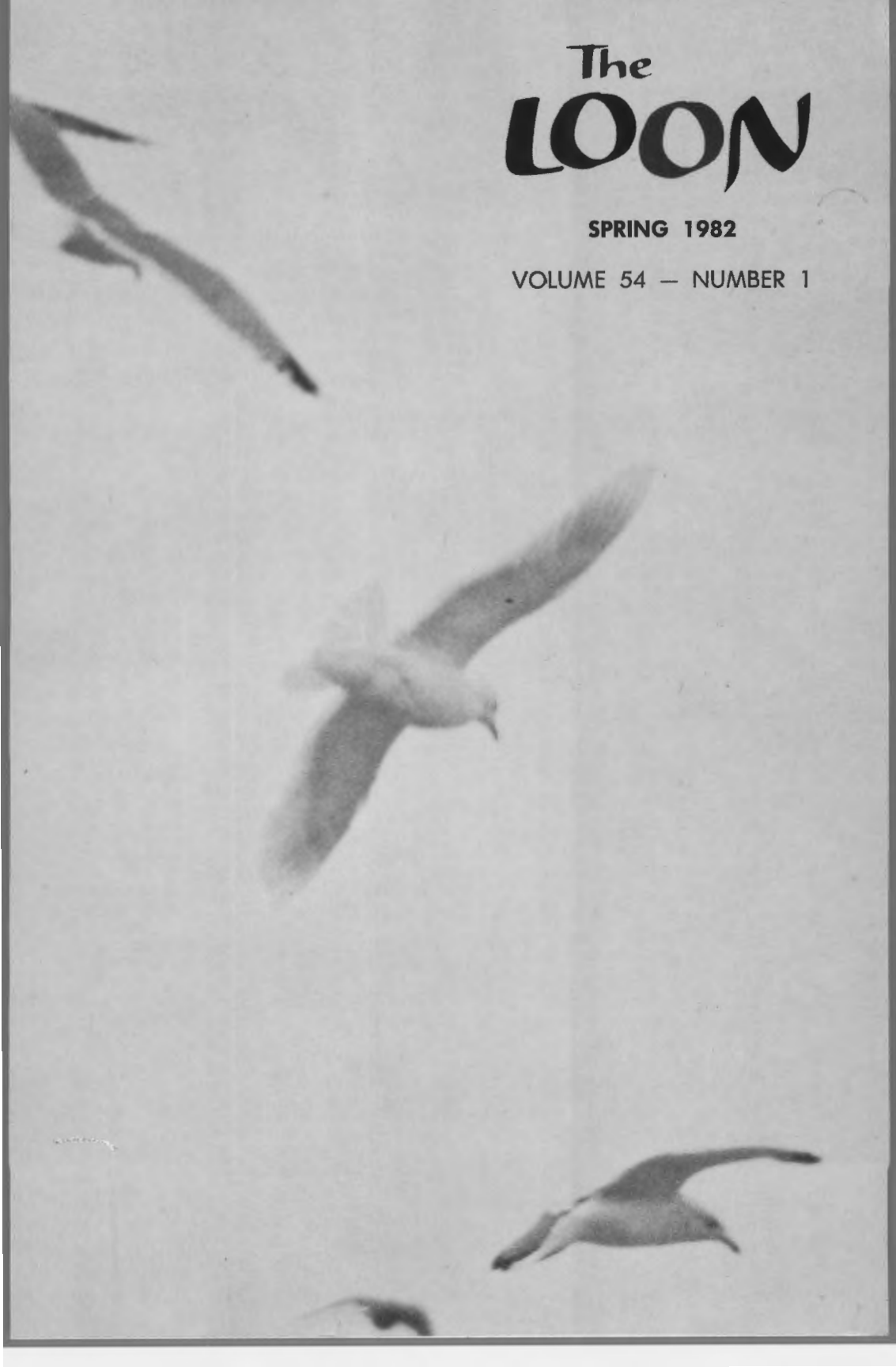

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MEMBERSHIPS AND SUBSCRIPTIONS: Evelyn Stanley, 213 Janalyn Circle, Minneapolis, Minnesota 55416. To join the MOU and receive both MOU publications, send $10.00 for a regular yearly subscription. Or other classes of membership that you may choose are: Family $12.50 yearly; Supporting $15.00 yearly; Sustaining $25 yearly; Life $150. Canadian and Foreign Subscriptions, $10 yearly. **All subscriptions are on a calendar year basis.** Also available: back issues of **The Loon** ($2.50 each ppd.) and MOU checklists of Minnesota birds (minimum lots of 20 for $2.00 postage paid). Gifts, bequests, and contributions to the MOU Endowment Fund should also be sent to the treasurer.

EDITOR OF THE LOON: Robert B. Janssen, 10521 S. Cedar Lake Rd., Minnetonka, MN 55343 (phone 612-546-4220), The editor invites articles, short notes, and black/white illustrations about birds and nature. See back cover for details.

"The Season" section of The Loon publishes reports of bird sightings throughout Minnesota. We particularly invite reports from parts of the state that have been neglected or covered lightly in past reports. To become a contributor to "The Season," request the report forms from the **EDITOR OF "THE SEASON," Kim Eckert, 9735 North Shore Drive, Duluth, Minnesota 55804. (phone 218-525-6930).**

EDITOR OF THE MOU NEWSLETTER: Mrs. Marlyn Mauritz, 6930 Tecumseh Lane, Chanhassen, MN 55317. Publishes announcements and reports about activities of the MOU and its affiliated clubs. (Club officers should keep both MOU editors informed.)

TWO ICELAND GULLS IN DULUTH

Kim Eckert

Because of the close similarity in size of larger male adult Iceland Gulls and smaller female adult Glaucous Gulls, and in plumage of Iceland Gulls and paler Thayer's Gulls (primarily in first-winter birds), well-documented records of Iceland Gulls in Minnesota are scarce. Previous acceptable records include: a specimen of a first-winter bird from Duluth in 1951, photographs of a second-winter bird at Two Harbors in February of 1967, photos of a first-winter bird at Knife River in January of 1968, sight records of one or two immatures at Knife River in January-February of 1967, sightings of a first-winter bird in Duluth in January and March of 1976, sightings of a second- or third-year bird in Duluth in May of 1978, and a sight record of an adult at Black Dog Lake in November of 1978. (All other documented reports of "Iceland Gulls" in Minnesota have proved to be inconclusive or have been determined to be first-winter Thayer's Gulls.)

However, in spite of the extreme rarity of this species in the state and the difficulties involved in its identification, two adult Iceland Gulls were carefully identified at the Western Lake Superior Sanitary District landfill in Duluth in January, 1982. Paul Egeland, Mike Hendrickson and I found the first bird, an adult of the Kumlien's race, on January 2. We watched it in flight and at rest at distances as close as about 75 yards. Its head, neck, tail and body were all white. In flight its back and wings were light gray (clearly a lighter shade of gray than that of an adult Herring Gull), except that the trailing edge of the wings were white, and the wing-tips were also white except for some obvious gray smudges in the tips of some of the primaries. This gray was a darker shade than that in the mantle, and was most extensive and obvious on the leading edge at the end of the outermost primary; smaller spots of gray were also visible on the tips of three or four other outer primaries. At rest the folded wing-tips appeared to be alternating areas or spots of white and light gray. Also at rest we could see the bill was yellow with a reddish spot on the lower mandible, and that the iris appeared to be brown; while it is possible that the iris was yellow mixed with dark pigment, all the Herring Gulls standing next to it had clearly yellow eyes, and the eye of this gull was definitely darker (observed through a spotting scope at 75 yards under an overcast sky). Also at rest the bill, head, neck and body all appeared to be the same size and shape as the Herring Gulls (in flight it was not possible to make any definite conclusions about its size and shape). Because of the gray markings in the wing-tips (precluding any possibility of Glaucous Gull) and the dark iris (precluding the possibility of a pale Thayer's Gull — although normal adult Thayer's have black wing-tips, the palest adult Thayer's can have gray rather than black wing-tips, but such birds would also have a yellow rather than a brown iris), this gull was identified as an Iceland Gull of the Kumlien's race. It was seen again at the dump on January 3 and 6 by at

least 14 other observers, and was last seen downtown at Canal Park on January 7 by Terry Savaloja and Jo and Steve Blanich.

The second Iceland Gull was an adult of the nominate **glaucoides** race. It was first seen by Paul, Mike and I with the Kumlien's on January 2 at the dump, but we did not identify it as an Iceland then since we considered two Icelands at the same time to be "impossible" in Minnesota. We also did not pay too much attention to it, although as it stood with the Kumlien's and Herring Gulls we could see that it was about the same size and shape as the other gulls, and had a yellow bill with reddish tip and a yellow iris, but we just assumed it was a small female Glaucous. In flight I also noted that on the underwings the leading and trailing edges were white with a distinct broad area of light gray in between that extended the entire length of the wings. But on January 6, while Jan Green, Steve and Diane Millard, Byron Bratlie, Liz Campbell, Bill Litkey, Karol and Jerry Gresser and I were at the dump looking for the Great Black-backed and Kumlien's, this same gull was still present (I recognized it by the gray area on the underwing). And as Jan looked at it and watched it in flight for awhile, she felt that it was indeed too small to be a Glaucous. We all watched it in flight for several minutes thereafter and got the definite impression of it being a smaller bird, especially in its head and bill. Although relative sizes in gulls are very tricky to determine, especially in flight, we were all aware of the need for caution, we all studied it for a long time, and we were all impressed by the clearly small appearance of its head and bill when compared to Glaucous Gulls present. I was also convinced it was an Iceland when I saw it briefly fly next to a first-winter Glaucous — not only was this Glaucous clearly a size larger and heavier, but also it twice made brief passes at the Iceland in flight as if to chase it from its "territory." This Iceland Gull was seen again at the dump for the last time on January 9 by several other observers including Bob Janssen, Ray Glassel, Dick Ruhme, Warren Nelson, Jon Peterson and Ann McKenzie, all of whom felt that this was indeed an adult Iceland Gull. **9735 North Shore Dr., Duluth, MN 55804.**

Iceland Gull (glaucoides race) — Duluth — January 3, 1982 — Photo by Warren Nelson

A REMNANT FLOCK OF GREATER PRAIRIE CHICKENS IN NORTH CENTRAL MINNESOTA[1]

W. Daniel Svedarsky[2], Richard J. Oehlenschlager[3] and Tod D. Tonsager[4]

INTRODUCTION

In 1973, a considerable amount of attention was focused on the status of the Greater Prairie Chicken in Minnesota at a symposium carried out at Crookston (Svedarsky and Wolfe, 1973). At that meeting the major portion of the range, occurring in the prairies of northwestern Minnesota, was emphasized. Although previously documented (Oehlenschlager, 1963), the northcentral segment of the range was omitted from the 1973 range map but included in the 1975 range map of Green and Janssen. Ed Weiland (Wildlife Manager, Minnesota Department of Natural Resources, Park Rapids) gave a preliminary status report of this flock at the 1980 annual meeting of the Minnesota Prairie Chicken Society, but noted that manpower and accessibility limitations prevented a thorough census from being carried out.

The purpose of this study was to review the status of and to better document populations of Greater Prairie Chickens in Cass, Wadena and Hubbard Counties. Support for field work was provided by the Minnesota Prairie Chicken Society in cooperation with the Northwest Agricultural Experiment Station and Technical College of the University of Minnesota, Crookston.

[1]Paper No. 1802, Miscellaneous Journal Series, Agricultural Experiment Station, University of Minnesota, St. Paul, Minnesota.

Special thanks are extended to the following persons who either provided suggestions, field assistance or accommodations that were helpful in the project: Larry Olson, Ed Weiland, Dennis Hanson, Terry Wolfe, Duane Tonsager, Mr. and Mrs. Ernie Tonsager and Paul Goddard. Dr. Milton Weller provided helpful editorial suggestions.

STUDY AREA

The study area is located primarily in northeastern Wadena County and the westcentral portion of Cass County (Fig. 1). The topography is quite rolling due to the complex of glacial deposits. Ice-block basins have created many wetland communities ranging from lakes to marshes, bogs and swamps. These are intermixed through ground moraines, drumlins, and outwash plains and their associated diversity of soil types. Three soil associations occur in the study area (Arneman, 1963). Menahga, a light-colored droughty soil, formed from noncalcareous medium-textured outwash sand, is the major soil type present. Nebish-Rockwood soils occur in the southwestern portion of the area and are well-drained soils developed from calcareous buff-colored glacial till. Flak-Brainerd-Nokay soils occur in the southeastern portion and have formed from a stony noncalcareous sandy loam glacial till.

The generalized habitat map (Fig. 1) was developed from Marschner's map of the "Original Vegetation of Minnesota" (Heinselman, 1974). This map serves as a useful reference to remnant plant communities, topographic

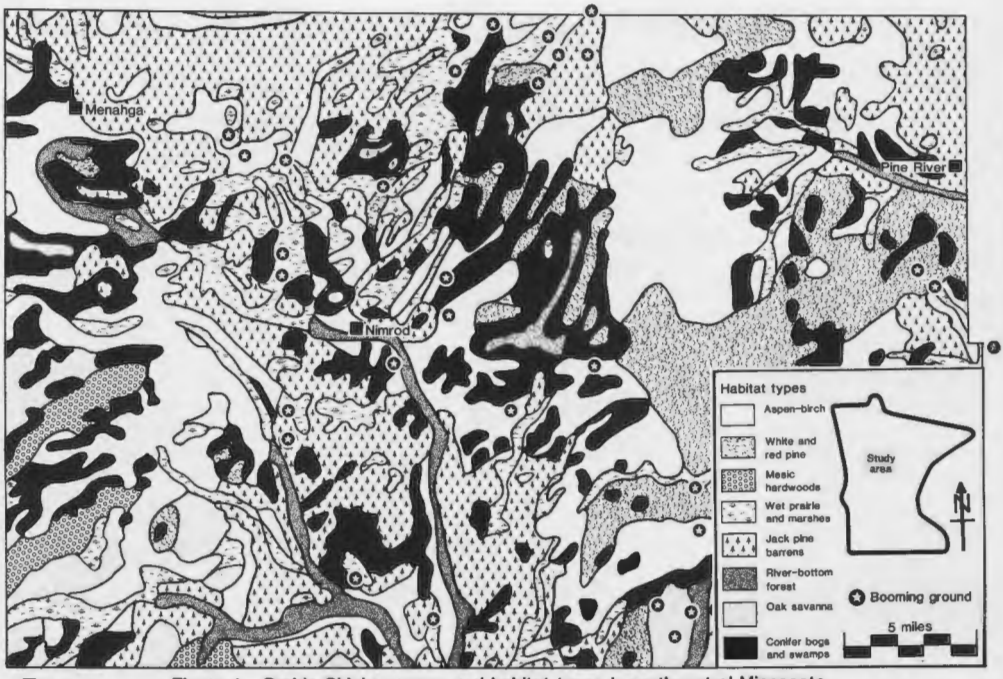

Figure 1. Prairie Chicken range and habitat types in northcentral Minnesota

conditions, and successional trends, even though the boundaries and composition of original vegetation types have been altered by man. Habitat types in Figure 1 and the categories from Marschner's map which they include are as follows: "Aspen-Birch" = "Aspen-Birch (hardwoods)" and "Aspen-Birch (conifer)"; "Oak Savanna" = "Oak Openings and Barrens", "Aspen Oak Land," and "Brush Prairie;" "Wet Prairie and Marshes" = "Wet Prairies, Marshes and Sloughs"; "White and Red Pine" = "White Pine" and "White and Norway Pine"; "Conifer Bogs and Swamps" = "Conifer Bogs and Swamps"; "Mesic Hardwoods" = "Big Woods" and "Mixed Hardwood and Pine"; "River Bottom Forest" = "River Bottom Forest"; "Jack Pine Barrens" = "Jack Pine Barrens and Openings."

METHODS

A coordinating meeting was held in March of 1981 with Larry Olson (Cass County Wildlife Manager), Ed Weiland, and Dennis Hanson (D.N.R. Wildlife Managers) to delineate areas having booming grounds in the past and uncensused areas in the general region likely to have birds. Censusing was carried out from 31 March to 20 April 1981 on 14 mornings. On good census mornings (clear, little wind), grounds where accessibility was limited were not precisely located and censused in favor of covering more area to locate new grounds. Evenings and windy or rainy mornings were used to get repeat counts on located grounds and to search for grounds heard but not pinpointed. Attempts were made to get at least two counts on each ground, but the extensiveness of the region necessitated getting only one count on some grounds.

RESULTS

A total of 30 booming grounds were located or heard in an area approximately 25 miles in diameter (Fig 1). Of these, counts were taken on 25 grounds. Many portions of the census regions were essentially roadless with extensive areas of jack pine uplands

interspersed with sedge and willow lowlands. A dry spring enhanced travel conditions on unpaved roads, many of which would not be passable in a wet spring. Habitats chosen for booming ground sites included plowed fields, burned or hayed lowlands, grazed pastures, and undisturbed sedge and willow lowlands (Table 1). Booming grounds were typically located in short (less than 4 in.) cover except in undisturbed lowlands where vegetation was occasionally 18-20 in. making birds difficult to see except

Table 1. Prairie chicken booming grounds in northcentral Minnesota.

Location[a]	No. of males[b]	Habitat
Cass County		
SE¼, S18, T136N, R32W	3	burned sedge lowland
SE¼, S3, T136N, R32W	3	closely grazed pasture
SE¼, S5, T138N, R32W	4	idle willow-sedge lowland
NW¼, S6, T138N, R32W	10	plowed field
SW¼, S9, T138N, R32W	1	burned sedge lowland
NE¼, S17, T138N, R32W	2	closely grazed ridge top
S10, T138N, R32W	?	idle sedge-willow swamp
SW¼, S32, T136N, R31W	8	hayed redtop-brome upland
NW¼, S8, T135N, R31W	9	idle sedge lowland
E½, S19, T135N, R31W	?	grazed pasture
NW¼, S19, T135N, R31W	4	grazed knoll in sedge lowland
SE¼, S30, T135N, R31W	4	hayed lowland
NW¼, S6, T136N, R29W	4	plowed field
SW¼, S14, T137N, R30W	3	hayed lowland
S23 or S24, T137N, R30W	?	idle sedge lowland
Wadena County		
NE¼, S14, T138N, R33W	?	sedge-willow swamp
NW¼, S4, T137N, R33W	6	hayed & burned sedge-willow lowland
NW¼, S23, T137N, R33W	3	hayed sedge lowland
SE¼, S26, T137N, R33W	8	grazed upland pasture
NW¼, S26, T137N, R34W	4	plowed field
NW¼, S23, T137N, R34W	8	closely mowed sod field
SW¼, S35, T138N, R34W	1	closely grazed pasture
NW¼, S34, T138N, R34W	10	idle sedge lowland
S28, T138N, R34W	?	idle sedge-willow swamp
NW¼, S9, T136N, R33W	1	hayed upland field
NE¼, S14, T136N, R34W	2	plowed field
NE¼, S23, T136N, R34W	6	plowed field
SE¼, S18, T135N, R33W	7	hayed lowland
NE¼, S26, T135N, R33W	4	idle sedge-willow lowland
Hubbard County		
SW¼, S35, T139N, R32W	4	hayed sedge-willow lowland
	5.3[c]	

[a] In cases where the booming ground was not specifically located, only the section number is indicated.
[b] Number of males or ½ of flush count when sexes weren't determined.
[c] Mean of grounds where two or more males were observed.

when they "flutter-jumped." While booming ground sites are usually not a limiting factor, it is helpful to know the range of habitats used so as to aid in locating grounds once they have been heard.

Of 25 censused booming grounds, 23 were located in or within 1/4 mile of lowlands dominated by grasses and sedges with scattered willow shrubs mostly less than 6 ft. high. Some large (300 acres) upland tracts of tame grass and legumes occurred in the region but did not have associated booming grounds in 1981. Smaller (40 acres) and more diverse lowlands, in contrast, did have associated prairie chickens.

The mean number of males per censused ground was 5.3 excluding "booming grounds" of one male (Table 1). Lone booming males probably do not constitute a booming ground (which are communal in nature), but were recorded when observed at least twice. In one instance, a lone male was displaying to two females but no copulatory behavior was noted.

A minimum of 119 displaying males were recorded. If the five uncensused booming grounds had an average of 5.3 males present, this amounts to about 145 males. Assuming a 50:50 sex ratio, a spring population of approximately 300 prairie chickens occurs in the northcentral range.

DISCUSSION

The Past

Prairie chickens were not native to this region of Minnesota, having moved in from the south in the late 1800s as logging and associated fires created desirable habitat (Partch, 1973). Partch felt that prairie chickens advanced northward along three main routes; one of which being the outwash plain complex running from the Twin Cities to Brainerd and Bemidji. This supported oak savanna in the south and pine forests in the north which were easy to log, burn and convert to farmland. Partch noted that this "invasion corridor" also provided "a fairly level roadbed for railroads." The presence of coal-burning trains in the early years no doubt increased the frequency of fires and the consequent maintenance of early successional stages important to prairie chickens. Plant succession and its effect upon grouse species was summarized by Ryan (in Partch, 1973) as follows:

"I remember as a boy in 1905 to 1910 we would travel to Minneapolis from Bemidji on the M. and I. Railroad through Brainerd, and looking out of the train window between Bemidji and Brainerd it was more or less like a prairie. Just look at it now — pine wherever you look. Not only did logging of pine bring deer to northern Minnesota, but ruffed grouse became plentiful as aspen stands replaced the cut-over pine. Prairie chickens, a migrating bird, came in from the prairies to the south and west. As a boy in the Bemidji area, I remember awaiting the coming of the prairie chickens each spring. They would light on ice of the lakes and feed on grain left in the horse manure that streaked a network of logging roads across the ice. We could watch the prairie chickens putting on their mating dance and booming away from daylight to dark. Sharptail grouse also came in great numbers to inhabit the short, brushy, burned over areas."

The first record of prairie chickens in Wadena County is 1894 (M. E. Isherwood quoted in Kimball, 1963). This is later than the 1870s appearance date for neighboring Becker and Morrison Counties as noted by Partch (1973) and Roberts (1932) and an earlier arrival appears likely. Interviews with many older residents of northeastern Wadena County by Oehlenschlager indicate that the prairie chicken was continuously present since the 1890s, and its booming calls were so frequently and accurately described that confusion with Sharp-tailed Grouse could not have been possible. Notable periods of scarcity were reported at irregular intervals from 1900 to the

1940s, but it is unknown if this is partially explained by possible migration from the region. Prairie chickens were abundant enough to be taken in baited traps in cornfields for regular winter tablefare well into the 1930s.

The experience of Oehlenschlager with prairie chickens in Wadena and Cass Counties extends from 1949 to the present. He found the population to be quite stable throughout the 1950s with peak numbers being recorded in 1958 when a flock of about 500 was observed east of Nimrod on feeding winter flocks of 20 to 50 individuals in widespread areas of the northeastern one-third of Wadena County and adjoining westcentral Cass County, south to Cushing in Morrison County.

Population declines were noted for the periods of 1966-1969 and again in the early 1970s through 1976, but numbers increased considerably, from 1977 through 1979. During this interval, booming individuals were found near Wadena and, possibly, near Aldrich where Oehlenschlager had never previously found the species.

Fig. 2. — An extensive sedge-willow lowland in Shell River Township in Wadena County containing a booming ground of 10 males.

October 20. A considerable amount of nesting cover was available in the 1950s and 1960s on land set aside under the Soil Bank Program. These lands were managed only by prescribed clipping to control weeds which may have actually improved their attractiveness for nesting since the cover was not removed close to the ground. From the late 1950s to the mid-1960s, Oehlenschlager frequently observed

The Present — land use, predation and interaction with other species

Prairie chickens have occupied this region for at least 90 years due to a particular assortment of geologic and man-influenced events. The present population appears to be largely associated with poorly drained lowlands dominated by grasses, sedges and willows, (Fig. 2). To facilitate hay cropping, these lowlands are commonly

burned to control brush and produce higher quality forage. Due to wetness and rough terrain, burned areas are often not completely hayed which leaves some uncut cover for prairie chicken use. In a study area near Crookston, Minnesota, Svedarsky (1979) found lowland sites to be used for nesting, brooding and roosting. Similar use of lowlands would be expected in this area, but without radio-tagged females, it would be difficult to document due to heavy cover and the fact that haying would be delayed until after the nesting period due to wet conditions. Consequently, chance encounters of nests and broods are not as likely in lowlands as in better drained sites.

old fields of brome, prairie rose, goldenrod and willow. Often these uplands were at some distance from the sedge-willow lowlands used for booming. Oehlenschlager also notes the sporadic nature of some booming grounds over the years with shifts between uplands and lowlands, perhaps in response to wetness.

Most farms in the region keep some livestock (especially beef cattle) which tends to create a more diverse land use pattern than areas where small grain farming predominates. These are two very different farming systems which can be examined with regard to their effect upon prairie chicken populations. The highest population levels of chickens existed prior to

Fig. 3 — An unpicked corn field adjacent to a hayfield in Wadena County. Good feeding and loafing area for prairie chickens.

When available, upland habitats are used, and perhaps preferred over lowlands for nesting and brooding. All of the 45+ nests and newly hatched broods observed by Oehlenschlager in more than a decade of haying operations have been in well-drained hayfields of oats, red clover, smooth brome, timothy and bluegrass, and in the 1970s when prevailing farm economies were dairy-based, barn-housed systems with small farm sizes using less efficient harvesting techniques as compared to newer field choppers and cornpickers. These conditions have changed dramatically to produce increasingly larger but fewer farms involving more cattle and extensive graz-

ing needs, as well as winter feedlot requirements. Ultimately, these changes have decreased available nesting cover as well as winter feeding sites.

Another practice associated with small, dairy-based farm operations was of shocking corn to be fed as fodder to confined dairy cows during the winter months. These shocks were routinely used for feeding by flocks of prairie chickens in mornings and late afternoons. Presently, winter food is available in manure spread on fields, in feedlots, in unplowed corn fields where cattle are allowed to feed, and in occasional, unharvested corn fields which are ideal winter food sources (Fig. 3).

Compared with other portions of the Minnesota prairie chicken range, this area tends to have a greater amount of habitat diversity due to topographic variation and its effect upon vegetation and land use. Also, the greater number of small farms as well as a number of abandoned farms adds to the habitat mosaic.

The numerous woodlots and extensive tracts of lowland forests appear to be good habitat for certain raptors which may be affecting prairie chickens more in this habitat situation than in more open areas. Three Great Horned Owls were heard in one census morning and Oehlenschlager considers them to be common throughout the area. On one occasion (17 or 23 May 1972) he found the partially devoured carcass of a hen prairie chicken in a Great Horned Owl nest with two owlets. The prairie chicken had a hard-shelled egg in the oviduct indicating that it had been killed during the egg-laying phase of nesting. The area is also within the range of Goshawks which are efficient predators of grouse. Oehlenschlager has observed both successful and unsuccessful Goshawk attacks upon feeding flocks of prairie chickens during the winter months when it is more numerous in the region. Two instances of Goshawk predation of booming prairie chickens have been observed in the prairie portion of the chicken range near Crookston where tree ambush sites are not nearly so numerous and close to booming grounds as in this north-central range. Oehlenschlager has observed that feeding winter flocks of prairie chickens in the Wadena-Cass County area are almost without exception accompanied by a lone sentinel bird posted conspicuously on the uppermost spire of the tallest trembling aspen or jack pine at the periphery of the feeding area. Even the most distant approach of a walking person will cause the sentinel to cackle and flush, whereupon the entire flock will take wing and follow. Possibly, this sentinel behavior is more strongly developed in prairie chickens inhabiting environments containing more raptor perches.

Generally, prairie chickens show little fear of motor vehicles and some are killed by traffic on rural roadways. Oehlenschlager has recorded at least six roadkills in Wadena County. A male was found on 11 April 1969 and a female on 5 April 1970. These were deposited as specimens at the Bell Museum, University of Minnesota, Minneapolis. Collisions with power lines have also been recorded by Oehlenschlager. Harassment of feeding prairie chickens by rooster Ring-necked Pheasants was observed several times in the early 1960s when that species was locally common in the area.

Most of this northcentral study area was included within the generalized range map of both prairie chickens and Sharp-tailed Grouse by Farmes, et. al. in 1960. However, Oehlenschlager has never recorded a Sharp-tailed Grouse or any hybrids with prairie chickens in Wadena County. Harry Marshall (personal communication) indicated that, in 1923, he shot a Sharp-tailed Grouse from a flock of prairie chickens in Section 10 or 11 of Lyons Township. He did not know what it was until, in later years he hunted the species in states west of Minnesota.

No Sharp-tailed Grouse were noted in the 1981 survey although their typical habitat of grassy-shrublands was common in some areas.

The Future

As with most wildlife species, the outlook for the northcentral prairie chicken flock is contingent upon habitat quality as it is affected by land-use practices. Hamerstrom and Hamerstrom (1973) pointed out that booming ground counts are an index of habitat quality. "Where the grounds are few and far apart, and/or small in size, habitat tends to be poor — a clear warning that management is needed." From this we would judge the northcentral habitat to be marginal to poor and that management is a priority.

Seven booming grounds at the northern edge of the study area were locted within the coverage of the "Huntersville fire" of 1976. One of the two largest grounds (10 males) was found here. Jack pine uplands were burned over and a number of prairie species, notably big bluestem, are presently thriving and nesting cover is available. This will be a transitory condition, however, because of the extent of natural regeneration of jack pine and aspen stimulated by fire. Some tracts were salvagecut after the fire; remaining slash was windrowed and pine seedling have been mechanically planted. There is the potential to maintain these sandy uplands as nesting cover by periodic burning but the economics of this practice are probably not as favorable as for forest production.

The extent of land clearing is not great at present and will probably exert a positive influence on chickens in the future unless it becomes widespread and is followed by monotypic land use over large acreages. The large number of diversified farming operations should be somewhat of a deterrent to this, but conditions could change rapidly.

The survival of this remnant flock hinges, in part, on maintaining lowlands in a relatively open condition. Private efforts are reasonably successful and the continuation of present land uses on private land (approximately 80% of total) would benefit chickens. Programs such as the wetlands tax credit should promote the retention of lowlands. Informational materials provided to landowners would increase their knowledge of habitat requirements and possibly their interest in prairie chicken conservation.

Where acreages of public land occur within the study area, efforts could be directed toward maintaining grassy cover with a low dominance of woody vegetation. Corn food plots could be maintained in areas where food resources are not otherwise available on private land. These should be in close proximity to tall lowland vegetation (preferred roosting habitat) thereby reducing movements and associated energy demands. Such action undertaken on public lands could maintain the population should land-use practices change on private land.

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Summer Season

(June 1 - July 31, 1981)

Janet C. Green

The species total for the 1981 *summer season was* 261, *a number that has varied little in the last five years. Confirmation of the breeding status in Minnesota for the Northern Three-toed Woodpecker and Rusty Blackbird was finally obtained in Cook County. The other noteworthy breeding record was the discovery of a family of Burrowing Owls for the second year in a row. Breeding data were accumulated for* 166 *species by* 57 *observer teams.*

It rained on twenty-eight out of thirty days in June in Duluth, putting a damper on bird watching and probably on bird nesting. Other parts of the state were not quite so soggy but it still was a wet, albeit warm, summer overall. The number of species seen in June and July was 261; that number has fluctuated little in the last five years, only from 259 to 262. Of that total about 40 species are migrants, visitants, or vagrants. The rest probably nest, although actual breeding data were turned in this year for 166 species. My admonition on the need for breeding information, expressed in the summary for the 1980 Summer Season, stands. Anyone who needs more nest-brood forms is urged to visit a local copying machine or to write Kim Eckert or me for blank forms. The dynamos on nest finding this year were the Hoffmans, Nestor Hiemenz, Erlys Krueger and "D. J. Johnson. Their participation is greatly appreciated.

The highlights of the nesting season were the first documented breeding in Minnesota for the Northern Three-toed Woodpecker and Rusty Black-

bird, both found along Cook County's Gunflint Trail which penetrates the most boreal-type forests in the state. Two other species, Boreal Owl and Wilson's Warbler, which have been found there in the past were not located anywhere in the state this summer. The King Rail, which was last seen during summer in 1977, was missed again this year. The outlook for its remaining on the list of regular breeding species is slim unless someone soon finds a breeding location. Both Baird's Sparrow and Sprague's Pipit were not located during the height of the nesting season in spite of many field trips to the places with the most favorable habitat on the prairie east of Felton. Better news was the discovery of a family of Burrowing Owls, making it the second year in a row this species has been found nesting in the state. The initial discovery of Bell's Vireo and Yellow-breasted Chat in the Minnesota River Valley near Black Dog Lake generated much field activity and at least seven vireos and probably three chats were found in the Valley between Savage and Fort Snelling. Alder Flycatchers were also reported by several observers from this same general area which is slightly south of the range for this species mapped by Zink and Fall (**Loon** 53:209). More detailed information on number of birds, dates, etc. would be useful.

Two spectacular vagrants showed up this summer on Minnesota Point, Duluth and were well documented by published photos: two Brant, first seen on June 20th, departed on July 1st (**Loon** 53:174-5) and a Wilson's Plover was discovered on July 4th (**Loon** 53: 123-5). Other strays included the Mockingbird, Hooded Warbler (probably the same male as last summer near Savage) and Summer Tanager.

The same style is used for summarizing the species information as in the last two years with a couple of modifications. "Breeding data" means that an actual nest or brood card is on file for those counties listed. Sometimes I could exact enough information concerning date, place and breeding evidence from notes included on seasonal report forms and made out cards myself for a few noteworthy species from this source. But mostly "breeding data" indicates that some worthy observer filled out a nest or breed card. "Nesting evidence" is used for lesser amounts of information that point to breeding.

The species accounts should be read with the maps in Green and Janssen (**Minnesota Birds**) in mind. The regional descriptions (Northwest, Southeast, etc.; North - South; western, southern, etc.) refer to the map on p. 5 in that book which was also reprinted in **Ther Loon** 52:123. The phrases "throughout range" or "within range" refer to the map for a species as published in **Minnesota Birds** even though expansion of ranges or expansion of knowledge has occured since then. The distinction between throughout or within is subjective but based on the geographical frequency of observations with "throughout" used for more numerous observations widely distributed in the range. Sometimes I give the number of counties to also create a comparison of frequency of observation within a group of species, for example owls or warblers. When a species was seen in only a few counties, I list them all.

All of these range descriptions or county lists are made possible by summarizing the data from all the seasonal reports on a separate map for each species. Symbols for the type of information, whether breeding or sight observation, are included for each county, and significant notes on date, observer, town, etc. are made in the margin. These maps, which I have used now for three years, are put in the M.O.U. species file and make a good visual display on ranges and frequency of observation.

The blank spots on the maps may be due to lack of observers as well as lack of birds; a perennial problem in interpretation that a longer time ser-

ies of maps may help to overcome. The problem seems most acute in the Southwest were many common species, e.g. Yellow Warbler, Scarlet Tanager, are not reported. Is that because of the virtual elimination of wooded habitat in that agricultural area, or because we have few observers there?

This report was written before the summary of the U.S. Fish and Wildlife Service's Breeding Bird Survey for 1981 was available. In addition to the contributions of M.O.U. members, data were obtained from the Department of Natural Resources (cranes and colonial species mostly) and from The Nature Conservancy on bird surveys of several of their prairie tracts. Their cooperation is gratefully acknowledged. The following abbreviations are commonly used: DNR - Department of Natural Resources; NWR - National Wildlife Refuge; SP - State Park; WMA - Wildlife Management Area. The only departure from using county names is Duluth, used because everyone knows where it is and St. Louis County is so large that listing it does not convey much geographical specificity.

Common Loon

Breeding data from Cook, Lake, Itasca, Cass, Hubbard, Clearwater, Crow Wing, Stearns, Wright; nesting reported from Kittson, Anoka. Seen throughout range plus Lac Qui Parle (Big Stone NWR).

ARCTIC LOON

One seen on 6-25 in Jackson (**Loon** 53:219).

Red-throated Loon

TWELVE seen on 7-3 at Minn. Pt., Duluth (**Loon** 53:168).

Red-necked Grebe

Breeding data from Clearwater, Mahnomen, Todd, Pope; nesting reported from Crow Wing, Otter Tail. Seen throughout range plus one on 7-5 at Duluth (KRE).

Horned Grebe

Late migrant: 6-2 Stony Pt., St. Louis Co. Seen in Marshall, Pennington.

Eared Grebe

Breeding data from Big Stone, Wilkin, Stevens. Seen throughout range plus isolated reports from Beltrami (Waskish), Cass (Chippewa NF), Hennepin (all summer, French Lake, OLJ).

Western Grebe

Breeding data from Todd, Douglas, Pope, Stevens, Big Stone, Kandiyohi, FREEBORN. Seen throughout range plus Anoka (6-18 Round Lake, KL), Duluth (7-4, KRE))

Pied-billed Grebe

Breeding data from Itasca, Cass, Becker, Todd, Pope, Kandiyohi, Hennepin. Seen throughout state.

White Pelican

Breeding data from Lake of the Woods, Big Stone. Seen throughout the western regions plus St. Louis (7-19 Boulder Lake).

Double-crested Cormorant

Breeding data from Grant, Pope, Big Stone, Swift, Kandiyohi; nesting reported from Meeker, Anoka. Seen throughout the western, southern and central regions; individual birds in Aitkin (Kimberly WMA), St. Louis (Duluth harbor), Lake (Snowbank Lake). Numbers expanding.

Great Blue Heron

Breeding data from Cook, Lake, Hubbard, Grant, Pope, Stearns, Morrison; nesting reported from 25 other counties throughout all regions except the Southwest.

Northern Green Heron

Breeding data from Stearns; nesting reported from Ramsey, Houston. Seen throughout the state as far north as Duluth, Grand Rapids, Bemidji, Thief River Falls; not reported from the Southwest.

Little Blue Heron

Breeding data from Pope (one nest, NMH). Also seen in Lac Qui Parle (two, Big Stone NWR, C&MB).

Cattle Egret

About twelve birds, Big Stone NWR, Lac Qui Parle Co. (C&MB).

Great Egret

Breeding data from Grant, Pope; nesting reported from 12 other counties throughout the South (but none from the Southwest) plus Otter Tail. Also seen in Marshall, Pine.

Snowy Egret

Seen at Big Stone NWR, Lac Qui Parle Co. (6-8, one; 7-21, two; C&MB).

Black-crowned Night Heron

Breedring data from Grant, Pope; nesting reported from Lac Qui Parle, Anoka. Seen throughout range.

Yellow-crowned Night Heron

Breeding data from Dakota (**Loon** 53:171); nesting suspected from AITKIN (**Loon** 53:232). Seen at Big Stone NWR, Lac Qui Parle Co. (6-19, one; 7-17, two; C&MB). KOOCHICHING (6-4 Big Falls, J. Schneeweis).

Least Bittern

Very few reports — seen in Grant, Kandiyohi, Rock, Nicollet, Anoka.

American Bittern

Declining number of reports — seen in 19 counties mostly in the northern regions.

Whistling Swan

Late migrants: 6-2 (4) Marshall. Singles seen in Duluth area (6-12 - 15, Grand Lake; 7-2 St. Louis River).

Canada Goose

Breeding data from LeSueur; nesting reported from Becker, Otter Tail, Sherburne, Anoka. Seen throughout the state including the North Shore (St. Louis, Lake).

BRANT

One on Minn. Pt., Duluth 6-20 - 7-1 (**Loon** 53:174-5).

Mallard

Breeding data from Cook, Lake, St. Louis, Koochiching, Itasca, Hubbard, Clearwater, Pennington, Becker, Stevens, Stearns, Hennepin, Le Sueur. Seen throughout the state.

Black Duck

Breeding data from Cook, Lake; nesting reported from Becker (Island Lake, DMJ). Only other observations were from Marshall, Duluth, Hennepin (French Lake, OLJ).

Gadwall

Breeding data from Pennington, Big Stone. Seen within range plus Duluth (RBJ).

Pintail

Seen within range plus Itasca (White Oak Lake, 6-18, TL), Duluth (KRE).

Green-winged Teal

No breeding evidence. Seen in 15 counties including Duluth, Cook.

Blue-winged Teal

Breeding data from Becker, Big Stone, Stearns, Hennepin, Le Sueur. Seen throughout the state.

American Wigeon

Breeding data from Itasca. Seen throughout range plus Big Stone, Hennepin.

Northern Shoveler

Breeding data from Pennington. Seen throughout range plus Itasca (White Oak Lake, 6-19, TL), Duluth (KRE).

Wood Duck

Breeding data from Pennington, Clearwater, Mahnomen, Itasca, Stearns, Hennepin, Le Sueur. Seen throughout state including Lake.

Redhead

No breeding evidence. Seen within range plus Todd, Itasca.

Ring-necked Duck

Breeding data from Lake, Beltrami; nestng reported from Anoka (Carlos Avery). Seen throughout range plus Pipestone.

Canvasback
Breeding data from Big Stone, Hennepin. Seen in Marshall, Pennington, Mahnomen, Clay, Duluth (7-4, KRE).

Lesser Scaup
No breeding evidence. Seen in Marshall, Pennington, Clay, Murray, Itasca, Duluth.

Common Goldeneye
Breeding data from Beltrami, Itasca, Coo. Seen within range.

BUFFLEHEAD
Female, 6-12, Beckman, Morrison Co. (NMH).

Ruddy Duck
Breeding data from Stearns. Seen throughout range plus Itasca (6-19, White Oak Lake, TL).

Hooded Merganser
Breeding data from Lake, Mahnomen. Seen throughout the Northeast, North Central plus Lac Qui Parle, Murray.

Common Merganser
Breeding data from Cook, Lake. Also seen in St. Louis.

Red-breasted Merganser
Breeding data from St. Louis (Duluth Twp.). Also seen in Cook.

Turkey Vulture
Seen throughout the Southeast, North Central plus Mahnomen, Becker, Kandiyohi (6-10 Sibley SP, EB-K).

Goshawk
Breeding data from Lake of the Woods, Koochiching. Seen within range plus Pine.

Sharp-shinned Hawk
Breeding data from Hubbard. Seen within range plus Clay (6-10 Barnesville, SM).

Cooper's Hawk
Breeding data from Itasca; nesting reported from Anoka. Reported in all regions except the Northeast, Southwest, South Central.

Red-tailed Hawk
Breeding data from Pennington, Mahnomen, Hubbard. Seen throughout the state.

Red-shouldered Hawk
Breeding data from Aitkin. Also seen in Clay, Becker, Cass, Crow Wing, Anoka, Washington, Winona.

Broad-winged Hawk
Breeding data from Clearwater, Hubbard, Stearns, Anoka; nesting reported from Crow Wing. Seen throughout range.

Swainson's Hawk
Breeding data from Lac Qui Parle, Lyon, Rice. Seen within range plus Wright (Silver Creek Twp.), Washington (Cottage Grove).

Bald Eagle
Breeding data from Cook, Lake, St. Louis, Houston; nesting reported from Beltrami. Seen throughout range plus Anoka, Chisago, Washington.

Marsh Hawk
No breeding evidence. Seen throughout state except in the Southeast.

Osprey
Breeding data from Cook, St. Louis, Cass, Mille Lacs; nesting reported from Hubbard, Aitkin. Seen throughout range plus Lac Qui Parle (6-7 Big Stone NWR, C&MB), Sherburne (7-28 Miss. River, EAH).

Peregrine Falcon
Single birds on 6-3 Minn. Pt., Duluth (JP/AM) and 6-25 Nobles (**Loon** 53:219).

Merlin
Breeding data from St. Louis (White Iron Lake); also seen in Itasca, Cook.

American Kestrel
Breeding data from Becker, Hubbard, Stearns. Seen throughout the state.

Spruce Grouse
Breeding data from Cook. Also seen in Lake, Itasca (Scenic SP, displaying male, JP/AM).

Ruffed Grouse
Breeding data from Cook, Lake, Itasca, Clearwater, Pine, Stearns, Sherburne, Anoka, Houston. Seen throughout range.

Greater Prairie Chicken
Seen throughout range in Northwest and adjacent counties plus Chippewa.

Sharp-tailed Grouse
Seen in Aitkin, Koochiching, Lake of the Woods, Marshall.

Bobwhite
More reports than usual after the recent mild winters: seen in Rock, Jackson, Houston, Steele (breeding evidence).

Ring-necked Pheasant
Breeding data from Stearns, Le Sueur; nesting reported from Isanti, Sherburne, Anoka. Seen throughout range plus Beltrami (7 miles N. of Bemidji, AS).

Gray Partridge
Breeding data from Sherburne, Wright, Olmsted. Seen throughout range.

Turkey
Nesting reported from Houston.

Sandhill Crane
Breeding data from Aitkin. Also seen in Marshall, Pennington, Lake of the Woods, Beltrami, Koochiching, Sherburne, Anoka.

Virginia Rail
Breeding data from Le Sueur. Seen within range plus Koochiching (NE of Waskish, JH) and Lake (Silver Creek Twp.).

Sora
Nesting reported from Beltrami. Seen throughout state except the Northeast.

Yellow Rail
Seen in Aitkin, Cass (JB), Wilkin (Anna Gronseth Prairie, Town Hall Prairie).

Common Gallinule
Seen in Anoka (Carlos Avery), Scott (Fisher Lake), Houston (Reno).

American Coot
Breeding data from Itasca, Cass, Todd, Stearns; nesting reported from Beltrami, Anoka. Seen throughout state except the Northeast.

