.

Varied Thrush: A female was present at a feeder in Chippewa Falls from November to March 1, 1962. Dr. Chas. Kemper observed and photographed this bird and noted that it lived almost exclusively on suet during its stay. This is the fifth or sixth record of this species in the state that we can find and comes in a year when western species were known to have spread widely in search of food.

Seasonal Editor's Note: A typographical error in the Christmas Report (Vol. XXIII, No. 4, page 126) in which the word **first** was substituted for **fifth** and gave the entirely false impression that we were claiming a "first" record for this observation of the Varied Thrush. We were fully aware of the previously published records for this species, but for the sake of those who do not have back issues of **The Passenger Pigeon** or access to other records we will enumerate them here:

October 26, 1944, at Madison by Mrs. H. R. English

February 13, 1946, at Janesville by Mrs. W. J. Allan

December, 1948-April, 1949, at Osceola by Mrs. O. T. Simmons and Lillian Marsh

January 24-February, 1950, at Manitowoc by Merle Pickett

The files of the Milwaukee Public Museum also contain a probable, but not thoroughly substantiated, record for the species on December 20, 1956, at the home of Mr. R. T. Foote at Chenequa, Waukesha County.

Gray-cheeked Thrush: A first winter record of this species. Daryl Tessen writes from Appleton "One individual appeared twice in our yard. It was first seen on December 1 and then again on December 4."

Golden-crowned Kinglet: Found quite generally and in good numbers during the month of December and then disappeared entirely. No January or February dates were reported.

Bohemian Waxwing: The finest invasion ever recorded for this species had penetrated as far south as Manitowoc (Kraupa) and Wausau (the Dotys) by the first week of December. The Christmas period found the vanguard at Milwaukee and Madison, but the greatest numbers, flocks of 15 to 100 birds, were still being seen in a band across the central portion of the state from Kewaunee and Manitowoc, through Marathon and Wood counties, westward in lesser numbers to Pierce County (Robbins). Not until January 27 in Jefferson County (Degner) and the first week of February were numbers of these birds reported from the southern tier of counties. The invasion gathered intensity as the period progressed and by the second and third week of February hundreds and even up to a thousand or more birds were being estimated as present at such points as La Crosse (Young), Madison (Hickey, Nicholls, Walker), Milton (Maxson), and Milwaukee (Balsom, Donald). The invasion in general was earlier and more intense along the Lake Michigan shore and later and weaker in the northwest section of the state. Eugene Butler saw only a few birds on January 1 in Barron County, Mrs. Pederson found small flocks in Polk County from January 13 to 28, Dr. Kemper considered that only fair numbers were being seen at Chippewa Falls, and Sam Robbins' observations were limited to 33 at Prescott on February 12. Many observers made note of the food being taken by the invaders. In the order of frequency mentioned were: rotten apples, high-bush cranberry, multiflora rose, bittersweet, sumac, buckthorn and black locust.

Cedar Waxwing. Relatively few wintered. Occurred in equal or greater numbers than its larger relative only in December in the southern half of the state, diminishing in numbers through the period until February when small flocks were being found only at Waukesha (Peartree), Madison (Mrs. Walker, Hilsenhoff) and Appleton (Tessen). Late period reports show two birds in St. Croix County February 16 (Robbins), one in Jefferson County February 23 (Degner), seven in Rock County February 25 (Beloit Recount) and a few in Columbia County February 25 (the Dryers).

Northern Shrike: Reported from every part of the state during all of the winter and, generally, in above average numbers. Several observers found them attracted to feeders, where they preyed on juncos and sparrows.

Myrtle Warbler: This hardiest of the warblers was seen twice during the winter: a late migrant December 3 in St. Croix County (Robbins) and December 23 on the Madison Christmas Count.

Meadowlarks: Alfred Bradford and Daryl Tessen found 12 to 15 wintering in Outagamie County and Robbins noted a few wintering in St. Croix County. The Christmas Counts reported single birds as far north as Green Bay and Kewaunee, but the few mid and late winter reports received were south of Columbia (the Dryers) and Sauk counties (Kruse).

Yellow-headed Blackbird: An adult male was found in a large flock of Redwings and Cowbirds at Horicon Marsh on December 20 by Dr. Hickey, Dr. Schorger, L. B. Keith, G. W. Foster and H. A. Mathiak. This is only the third winter record for this common summer resident of the marsh.