Semipalmated Plover
Early migrants North: 7-18; South: 7-30 (two locations).

Piping Plover
Breeding data from Duluth, Lake of the Woods (**Loon,** this issue). Early migrants North: 7-26, five, Kittson.

WILSON'S PLOVER
First state record: 7-4 Duluth (**Loon** 53:123-5).

Killdeer
Breeding data from Cook, Lake, St. Louis, Itasca, Aitkin, Pennington, Big Stone, Stearns, Hennepin, Le Sueur. Seen throughout the state.

American Golden Plover
Late migrants North: 6-29 Clay (KRE). Early migrants North: 7-27 Duluth.

Ruddy Turnstone
Late migrants North: 6-5; 6-13 Duluth (KRE).

American Woodcock
Breeding data from Cook, Lake, Sherburne, BIG STONE; nesting reported from Aitkin, Cass. Seen within range plus Lac Qui Parle (Big Stone NWR), Clay.

Common Snipe
Seen throughout the state.

Upland Sandpiper
Breeding data from Polk, Clay, Mower. Reported throughout the western regions plus five counties in the central regions and Aitkin, St. Louis (Floodwood).

Spotted Sandpiper
Breeding data from Cook, Lake. Seen throughout the state.

Solitary Sandpiper
Late migrants? North: 6-11 Cook (Swamper Lake) M&KH, 6-16 Itasca (Scenic SP) TL, 6-27 Cook (Bow Lake) M&KH. Early migrants North: 7-20; South: 7-4, 7-9, 7-11.

Greater Yellowlegs
Late? migrants North: 6-11 Beltrami (JH), 6-26 Marshall (SS), 6-29 Clay (KRE). Early migrants North: 7-15, 7-20; South: 7-1 (JCF), 7-25, 7-28.

Lesser Yellowlegs
Early migrants North: 6-29, 7-15, 7-18; South: 7-1, 7-6, 7-7.

Willet
Early summer records: 6-9 Wilkin (pr., Breckenridge lagoons), 6-15 Pennington (Thief River Falls lagoons), 7-7 Clearwater (two, Lake Itasca). Early migrants North: 7-25, 7-29.

Pectoral Sandpiper
Early migrants North: 6-29, 7-18; South: 6-25 (MJF), 7-17, 7-18 (two locations each).

White-rumped Sandpiper
Late migrant North: 6-20 Duluth (KRE).

Baird's Sandpiper
Late migrants South: 6-3 Big Stone; North: 6-6 Duluth. Early migrants North: 7-25, 7-29; South: 7-28.

Least Sandpiper
Late migrants South: 6-3 Big Stone; North: 6-8 Pennington. Early migrants North: 7-10, 7-12; South: 7-7, 7-9, 7-14.

Dunlin
Early migrants North: 7-29 Pennington.

Semipalmated Sandpiper
Late migrants South: 6-1, 6-3; North: 6-9 - 18 Duluth. Early migrants North: 7-10, 7-16; South: 7-8, 7-14, 7-25.

Western Sandpiper
Late migrants South: 6-3 Big Stone (NMH).

Sanderling
Late migrants North: 6-6, 6-8. Early migrants North: 7-16, 7-29; South: 7-9 Goodhue (RSA).

Short-billed Dowitcher
Early migrants South: 7-25 (RBJ), 7-30 (KRE).

Long-billed Dowitcher
Early migrants South: 7-30 (KRE, RBJ), 7-30 (EB-K).

Stilt Sandpiper
Early migrants South: 7-25 (two locations), 7-31.

Buff-breasted Sandpiper
Early migrants South: 7-25 (5) Traverse (RBJ).

Marbled Godwit
Breeding data from Marshall. Seen throughout range plus Lac Qui Parle (two pr., Big Stone NWR), Jackson (one, 6-24 - 26 Heron Lake, S. Maxson).

American Avocet
Late migrants: 6-6 Duluth; 6-9 (2) Sibley (Lake Washington). Summer records: 6-11, two, Clay (Clay WMA), 6-15, two, Marshall (Thief Lake WMA), 6-29, eight, Clay (KRE).

Wilson's Phalarope
Breeding data from Polk; nesting reported from Aitkin. Seen within range plus Duluth (7-5, eight, 7-19). Early migrants South: 7-30.

Northern Phalarope
Late migrants North: 6-1, 6-2; early migrants South: 7-28.

Herring Gull
Breeding data from Cook, Lake, St. Louis, Lake of the Woods. Scattered reports in the North plus Pope, Washington.

Ring-billed Gull
Breeding data from St. Louis, Lake of the Woods, Mille Lacs. Seen throughout the state except the South Central and Southeast.

Franklin's Gull
Breeding data from Todd (Lake

Osakis), Marshall (15-20 nests, East Park WMA). Seen throughout the western regions plus Hennepin (6-6, OLJ).

Bonaparte's Gull

Late migrants North: 6-5 Pine, 6-6 Duluth, 6-6 Itasca. Early migrants North: 7-19 - 27, two to seven, Lake Bemidji, Beltrami Co. (AS).

Forster's Tern

Breeding data from Todd, Douglas, Pope, Stevens, Big Stone. Seen throughout range.

Common Tern

Breeding data from Lake of the Woods, Mille Lacs, Duluth. Also seen in Aitkin, Crow Wing, Hubbard,, Becker (Cotton Lake).

Caspian Tern

Late migrants South: 6-6 Goodhue; North 6-3 Duluth, 6-4 Hubbard. Midsummer records: 6-27 Cook (Grand Marais), 7-20 Duluth.

Black Tern

Breeding data from Itasca, Stearns, Sherburne; nesting reported from Beltrami, Wabasha. Seen also throughout the state except the Northeast.

Rock Dove

Seen throughout the state.

Mourning Dove

Breeding data from Otter Tail, Morrison, Sherburne, Stearns, Kandiyohi, Big Stone, Le Sueur, Houston. Seen throughout the state except Lake, Cook, N. St. Louis.

Yellow-billed Cuckoo

Breeding data from Houston. Reported from 14 other counties including Marshall (JP), Carlton (Kettle Lake, RBJ), St. Louis (Stoney Pt., JCG).

Black-billed Cuckoo

Breeding data from Kandiyohi, Le Sueur. Reported from 41 other counties throughout the state.

Screech Owl

Breeding data from Martin, Winona; nesting reported from Stearns, Hennepin. Only one other report from Lac Qui Parle.

Great Horned Owl

Breeding data from Lake, Hubbard, Wadena, Crow Wing, Stearns, Anoka; nesting reported from Aitkin. Seen throughout range.

BURROWING OWL

Breeding data from Stevens (**Loon** 53:227).

Barred Owl

Breeding data from Beltrami, Hubbard, Crow Wing, Anoka; nesting reported from Cook. Seen throughout the wooded portions of the state.

Great Gray Owl

Breeding data from Lake of the Woods, Koochiching, St. Louis (Alango Twp.). Seen in Beltrami, Itasca, Lake (two locations), ANOKA (**Loon** 53:173).

Long-eared Owl

Only reported from Cook, Lake.

Short-eared Owl

Breeding data from Wilkin. Seen in Beltrami, Lac Qui Parle.

Saw-whet Owl

Breeding data from Marshall, Crow Wing. Reported from Hubbard, Cass, Itasca, St. Louis, Lake, WINONA (**Loon** 53:173-74).

Whip-poor-will

Reported from 11 counties within range.

Common Nighthawk

Breeding data from Cook. Seen throughout the state.

Chimney Swift

Seen throughout the state.

Ruby-throated Hummingbird

Breeding data from Houston. Seen throughout the state.

Belted Kingfisher

Breeding data from Cook, Itasca, Morrison. Seen throughout the state.

Common Flicker

Breeding data from Cook, Lake,

Pennington, Clearwater, Cass, Stearns, Cottonwood, Nicollet, Le Sueur. Seen throughout the state.

Pileated Woodpecker
Breeding data from Beltrami, Cass; nesting reported from Clearwater, Cook. Seen in all regions except the Southwest.

Red-bellied Woodpecker
Breeding data from Stearns, Le Sueur. In the South seen in all regions except the Southwest; one record North: 6-6 DULUTH (R. Green).

Red-headed Woodpecker
Breeding data from Pennington, Itasca, Morrison, Hennepin, Le Sueur, Houston. Seen throughout the state except Koochiching, N. St. Louis, Lake, Cook.

Yellow-bellied Sapsucker
Breeding data from Cook, Itasca, Clearwater, Stearns, Kandiyohi. Seen throughout the state but in the South Central and Southwest only in the Minnesota River Valley.

Hairy Woodpecker
Breeding data from Cook, Lake, Itasca, Clearwater, Pennington, Stearns, Hennepin. Seen throughout the state.

Downy Woodpecker
Breeding data from Itasca, Cottonwood, Martin, Le Sueur. Seen throughout the state.

Black-backed Three-toed Woodpecker
Breeding data from Cook, Lake; nesting reported from Lake of the Woods. Seen also in Beltrami, Clearwater (Itasca SP).

Northern Three-toed Woodpecker
Breeding data from Cook; seen in Lake of the Woods (T157R34).

Eastern Kingbird
Breeding data from Pennington, Stearns, Washington, Le Sueur. Seen throughout the state.

Western Kingbird
Breeding data from Hubbard, Big Stone, Anoka; nesting reported from Sherburne. Seen in 18 other counties throughout range.

Great Crested Flycatcher
Breeding data from Le Sueur, Olmsted. Seen throughout the state.

Eastern Phoebe
Breeding data from Itasca, Clearwater, Cass, Wadena, Big Stone, Morrison, Stearns, Houston. Seen throughout the state.

Yellow-bellied Flycatcher
Breeding data from Cook. Seen throughout range. Late migrant: 6-8 Anoka.

Acadian Flycatcher
Breeding data from Houston

Willow Flycatcher
Seen within range as described in **Loon** 53:209 including Otter Tail (T131R44; T131R40).

Alder Flycatcher
Seen throughout the northern regions including Clay (Magnusson WMA, syntopy with Willow, DW). Also reported from Otter Tail, Yelow Medicine (Sioux Nat. WMA, 7-25, LP & DW), Stearns Sherburne (Becker, EAH), Anoka (Ham Lake, KL; Cedar Creek, JLH), Dakota (Black Dog Lake, many observers all summer).

Least Flycatcher
Breeding data from Big Stone, Clearwater, Cook. Seen throughout the state.

Eastern Wood Pewee
Breeding data from Cass, Big Stone, Kandiyohi, Sherburne; nesting reported from Anoka. Seen throughout the state.

Olive-sided Flycatcher
Breeding data from Cook. Seen throughout range. Early migrant: 7-26 Anoka.

Horned Lark
Breeding data from Anoka. Seen throughout the state except only Duluth in the Northeast.

Tree Swallow
Breeding data from Cook, Lake, Itasca, Stearns, Le Sueur. Seen throughout the state.

Bank Swallow
Breeding data from Morrison; nesting reported from Anoka. Seen throughout the state except only Duluth in the Northeast.

Rough-winged Swallow
Breeding data from COOK, Clearwater, Morrison. Seen throughout the state.

Barn Swallow
Breeding data from Cook, Lake, Becker, Wadena, Morrison, Benton, Washington, Le Sueur, Kandiyohi, Big Stone. Seen throughout the state.

Cliff Swallow
Breeding data from Lake, Isanti, Big Stone. Seen throughout the state.

Purple Martin
Breeding data from Lake of the Woods, Itasca, Le Sueur. Seen throughout the state.

Gray Jay
Breeding data from Cook, Itasca. Seen throughout the range.

Blue Jay
Breeding data from Pennington, Stearns, Hennepin, Le Sueur; nesting reported from Anoka. Seen throughout the state.

Black-billed Magpie
Breeding data from Marshall. Seen also in Itasca (same place as last year — Ontenagen Twp., TL).

Common Raven
Seen throughout the range including Marshall, Pine (T145R17; T141-R20).

Common Crow
Breeding data from Cook, Pennington, Stearns, Hennepin, Le Sueur. Seen throughout the state.

Black-capped Chickadee
Breeding data from Pennington, Itasca, Cook, Stearns, Hennepin, Le Sueur, Houston. Seen throughout the state.

Boreal Chickadee
Seen in Cook, Lake, Lake of the Woods.

Tufted Titmouse
Seen in Houston, Fillmore.

White-breasted Nuthatch
Breeding data from Pennington, Clearwater, Stearns, Hennepin, Le Sueur. Seen throughout the state.

Red-breasted Nuthatch
Breeding data from Cook, Clearwater, RAMSEY, HENNEPIN, DAKOTA. Seen throughout range plus COTTONWOOD (7-6 Mountain Lake, R. Goertzen).

Brown Creeper
Seen in Cook, Lake, Itasca.

House Wren
Breeding data from Benton, Stearns, Kandiyohi, Le Sueur, Martin. Seen throughout the state.

Winter Wren
Seen within range plus Becker (Tamarac NWR, JCG), Fillmore (pr., Forestville SP, JCG).

Long-billed Marsh Wren
Breeding data from Pope, Le Sueur. Seen throughout the state except Koochiching, N. St. Louis, Lake, Cook.

Short-billed Marsh Wren
Breeding data from Le Sueur. Seen throughout the state.

Mockingbird
One on 6-9 Orwell, Otter Tail Co. (SM).

Gray Catbird
Breeding data from Pennington, Clearwater, Stearns, Kandiyohi, Le Sueur, Houston. Seen throughout the state.

Brown Thrasher
Breeding data from Stearns, Le Sueur. Seen throughout the state.

American Robin
Breeding data from Cook, Lake, St. Louis, Aitkin, Itasca, Clearwater, Pennington, Big Stone, Stearns, Le Sueur, Houston. Seen throughout the state.

Wood Thrush
Seen throughout the wooded eastern and central regions as far north as Duluth, Itasca, Clearwater.

Hermit Thrush
Seen throughout range.

Swainson's Thrush
Late migrant: 6-2 Hennepin. Nesting reported from Cook; also seen in Lake, Itasca, Beltrami, Lake of the Woods.

Veery
Breeding data from Hubbard; nesting reported from Anoka. Seen throughout the North Central and eastern regions plus Rice, Stearns, Wilkin (Anna Gronseth Prairie), Becker, Marshall.

Eastern Bluebird
Breeding data from Becker, Clearwater, Hubbard, Stearns, Benton, Blue Earth; nesting reported from Duluth, Rock. Seen in 18 other counties in the central and eastern regions.

Blue-gray Gnatcatcher
Breeding data from ROCK (**Loon** 53:167), MORRISON (NMH), Houston. Seen throughout range plus Nicollet.

Golden-crowned Kinglet
Seen in eight counties within range.

Ruby-crowned Kinglet
Seen in eight counties within range.

Sprague's Pipit
One seen on 7-25 Felton, Clay Co. (C&MB).

Cedar Waxwing
Breeding data from Clearwater, Otter Tail, Stearns, Washington, Le Sueur. Seen throughout the state.

Loggerhead Shrike
Breeding data from Morrison, Benton. Also seen in Clay, Wadena, Renville, Carver, Le Sueur, Blue Earth.

Starling
Breeding data from Stearns, Le Sueur. Seen throughout the state.

Bell's Vireo
Breeding data from Wabasha; nesting reported from Dakota (six birds, Black Dog to Fort Snelling State Park, KG, MW et al). Also seen in Scott (Savage), Rice (Sibley Marsh, KJ).

Yellow-throated Vireo
Seen throughout most of the state except the Southwest and Northeast (seen in Carlton, Duluth, KRE).

Solitary Vireo
Breeding data from Cook, Hubbard. Seen within range.

Red-eyed Vireo
Breeding data from Clearwater, Stearns. Seen throughout the state.

Philadelphia Vireo
Seen in Cook. Early migrant: 7-13 Houston (M&EF).

Warbling Vireo
Breeding data from Le Sueur. Seen throughout the state including Carlton, Duluth only in the Northeast.

Black-and-white Warbler
Breeding data from Cook, Itasca, Seen in 12 other counties within range.

Prothonotary Warbler
Breeding data from Wabasha. Seen in Washington (Denwark Twp., BL).

Golden-winged Warbler
Seen in 11 counties within range.

Blue-winged Warbler
Breeding data from Hennepin. Seen in Rice, Olmsted, Houston.

Tennessee Warbler
Seen in Cook; all other records probably migrants. Late migrants South: 6-2, 6-3. Early migrants North: 6-25 St. Louis (Duluth Twp.), 6-30 Pine (Finlayson), 7-5 Marshall (Agassiz NWR); South: 7-12, 7-22, 7-26.

Nashville Warbler
Breeding data from Cook, Lake,

Koochiching; nesting reported from Beltrami. Seen in 11 other counties within range. Early migrants South: 7-15, 7-23.

Northern Parula
Breeding data from Hubbard. Seen in eight other counties within range.

Yellow Warbler
Breeding data from Clearwater, Morrison, Big Stone, Kandiyohi, Le Sueur, Houston. Seen in 43 other counties throughout the state except none in the Southwest.

Magnolia Warbler
Breeding data from Lake. Seen in five other counties within range.

Cape May Warbler
Seen in Cook, Lake. Late migrants North: 6-1; early migrants North: 7-5, 7-19.

Black-throated Blue Warbler
Seen in Cook, Lake.

Yellow-rumped Warbler
Breeding data from Marshall, Clearwater, Cook. Seen in 11 other counties within range.

Black-throated Green Warbler
Breeding data from Clearwater. Seen in 11 other counties within range.

Cerulean Warbler
Seen in Houston, Fillmore, Winona, Olmsted, Rice, TODD (Turtle Creek Twp., DB).

Blackburnian Warbler
Breeding data from Clearwater, Hubbard. Seen in nine other counties within range.

Chestnut-sided Warbler
Breeding data from Lake, Clearwater. Seen in 16 other counties within range plus Houston (6-8, 7-24, Beaver Creek Valley SP, NMH).

Bay-breasted Warbler
Breeding data from Cook. Seen in Lake, Itasca (Scenic SP). Early migrants North: 7-19 Duluth.

Blackpoll Warbler
Early migrant North: 7-18 Aitkin (**Loon** 53:175)

Pine Warbler
Breeding data from Pine. Seen in eight other counties within range.

Palm Warbler
Breeding data from Koochiching. Seen in Lake of the Woods, Beltrami, St. Louis.

Ovenbird
Breeding data from Lake; nesting reported from Anoka. Seen in 24 other counties within range.

Northern Waterthrush
Seen in Cook, Lake, St. Louis, Cass.

Louisiana Waterthrush
Breeding data from Olmsted; nesting reported from Houston.

Connecticut Warbler
Seen in nine counties within range plus Wadena, Pine (T145R17).

Mourning Warbler
Breeding data from Clearwater, Pine. Seen in 16 other counties within range plus Scott (6-28 Savage KG).

Common Yellowthroat
Breeding data from Lake of the Woods, Lyon, Le Sueur. Seen in 53 other counties throughout the state.

Yellow-breasted Chat
Two, possibly three, birds 6-27 - 7-4 Black Dog Lake area, Dakota Co. (KG, MW, **et al.**).

Hooded Warbler
Seen from 5-26 (SM) - 7-3 (Wachtlers) Scott.

Wilson's Warbler
Late migrants North: 6-2, 6-3.

Canada Warbler
Seen in Cook, Lake, St. Louis, Cass, Hubbard.

American Redstart
Breeding data from Cook, Houston. Seen in 24 other counties in the eastern and central regions plus Marshall, Becker.

House Sparrow
Breeding data from Stearns, Le Sueur. Seen throughout the state.

Bobolink
Breeding data from Stearns. Seen throughout the state including the North Shore part of Lake, Cook.

Eastern Meadowlark
Seen in the eastern regions plus Le Sueur, Scott, Sibley, Mille Lacs and most of the North Central region.

Western Meadowlark
Breeding data from Stearns. Seen throughout the state except the Northeast.

Yellow-headed Blackbird
Breeding data from Le Sueur, Big Stone, Stevens, Todd, Itasca (White Oak Lake, TL); nesting reported from Aitkin, Anoka. Seen throughout the state except the Northeast. Late migrants North Shore: 6-5, 6-10, 6-11.

Red-winged Blackbird
Breeding data from Winona, Le Sueur, Stearns, Big Stone, Itasca, Clearwater. Seen throughout the state.

Orchard Oriole
Seen in the southern regions, West Central as far north as Otter Tail (Orwell, SH), and Washington (Cottage Grove, BL).

Northern Oriole
Breeding data from Pennington, Itasca, Morrison, Stearns, Kandiyohi, Big Stone, Martin, Le Sueur, Ramsey; nesting reported from Anoka, Washington, Cottonwood. Seen throughout the state.

Rusty Blackbird
Breeding data from Cook (**Loon** 53: 223).

Brewer's Blackbird
Breeding data from Stearns; nesting reported from St. Louis, Beltrami. Seen throughout the North half plus East Central and adjacent counties to the west.

Common Grackle
Breeding data from Pennington, Clearwater, Pope, Big Stone, Le Sueur, Morrison, Lake, Cook. Seen throughout the state.

Brown-headed Cowbird
Breeding data from Lake of the Woods, Koochiching, Stearns, Big Stone, Houston. Seen throughout the state.

Scarlet Tanager
Breeding data from Stearns, Olmsted. Seen throughout the eastern and central regions plus Mahnomen, Becker, Swift in the western regions.

SUMMER TANAGER
Male seen on 6-18 in Crow Wing (**Loon** 53:223).

Cardinal
Breeding data from Stearns, Sherburne, Hennepin, Houston. Seen in the South half (eastern, central regions only) plus Clay (6-1, L&CF) and Lake (mid-May - 6-1, Knife River, J. Eaton).

Rose-breasted Grosbeak
Breeding data from Hennepin. Le Sueur, Houston; nesting reported from Anoka. Seen throughout the state.

Blue Grosbeak
Seen in Pipestone, Murray, Nobles, Rock.

Indigo Bunting
Breeding data from Clearwater; nesting reported from Anoka. Seen throughout the state.

Dickcissel
Seen throughout the South half plus Clay (7-17 Moorhead L&CF).

Evening Grosbeak
Breeding data from Hubbard, Itasca, St. Louis. Seen throughout range.

Purple Finch
Breeding data from Cook, Clearwater. Seen throughout range plus Anoka (Cedar Creek), Washington (Forest Lake).

Pine Siskin
Breeding data from Cook, STEARNS (NMH). Seen throughout range plus Clay (Moorhead), Anoka, Washington, Hennepin (nesting reported).

American Goldfinch
Breeding data from Stearns, Ramsey, Le Sueur. Seen throughout the state.

Red Crossbill
Widely scattered reports in June and early July: Cook, St. Louis (Duluth Twp.), Lake of the Woods, Hubbard, Mahnomen.

White-winged Crossbill
Seen in June in Lake of the Woods (6-2, ten, JP/AM), Aitkin (6-28, KRE), Cook (6-26, KRE).

Rufous-sided Towhee
Nesting evidence from Olmsted. Seen within range.

Savannah Sparrow
Seen throughout the state.

Grasshopper Sparrow
Seen throughout the southern and central regions plus Aitkin, Becker, Clay, Marshall.

Henslow's Sparrow
Seen in Winona (Kipp SP, FZL), Wilkin (Town Hall Prairie, TNC staff), Becker (Runeberg Twp., RBJ).

LeConte's Sparrow
Seen throughout the northern regions plus Mille Lacs, Otter Tail, Wilkin.

Sharp-tailed Sparrow
Seen in Aitkin (McGregor, KRE), Marshall (Agassiz NWR, S&KS).

Vesper Sparrow
Breeding data frlom Stearns; nesting reported from Murray. Seen throughout most of the state including St. Louis (Lakewood Twp., KRE).

Lark Sparrow
Seen in widely scattered locations in Clay, Douglas, Chippewa, Sherburne, Anoka, Houston.

Dark-eyed Junco
Breeding data from Cook. Also seen in Lake, St. Louis, Koochiching, Beltrami, Lake of the Woods, Marshall.

Chipping Sparrow
Breeding data from Cook, Lake, Cass, Clearwater, Morrison, Stearns, Le Sueur, Martin. Seen throughout the state.

Clay-colored Sparrow
Breeding data from Wadena, Stearns, Sherburne. Seen throughout the northern and central regions plus Pipestone, Blue Earth, Le Sueur, Rice, Goodhue, Olmsted, Winona.

Field Sparrow
Breeding data from Stearns, Kandiyohi; nesting reported from Anoka. Seen throughout the South half plus Douglas, Otter Tail, ST. LOUIS (near Floodwood, LP).

WHITE-CROWNED SPARROW
Early migrant: 7-30 Pipestone (**Loon** 53:226-227).

White-throated Sparrow
Breeding data from Hubbard, Cook; nesting reported from Cass. Seen throughout range.

Lincoln's Sparrow
Seen in Lake of the Woods, Beltrami, Koochiching, St. Louis, Lake, Cook, PINE (Nickerson, KRE).

Swamp Sparrow
Breeding data from Le Sueur. Seen throughout the state.

Song Sparrow
Breeding data from Cook, Lake, Clearwater, Morrison, Le Sueur; nesting reported from Anoka. Seen throughout the state.

Chestnut-collared Longspur
Seen in Clay (52 males, also females, Felton, DW, LP).

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CORRECTIONS

THE SPRING SEASON (March 1 - May 31, 1981) **Loon** 53:188-207

White-fronted Goose: 3-28 Cottonwood JEB, JSD should be 3-28 Olmsted.

Green-winged Teal should be Blue-winged Teal: 3-30 Lake SW/MS.

Solitary Sandpiper: 3-27 Douglas SM should be 4-27 Douglas SM.

Purple Martin: 4-15 Beltrami JC should be 5-15.

Mountain Bluebird: eliminate 4-19 Wabasha JSD (error for Eastern Bluebird).

Orange-crowned Warbler: eliminate 5-20 Hennepin JC.

10550 Old North Shore Rd., Duluth, MN 55804.

THE M.O.U. 300 CLUB AND 200 COUNTY CLUB

New totals for your Minnesota Life List (300 Club) and the 200 County Club will be due on June 1, 1982 for publication in the summer issue of "The Loon." Please send your totals to the Editor as close to that date as possible. I would appreciate any lists of 200 or more from counties not listed. (See **The Loon** 53:216 for those counties with 200 or more.) **Editor**

DETERMINING PRIORITIES IN NONGAME MANAGEMENT

Gerald J. Niemi

Which species of Minnesota birds should receive priority, which species should receive your check-off dollars provided on our state income tax form? These questions are not easily answered as the following article shows but a system is suggested that identifies most of the critical species that will benefit from management.

In recent years the state of Minnesota has accelerated its involvement in programs designed to benefit the nongame wildlife species in the state. This involvement has come in the form of three programs: 1) the Minnesota Natural Heritage Program, a joint venture of the Minnesota Department of Natural Resources (MDNR) and The Nature Conservancy (i.e., see Pfannmuller and Wells 1981), 2) the Minnesota nongame program of the MDNR, and 3) the Technical Advisory Committee to the MDNR on endangered species. The second is now funded by a voluntary contribution as a checkoff on state income tax forms. Naturally, one major problem is to establish a priority system to objectively identify what species to emphasize and where monies should be allocated. Because funds are limited and for vertebrates alone there are several hundrd species, this priority system is obviously necessary.

Various priority lists have been published for wildlife species in Minnesota (i.e., Moyle 1976, Pfannmuller and Wells 1981) and here I expand on those lists to include more quantifiable biological criteria using the framework outlined by Rabinowitz (1981) for plants. This framework is based on the concept of rarity and evaluates three properties associated with the biology of a species. These criteria are assumed to be related to rarity and include: 1) the **size** of the species **geographic range,** 2) **its habitat specificity,** and 3) the **size** of its **local population.** The biological basis for criteria one and three are well-supported by studies in population genetics and are primarily related to the population size of a species (i.e., Kimura and Ohta 1971). The basis for criterion two is primarily associated with the species susceptibility to habitat perturbation or loss and its ability to use alternative habitat types.

Here I present an example of this framework using Minnesota birds. I use birds because, in general, they are easily censused, habitat-specific, and their ranges are well known. In addition, since they represent an ecologically diversified group, they have been suggested as good bioindicators of environmental perturbation (i.e., see Järvinen and Väisänen 1979 a and b).

Excluded Species

The goal of the framework is to establish a priority system to identify species of concern within the state and, therefore, form a rational basis to allocate monies to aid their continued perpetuation. My focus is on the species of concern within Minnesota and I concentrate only on species with a Minnesota range which would benefit from some directed management,

research, or conservation efforts within the state. I excluded from consideration those species with Minnesota on the periphery of its range. These species are likely more abundant within the center of their range (probably because of more available habitat) and best considered for efficient management within their main range. My rationale being that even the most intensive efforts in the periphery may be fruitless.

I acknowledge that many of these species are among the most-sought birds for observation by naturalists in Minnesota (i.e., Bell's Vireo, Blue Grosbeak, Cattle Egret, Snowy Egret, Northern Three-toed Woodpecker, Black-billed Magpie, and Yellow-breasted Chat). However, populations of many of these species fluctuate naturally and probably independently of management efforts. Regardless, I have made numerous exceptions in the following cases: 1) when a species has a relatively small geographic range (i.e., Common Tern), or 3) when a species is limited to a critical or rare habitat and the habitat is also limited in other parts of the species range (i.e., Common Tern), or 3) when a species has special status (i.e., endangered-Peregrine Falcon).

A large portion of current efforts in wildlife management benefit game species and, therefore, I have also eliminated almost all game species from the analysis. I justify this position for three reasons: 1) the financial allocation for wildlife species is already skewed in favor of game species, 2) most game species have relatively wide geographic distributions, and 3) nongame programs were created to address formerly neglected nongame species. I have made two exceptions by including the Spruce Grouse and the Greater Prairie Chicken. Both species have low populations within the state and are in need of consideration. I have also excluded all non-native species such as the Starling, House Sparrow, Rock Dove, and Mute Swan.

Methods — Criteria of the Framework

Following Rabinowitz (1981) and for simplicity, I also use a dichotomy for each criterion and form eight cells to classify species (Table 1). The dichotomy for each criterion was defined as follows:

1) Size of geographic range
   A) Large — the species is distributed in an area greater than 1 million square kilometers;[1]
   B) Small — the species is distributed in an area less than 1 million square kilometers;
2) Habitat specificity
   A) Wide—the species is commonly found in more than two distinct habitat types;
   B) Narrow — the species is commonly found in only one or two distinct habitat types (see below);
3) Size of local population
   A) Large — in the local area (i.e., 4 square kilometers) where the species occurs, it is abundant (i.e., hundreds or thousands of individuals),
   B) Small — in the local area where the species occurs, it is not abundant (i.e., a few individuals or tens of individuals).

I use the following habitat types (for more information on such classifications see Wowardin et al. 1979, Green and Niemi 1978, Kessel 1979, or Niemi and Pfannmuller 1979): 1) persistent wetlands (i.e., cattail-sedge marshes), 2) open water areas (i.e., lakes, rivers, ponds), 3) shrub wetlands (i.e., alder and willow marshes), 4) forested wetlands (i.e., ash swamps), 5) grasslands (including prairies) , 6) early successional vegetation (i.e., logged and burned areas), 7) deciduous forests, 8) coniferous forests, and 10) artificial habitats (i.e., cities,

[1] One million square kilometers roughly corresponds to the area of the states of Minnesota, Michigan, Wisconsin, Ohio, and North and South Dakota.

farms, and parks). I used common sense to integrate the size of the area considered to define local abundance. For example, a colony of gulls are locally abundant in a 5 ha area even though their absolute numbers may be low in a four square kilometer area. Conversely, a Blue Jay may not be very abundant in a 5 ha area, but in four square kilometers it may be as abundant as the gull.

I have relied on a few standard references (i.e., Robbins et al. 1966, Peterson 1980, Bent Life History series) and personal experience (i.e., Niemi et al. 1979, Green and Niemi 1978, Niemi and Pfannmuller 1979, and Niemi et al. 1980) to classify the breeding birds of Minnesota (Green and Janssen 1975) into one of the eight cells (Table 1).

Table 1. Classification of eight cells based on three factors associated with rarity in bird species (from Rabinowitz 1981).

		GEOGRAPHIC RANGE			
		LARGE		SMALL	
		HABITAT SPECIFICITY			
		WIDE	NARROW	WIDE	NARROW
LOCAL POPULATION	LARGE	1	3	5	7
	SMALL	2	4	6	8

Results

A total of 186 species were classified into seven cells (Table 2). I was unable to determine any species that could be classified into cell five. Apparently there are few (if any) North American bird species that have a small geographic range, wide habitat tolerance, and high local abundance. Cell one is characterized by bird species found abundantly in many parts of the state and throughout the northeastern United States. Cell two represents a mixed group of species with a wide array of life forms and life histories represented. Cell three is represented by colonial nesting species or species that are locally abundant within a specific habitat type. Among the most difficult of these species to classify were the warblers. However, the Tennessee, Bay-breasted, and Cape May are often associated with spruce budworm outbreaks and their populations are very high in these areas (i.e., see Kendeigh (1948) or Welsh (1980)). Cell four also includes a diverse group of species but widely distributed in specific habitat types and seldom abundant in Minnesota. Many of the species in this cell have specific requirements such as the Belted Kingfisher (soil banks and shallow water areas), Pileated Woodpecker (old growth forests), or Northern Waterthrush (forested water edges) or have low populations often attributed to pollutants or to habitat loss such as the Common Loon, Bald Eagle, Osprey, Peregrine Falcon, and Loggerhead Shrike.

The classification shows that most breeding bird species (39%) fall into the category of wide geographic range, wide habitat tolerance, and low local population abundance. Using the criteria I have suggested, only 19 species (10%) have small geographic ranges. Although this number would change if the discrimination criterion of geographic range were increased, the bias is towards putting more species in the wide geographic range category. Therefore, if the geographic range size were increased, among the first species to be added to cell eight

Table 2. Classification of the breeding bird species of Minnesota into the eight cells identified in Table 1.

Cell 1 — Large Geographic Range, Wide Habitat Tolerance, Large Local Population (27 species)

Killdeer
Least Flycatcher
Tree Swallow
Barn Swallow
Cliff Swallow
Purple Martin
Blue Jay
Common Crow
Black-capped Chickadee
House Wren
American Robin
Veery
Red-eyed Vireo
Warbling Vireo
Nashville Warbler
Yellow Warbler
Chestnut-sided Warbler
Ovenbird
Mourning Warbler
Common Yellowthroat
American Redstart
Red-winged Blackbird
Common Grackle
Brown-headed Cowbird
Savannah Sparrow
White-throated Sparrow
Song Sparrow

Cell 2 — Large Geographic Range, Wide Habitat Tolerance, Small Local Population (73 species)

Sharp-shinned Hawk
Cooper's Hawk
Goshawk
Red-tailed Hawk
Broad-winged Hawk
American Kestrel
Black-billed Cuckoo
Yellow-billed Cuckoo
Screech Owl
Great-horned Owl
Barred Owl
Long-eared Owl
Saw-whet Owl
Common Nighthawk
Whip-poor-will
Ruby-throated Hummingbird
Common Flicker
Red-headed Woodpecker
Red-bellied Woodpecker
Yellow-bellied Sapsucker
Hairy Woodpecker
Downy Woodpecker
Eastern Kingbird
Western Kingbird
Great Crested Flycatcher
Eastern Phoebe
Eastern Wood Pewee
Olive-sided Flycatcher
Yellow-bellied Flycatcher
Gray Jay
Common Raven
Tufted Titmouse
Whte-breasted Nuthatch
Red-breasted Nuthatch
Brown Creeper
Winter Wren
Golden-crowned Kinglet
Ruby-crowned Kinglet
Gray Catbird
Brown Thrasher
Wood Thrush
Hermit Thrush
Eastern Bluebird
Blue-gray Gnatcatcher
Cedar Waxwing
Yellow-throated Vireo
Solitary Vireo
Black-and-white Warbler
Northern Parula
Magnolia Warbler
Pine Warbler
Palm Warbler
Yellow-rumped Warbler
Black-throated Green Warbler
Blackburnian Warbler
Canada Warbler
Northern Oriole
Orchard Oriole
Brewer's Blackbird
Scarlet Tanager
Cardinal
Rose-breasted Grosbeak
Indigo Bunting
Dickcissel

Evening Grosbeak
Purple Finch
Pine Siskin
American Goldfinch
Rufous-sided Towhee
Vesper Sparrow
Lark Sparrow
Dark-eyed Junco
Chipping Sparrow

Cell 3 — Large Georgraphic Range — Narrow Habitat Tolerance — Large Local Population (27 species)

Great Blue Heron
Green Heron
Great Egret
Black-crowned Night Heron
American Coot
Spotted Sandpiper
Herring Gull
Ring-billed Gull
Black Tern
Chimney Swift
Alder Flycatcher
Bank Swallow
Rough-winged Swallow
Horned Lark
Long-billed Marsh Wren
Short-billed Marsh Wren
Tennessee Warbler
Bay-breasted Warbler
Cape May Warbler
Bobolink
Eastern Meadowlark
Western Meadowlark
Yellow-headed Blackbird
Clay-colored Sparrow
Field Sparrow
Swamp Sparrow

Cell 4 — Large Geographic Range — Narrow Habitat Tolerance — Small Local Population (40 species)

Common Loon
Red-necked Grebe
Horned Grebe
Eared Grebe
Pied-billed Grebe
Least Bittern
American Bittern
Turkey Vulture
Red-shouldered Hawk
Bald Eagle
Osprey
Merlin
Marsh Hawk
Peregrine Falcon
Spruce Grouse
Sandhill Crane
Common Gallinule
King Rail
Virginia Rail
Upland Sandpiper
Wilson's Phalarope
Burrowing Owl
Great Gray Owl
Short-eared Owl
Belted Kingfisher
Pileated Woodpecker
Black-backed Three-toed Woodpecker
Boreal Chickadee
Swainson's Thrush
Loggerhead Shrike
Philadelphia Vireo
Prothonotary Warbler
Black-throated Blue Warbler
Cerulean Warbler
Northern Waterthrush
Louisiana Waterthrush
Red Crossbill
White-winged Crossbill
Leconte's Sparrow
Lincoln's Sparrow

Cell 5 — Small Geographc Range — Wide Habitat Tolerance — Large Local Population (0 species)

Cell 6 — Small Geographic Range — Wide Habitat Tolerance — Low Local Population (3 species)

Golden-winged Warbler
Blue-winged Warbler
Connecticut Warbler

Cell 7 — Small Geographic Range — Narrow Habitat Tolerance — Large Local Population (7 species)

Double-crested Cormorant
Western Grebe
White Pelican
Franklin's Gull
Forster's Tern
Common Tern
Caspian Tern

Cell 8 — Small Geographic Range — Narrow Habitat Tolerance — Small Local Population (9 species)

Greater Prairie Chicken
Yellow Rail
Piping Plover
Marbled Godwit
Sprague's Pipit
Henslow's Sparrow
Sharp-tailed Sparrow
Baird's Sparrow
Chestnut-collared Longspur

from cell four would be the Least Bittern, King Rail, Upland Sandpiper, Philadelphia Vireo, Cerulean Warbler, and Louisiana Waterthrush. Similarly, the first species to transfer from cell three to cell seven would be the Great Egret, Ring-billed Gull, Bay-breasted Warbler, Cape May Warbler, Palm Warbler, and Clay-colored Sparrow. Species that would transfer from cell two to cell six would be the Yellow-bellied Flycatcher, Winter Wren, and Blackburnian Warbler. Likewise, the most appropriate species for cell five would be the Nashville Warbler, Chestnut-sided Warbler, and the Mourning Warbler.

Peripheral breeding species

I have excluded 22 species (Table 3) from the analysis here because Minnesota is on the periphery of their breeding range and their breeding populations in Minnesota are small. However, I emphasize that several of these species should be watched carefully or a directed effort be made to substantiate their status (i.e., Boreal Owl or Solitary Sandpiper).

Discussion

The categorization presented here considers three factors associated with species rarity because rarity is logically a precondition to extinction (Preston 1962). I suggest that species in cell eight are among the species of special concern in Minnesota because at least three important aspects of their biology are inhibiting their perpetuation. The next critical group in-

Table 3. Breeding bird species of Minnesota that were excluded from the classification because their populations are peripheral in Minnesota.

Little Blue Heron
Cattle Egret
Snowy Egret
Yellow-crowned Night Heron
American Avocet
Solitary Sandpiper*
Black Rail*
Barn Owl
Hawk Owl
Boreal Owl*
Northern Three-toed Woodpecker
Acadian Flycatcher
Black-billed Magpie
Carolina Wren
Mockingbird
Bell's Vireo
Kentucky Warbler
Wilson's Warbler
Yellow-breasted Chat
Rusty Blackbird
Blue Grosbeak
Lark Bunting

* Potentially important species but breeding status is not clear — needs more census information.

clude those found in cell seven. They differ mainly from cell eight species in relation to the size of their local populations. Birds in cell seven tend to be group or colonial nesting birds.

Many of the species categorized into cells seven and eight can be further classified into the following groups because they are found in similar habitat associations:

1) Prairie birds[1]
   A) Dry habitats — Greater Prairie Chicken, Sprague's Pipit, Baird's Sparrow, and Chestnut-collared Longspur;
   B) Wet habitats (in prairie zone) —Western Grebe, White Pelican, Franklin's Gull, Forster's Tern, and Marbled Godwit;
2) Wet sedge meadows — Yellow Rail and Sharp-tailed Sparrow;
3) Open sandy beaches — Common Tern, Caspian Tern, and Piping Plover.

The Double-crested Cormorant is found in various wetland associations and the Henslow's Sparrow in lush grasslands with forbs (i.e., see Wiens 1969). Therefore, as a generalization, the habitats that need attention for bird species are prairie associations and wetlands.

It is obvious that an ordinated priority listing of species in Minnesota would generally proceed from cell eight to cell one. It is difficult to rank species within any one cell in order of importance and it is not my objective here to do so. If such a system is necessary, then one could consider an ordination of species from the species with the smallest geographic range, the narrowest habitat tolerance, and lowest population in the state to the one with the largest geographic range, the widest habitat breadth, and the highest population in the state. However, without quantitative data such an ordination is impossible. Furthermore, I assume that most differences in opinion regarding the classification of species in this framework will not be resolved until more data is obtained for these species and the definitions for each cell refined.

Cells three, four, and six contain a wide variety of species and many have been recognized as endangered (i.e., Peregrine Falcon and Burrowing Owl), threatened (i.e., Bald Eagle, Sandhill Crane, Short-eared Owl, or Loggerhead Shrike), rare (Horned Grebe, Eared Grebe, Merlin, King Rail, Common Gallinule, Wilson's Phalarope, Great Gray Owl, Black-throated Blue Warbler, and Louisiana Waterthrush) or of special concern (Great Blue Heron, Great Egret, Black-crowned Night Heron, Upland Sandpiper, Herring Gull, Ring-billed Gull) by the Natural Heritage Program (Pfannmuller and Wells 1981). They also list a series of species as undetermined which I classify as peripheral for reasons already mentioned. I have additionally included the Bobwhite, Acadian Flycatcher, Bell's Vireo, and Blue Grosbeak that are listed as rare by Pfannmuller and Wells (1981) in the peripheral group. The major differences in the list presented by Pfannmuller and Wells (1981) regards the philosophy on how the lists were generated and more specifically on my emphasis of the geographic range in my classification. This places more emphasis on species that are found in specific habitats that are also limited or reduced throughout North America (i.e., the prairies) and deemphasizes species with large geopraphic ranges (i.e., Peregrine Falcon, Burrowing Owl, Bald Eagle, Sandhill Crane, and Short-eared Owl). The reduction in emphasis of these latter mentioned species does not belittle their status as species of concern, but places them on par with a variety of other species that may be equally as important for priority in Minnesota

[1] One might add species that are already extirpated from Minnesota to this list such as the White-faced Ibis, Trumpeter Swan, Long-billed Curlew, Willet, and McCown's Longspur.

(i.e., grebes, bitterns, rails, and sparrows).

The main thrust of the framework and the preliminary classification presented here was to incorporate biological criteria assocated with rarity into a priority listing of emphasis in nongame management programs. These criteria should be potentially quantifiable so that a priority listing of species within a defined geographic area can be objective. A recent tentative classification of endangered, threatened, and species of special concern presented by the bird group of the Steering Committee of the Endangered Species Technical Advisory Committee (1981, mimeo.) makes additional progress towards a classification, but the criteria for the classification are not clear. The classification presented here specifically identifies the critera but it remains typological because the data necessary to fully quantify the criteria are not readily available. I concede that a good classification scheme (i.e., one that is objective and based on quantitative data) cannot wait until the appropriate data are collected because we need to provide directed conservation efforts for certain species now. However, the two objectives (priority listing of species and good biological data) are not mutually exclusive. That is, the classification can be established from the criteria. The resultant priority listing is then used to emphasize particular species in management, research, and conservation efforts. Furthermore, since the criteria are baseline data and should be collected and monitored anyway, they are part of an integrated-feedback unit. The criterion data help to identify the species of concern and also to monitor the status of both the species of concern and future species of concern. In conclusion, I emphasize the importance of good baseline data on the distribution, abundance, and habitat associations of wildlife species on **all** aspects of nongame programs. As Odom (in press) recently stressed, "a nongame program that provides for continual monitoring of the resource (nongame species) is by far the best endangered species program a state can have."

Summary

I have presented a potentially objective, quantifiable classification framework that can be used to establish priority of species in nongame management programs. The framework is based on the concept of rarity and rarity is assumed to be related to the size of a species geographic range, its habitat specificity, and its local population abundance. I present the framework in a simplistic form based on the breeding birds in Minnesota.

Sixteen species are identified that have both a small geographic range and narrow habitat tolerance. Most of these species are associated with dry and wet prairie associations, sandy beaches, or various wetland types. Since these species have several aspects of their biology inhibiting their perpetuation in Minnesota, I suggest they represent "priority" species for research, management, and conservation in Minnesota.

There is some similarity between this list and previously published priority lists and the differences are primarily related to my emphasis of the geographic range of the species in the classification. Species with Minnesota on the periphery of their breeding range, most game species, and non-native species were not considered in this analysis. I urge the incorporation of quantifiable biological criteria in priority listing and discuss the important integration of baseline data with establishing priorities in species management and monitoring species status.

Acknowledgements

This paper was improved by comments from Todd Engstrom, Janet Green, JoAnn Hanowski, Fran James, Bonnie Niemi, Lee Pfannmuller, Harrison Tordoff and Doug Wells. I am especially grateful to the critical but

open and broadminded atmosphere provided in the Ecology Section at Florida State University.

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NEW COLONIES IN LAKE OF THE WOODS

Katherine Hirsch

From 22-26 June, 1981, George-Ann Maxson, Paul Rundell, Don Goodermote, Stan Bauer and I conducted a survey of the American side of Lake of the Woods, in Lake of the Woods County, Minnesota. The survey had three major objectives. The first was to survey the sand beaches of the Northwest Angle as well as sand beaches on the northern islands in order to find new nesting sites of the Piping Plover. The second objective was to census colonial birds on the islands of Lake of the Woods, and third to census known colonies of Piping Plovers in Zippel Bay and on Pine and Curry Islands in order to determine number of breeding pairs present during 1980.

Five days were spent conducting the survey. We used two small aluminum crafts, rented from resort owners on the Northwest Angle, along with outboard motors. The logistics were difficult, and the weather was uncooperative. Even five mile per hour winds caused the formation of huge swells, as the fetch is long.

Virtually all islands were searched for the presence of colonial birds, by observing islands from the water, and by traversing islands on foot. Many of the islands were small rock outcrops with little vegetation. Islands on which gulls, and cormorants nested were generally granitic, while islands on which plovers nested were sand bars.

Cormorants nesting on Crow Duck Island, Lake of the Woods, June 1981
Photo by Paul Rundell.

Table 1. Nesting sites of colonial birds in Lake of the Woods, 1981.

	1.	2.	3. Fourblock Island	4. Techout Island	5.	6. Odell Island	7. Crowduck Island	8. Stony Point	9. Rocky Point	10.	11. Zipple Bay	12. Long Point	13. Pine Island	14. Curry Island	15. Gull Rock
Herring Gull	1	2			62	142	70								55
Ring-billed Gull			640	2255											
Common Tern			238					2		4			44		
White Pelican							50								
Double-crested Cormorant					117	10	871								
Piping Plover								1	2				15	1	

Colonial birds were found on 15 sites in 1981. A summary of findings is presented in Table 1, and a corresponding map in Figure 1. A significant new finding was that a colony of approximately 50 pairs of White Pelicans was found on Crowduck Island, with 82 chicks. Nesting of White Pelicans in Lake of the Woods had been previously noted by Mr. Robert Hinckley (**Loon** 46:36-37), on an unidentified rocky islet in Lake of the Woods. Hinckley described the colony as being SSW of Big Oak Island, NW of Little Oak Island and directly east of Sugar Point. Crowduck Island is one mile S. of Sugar Point, so it appears that this may be a different colony.

Five new Herring Gull colonies, two new Ring-billed Gull colonies, four new Common Tern colonies and three new Double-crested Cormorant colonies were located.

Piping Plover habitat was searched along the Northwest Angle. One site (Stony Point) had a territorial pair with a broken egg. There were two pairs seen on the sand bars due south of Gull Rocks; one nest with four eggs, and another pair with three chicks. Nine individual plovers were seen at this site. Fifteen pairs were located on Pine Island. No active nests were located for seven pairs. Two pairs were associated with empty nests. Four pairs were associated with four egg nests, one pair with a three egg nest, and one pair with a one egg nest. On Curry Island, landing was not possible, due to inclement weather. However, one pair plus five individuals were seen along the shore. There were 19 breeding pairs of plovers estimated on the American side of Lake of the Woods in 1981. Four additional pairs of plovers nested in the Duluth harbor (Davis, personal comm.). Thus it would appear that 23 pairs nested in Minnesota in 1981, an alarmingly low estimate. The numbers of breeding pairs in Michigan decreased drastically in 1981 (Master, personal comm.) to 14

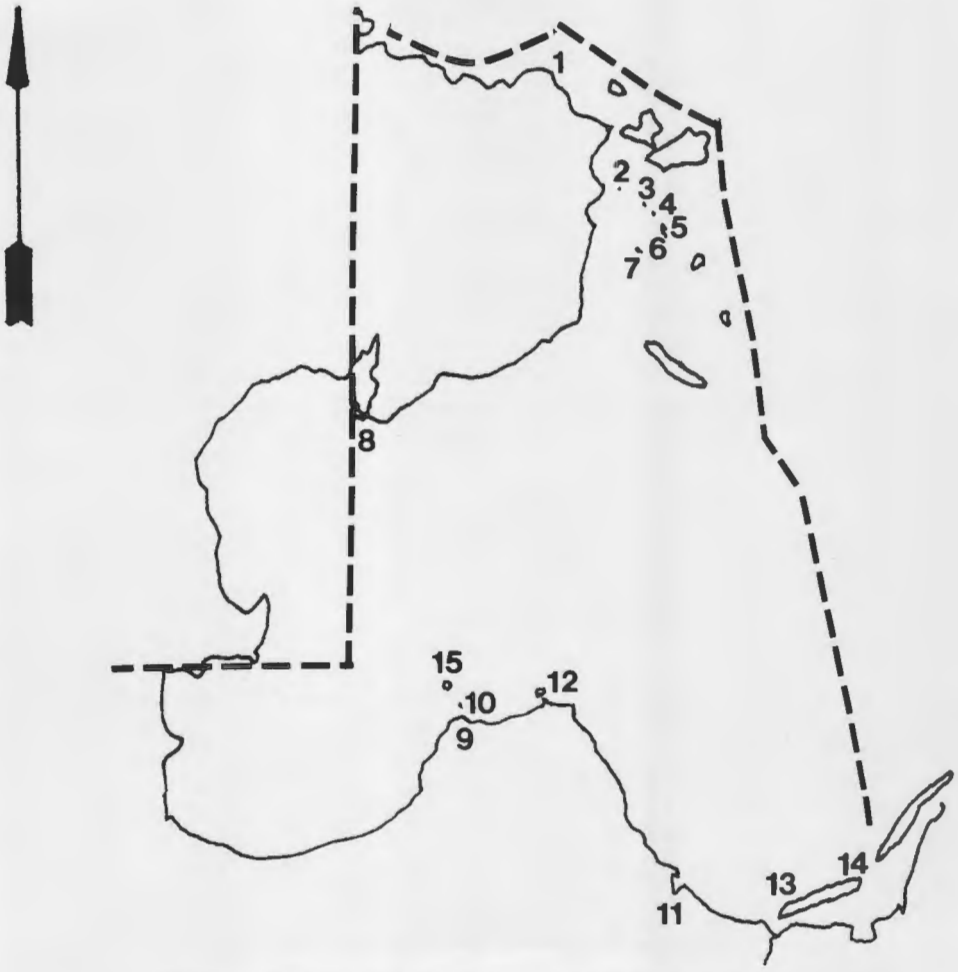

Figure 1. Map of Lake of the Woods and colony locations.

pairs. No breeding pairs remain in Wisconsin or Iowa. This species appears to be in trouble, and several measures will be taken to protect breeding populations. The Nongame Program of the Department of Natural Resurces has negotiated a land exchange, and now owns Curry Island. The island will be maintained as a sanctuary during the breeding season.

Lake of the Woods is a unique and relatively unsurveyed area of Minnesota, and much more remains to be discovered amongst its rocky islets, bogs and sandy shores. **Wildlife Specialist, Nongame Program, Minnesota Department of Natural Resources, St. Paul, MN 55155.**

BOOK REVIEWS

The Birdwatcher's A-Z by Alan J. Richards; David & Charles, North Pomfret, Vt., 1980; 328 pages; $45.00.

North Pomfret? The next publishing capital of the United States? Hardly, not if this book is any indication. It's not that there is anything wrong with the book itself. This encyclopedic reference does a decent job of defining and expounding on bird-related terms, places and people. The author is an experienced birder and author who profusely supplements his text with numerous photographs of excellent quality, many of them in color, as well as a lot of drawings, charts and maps.

So, if the book is that good, where did David & Charles go wrong? Two places. First, the price is absurd. As accurate as the text seems to be and as nice as the pictures are, the book is worth maybe half the $45 price tag. I simply cannot imagine why anyone would pay this much, especially since for only a few dollars more **The Audubon Society Encyclopedia of North American Birds** by John K. Terres is available. This latter work offers far more information than Richards' book, is excellent in every respect, and wins my vote for the best single bird book ever written.

But the second problem with the book is far more serious, and involves a feature of many bird books which most birders are unaware of. Simply stated, **The Birdwatcher's A-Z** is a British work of little value to North American birders. The species, places and terminology covered are limited to the English point of view. In itself, of course, there's nothing wrong with this, but the publishers fail to make this clear on the cover or on the jacket. While experienced birders could easily discern this after a brief inspection, casual birders and non-birders looking for a gift for a birder probably would not be aware of this until after it's too late. Unfortunately, David & Charles is not the only publisher guilty of such misrepresentation. I am aware of several other bird books (a few of which I have received as gifts over the years) which were originally published in Europe and intended for the European birder, but offered without warning to birders here by American publishers.

Birders already have enough problems trying to find good books among the too many mediocre and bad books produced by too many authors. Now, thanks to some publishers, we must also go one step further and beware of the otherwise good bird book produced for those on another continent, which doesn't really do us any good at all.

—Kim R. Eckert

A Dichotomous Key to the Shorebirds of North America by Richard Mellon; Mellon Biological Services, Morrisville, PA, 1981; 24 pages; $2.95.

Unless you're planning a trip to Alaska or planning to limit your shorebird experience to specimens, photographs or banded brds, this booklet won't be all that helpful. Keys simply don't work on live birds which normally refuse to sit still long enough as you sort your way through the keying-out process which, by its very nature, is time-consuming. If keys did work for birds in the field we would already be using them instead of field guides, but we're not, and this key won't be changing that. It's based primarily on bill vs. head lengths, a system that may work eventually but which is hardly as efficient as using a field guide. Adding to the inconvenience are the placement of the explan-

ations of the terminology in back (rather than at the front) of the booklet, the use of too many abbreviations which requires the reader to constantly refer back to the explanations, and the lack of a species index which makes it difficult to find a bird's field marks (which, for several species, appear piecemeal on two or three different pages).

The real value of this key comes when it describes those rare or accidental Eurasian species which are not adequately covered in our standard field guides; it even covers a few which have yet to be recorded in North America. Thus, it should be useful on your next visit to Attu. However, this booklet does no more than a field guide to help the reader in, for example, Minnesota, who thinks he might be on to a Ruff, Curlew Sandpiper or Sharp-tailed Sandpiper. It even fails to accurately sort through the not-all-that-difficult issue of "peep" identification. The rusty back plumage and slightly decurved bill of the Least Sandpiper, both very useful marks, are not adequately stressed, and the claim that the Least has "a rather dark chest relative to other peeps" is wrong (Baird's Sandpipers and breeding plumaged Sanderlings are darker). The distinctive and diagnostic contrast of grayish back vs. buffy head/chest of many Baird's Sandpipers is not mentioned. The grayer appearance of most Semipalmated Sandpipers relative to other peeps is not adequately stressed, nor is there any mention of the White-rumped Sandpiper's slightly decurved bill.

At any rate, this booklet is somewhat useful, not without its problems, and a supplement, but not a worthy alternative, to your field guide.

—Kim R. Eckert

Peter Alden and John Gooders. **Finding Birds Around the World.** Houghton Mifflin, Boston, 1981; 715 pages, 115 maps; $17.95.

One of the aspects of the explosion of interest in birds over the last two decades is the extension of the range of many birders' knowledge and interest from their home area to their entire region or country and even to other continents. This new book is a startling manifestation of how far this phenomenon has progressed. Since there are lengthy guides devoted to places to find birds in a single state, it would seem presumptuous if not impossible to try to do this for the whole planet, but Alden and Gooders have done just that, with great success.

There could never be exact agreement on the best localities but their 111 selections look very respectable. The selections for North America, for example, are certainly better than those in Harrison's **Roger Tory Peterson's Dozen Birding Hotspots,** and, all things considered, this book is more useful than that much longer treatment. Each location has a brief (one to four page) description, a serviceable hand-drawn map, and a list of birds to be found, representing "99 percent of all individual birds to be seen in a visit and between 80 and 90 percent of the known avifauna." The information for the localities with which I am familiar appears to be accurate and current, and I would have greatly benefitted if this book had been available during my visits. Their short introduction to such topics as "Health" and "Birding in the field" is quite good, and their bibliography is very thorough, making this an invaluable first reference for the avifauna of any region.

Although these two authors are probably as qualified as any for this staggering task, the real secret behind the quality of the book is that they solicited help from many other experts. For example, the chapter on Itatiaia National Park in Brazil was written with assistance from Helio Gouveia, Lee Morgan, Ted Parker, Robert Ridgely, and Helmut Sick. Their list of contributors reads like a **Who's Who** of field ornithology: Vic-

tor Emanuel, Alec Forbes-Watson, Steve Hilty, Ben King, Roger Tory Peterson, Olin Pettingill, Arnold Small, Don Turner, and dozens of others. Many other books, notably Pettingill's and Heintzelman's bird-finding guides, suffer from the lack of this kind of collaboration.

The most obvious fault in the book is the choice of English species names. Everyone who studies birds on several continents is aggravated by the illogic and inconsistency of many of the common names, but Alden and Gooders' response is excessive. For example, regular Minnesota species include, in their terminology, Goosander, Northern Treecreeper, Great Gray Shrike, Long-tailed Duck, and Bald Sea-Eagle! North American species do appear to be the hardest hit, and one must suspect the authors of flaunting their cosmopolitanism. On the other hand, why they still use "Everglade Kite" is harder to understand. The most important value of a name is, after all, that it be commonly recognized, and substituting "American Dabchick" and "Painted Whitestart" into the U.S. list is hardly a step forward. (There is an index that cross-references "local" names.) Clements' choices in his **Birds of the World: a Checklist** seem much more reasonable.

A less blatant, but more serious disappointment, is the minimum attention given to environmental protection. For example, I gather that the forests of Borneo and Thailand are among the most desperately threatened in the world, but one can read the exciting chapters on Khao Yai and Kinbalu in blissful ignorance of those problems. Are birders going to go on indulging themselves in their hobby, oblivious to the destruction of the remaining wild areas? Developing a world-wide interest without corresponding environmental concern and action would be pathetic, and the authors could have made an important contribution in very little space.

These two weaknesses do not reduce the value of the book. Alden and Gooders have done a wonderful job at what would seem an almost impossible undertaking. Any serious birder would do well to read at least parts of it, and no one doing any international travel can afford to overlook it.

—Stephen Greenfield

PROCEEDINGS OF THE MINNESOTA ORNITHOLOGICAL RECORDS COMMITTEE

Kim R. Eckert, M.O.R.C. Secretary

Following is a list of all records voted on by M.O.R.C. from July through December of 1981. As in the article published in **The Loon** 53:129-131, each listing includes the species, date, location, vote total, the volume/page reference, if any, where the details of the record were published, and, for unacceptable records, a summary of the reasons why the record was not accepted. It should be pointed out that reasons for the votes on ac-

ceptable records are not given because the details normally speak for themselves an dit is usually obvious from reading them, generally in the Notes of Interest cited, why they were accepted. Occasionally, however, reasons may be given with an acceptable record if it is a controversial one with a close vote. It should also be made clear that the purpose of these articles is to give the reader a better idea of what constitutes an acceptable, or unacceptable, bird record and to make readers aware of identification problems encountered by birders.

Acceptable records voted on July-December, 1981:

—Hooded Warbler, 6-16-81, Cedar Creek Bog, Anoka Co. (vote 7-0)
—Say's Phoebe, 5-17-81, Felton Prairie, Clay Co. (vote 7-0, **Loon** 53:163)
—Little Gull, 5-9-81, Duluth, St. Louis Co. (vote 7-0, **Loon** 53:163-164)
—Yellow-breasted Chat, 5-15-77, Carlos Avery W.M.A., Anoka Co. (vote 7-0)
—European Wigeon, 5-14-76, Blackduck L., Beltrami Co., (vote 6-1)
—Peregrine Falcon, 6-25-81, Ocheda L., Nobles Co., (vote 6-1, **Loon** 53: 219-220)
—Arctic Loon, 6-25-81, Sioux Forks W.M.A., Jackson Co. (vote 6-1, **Loon** 53:230)
—Summer Tanager, 6-18-81, Agate L., Crow Wing Co. (vote 7-0, **Loon** 53: 223)
—Williamson's Sapsucker, 5-25-81, Pickwick Valley, Winona Co. (vote 7-0, **Loon** 53:232-234)
—Ross' Goose, 1-11-70, Rochester, Olmsted Co. (vote 7-0)
—Summer Tanager, 10-19 - 11-1-81, Duluth, St. Louis Co. (vote 7-0, **Loon** 54:63)
—Long-tailed Jaeger, 8-24-81, Duluth, St. Louis Co. (vote 7-0, **Loon** in press)
—Townsend's Solitaire, 10-19-81, Grand Marais, Cook Co. (vote 7-0, **Loon** 54:60-61)
—Little Gull,9-29-81, Duluth, St. Louis Co. (vote 7-0, **Loon** 54:65)
—Townsend's Solitaire, 10-15-81, Duluth Twp., St. Louis Co. (vote 7-0, **Loon** 54:60)
—Black-headed Grosbeak, 10-18-81, Grand Marais, Cook Co. (vote 7-0, **Loon** 54:61-62)
—Ferruginous Hawk, 10-2-81, near Henderson, Sibley Co. (vote 7-0)
—Purple Sandpiper, 10-30-81, Duluth, St. Louis Co. (vote 7-0, **Loon** 54:58-59)
—Yellow-breasted Chat, 5-24-80, Winnebago Twp., Houston Co. (vote 7-0)
—Townsend's Solitaire, 11-11-81, St. Paul, Ramsey Co. (vote 7-0)
—Townsend's Solitaire, 9-19 - 10-7-81, Bemidji, Beltrami Co. (vote 7-0, **Loon** 54:61)
—Swainson's Hawk, 10-18-81, Duluth, St. Louis Co. (vote 6-1)
—Spotted Sandpiper, 11-4-81, Duluth, St. Louis Co. (vote 7-0)
—Ferruginous Hawk, 8-7-81, Willmar, Kandiyohi Co. (vote 7-0)

Unacceptable records voted on July-December, 1981:

—Whooping Crane, 5-18-81, Thief Lake W.M.A., Marshall Co. (vote 5-2, with 6-1 required for acceptance)

The extensive description of this immature was enough to convince most members, but because of strong doubts of the minority outside opinions were solicited from crane experts Rod Drewien of the Idaho Cooperative Wildlife Research Unit and Scott Derrickson of the Patuxent Wildlife Research Center. They stated that the immature Whooping Crane always shows rusty coloration on the head and neck, and that this would never appear gray as stated in the description. The bill of a whooper is not black as described, but rather olive at the tip and pinkish or greenish at the base. Also, by spring a young whooper would begin to show some of the reddish face present in adult plumage, but such was not mentioned. In conclusion, both men also were of the opinion that the description fits a Sandhill Crane with abnormally whitish plumage, something each has seen more than once in the past.

—Western Wood Pewee, 5-28-79, Pelan Park, Roseau Co. (vote 0-7)

Although originally accepted by M.O.R.C. by a 5-2 vote in 1979, this vote was reversed when it was pointed out that the call described only as "phee-ur" could also fit the Eastern Wood Pewee. Since the identification was based only on the call, a better description of this call should be provided before this record can be considered acceptable.

—Barn Owl, April 1971, Worthington, Nobles Co. (vote 0-7)

This previously published record (**Loon** 43:85) was refiled as unacceptable since photos of this bird were seen later and they indicated the bird in question to be a Short-eared Owl.

—California Gull, 4-20-80, Bemidji, Beltrami Co. (vote 5-2, with 7-0 required for acceptance)

The minority was of the strong opinion that the light conditions were unfavorable enough that the bill spots and leg color may not have been as perceived, especially since it was stated that "the red spots on the bills of Herring Gulls were nearly invisible as a result of the intense morning sunlight," and since the group of gulls observed were 200 yards away — a difficult distance to determine bill and leg color unless light conditions are perfect. (This record was published, **Loon** 52:190, as a result of a clerical error in recording the vote.)

—California Gull, 5-6-80, Agassiz N.W.R., Marshall Co. (vote 4-3, with 7-0 required for acceptance)

The minority was of the opinion that the description was too brief to be convincing; "yellow legs and black spots" is the only plumage description provided. (This record was published, **Loon** 52:190, as a result of the same error above.)

—Bewick's Wren, 5-13-80, Minneapolis, Hennepin Co. (vote 5-2, with 7-0 required for acceptance)

The minority was of the strong opinion that although the only wren "with white spots in the corners" is a Bewick's, the bird in question was only seen for a second as "it darted across the path." Such a brief look was felt to be unsatisfactory when dealing with such an unusual species, and the details did not even state why the bird was a wren in the first place. (This record was published, **Loon** 52:191, as a result of a clerical error in recording the vote.)

—Ferruginous Hawk, 6-7-79, Clay Co. (vote 0-7)

Although originally accepted by M.O.R.C. in 1979 by a 4-3 vote, this vote was reversed when it was pointed out that the identification was based on a white patch on the upper wing surface, the white underside of the tail, and the white at the base of the tail; many paler Red-taileds also match this description, and the observers admitted they lacked experience with such Red-taileds.

—Iceland Gull, 2-15-75, Stoney Point, St. Louis Co. (vote 0-7)

Although originally accepted in 1975 by M.O.R.C., this published record (**Loon** 47:99) was reconsidered and found to be unacceptable, since the tail had "a broad banded appearance" and the back and wings were the same buffy coloration throughout; these two features indicate the gull was probably a first-winter Thayer's.

—Iceland Gull, 4-5-71, Two Harbors, Lake Co. (vote 0-7)

This previously published record (**Loon** 43:84) was refiled as unacceptable since the details did not preclude a first-winter Thayer's Gull.

—Bewick's Wren, 10-3-70, Minneapolis, Hennepin Co. (vote 0-7)

This previously published record (**Loon** 43:16) was refiled as unacceptable since there was nothing in the brief description to even indicate the bird was a wren.

—Whooping Crane, 5-2-78, Kittson Co. (vote 5-2, with 6-1 required for acceptance)

Although originally accepted by M.O.R.C. in 1978, this published record (**Loon** 50:204) was reconsidered and found to be unacceptable because of the strong minority opinion that

the plumage description (mentioned only was "white color with dark outer wings") was inadequate for such an unusual species and did not preclude the possibility of Wood Stork or an abnormally whitish Sandhill Crane.

—Whooping Crane, 5-4-78, Twin Lakes W.M.A., Kittson Co. (vote 5-2, with 6-1 required for acceptance)

Identical situation as described above.

—Barn Owl, 3-26-80, Whitewater W.M.A., Wabasha Co. (vote 5-2, with 6-1 required for acceptance)

The minority was of the opinon that the description was too brief for such an unusual species, that this description did not preclude Short-eared Owl (which is also buff colored and can have a "monkey" face), and that no binoculars were used. (This record was published, **Loon** 52:189, as a result of a clerical error in recording this vote.)

—Long-tailed Jaeger, 9-8-75, Duluth, St. Louis Co. (vote 5-2, with 6-1 required for acceptance)

Although most were convinced by the description of this light-phase adult, the minority was of the opinion that a Long-tailed Jaeger should look grayish above, and not brownish as described. (M.O.R.C. had previously voted on this record in 1975, but the result had been inconclusive.)

—Black-legged Kittiwake, 9-12-78, Stoney Point, St. Louis Co. (vote 5-2, with 6-1 required for acceptance)

Since the size of this immature gull was not mentioned, the minority was of the opinion that the possibility of Little Gull was not precluded by the plumage description. (M.O.R.C. had previously voted on this record in 1978, but the result had been inconclusive.)

—McCown's Longspur, 10-20-35, near Hassman, Aitkin Co. (vote 0-7)

This previously published record (**Auk** 53:342), was reconsidered and found to be unacceptable; although the plumage description of the two birds strongly suggested they were McCown's, the main problem of this record was that they were said to be in a mixed flock made up primarily of Chestnut-collared Longspurs with no Laplands present. Since such a species composition is most unlikely, even in 1935, it was felt the observer may well have erred in his identifications.

—Vermilion Flycatcher, 10-26 - 11-8-80, Duluth, St. Louis Co. (vote 2-5)

Although an adult male Vermilion Flycatcher is an unmistakeable species, there were strong reservations about the described behavior of this bird, since it came to a feeder with crecked corn and foraged on the ground; it was felt that a Vermilion Flycatcher would be most unlikely to do that, and that the inexperienced observer may have been influenced too much by the field guide.

—Prairie Warbler, 9-15-81, Grand Marais, Cook Co. (vote 2-5)

It was felt that for such an unusual species, identification should be based on more than just one feature (the "triangular black whisker mark"). There was also doubt based on the fact that this warbler was never seen to wag its tail.

—Black-legged Kittiwake, 8-28-81, Duluth, St. Louis Co. (vote 2-5)

It was felt that this immature gull was not seen well enough to rule out Sabine's Gull, which can have a similar appearing wing pattern when seen under unfavorable conditions as was the case here.

—Prairie Falcon, 9-7-81, Duluth, St. Louis Co. (vote 2-5)

Although black "wingpits" were seen, the bird had a dark back and cap which do not fit a Prairie Falcon. Also at close range, which was the case here, a Prairie Falcon shows a light eyeline and narrow whisker marks, but it was stated neither of these were present.

—Rufous Hummingbird, 9-11-81, Lowry Nature Center, Carver Co. (vote 3-4)

Although there was agreement the bird could have been a Rufous, it was bothersome that rusty or buffy

flanks and undertail coverts were not seen, which is a very obvious feature of the Rufous Hummingbird. It was felt that the bird might have been an aberrant Ruby-throated or possibly an Allen's.

—Snowy Plover, 4-24-81, Big Stone N.W.R., Lac Qui Parle Co. (vote 2-5)

Although no one doubted that the bird described was indeed a Snowy Plover, there was not good enough evidence to suggest that this was a different individual than the one photographed (**Loon** 53:220); therefore, it stands that there was only one Snowy Plover present, and not two as the observer reported.

—Northern Three-toed Woodpecker, 7-4-81, Duluth Twp., St. Louis Co. (vote 2-5)

The brief description was considered too brief to be convincing, and several thought the bird could well have been an immature sapsucker which also has "horizontal bars on the back."

—Barrow's Goldeneye, 11-28-81, Grand Marais, Cook Co. (vote 0-7)

Without direct comparison with Commons a female Barrow's is very difficult to identify. Since such comparison was not available and since the description was vague about head and bill shapes, this could not be accepted.

—Carolina Wren, 8-10-81, Minneapolis, Hennepin Co. (vote 2-5)

The description only said that this wren was large and had a "clear buffy breast." Since size descriptions like "large" or "small" are meaningless unless the bird is compared to something else, since other wrens have buffy breasts, and since neither a white eye-line or reddish-brown upperparts were observed, the majority voted not to accept.

9735 North Shore Dr., Duluth, MN 55804.

RECORD NUMBER OF JAEGER SIGHTINGS

Tim Lamey

At the present time the Pomarine and Parasitic Jaeger are considered to be casual fall visitors and the Long-tailed Jaeger an accidental fall visitor to Minnesota. During the fall of 1981 *there were* 42 *sightings of jaegers in Duluth. Was this a one time occurrence or are jaegers regular in Duluth in the fall?*

Spring sightings of jaegers have occurred in only a few years in Minnesota (Green and Janssen 1975), however, each fall one or more of the three species of jaegers are seen on Lake Superior with the number of sightings varying greatly from year to year. Past years with large numbers of sightings have occurred in 1976 (Schneider) and 1980 (Eckert 1981,

Millard 1981). Therefore, the status of the jaegers in Minnesota has been a source of uncertainty. Green and Janssen (1975) listed the Parasitic Jaeger as a very rare but regular species and the Pomarine and Long-tailed Jaegers as accidental species in the state. The irregularity of well documented sightings of the Parasitic and an increase in the number of Pomarine sightings changed the status of both of these species to casual on the 1978 official state checklist (Minnesota Ornithological Records Committee).

During the fall of 1981 42 sightings of jaegers were reported from the Duluth area (Table 1). Many of the sightings were reported as jaeger, sp.? only. Positive identification to species indicated the presence of at least five birds in the region: two adult light phase Parasitic, one immature Parasitic, and two light phase Long-tailed Jaegers. These five birds represented only the minimum number present, and many more were possible. Many of the birds were seen on partly cloudy to cloudy days of moderate to strong winds. Winds were generally from an easterly direction on the days of the sightings. Thirty-one of the

Date	Species and Color Phase	Wind*	Sky	Observer
8- 9	2 light sp.?	?	clear	KE
8-24	2 light Long-tailed, 5 sp.?	NE strong	cloudy	KE
8-26	1 light sp.?, 3 sp.?	NE moderate	cloudy	KE,MH
8-27	1 light Parasitic, 5 sp.?	E moderate	p. cloudy	KE,MH,TL
8-28	1 light sp.? 3 sp.?	E moderate	clear	KE,MH,TL
8-31	1 immature sp.?	SE moderate	cloudy	KE,MH
9- 3	1 immature Parasitic (harbor)	NW light	clear	TL
9- 6	1 light sp.?	SE moderate	p. cloudy	KE
9-13	2 light Parasitic (Canal Park)	SE-NW moderate	?	JB,TS
9-15	3 light sp.?	NE-NW moderate	p. cloudy	TL
9-26	1 light Parasitic	SE moderate	rain	PE
9-27	1 light Parasitic, 1 sp.?	W-NW strong	p. cloudy	?
9-28	1 sp.? (Stoney Point)	NE-SE light	p. cloudy	JG
9-29	1 light sp.? (Canal Park)	E strong	rain	TL
9-30	1 light sp.? (Canal Park)	E strong	rain	KE,TL
10- 9	1 light Parasitic	SE moderate	p. cloudy	TL
10-10	3 sp.?	variable light	cloudy	KE
10-16	1 sp.?	SW moderate	p. cloudy	RU

Table 1. Jaeger sightings in Duluth, fall 1981.
All sightings on the lake side of Park Point Recreation Area unless otherwise noted. Observers — Jo Blanich, Kim Eckert, Paul Egeland, Janet Green, Mike Hendrickson, Tim Lamey, Terry Savaloja, Robert Ulvang. (* - light - less than 10 m.p.h., moderate - 10 to 20 m.p.h., strong - greater than 20 m.p.h.)

sightings were the result of over 60 hours of jaeger watching efforts by Kim Eckert, Mike Hendrickson, and the author. Many of the jaeger sightings were made at long distances, at times up to a few miles.

Identification at long distances relied heavily upon characteristic jaeger flight and pursuit traits. Jaeger flight was typically fast, direct, and below the horizon. Jaegers were often seen in "roller coaster" flight in which the bird disappeared between the crests of the waves with each dip. Jaegers seen above the horizon were usually in pursuit of another bird, either another jaeger or a gull. However, not all chases involved jaegers, since gulls, especially immatures, would often chase one another. Gulls, particularly immatures, would frequently follow each other playfully. Jaegers, however, were much more active in their pursuit of another bird. Chases involving jaegers were longer in duration, at higher speeds and were more aggressive than interactions between gulls. The Parasitic, being the most aggressive of the jaegers, was the most likely to be seen in pursuit of other birds; the Long-tailed, being the least aggressive, was the least likely (Bent 1921).

Birds exhibiting these behavioral traits, particularly if they appeared all dark at a distance, were inspected carefully for contrasting white underparts (which eliminated the immature Herring Gull) and the diagnostic white flash at the pase of the primaries. Identification to species at long distances did not rely upon the appearance of the central tail feathers extending beyond the rest of the tail since these were rarely seen. Size comparisons made during chases could be used provided the bird being chased could be identified.

It has been assumed that jaegers, being pelagic, would be seen most often in Duluth on a strong east wind day when they were driven close to shore. However, during the hours of observation no positive correlation was found between wind direction and the number of jaegers seen since not enough time was spent on non-east wind days. Observations suggest that the number of sightings was directly related to the number of hours of observation, and again this was the result of the bias for sampling only days of easterly winds.

The fall of 1981 resulted in a large number of sightings of jaegers on Lake Superior. Combinations of behavioral and plumage characteristics made observation at long distances possible. Increased observer effort and awareness, especially on non-east wind days, should show that 1981 was not an unusual year for jaegers. All three of the jaegers may prove to be more common than previously suspected.

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A CENSUS OF NESTING HERONS, EGRETS AND CORMORANTS AT THE EGRET ISLAND PRESERVE, SUMMER, 1981

James E. Evans

Introduction

The Egret Island heronry, a 13.75 ha (34 acre) island in Pelican Lake, Grant County, Minnesota, is a wildlife sanctuary owned by The Nature Conservancy. Historical records indicate that the heronry has been continuously occupied since the 1920's. The number of "best estimate" visual surveys at Egret Island have estimated the population of herons and egrets at 8,000 birds (Weseloh and Brown, 1971) and of herons, egrets, and cormorants as 10,000 birds (Otnes, 1977). For at least a decade the heronry has included Great Blue Heron (**Ardea herodias**), Common Egret (**Casmerodius albus**), Black-crowned Night Heron (**Nycticorax nycticorax**), and Double-crested Cormorant (**Phalacrocorax auritus**). In addition, Eckert (1973) reported Little Blue Heron (**Florida caerulea**) and Cattle Egret (**Bulbulcus ibis**), and Otnes (1977) reported Little Blue Heron, Cattle Egret, Louisiana Heron (**Hydranassa tricolor**), Northern Green Heron (**Butorides striatus**), and Least Bittern (**Ixobyrychus exilis**).

Changes in population and species composition at heronries is of concern for a number of reasons. Heronries are affected by changes in land use, water quality, or water level in the vicinity of the heronry (Bjorklund, 1975; Wersehkul and others, 1976). Herons, egrets, and cormorants are susceptible to egg shell thinning due to pesticide residues in the environment (Greenberg and Heye, 1971; Pratt 1972a; Vermeer and Rusenbrough, 1972; Call and others, 1977). In addition to these disturbances, heronries are susceptible to population changes through the effects of catastrophic storms, changes in prey abundance, and habitat loss due to the effect of increasing soil acidity from guano buildup on the vegetation of the heronry.

The purpose of this study is to determine the population of adult birds and nestlings for each species present. An additional concern is to investigate habitat use and make overall management recommendations for the heronry. It is hoped this will serve as a baseline survey for further research.

Methods

The census is based on a total count of all occupied nests. Transects were walked back and forth along the main axis of the island during mid-June 1981. Each tree containing a nesting heron, egret, or cormorant was marked with plastic flagging. A standardized data sheet was used to record: tree species, tree height, the number of nests of each bird species, and other data such as behavior, nestling age, numbers of nestlings, and so on. Because individual trees stand as high as 18 meters and contain up to 40 occupied nests, counts at each tree required careful examination, usually from several angles. Areas on the island were checked repeatedly until there was a

high degree of assurance that all nests had been counted.

The identity of each nesting bird was determined by one of two criteria — observation of the adult bird flushed from the nest, or identification of the nestlings in or on the nest. In the latter case this was aided by published descriptions, photographs, and drawings of nestlings at various ages (Bent, 1926; Palmer, 1962; McVaugh, 1972). At the time of this study only a very small number of nests were unoccupied and thus not identifiable. All of these were partly dismantled and clearly represented abandoned nests. As the study progressed, I acquired additional skill in recognizing nest morphology, habitat preference, or nestling calls, which helped to confirm identifications by the two criteria above.

by canoe to avoid motorboat noise. I worked alone and moved about as quietly as possible. Prolonged presence in any one place was avoided. Time of day was chosen carefully (1200-1700 hours) to avoid disturbing morning feeding or adult roosting at night. Weather conditions were considered to avoid nestling exposure to high winds, rain, or temperature extremes. The census was made after an initial reconnaissance showed that the majority of nestlings for all species were three to four weeks of age. This is a preferable age for field work, since younger nestlings are more susceptible to exposure problems, and nest escape behavior is a problem with older nestlings (McCrimmon, personal communication).

Table 1: 1981 census results for Egret Island Heronry.

Species	Number Occupied Nests	Estimated Adult Population	Avg. No. Nestlings Per Nest	Estimated Nestling Population	Estimated Total Population
Ardea herodias					
Great Blue Heron	590	1180	2.0	1180	2360
Casmerodius albus					
Common Egret	743	1486	2.1	1560	3046
Nycticorax nycticorax					
Black-crowned Night Heron	591	1182	2.2	1300	2482
Butorides striatus					
Northern Green Heron	n.a.	1	n.a.	n.a.	1
Ixobrychus exilis					
Least Bittern	n.a.	3	n.a.	n.a.	3
Phalacrocorax auritus					
Double-crested Cormorant	596	1192	2.9	1728	2920
Totals		5040		5768	10,808

n.a. means not available

Recent studies have shown that investigator disturbance can cause nest abandonment, delay or discourage late nesting, and increase nest predation (Ellison and Creary, 1978; Tremblay and Ellison, 1979). I made efforts to minimize the effect of disturbance in this study. The island was approached

Results and Discussion

Census Results. Four colonial nesting species were observed during this census: Great Blue Heron, Common Egret, Black-crowned Night Heron, and Double-crested Cormorant. Two other, non-colonial Ardeidae were observed on one or more occasions:

Northern Green Heron and Least Bittern. Although previous studies reported Louisiana Heron, Little Blue Heron, and Cattle Egret on Egret Island (Eckert, 1973; Otnes, 1977), these species were not observed during this study.

Census results are given in Table 1. The total number of occupied nests is the greatest for the Common Egret (743) and was almost uniform for the other species (Great Blue Heron, 590; Black-crowned Night Heron, 591; Double-crested Cormorant, 596). The total adult population was estimated by doubling the number of occupied nests for all species since all of these species are normally monogamous. This method does not account for unpaired or non-nesting adults, which may represent a substantial portion of the total colony. One method to count these would be to flush all of the birds to obtain a total adult count. Unfortunately the personnel were not available to do this. The nesting adult population for these four species totals over 5,000 birds (Table 1).

The nest density (number of nests per hectare) in a heronry depends on a number of factors, including species of colonial birds; vegetation types, distribution, and height; and the availability of adjacent areas for heronry expansion. At Egret Island the nest density is 183 nests/ha, which is about an order of magnitude less than many heronries in Southeastern U.S. and the Gulf Coast (e.g. Maxwell and Kale, 1977), but comparable with other Midwestern and Northern heronries. At the Cold Spring heronry (Stearns Co., Minnesota), the nest density has ranged from 173-241 nests/ha during 1954-1970 (Partch, 1972). At the Lake Johanna heronry (Pope Co., Minnesota), the nest density of Great Blue Herons and Common Egrets has ranged from 25-49 nests/ha during 1965-1970 (Hitman, 1972). This count did not include other colonial nesting birds present at the Lake Johanna heronry. In comparison, the nest density of Great Blue Herons and Common Egrets alone at Egret Island is 97 nests/ha. In the St. Lawrence Estuary the nest density of Black-crowned Night Herons from two islands (again, not including other colonial nesting birds present) was 24-48 nests/ha (Trembay and Ellison, 1979). In comparison, the nest density for Night Herons at Egret Island is 43 nests/ha. It appears that nest densities at Midwestern and Northern heronries are roughly equivalent (within a factor of two), while much less than nest densities in the Southeast. Presumably the similarities among Midwestern and Northern heronries reflects similar species composition of colonial birds, while in the Southeast the greater species diversity may lead to a greater use of vertical space, or vertical resource partitioning (e.g. Burger, 1979; Beaver and others, 1980).

The average number of nests per tree containing at least one nest was 3.1 for Great Blue Heron (maximum of 18 nests/tree), 2.9 for Common Egret (maximum of 35 nests/tree), 2.1 for Black-crowned Night Heron (maximum of nine nests/tree), and 7.7 for Double-crested Cormorant (maximum of 31 nests/tree). The average value for Great Blue Heron at Egret Island compares closely with average values from Cold Spring heronry (3.6 to 3.8 from 1954-1970, Partch, 1972). This probably reflects the similar vegetation types and abundances at these two Minnesota heronries.

During the census about 250 nests were randomly selected for counts of the number of nestlings present at approximately four weeks of age. For Great Blue Herons, 8% of the nests had one nestling, 84 % had two, and 8% had three. For Common Egrets, 95% of the nests had two nestlings, and 5% had three. For Black-crowned Night Herons, 85% of the nests had two nestlings, and 15% had three. For Double-crested Cormorants, 9% had two nestlings, and 91% had three. The average numbers of nestlings per nest for each species is given in Table 1.

Because data on clutch size at Egret Island are not available, it is not possible to calculate percentages for egg loss, hatching failure, or nesting loss. Other studies have shown that the average clutch size for Great Blue Heron and Common Egret is three to four eggs per nest (Bent, 1926; Palmer, 1962). This would suggest that at Egret Island loss due to egg loss, hatching failure, and nestling mortality combined is about 30 to 50%, which is consistent with findings from more detailed studies (e.g. Pratt, 1972a,b). Pratt (1972b) found that the average number of nestlings fledged per successful nest in California was 1.9 to 2.3 for Great Blue Heron and 1.8 to 2.3 for Common Egret. These values are not directly comparable to the average number of nestlings per successful nest at age four weeks at Egret Island because presumably there will be further nestling mortality prior to fledging at Egret Island. The numbers are, however, in general accord.

The Egret Island heronry, with an adult nesting bird population of 5,040 birds, and a nestling population of 5,768 birds at age four weeks, is one of the larger heronries in the Upper Midwest. Previous surveys at Egret Island, using a "best estimate" visual count, were 8,000 herons and egrets in 1970 (Weseloh and Brown, 1971), and 10,000 herons, egrets and cormorants in 1977 (Otnes, 1977). These data suggest that the population at Egret Island has been fairly stable over the past decade, but continued monitoring is obviously necessary.

Habitat Preference. Egret Island is composed of a number of distinct habitat types: (1) cattail marsh, (2) forest with a primary canopy of elm, basswood, oak, and hackberry approximately 14 to 18 meters tall, without a secondary canopy underneath, (3) a mixed forest habitat consisting of a primary canopy (as above) with a secondary canopy of boxelder trees three to six meters tall underneath, (4) a secondary forest canopy of boxelder trees alone, and (5) interior "glades" of luxuriant vegetation, grasses, and shrubs less than three meters high.

The distribution of nests for each bird species by plant species is given in Table 2. Great Blue Herons and Double-crested Cormorants show a marked preference for the primary canopy of trees (type 2 and type 3 habitat), while Common Egrets and Black-crowned Night Herons show a marked preference for the secondary canopy (type 4 habitat). Because of the varied nesting opportunities for each species based on plant distribution, there were both horizontal and vertical distribution trends for nests at Egret Island.

Horizontal trends can only be described qualitatively at this point, prior to a detailed mapping effort. The Egret Island heronry appears to consist of a number of smaller subcolonies that can be defined both by habitat type and species composition. More specifically, certain vegetatively homogenous portions of Egret Island are occupied either exclusively by one species (Great Blue Heron, Common Egret, or Double-crested Cormorant), or by pairs of species (Great Blue Heron and Double-crested Cormorant, or Common Egret and Black-crowned Night Heron). It is not certain to what extent any of these subcolonies function as independent units (with respect to location of feeding grounds, mating, behavior, and so on). In some cases distinct subcolonies are immediately adjacent to each other, and clearly represent habitat differences. For example, a subcolony of Common Egrets in type 4 habitat might be adjacent to a subcolony of Great Blue Herons and Cormorants in type 2 habitat. In other cases, however, there are noticeable distances between subcolonies of the same species of bird that cannot be explained, at least on the surface, as a difference in habitat. In these cases there is, essentially, unoccupied space, between the subcolonies.

It is also apparent that habitat preference is concerned with more than the available species of vegetation. Black-crowned Night Herons clearly prefer boxelder trees in the protected interior of the island to the exclusion of similar habitat along the lake shore. On the other hand, Double-crested Cormorants appear to prefer canopy trees adjacent to or over the lake shore. They are the only species at Egret Island that utilize cottonwoods (all shoreline trees) to a significant extent. It also appears that certain portions of the island are not used at all, particularly in the southwest and northeast points. This may be due to exposure in the former case, as the prevailing wind direction is southwesterly.

between nests. Table 3 shows a number of interesting trends: (1) the majority (81%) of Great Blue Herons nest exclusively (in trees not containing other nesting species), (2) roughly half (43%) of the Black-crowned Night Herons nest with roughly half (45%) of the Common Egrets, while the other half of each of these nests exclusively, and (3) a small percentage (12%) of of Great Blue Herons nest in trees containing the majority (52%) of the Double-crested Cormorants, otherwise the cormorants nest exclusively. In addition, (4) Great Blue Herons always nest at the top of the canopy, most often the primary canopy (types 2 and 3), (5) Common Egrets most often nest at the top of the secondary canopy type 4), (6) Black-crowned Night Her-

Table 2: Habitat preference at Egret Island Heronry.