Red-winged Blackbird: Wintered in the lowest numbers for this species in many years. The Christmas Counts totaled only 195 individuals; 180 of these were seen at Horicon Marsh. One came to a feeder for two hours at Peshtigo on December 27 and then was not seen again (Lindberg). Last seen in Waukesha County on December 31 (Mrs. Sauer). Melva Maxson banded one female on January 2 at Milton. No reports then until February 28, when Mrs. W. W. Morgan noted the first spring arrivals in Walworth County.

Rusty Blackbird: Found only on the Christmas Counts at Waukesha and Lake Geneva.

Brewer's Blackbird: One on the Beloit Christmas Count and one at Waukesha on January 5 (Bielefeldt).

Common Grackle: Reported in small numbers from all parts of the state through December, but disappeared thereafter. Only Daryl Tessen found a few around the feeders in Appleton during the winter.

Brown-headed Cowbird: The Christmas Counts produced only 34 at Horicon, three at Milwaukee and one at Cooksville. A flock of 12 was present in Waukesha County until January 26 (Mrs. Sauer).

Cardinal: More numerous around feeders everywhere this winter than ever before as far north as Polk, Marathon, and Marinette counties. Individuals were also observed in Burnett and Oneida counties. Margeret Morse noted that song was begun on February 10 in Vernon County and Mrs. Mahlum set the singing date for her birds in Rock County as February 20.

Dickcissel: A first winter record was established when a female of this species appeared at the David Stocking feeder at Beloit on December 23 and reappeared on the 25th and 26th. For details see "By the Wayside" Vol. XXIV, No. 1, page 20.

Evening Grosbeak: "There has not been an invasion of Evening Grosbeaks like this within my memory," writes Dr. Charles Kemper from Chippewa Falls. "I estimate 4000 have come through my yard this winter." "We have never had a larger flight of Evening Grosbeaks in Outagamie County," says Alfred Bradford. These were the sentiments of most Wisconsin bird watchers during this winter. Unfortunately, first arrival dates were so erratic that no clear-cut pattern of movement across the state can be readily defined. Arrival dates for some southern counties were 25 days prior to some first arrival dates in counties 100 or 200 miles to the north. Arrival dates in adjacent counties or even from observers within the same county vary by 20 to 25 days. Looking at the mass of data, the writer can come to only several broad conclusions: (1) that the invasion, as in the case of the Bohemian Waxwing, moved somewhat earlier down the Lake Michigan shoreline than on the western side of the state, (2) that the vanguard of the invading forces had covered more than two-thirds of the state by December 1 and had proceeded beyond the south border before the end of the month, (3) that a build-up of winter populations continued well into mid-January before it became fairly stabilized, (4) that peak populations were reached in the southern counties at the end of February. It is not known whether this was due to a bunching up of birds still moving south before the severe winter conditions of February in Wisconsin, or a northward movement of birds which had wintered in states to the south.

Purple Finch: Generally, sparingly spread over the state. "Very few," "not many," "small numbers," "entirely absent," "only four to six," are the comments supplied with most records for this species. A few reported throughout the winter only from Brown, Dane, Columbia, Milwaukee, Rock and Waukesha counties. Heard singing at Viroqua on February 17 (Margaret Morse).

Pine Grosbeak: The picture is one of large numbers rather leisurely penetrating the state during the whole winter period. First appeared at Clintonville November 21 (Mrs. Rill) but did not reach Wood County (the Stouts) and Brown County (Cleary) until December 9. The Christmas Counts found them south of the Manitowoc, Adams, Pierce county line only at Horicon, and they were not seen in any numbers in the southern counties until the end of February.

Hoary Redpoll: Two were seen in a flock of Common Redpolls on the Green Bay Christmas Count, and at least four were found in a flock of 600 Common Redpolls on January 1 in Forest County (the Lounds).

Common Redpoll: Small flocks were found in all sections of the state during December, and several large flocks were noted in the week preceding January 1; 1710 were seen at Grantsburg, 600 in Forest County (the Lounds), 404 at Chippewa Falls, 200 at Waukesha (Mrs. Sauer), and another 200 in Juneau County (the Dryers). During the last two months of the period only small groups were noted at Clintonville (Mrs. Rill), Milwaukee (the Bastens, Donald), Waukesha County (Mrs. Sauer), Dane County (Ashman) and Beloit (the Ned Hollister Bird Club).