Species	American Elm	Basswood	White Oak	Hackberry	Boxelder	Eastern Cottonwood	Common Chokecherry
Great Blue Heron							
number of nests	395	27	125	2	30	11	0
% distribution	67	5	21	0	5	2	0
Common Egret							
number of nests	62	12	11	11	655	0	2
% distribution	8	2	2	0	88	0	0
Black-crowned Night Heron							
number of nests	18	5	0	0	547	1	21
% distribution	3	1	0	0	93	0	3
Double-crested Cormorant							
number of nests	485	5	73	1	3	29	0
% distribution	81	1	12	0	1	5	0

In studying vertical distribution trends, the question was asked "what percentage of species A nests with species A, and what percentage of species A nests in trees also containing B, C, or D?" This was designed as a "quick-and-dirty" measure of species compatibility, since there was not sufficient personnel and resources to measure nearest-neighbor distances

ons most often nest in the understory of the secondary canopy (type 4), (7) where Common Egrets and Black-crowned Night Herons nest with Great Blue Herons it is most often in the mixed canopy habitat (type 3), (8) very few other birds nest with cormorants, and (9) Least Bitterns and Northern Green Herons were always observed only in type 1 habitat.

Feeding. From observation posts in the vicinity of Egret Island some information was obtained about feeding grounds and feeding radius of birds from the heronry. From an overlook four miles northeast, at Seven Sisters Preserve (owned by The Nature Conservancy), Great Blue Herons, Double-crested Cormorants, Common Egrets, and Black-crowned Night Herons could be observed crossing over from Pelican Lake into Lake Christina, and going to feeding grounds in Lake Christina, at the Eagle Lake State Wildlife Area, and at the National Waterfowl Production Area northeast of Ashby. From observation points south and west of Pelican Lake, Great Blue Herons and Common Egrets could be observed flying toward Pomme de Terre Lake and other smaller lakes adjacent to Interstate 94. This suggests that the feeding radius for these species is a minimum 11 km (7 miles). This compares closely to the feeding territories of Great Blue Herons at the Cold Spring Heronry (Stearns Co., Minn.) of 14 to 34 km (Peifer, 1977).

Reproduction. Nestling ages were determined by comparison of nestlings to published descriptions, photographs, and drawings of plumage development and behavior (Bent, 1926; Palmer, 1962; McVaugh, 1972). Based upon this, it appears that the vast majority of nestlings for all four species hatched in the interval May 28-June 2. For some Common Egrets and Black-crowned Night Herons there were clutches at approximately June 7-June 10, and also at approximately June 14-17. These may represent successful renesting attempts. From this, it is probable that most eggs were laid in late April. The majority of nestlings of all species were fledged by July 17.

Soil Acidity. Soils at Egret Island are sandy loams developed over outwash sands (U.S. Soil Conservation Service). In the vicinity of nests, the surface duff layer is five to 10 centimeters thick, consisting of nest debris, sticks, feathers, guano, decomposing prey, bones, and other organic material. Soil pH measurements of the duff layer range from 4.0 to 5.0, and the pH of mineral soil underneath ranges from 5.0 to 6.0. Qualitative observations indicate that soil acidity may be affecting the plant community. Many of the canopy trees are surrounded by bare soil underneath, which is replaced by luxuriant vegetation just outside the canopy. Of the

Table 3: Compatibility Measure — The numbers and percentages of Species A that nest in trees containing other species.

	Other Species			
Species A	Great Blue Heron	Common Egret	Black-crested Night Heron	Double-crested Cormorant
Great Blue Heron				
number of nests	497	26	18	74
% distribution	81	4	3	12
Common Egret				
number of nests	84	325	343	4
% distribution	11	43	45	1
Black-crowned Night Heron				
number of nests	25	255	313	4
% distribution	4	43	52	1
Double-crested Cormorant				
number of nests	326	13	44	245
% distribution	52	2	7	39

canopy trees, 7% of the elms, 30% of the oaks, and 4% of the basswoods are dead. Boxelder trees do not appear to be affected by soil acidity, possibly because these contain many fewer nests on the average than the primary canopy trees. Possibly of most concern is that the primary canopy vegetation is not, apparently, being regenerated. It is uncertain if the high salt concentrations and low pH that accompanies deposition is preventing seed germination or killing seedlings following germination. An earlier study of vegetation at Egret Island (Weseloh and Brown, 1971) showed that three of the five most important ground cover species are absent or decline in abundance as the density of nests per area overhead increased.

While it is apparent that increasing soil acidity is having some effect on the vegetation of Egret Island, it is not immediately clear how this will affect nesting habitat. Many of the dead canopy trees are utilized for nesting sites. These are, however, more susceptible to windfall with the consequent destruction of dozens of nests.

Other Species. The author also observed the following species nesting on Egret Island: Canada Goose, Mallard, Blue-winged Teal, and Wood Duck. I observed seven White Pelicans flying over Egret Island on May 31, 1981, but did not apparently land there. Great Horned Owl were observed on Egret Island a number of times. Most of the following species observed on the island probably also nest there: Common Flicker, Yellow-bellied Sapsucker, Hairy Woodpecker, Eastern Kingbird, Tree Swallow, Black-capped Chickadee, White-breasted Nuthatch, House Wren, Long-billed Marsh Wren, Gray Catbird, American Robin, Warbling Vireo, Yellow Warbler, Common Yellowthroat, Red-winged Blackbird, Northern Oriole, Common Grackle, and Song Sparrow. Mammals observed on the island include Woodchuck, Muskrat, tracks of White-tailed Deer, and tracks of Raccoon. There are many Western Painted Turtles (**Chrysemys picta**) present in the two inlets.

Management Recommendations

Habitat Loss. Soil acidity caused by guano deposition and Dutch Elm disease are two potential causes of habitat loss on Egret Island. These problems augment each other, since soil acidity seems to be inhibiting the germination of seeds or survival of seedlings to replace canopy vegetation. I could not ascertain if Dutch Elm disease is currently present at Egret Island. Since, however, the disease is prevalent over southern Minnesota, it is probably only a matter of time before it reaches Egret Island. The loss of elms could be particularly hard on the Great Blue Heron population, since the majority nest in these trees. It is uncertain if Great Blue Heron would respond to this by nesting in other tree species or by abandonment of the heronry.

Habitat loss is a natural process in heronries. Most heronries are abandoned after use ranging from a few years to many decades. New colonies generally appear as satellite colonies of the old, and grow as the older heronry is abandoned (Custer and others, 1980). At Egret Island, the question is whether The Nature Conservancy wants to allocate resources toward reversing an historic trend. There are two reasons why it may wish to do so. First, the presence of the herons, egrets, and cormorants on Egret Island is essentially the sole reason the land is owned and protected. Second, since most of Pelican Lake and adjacent lakes are developed for recreation, if the loss of nesting habitat causes abandonment, it is not likely the birds will establish a new colony in the same vicinity. On the other hand, there are no guarantees that any remedial actions will result in preventing or even delaying habitat loss.

I suggest that various experiments could be made at Egret Island. Seedlings of native vegetation could be planted to see if soil acidity is preventing germination. Certain acid-tolerant species could be planted and

the progress of these monitored. Conifers might be considered for this, such as Black Spruce or Balsam Fir. In the Pacific Northrwest, heronries are often established in conifers (e.g. Krebs, 1974). It might also be possible to artificially lime certain study plots. As a last resort, artificial nests can be constructed (Finkenstaedt and Heckenroth, 1974).

Disturbance problems at the heronry include low-flying aircraft, motorboats, and people landing on the island during breeding season. Education efforts could be made with local residents and resort owners to reduce these. Posting some signs on the island and in the two inlets might also be helpful.

Summary

A ground-based census of the total number of occupied nests for herons, egrets, and cormorants was made at the Egret Island Heronry (Pelican Lake, Grant Co., Minn.) in late-June, 1981. Nesting species included Great Blue Heron (590 nests), Common Egret (743), Black-crowned Night Heron (591) and Double-crested Cormorant (596). The total breeding adult population is estimated as 5,040 birds, with an estimated nestling population at four weeks of age as 5,768 birds.

Acknowledgements

I would like to thank Dr. Donald McCrimmon and Dr. Michael Erwin for their advice and interest in the Egret Island project and suggestions about census methods to employ there. This manuscript was reviewed by Dr. Harrison Tordoff, Lee Pfannmuller, and Jeffrey Weigel, and I appreciate the many helpful comments and suggestions that they made. This project was conducted while I was an intern with the Minnesota Field Office of The Nature Conservancy, and I would like to express my appreciation to the Conservancy for making this study possible. Lastly, I wish to express my great appreciation to Gary and Marion Otnes, Mrs. Mary Tetzlaff, Mrs. June Dessinger, and Mr. James Towner, as well as other local residents, for their enthusiastic interest in protecting the heronry at Egret Island.

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"YARD LIST"

Recently, Henry Kyllingstad sent me his "Yard List." This was a list of 109 species of birds seen in or flying over Henry's 66'x66' yard in Marshall, Lyon County.

This list prompted me to wonder if anyone else in the state keeps a Yard List. If you do, why not send it in to me and we will publish the totals and get a comparison with Henry's list. If you need a check-list write and ask me for one. Include with your list, the dimensions of your yard. If you have any comments about Yard Lists or other lists, please let me hear from you.

Bob Janssen, Editor

PURPLE SANDPIPER IN DULUTH — On 30 October 1981 I sighted a Purple Sandpiper at Park Point, Duluth. The weather that morning was unseasonably mild, with temperatures of 7 to 10 degrees C, moderate southeast winds, and sunny skies. I discovered the bird at 0645 on the lake-side beach, not more than 100 m south of the Sky Harbor Airport parking lot. The bird appeared slightly larger and chunkier than a Sanderling. The bill was longer than the head, slightly decurved, and thick at the base. The proximal half of the bill was dull organge-yellow; the distal half was dark gray. The head, neck, back, scapulars, and upper breast were solid gray, and the head was unmarked except for a thin white eye ring around each black eye and a faint white eye line. The wings were darker gray than the back and scapulars, each feather being bordered by a very thin white edge; this gave the wings a finely barred appearance. The wings extended to the end of the tail, and what was visible of the tail appeared black. The lower breast and sides were heavily streaked with gray; the belly was unmarked white. The legs were orange and appeared unusually short. The bird often appeared to "squat" and on occasion the belly would touch or almost touch the ground. I was able to observe the bird for approximately 15 minutes at distances of 15 m or less using 7x35 binoculars. The bird was remarkably tame; it actively fed by probing the sand for three to five minutes no more than four m away from where I stood. I consulted my field guides (Peterson 1980; Robbins 1966) and determined that this bird was a Purple Sandpiper in winter plumage. Although I observed a marked contrast between the finely barred wings and the unmarked back and scapulars, this field characteristic is not illustrated well in Peterson, but is shown to some extent in Robbins. Also, the legs appeared orange as illustrated in Robbins, not yellow as they appear in the Peterson guide. The bird remained in the area for at least three hours, and its identity was confirmed by many observers. Attempts to locate it on subsequent dates were unsuccessful. Within its North American range, the Purple Sandpiper breeds in the arctic regions and migrates mainly east of Hudson's Bay to winter along the Atlantic coast (A.O.U. Checklist of North American Birds, Fifth Edition). The bird is considered a rare visitor to the Great Lakes region (Peterson 1980). This sighting represents the third record for Minnesota;

Purple Sandpiper, Minnesota Point, Duluth, 30 October 1981 — Photo by Terry Wiens

a specimen was seen and collected at Grand Marais, Cook Co., in early winter of 1966 (Green, **Loon** 39:64, 1967) and one was observed in the fall of 1977 at Big Sandy Lake, Aitkin Co. (Blanich, **Loon** 50:47-48, 1978). I would like to thank F. Cuthbert, K. Eckert, and B. Hilton Jr. for help in preparing this manuscript. **Terry Wiens, Department of Biology, University of Minnesota Duluth, Duluth, MN 55812.**

IMPRESSIVE LONGSPUR MIGRATION, WEST CENTRAL MINNESOTA — About 7:15 a.m. on October 29, 1981 as I was driving from Fergus Falls, Otter Tail County, to Marshall, Lyon County, on Hwy. #59, I intercepted a large longspur migration. I first noted flocks of approximately 40 - 100 Lapland Longspurs beginning four miles south of Fergus Falls. By the time I'd reached Morris, Stevens County, some 50 miles to the south, I had estimated the presence of several thousand Lapland Longspurs all flying southward. Then, several miles south of Morris, in the flat, glacial floodplain region of the Pomme de Terre River, I came upon large numbers of Smith's Longspurs. The birds were swirling about and across the highway, as well as perching on fence wires and resting upon the road itself. I stopped my car and, by careful observation, conservatively estimated the Smith's population in excess of 1,000 birds. The Smith's Longspurs were quite readily differentiated from the Lapland Longspurs by their (the Smith's) lighter golden-tan overall coloration and the "cotton-like" puff of white feathers on the shoulders. Additionally, many of the birds still bore remnants of the black crown and cheek pattern of their nuptial dress. I've observed the Smith's Longspur for years at the Rothsay Prairie and know them also by their slimmer profile, when compared to the Lapland. The estimate of 1,000+ Smith's Longspurs was made by tallying actual counts

when the birds landed. When the numbers became too great (the birds moved in large flocks, at times) for actual counting, the approximate numbers of birds obliterated from view behind a thumb held up to the eye was noted. The numbers of "thumbfulls" were then noted and multiplied. The Smith's flocks remained essentially segregated from the Lapland Longspurs and the whole migration moved southward, thereby eliminating duplication of counts. After that, the farther south I drove, the smaller numbers of longspurs I encountered. The weather was excellent for observation that particular day — scattered cloudiness, clear atmosphere. Of interest was the fact that the wind blew from the southeast at 15-25 mph — a fact that did not impress the longspurs, who migrated diagonally into its force. **Gary L. Otnes, Rt. 1, Fergus Falls, MN 56537.**

TOWNSEND'S SOLITAIRE IN DULUTH — On October 15, 1981 a Townsend's Solitaire appeared in my yard and was observed by members of my Bird Identification class. For about an hour we watched it associate with a flock of robins and occasionally feed on mountain ash berries. The bird was slightly smaller and slimmer than the robins, and was uniformly gray all over except for a conspicuous white eyering, buffy patches in the wings and white outer tail feathers (the latter two features noted mainly in flight). This is the fourth solitaire that I am aware of this fall in Minnesota — the other three being seen in Grand Marais, Bemidji and another in Duluth. This also marks the seventh consecutive year that this casual species has been reported in Minnesota, so that the Townsend's Solitaire may prove to be a regular Minnesota species. **Kim R. Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

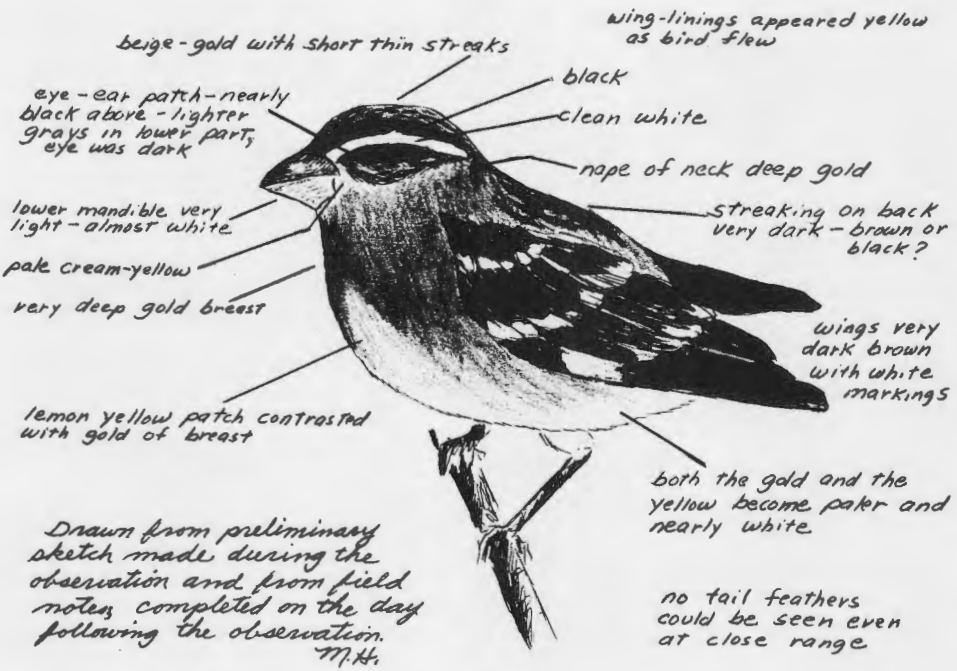
A LATE IMMATURE TENNESSEE WARBLER — We observed an immature Tennessee Warbler on October 31, 1981 at Hayes State Park, Roseau County. When we saw the bird fly down to the ground, we immediately knew it was a warbler. I presumed it would be a Yellow-rumped Warbler since it was so late in October. Imagine our surprise when the bird had no yellow-rump and no streaks. He did have a green back and a white belly. This white extended under the tail, so that eliminated another late warbler— the Orange-crowned. He was also yellow under the chin, a single yellow wingbar, and an eyestripe that was black with white above that. After looking at the bird carefully, we consulted the new Peterson field guide. The book's picture of an immature Tennessee Warbler looked just like the bird we were looking at. We saw the bird for six minutes in excellent light. He was feeding on the ground with some Dark-eyed Juncos. **Shelley Steva, Route 4, Box 10, Thief River Falls, MN 56701.**

TOWNSEND'S SOLITAIRE IN GRAND MARAIS — On October 19, 1981 at about 12:30 p.m. we were trying to locate a bird we had just glimpsed and which we believed to be a Black-headed Grosbeak. It was cloudy with a strong southwest wind. The area where we searched was adjacent to Lake Superior in a stand of large Birch, Poplar, and Spruce trees with a brushy understory and large Mountain Ash trees scattered throughout. American Robins were feeding heavily. A slim gray bird, smaller than the robins, made a brief appearance in a large Spruce tree, long enough for us to see its conspicuous white eye ring. The flight was swift and the bird seemed to avoid us. After several glimpses we were finally able to observe it in full view as it perched on a Spruce branch with the bare trunk of the tree as background and with thick branches above and below. The

bird remained on the branch preening and resting. We observed it for several minutes with 7x35 Bushnell Custom binoculars and then several more minutes with a 32x spotting scope from a distance of about 100 feet. The eye ring was clean white. There were buffy-orange patches on the gray wing and a faint poorly defined wing bar. The head and body color was smooth gray with very little brown evident, darker on the back and head, lighter on the breast and belly. The beak was thrush in shape. The bird was perched in such a position that the tail was mostly obscured by or in the dark shadow of thick branches below where it was perched; the tail was long but we could not see the white outer tail feathers. We recognized the bird as a Townsend's Solitaire before consulting the field guides. We have not had previous experience in the field with this species but have often studied those field marks (described in Robbins, Peterson, and Pough) which make this bird recognizable. **Ken and Molly Hoffman, Gunflint Trail, Box 58, Grand Marais, MN 55604.**

TOWNSEND'S SOLITAIRE AT BEMIDJI — On 19 September 1981 we were birding along the railroad tracks approximately a quarter of a mile south of the Mississippi River outlet from Lake Bemidji. It was 9:00 a.m., the sky was clear, and the sun was at our backs. Fifty yards ahead we noticed what we thought was a Gray Catbird perched on a utility wire. Approaching to within twenty to forty feet of the bird we noted the presence of white along the edge of the tail and a narrow white eye ring. The bird was slightly smaller than a robin, very grayish like a catbird with the underparts lighter than the upperparts. Observing the bird for 15 minutes as it fluttered from the wire to the tree branches and the ground we noticed a yellow band running across the middle of the wing whenever it flew. Its behavior in flight was very much like a flycatcher. Not knowing the immediate identity of the species we took detailed field notes which we checked with several field guides back at the car. We concluded that this was a Townsend's Solitaire. This is a very early migration date for this species. On 7 October 1981 this species (same bird?) was again located in this area. At this time we had the chance to spend over one hour taking very close range field notes and about 20 pictures. It was definitely the same species and very probably the same bird due to the casual appearance of the species for the state. **Jeffrey S. Palmer and Caroline A. Voelkers, Oak Hall 412B, Bemidji, MN 56601.**

BLACK-HEADED GROSBEAK IN GRAND MARAIS — Sunday, October 18, 1981 was a stormy day in Cook County with strong northerly winds blowing over many trees causing power outages. By Monday the 19th the wind abated somewhat and switched to the southwest. It was cloudy with a few snow flurries. About 12:15 p.m. we were watching a flock of Tree Sparrows and juncos moving through brush along the edge of a woods near the Grand Marais tourist park when a larger, odd-looking "short tailed" bird jumped into view. It was unmistakeably a grosbeak but unlike any we had been accustomed to seeing. It stayed in view for about 30 seconds, long enough to make a crude sketch of its striped head and to note the deep orange-gold breast with a pale yellow patch from about the center of the breast to down between the legs. The wings were very dark with white patches. The bird then moved and disappeared from view. We returned to the area about two hours later. The weather had improved with the sun just breaking through the dark clouds. We located the grosbeak



Black-headed Grosbeak — Sketch by Molly Hoffman

again and observed it for nearly 15 minutes as it fed on Mountain Ash berries and perched in nearby Birch trees. We now discovered why it had looked "short-tailed" when we first glimpsed it — it had no tail. The following day, October 20th, we observed the grosbeak again in the same area between 10 and 11 a.m., being joined by Jan Green and Kim Eckert. We were able to view the bird from as close as 50 feet while using a 32x spotting scope. We decided the bird fit the description of a first year male Black-headed Grosbeak as given in Bent's "Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows, and Allies" except, of course, for the tail. **Ken and Molly Hoffman, Gunflint Trail, Box 58, Grand Marais, MN 55604.**

A LATE CATTLE EGRET — An immature Cattle Egret was seen flying between the stock ponds of Milo Carlson and Warren Jadeke from November 3 through November 7, 1981. The Carlson and Jadeke farms are in Hegland Township in Polk County (T154N, R46W, sec. 32). Milo Carlson became concerned about the bird when it kept flying near his cattle. On November 7, he put the bird in a cage, and called a local science teacher, Gladwin Lynne to see if he wanted the bird. The following day, Gladwin went to the Carlson farm to pick up the bird. He then brought the bird over to the Eldor Omdahl farm where the local Audubon society was having a meeting. We all wanted to see the bird, of course. Many of the members had never seen a Cattle Egret before. The bird was very thin, but he was still alive. It was obviously an immature Cattle Egret. It had a yellow bill, and dark legs, and was a small white heron. The muscle near the sternum was almost nonexistent so the group surmised that he had not eaten in

awhile. After some discussion, it was decided to send the bird down with some of our members to the University of Minnesota, Crookston. The staff there would try to feed the bird and perhaps release him later when it was warmer. The bird, however, died the following day and has now been brought down to the Bell Museum for their collection. **Shelley Steva, Route 4, Box 10, Thief River Falls, MN 56701.**

LATE PHILADELPHIA VIREO IN AITKIN COUNTY — I was making a count on the numbers and species of birds at my bird feeders on October 18, 1981 for a bird feeder survey. As I was counting, a small yellow and green bird landed on my bird bath. I got my binoculars to observe it better. From a distance of about thirty feet, I observed the bird which was nearly all green over the top of the head, back and top parts of the wings. The wings showed no signs of any barring. The undersides appeared to be an overall light to medium yellow color. The bill was too heavy to be a warbler and there was a very distinct stripe through each of its dark colored eyes. It could only have been a Philadelphia Vireo. It spent a few minutes flitting around in the branches of the lilac bushes behind my house and then flew off. I attempted to photograph the bird but the branches were too thick, the bird to fast and my reflexes too slow. **Warren Nelson, 603 2nd St. N.W., Aitkin, MN 56431.**

ADULT MALE SUMMER TANAGER IN DULUTH — From October 19 through November 1, 1981, a Summer Tanager was observed and photographed by many observers in the vicinity of 5018 Oneida St. A local resident, Jane Renier, first reported seeing an all red bird in her yard that she thought might have been a Summer Tanager. On October 21 I first visited her yard with members of my Bird Identification class, and we all had excellent views of this obvious adult male tanager: it was a uniform medium red all over, brightest on the head and underparts, with some sooty dark gray shading on the primaries and secondaries. Except for the bill which was partly dark and not as bright yellowish-white as shown in the field guides, it was in all respects a perfectly plumaged adult male Summer Tanager. On one occasion I also heard it give its low, gutteral "pit-ter-tuck" call note. Most of the time it fed on buckthorn berries in the neighborhood, but on one day it appeared to be foraging for insects along walls and rooftops of houses, and it occasionally fed on mixed birdseed at the Renier's feeder. Twice in October the tanager survived night time low temperatures of 15°F with no apparent ill effects. This marks the third consecutive fall that a Summer Tanager has appeared in Duluth, and it is also the fourth to be reported in Minnesota in 1981. Since this casual species has now been recorded somewhere in the state for eight consecutive years, it appears the Summer Tanager will soon be assigned regular status in Minnesota. **Kim R. Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

WESTERN GREBE AT RICE LAKE STATE PARK, STEELE COUNTY — On the evening of Monday, June 29, 1981, I was conducting a nature study class at Rice Lake State Park in eastern Steele County. The preceding Sunday had been rainy and windy but this evening was perfect with no wind, clear sky and, as we were looking south across the lake the sun in the northwest gave us beautiful light on the south shore and things between. Several ducks were on the water and before long one student questioned the "duck" with the long neck. About three hundred meters out was a

Western Grebe swimming slowly toward the west, its white throat and sides of neck very visible as was the dark back of the neck and top of the head. We watched it for about fifteen minutes during which time it did little more than swim. We left the Grebe for a while to look at other things and came back just at sunset. The grebe was still there but now was diving periodically, coming up submarine style — first the head, then slowly the body. It was not possible to determine if it was eating but Rice Lake, though shallow, does have minnows and small sunfish in it. Tuesday, the day after, another Owatonna birder, Darryl Hill, was unable to locate the grebe. **Nels F. Thompson, Route 2, Box 145, Owatonna, MN 55060.**

MISIDENTIFICATION OF A PHOTOGRAPH — In **The Loon** 53:76 (Summer 1981) in the article "Birds of Big Stone National Wildlife Refuge" a photo was printed of a supposed Solitary Sandpiper. Loon readers, Alan Wormington of Leamington, Ontario and Harold Axtell of Fort Erie, Ontario, both have properly identified the photo as that of a juvenile Spotted Sandpiper. The following characteristics identify the bird as a Spotted Sandpiper: 1. The wavy bars on the wing covert area. 2. Absence of whtish spots on upperparts. 3. Upperparts too light for a Solitary. 4. White and dusky lines extending back from eye. 5. Light leg and bill color. 6. Short leg-length and bill length. A copy of the photo is reproduced here with the correct identification. **Robert B. Janssen, 10521 S. Cedar Lake Rd., #212, Minnetonka, MN 55343.**

Spotted Sandpiper — Photo by Chuck Buer

TWO LONG-TAILED JAEGERS AT DULUTH — Because there were strong east winds on August 24, 1981, I decided to head down to Park Point to scan for jaegers. At about 10:15 a.m. two jaegers came into view as they flew far out over Lake Superior and approached the beach. They then passed in front of me about 80 yards away and slowly worked their way north towards downtown Duluth and eventually disappeared. Following is a description of the birds as taken from field notes written just after they disappeared and before any field guide was consulted. Both jaegers: white underparts except for dusky bellies; no flash of white visible in the primaries; back and wings brownish-gray, but more gray than brown; smaller in bulk

and wing span than Ring-billed Gull, a small group of which circled with the jaegers briefly; behavior not at all aggressive towards the gulls they flew with, and the gulls seemed to totally ignore their presence. Jaeger #1 (the bird I spent most of the time watching because of its distinctive tail): no breast band; black cap separated from back by white collar around nape; two central rectrices projected beyond rest of tail a distance of about 3 times the length of the other rectricies. Jaeger #2: I did not notice whether or not there was a breast band or a white collar; two central rectrices projected about ½ inch beyond rest of tail. Based on the birds' lack of white in the primaries, the grayish tone of ther back and wings, their size and non-aggressive behavior in relation to Ring-billed Gulls, and jaeger #1's lack of breast band and extremely long central rectrices, I identified them as Long-tailed Jaegers. Presumably jaeger #2, which I did not watch as closely, had central rectrices which had been broken off or were still growing out. This represents the seventh Minnesota record, and the second fall in a row this species has appeared in Duluth. **Kim R. Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

FALL RECORD OF A LITTLE GULL — Although Little Gulls are virtually regular spring visitors to Duluth, there have been only three fall records of this species in the state — October 1975 at Marshall, November 1977 at Mille Lacs, and September 1980 in Duluth. On September 29, 1981, while scanning for jaegers to be hopefully blown in by the strong northeast wind, I observed an immature Little Gull at Canal Park near downtown Duluth. The bird was watched for about 20 minutes as it hovered above and swam in the breakers close to shore about 150 yards away with a small flock of Bonaparte's Gulls. It was clearly smaller than the Bonaparte's, and had a heavy black zig-zag line extending the length of the wings from the tips to the back. The tail was white, squared-off and had a black tip. The rest of the upperparts were grayish and appeared to be darker gray on top of the head. There was no black line on the nape as is incorrectly portrayed in the Robbins field guide. The underparts, including the under surface of the wings, were white. The bird eventually flew out of sight and could not be relocated later in the day by other observers. **Kim R. Eckert, 9735 North Shore Dr., Duluth, MN 55804**

UNUSUAL BARRED OWL BEHAVIOR — On December 20, 1981, Sandra Tigue, who lives on Munger Shaw Road in rural Duluth, had a most interesting owl observation. It was a Sunday and she was up at 7:30 a.m. when through her kitchen window she saw a Barred Owl, about ten feet from the house — feeding on a fresh rabbit kill. Sandy called to her husband to come look but the movement at the window disturbed the owl and it tried to fly off with the dead rabbit. However, the rabbit was too heavy and so the owl hopped and dragged the animal about 40 feet to an area with no snow at the base of a birch tree. There the owl poked and nudged the rabbit carcass with its bill, as if to bury it. That didn't seem to work, so next the owl got up on top of the body of the rabbit and proceeded to jump up and down several times. Finally satisfied, the owl flew up into a nearby tree where it preened a while before flying off. Sandy then let their six month Lab pup outside and it didn't take the pup long to find the rabbit carcass and drag it in front of the house where he chewed on it until called back in the house. An hour later, back came the Barred Owl. It flew to a tree above the spot where it had "buried" the rabbit, looked all around,

then flew down and searched the spot. So Sandy went out the front door, picked up the remains of the rabbit and tossed it into the back yard. The owl flew to the rabbit (much lighter now, thanks to the pup) and in short bursts of low flight, proceeded to move the rabbit about 200 yards to another hollowed out area and again poked and stomped the animal down into the snow. Having done this he flew up in a tree. But the pup again found the rabbit when he was allowed out and the owl flew off and was not seen again. I had never heard nor read that owls would cache their food so I phoned David Evans, Hawk Ridge bander, to ask him about it. He said owls and falcons are known to cache their food. Once, when banding, he saw a Boreal Owl cache a mouse in the crotch of a tree. Then I called George Flaim, Duluth taxidermist, who has a wealth of information about all raptors. George said it was common practice for his Great Horned Owls to sever the head of a rabbit — eat the body and then bury the head in brush or snow and come back to eat it the next day. He also said Peregrine Falcon would cache part of his kill but would seldom find it again. **Koni Sundquist, 2903 Jefferson, Duluth, MN 55812.**

BEWICK'S WREN IN SOUTH MINNEAPOLIS — On September 6, 1981 I saw a Bewick's Wren in my backyard from my kitchen window. Seen first almost at daylight — small, brownish, light-line over eye, clear underparts, no barring seen on tail but white on outer tail showed when it flew, plain back. It was seen later on the ground, then sat on clothesline where I got a good view of underparts and face. The line over the eye was not as distinct as shown in the Robbins Field Guide, so I inferred it was either a female or immature. I have seen this wren in Washington, but never in Minnesota. **Violet Lender, 2817 Robbins St., Minneapolis, MN 55410.**

A DECEMBER LINCOLN'S SPARROW — While conducting the Cottonwood (Lyon County) Christmas Bird Count on December 19, 1981, I saw a Lincoln's Sparrow at the farmstead of Larry Caron in Yellow Medicine County, six miles northwest of Cottonwood. The bird was feeding in a hay pile with Dark-eyed Juncos, House Sparrows and a Harris' Sparrow. A description of the bird, written from notes taken at the time of observation, is as follows: "Small sparrow, finely streaked crown, light eye stripe and light eye-ring, breast finely streaked on area below throat and down sides; back, brown heavily streaked. It was with Dark-eyed Juncos, it was shorter in total length but appeared more robust. **Paul Egeland, 12 E. 67th St., Minneapolis, MN 55423.**

Editor's Note: The Lincoln's Sparrow has never occurred in Minnesota during the month of December. The latest migration date on record for the southern part of the state is November 7, and northern portions November 2. The obvious question that comes from this record is — did the bird winter in the erea? Unfortunately no one was able to check the area until March, 1982 and the bird was not present at that time.

FOURTH MINNESOTA RECORD OF GREAT BLACK-BACKED GULL — On January 3, 1982, at the Western Lake Superior Sanitary District landfill in Duluth, Janet Green, Terry Savaloja, Don and Al Bolduc, Tom and Jan Hallett and I observed a second-winter Great Black-backed Gull. We were at the dump looking for an Iceland Gull seen here the day before, when I spotted what at first glance appeared to be a dark-mantled second-winter

Herring Gull. For about the next half hour we had good views of this gull from about 50-100 yards away as it flew around and stood with the rest of the gulls; except for a very cold wind in our faces, viewing conditions were good since a bright sun was at our backs. In flight the gull was definitely larger than the many Herring Gulls present, and once as it flew next to a Glaucous Gull I could see it was even slightly larger than that species. This size difference was most evident in its longer wing-span. Its bill was also obviously larger than a Herring Gull's, not so much in its length but in its thickness. This could clearly be seen in flight, but it was even more evident when the bird stood with the Herring Gulls. The bill also appeared all dark through binoculars at a distance, but through our spotting scopes we could see the base and the tip were lighter. The basal two-thirds of the tail and the uppertail coverts were white, and the distal third of the tail was black, forming a distinct tail band which was somewhat mottled where it met the white base (this band appeared terminal, although we could not tell for sure if there was narrow white edge on the tip). The head, neck and body were basically white. Most striking about this gull was the nearly uniform brownish-black appearance of the back and wings. The back and primaries were the blackest areas, the secondaries and wing coverts were more of a dark brown, there was a narrow white trailing edge to the wings, and there were several paler feather edges scattered throughout the mantle. But again, the overall impression we had was of a basically uniform brownish-black back and wings. The gull was seen again at the dump by several observers on January 6, 7 and 9, but this and the other gulls seemed to disappear from the dump after the arrival of the extremely cold weather of the 9th and 10th and were not seen again. All three previous Minnesota records also came from St. Louis County, either on or near Lake Superior, the most recent sighting from the Duluth harbor in the fall of 1976. **Kim R. Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

A SECOND TOWNSEND'S SOLITAIRE IN THE SAME YARD — Although there have been a number of Townsend's Solitaire sightings in Minnesota during this current fall/winter season and it appears this species is well on its way to regular status here, it was still surprising to have two solitaires appear in the same yard within a month and a half. First, one showed up in my yard feeding on mountain ash berries on October 15, 1981, and then another solitaire appeared around the house behind mine eating buckthorn berries (this house is on the same lot as mine) on December 30, 1981. It was first noticed by Carrol Conrad who has a casual interest in birds and called it to my attention on January 2 after puzzling over its identity for three days. We easily relocated the bird and noted its slim shape, grayish plumage overall, white eye-ring, buffy wing-patches and white outer rectrices. The bird remained in the yard through January 6 and was seen by a number of other observers, but it could not be found after this date which was the first day of a severe cold spell. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

PURPOSE OF THE MOU

The Minnesota Ornithologists Union is an organization of both professionals and amateurs interested in birds. We foster the study of birds, we aim to create and increase public interest in birds and promote the preservation of birdlife and its natural habitat.

We carry out these aims through the publishing of a magazine, **The Loon;** sponsoring and encouraging the preservation of natural areas; conducting field trips; and holding seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from individual members and affiliated clubs and by special gifts. The MOU officers wish to point out to those interested in bird conservation that any or all phases of the MOU program could be expanded significantly with gifts, memorials or bequests willed to the organization.

SUGGESTIONS TO AUTHORS

The editors of **The Loon** invite you to submit articles, shorter "Notes of Interest" and color and black/white photos. Photos should be preferably 5x7 in size. Manuscripts should be typewritten, double-spaced and on one side of the sheet with generous margins. Notes of Interest should be generally less than two typewritten pages double-spaced. If reprints are desired the author should so specify indicating number required. A price quotation on reprints will be sent upon receipt of information.

Club information and announcements of general interest should be sent to the Newsletter editor. See inside front cover. Bird-sighting reports for "The Season" should be sent promptly at the end of February, May, July and November to Kim Eckert. See inside front cover.

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SUMMER 1982

VOLUME 54 — NUMBER 2

Raptors of Minnesota

The LOON Minnesota's magazine of birds, is published four times each year by the **Minnesota Ornithologists' Union,** the statewide bird club. Permanent address: J. F. Bell Museum of Natural History, University of Minnesota, Minneapolis 55455. Anyone interested in birds may join. Any organizotion with similar oims may affiliate. All MOU members receive our two quarterly publications: **The Loon** and the **MOU Newsletter.**

MEMBERSHIPS AND SUBSCRIPTIONS: Evelyn Stanley, 213 Janalyn Circle, Minneapolis, Minnesota 55416. To join the MOU and receive both MOU publications, send $10.00 for a regular yearly subscription. Or other classes of membership that you may choose are: Family $12.50 yearly; Supporting $15.00 yearly; Sustaining $25 yearly; Life $150. Canadian and Foreign Subscriptions, $10 yearly. **All subscriptions are on a calendar year basis.** Also available: back issues of **The Loon** ($2.50 each ppd.) and MOU checklists of Minnesota birds (minimum lots of 20 for $2.00 postage paid). Gifts, bequests, and contributions to the MOU Endowment Fund should also be sent to the treasurer.

EDITOR OF THE LOON: Robert B. Janssen, 10521 S. Cedar Lake Rd., Minnetonka, MN 55343 (phone 612-546-4220), The editor invites articles, short notes, and black/white illustrations about birds and nature. See back cover for details.

"The Season" section of **The Loon** publishes reports of bird sightings throughout Minnesota. We particularly invite reports from parts of the state that have been neglected or covered lightly in past reports. To become a contributor to "The Season," request the report forms from the **EDITOR OF "THE SEASON," Kim Eckert, 9735 North Shore Drive, Duluth, Minnesota 55804. (phone 218-525-6930).**

EDITOR OF THE MOU NEWSLETTER: Mrs. Marlyn Mauritz, 6930 Tecumseh Lane, Chanhassen, MN 55317. Publishes announcements and reports about activities of the MOU and its affiliated clubs. (Club officers should keep both MOU editors informed.)

ITASCA GOSHAWKS

David Parmelee

All three North American accipiter hawks breed at Itasca State Park. Because of their reclusive ways within their many forested hideaways, we observe them only occasionally and therefore are prone to consider them uncommon. Whether truly uncommon or not, they certainly are encountered infrequently. Especially is this true of the Goshawk which unlike the Cooper's and Sharp-shinned Hawks rarely visits the woods surrounding our University of Minnesota Forestry and Biological Station on the banks of Lake Itasca.

In exploring the more secluded areas of the park, I have managed over the years to locate several Goshawk nesting areas and nearly always find an active nest each year for our students to observe. Spying on Goshawk pairs isn't, however, simple, for not only do the birds raise their chicks high up in large trees, they pursue tree-climbing ornithologists with a viciousness that make the species famous in raptor literature. Itasca Goshawks preserve the species' reputation with a vengeance.

Well do I recall the time I started the long climb up a huge red pine with nothing covering my head but a cotton baseball cap instead of the usual steel helmet. It was a bright yellow cap that evidently proved too much for the defending big female Goshawk, for in one mighty swoop she lifted the flimsy covering from my scalp and flew off with it. Later, my class spread out and searched for the conspicuous cap, but we failed to find it anywhere within a quarter mile of the nest tree.

So vicious are these birds that I discourage my students from climbing to the nests. Climbing the big pines is scary enough but under attack from Goshawks the situation becomes intolerable. Instead, I have the students observe the birds from blinds set up at ground level, for even there much can be learned of the comings and goings of the adults, and often of the prey taken to the young. Prey items include a variety of birds and small mammals such as red squirrels. Judging by the small number of young Goshawks that live through a nesting, prey must be scarce at times.

Goshawks lay three or four eggs which suffer little mortality at Itasca, though rarely do more than one or two of the resulting young survive to fledging. The 1981 season was exceptional for all four young of a brood fledged that year. But usually we find half or more of a brood, in various stages of development, dead on the ground by the nest tree. Conceivably the young fall accidentally from the nest, perhaps pushed out by a hungry sibling.

Whatever the cause, one small downy young survived such a fall in 1980, and was later picked up on the Wilderness Park Drive by a motorist who brought it to the station in fair condition. I knew the site well because the nest tree is located immediately beside the Park Drive. It was one of the first known for the Itasca area, having been reported in 1965 by Hickey, **et al., Loon** 37:27-39. After years of unoccupancy and disintegration, it was refurbished and used again — whether by the original or different birds is not known. Goshawks often build several nests, some of which go unoccupied for long periods after first use. At Itasca the birds build in red or white pines, occasionally paper birches and, so far as is known, invariably in mature forests.

The small downy Goshawk brought to the station in early June was raised by David Bosanko, our Resident Biologist, who faithfully ran a trap line to keep the youngster alive. The quantity of mice consumed by the captive bird was impressive. By July it was nearly fledged, though down still clung loosely to the wing feathers which were not fully developed. It was at this stage that I studied and made rough sketches of the captive with a future painting in mind. I was particularly struck by the bird's ability to direct its eyes straight forward in assuming an owl-like appearance. Carl Hopkins, an ethologist and colleague of mine at the University, also commented on its binocular attitude which neither of us appreciated until we looked closely at the bird head on. That more than anything prompted me to do a full-scale water color of the large female youngster, though admittedly her complex plumage patterns and subtle brown colors were equally fascinating.

By the 4th of July the young Goshawk flew short distances and was decidedly unapproachable. It was much too fierce to handle without gloves. It cried loud and often, so often in fact that its piercing food calls were soon recognized widely at the station. When not present in any of many perching places about the campus, one could surely find it near or on the eaves of the Bosanko home, for there it was fed. When tossed a dead mouse the young hawk swooped down from its perch to catch it on the bounce. In the beginning the youngster was unbelievably clumsy, not even coming close to catching its quarry without repeated attempts. Little by little its accuracy improved until it was pretty good at catching dead mice and chunks of beef. Still, we wondered how it would manage live prey. On August 14 it flew not only strongly but predictably, and then vanished.

We thought it surely dead. But nearly a week later its telltale calls so familiar to all were heard near the park's south entrance, some five miles from the station. Several times thereafter it appeared on the station but by late October it had vanished again, this time for good.

One thrills to the echoing calls of newly arrived loons following Itasca's spring breakup. No less thrilling is the spine-tingling April cacklings that rip through the quiet solitude of the Goshawks' sanctuary.

Field Biology Program, 349 Bell Museum, University of Minnesota, Minneapolis, MN 55455.

CORRECTION

The photo of the Purple Sandpiper in **The Loon** 54:59 was taken by Tom Hallett, not by Terry Wiens as indicated.

RAPTORS OF MINNESOTA – NESTING DISTRIBUTION AND POPULATION STATUS

by David H. Johnson[1]

INTRODUCTION

To date, 35 species of raptors have been observed in Minnesota. Twenty-six of these have nested in the state at some point in time (Table 1). Migrants and winter residents make up the remainder (Table 2). This paper summarizes the available nesting distribution and population status information for the 26 recorded nesting species prior to and including the breeding season of 1981. Accompanying each species discussion is a map showing available nest records by county, and (wherever possible) the species approximate nesting distribution. In species with less than 30 total nest records for the state, each record is listed.

METHODS

In 1979 I began gathering data on the various aspects of raptor biology in the state. Nesting and population data are from a literature search, communications with observers and researchers, and from my observations and nest records. In addition to other literature sources, all volumes of "The Flicker" and "The Loon" (through 54(1)) have been examined for nesting and population status information.

Each species is placed into a general breeding status category. These categories are described as follows:

Regular Nester: Nests somewhere in the state each year.

Casual Nester: Not known to nest every year but expected to nest at intervals of a few years.

Accidental Nester: Not expected to nest again or expected to nest again only at very infrequent intervals.

Extirpated: No longer nests in the state.

Distribution maps (showing current ranges) were made on the basis of observed nest records, habitat evaluations, and to a lesser degree on breeding season observations. One must use caution when assessing nesting distribution using breeding season observations in that (1) the "breeding season" is not yet well defined in some species, (2) the breeding season is known to fluctuate in some species, (3) the observed bird may be in a non-breeding condition, or (4) it may be a migrant. General habitat evaluations were made from my observations, those of other experienced observers, and from cover type maps, notably the "Major Forest Types - Minnesota 1977 Inventory" (U.S. Forest Service and Minnesota State Planning Agency).

Map symbols and corresponding definitions are shown on Table 3. I have arbitrarily specified 1960 as my break-off point for "former" nest records. In cases where there are nest records for both time periods, only the most current symbol is shown. For species where adequate data exists, nesting distribution lines have been drawn on their corresponding maps. Solid lines indicate an established boundary, dashed lines indicate an estimated boundary which is subject to change should future observations warrant.

Table 4 reveals specific Hawk Ridge fall migration data on selected species. This table has been formulated to assist in evaluating the population status of these species. Please understand that in years prior to 1972 there was relatively light observer coverage, which may result in an incomplete

and/or biased count.

Map I shows the locations and names of the 87 counties and geographic regions in Minnesota. Map II indicates the presettlement vegetation types in the state.

Herein, "summer observations" will be regarded as those sightings made in the time period June 1 - July 31 unless otherwise specified.

Please understand that this paper, for the most part is based on general observation records, and only partially on specific population studies.

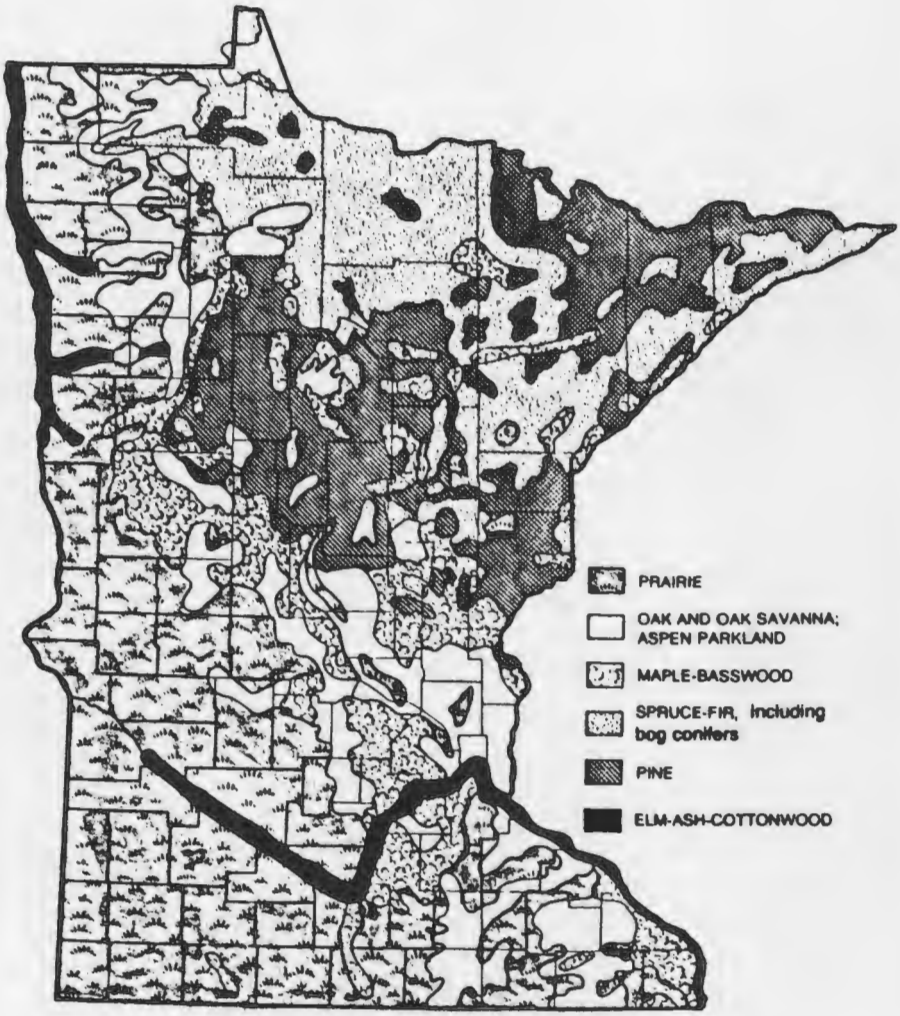
Table 1. Species with documented breeding records for Minnesota.

Turkey Vulture	Cathartes aura
Swallow-tailed Kite	Elanoides forficatus
Goshawk	Accipiter gentilis
Sharp-shinned Hawk	Accipiter striatus
Cooper's Hawk	Accipiter cooperii
Red-tailed Hawk	Buteo jamaicensis
Red-shouldered Hawk	Buteo lineatus
Broad-winged Hawk	Buteo platypterus
Swainson's Hawk	Buteo swainsoni
Bald Eagle	Haliaeetus leucocephalus
Marsh Hawk (Harrier)	Circus cyaneus
Osprey	Pandion haliaetus
Peregrine Falcon	Falco peregrinus
Merlin (Pigeon Hawk)	Falco columbarius
American Kestrel	Falco sparverius
Barn Owl	Tyto alba
Screech Owl	Otus asio
Great Horned Owl	Bubo virginianus
Hawk Owl	Surnia ulula
Burrowing Owl	Speotyto cunicularia
Barred Owl	Strix varia
Great Gray Owl	Strix nebulosa
Long-eared Owl	Asio otus
Short-eared Owl	Asio flammeus
Boreal Owl	Aegolius funereus
Saw-whet Owl	Aegolius acadicus

Table 2.
Species that have been observed but are not known to breed in Minnesota.

White-tailed Kite	Elanus leucurus
Mississippi Kite	Ictinia misisippiensis
Black Hawk	Buteogallus anthracinus
Rough-legged Hawk	Buteo lagopus
Ferruginous Hawk	Buteo regalis
Golden Eagle	Aquila chrysaetos
Gyrfalcon	Falco rusticolus
Prairie Falcon	Falco mexicanus
Snowy Owl	Nyctea scandiaca

Map I. Counties and geographic regions in Minnesota.



Map II. Presettlement vegetation types in Minnesota. (Adapted by Patricia Burwell from an unpublished map drawn by F. J. Marschner in 1930 for the US Department of Agriculture, Washington, D.C.).

Table 3. Map symbols and definitions.

●	Positive nesting (1960-1981). Described as nest with eggs, or adult sitting on nest constantly, or eggshells near nest; young in nest seen or heard; downy young, or young still unable to fly, seen away from nest.
○	Inferred nesting (1960-1981). Described as nest building; adults seen in defense display; used nest found; recently fledged young seen; adult seen carrying food for young; adult seen entering or leaving nest in circumstances indicating occupied nest.
⬢	Former positive nesting (prior to 1960).
⬡	Former inferred nesting (prior to 1960).

Table 4. Hawk Ridge fall migration data for selected species.[1]

	Total birds seen and percent of total seen ( ).		
Species	1951-1960	1961-1970	1971-1980
All species	77284 (100.00)	243308 (100.00)	540493 (100.00)
Turkey Vulture	401 (0.52)	2091 (0.86)	3548 (0.66)
Sharp-shinned Hawk	18812 (24.34)	30085 (12.36)	115514 (21.37)
American Kestrel	1362 (1.76)	2670 (1.10)	6720 (1.24)
Total observation hours at Hawk Ridge	503	1050	7111

[1]Data summarized from Hawk Ridge annual totals (Eckert and Kohlbry 1980, 1981).

TURKEY VULTURE

Breeding Status: Regular Nester

Prior to 1900 this species was more widespread than it is at present, with birds seen west to the Red River Valley and Kittson County (Roberts 1932: 295). Whatever nesting activity there was on the prairie and east-central regions has been eliminated as agricultural expansion and urbanization have altered those habitats.

Presently 19 nest records exist for the state (Table 5). Turkey Vultures have been found to nest in tree cavities, on the tops of large broken off snags, in abandoned buildings, and on the ground under windrowed timber in young conifer plantations. Although they probably nest on cliff ledges in the state, this has yet to be documented.

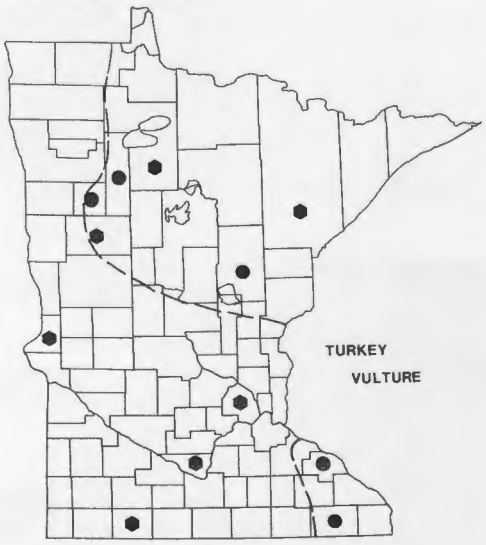
From 1970-1981 summer observations have been made in the following counties: Fillmore, Houston, Winona, Olmsted, Wabasha, Goodhue, Nicollet, Redwood, Renville, Lac Qui Parle, Chippewa, Carver, Hennepin, Wright, Stearns, Mille Lacs, Pine, Kandiyohi, Carlton, Aitkin, Crow Wing, Cass, Otter Tail, Hubbard, Becker, Clay, Mahnomen, Clearwater, Beltrami, Marshall, Lake of the Woods, Itasca, St. Louis, Lake and Cook. Other counties with summer observation records are Washington 1965; Morrison 1965; and Dakota 1966. Since their nest records of 1893 and late 1800, Jackson and Traverse counties (respectively) have had no further nest or summer obser-

Table 5. Turkey Vulture nest records for Minnesota.

date	county	eggs/young	source
4-10-1864	Hennepin	unknown	Roberts 1932:295
5-5-? (late 1800)	Traverse	unknown	Roberts 1932:295
5-9-? (late 1800)	Nicollet	2 eggs	Roberts 1932:295
5-15-? (late 1800)	Becker	unknown	Roberts 1932:295
5-21-? (late 1800)	Becker	eggs	Roberts 1932:295
5 - 1893	Jackson	1 egg & 1 young	Roberts 1932:295
around 1930	Clearwater	2 young	Loon 37(1):29
8-20-1951	Beltrami	2 young	Flicker 23(4):90
6-18-1956	St. Louis	2 young	Flicker 28(4):170
summer 1965	Clearwater	2 eggs	Loon 38(1):22
7-22-1971	Fillmore	2 young	Loon 46(3):102-103
6-11-1972	Fillmore	1 young	Loon 46(3):102-103
6-11-1974	Fillmore	2 young	Loon 46(3):102-103
8-3-1976	Clearwater	2 young	Loon 48(4):174-175
6 - 1978	Mahnomen	unknown	W. Krisein pers. comm.
8 - 1978	Aitkin	1 young	DNR Non-Game Files
1979	Aitkin	unknown	Loon 52(3):126
1980	Clearwater	unknown	Loon 53(3):135
1980	Wabasha	unknown	Loon 53(3):135

vation records.

Although general observations indicate the population is stable (supported by Hawk Ridge migration data in Table 4), virtually nothing is known about the nesting biology of this species in the state.



SWALLOW-TAILED KITE

Breeding Status: Extirpated

As stated by Green and Janssen (1975:60) this species decreased rapidly around the turn of the century and was last reported during the breeding season of 1907. Prior to 1907 it had been observed during the breeding season in Wright, McLeod, Sherburne, Hennepin, Becker, Stearns, Otter Tail, Aitkin, and Clearwater counties.

Table 6 lists the three documented nest records for the state. An inferred nest record came on May 25, 1883, when a pair was shot in Becker County, and upon dissection the female was found to contain an egg about the size of a Robin's egg. Nesting was implied in other instances, notably in Stearns County in 1904.

Since 1907, Swallow-tailed Kites have been observed 14 times in the state (spring, summer, and fall seasons) with the last observation in May 1976 at Itasca State Park, Clearwater

Table 6. Swallow-tailed Kite nest records for Minnesota.

date	county	eggs/young	source
6-7-1886	Becker	eggs	Roberts 1932:299
6-16-1886	Becker	eggs	Roberts 1932:299
5-15-1887	Hennepin	4 eggs	Roberts 1932:299

County. This species is now receiving consideration for reintroduction efforts, using Broad-winged Hawks for cross-fostering. (Cross-fostering involves placing eggs or young in nests of a different species in the wild, in the hope that the foster parents will rear the young).

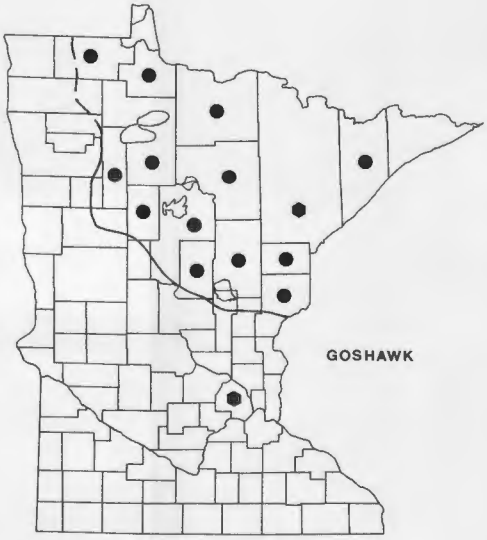
GOSHAWK

Breeding Status: Regular Nester

Goshawks are found nesting in the northern forested regions of the state (see distribution map). In general terms, they favor mature forest habitats in proximity to an adequate prey source for nesting. Specific habitat and nest site parameters are still largely unknown in Minnesota.

The first breeding record of Goshawks in Minnesota came from Hennepin County in the late 1800's (Roberts 1932:302). Since that time 61 nests have been recorded. In addition to those counties with existing nest records, summer observations have also been made in the following counties: Marshall 1970; Morrison 1938 (suspected breeding), 1966; and Cook 1978, 1979, 1980.

Gullion (1981) mentioned that on the Cloquet Forestry Center the prey taken by Goshawks "continued to be dominated by the species listed in our 1962 paper, that is; hares, squirrels, jays, Common Crows, Common Flickers, and Ruffed Grouse." The periodic "invasions" of Goshawks are well known and fairly well documented. In attempting to determine the cause for these invasions, some observers feel the answer may be in the close predator/prey link between Goshawks and Snowshoe Hare/Ruffed Grouse populations. The cyclic nature of these



prey species is well known, although the reason for their cycles and their impact on nesting Goshawks is not yet clearly understood.

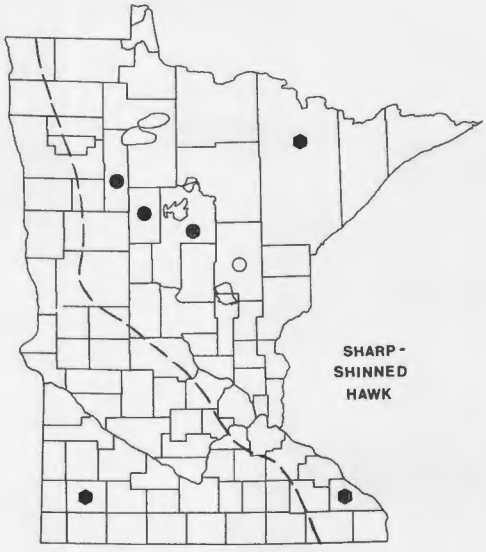
Research conducted in other areas of the country reveal that Goshawks have not been significantly affected by organochlorines such as DDT (Snyder et al. 1973), presumably because of a low level of environmental contaminants in their prey. Despite large fluctuations, it appears the population of Goshawks in Minnesota is stable.

SHARP-SHINNED HAWK

Breeding Status: Regular Nester

Currently, nine nest records exist for the state (Table 7); this is surprising given the large numbers seen in migration through Minnesota, but not if you've attempted to locate a nest.

Inferred nest records come from Roberts (1932:305) who had a 1916 record in Cass County; and from S. Loch (pers. comm.) who heard food begging calls from fledged young in Aitkin County in the summers of 1979 and 1980.



Becker, Otter Tail, and Grant. Prior to 1970, 21 summer observations from the first 12 of the above mentioned counties plus a 1966 record from Ramsey County, and a 1953 record from Rice County.

Although no specific studies were conducted on Minnesota's nesting

Table 7. Sharp-shinned Hawk nest records for Minnesota.

date	county	eggs/young	source
6-5-1919	Cass	6 eggs	Roberts 1932:305
6-10-1919	Cass	6 eggs	Roberts 1932:305
7-19-1921	Murray	3 young	Roberts 1932:305
6-10-1945	St. Louis	6 young	Flicker 17(4):92
6-26-1953	Winona	2 young	Flicker 26(2):67
6-1-1979	Clearwater	1 egg	D. Bosanko pers. comm.
6-29-1979	Clearwater	3 young	A. Magney & H. Anderson 1979 unpubl.
7-15-1980	Hubbard	3 young	D. Johnson pers. files
7-5-1981	Hubbard	3 young	D. Johnson pers. files

The following is a list of counties with summer observations from 1970-1981: Fillmore, Hennepin, Morrison, Mille Lacs, Cook, Lake, St. Louis, Aitkin, Hubbard, Beltrami, Clearwater, Roseau, Watonwan, Houston, Winona, Dakota, Scott, Washington, Anoka, Chisago, Isanti, Sherburne, Stearns, Pine, Carlton, Itasca, Crow Wing, Cass, Clay, Lake of the Woods, Marshall,

Sharp-shins, it appears they were also affected by environmental contaminants such as DDT (Snyder et al. 1973). Examination of the Hawk Ridge migration data (Table 4) supports this statement. Shown for comparison is data from the American Kestrel, a species not known to be significantly affected by environmental contaminants (from summary by Johnson 1978:22-

28). Migration data suggests that the Sharp-shin population declined in the period from 1961-1970, and is now showing signs of improvement, particularly in the past five years (migration data from 1976-1980 reveals the Sharp-shin to make up 23.25% of the total migrating raptors seen at Hawk Ridge for that period).

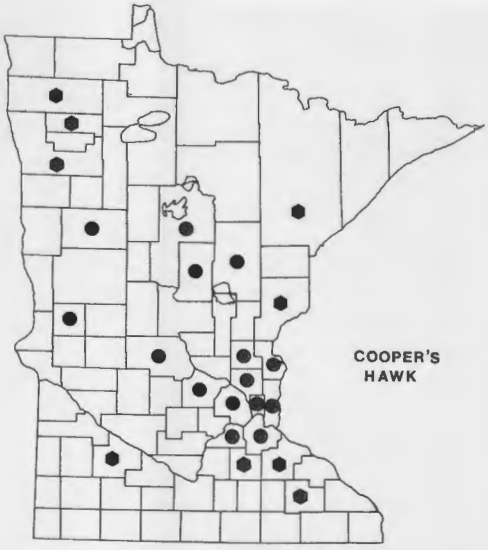
COOPER'S HAWK

Breeding Status: Regular Nester

In general terms, this species is very scarce on the prairie in the west-central, southwestern, and south-central regions of the state; most numerous in the central, east-central, and southeastern regions; and is more numerous than the Sharp-shinned Hawk everywhere except in the north-central and northeastern regions (Green and Janssen 1975:62).

Some 70 nest records currently exist for the state from the period 1883-1981. From 1970-1981, summer observations have been recorded in the following counties: Houston, Olmsted, Wright, Kandiyohi, Big Stone, Sherburne, Mille Lacs, Otter Tail, Hubbard, Mahnomen, Clearwater, Beltrami, Lake of the Woods, Koochiching, and southern St. Louis. Counties with summer observations prior to 1970 (if different than above to avoid duplication) are as follows: Fillmore 1948; Winona 1962; Martin 1952; Nobles 1965; Morrison 1965; northern St. Louis 1938; Lake 1953; and Cook 1967.

Although documented nest and observation records in Minnesota are inadequate to show any specific trends, it is clear that in North America the Cooper's Hawk was affected by organochlorines such as DDT (White 1969, Henny ans Wight 1972, Snyder et al. 1973, Reynolds 1978). Because of possible confusion with the Sharp-shinned Hawk resulting in errors in identification in the earlier years, Hawk Ridge migration data were not examined. Experienced observers generally agree that in Minnesota, Cooper's Hawks have been increasing in numbers in the past four to five years (based on general observations). As with the Sharp-shinned Hawk and Goshawk, a closer examination of the nesting biology and habitats of this species in Minnesota is needed.



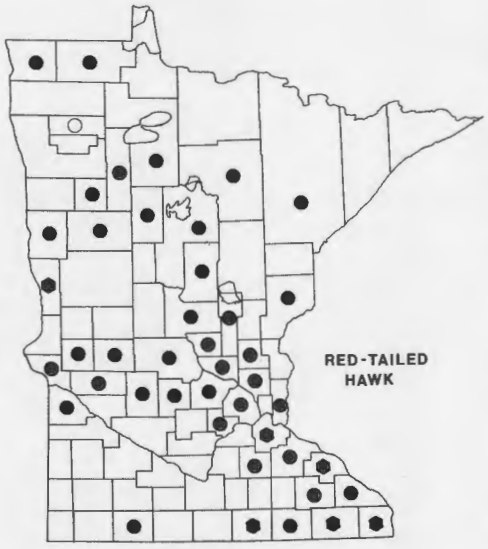
RED-TAILED HAWK

Breeding Status: Regular Nester

Observations and nest records indicate that the Red-tail is one of our most numerous breeding raptors. It is most commonly associated with disturbed or fragmented habitats; and except for the contiguous forests of the northeastern region, is found breeding throughout the state.

Red-tails have a tendency to place their nests in or along the edge of openings, or in areas where they can gain easy access to the nest itself. From 1979-1981 I located 14 Red-tail nests, 12 in Hubbard County and one each in Crow Wing and Mahnomen counties. Of these, one nest was in a lone tree (not within 30.5 meters of another tree), seven were edge tree nests (defined as being within 15.2 m of a forest/opening edge), three were

directly accessible but not edge tree nests being 20, 23.5, and 40.2 m back from the edge), and three were neither edge tree nests (18.3, 24.4, and 33.5 m from edge) nor directly accessible. In these latter three nests, the adults were required to display a minimal amount of maneuverability to dodge a few trees or branches that obstructed the nest itself. Still, all nests were found near openings, such as fields (nine nests), marshes (three nests), woods trails (one nest), and lake (one nest).



In 1981, six nests in Hubbard County were monitored for production. Thirteen of 15 young fledged for an average of 2.17 fledged young/nest.

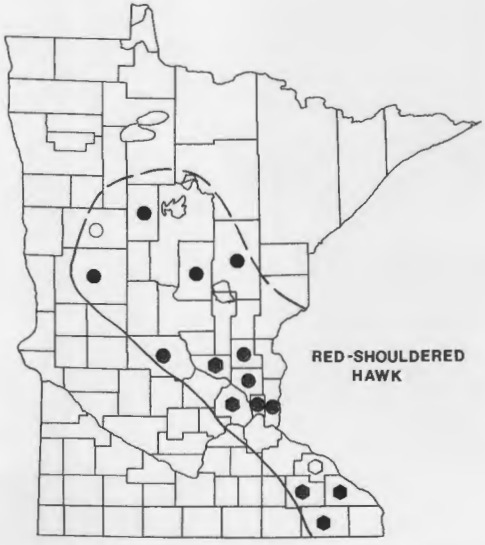
Due to the fact that Red-tails display a high degree of individual color variation, early nesting reports of the Krider's subspecies (such as the article by Peabody 1895) have been subsequently dismissed. As stated by Green and Janssen (1975:63), the eastern subspecies of the Red-tailed Hawk (**B. j. borealis**) is the breeding race in the state. As it is possible that the Krider's race may breed in the state, I urge observers to make complete and accurate records of any potential nesting observations.

Some observers speculate that the Red-tail may be increasing its nesting activity in the forested regions as land clearing, roads, and logging activities fragment the forest. Conversely, urbanization and agricultural expansion are without doubt eliminating many previously occupied territories, particularly in the prairie and transitional regions of the state.

RED-SHOULDERED HAWK

Breeding Status: Regular Nester

Roberts (1932:316) stated that during his fifty-odd years of bird work in Minnesota, he had never seen the Red-shouldered Hawk alive, though it had been constantly looked for. Roberts deduced that while the Red-shouldered does occur in Minnesota, it was a very uncommon, if not indeed a rare bird; although he felt that it undoubtedly bred in the southeastern region of the state.



Combined with data since that time the following concept has evolved: (1) it is now apparent that this species has expanded its nesting range north and northwestward in the state, (2) due to its secretive nature and relatively low numbers it may have been overlooked

by observers in the earlier part of this century (I view this statement with some reservations, as my experiences with this species indicate that although it is secretive and in low numbers, it is hard to overlook, particularly when calling in spring and early summer), and (3) as it is elsewhere in the US and in part of Ontario, the current population in Minnesota is likely declining.

The first documented nest of the Red-shouldered Hawk came in 1935 from Stearns County (Erickson 1936). A nest was reported in 1934 from Hennepin County, but no documentation was given to substantiate it. Combined with nest records since 1935, a total of 39 nests are now on file. In the period from 1970-1981 summer observations have been made in the following counties: Houston, Winona, Olmsted, Wabasha, Goodhue, Dakota, Ramsey, Washington, Anoka, Chisago, Sherburne, Stearns, Kandiyohi, Lac Qui Parle, Morrison, Mille Lacs, Pine, Aitkin, Crow Wing, Beltrami, Cass, Wadena, Hubbard, Otter Tail, Becker, Clearwater, and Clay.

Bednarz and Dinsmore (1981) described the habitat of the Red-shouldered in Iowa as bottomland forests and small wetlands (marshes and wet meadows). His findings supported the concept that large contiguous tracts of bottomland forests are necessary to sustain breeding Red-shoulders. He suggested the critical floodplain forest size in northeastern Iowa to be perhaps up to 250 ha (625 acres). In an earlier paper Bednarz (1979) stated that the Red-shoulder decline probably is due directly or indirectly to habitat alteration. Timber harvest and the development of large pastures along bottomlands have converted excellent Red-shoulder habitat into transitional habitat, probably allowing the more aggressive Red-tailed Hawk to replace the Red-shoulder. Channelization and dam construction also have destroyed Red-shoulder habitat by inundation and by controlling natural river processes that create and maintain backwater marshes and openings.

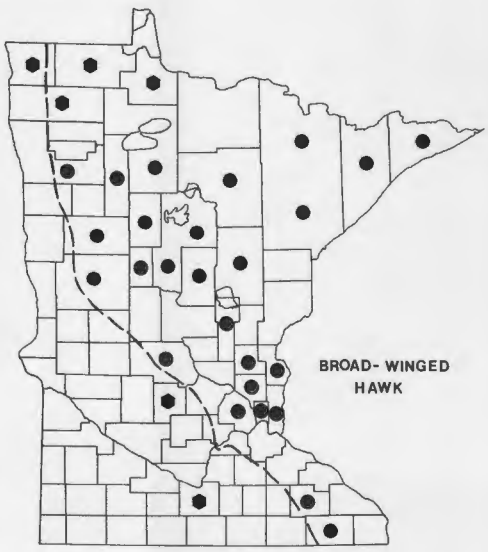
It appears clear that this species is having problems in Minnesota and that a more intensive nesting survey is well warranted at this time.

BROAD-WINGED HAWK

Breeding Status: Regular Nester

The Broad-wing is likely the most numerous breeding hawk of the northern forested regions of the state, scarce in the southeast, and essentially absent elsewhere.

Upon closer examination of actual nest sites, a pattern of nest site requirements appears, that is, the close proximity of the nest to an upland opening, and/or wetland. Keran (1978) examined 29 nests from several parts of Minnesota and Wisconsin. He found



nests to be in the first suitable crotch in the lower one third of the forest canopy, within 124.4 m (average 42.1 m) of an upland opening, and within 142.6 m (average 67.1 m) of a wet area. Upland openings are described as a woodland trail, paved road, gravel road, or woodland field. Wetlands were of six types: wooded swamp, shrub swamp, shallow fresh marsh, deep fresh marsh, pool, and lake. In

a study done in western Maryland, Titus and Mosher (1981) found Broad-wings nesting within 292 m of an opening (average 63 m) and within 211 m of water (average 86 m). This was based on a 24 nest sample size.

In 1980 and 1981 I examined 11 nests from Hubbard and Becker counties, Minnesota. I found nests to be within 288.3 m of an opening (average 79.2 m) and within 321.9 m of a wet area (average 141.1 m). Researchers have long speculated that perhaps those nests found near trails, openings, etc. were found there because that is where most observers look from, and that the nests farther back in the woods largely went unnoticed.

Of my 11 nests, eight were of the "typical" type in that they were close to an upland opening or wetland. The other nests were 167.6, 120.7, and 97.6 m from a wetland and 120.7, 288.3, and 234.7 m from an upland opening respectively. These nests were found to be at or near a small break or "hole" in the forest canopy. The adult birds flew over the forest canopy and went down into the "hole" to their nest site, as compared to a "typical" nest where the birds fly under the forest canopy, likely starting in from the edge of the opening or wetland. One nest was at the edge of a forest type change (hardwood to conifer) and the other two were in contiguous hardwood forests.

This data serves to support the speculation, that indeed, there are a few Broad-winged Hawk nests that unless found through a systematic search would go unnoticed. Still, nests are not randomly distributed throughout the forest but are in close association with wetlands and/or upland openings. Future research may reveal some minimum threshold amounts of these hunting areas needed to support nesting Broad-winged Hawks.

General observation records and Hawk Ridge migration data suggest that despite fairly substantial fluctuations, the population of Broad-wings is generally stable.

SWAINSON'S HAWK

Breeding Status: Regular Nester

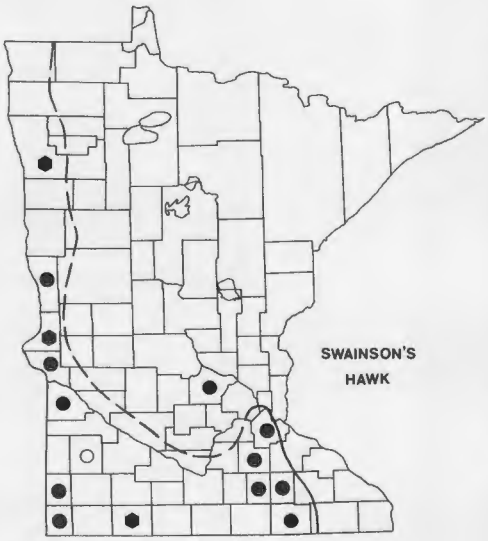
Roberts (1932:323) stated that this hawk was "a summer resident throughout the western part of the state; so far as known at present only an irregular spring and fall migrant in the eastern part, if it occurs there at all." Roberts also included an 1898 report from A. Hewit of Faribault County, who wrote that this species was "fairly common. Breeds. Arrived April 26, 1898." This remained the most southeasterly record until May 11, 1950 when birds were seen which were believed to be nesting in Dodge County (Flicker 22(3):106).

At present 27 nest records exist for the state (Table 8). Inferred nesting records come from the following counties: Steele 1974; Lac Qui Parle 1978, 1981; Big Stone 1978, 1979; Lyon 1981. In addition, summer observations have been recorded from the following counties in the period 1970-1981: Olmsted, Goodhue, Washington, Nicollet, Wright, Renville, Murray, Cottonwood, Lincoln, Swift, Yellow Medicine, Chippewa, Traverse, Clay, Becker, Pennington, Marshall, and Kittson. Since their 1901 and 1921 nest records, Jackson and Polk counties (respectively) have not had any further nest or summer observation records. The 1968 nest record from Hubbard County has been dismissed due to lack of sufficient details that would preclude it from being a Red-tail nest.

Included in "The Blue List for 1981" (Tate 1981) was a report from Eckert which states that in Minnesota, the Swainson's Hawk has increased over the last 10 years. Although based somewhat on conjecture, I question if these "new" Swainson's are moving into unoccupied territories, moving into territories already occupied by Red-tails (and thereby pushing out the Red-tails), or if observers are now aware that there may be Swainson's in the area and are no longer passing off a large buteo sighting as a Red-tail. It

Table 8. Swainson's Hawk nest records for Minnesota.

date	county	eggs/young	source
6-19-1879	Traverse	3 eggs	Roberts 1932:323
5-12,26-1901	Jackson	4 eggs	Roberts 1932:323
5-12,26-1901	Jackson	eggs	Roberts 1932:323
5-12,26-1901	Jackson	eggs	Roberts 1932:323
5-12,26-1901	Jackson	eggs	Roberts 1932:323
5-23-1920	Polk	eggs	Roberts 1932:323
6-11-1921	Polk	eggs	Roberts 1932:323
8-2-1960	Dodge	2 young	Flicker 33(4):193
1974	Pipestone	unknown	Loon 47(1):28
5-5-1974	Mower	young	Loon 47(1):28
1974	Mower	young	Loon 47(1):28
7-20-1975	Mower	2 young	Loon 47(4):193
7-14-1976	Mower	unknown	DNR Non-Game Files
7-16-1976	Rock	2 young	DNR Non-Game Files
7-21-1976	Dakota	2 young	DNR Non-Game Files
6 - 1977	Wilkin	unknown	DNR Non-Game Files
7-9-1977	Steele	2 young	DNR Non-Game Files
1977	Lac Qui Parle	unknown	DNR Non-Game Files
1977	Rock	unknown	DNR Non-Game Files
1978	Dakota	unknown	Loon 51(1):33
1978	Lac Qui Parle	unknown	Loon 51(1):33
1979	Big Stone	unknown	Loon 52(3):127
1979	Wright	unknown	Loon 52(3):127
1979	Rice	2 young	D. Keran, pers. comm.
1980	Rice	2 young	D. Keran, pers. comm.
1981	Rice	young	D. Keran, pers. comm.
1981	Dakota	unknown	Loon 53(3):135



seems plausible to this author that until recently, we have always had a small undiscovered population of Swainson's in the prairie regions of Minnesota. Nonetheless, some experienced observers are finding Swainson's Hawks in some areas of the state where none had been seen five years previous. Perhaps these Swainson's are moving into habitats that, although too marginal for Red-tails (in respect to nest sites), are adequate for the Swainson's?

BALD EAGLE

Breeding Status: Regular Nester

Early nest records of the Bald Eagle in Minnesota come from Hennepin County 1874, Stearns County 1894, and Itasca Park 1902, 1917. Nesting

Table 9. Bald Eagle nesting data from Chippewa National Forest 1963-1981.[1]

year	known nests	observed nests	no. active nests	% active nests	no. successful nests	% successful nests	average brood size at fledging	young/ active nest
1963	48	31	20	64	6	30	1.7	0.50
1964	55	46	30	65	12	40	1.2	0.50
1965	76	58	39	67	22	56	1.3	0.74
1966	107	70	52	74	19	61	1.5	0.90
1967	135	67	49	73	21	55	1.4	0.79
1968	142	105	52	49	33	63	1.5	0.96
1969	139	117	60	51	29	48	1.5	0.73
1970	141(106)	125(93)	65	52	35	54	1.8	0.95
1971	143(107)	130(99)	65	50	40	61	1.5	0.94
1972	142(110)	137(107)	73	54	40	55	1.6	0.96
1973	147(109)	141(108)	70	50	42	60	1.8	1.02
1974	156(107)	149(105)	68	46	40	59	1.7	0.97
1975	163(94)	159(94)	70	43	47	67	1.7	1.11
1976	176(94)	176(94)	67	38	48	72	1.6	1.17
1977	194(105)	193(105)	77	40	57	74	1.5	1.12
1978	200(107)	200(107)	80	40	56	70	1.6	1.15
1979	201(106)	201(106)	78	39	53	68	1.8	1.22
1980	209(112)	209(112)	77	37	62	80	1.8	1.46
1981	199(112)	199(112)	75	38	60	79	1.7	1.37

Number in ( ) are breeding areas.

[1]Adapted from summary by Denoncour (1981).

was implied in the late 1800's from the Des Moines River Valley, Loon Lake, and Heron Lake (all in Jackson County), Otter Tail County, and in the Red River Valley (Roberts 1932:335). Except for Itasca Park and one nest still in Otter Tail County, habitat alterations have made these areas unsuitable for nesting eagles. A nest site in the Agassiz NWR, Marshall County, last produced young in 1962. Due to an inadequate food supply, it is doubtful that eagles will again nest there (J. Mattsson pers. comm.).

Table 9 summarizes Bald Eagle nesting data from the Chippewa National Forest from 1963-1981. Table 10 reveals the available statewide nesting data from 1973-1981. This data has been gathered from the Chippewa NF, Superior NF, Voyageurs NP, and the other areas of Minnesota. On a statewide basis, the number of occupied

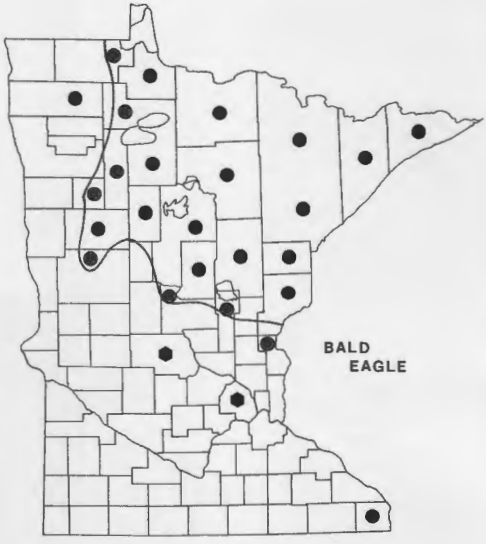


Table 10. Statewide Bald Eagle nesting data 1973-1981.[1]

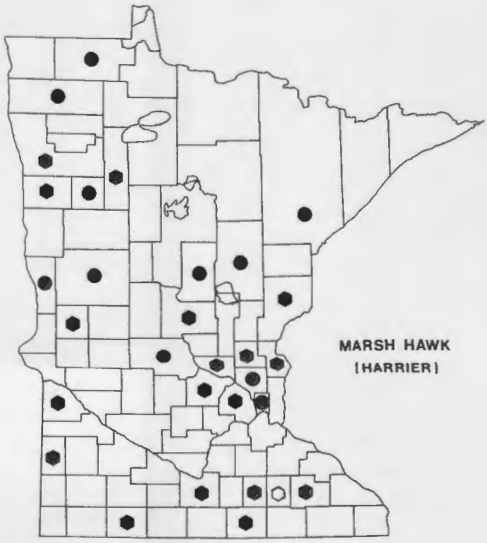
	Territories					Young		
year	no. occupied	% occupied successful	no. active	no. successful	(%)	total	broodsize	young/ active nest
1973	—	—	105	70	(67)	116	1.66	1.10
1974	—	—	112	69	(62)	105	1.52	0.94
1975	—	—	119	87	(73)	147	1.69	1.24
1976*	—	—	122	92	(75)	157	1.71	1.29
1977	—	—	151	113	(75)	179	1.58	1.19
1978	—	—	146	113	(77)	184	1.63	1.26
1979	183	62	162	114	(70)	197	1.73	1.10
1980	191	77	171	137	(80)	245	1.79	1.43
1981	191	70	172	133	(77)	244	1.83	1.42

* 2 nests (2 eggs each) taken for New York transplant; not included in data summary

[1]Combination of data from the Chippewa NF (Denoncour 1981), Superor NF (W. Russ pers. comm.), Voyageurs NP (E. Nelson pers. comm.), and elsewhere in Minnesota (Nelson 1981, 1981a, 1981b). Alson included is a 1981 nest with two young that was not included in the summary by Nelson (1981).

and active Bald Eagle breeding territories continues its gradual increase, and also reflects the intensified survey efforts.

These data support the general view that the Bald Eagle situation in Minnesota is showing signs of improvement. Still, we must not lose sight of the fact that birds are still being affected directly or indirectly by environmental contaminants, urbanization, lakeshore development, agricultural expansion, shooting, trapping, lead poisoning, and nest disturbances.



MARSH HAWK (HARRIER)

Breeding Status: Regular Nester

Roberts (1932:341) reported this species to be a "common summer resident, breeding throughout the state; especially numerous in open country . . . while considerably reduced in numbers, it is still abundant throughout the open portions of the state and is present wherever there are marshy areas in the forests." Green and Jansen (1975:67) stated that this hawk was a "resident, breeding throughout the state . . . One of the three most numerous nesting hawks . . . There is recent evidence that in some areas the population has declined sharply, probably because the nesting habitat has

been destroyed."

Currently, 61 nest records exist from the period 1880-1981. Only 16 of these nest records have come since 1960, due in part to the lack of current observers actually searching out nests. It should be noted that for the period 1970-1981, there have been **no** recorded summer observations or nest records from the following counties: Rock, Nobles, Jackson, Mower, Fillmore, Freeborn, Blue Earth, Steele, Lincoln, Sibley, Rice, Wabasha, Hennepin, Grant, Polk, and Clearwater (all of these counties had either a nest record or summer observation prior to 1970). Again, this may be due to the lack of observers, but it is the opinion of this author that this absence of nest or observation records is a fairly accurate reflection of the tremendous loss of habitat and subsequent population decline that this species is experiencing in Minnesota.

I suggest that future researchers should document Harrier populations in existing habitats (at least in the southern, west central, and prairie areas of the northwestern regions of the state) to establish the beginning of a long-term, reliably sound population evaluation.

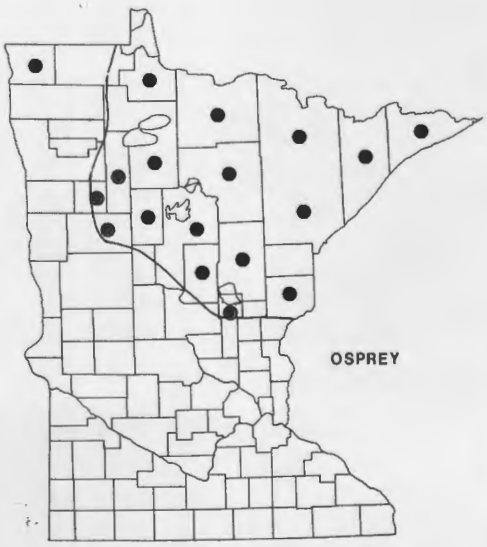
OSPREY

Breeding Status: Regular Nester

The Osprey was formerly more widely distributed in the state than at present, as evidenced by Roberts (1932:347) who stated: "There is abundant evidence to show that the Osprey once nested commonly about many of the lakes and larger rivers throughout the state . . . could it be left alone it might return once more to such former nesting places as Lake Minnetonka, White Bear Lake, Mille Lacs, and along the bluffs of the Mississippi River." In addition, during a "crow shoot" in a southwestern county of the state a female Osprey was killed on its nest along the Des Moines River (Roberts 1932:348).

Data from the 1981 breeding season indicates there were an estimated 160 producing Osprey nests in the state (combined totals of documented nests from the Chippewa NF, Superior NF, and an incomplete inventory of Crow Wing, Becker, Mahnomen, and Hubbard counties revealed 102 producing nest sites). Approximately 25 of these nests were on artificial structures such as wood and metal power poles. A producing nest site is defined here as a nest in which at least one young survives to fledging age.

Table 11 reveals nesting data from the Chippewa NF from 1968-1981. The gradual population increase that the Bald Eagle has recently experienced is not similarly shown by the Osprey. Some observers feel there is a link between the Osprey's wintering grounds and the pickup of chemical contaminants, but documentation of this is lacking. Dunstan (1973) gave results of two favored prey species (Bluegills and Yellow Perch) which were tested for chlorinated hydrocarbons and poly-



chlorinated biphenyls (PCB). These fish (five of each species) were collected from the Chippewa NF areas and revealed minimal contamination by DDE, DDD, DDT, and PCB 1248-52 or

Table 11. Results of Osprey survey, Chippewa National Forest 1968-1981.[1]

year	known nests	observed nests	no. active nests	% active nests	no. successful nests	% successful nests	no. of young	average brood size	young/ active nest
1968	78	56	40	71	13	32	19	1.5	0.47
1969	89	69	49	71	23	47	50	1.7	1.02
1970	99	71	52	77	28	54	48	1.7	0.92
1971	90	74	49	66	22	45	39	1.8	0.80
1972	104	80	59	73	34	57	60	1.7	0.88
1973	124	92	72	78	—	—	—	—	—
1974	139	83	67	80	35	52	59	1.7	1.13
1975	131	72	56	77	29	52	46	1.6	0.82
1976	138	58	50	86	24	48	43	1.8	0.86
1977	146	109	87	80	37	42	66	1.8	0.75
1978	214	96	78	81	19	24	30	1.8	0.38
1979	201	201	122	61	59	48	97	1.6	0.79
1980	188	188	142	76	77	65	175	2.1	1.36
1981	161	161	112	69	63	57	102	1.7	0.95

[1]Adapted from summary by Denoncour (1981).

1260. Dunstan stated that from this sample it appears that if the Ospreys do have pesticides in their bodies the source may be from prey eaten along the migration routes or in winter, rather than from prey taken on the breeding grounds in Minnesota.

Henny and Wight (1969) state that in order to balance demonstrated mortalities a breeding age female in a population must produce each year between 0.95 and 1.30 young per nest. Dunstan (1973) found that on this basis it would appear that Ospreys in Minnesota were bordering on maintaining the population. Examination of nest records from the Chippewa NF (Table 11), Superior NF data from 1974-1981, and from my own records suggests that this statement still pertains to the population of Ospreys in Minnesota through 1981.