Pine Siskin: Unlike last winter, very infrequently seen this year. A few were noted in Dane County (Ashman) and Milwaukee (Donald) during December. Appeared on only seven Christmas Counts, the 100 in Burnett County being the only sizable group. No reports thereafter.

Goldfinch: "A few," "scarce," "rare," "uncommon," were the comments attached to reports of this species except at Madison where a smaller number than usual remained for the winter.

Red Crossbill: Three were reported on the Mishicot Christmas Count, a small flock was seen at Park Falls (Katherine Fuller), Dr. Kemper noted a few birds at Chip-

pewa Falls, and Bernard Klugow saw one male on January 18 in Douglas County and three more on February 14.

Rufous-sided Towhee: One was reported during the Christmas Count period at Oconomowoc.

Slate-colored Junco: Present throughout the winter all over the state, but in smaller numbers than in previous years.

Oregon Junco: Widespread in the state throughout the winter. A record number of observations. Present in Dane County by December 8 (Ashman) and throughout the winter in Waukesha County (the Paul Hoffmanns), several at feeders in Milwaukee (Donald), and often seen at a feeder in Viroqua (Morse). 11 were counted at Madison alone during the Christmas Count and 20 more were seen in six other areas. On January 1 they were observed in both Pierce and St. Croix counties (Robbins) and one was banded at Milton (Maxson). On January 3 one appeared in Polk County (the McKenneys), and from January 10 to February 20 at the Paul Romig feeder in Green Bay (Cleary). On January 26 two came to a feeder in Waupaca (Peterson). One was seen on February 25 in Waukesha (Bielefeldt) and another at a feeder near Slinger (Mrs. Schmidt).

Tree Sparrow: Well distributed south of a line from St. Croix to Brown County. Considered to be less than usual in numbers in most areas. Only Jefferson County (Degner) and Waukesha County (Peartree) saw large numbers at times.

Field Sparrow: Six on the Christmas Count at Beloit and two at Wautoma. One banded January 8 at Milton (Maxson).

White-crowned Sparrow: Two at Beloit and one at Manitowoc on the Christmas Counts and at St. Croix during the period. One immature in Rock County on February 2 (Gromme).



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White-throated Sparrow: One late migrant banded December 16 at Oconomowoc. 11 were seen in six counties during the Christmas Count period as far north as Appleton, Stevens Point, and Grantsburg. Three stayed at feeders in Appleton through the winter (Tessen). Some were still present in Dane County February 24 (Mrs. Walker).

Fox Sparrow: One at a feeder in Viroqua from December 16 until February 1 (Morse). Found at Beloit and Kewaunee at Christmas time. Two came to the John Decker feeder in Milwaukee on February 15. One was still present at Beloit on February 25 (Ned Hollister Bird Club).

Swamp Sparrow: Five were seen on Christmas Counts in Dane, Racine, and Waukesha counties.

Song Sparrow: Found in 11 counties at the end of December, ten birds being seen in Madison, and the northern-most areas being St. Croix and Green Bay. Bielefeldt found nine present in Waukesha County on January 25. Bradford and Tessen had three or four through the winter at Appleton. Two were seen in Washington County January 20 (Mrs. Schmitt), and Ed Cleary tamed one at his feeder in Green Bay. See "By the Wayside." Migrants were present in Rock County by February 25 (Ned Hollister Bird Club).

Lapland Longspur: Left St. Croix County by December 15 (Robbins). Stayed in Waukesha County until February 3 (Bielefeldt). Seen in Brown County through the winter (Cleary), January 26 in Outagamie County (Bradford), February 25 in Dane County (Ashman) and Columbia County (Keith Brown).

Snow Bunting: Both large and small flocks were seen throughout the state during the whole winter period. Owen Gromme saw the largest flock he had ever seen in Columbia County on February 25.

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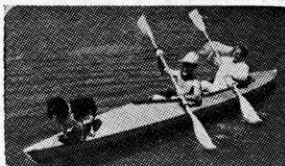
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