On the Superior NF, production data from 166 active nests (1974-1981) averaged 1.32 young per active nest (range 1.00-1.68). Of these 166 active nests 152 (92%) were ultimately successful. This 92% success rate appears unusually high when compared to other areas of the state. Of 12 nests I examined in Hubbard County (six nests each in 1980 and 1981) eight (67%) were successful in fledging young. A total of 17 young were produced for an average of 1.42 young per active nest.

It may be of interest to note that one young was produced in 1979 from a nest in Lake Bronson State Park, Kittson County (G. Lynne pers. comm.). There is also a currently producing nest site (1981 - two young) on a powerpole structure just southeast of Winona, Winona County, on the Wisconsin side of the Mississippi River (so the nest is actually in Wisconsin).

Although past statewide documentation of Osprey nesting activity has been lax, it is crucial that more complete records be kept in order to better ascertain current population trends.

PEREGRINE FALCON

Breeding Status: Extirpated

Roberts (1932:356) summed up the status and distribution at that time

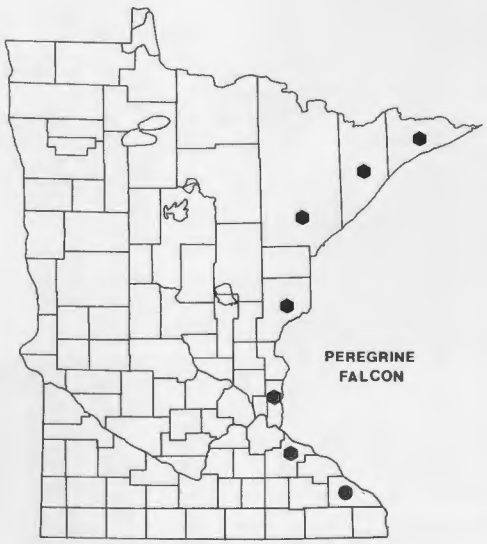
Table 12. Peregrine Falcon nest records for Minnesota.

date	county	eggs/young	source
4-23-1915	Winona	young	Roberts 1932:354
5-17-1928	Lake	4 eggs	Roberts 1932:354
5-17-1928	Cook	3 eggs	Roberts 1932:354
5-28-1928	Winona	young	Roberts 1932:354
5-10-1930	Lake	4 eggs	Roberts 1932:354
5-6-1939	Winona	young	Flicker 12(1,2):10
6-15-1939	Washington	2 eggs	Flicker 12(1,2):10
4 - 1940	Goodhue	unknown	Flicker 12(3):32-33
5 - 1940	Pine	4 young	Flicker 13(2):13-14
6-1-1940	Goodhue	unknown	Flicker 12(3):32-33
6-14-1941	Winona	unknown	Flicker 13(3,4):38
6-19-1942	N. Shore of Lake Superior*	1 young	Flicker 14(2,3):32
6-20-1942	N. Shore of Lake Superior	young	Flicker 14(2,3):32
6-23-1942	N. Shore of Lake Superior	4 young	Flicker 14(2,3):32
6-9-1945	N. Shore of Lake Superior	3 young	Flicker 18(1):16-17
6-15-1945	N. Shore of Lake Superior	3 young	Flicker 18(1):16-17
1948	St. Louis	young	Flicker 20(4):95
8 - 1962	Winona	2 young	Flicker 34(3):81

* indicates general area of nest record due to lack of more precise county data

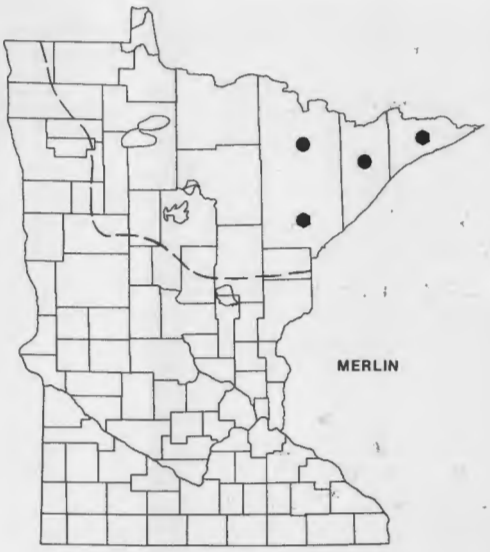
with the following: "The Duck Hawk in Minnesota is probably about as well represented today as it ever was. Some half dozen pairs nest along the north shore of Lake Superior, probably about the same number in the bluffs along the Mississippi River south of Red Wing, a fewer number along the upper St. Croix River, and an unknown but probably small number about cliff bordered lakes and streams between the Canadian boundary and Lake Superior."

Eighteen nest records have been documented in the state (Table 12). The last breeding in Minnesota occurred in 1964 in the Boundary Waters Canoe Area. Adults were seen at an eyrie in 1964 along the north shore of Lake Superior. Nesting was last reported in 1962 from Whitewater State Park, Winona County, and in 1940 from along the upper St. Croix River, Pine County. Since 1964, only three summer observations: 7-1-1971 Dakota County; 6-3-1981 St. Louis County; and 6-25-1981 Nobles County.



Although the data relating to Minnesota's Peregrine population are inadequate to show specific trends, it is clear that in the eastern US and elsewhere this species began declining in the late 1940's and early 1950's. Chemical pesticides, chlorinated hydrocarbons, and specifically DDT was causing eggshell thinning and had very effectively lowered the breeding success of the Peregrine population, resulting in the demise of the eastern population and declines elsewhere (Bollengier et al. 1979).

Unsuccessful attempts at reintroducing the Peregrine Falcon were made in 1976 and 1977 along the Mississippi River bluffs in the southeastern part of the state. Another reintroduction attempt will begin in 1982 on a tract of Nature Conservancy land near Wabasha.



MERLIN (PIGEON HAWK)

Breeding Status: Regular Nester

As stated by Green and Janssen (1975:70) this species is a summer resident in the northeastern and north central regions and adjacent counties in the northwestern region. It is very scarce throughout these areas except along the Canadian border in Lake and Cook counties. It should be noted that the dashed line on the Merlin's distribution map is based somewhat on incomplete data, and thus should be viewed accordingly.

Eight nest records exist for the state (Table 13). These nests have come from the following dates and locations: 1935 Gunflint Lake; 1935 Saganaga Lake (two nests); 1937 Saganaga Lake; late June 1952 Minnesoat Point; July 1952 Basswood Lake; 1959 Basswood Lake; and 1981 Section 13 T62N R12W (southeast of Ely).

From 1922-1981, 33 summer observations from St. Louis, Lake, and Cook counties have been recorded. In addition, from 1952-1979 there are a fair number of the "reported nesting" and "defending adults seen" records from these same counties (15 records and 20 records respectively). Summer observations have also been made in the following counties: Cass 6-22-1903; Lake of the Woods 7-18-1939; Kittson and Roseau 7-4-1963; Morrison summer 1965; Becker 7-6-1966; Beltrami 7-12-1969; Carlton 6-7-1973; Itasca summers of 1976 and 1981; Hennepin 7-17-1977; Otter Tail 7-15-1978; Marshall 7-20-1900 and summer 1980; and Stearns 6-2-? (1980?). Possible nesting was suggested in the Agassiz NWR of Marshall County in 1980 (J. Mattsson pers. comm.). Oehlenschlager (1963) listed this species as an unconfirmed breeding species in Wadena County, although he did not list any accounts of actual observations.

Of the three nests found in Minnesota by the Craigheads (1940), two were in White Pine trees, the third in a spruce. All were within 45.7 meters of a large water body. Beer (1966) listed four nests, all in conifers and near the edge of a large lake. The 1981 nest (recorded by W. Longley) was in a White Pine. In his review, Trimble (1975) described the taiga Merlin as breeding in the boreal forest, in which it chooses somewhat open territories, such as forest edges, lakeshores, bogs,

Table 13. Merlin nest records for Minnesota.

date	county	eggs/young	source
7-5-1935	Cook	4 young	Wilson Bull. 52(4):241-248
7-5-1935	Cook	1 egg & 2 young	Wilson Bull. 52(4):241-248
7-6-1935	Cook	4 young	Wilson Bull. 52(4):241-248
spring 1937	Cook	5 young	Auk 55(4):668-670
late 6-1952	St. Louis	young	Flicker 25(1):13
7 - 1952	Lake	4 young	Loon 38(4):130
7 - 1959	Lake	young	Loon 38(4):130
7-5,10-1981	St. Louis	1 young +	DNR Non-Game Files

*a nest was found by D. Struthers on 6-29-1937 at "Canadian Trout Lake" containing young (Flicker 9(3-4):7), however with the possibility that this nest was in Canada, the author has not listed it as a Minnesota nest record.

etc. (the Merlin subspecies found nesting in Minnesota is **F. c. columbarius,** or taiga Merlin). In denser areas of the boreal forest, taiga Merlins usually nest in abondoned Common Crow or Common Raven nests in coniferous trees.

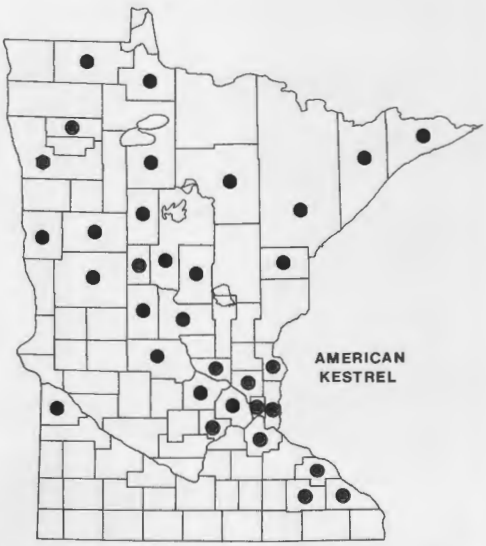
Although no specific studies have been conducted in Minnesota, Merlins, like other bird-eating falcons, are reported to be suffering reduced productivity probably resulting from the accumulation of pesticide residues (in review by Trimble 1975). Migration information and observation records suggest that the population of Merlins in Minnesota is currently stable.

AMERICAN KESTREL

Breeding Status: Regular Nester

General observations indicate that the American Kestrel is one of our most common raptors, breeding statewide.

It is well known that this little falcon readily accepts artificial nest structures. In 1980 I did a preliminary survey of my study area in eastern Becker and southern Hubbard counties. Five occupied territories were located. Prior to the nesting season of 1981 I established 14 nest boxes, one box in each of the five occupied territories of 1980, and the rest in areas where I felt suitable nesting habitat existed. Nine of the 14 boxes were used by nesting kestrels in 1981. All five of the boxes established in the previously occupied territories were used. This data adds to the concept that suitable nest sites are a limiting factor in cavity nesting species such as the kestrel. Further, data suggests the population of kestrels can be strengthened by the use of artificial nest boxes.



Hawk Ridge migration data suggests a stable population (Table 4). However, the current trend in raising row-crops in road ditches and rights-of-way, and the harvesting of prairie woodlots for fuelwood likely have a negative impact on the population.

BARN OWL

Breeding Status: Accidental Nester

In Minnesota the Barn Owl is at the northern edge of its North American range. Roberts (1932:598) stated that this owl "occurs irregularly and infrequently throughout the year, chiefly in the southern part of the state." Green and Janssen (1975:107) listed this owl as a "casual permanent resident in the southern half of the state; accidental elsewhere . . . was formerly more regular in occurrence."

Four nest records presently exist for the state (Table 14). Breeding season sightings include: Murray County 6-29-1921; a pair at Park Rapids, Hubbard County 7-28-1944; a pair shot at Lutsen, Cook County 8-1953; a sighting in Dakota County 7-10-1960; and a bird (from which pellets and molted feathers were found) which spent the summer of 1980 roosting in a barn loft southwest of Waskish, Beltrami County.

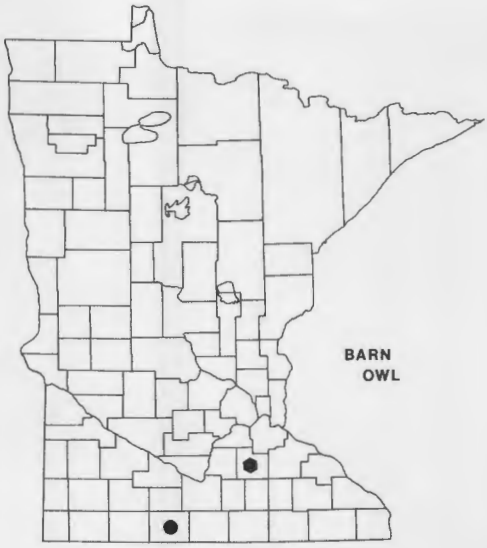


Table 14. Barn Owl nest records for Minnesota.

date	county	eggs/young	source
about 1891	Rice	3 young	Roberts 1932:598
1923	Martin	unknown	Roberts 1932:598
7-14-1924	Martin	3 eggs & 3 young	Roberts 1932:598
9-10-1963	Martin	6 young	Loon 36(1):6-7

General evaluation of the nesting biology of the species and the examination of available nest and sight records suggest that: (1) this species was never very numerous in the state and has become less so since 1965, (2) Minnesota clearly does not currently have a regularly nesting population, (3) the combination of suitable nesting sites and adequate food supplies has decreased with loss of older buildings and intensified farm practices, and (4) the majority of sightings coming from the spring and fall seasons may reflect birds seeking out potential nest sites (spring sightings) and dispersal of young from other areas (fall sightings).

Since 1940, one nest record and 22 observation records (all seasons) have been recorded, with the last confirmed record being that of the 1980 bird from Beltrami County (described above).

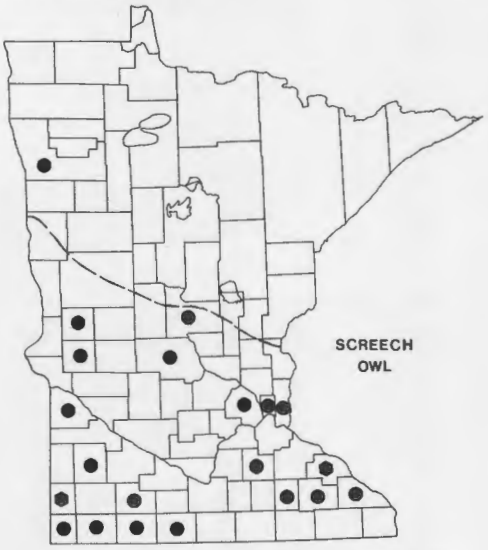
SCREECH OWL

Breeding Status: Regular Nester

There are currently 56 nest records on file for this species from the period 1883-1981. The only nest or summer observation records in the northern regions of the state (north of the dashed line on distribution map) are as follows: a 1921 nest record from Crookston, Polk County; a female with a developing egg was found near Grand Rapids, Itasca County in summer 1961; summer observations in Carlton County 1963 and Aitkin Coun-

ty 1965; and a bird was heard singing at Deerwood, Crow Wing County in May of 1976.

In addition to existing nest records, summer observations from 1970-1981 have been made in the following counties: Freeborn, Houston, Le Sueur, Chippewa, Big Stone, Wright, Sherburne, and Clay. Prior to 1970, counties with summer observations (if different than those mentioned above) include: Blue Earth 1965; Anoka 1965; and Isanti 1965.



The vast majority of the nest records come from more or less urban areas (city parks, small towns, etc.). Very little is known about this species distribution and nesting activity in the rural sectors. Overall, records indicate that nesting activity is spotty within the state (perhaps due to lack of observers elsewhere?) and that except for the handful of places where it is found with some regularity, this species is perhaps declining.

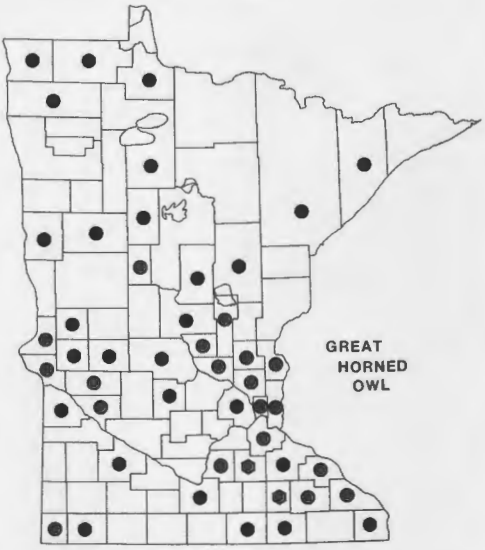
Due to the lack of knowledge concerning its specific nesting habitat requirements and its speculated population status, this species is deserving of future investigations.

GREAT HORNED OWL

Breeding Status: Regular Nester

Observation and nest records indicate that the Great Horned Owl is our most numerous nesting owl, found breeding in all regions of the state (although uncommonly in the closed boreal forest of the northeast region).

In his study area of Benton, Morrison, Sherburne, and Stearns counties Bohm (1980) examined 33 nests of the Great Horned Owl. Of these 33 nesting attempts 17 were in natural nests, the remainder on man-made platforms. Production from natural nests (given in young per nesting attempt) was 1.2 and from man-made platforms was 0.9 young. Production from six natural nests I examined from Hubbard and Crow Wing counties (1979-1981) was 1.7 young.



Great Horned Owls prey to some extent on other raptor species as remains of a Rough-legged Hawk, Harrier, and Long-eared Owl have been found in the nests of Great Horned Owls (Al Grewe Jr. pers. comm.), and Barred Owls and young Peregrine Falcons have also been taken as prey. For this reason, management activities that might increase populations of Great Horned Owls should be undertaken with caution, if at all.

Present urbanization, intensive agri-

cultural techniques and expansion (particularly center pivot irrigation) and the harvest of woodlots for fuelwood are causing substantial habitat loss for Great Horned Owls and their nest making predecessors; but actual documentation of this loss is lacking.

HAWK OWL

Breeding Status: Accidental Nester

There are presently four nesting records of the Hawk Owl in Minnesota (Table 15). Although the three most recent records seem satisfactory, this author has reservations concerning the 1884 record from Ada, Norman County. Examination of the normal range and forested swamp habitats of this species casts serious doubt on the reliability of this particular nest record.

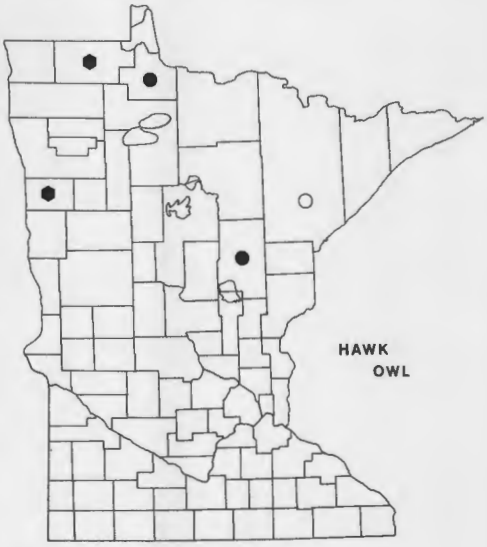


Table 15. Hawk Owl nest records for Minnesota.

date	county	eggs/young	source
spring 1884	Norman	5 eggs	Roberts 1932:615
summer 1906	Roseau	eggs	Roberts 1932:615
5-9-1980	Aitkin	7 young	Loon 53(3):138
6 - 1980	Lake of the Woods	6 young	Loon 53(3):138

An inferred nest record exists for St. Louis County, where from July 26 to August 11, 1963 up to six birds were seen in one locality (near Kelsey), suggesting a family group (Strnad 1963.)

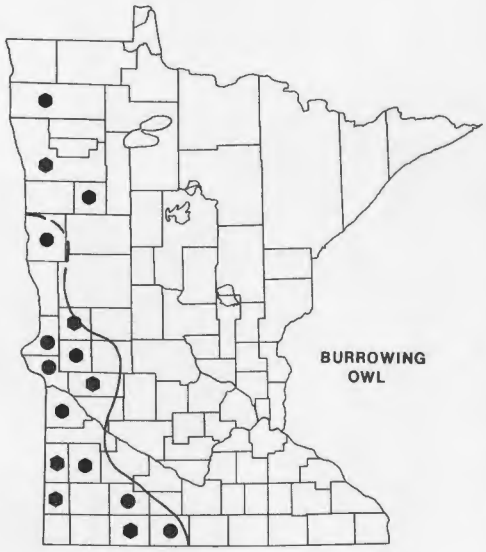
All recorded observations during the potential breeding season are as follows: Stearns County 5-21-1905; St. Paul area 5-21-1925; Koochiching County 5-27-1927; Itasca County 7-15-1928; Beltrami County 7-14-1959, 6-15-1963, and 7-13-1980; St. Louis County 6-21-1963; and Cook County 6-22-1923 and 7-13-1963.

More field research may reveal this species to be an erratic, but casual nester here. S. Loch (pers. comm.) who has done a good deal of work in Minnesota with the Great Gray Owl, a species with somewhat similar habitat characteristics to the Hawk Owl, feels that when we do have Hawk Owls nesting in the state, it is due to their close link to high vole populations.

BURROWING OWL

Breeding Status: Was a Regular Nester, now reduced to a Casual Nester

The prairie along the western margin of Minnesota has historically been the eastern edge of the Burrowing Owl's range in North America. Roberts (1932:618) reported that this owl was "nesting commonly throughout Grant, Traverse, Pipestone, Lincoln, and Lac Qui Parle counties and farther north in the Red River Valley." In a study by Grant (1965) a map indicated 46 nest records from 21 counties from the period 1881 to 1964. These records were from counties north to Marshall, south to Martin, and east to Mahnomen and Swift. In his field study period of 1963 and 1964 Grant located a total of nine or ten nests in Stevens, Traverse, Grant, Big Stone, and Swift counties. He estimated that the annual



population of these five counties was not much in excess of 20 pairs.

Since 1964 there have been only four documented nest records: Cottonwood County 1974; Big Stone County 1977; Clay County 1980; and Stevens County 1981. Extensive habitat loss due to agricultural expansion has placed this owl on the Minesota Heritage Program's "Endangered Species" list.

Artificial nest burrows have been shown to be effective (Collins and Landry 1977, Henny and Blus 1981) and I suggest this may be of assistance to our Minnesota birds as well.

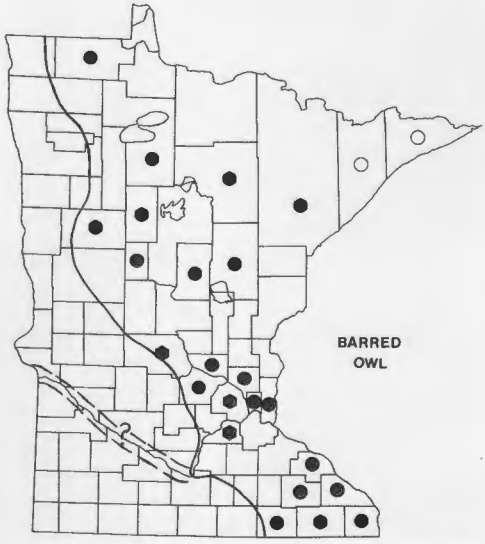
BARRED OWL

Breeding Status: Regular Nester

In general terms, this species is found throughout the forested regions of the state and is essentially absent on the prairie. More specifically, Barred Owls are most often associated with mature bottomland hardwood forests near water.

In addition to the current nest records, summer observations from 1970-1981 have been made in the following counties: Fillmore, Dodge, Steele, Waseca, Rice, Goodhue, Scott, Carver, Hennepin, Kandiyohi, Stearns, Isanti, Chisago, Mille Lacs, Morrison, Pine, Cass, Otter Tail, Clearwater, and Lake of the Woods. Also, a summer 1965 record was made in Rock County.

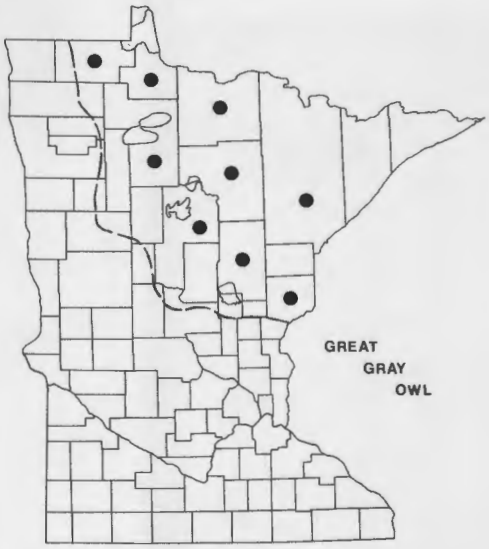
Although this species is reported to nest in old hawk or squirrel nests in northeastern US (Bent 1938:183), in Minnesota it has been recorded only as a cavity nester. It is the opinion of this author that while Barred Owls often utilize other habitat types (i.e., oaks, northern hardwoods, mixed hardwood-conifers), much of the nesting activity takes place in the bottomland hardwood forests because that is where the majority of the suitable nest cavities are to be found. The availability of suitable nest sites is reported to be a limiting factor for cavity nesting species (Thomas et al. 1979), and with current forest management directives (i.e., short rotations, intensive forest culture, etc.) this situation will quite likely become more severe. Barred Owls have been reported to nest successfully in artificial nest structures designed especially for this species (Johnson 1980) and in Wood Duck boxes without tops (Johnson unpublished data). A study currently un-



derway by the author should help resolve some basic questions of artificial nest structure design and suitability.

Habitat use and territory size of Barred Owls has been examined at the Cedar Creek Natural History Area of Anoka County, Minnesota (Nicholls and Warner 1972). Further examination of habitat use in other regions of the state is needed to better understand the true habitat requirements of the species.

The population of Barred Owls in the state currently appears stable, based on available nest and observation records.



GREAT GRAY OWL

Breeding Status: Now considered a Regular Nester

A female Great Gray taken in Roseau County on 4-25-1926 revealed a brood patch — and the first indication of possible nesting in the state. The first documented nest record came in 1935 from Roseau County (Flicker 7(1):17). The next nest record came in 1970, again from Roseau County (Nero 1970). There are currently some 49 nest records for the state. Nero et al. (1974) reported nesting Great Grays successfully using an artificial nest structure in Roseau County.

Counties without documented nest records but with summer observations are as follows: Cook 1959, 1974, 1977, 1978, 1980; Lake 1961, 1965, 1981; Clearwater 1966; Becker 1980; Carlton 1979; and Anoka 1981.

Great Gray Owls are considered prey "specialists," being nearly entirely dependent on small mammals to fulfill their food requirements (Nero 1980, S. Loch pers. comm.). In all likelihood we have always had a regular, fluctuating, but until recently an undiscovered population of Great Grays in the state. Continued observation records are needed to better assess this species distribution in the state. It must be stressed that careful identification be made prior to the reporting of nest observations, as Barred and Great Horned Owls frequently continue to be mistaken for Great Grays. A current study by Steve Loch of St. Cloud State University will reveal further information on the biology of the Great Gray Owl in Minnesota. Unfortunately, particular nesting information from his study was not available for this report.

LONG-EARED OWL

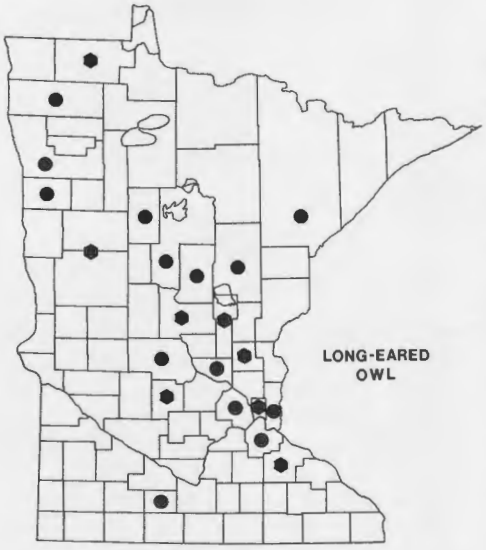
Breeding Status: Regular Nester

It is the opinion of this author that this species is more abundant than current nest and sight records reveal. The relatively short spring singing period and nocturnal habits make it one of the lesser heard or seen of the owls.

Eckert (1978) noted that the late afternoon open field hunting techniques displayed by the Short-eared Owl are also done by the Long-eared, and that the inexperienced observer may incorrectly identify the bird as a Short-eared.

Food habit studies on the Long-eared reveal it to be a prey specialist, being essentially dependent on small

mammals such as mice, voles, and shrews for food. This lends itself to the speculation that like other prey specialists (such as the Great Gray, Short-eared, and Barn Owl), the Long-eared's nesting biology centers around the availablility of adequate small mammal populations. However, this still awaits documentation.



Currently, 51 nest records are on file for the time period 1878-1981. This species has been found to nest mainly in the wooded portions of the state and records of nests in conifer plantations (abandoned Common Crow nests usually) are not uncommon. There are also nest records from the prairie regions of the northwest as well as a 1978 nest record from Watonwan County. The distribution map reveals a nest record symbol which lies directly on the Becker/Otter Tail County line. This 1932 nest record was from "near Frazee" with no further indication as to the respective county.

In addition to existing nest records, summer observations have been made in the following counties: Houston 1962; Otter Tail 1977; Clearwater 1955; Lake o fthe Woods 1977; Lake 1953, 1963, 1981; and Cook 1976, 1981. A breeding season sighting was made on 5-12-1979 in Brown County.

Although nest and observation records suggest that the population of Long-eared's may be stable, too little data exists on with which to formulate a definitive population status position.

SHORT-EARED OWL

Breeding Status: Regular Nester

Short-eared Owls inhabit the marshes and low-lying fields throughout most of the state, and are most numerous in the northwestern and west central regions. An overriding characteristic of these owls is their preference for open country.

Listed in Table 16 are the 19 documented nest records for the state. Nesting was also inferred in Traverse County when on 6-28-1963 five young owls were seen sitting on Hwy 75 north of Wheaton, blocking traffic (Flicker 35(3):89). Since their original nest records of 1893, 1901, and 1940, no further nest or summer observations have been made in Meeker, Jackson, or Stearns counties respectively.

Except for counties with recent (1970-1981) nest records, the following is a list of all counties with summer observation records: Nobles

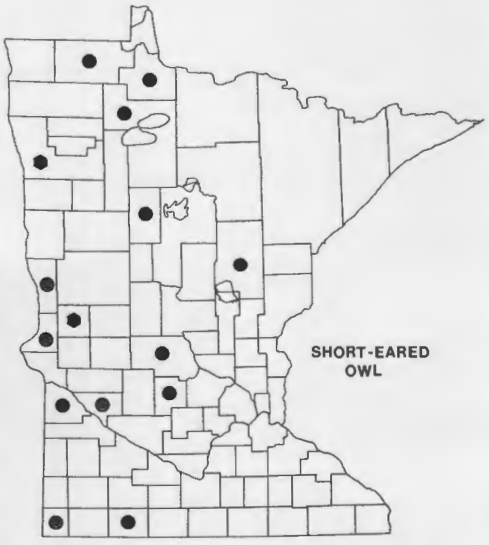


Table 16. Short-eared Owl nest records for Minnesota.

date	county	eggs/young	source
5-11-1893	Meeker	6 eggs	Roberts 1932:628
5-1-1901	Jackson	6 eggs	Roberts 1932:628
4-27-1920	Polk	eggs	Roberts 1932:628
6-2-1921	Polk	eggs	Roberts 1932:628
6-26-1924	Grant	young	Roberts 1932:628
6-18-1937	Roseau	2 young	Flicker 9(3,4):8
6-20-1940	Stearns	unknown	Flicker 12(4):49
1964	Roseau	unknown	Loon 36(3):85
1973	Hubbard	1 young	MOU Files
1974	Aitkin	unknown	Loon 47(1):30
4-23-1978	Chippewa	4 eggs	Loon 50(4):198
5-23-1978	Rock	3 young	DNR Non-Game Files
5-23-1978	Rock	6 young	DNR Non-Game Files
6-12-1978	Lac Qui Parle	2 young	Loon 51(1):37
1980	Lake of the Woods	2 young	MOU Files
1980	Lake of the Woods	unknown	DNR Non-Game Files
1980	Lake of the Woods	unknown	DNR Non-Game Files
1980	Beltrami	young	MOU Files
5-30-1981	Wilkin	3 young	Loon 53(4):230-231

1970; Martin 1971; Lyon 1980; Wright 1917; Pope 1967; Big Stone 1975; Douglas 1967; Todd 1971; Grant 1966; Becker 1959, 1969, 1979; Mahnomen 1959, 1969; Clearwater 1974; Pennington 1969; Marshall 1979; Polk 1979; Kittson 1978; St. Louis 1950, 1951, 1963, 1970, 1971, 1974; and Lake 1950. A breeding season sighting was made in Marshall County on 5-20-1949.

Clark (1975) offers a fairly thorough picture of the life history of the Short-eared Owl. As stated by Clark, "This species display several characteristics of an irruptive species, e.g., nomadic movement, specialized feeding habits, plasticity with regard to time and locale of breeding, and flexible fecundity." Short-eared's are considered prey specialists, being almost entirely dependent on small mammals (particularly voles) for food. As reported by Clark the lack of suitable small mammal populations will result in birds not nesting in areas considered their normal nesting range. An example of this was shown in Lake of the Woods County where general observations revealed Short-eared's to be fairly abundant in the summer of 1980, while in 1981 they were considered essentially non-existant.

Due to the high rate of grassland/marshland habitat destruction by man and their ground nesting habit, Short-eared's are susceptible to high nesting mortality. This species is currently listed as "Threatened" in Minnesota by the Minnesota Heritage Program.

BOREAL OWL

Breeding Status: Accidental Nester

Currently two nest records exist for the state (Table 17). Other than these nest records, no other summer observations exist. One published account (Auk 43:544) of a bird heard singing on May 20, 1926 in Cook County was regarded by Roberts (1932:631) as evidence of possible breeding in the state, but details of the account do not preclude the possibility of confusion with the Saw-whet Owl (Green and Janssen 1975:112). The possibility of Boreal Owls nesting in extreme northern Minnesota had been considered but never investigated until 1978. On April 21-22

Table 17. Boreal Owl nest records for Minnesota.

date	county	eggs/young	source
7-22-1978	Cook	5 young	Am. Birds 33(2):135-137
6-17-1979	Cook	1 young	Loon 51(4):198-199

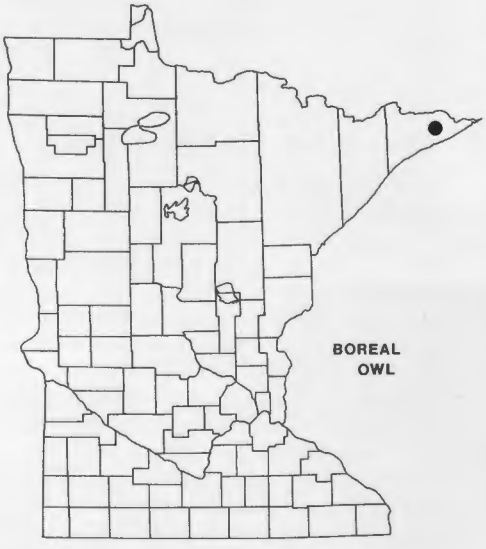
and May 6-7, 1978 15 male Boreal Owls were heard singing from 26.5-57.1 km (16.5-35.5 miles) north of Grand Marais along the Gunflint Trail in Cook County (Eckert and Savaloja 1979). These owls were heard in mixed woodlands composed primarily of Trembling Aspen, Balsam Poplar, Paper Birch, Black Spruce, White Spruce, and Balsam Fir. Four of these 15 territories were searched for possible nest sites and only one nest cavity was located. This cavity (which subsequently produced five young Borealss) was in a dead Black Spruce stump along the edge of a solid stand of Black Spruce in section 32 T64N R1E, Cook County. The male Boreal at this nest (and the sole provider of food for the nest) was seen only with mouse-sized prey, but during incubation what appeared to be the tail feathers of a Dark-eyed Junco were seen in the nest cavity. After the young had left the nest the following partly eaten remains were recovered from the floor of the nest cavity: eight Boreal Redback Voles, two Woodland Jumping Mice, one Meadow Jumping Mouse, and one Northern Flying Squirrel.

The second nest record came on June 17 and 18, 1979 when a young Boreal Owl was seen at a nest cavity in an overmature aspen along National Forest Road 325 in section 14 T63N R1W, Cook County (Eckert 1978).

It should be noted that the call of the Boreal Owl "is best described as being very similar to the winnowing of the Common Snipe and bears little resemblance to dripping water or a high-pitched bell [actually the call of the Saw-whet Owl] as most sources claim (Eckert and Savaloja 1979).

It is the opinion of this author that the nesting of the Boreal Owl in Minnesota fluctuates with the changes in the prey populations (particularly vole and mouse populations), although this is mainly speculation on my part.

Further observations of this species, which is at the southern edge of its range in Minnesota, may reveal it to be a regular nester in the northern regions of the state.



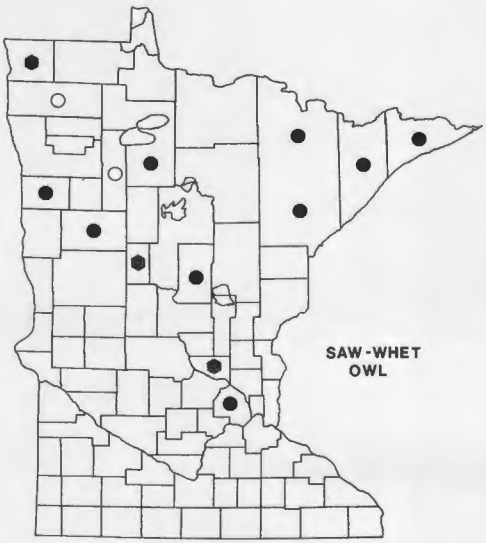
SAW-WHET OWL

Breeding Status: Regular Nester

Roberts (1932:633) described this owl as "breeding throughout the state, including the groves on the prairies." Observation and nest records thus far do not support this statement. As stated by Green and Janssen (1975: 112) this species is found throughout the wooded portions of the state as far south as the Twin Cities area. H. Tordoff (pers. comm.) suggested that this species should also be found nesting in the southeastern region, as it breeds south to Missouri. The only

Table 18. Saw-whet Owl nest records for Minnesota.

date	county	eggs/young	source
5-9-1881	Hennepin	3 eggs & 4 young	Roberts 1932:633
4-12-1884	Sherburne	4 eggs	Roberts 1932:634
4-18-1884	Sherburne	5 eggs	Roberts 1932:634
5-9-1891	Hennepin	young	Roberts 1932:633
5-5-1897	Kittson	7 eggs	Roberts 1932:634
5-29-1959	Wadena	5 young	Loon 51(2):98-99
7-13,8-27-1964	Lake	1 young	Loon 36(3):85
1968	Becker	unknown	Tamarac NWR Files
5-27-1972	Crow Wing	5 young	D. Keran pers. comm.
4-7-1978	Crow Wing	5 young	D. Keran pers. comm.
4-23-1978	Beltrami	4 young	Loon 51(2):98-99
5-4-1978	Crow Wing	6 young	D. Keran pers. comm.
1978	Lake	unknown	Loon 51(1):37
1978	Cook	unknown	Loon 51(1):37
1979	St. Louis	unknown	Loon 52(3):131
1980	Lake	unknown	Loon 53(3):139
1980	Cook	unknown	Loon 53(3):139
1980	Crow Wing	6 young	S. & J. Blanich (via D. Keran pers. comm.)
6-16-1980	Norman	1 young	Loon 53(1):10
1980	St. Louis	unknown	R. Akely & L. Mueller (via S. Loch pers. comm.)
1981	Crow Wing	5 young	S. & J. Blanich (via D. Keran pers. comm.)
5-22-1981	Beltrami	1 egg	S. Hennes pers. comm.



summer record of the Saw-whet in the southeastern region thus far is an observation made on the night of June 9-10, 1981 in Whitewater State Park, Winona County (Loon 53(3):173-174).

Twenty-two nest records exist for Minnesota from the period 1881-1981 (Table 18). In addition, inferred nest records come from Itasca State Park, Clearwater County where recently fledged young were seen in the summer of 1976 (D. Bosanko pers. comm.) and from Thief Lake WMA, Marshall County where one fledged young was seen on 6-19-1981.

All recorded summer observations from counties without existing recent nest records are as follows: Hennepin 1976; Lake of the Woods 1977; Cass 1977; Aitkin 1980; Winona 1981; and Hubbard 1981. A breeding season sighting was made on 5-13-1970 in Roseau County.

It is of interest to note that in the summer of 1981 a nest with five young Saw-whets was found near Trempeleau, Wisconsin, which is just across the Mississippi River and to the southeast of Winona, Winona County (B.

Drazkowski pers. comm.).

Available nest and observation records suggest that the population of Saw-whet Owls in Minnesota is currently stable.

DISCUSSION

The majority of the early raptor nest records for Minnesota were from people involved with egg collection or falconry. Egg collection activities continued until the late 1930's or early 1940's. Few nests were recorded in the period between the 1940's and the early 1960's. Currently, many amateur ornithologists are "listers," involved with compiling lists of as many species as possible from a given area, county, state, etc. Consequently, fewer nests are being searched for, and many of those that are found are being reported as "adult seen on nest" or "adults defending nest." Observations of this type offer less to the understanding of the present status (or trends) in the nesting populations, than nests where more thorough documentation (as described in Table 3) is provided. Moreover, nests where a good description of location is given (such as legal description) can be checked in subsequent years, thus making long-term population assessments feasible.

While a fair amount of knowledge has been gathered on some species, others remain poorly known. Based on the data gathered here, only limited understanding exists in Minnesota for the Turkey Vulture, Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Merlin, Screech Owl, Long-eared Owl, and Saw-whet Owl. Species in immediate need of attention are the Burrowing Owl and Red-shouldered Hawk. Better documentation of nesting production is needed for the Osprey.

This paper is based largely on observation and nest records reported by amateur ornithologists over the years, and to some extent on specific research studies. It is intended to provide the baseline data on the distribution and status of the nesting raptors in the state.

To strengthen the data base of raptors in Minnesota, is is requested that observers include as much detailed information as possible for those nests observed. Of particular interest are the exact location of the nest, the evidence suggesting nesting (e.g., nest with eggs, fledged young) and, of course, the name of the observer and date of the observation. Location information can be in the form of legal descriptions (down to 40-acre block within a given section) and/or directions based on roads or landmarks. This information can be included in the MOU summer seasonal reports or sent to the Minnesota Non-Game Wildlife Office, Box 7, Centennial Office Bldg., 658 Cedar St., St. Paul, MN 55155.

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INTERMEDIATE ROSS' GOOSE AT BLACK DOG

Robert B. Janssen

In the past, identification of Ross' Goose was considered to be rather simple by the birding community. Recent research indicates that hybrids occur with the Snow Goose. These birds are intermediate in size between the Ross' Goose and Snow Goose, thus complicating the identification of Ross' Goose. A December 1981 *observation at Black Dog Lake was probably of one of these intermediates.*

On Saturday, December 12, 1981, I received a report over the Rare Bird Alert about the sighting of a possible Ross' Goose at the Black Dog Power Plant in Dakota County. It was not till the next day, Sunday, December 13 at 1:00 P.M. that I was able to get down to Black Dog to check out the observation. I was accompanied by Ray Glassel. Ken LaFond, Lee Pfannmuller and Doug Wells were also in the area at the time. We were looking for the bird on the open water of the west pool among the Mallards, Common Goldeneyes, Common Mergansers, Canada Geese and Herring Gulls that were present. After a half hour, Ray and I decided to leave. I gave the flock of Canada Geese one more look and to my surprise there was the bird, a small white goose. Where it had come from I cannot say, but it was quite obvious even to the naked eye after we spotted it. We watched the bird for well over one hour and the following are the notes I made approximately two hours after we left the area. "First seen among a flock of 15 Canada Geese, was immediately impressed by the small body size of the bird, 1/3 to 1/2 that of the Canada Geese, and the very dimunitive bill. The bill was 1/2 to slightly less than 1/2 the length of the head, the bird was pure white except for the black primaries and the pinkish flesh colored bill. Observation took place from approximately 200 to 250 yards. Skies were very overcast with occasional drizzle. Temperature was 32°.

Noted a black line between the mandibles, could not tell if it was a "grinning" patch or not. It did not appear to be separated, only a black line between mandibles. The general appearance of the bird was that of a "dainty" small goose. After a 1/2 hour of observation we had direct comparison with Common Goldeneyes, Herring Gulls, Common Mergansers and Mallards. The goose appeared larger than all of these species but mainly because it appeared so bouyant in the water, it was approximately the same length as the Common Merganser. The sex of the winter plumaged mergansers could not be determined.

While watching the bird it climbed up on some ice along the shore of the lake and stood near some sleeping Common Mergansers. The birds appeared approximately the same size except for the longer neck on the goose. All of the observers referred to the Robbins and Peterson field guides while the bird was in view but neither guide was very helpful. All observers commented that the bird appeared too large for a Ross' Goose but too small for a Snow Goose.

After writing the above notes I discussed the observation with Kim Eckert, who was in Minneapolis and had also seen the bird earlier in the day. He had talked with Karol and Jerry Gresser, who had seen the bird from

closer than we had. They reported that the bill did not contain a "grinning" patch, only a black line separating the mandibles.

The following is Kim Eckert's write-up of his observation of the goose.

"ROSS' GOOSE — Seen December 13, 1981 (A.M.) on the pond behind the Black Dog power plant with Terry Savaloja, Jo and Steve Blanich; watched for about 30 minutes at a range of about 40 yards through spotting scopes; sun at our backs. Size: slightly larger than the Mallards with it — perhaps 20% larger overall. Plumage: all white except for black in folded wing-tips (seen only at rest); white plumage very bright and "clean," unlike many Snow Geese which seem to often have a slightly stained or "dirty" plumage.

Bill: mostly orangish, except for area of gray on basal third of upper mandible and a straight black line along the cutting edge(s) of the mandible(s) — was not able to tell if this black was on the upper or lower mandible or both, however, once the goose opened its mouth and I clearly saw the inside of the mouth (i.e., lower mandible) was black all around the edges, so that I suspect this accounted for the black line visible when its mouth was closed; also this black line was thin and straight, not an oval-shaped "grinning patch" as found in the Snow Goose; relative shape and size of the bill difficult to describe without direct comparison with Snow Goose.

Head Shape: top of head did not form a low, shallow and even curve as found in the Snow Goose; rather the top of the head was "higher" with its curvature not perfectly smooth, with slight "bumps" on top of the head and on the forehead. Eye: appeared very black, small and perfectly round (the eye of the Snow Goose usually appears more oval); also the eye was located relatively "low," more in the center of the head (the eye of the Snow Goose is located nearer the top of the head).

References: good Ross' Goose photographs in the following references were studied during the next few days, and all compared favorably with the bird in question with regard to the black line on the bill, head shape and eye position —

The Audubon Society Encyclopedia of North American Birds (p. 223)

The Audubon Society Field Guide to North American Birds, Western Region (p. 126)

Water, Prey, and Game Birds of North America (p.152)

The Loon, June 1965 issue (cover)

Conclusion: although when I first saw the bird I was not sure it was a Ross' (because of the black line on the bill and my uncertainty over the size of the bill), and although hybrid or intermediate Snow/Ross' Geese are known to exist, I feel there is no reason not to call the bird in question a Ross' since it looked similar if not identical to the four photos cited above."

I informed the Twin Cities birding community of the Ross' Goose observation via the Rare Bird Alert. Many people, over the course of the next few days, went to Black Dog to observe the bird. One observer was Bruce Fall, graduate student from the Bell Museum of Natural History. The following are his comments dated December 15: "I left a message on the Rare Bird Alert last night but I don't know how often you are able to check it. It concerns the Ross' Goose reported at Black Dog 12-13 Dec. Yesterday, 14th, Roger and Bon Eliason and I went to see the bird. We found it, finally, near the power plant; we came in from the south (Burnsville) at the Black Dog Park. The goose was with several hundred Mallards, two Double-crested Cormorants and 25 Canada Geese. We were about 100 - 125 yds. from the bird, with two telescopes (20X and 45X), perfect lighting (2:00 P.M., sun behind us, perfectly clear day), and we had an excellent view for about 20 minutes. All three of us are convinced that this bird is a Snow

Goose, not a Ross'. The body size was about 1.5 x that of a Mallard, and even a little larger than the cormorants. The bill seemed quite large, and we distinctly saw the black- bordered "grinning" patch which extended nearly the entire length of the bill. We checked specimens of Ross' and Snow Geese in the Museum, both before and after the trip. Bill and head shape just did not match the Ross' in the collection. Ross' do have a semblance of a "grinning" patch, but it is very reduced compared to Snow Goose, and it is not bordered in black (it is pink like the rest of the bill). Body size of Ross' seems to be about that of a Mallard (somewhat larger), but this bird was much bulkier than the many Mallards which were right next to it. The cormorant was also right next to it. We hate to cast doubts on this bird, as it would have been a lifer for all of us, but we really are convinced it was a Snow (there is of course, a possibility that two different birds are involved, but this seems unlikely). I hope you can get an opportunity to see it again before it heads to Louisiana (or California??).

If you have time, look at the five Ross' Goose specimens in the collection. Bruce Fall."

After reading Bruce's comments I contacted him at the Museum. On the 16th we looked at the specimens in the Museum collection. After looking at the specimens, I felt more convinced that the Black Dog bird was a Ross' Goose. The Ross' Goose specimens compared well in body size with the Double-crested Cormorant, and male Common Merganser specimens. Bruce and I also discussed an excellent article 'Trauger et al' (1971) contained in **The Auk.** This article caused Bruce to lean toward the Black Dog bird being an (intermediate) hybrid. According to Trauger hybrids have a black-bordered "grinning" patch, but reduced. Also the head of the Black Dog bird appeared very much like one of the hybrids pictured in the article. A few other excerpts from the article include the following: head and bills are the most striking characteristics of the intermediate geese, heads of intermediate geese are not as massive or angular as Snow Geese, nor as dimunitive and rounded as in Ross' Geese. Feathers of the lores meet the base of the upper mandible in a slightly rounded arc in intermediate geese whereas this juncture of feathers and mandible forms a straight line in Ross' Geese, and a sharply curved arc in Lesser Snow Geese." (See Fig. I).

This character unfortunately was not seen or noted on the Black Dog bird. Continuing on with a few other excerpts from the above mentioned paper: "Warty protuberances reduced or absent on bills of intermediate geese. Mandibles of both immature and adult intermediate geese have conspicuous black tomia (lips or space between mandibles), this forms a thin smile patch about half as wide as the broad "grinning patch" of Lesser Snow Geese. Ferrous staining often observed in Lesser Snow Geese is absent from plumage of intermediate geese as in Ross' Geese. The intermediate goose population is 4.8% of the Ross' Goose population suggesting a fairly high rate of hybridization."

Simon (1978) comments that "the separation of the two species (Ross' vs. Snow Goose) rests on the bill proportions and shape of head and neck, overall size, and voice. Don Bolduc (personal communication) told me that when he was observing the Black Dog bird circling in flight on December 14, he heard a call that sounded like "whok-whok" coming from the Ross' Goose which he thought sounded more like a Snow Goose call than that of a Ross' Goose. Godfrey (1966) describes the voice of a Ross' Goose as "a double noted luk-luk, different from that of the Snow Goose, higher pitched, almost squeaky."

Kortright (1943) describes the Ross' Goose as "the smallest of our geese,

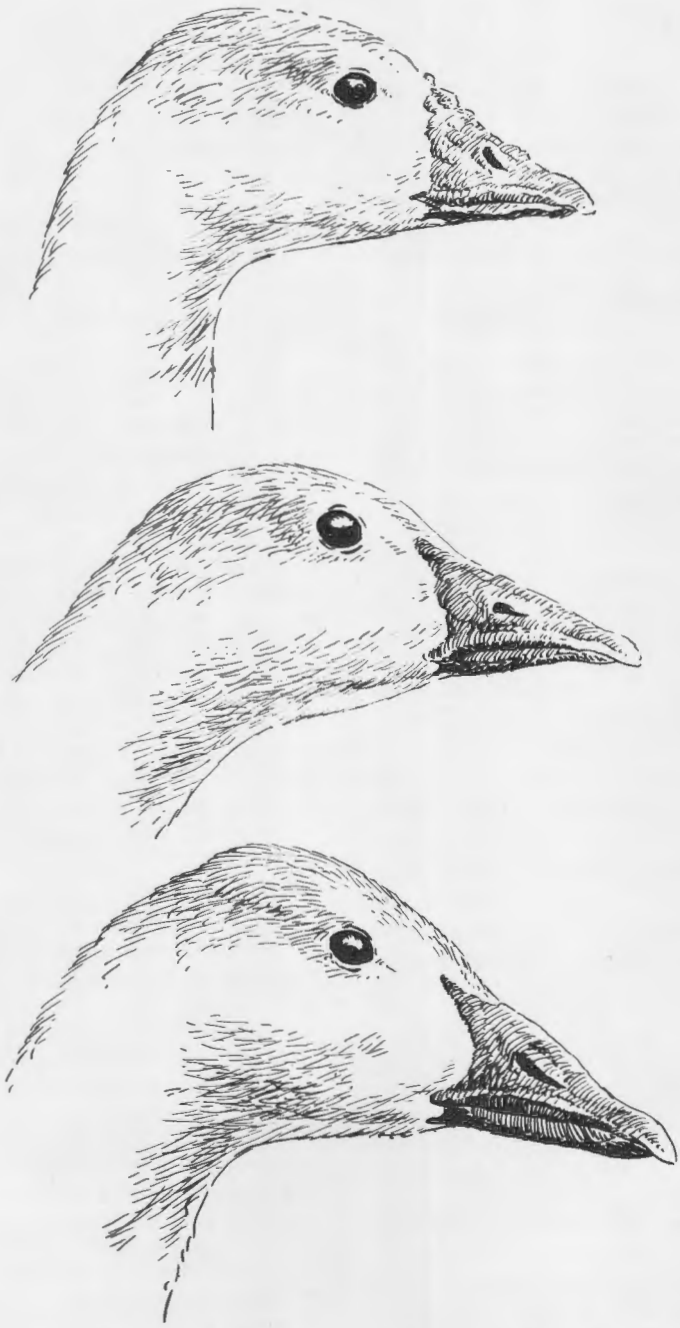

Fig. 1. Heads of Ross' Goose, hybrid Snow/Ross' Goose and Snow Goose. Note particularly the line separating bill from the head (lores). — Drawing by Nan Kane.

being about the size of a Mallard duck," and he goes on to state "the field marks are the same as for the Snow Goose of which this species (Ross') is a replica in miniature being about half the bulk of the Lesser Snow Goose. This species can be separated readily from (Snow Geese) by its dimunitive size, warty protuberances on bill and lack of black grinning patch." The statement by many authorities that the Ross' Goose is about the size of a Mallard has been challenged by many field observers with the counter that the Ross' Goose is larger than a Mallard. However, measurements given in Table 1 show that the two species are very close in overall length.

Table 1 — Measurement Comparison Mallard and Ross' Goose

Source	Ross' Goose	Mallard
Robbins (1966)	16"	16"
Kortright (1943)	23"-24"	21.5"-23.5"
Johnsgard (1975)	21"-26"	21"-26"
Belrose (1976)	24.7"(avg. male)	25"(avg. male)
	23.1"(avg. female)	23"(avg. female)

Belrose (1976) gives weight statistics on each waterfowl species and he lists the average male Mallard at 2.75 lbs. and the average male Ross' Goose at 4.00 lbs. This indicates that the Ross' Goose should appear somewhat bulkier in the field than a Mallard but that overall lengths of the two species are approximately the same.

Johnsgard (1975) states — "Ross' Geese are best distinguished by direct comparison with Snow Geese when they are in the same flock or by comparable size to large ducks such as Mallards. The bluish base of the bill (in adults) may be evident at fairly close range." He also mentions that "Some birds of intermediate size and appearance have been seen in wild flocks indicating that natural hybridization does occur and thus adds to the difficulties of field identification of Ross' Geese among Snow Goose flocks." This latter statement is most interesting in view of the difficulty all observers had in identifying the Black Dog bird.

Bellrose (1976) again comments that "the Ross' Goose can be confused only with the Snow Goose. Its smaller body size, shorter neck, more rapid wing beat and more highly pitched call distinguish it from the Snow Goose. The juvenile Ross' Goose is pale gray, noticeably lighter in color than the juvenile Snow Goose. The feet and legs of adult Ross' Geese are rose-pink, those of Lesser Snow Geese are scarlet."

Johnsgard (1978) adds further interest to the identification of Ross' Geese when he states "sometimes stained with rusty coloration in the head region." This conflicts with the statement by Trauger (1971) that states ferrous staining is absent in the intermediate size Ross' Geese. Are we to assume from the above that some Ross' Geese (non-intermediates) have staining and that Ross' Geese (intermediates) never have staining? This will have to be clarified through further study.

Johnsgard (1978) again adds intrigue to the Ross' Goose problem when he tells us that "a few blue-phase birds, with measurements in the range of this species have been collected recently in California, but their origin is unknown.

"Interestingly," Johnsgard (1978) also reports, "in recent years an increasing number of wild hybrids between Snow Geese and Ross' Geese have been reported and there has ben an eastword movement of nesting Ross' Geese into breeding colonies of Lesser Snow Geese. What effects this might have on the integrity of the much smaller gene pool of the Ross' Goose remains to be seen, but the consequences could be serious."

Finally there are several interesting photographs contained in recent issues of **American Birds** (Vol. 35, 1981) which help in the separating of Ross' Geese from the Lesser Snow Goose. The most helpful are one on page 290 directly comparing the two species

and the photograph on page 161 showing not only size comparison but a photo of the young Ross' Goose. The photo on page 324 of a bird labelled as a Ross' Goose shows a black line separating the mandibles.

What can one conclude from the above, sometimes contradictory, sometimes incomplete, information on the identification of the Ross' Goose generally and the Black Dog bird specifically? Most obvious is that great care should be taken in identifying a "small" white goose. Size comparison with Snow Geese, if present, and with other species should be made. As Trauger (1978) points out, the most diagnostic field mark separating Snow Gees from Ross' Geese including intermediate Ross' Geese is, "when the juncture of feathers and mandible forms a straight line, it is a Ross' Goose, if a sharply curved arc, it is a Lesser Goose, and if it is intermediate between the two, it is most likely a hybrid" (see Fig. 1). In the case of intermediates, other factors such as size and additional characters would have to be considered in combination. We will never know for sure just exactly what the Black Dog bird was. All indications are that the bird was an intermediate. From my own field observation of this individual, plus study of specimens at the Bell Museum, discussion with other birders, a check of the pertinent literature and finally difficulty of field determination of size of this particular individual, leads me to believe it was an intermediate. A final comment should be made on the previous records of Ross' Goose in Minnesota. In addition to the Black Dog bird, there are seven sight observations and one specimen from the state. The specimen taken on 30 September 1979 at Twin Lakes, Kittson County, is an obvious Ross' Goose (MMNH #35960). Of the seven sight records for the state, I personally saw three of the individual birds as follows: 12 November and 20 December 1964, Silver Lake, Rochester, Olmsted Co. This bird remained in the area from 20 October 1964 to 8 January 1965 and was photographed (**Loon** 37:39). 18 December 1965, Howard Lake, Wright County (two birds), these birds were seen in the area from 5 December 1965 to early January 1966 (**Loon** 38:36-37). 4 January 1969 Silver Lake, Rochester, Olmsted County, this bird was on Silver Lake from 2 December 1968 to March, 1969. On the above three records notes are on file and I have my own personal field notes indicating the size of these birds was comparable to that of a Mallard. The two Howard Lake birds were also identified in direct comparison to Lesser Snow Geese and Mallards.

The other four sight records from the state are as follows: 18 November to 2 December 1962, Round Lake, Jackson County (**Flicker** 35:94-95), 2 October 1966, Swan Lake, Nicollet County, 20 December 1969 to 11 January 1970, Silver Lake, Rochester, Olmsted County and 6 April 1977 Sulheims Slough, Watonwan County (**Loon** 49: 186-187). On the Jackson County bird, size comparison was mentioned and the warty protuberances were noted on the bill. The Watonwan County was identified on direct comparison with Mallards and Snow Geese. The last two sight records are somewhat more difficult to make an accurate determination on but what details are available indicate a typical Ross' Goose. The 1969 - 1970 Silver Lake, Rochester bird was seen by a number of observers. In notes supplied by Violet Lender, she states "the Ross' Goose was about Mallard size." The October 2, 1966 record at Swan Lake was supplied to me verbally by a Mr. Patrick Fall of the Minnesota Department of Conservation. I do not recall the specific details of the observation, but I was satisfied at the time that the bird was a Ross' Goose.

From the above data, it would appear that the Black Dog bird is the first record for an intermediate (hybrid) Ross' Goose in Minnesota.

Acknowledgements

I would like to thank Dr. Harrison Tordoff for his comments on and the reading of the manuscript during its preparation.

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THE M.O.U. 300 CLUB

Spring 1982 turned out to be a bonanza for Minnesota Lifers for 300 Club members. Bewick's Wrens, Wilson's Plovers, White-eyed Vireo's Black-legged Kittiwake's, Yellow-throated and Worm-eating Warblers provided lifers for many of us. Ray Glassel was the first to reach 350 with the Wilson's Plover at Duluth on May 20, 1982. Here are the totals as of June 1, 1982.

Bob Janssen	351	Jerry Gresser	319
Ray Glassel	350	Steve Millard	316
Kim Eckert	350	Oscar Johnson	316
Terry Savaloja	343	Dick Wachtler	314
Bill Pieper	340	Ruth Andberg	314
Paul Egeland	340	Gloria Wachtler	313
Dick Ruhme	338	Gary Otnes	313
Jan Green	337	Wally Jiracek	312
Ron Huber	336	Al Bolduc	310
Bill Litkey	334	Bro. Theodore (deceased)	310
Liz Campbell	332	Doug Campbell	307
Jo Blanich	332	Nestor Hiemenz	306
Karol Gresser	330	Henry Kyllingstad	306
Don Bolduc	329	Betty Campbell	305
Evelyn Stanley	321	Violet Lender	303

Total Species 370

THE 200 COUNTY CLUB

Richard Davids sent in an impressive Clearwater County list, Paul Egeland finally counted up his Renville County list, Kim Eckert came in with a hard earned 200 total for Pipestone Co. and Ed Brekke-Kramer's 207 for Martin Co. gave us a total of 42 Minnesota counties reporting 200 or more species. Jan Green's 291 species in St. Louis County is still the top reported county list. Karol Gresser had an outstanding accomplishment in 1981, recording 202 species in Dakota County. This is the first time I know of that 200+ species have been recorded in one county in one year.

The following totals are those reported as of June 1, 1982.

County	Observer	No. of Species
Aitkin	Terry Savaloja	255
	Jo Blanich	239
	Warren Nelson	236
	Bill Pieper	212
	Bob Janssen	210
	Ray Glassel	201
Anoka	Ken LaFond	257
	Bill Pieper	221
	Ruth Andberg	221
	Ray Glassel	203
Becker	Gary Otnes	214
	Marion Otnes	213
Blue Earth	Merrill Frydendall	215
Carver	Kathy Heidel	218
	Bob Janssen	200
Chisago	Ray Glassel	200
Clay	Carol Falk	221
	Laurence Falk	218
Clearwater	Richard Davids	212
Cook	Ken Hoffman	209
	Molly Hoffman	208
	Jan Green	202
Crow Wing	Terry Savaloja	233
	Jo Blanich	230
Dakota	Ray Glassel	246
	Joanne Dempsey	224
	Karol Gresser	223
	Bob Janssen	217
Freeborn	Charles Flugum	213
Goodhue	Ray Glassel	230
	Bob Janssen	224
	Bill Pieper	221
	Bill Litkey	215
Grant	Kim Eckert	214
Hennepin	Bob Janssen	274
	Alvina Joul	267
	Ray Glassel	267
	Oscar Johnson	263
	Violet Lender	254
	Bill Pieper	251
	Don Bolduc	234
	Charles Horn	214
	Al Bolduc	202
Houston	Fred Lesher	215
	Jon Peterson	203
Itasca	Tim Lamey	203
Jackson	Ingeborg Hodnefield	202
Lac Qui Parle	Micki Buer	231
	Chuck Buer	223
	Marion Otnes	213
	Gary Otnes	212
	Bob Janssen	207
	Ray Glassel	203
Lake	Jan Green	215
Lyon	Henry Kyllingstad	253
	Paul Egeland	248
Marshall	Sarah Vasse	235
	Shelley Steva	208
Martin	Ed Brekke-Kramer	207
Morrison	Pete Ryan	207
Mower	Ron Kneeskern	224
	Rose Kneeskern	223
	Bob Jessen	203
Nicollet	John Frentz	223
	Merrill Frydendall	210
	Ray Glassel	201
Olmsted	Joan Fowler	228
	Jerry Bonkoski	221
	Vince Herring	217
	Ted Lundquist	213
	Phyllis Lundquist	213
	Anne Plunkett	210
	Joel Dunnette	210
	Bob Ekblad	201
Otter Tail	Gary Otnes	284
	Marion Otnes	273
	Steve Millard	250
Pennington	Shelley Steva	211
	Keith Steva	200
Pipestone	Kim Eckert	200
Ramsey	Liz Campbell	235
	Bill Litkey	228
	Bill Pieper	224
	Ray Glassel	216
	John Fitzpatrick	209
Renville	Paul Egeland	212
Rice	Orwin Rustad	239
	Ray Glassel	207
Rock	Kim Eckert	240
St. Louis	Jan Green	291
	Kim Eckert	288
	Bob Janssen	265

County	Observer	No. of Species
St. Louis (cont.)	Paul Egeland	260
	Ray Glassel	254
	Mike Hendrickson	246
	Bill Pieper	243
	Bill Litkey	215
Scott	Ray Glassel	234
Sibley	Bob Janssen	201
	Ray Glassel	201
Stearns	Nestor Hiemenz	267
	Kim Eckert	236
Wabasha	Don Mahle	224
	Ray Glassel	209
Wadena	Dick Oehlenschlager	243
Washington	Bill Litkey	225
	Ray Glassel	219
	Liz Campbell	210
Yellow Medicine	Gary Otnes	220
	Marion Otnes	220
	Paul Egeland	212

YARD LISTS

The response to my request for information on yard lists was most impressive. The following list is of the 14 people who reported yard lists to me. As you can see Wynn and Don Mahle have the largest list with 188 species.

Some of the comments accompanying the lists were most interesting as the following indicate: "I was excited to see your note in "The Loon" about yard lists," "I am enclosing a yard list. Sounds like a good idea." "I have always been fascinated by how many things can live in a small area." "Thank you for your idea of a yard count. Will give one some incentive to really look at birds in the yard." "In general, I'm not in favor of making too much of lists, but have to admit to being curious about this one." "The best feature of our place is that we have a flat-roofed garage where water collects. From the back porch I am at just the right height to sit and observe the birds stop there for a giant birdbath. Last fall I had as many as a dozen warbler species there in one afternoon . . ."

Most people counted birds for their yard list when they were seen and/or heard from their yard. The Chipault's had the most stringent requirements for their list. They have measured the square feet of the yard (2,650) and in addition have established a vertical territorial airspace up to the peak of the roof on their two story house. Birds are counted only within these areas!

All others who have yard lists, please send them in. I know there are at least a couple of most interesting lists still out there.

Bob Janssen

Observer	Location	Year Started	Yard Size	No. of Species
William Pieper	Coon Rapids Anoka Co.	1978	1/2 acre	131
Lois & Bruce Garbisch	Cook St. Louis Co.	1977	40 acres	64
Helen Hatlelid	Benson Swift Co.	1973	100'x150'	111
Jerome & Karol Gresser	Burnsville Dakota Co.	1978	100'x180'	113
Wynn & Don Mahle	Wabasha Wabasha Co.	1964	100'x300'	188
Robert E. Holtz	Roseville Ramsey Co.	1967	100'x636'	138
Ruth Andberg	Anoka Anoka Co.	1949	1 acre	113

Mable Coyne	St. Cloud Stearns Co.	1982	175'x190'	85
Mary Muehlhausen	Excelsior Hennepin Co.	1968	2 acres	144
Jo & Steve Blanich	Agate Lake Crow Wing Co.	1972	300'x1100'	156
J. R. Chipault	Austin Mower Co.	1952	50'x75'	108
Grace Dahm	Winona Winona Co.	1950 to 1973	50'x80'	79
Kirk Jeffrey	Northfield Rice Co.	1981	64'x130'	57
Kim Eckert	Duluth St. Louis Co.	1977	3.5 acres	182
Robert Janssen	S. Mpls. Hennepin Co.	1958 to 1968	80'x300'	135
Robert Janssen	Minnetonka Hennepin Co.	1968 to 1978	180'x250'	82
Henry Kyllingstad	Marshall Lyon Co.	1972	66'x66'	111

In Defense of Lists

I received the following letter on May 23, 1982 and I thought it worthwhile to share it with all M.O.U. members, especially those of us who at times feel it necessary to defend our listing habit.

Dear Bob:

I have a few additional birds to add to my Dakota County list — Horned Grebe, Eared Grebe, Cattle Egret, Cerulean Warbler and Yellow-crowned Night Heron, bringing the total to 229.

I have been dwelling on the subject of lists a lot lately — seems I'm becoming bogged down in keeping them all up! I take a lot of kidding from my friend Karol about my "micro" lists! It seems I can't resist keeping track of what I see and where. These lists are becoming lists within lists, i.e., Hastings within Dakota County, my yard within Hastings, Hastings Scientific & Natural area within Hastings, etc. I could probably start a "garage" list of birds that have become entrapped in there!

The reason I even mention this is that "listers" do come in for some heavy criticism from certain segments of birders. However, I recently got a call from the Dakota County Planning Department wondering if I perchance had a list of the birds I've seen at Schaar's Bluff County Park. Seems the county wants to begin cataloging birds (nesters, migrants, etc.) in some of the more heavily used county parks, including Schaar's Bluff and Lake Byllesbye for starters. Would you believe I did have a list for Schaar's Bluff and was able to contact a few others who had kept track of what they have seen there.

So — listers take heart. You never know when someone might want a list of birds for a particular area.

It is also heartening to know that Dakota County is beginning a program to catalog not only birds, but trees, shrubs, flowers, etc., for the county parks. In addition to providing "lists," birders can give some valuable input to county/municipal planners on habitat, especially about the removal of all the dead trees, which is drastically cutting down on the bird population in the area. The gentleman I spoke to from the county was amazed at the number of birds that use cavities for nesting besides woodpeckers!

The reason I even bring all of this up is that maybe you could include a word of encouragement in the LOON regarding lists. Perhaps birders should take it upon themselves to contact local park people and offer some input about the bird life in a particular area. I've found that most planners and park managers are totally unaware of how important habitat is to keeping birds in the area.

Joanne Dempsey
1017 W. 14th, Hastings, MN 55033

THE FALL SEASON (Aug. 1 thru Nov. 30, 1981)

Richard Ruhme, Don Bolduc and Oscar Johnson

Many interesting things happened during this period weatherwise as well as birdwise. Except for high humidity on the first few days, August was mild to pleasant, that is to say, without the extreme high temperatures that we have seen in years past. Showers occurred frequently with many being statewide, perhaps accounting for the moderate temperatures. Yet, it was noted that this month was 2.1° warmer than average with precipitation 1.99 inches above normal. In the middle of the month reports of early migrating warblers began to filter in and by the 28th and 29th there were many reports.

September was about average in temperature and precipitation. It was cool the first few days, then cool the last few, with highs in the mid to high seventies on the 7th and 8th. Robins were on the move with a cold wave on the 10-12th; sparrows, mostly White-throated, on the 18th. Warblers were migrating steadily throughout the month with waves noted in Mille Lacs County on the 15th. There were waves in T. S. Roberts, Hennepin County on the 16th, 18th and 25th, with dwindling numbers seen on the 28th.

October arrived with snow and cold in the north; rain and warm by mid-month; followed by snow on the 24th and a warm 64° the last few days of the month.

The first two weeks in November broke many records. These were the warmest since 1930, making the first half of the month about 25° above normal. A weak cold front moved through on the 8th and 9th. By the 19th snow and wind combined to bring about a drastic change so that on the 21st it was 6° in the morning. It snowed the 24th through the 26th, putting eight inches on the ground in the north.

There were 66 reports with 286 species being reported. Some of the highlights were: Arctic Loon, Duluth and Mille Lacs; Western Grebe, Duluth; Little Blue Heron, Chisago and Carlton Counties; Yellow-crowned Night Heron, Duluth; an all time high of 79,000 geese at Lac Qui Parle Refuge; a late Swainson's Hawk, Dakota County; an invasion of Gyrfalcons at St. Louis, Otter Tail and Cook Ciunties; Peregrines in St. Louis, Itasca, Cook, Polk, Hennepin, Crow Wing, Anoka, Ramsey, Wabasha, Blue Earth and Clay Counties; Purple Sandpiper, Long-tailed Jaeger and Little Gull, Duluth; two Boreal Owls and 400 Sawwhets banded at Hawk Ridge; Black-backed and Northern Three-toed Woodpeckers in five counties each; Townsend's Solitaire from five different locations; Bell's Vireo, Rock County; late Tennessee, Magnolia and Bay-breasted Warblers; Black-headed Grosbeak, Cook County. Shore birds were reported as scarce except at Big Stone National Wildlife Refuge.

Common Loon

Late north 11-10 Becker WL, 11-29 Otter Tail SDM, 11-30 St. Louis KE, Beltrami AS; late south 11-7 Winona KE, RBJ, 11-15 Wright ES, 11-26 Rice RG.

ARCTIC LOON
9-12,13 Duluth JG, many obs., 10-24 to 11-10 Mille Lacs RA, JB, TS.

Red-throated Loon
11-1 Anoka KL, 11-13 Itasca MS.

Red-necked Grebe
Late north 10-22 Todd RJ, 10-31 Crow Wing WN, 11-13 Itasca MS, St. Louis TL. No reports south.

Horned Grebe
Early south 8-24 Pipestone GS; late dates 11-3 Mille Lacs ES, 11-7 Beltrami AS, 11-13 St. Louis TL, TW.

Eared Grebe
Early south 8-11 Le Sueur KL, 8-25 Nicollet MF; late dates 10-8 Becker RN, 10-17 Otter Tail GMO.

Western Grebe
Late north 10-22 Todd RJ; late south 10-23 Lac Qui Parle DB, 11-2 Nicollet JCF, 11-29 Big Stone RG.

Pied-billed Grebe
Late north 11-7 Beltrami JP, 11-13 Pennington KSS, 11-26 Otter Tail GW.

White Pelican
Late north 9-16 Traverse; late south 11-2 Ramsey KL, 11-7 Wabasha KE, RJ, WDM, 11-30 Dakota MW.

Double-crested Cormorant
Late north 10-25 Clay LCF, 10-26 Beltrami JP, St. Louis RA, 10-31 Pine KL; late south 11-22 Rice HC, 11-26 Mower RRK, 11-29 Dakota MW.

Great Blue Heron
Late north 11-3 Marshall KSS, 11-7 Beltrami JP, AS, Otter Tail GMO; late south 11-8 Mower RRK, 11-22 Houston FL, 11-29 Big Stone RG.

Northern Green Heron
Late north 9-25 Beltrami JP, 10-4 Itasca TL, 10-17 Carlton LW; late south 10-18 Washington DS, 10-20 Hennepin SC, 11-22 Le Sueur HC.

LITTLE BLUE HERON
9-10 Chisago DB, 9-14 Lac Qui Parle CMB; only reports.

Cattle Egret
9-2 Blue Earth JCF (2), 11-8 Polk KSS, Marshall MH.

Great Egret
Late north 10-6 Pennington GMO, 10-13 Becker RN, 10-19 Marshall JP, ANWR; late south 10-18 Houston JP/AM, 10-21 Dakota SC, Hennepin RA.

SNOWY EGRET
9-17 Lac Qui Parle CMB; only report.

Black-crowned Night Heron
Late dates: 10-14 Washington WL, 10-16 Blue Earth JCF, 11-10 Dakota MW.

Yellow-crowned Night Heron
8-3 Cass DJ, 8-24 Aitkin (1 imm.) WN, 8-29 Duluth RG; 9-14 Aitkin (2) WN.

Least Bittern
8-12 Freeborn RG (6), 8-25 Nicollet MF (8), 9-25 Nicollet JCF.

American Bittern
Late north 8-18 Cook KMH, 9-9 St. Louis KE, 9-13 Pine RJ (2); late south 10-3 Nicollet JCF.

Whistling Swan
Early north 10-19 Pennington JP, 10-20 Cook KMH; early south 10-21 Washington DMB, 10-27 Wabasha WDM; late north 11-29 Beltrami AS, Polk Terry Wolfe; peak south 11-29 Wabasha (6000) OJ.

Canada Goose
Peak of **79,000,** a record high, reported at Lac Qui Parle 10-26 AE. Reported from 28 counties.

White-fronted Goose
10-6 Pennington GMO (40), 11-10 Olmsted JEB, 11-14 JP/AM.

Snow Goose
Early north 9-16 Traverse SDM, 9-23 Marshall KSS; early south 9-29 Murray JP, 10-2 Hennepin ES; late north 10-26 Duluth SDM, 11-25 Otter Tail SDM; late south 11-8 Houston FL, Renville FKS, 11-18 Nicollet FKS (5000).

Mallard
Peak of 35,000 reported from Lac Qui Parle AE. Reported from 25 additional counties.

Black Duck
Late north 11-26 Otter Tail GW, 11-28 St. Louis LW, 11-30 Cook KMH; late south 11-25 Rice HC, 11-26 Mower BJ, 11-29 Wabasha OJ.

Gadwall
Late north 10-9 Cook KMH, 10-19 Marshall JP, 11-29 Otter Tail SDM; late south 11-17 Wabasha WDM, 11-21 Dakota SC, 11-28 Sherburne KL.

Pintail
Late north 10-13 Aitkin WN, 10-19 Marshall JP, St. Louis TW; late south 11-4 Mower RRK, 11-25 Houston FL, 11-29 Wabasha OJ.

Green-winged Teal
Late north 10-14 St. Louis TW, 10-19 Pennington KSS, 10-20 Cook KE, KMH; late south 11-7 Wabasha RJ, 11-8 Dakota RA, 11-19 Blue Earth JCF.

Blue-winged Teal
Late north 10-19 Marshall JP, Pennington KSS, 11-28 Crow Wing WN; late south 11-3 Chisago RJ, 11-10 Stearns NH.

American Wigeon
Late north 10-31 Beltrami JP, 11-1 Otter Tail GW, 11-4 Marshall KSS; late south 11-22 Mower RRK, 11-29 Hennepin RJ, Wabasha OJ.

Northern Shoveler
Late north 10-19 Marshall JP, Pennington KSS, 11-6 Grant KL; late south 11-12 Scott SC, 11-14 Hennepin VL, 11-29 Big Stone RG.

Wood Duck
Late north 10-21 Todd RJ, 10-25 Beltrami JP, 11-28 Aitkin WN; late south 10-19 Blue Earth MF, 11-10 Stearns NH, 11-25 Hennepin DB.

Redhead
Late north 10-25 Pennington KSS, 11-26 Crow Wing WN, 11-29 Beltrami JP; late south 11-15 Carver RJ, Hennepin OJ, Houston JP/AM, 11-28 Wright ES.

Ring-necked Duck
Late north 10-31 Aitkin WN, 11-4 Marshall KSS, 11-8 Cook KMH; late south 11-15 Carver RJ, Mower RRK, 11-25 Houston FL, 11-28 Wright ES (75+).

Canvasback
Late north 9-25 Pennington KSS, 10-26 St. Louis KE, SDM, 11-30 Beltrami JP; late south 11-27 Wabasha WDM (250), 11-28 Wright ES, 11-29 Wabasha OJ.

Greater Scaup
Late north 10-24 Aitkin WN, 10-27 Cook KMH, 11-22 Beltrami AS; late south 11-7 Wabasha KE, 11-27 Pope RJ, 11-28 Wright ES.

Lesser Scaup
Late north 11-28 Itasca TL, Crow Wing WN, 11-29 Otter Tail SDM, 11-30 Cook KMH; late south 11-25 Houston FL, 11-28 Olmsted JEB, Wabasha WDM, Wright ES.

Common Goldeneye
Late north 11-24 Itasca TL (500+), 11-28 Crow Wing WN, 11-30 Beltrami JP; early south 8-12 Wright ES, 10-19 Ramsey KL, 10-24 Washington DS.

Bufflehead
Early north 8-24 Pennington KSS, 10-7 Beltrami AS; early south 10-16 Scott SC, 10-17 Big Stone RJ; late north 11-30 Beltrami JP, Cook KMH; late south 11-25 Houston FL, 11-29 Wabasha OJ.

Oldsquaw
10-8 Becker GMO, TNWR, 10-21 St. Louis TW, 11-19 Ramsey RBA, 11-22 T. Hallett (6), 11-28 Cook KL (300).

Harlequin Duck
All reports from St. Louis: 11-22 SW/MS, KE, 11-27 KL, 11-29 TL.

White-winged Scoter
Early dates: 10-21 St. Louis TW, 10-24 Cook DGW; other dates 11-7 to 15 Houston KE, RG, RJ, JP/AM, Otter Tail SDM, 11-20 Big Stone GMO.

Surf Scoter
10-14 Cook KMH, 10-17, 20 KE, 10-31 St. Louis WN.

Black Scoter
10-16 St. Louis KL, 10-20 Cook KE, 10-23 Itasca TL, 10-24 Lake DGW, 10-25 Anoka KL, 11-7 Houston JP/AM, 11-25 Wabasha KL.

Ruddy Duck
Late north 10-17 Duluth KE (32), 10-19 Marshall JP, 11-22 St. Louis TL; late south 11-5 Stearns NH, 11-7 Houston RJ (1000) Renville FKS, 11-30 Houston JP/AM.

Hooded Merganser
Late north 11-25 Itasca TL, 11-26 Crow Wing WN, 11-30 Beltrami JP; late south 11-15 Carver RJ (200), 11-28 Wabasha WDM, 11-30 Houston JP/AM.

Common Merganser
Late north 10-22 Todd RJ, 11-7 Beltrami JP, AS, 11-12 Cook KMH.

Red-breasted Merganser
Late north 11-12 Cook KMH, 11-16 Mille Lacs JB, 11-30 St. Louis KE; south 11-4 Stearns NH.

Turkey Vulture
Hawk Ridge total 384 (1980:243); late north 10-25 Hawk Ridge, 11-3 Lake SW/MS, 11-8 Mille Lacs RBA; late south 10-6 Hennepin SC, 10-7 Wabasha WDM, 10-12 Houston EMF.

Goshawk
Hawk Ridge total 981 (1980:250); early south 10-26 Houston EMF, 11-25 Anoka BH.

Sharp-shinned Hawk
Hawk Ridge total 9971 (1980: 11,127); late north 11-8 Hawk Ridge, 11-11 Beltrami AS; late south 10-23 Ramsey RJ, 11-29 Big Stone RG.

Cooper's Hawk
Hawk Ridge total 60 (1980:117); peak 9-28 Duluth 9 in one hour; late north 10-28 Hubbard HF, 11-7 Mille Lacs ES; late south 10-21 Stearns NH, 11-5 Anoka SC, 11-28 Pope RG.

Red-tailed Hawk
Hawk Ridge total 7320, a record high (1980:3941); peak 10-18 1657. Reported from 37 additional counties.

Red-shouldered Hawk
8-3 Ramsey RJ, 8-12 Hennepin SC, 8-15 Carlton RJ, 8-21 Wabasha GS, 9-28 **Hawk Ridge (1 imm.),** 8-30 Becker DJ, 10-6 Aitkin RJ, 11-29 Winona OJ.

Broad-winged Hawk
Hawk Ridge total 30,905 (1980: 16,307); peak 9-14 9020; late north 10-14 Lake SW/MS, St. Louis (Hawk Ridge), 10-19 Marshall JP; south 9-20 Nicollet MF.

Swainson's Hawk
Hawk Ridge total 10 (only 5 in 6 previous years); late north 9-25 Beltrami KL, 9-27 Otter Tail SDM (7), Hawk Ridge (6), 10-18 Hawk Ridge (1); late south 10-2 Jackson KL, 10-11 Dakota JD, 11-7 Renville FKS.

Rough-legged Hawk
Hawk Ridge total 278 (1980:389); early north 10-2 Hawk Ridge, 10-3 Mille Lacs WL, 11-6 Lake SW/MS; early south 9-20 Lac Qui Parle AE, 10-12 Washington DMB, 10-17 Hennepin ES.

FERRUGINOUS HAWK
8-7 Kandiyohi HK, 9-20 Wilkin KSS, 10-2 Sibley KL.

Golden Eagle
Hawk Ridge total 11 (1980: 10); late dates: 10-8 Marshall KSS, 10-23 Polk Tom Fiers fide MH, 10-28 St. Louis KE, 11-1 Otter Tail SDM.

Bald Eagle
Hawk Ridge total 149, a record high (1980:82); early south 8-8 Chisago DB, OJ, 9-6 Wabasha KL, 10-10 Houston FL; late north 11-26 Itasca TL, 11-27 Hawk Ridge (3), 11-28 Hubbard HF; south 11-30 Wabasha (30A, 4 imm.) OJ.

Marsh Hawk
Hawk Ridge total 811 (1980:582); late north 11-5 Hawk Ridge, 11-8 Pine KL, 11-27 Otter Tail GMO; late south 11-1 Goodhue DB, OJ, 11-5 Cottonwood LAF, 11-11 Le Sueur HC.

Osprey
Hawk Ridge total 164 (1980: 157); late north 10-26 Hawk Ridge, 11-3 Clearwater JP, 11-24 Aitkin WN; late south 10-8 Le Sueur HC, 10-28 Washington DS, 11-18 Houston JP/AM.

GYRFALCON
9-21 Hawk Ridge, 10-22 Duluth KE, RG, BL, 10-24 Cook DGW, 11-11 Otter Tail SDM, 11-25 Duluth Sam Cooper.

PRAIRIE FALCON
8-29 Willkin, Grant SDM, only report.

Peregrine Falcon
Hawk Ridge total 12 (1980:15); early south 8-7 Hennepin Dana Struthers, 8-14 Ramsey RBA, 9-7 Dakota MW; late north 9-29 Cook KMH, 10-11 St. Louis KE, 11-6 Clay LCF; late south 11-28 Dakota JD, 11-29 Wabasha OJ. Other reports from Anoka KL, Crow Wing JB, Itasca RG, RJ, Kandiyohi RBA.

Merlin
Hawk Ridge total 30 (1980:46); late north 10-8 Clay LCF, 10-27 Cook KMH, 11-5 St. Louis TL; south 9-23 Murray JMP, 10-3 Goodhue BL, 11-8 Mower RRK.

American Kestrel
Hawk Ridge total 732 (1980: 781); late north 10-20 Pennington KSS, 11-22 Becker TL, 11-30 Clay SDM.

Spruce Grouse
Permanent resident; 9-16, 9-27 Lake SW/MS, only reports.

Ruffed Grouse
Permanent resident; reported from 22 counties.

Greater Prairie Chicken
Permanent resident; 11-29 Wilkin SMD, only report.

Sharp-tailed Grouse
Permanent resident; reported 8-8 Aitkin WN, 10-6 Pennington GMO (14), 11-29 Aitkin WN.

Ring-necked Pheasant
Permanent resident; reported from 20 counties.

Gray Partridge
Permanent resident; reported from 15 counties.

Bobwhite
8-10, 15 Lac Qui Parle CMB (escapee?), 10-25 Houston JP/AM (30), Rock EBK, no date.

Turkey
Permanent resident; reported Houston EMF, no dates.

Sandhill Crane
Late dates: 10-15 Cook KL, Wilkin OJ, 10-19 Marshall JP, 10-16 Beltrami RJ, 10-28 Kittson RJ.

Virginia Rail
9-2 Duluth KE, 11-21 Ramsey MW, only reports.

Sora
Late north 9-9 St. Louis KE, 9-12 Lake SW/MS, 10-26 Beltrami HF; late south 9-18 Nicollet JCF, 9-28 Hennepin SC, 10-9 Chippewa AE.

YELLOW RAIL
8-6 Norman, Lee Pfannmueller, only report.

Common Gallinule
10-12, 13, 15 Wabasha (6) WDM, only report.

American Coot
Late north 10-24 Aitkin WN, 11-7 Beltrami JP, 11-20 Otter Tail SDM; peak 10-31 JP/AM (10,000); late south 11-21 Houston JP/AM, 11-28 Sherburne RJ, 11-30 Washington DS.

Semipalmated Plover
Late north 9-9 Aitkin WN, 10-8 St. Louis KE, 10-14 Cook KMH; late south 9-25 Big Stone, BSNWR, 10-2 Goodhue BL, 10-7 Blue Earth JCF.

Piping Plover
8-28 Duluth KE, only report.

Killdeer
Late north 10-10 Aitkin WN (100), 10-15 Wilkin OJ, 11-4 Itasca JC; late south 11-13 Blue Earth JCF, 11-16 Olmsted JEB, 11-25 Houston FL.

American Golden Plover
Early north 8-28 St. Louis KE, ES, Wilkin DB; early south 8-7 Nicollet JCF, 8-11 Le Sueur RJ, ES; late north 10-29 Pennington KSS, 10-31 St. Louis KE; late south 10-31 Cottonwood RJ, 11-13 Blue Earth JCF.

Black-bellied Plover
Early north 8-9 St. Louis KE, 8-29 Wilkin DB; early south 8-2 Renville ES; late north 10-13 Aitkin WN, 11-13 Itasca TL, St. Louis TW; late south 10-21 Blue Earth MF.

Ruddy Turnstone
8-9 Dakota RG, 8-12 Dakota RJ, 8-16 St. Louis KE, 8-29 ES, 9-11 St. Louis TW.

American Woodcock
Late north 10-16 Lake DB, 10-17 Carlton LW, 10-21 Beltrami JC; late south 10-3 Stearns NH, 10-18 Washington DS, 10-26 Hennepin SC.

Common Snipe
Late north peak 8-28 St. Louis KE (60), 10-24 Aitkin WN, 10-25 Otter Tail GW, 10-26 Cook KMH; late south 11-10 Hennepin VL, peak 11-12 Houston FL (50+), 11-14 Dakota MW, 11-25 Houston FL.

Upland Sandpiper
8-1 Lac Qui Parle CMB, 8-2 Renville KE, 8-11 Fillmore RH.

Spotted Sandpiper
Late north 10-10 Aitkin WN, 10-14 Beltrami JP, 11-4 St. Louis TW; late south 9-18 Nicollet JCF, 9-19 Blue Earth MF, 10-6 Mower RRK.

Solitary Sandpiper
Late north 9-20 Lake SW/MS, 10-5 St. Louis TW, 10-10 Aitkin WN; late south 9-18 Nicollet JCF, 9-22 Martin RJ, 10-2 Big Stone BSNWR.

Greater Yellowlegs
Late north 11-4 Otter Tail GMO, 11-7 Mille Lacs BL, 11-8 Aitkin SDM; late south 11-6 Wabasha WDM, Washington BL, 11-14 Dakota MW.

Lesser Yellowlegs
Late north 9-25 Pennington KSS, 10-29 Otter Tail GMO, 10-31 Crow Wing WN; late south 11-7 Houston KE, RJ, 11-16 Martin EBK, 11-19 Blue Earth JCF.

Willet
10-3 Big Stone BSNWR, only report.

PURPLE SANDPIPER
10-30 Duluth TW, many observers.

Pectoral Sandpiper
Late north 10-25 Lake RG, RJ, SDM, 10-31 Crow Wing WN, 11-6 Pennington KSS; late south 10-26 Mower RRK, 10-28 Blue Earth JCF, 10-31 Cottonwood RJ.

White-rumped Sandpiper
All reports: 8-10 Chisago KL, 8-24 Lac Qui Parle CMB, 9-4 Blue Earth JCF, 9-8 Lac Qui Parle CMB.

Baird's Sandpiper
Early north 8-3 St. Louis KE, 8-15 Otter Tail KL, 8-19 Cook KMH; early south 8-3 Blue Earth MF, 8-7 BSNWR, 8-10 Chisago KL, 8-11 Brown KL; late north 9-11 St. Louis SC, 9-12 JP/AM, 10-17 KE, 9-13 Lake RJ, Aitkin WN; late south 9-25 BSNWR, Blue Earth JCF.

Least Sandpiper
Early north 8-3 Itasca TL, 8-4 Cook KMH, 8-15 Otter Tail KL; early south 8-1 Ramsey KL, 8-3 Blue Earth MF, 8-8 Chisago DB, 8-10 Waseca GS, Chisago KL; late north 9-4 Pennington KSS, 9-13 Aitkin WN, Lake RJ; late south 9-17 Pope KL, 9-25 BSNWR, 10-7 Blue Earth JCF.

Dunlin
Early north 8-23 Wilkin KL, 8-24 Polk KL; early south 8-10 Chisago KL, 8-11 Cottonwood KL; late north St. Louis 10-1 KE, 10-22 RG, 10-27 Itasca TL;late south 10-25 Ramsey KL, 10-31 Cottonwood RJ.

Semipalmated Sandpiper
Early north 8-7 Pennington KSS, 8-24 Polk KL, 8-27 Cook KMH; early south 8-4 Lyon HK, 8-9 Ramsey KL, 8-10 Chisago KL, 8-11 Cottonwood KL, Dakota RA; late north 9-4 Pennington KSS, 9-9 Aitkin WN, 9-13 Lake RJ;

late south 9-18 Nicollet JCF, 9-25 BSNWR.

Western Sandpiper
Early north 8-9 St. Louis KL, 8-10 Cook KMH, KE, 8-15 Otter Tail KL; early south 8-9 Ramsey KL, 8-11 Brown, Ramsey KL, 8-15 Ramsey BL, 8-16 Lyon HK; late north 8-29 Wilkin OJ, 9-1 St. Louis LW, 9-2 KE; late south 8-24 Lac Qui Parle CMB, 9-18 BSNWR.

Sanderling
Early north St. Louis 8-25 KE, 8-28 KL; early south 8-1 Ramsey KL, 8-7 BSNWR, 8-11 Brown KL, 8-12 Washington DMB; late north 9-26 St. Louis KL, LW, 10-12 TW, 10-14 KE; late south 9-23 Lac Qui Parle KL, 9-25 BSNWR, 10-13 Hennepin SC.

Short-billed Dowitcher
Early north 8-8 Pennington KSS, 8-12 Clay LCF, 8-13 St. Louis TL; early south 8-2 Lyon, 8-20 KE; late north Aitkin 9-13, 10-10(?) WN, 9-25 Pennington KSS; late south 9-1 McLeod RJ.

Long-billed Dowitcher
Early north 8-2, 8-9 St. Louis KE, 8-8 Pennington KSS, 8-23 Wilkin KL; early south 8-11 Cottonwood KL, 9-4 Nicollet JCF, 9-8 Lac Qui Parle CMB; late north 9-9 Aitkin WN, 9-13 Lake RJ, 9-18 Otter Tail KL; late south 10-6 Lyon P. Egeland, 10-7 Blue Earth JCF, 10-19 Hennepin VL, 10-31 Cottonwood RJ.

Dowitcher sp.?
8-23 Se Sueur GS, 8-29 Wilkin OJ.

Stilt Sandpiper
Early north 8-8 Pennington KSS, 8-10 Cook KMH; early south 8-2 Lac Qui Parle KE, 8-9 Ramsey KL, 8-10 Chisago KL; late north 8-19 Cook KMH, 8-29 Wilkin OJ; late south 9-9 Blue Earth JCF, 9-22 Nicollet RJ.

Buff-breasted Sandpiper
Early north 8-18 St. Louis KE, 8-27 Cook KMH; early south 8-2 Lyon HK, 8-2, 8-4 Anoka KL; late north 9-23 St. Louis KE; late south 9-6 Anoka DGW, KL. Also reported from Chisago, Dakota, and Lyon counties.

Marbled Godwit
All reports: 8-2 Yellow Medicine KE, 8-7 Pennington KSS, 8-16 Otter Tail SDM.

American Avocet
9-11 and 9-18 BSNWR, only reports.

Wilson's Phalarope
Early south 8-2 Renville KE, 8-11 Waseca RJ, 8-15 Stearns GS; late north 8-29 Wilkin DB, OJ, GW, 9-11 Wilkin KL, Pennington KSS; late south 9-4 Mower RRK, 9-8 Lac Qui Parle CMB, 9-25 BSNWR.

Northern Phalarope
All reports: 8-11 L Sueur RJ, 8-27 Pennington KSS, 8-29 Wilkin OJ, DB, 9-4 Nicollet JCF, 9-25 Pennington KSS, 9-11, 18 BSNWR, 10-5 Blue Earth JCF.

PARASITIC JAEGER
All reports: Duluth 8-27, 9-3 KE, TL (1), 9-13 KE, JB, OJ (1), 9-26, 27 KE (1), 10-9 TL.

LONG-TAILED JAEGER
8-24 Duluth (2 ad.) KE, only report.

JAEGER SP.?
8-9 to 10-10 KE (32 sightings Park Point), 8-28, 9-15 (3), 9-29-30 TL.

Glaucous Gull
All reports: 10-26 Duluth KE, SDM, 11-28 KE, 10-31 Cook DB.

Herring Gull
Reported from 29 counties. Late north 11-28 Itasca TL.

Thayer's Gull
All reports: Duluth 10-22 (1), 11-1 (4), 11-27, 28 (1 im.) KE, 11-14 Anoka KL, 11-28 Cook KL, KMH, 11-29 KMH.

Ring-billed Gull
Reported from 21 north and 32 south counties. Late north 11-30 St. Louis KE, Beltrami JP, AS.

Franklin's Gull
Reported from 36 counties including St. Louis where it is rare (KE, MH)

8-31. Late north 10-8 Pennington KSS, 10-15 Wilkin OJ, 10-19 Marshall JP; late south 10-31 Watonwan RJ, 11-6 Blue Earth JCF, **11-14** Carver RBA.

Bonaparte's Gull

Early north 8-8 Aitkin WN, 8-19 St. Louis KE, 8-29 ES, 9-11 Pennington KSS; early south 9-10 Dakota MW, 9-25 BSNWR, 9-28 Hennepin VL; late north 11-7 Beltrami AS, Mille Lacs ES, 11-22 Mille Lacs DB, 11-28 Crow Wing WN, 11-29 SC.

LITTLE GULL

Only report 9-29 Duluth KE (1 im.).

Forster's Tern

Late north 8-14 Marshall KL, Roseau KL, 8-16 Otter Tail SDM, 8-29 Grant OJ; late south 8-25 Nicollet MF, 9-7 Lac Qui Parle CMB, Pope KL, 9-9 Wright RJ, DB.

Common Tern

Late north 9-1 Cass HJF, 9-27 Lake of the Woods RJ, Mille Lacs KL, 10-4 St. Louis KE, 10-10 Itasca TL; late south 8-28 Hennepin SC, 8-31 Ramsey KL, 9-23 Lac Qui Parle KL.

Caspian Tern

Early north 9-3 St. Louis MH, 9-11 SC, 9-12 SDM, JP/AM, 9-13 RA; early south 9-4 BSNWR, 9-13 Wright ES, 9-23 Dakota MW; late north 10-4 Itasca A. Lamey fide TL, 10-11 Beltrami JP, 10-15 Beltrami AS; late south 10-5 Martin JCF, 10-15 Hennepin SC, 10-16 Dakota SC, **11-18** BSNWR.

Black Tern

Late north 9-2 St. Louis KE, 9-13 Aitkin WN, 9-25 Pennington KSS; late south 8-30 Stearns NH, 9-9 Martin EB/K, 9-11 Nicollet JCF. Species scarce this year.

Mourning Dove

Reported from 79 counties. Late north 11-28 St. Louis JP/AM.

Black-billed Cuckoo

Reported from 15 counties. Late north 9-4 Pennington KSS, 9-27 Kanabec DB; late south 9-6 Martin EB/K, Houston EMF, 9-20 Ramsey DGW, 10-3 Houston FL, 10-6 Hennepin SC.

Screech Owl

Reported from the following counties: Blue Earth, Clay, Cottonwood, Hennepin, Houston, Lyon, Martin, Ramsey, Stevens and Washington.

Great Horned Owl

Reported from 15 north and 18 south counties.

Snowy Owl

Only reports: 11-2 Pennington KSS, 11-17 St. Louis fide KE, 11-20 Clay LCF, Otter Tail SDM, 11-24 Itasca TL.

Hawk Owl

11-8 Two Harbors L. Ronning, 11-21 Isabella fide SW, late November Cook A. Hawkins.

Barred Owl

Reported from 11 north and six south counties.

Great Gray Owl

All reports: 8-13 Koochiching KL, 8-15 Aitkin LW, 11-2 Lake RBA, 11-8 St. Louis fide K. Sundquist.

Long-eared Owl

All reports: 8-17 Lyon HK, 10-13 Hubbard DJ, 10-23 St. Louis LW, 10-25 Cook DGW, 11-2 Le Sueur JCF.

Short-eared Owl

10-20 Cook KMH, 11-3 Lyon EB/K, only reports.

Boreal Owl

On 11-3,4 two banded at Hawk Ridge.

Saw-whet Owl

9-30 Crow Wing WN, 10-10 St. Louis LW, 10-15 Anoka BH, 11-23 Hubbard DJ. During October and November there were a total of 407 banded on Hawk Ridge with a peak of 56 on 10-1,2 fide KE.

Whip-poor-will

All reports: 8-19 Winona CMB, 8-27 Pine KL, 9-2 Sherburne EH/SS, 9-5 Olmsted KL, 9-13 Houston EMF, 9-16 Pennington KSS, 9-28 banded at Hawk Ridge.

Common Nighthawk
Late north 9-12 St. Louis DB, Clay LCF, 9-16 Otter Tail GW, 9-20 St. Louis TL, **10-4** Otter Tail SDM; late south 9-22 Washington DS, 9-23 Hennepin SC, 9-25 Nicollet JCF, 10-10 Martin EB/K.

Chimney Swift
Late north 9-8 St. Louis LW, 9-10 KE, 9-12 RA, JP; late south 10-2 Hennepin KL, 10-3 RJ, 10-4 VL, 10-7 SC.

Ruby-throated Hummingbird
Late north 9-13 Cook KMH, Lake SW/MS, 9-15 Mille Lacs RJ, DB, 9-19 St. Louis KE, Otter Tail GW; late south 9-20 Nicollet MF, 9-21 Wright ES, 9-22 Olmsted JEB.

Belted Kingfisher
Reported from 46 counties. Late north 11-2 Otter Tail GW, 11-16 GMO, 11-13 Carlton LW.

Common Flicker
Reported from 54 counties. Late north 10-25 Clay LCF, 10-29 Pennington KSS, 10-31 Crow Wing WN; late south 11-2 Nicollet JCF, 11-7 Houston RJ, 11-30 Lac Qui Parle AE, Hennepin ES.

Pileated Woodpecker
Reported from 19 north and 20 south counties.

Red-bellied Woodpecker
Reported from Crow Wing, Mille Lacs, **St. Louis** and 21 south counties.

Red-headed Woodpecker
Reported from 45 counties. Late north 9-13 Aitkin WN, 9-23 Lake SW/MS, 9-25 Pennington KSS.

Yellow-bellied Sapsucker
Reported from 15 counties. Late north 10-3 Cook KMH, 10-6 Kanabec RJ, 10-15 St. Louis KE; late south 10-13 Cottonwood LAF, Hennepin 10-14 VL, 10-16 SC, 10-16 Houston EMF, **11-25** Hennepin W. Jiracek.

Hairy Woodpecker
Reported from 17 north and 23 south counties.

Downy Woodpecker
Reported from 16 north and 20 south counties.

Black-backed Three-toed Woodpecker
Present throughout the period in Lake County SW/MS, 9-19 to 10-25 Duluth, several sightings (9 on 10-15), 10-3 Itasca A. Bolduc fide DB, 10-5 TL, 11-25 TL, 10-18 Lake DB, 10-21 JB, 10-25 DGW, 10-24 Cook DGW, 10-31 DB, 11-4 St. Louis TL, 11-17 Crow Wing JB, 11-25 Rice RBA.

Northern Three-toed Woodpecker
All reports: 9-19 to 11-1 Duluth m.o.b., 10-4 Cass E. Schmid, 10-15,20 Lake KE, 10-21 Cook KMH, 10-28 Duluth KE, 11-1 Hawk Ridge fide KE, 11-7 Itasca A. Bolduc fide DB, 11-23 Babbitt KE, St. Louis MH.

Eastern Kingbird
Late north 9-9 St. Louis KE, 9-13 RJ, 9-11 Itasca TL, 9-12 Pennington KSS, Mille Lacs KL; late south 9-8 Sherburne EH/SS, 9-10 Nicollet JCF, 9-12 Big Stone GW, 10-3 Morrison RBA fide RJ.

Western Kingbird
Late north 8-29 Wilkin DB, Otter Tail OJ, 8-30 Clay LCF, Otter Tail GW, 9-11 Clay KL, 9-12 Pennington KSS; late south 8-11 Cottonwood KL, 8-17 Lyon HK, 9-2 Sherburne EH/SS.

Great Crested Flycatcher
Four counties north with late dates 8-18 St. Louis KE, 8-24 Itasca JC, 9-10 Pennington KSS; nine counties south with late dates 9-2 Ramsey KL, 9-4 Mower RRK, Nicollet JCF, 9-7 Meeker RJ, 9-19 Blue Earth MF.

Eastern Phoebe
Late north 9-25 Aitkin WN, 10-4 Beltrami JP, 10-6 Clay LCF, 10-20 Pennington KSS; late south 10-16 Mower RRK, 10-19 Hennepin SC, 10-21 ES, 10-19 Martin EB/K, Le Sueur HC.

Yellow-bellied Flycatcher
Late north 8-14 Lake SW/MS, 8-16 Cook KMH, 8-27 St. Louis KE; late south 9-1 Hennepin SC, 9-5 Washington DMB, 9-9 Kandiyohi RJ, 9-10 Wright ES, 9-17 Hennepin DB.

Willow Flycatcher
One report 8-11 Mower RJ.

Alder Flycatcher
Only reports: 8-22 Morrison RJ, Wright ES, Aitkin WN, 9-5 Washington DMB, 9-8 Aitkin WN.

Empidonax sp.?
8-25, 9-2 Anoka KL, 9-18 Houston EMF, 10-7 Hennepin SC.

Least Flycatcher
Late north 9-15 Mille Lacs DB, 10-1 St. Louis KE, 10-6 Aitkin RJ; late south 9-14 Redwood JMP, 9-15 Wright ES, 9-23 Cottonwood LAF, 9-29 Houston EMF.

Eastern Wood Pewee
Late north 9-15 Mille Lacs RJ, DB, 9-26 Pennington KSS, 9-28 Lake SW/MS, **10-4** Beltrami JP; late south 9-13 Houston EMF, 9-14 Cottonwood LAF, Redwood JMP, 9-19 Wright ES, 10-3 Hennepin SC.

Olive-sided Flycatcher
Early south 8-2 Anoka KL, Isanti KL, 8-8 Anoka SC, 8-13 Hennepin DB; late north 8-23 Crow Wing JB, Cook KMH, 8-26 St. Louis KE, 8-29 Wilkin OJ; late south 9-5 Wabasha KL, Dodge RJ, 9-8 Hennepin SC, 9-13 Mower RRK, 9-20 Cottonwood LAF.

Horned Lark
Reported from 21 counties with late north 11-1 Clay LCF, 11-6 St. Louis TL, 11-28 Aitkin WN, 11-29 Otter Tail SDM.

Tree Swallow
Late north 10-2 Otter Tail TL, 10-11 GW, 10-21 GMO; late south 10-7 Houston EMF, 10-9 Hennepin OJ, 10-10 Olmsted JEB, 10-17 Houston FL, Big Stone RJ, BL.

Bank Swallow
Late north 8-20 Becker RN, 8-22 Crow Wing RJ, 8-26 St. Louis KE, 8-29 Wilkin OJ; late south 9-9 Kandiyohi DB, 9-11 Nicollet JCF, 9-13 Washington KL, 10-3 Wright ES, Anoka DS.

Rough-winged Swallow
Late north 8-18 Cook KMH, 9-11 Wilkin KL, 10-11 Otter Tail GW; late south Hennepin 9-25 ES, 9-29 DB, 10-2 RA, 10-12 SC.

Barn Swallow
Late north 10-4 St. Louis TL, 10-6 KE, 10-6 Morrison DB, 10-11 Otter Tail GW, **10-31** SDM; late south 10-4 Wright ES, 10-7 Olmsted JEB, 10-9 Hennepin OJ, 10-17 Big Stone RJ.

Cliff Swallow
Late north 9-6 St. Louis LW, 9-11 Wilkin KL, 9-13 Pine RJ, 9-28 St. Louis KE, Cook KMH; late south 9-5 Scott DB, Hennepin SC, Rice KJ, 9-17 Hennepin VL, 10-3 Lyon, Nobles, Pipestone KL, Wright ES.

Purple Martin
Late north 9-1 St. Louis KE, 9-7 Beltrami AS, 9-11 Douglas KL, 9-23 Clay LCF; late south 9-4 Hennepin SC, 9-7 Washington WL, 9-30 Anoka KL, 10-3 DS. There were many reports from Winona 8-8 to 8-24 with a peak of 30,000 on 8-14.

Gray Jay
Reported 10-7 to 11-16 from Beltrami, Cook, Itasca, Lake and St. Louis counties.

Blue Jay
Reported from 24 north and 33 south counties.

Black-billed Magpie
Reported from Becker, Beltrami, Hubbard, Kittson, Marshall, Pennington, Polk, Red Lake and St. Louis counties north. One report south 10-27 Lac Qui Parle CMB.

Common Raven
Reported from 11 north counties.

Common Crow
Reported from 27 north and 40 south counties.

Black-capped Chickadee
Reported from 19 north and 26 south counties.

Boreal Chickadee
All reports: 10-14 Lake SW/MS, 10-15,22 St. Louis KE, 10-21 Cook JB and Itasca County TL.

Tufted Titmouse
All reports: 8-19 Winona CMB, 10-10

Fillmore RJ, BL, 11-7 Houston RJ, KE, 11-15 JEB, 11-21 JP/AM.

White-breasted Nuthatch
Reported from 18 north and 22 south counties. 10-20 Grand Marais KE.

Red-breasted Nuthatch
Reported from 17 north and 23 south counties. Early south 10-2 Blue Earth, Hennepin KL.

Brown Creeper
Reports from 29 counties; early south 8-20 Washington WL, 9-20 DS, 9-16 Anoka JLH, 9-18 Houston EMF; late north 11-23 Clay LCF, St. Louis MH, 11-28 Crow Wing JB.

House Wren
Late north 9-13 Clay LCF, 9-17 Becker RN, 9-24 Beltrami JP, 10-7 St. Louis LW; late south 10-2 Hennepin PF, 10-3 Houston FL, 10-4 Martin EB/K, 10-10 Houston RJ, BL, 10-15 Hennepin SC, Dodge RG.

Winter Wren
Early south 8-29, 9-2,22 Hennepin SC; late north 10-12 Cook KMH, 10-14 Lake SW/MS, 10-19 DB, 10-22 St. Louis TL; late south 10-20 Anoka KL, 10-21 Hennepin KL, 11-16 Houston EMF.

Long-billed Marsh Wren
Late north 10-3 Pennington KSS, 10-4 Cass RG, 10-16 St. Louis TL, 10-18 Otter Tail SDM; late south 10-3 Washington DS, Nicollet JCF, 10-10 Freeborn RJ, BL, 10-20 Hennepin SC, 10-31 Rice KJ.

Short-billed Marsh Wren
Late north 8-1 Itasca, Kanabec DB, 8-26 Cook KMH; late south 9-24 Rice KJ, 9-29 Murray JMP, 10-3 Hennepin SC, 10-7 Mower RRK.

Mockingbird
Only reports: 10-31 Grand Marais DB, 11-1 Red Lake AS.

Gray Catbird
Late north 9-25 Beltrami JP, Kittson KL, 9-28 Cook KMH, 9-30 Clay LCF, 10-10 Aitkin OJ, DB; late south 9-28 Washington DS, 9-28 Hennepin VL, 10-2 SC, 9-30 Houston EMF, 10-4 Wright ES.

Brown Thrasher
Late north 9-14 Clay LCF, 9-21 St. Louis TL, 9-26 KE, 9-25 Beltrami JP; late south 9-25 Nicollet JCF, 9-30 EMF, 10-8 Hennepin SC, 10-15 ES.

American Robin
Reported from 22 north and 43 south counties.

Varied Thrush
Only reports: **9-20** Duluth D. Scheer, 11-17, 18 Hennepin RBA fide RJ.

Wood Thrush
Only report: 8-6 Houston EMF.

Hermit Thrush
Early south 9-1 Mower RRK, 9-20 Nicollet MF, 10-4 Isanti KL; late north 10-18 Lake DB, 10-20 Cook KE, 10-24 KMH, 11-7 Otter Tail GMO; late south 10-19 Washington BL, 10-19 Hennepin PF, 10-27 ES, 11-4 SC, 10-31 Jackson RJ, 11-4 Martin EB/K.

Swainson's Thrush
Early south 8-12 Ramsey RBA, 8-26 Sherburne EH/SS, 8-28 Washington DMB, Hennepin SC, 8-29 Renville FKS; late north 9-13 Lake RJ, 9-24 Clay LCF, 9-26 Beltrami JP; late south 10-10 Mower RRK, Hennepin 10-15 ES, 10-17 SC.

Gray-cheeked Thrush
All reports: 8-30 Washington DMB, 9-15 Mille Lacs DB, RJ, 9-19 St. Louis LW, 9-27 Renville FKS, 9-28 Ramsey BDC.

Veery
All reports: 8-2 Ramsey KL, 8-8 Anoka OJ, 8-9 KL, 8-14 Roseau KL, 8-15 Aitkin RJ, 8-28 Washington DMB, Hennepin SC, 10-14 Houston EMF.

Eastern Bluebird
Reported from nine north and 14 south counties. Late north 10-14 St. Louis KE, LW, TL, 10-25 DGW, 10-15 Wilkin OJ.

TOWNSEND'S SOLITAIRE
All reports: 9-11 Houston EMF, 9-19 Beltrami JP, 10-15 Duluth KE, 10-17 Beltrami AS, 10-19 Grand Marais KMH, 10-26 Duluth fide K. Sundquist, 11-11 Ramsey D. Meyer.

Blue-gray Gnatcatcher
All reports: Houston 8-8 FL, 9-11 EMF, 8-19 Winona CMB, 8-21 Wabasha GS, 9-5 RJ, 9-4 Nicollet JCF, **9-13** Wright ES, **9-16** Hennepin DB, SC.

Golden-crowned Kinglet
Early south 9-16 Anoka JLH, 9-18 Hennepin SC, 9-25 ES; late north 10-21 Clay LCF, 10-31 Aitkin WN, 11-3 Marshall KSS, 11-14 Clearwater JP.

Ruby-crowned Kinglet
Early south 8-23 Houston EMF, 8-30 Hennepin OJ, 9-9 Sherburne EH/SS; late north 10-16 Cook KMH, 10-17 St. Louis LW, 10-22 KE, BL, 10-25 Beltrami JP; late south 10-24 Dakota MW, 10-25 Anoka JLH, 10-29 Hennepin ES, 10-31 Watonwan RJ, Wabasha WDM.

Water Pipit
Early south 9-9 Blue Earth JCF, 9-12 Anoka KL, 9-21 Hennepin ES, 9-22 Wright RBA; late north 10-25 Lake DGW, 10-27 Cook KMH, 11-1 Aitkin WN, 11-3 Marshall KSS, 11-9 St. Louis KE; late south 10-14 Blue Earth JCF, 10-16 Lac Qui Parle HC, 10-19 Mower RG.

Bohemian Waxwing
Early north 10-15 St. Louis KE, 10-22 Cook RG, 10-24 DGW, KMH, 10-25 RJ, 10-25 Lake SDM. Also reported from Beltrami County and one report from Hennepin **10-4** VL.

Cedar Waxwing
Reported from 15 north and 29 south counties.

Northern Shrike
Early north 10-7 Lake SW/MS, 10-9 Mille Lacs DB, OJ, 10-10 St. Louis KE, WL; early south 10-20 Blue Earth EB/K, 10-25 Chisago RJ, Wabasha WDM, Washington DMB, 10-31 Hennepin SC.

Loggerhead Shrike
Three reports: 8-2 Lac Qui Parle KE, 8-14 Mower RRK, 8-25 Renville FKS.

Bell's Vireo
One report: **9-24** Rock GS.

Yellow-throated Vireo
Two reports north 9-4 Clay LCF, 9-12 Crow Wing JB; late south 9-9 Swift RJ, 9-13 Wright ES, 9-29 Houston EMF.

Solitary Vireo
Late north 9-26 Itasca RJ, 9-28 Cook KMH, 10-2 Beltrami JP; late south 10-5 Ramsey BL, 10-7 Hennepin SC, 10-8 Houston EMF.

Red-eyed Vireo
Late north 10-2 Otter Tail GMO, 10-4 Otter Tail RG; late south 10-2 Hennepin DB, 10-5 Ramsey BL.

Philadelphia Vireo
Early south 8-26 Sherburne EH/SS, 8-28 Hennepin SC; late north 9-24 St. Louis KE, 10-6 St. Louis LW, **10-18** Aitkin WN; late south 9-19 Dakota MW, Houston EMF, 9-20 Nicollet MF, 9-22 Hennepin SC.

Black-and-white Warbler
Early south 8-16 Anoka JLH, KL; late north 9-26 St. Louis KE, 9-29 Cook KMH; late south 9-25 Hennepin DB, 9-26 Houston EMF, 9-29 Rice KJ.

Prothonotary Warbler
One report: **9-23** Houston CMB.

Golden-winged Warbler
Four reports: 8-22 Aitkin WN, 8-30 Pine RJ, 9-1 Houston EMF, 9-7 Houston EMF.

Blue-winged Warbler
One report: 9-11 Houston EMF.

Tennessee Warbler
Early south 8-8 Anoka DB, OJ, 8-16 Houston EMF, 8-17 Anoka JLH; late north **10-22** St. Louis KE, **10-24** Cook KMH, **10-31** Roseau KSS; late south 10-10 Houston RJ, 10-15 Hennepin SC, Martin EB/K.

Orange-crowned Warbler
Early north 8-18 Clay LCF, 8-22 St. Louis KE; early south 8-28 Nicollet JCF, 8-29 Hennepin SC; late north 10-6 St. Louis KE, 10-9 Mille Lacs DB, OJ, 10-13 Clay LCF, Crow Wing JB; late south 10-19 Mower RG, 10-20 Wright ES, 10-26 Hennepin SC.

Nashville Warbler
Early south 8-11 Houston EMF, 8-19 Anoka JLH; late north 10-5 Clay LCF, Cook KMH, 10-5 St. Louis LW, **10-25** Crow Wing JB; late south 10-19 Dakota RBA, 10-20 Hennepin SC.

Northern Parula
Early south 8-28 Hennepin DB, 8-29 Hennepin SC; late north 9-6 Lake SW/MS, St. Louis KE, 9-10 Itasca TL, 9-12 Cook KMH; late south 9-24 Hennepin ES, 9-25 Hennepin DB, SC, 9-29 Rice KJ.

Yellow Warbler
Late north 9-10 St. Louis KE, TW, 9-15 Mille Lacs DB, RJ; late south 8-28 Hennepin SC, Nicollet JCF.

Magnolia Warbler
Early south 8-25 Hennepin SC, 8-28 Nicollet JCF, 8-29 Washington DS; late north 10-6 Aitkin RJ, **10-18** Aitkin L. Paynter; late south 9-25 Hennepin ES, 9-28 Hennepin DB.

Cape May Warbler
Six reports: 8-17 Anoka JLH, 8-19 Cook KMH, 8-23 St. Louis KE, 8-29 Carlton RJ, 9-2 St. Louis LW, 9-13 Aitkin WN.

Black-throated Blue Warbler
Eight reports: 9-4 Washington GS, 9-7 Red Lake KSS, 9-14 Lake SW/MS, 9-18 and 9-19 Hennepin SC, 9-23 and 9-24 St. Louis KE.

Yellow-rumped Warbler
Early south 8-23 Lyon HK, 8-29 Hennepin SC; late north 10-27 Cook KMH, St. Louis LW, 10-28 St. Louis TW, **11-30** St. Louis KE; late south 11-9 Houston EMF, 11-10 Anoka SC.

Black-throated Green Warbler
Early south 8-16 EMF, 8-28 Nicollet JCF, 8-29 Washington DGW; late north 9-17 Lake SW/MS, 9-19 St. Louis LW, 9-24 St. Louis KE; late south 9-22 Watonwan RJ, 9-23 Houston EMF, 9-24 Houston ES.

Cerulean Warbler
One report: 8-13 Winona CMB.

Blackburnian Warbler
Early south 8-16 Houston EMF, 8-18 Hennepin RBA, 8-19 Hennepin PF; late north 9-24 St. Louis KE, 10-16 Clay LCF; late south 9-23 Houston EMF, 9-25 Hennepin DB.

Chestnut-sided Warbler
Late north 9-15 Itasca TL, Mille Lacs RJ, 9-19 St. Louis KE, LW; late south 9-21 Anoka JLH, Houston EMF, 9-25 Hennepin DB, **10-10** Ramsey KL.

Bay-breasted Warbler
Early south 8-17 Anoka JLH, 8-21 Hennepin SC; late north 10-1 St. Louis KE, **10-12** Aitkin WN; late south 9-23 Hennepin SC, 10-13 Hennepin RBA.

Blackpoll Warbler
Early north 8-27 Pennington KSS, St. Louis KE, 8-29 Cook KMH; early south 8-29 Washington GS, 9-14 Anoka JLH; late north 9-26 St. Louis KE, 9-28 Red Lake RJ; late south 10-3 Houston FL.

Pine Warbler
Early south 8-31 Renville FKS; late north 9-21 St. Louis TL, 9-22 Crow Wing JB, 9-26 St. Louis KE; late south 9-16 Washington GS, 9-23 Hennepin VL, Houston EMF.

Palm Warbler
Early south 8-18 Blue Earth JCF, 8-24 Washington GS; late north 10-25 Beltrami JP, 10-27 St. Louis LW, 10-31 Cook DB, Bill Pieper; late south 10-11 Isanti RJ, 10-13 Hennepin ES, 10-15 Hennepin SC.

Ovenbird
Late north 9-26 St. Louis LW, 10-6 Wadena Al Bolduc; late south 9-24 Martin EB/K, 9-25 Hennepin ES, 10-2 Hennepin SC, Nicollet JCF.

Northern Waterthrush
Early south 8-19 Hennepin VL, 8-26 Sherburne EH/SS, 8-28 Hennepin DB, SC, Washington DMB; late north 9-17 Pennington KSS, 9-26 Itasca RJ; late south 9-23 Hennepin, 9-24 Hennepin SC, 9-26 Hennepin DB.

Connecticut Warbler
Five reports: 8-20 St. Louis KE, 8-26 Sherburne EH/SS, 8-30 Carlton RJ, 9-11 Dakota JD, 9-19 Le Sueur HC.

Mourning Warbler
Late north, two reports: 8-14 Lake SW/MS, 8-19 Cook KMH; late south 9-18 Hennepin DB, 9-20 Nicollet MF.

Common Yellowthroat
Late north 10-3 Aitkin WN, 10-6 St. Louis KE; late south 10-10 Freeborn BL, RJ, 10-12 Hennepin SC.

Wilson's Warbler
Early north 8-12 Clay LCF, 8-17 Cook KMH; early south 8-12 Ramsey RBA, 8-21 Hennepin SC; late north 9-7 Beltrami JP, 9-9 St. Louis LW; late south 9-19 Renville FKS, 9-25 Lincoln JMP.

Canada Warbler
Early south 8-13 Hennepin DB, 8-17 Hennepin RBA; late north 8-30 Crow Wing JB, 9-9 Lake SW/MS; late south 9-19 Hennepin SC, **10-10** Mower RRK.

American Redstart
Late north 10-6 Aitkin RJ, 10-18 St. Louis KE; late south 9-28 Hennepin ES, 10-5 Hennepin SC.

Bobolink
Late north 8-29 Aitkin WN, Wilkin OJ, 9-15 Mille Lacs RJ; no reports south.

Eastern Meadowlark
Late north 10-15 Lake KL, 10-31 Aitkin WN.

Western Meadowlark
Late north 11-1 Clay LCF, 11-29 Otter Tail SDM.

Yellow-headed Blackbird
Late north 9-27 St. Louis KE, 10-18 St. Louis TL; late south 10-2 Nicollet JCF, 10-17 Swift BL, RJ.

Red-winged Blackbird
Late north 11-15 Clay LCF, 11-24 Mahnomen KSS.

Orchard Oriole
Four reports: 8-12 Clay LCF, 8-19 Winona CMB, 8-29 Hennepin SC, 9-6 Marshall KSS.

Northern Oriole
Late north 9-5 Clay LCF, 9-9 Pennington KSS, **11-1** Hubbard HJF; late south 9-5 Houston EMF, 9-13 Wright ES.

Rusty Blackbird
Early north 9-20 St. Louis KE, 9-26 Cook RJ; 9-30 Lake SW/MS; early south 10-21 Dakota SC, 11-5 Anoka SC; late north 11-5 Clay LCF, Cook KMH, 11-6 Pennington KSS.

Brewer's Blackbird
Late north 10-31 Marshall KSS, 11-4 St. Louis LW.

Common Grackle
Late north 11-14 Aitkin WN, Otter Tail GW, 11-23 Cook KMH, 11-24 Becker KSS.

Brown-headed Cowbird
Late north 10-18 St. Louis KE, 10-23 Itasca TL; late south 10-17 Treverse RJ, 11-20 Nicollet JCF.

Scarlet Tanager
Late north 9-25 Beltrami JP, 10-8 St. Louis KE; late south 10-3 Hennepin SC, 10-14 Hennepin MW.

SUMMER TANAGER
10-19 thru 11-7 St. Louis KE, TL, MH, SDM, TW, WN.

Cardinal
Reported from Mille Lacs and fourteen counties south.

Rose-breasted Grosbeak
Late north 9-15 Pennington KSS, 9-16 Beltrami AS, 10-1 St. Louis KE; late south 10-5 Washington BL, 10-6 Hennepin SC, 10-10 Houston RJ.

BLACK-HEADED GROSBEAK
10-19 thru 10-25 Cook KMH, KE, JB, RG, DGW, SDM.

Indigo Bunting
Late north 9-15 Mille Lacs DB, 9-23 St. Louis KE; late south 10-4 Wright ES, 10-10 Houston BL, RJ.

Dickcissel
Two reports: 8-23 Nobles GS, 9-5 Dodge RJ.

Evening Grosbeak
Early south 10-25 Olmsted JEB, 11-2 Cottonwood LAF, Dakota JMP, 11-10 Le Sueur HC.

Purple Finch
Reported from 14 counties north and 22 counties south.

Pine Grosbeak
Early north 10-3 Itasca DB, 10-6 Pennington KSS, 10-21 Cook KMH, Lake SW/MS; no reports south.

Hoary Redpoll
Two reports: 11-16 Mille Lacs KE, 11-29 Crow Wing JB.

Common Redpoll
Early north 10-9 St. Louis M. Carr, 10-13 Polk MH; early south 10-25 Anoka JLH, 10-27 Hennepin ES, 11-1 Mower RRK.

Pine Siskin
Reported from 16 counties north and 14 counties south.

American Goldfinch
Reported from nine counties north and 15 counties south.

Red Crossbill
Reported from six counties north and six counties south.

White-winged Crossbill
Eight reports: 8-8 thru 11-14 St. Louis KE, 9-6 Itasca RG, 10-6 Pennington KSS, 10-25 Lake RJ, St. Louis SDM, 10-26 Polk MH, 10-31 Watonwan RJ, throughout period Cook KMH.

Rufous-sided Towhee
Two reports north: 8-23 Beltrami JC, 10-20 Otter Tail GMO; late south excluding western race 10-14 Houston EMF. Three reports of western race 10-15 Hennepin SC, 11-19 Houston female EMF, 11-25 Houston male EMF.

Savannah Sparrow
Late north 10-24 Cook KMH, 10-26 St. Louis KE; late south 10-29 Hennepin ES, 10-31 Watonwan RJ.

Grasshopper Sparrow
One report: 8-11 Fillmore RJ.

LeConte's Sparrow
Five reports: 9-26 Itasca RJ, 9-28 Hennepin SC, 9-29 Murray JMP, 10-1 Polk MH, 10-9 Houston EMF.

Henslow's Sparrow
One report: 8-8 Winona 2a 1y FL.

Sharp-tailed Sparrow
Two reports: 8-8 Pennington KSS, 10-3 Lyon Paul Egeland.

Vesper Sparrow
Late north 10-15 Wilkin OJ, 11-3 Cook KMH; late south 10-17 Chippewa RJ, 10-21 Cottonwood LAF.

Lark Sparrow
Two reports: 8-12 Clay LCF, 8-19 Winona CMB.

Dark-eyed Junco
Early south 9-15 Washington DGW, 9-17 Houston EMF, 9-18 Nicollet JCF.

Tree Sparrow
Early north 9-28 Clay LCF, 10-2 Cook KMH; early south 10-2 Nicollet JCF, 10-7 Olmsted JEB.

Chipping Sparrow
Late north 10-19 St. Louis TW, 10-20 Cook KE, KMH, St. Louis 11-8 St. Louis TL; late south 10-17 Stevens BL, 10-19 Hennepin SC.

Clay-colored Sparrow
Late north 9-29 Cook KMH, 10-15 St. Louis KL; one report south 10-5 Ramsey BL.

Field Sparrow
One report north: 10-4 Cass RG; late south 10-8 Rice KJ, 10-10 Houston RG, BL, FL, Mower RRK.

Harris' Sparrow

Early north 9-15 Cook KMH, 9-17 St. Louis KE; early south 10-19 Hennepin SC, 10-25 Nicollet JCF; late north 10-30 Beltrami AS, 11-4 Clay LCF; late south 11-20 Lac Qui Parle CMB, Nicollet JCF, 11-29 Traverse RG.

White-crowned Sparrow

Early north 9-10 Crow Wing JB, 9-11 St. Louis DB; early south 9-18 Nicollet JCF, 9-22 Washington GS; late north 10-28 St. Louis KE, 10-31 Cook KMH; late south 10-23 Hennepin RA, 11-5 Ramsey WL.

White-throated Sparrow

Early south 9-9 Houston EMF, 9-14 Hennepin SC; late north 10-30 Clay LCF, Hubbard HJF, St. Louis TL, 10-31 Aitkin WN, St. Louis LW; late south 11-12 Hennepin ES, 11-23 Dakota MW.

Fox Sparrow

Early north 9-15 Cook KMH, 9-19 Itasca DB; early south 9-18 Hennepin SC, 9-20 Houston EMF, Washington DMB; late north 10-28 Crow Wing JB, St. Louis TW, 11-5 Clay LCF; late south 11-10 Hennepin RA, 11-11 Hennepin ES.

Lincoln's Sparrow

Early south 9-5 Wabasha RJ, 9-10 Wright ES; late north 10-10 Itasca TL, 10-12 Clay LCF; late south 10-16 Waseca RG, 10-20 Hennepin SC.

Swamp Sparrow

Late north 10-25 Clay LCF, 10-27 Cook KMH; late south 11-1 Hennepin VL, ES, 11-11 Anoka GS.

Song Sparrow

Late north 10-25 Clay CLF, 11-1 St. Louis KE.

Lapland Longspur

Early north 9-6 St. Louis KE, 9-13 St. Louis OJ; early south 10-20 Blue Earth EB/K, 10-30 Mower RRK; late north 11-27 Becker RN, 11-30 Clay LCF.

Smith's Longspur

One report: 10-29 Stevens GMO.

Snow Bunting

Early north 10-1 Itasca NH, 10-7 Lake SW/MS, St. Louis TW, 10-10 Pennington KSS; early south 10-30 Lyon JCF, 11-20 Lyon HC, Renville FKS, 11-27 Olmsted JEB, Pope RJ.

CONTRIBUTORS

RA, Renner Anderson
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DB, Don Bolduc
JEB, Jerry Bonkoski
EB/K, Ed Brekke/Kramer
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BDC, Betty and Doug Campbell
SC, Steve Carlson
HFC, H. F. Chamberlain
JC, Jane Cliff
JD, Joan Dempsey
KE, Kim Eckert
AE, Mrs. O. L. Eckhardt
LCF, Laurence and Carol Falk
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BSNWR, Big Stone National Wildlife Refuge
TNWR, Tamarac National Wildlife Refuge
RBA, Rare Bird Alert

ADDITIONS TO SPRING, 1980 REPORT:

Whimbrel 5-31 Cook KMH
Greater Yellowlegs 5-9 Cook KMH
Mockingbird 5-31 Cook KMH

Young Marsh Hawks in Nest on Nature Conservancy area, Kettledrummer Prairie, Wilkin County, July 2, 1981 — Photo by Jeff Weigel

GYRFALCON IN WADENA COUNTY — I was driving southward from Huntersville to Nimrod at 10:30 A.M. on February 21, 1982, and had just stopped briefly to examine a sentinel Prairie Chicken perched atop an oak tree in an extensive grassland area. Satisfied, I continued on for about one third of a mile when I suddenly saw a large raptor perched atop an electrical utility pole just ahead of me and to my right. As I came abreast of it, I instantly recognized the bird was a Gyrfalcon. I coasted to a stop about a quarter of a mile beyond the bird, turned around and drove back to it. I parked almost directly across (slightly southward) from the Gyrfalcon, which was now to my left, and about 40 feet from me. I had the bird under full view for four minutes at which time it did not show undue concern over the presence of my vehicle. I was reminded at once of a giant female kestrel with a very gray plumage, which was particularly pronounced about the shoulders and upper back. Except for the chin and throat, the entire ventral region of the bird was heavily marked with blackish markings, somewhere between spots and streaks. There was a **faint** suggestion of a "moustache" extending directly downward from the eye and a somewhat darkish patch immediately behind the eye. The crown, nape and back of neck displayed rather prominent whitish edges that produced a scaled effect. The observable portions of the tarsi and feet were bluish gray as was th basal portion of the beak, and the eyes were dark. I observed that the lower abdomen (that which could be seen above the pole) was darkish, a feature which could have resulted from dirt stain. In size, this individual matched closely a male Goshawk which I had seen about half an hour earlier. However, the long pointed wings and shorter wedge shaped tail with many narrow bars were easily seen on this perched bird. The angular appearance (profile) of this bird, especially the shoulder-wing and tail configuration — plus its inclined (forward of vertical) posture were so unique that I would have difficulty mistaking this Gyrfalcon with any other raptore, even its nearest "look alike" (in my opinion) an immature Goshawk of which I have handled a fair number. Finally, the falcon swooped down from the pole and passed over and to the front of my windshield, giving

me a good view of the heavily checkered (Merlin like) underwing linings. Needless to say, no black axillars were present, although the size of the bird alone would have precluded either Prairie or Peregrine Falcons. It flew with a few deep powerful strokes alternating with glides as it kept rather low over open terrain, finally vanishing behind a low hill only seconds later. **Dick Oshlenschlager, 7545 Spring Lake Road, Minneapolis, MN 55432.**

YELLOW-RUMPED (AUDUBON'S) IN BLOOMINGTON — On December 26, 1981 I observed an Audubon's Warbler at my suet feeder in Bloomington, MN, 9400 Cedar Ave. The bird was very active, competing with many woodpeckers, chickadees and nuthatches for suet. A few days later I observed it eating sunflower seeds I had scattered on the balcony. As the weather grew colder (up to minus 30 degrees) several days in a row, 40 to 50 Pine Siskins, Common Redpolls, American Goldfinches and Purple Finches moved into the area. The warbler was somewhat intimidated by them but stayed active. Over the weekend of Jan. 9th Karol Gresser suggested we chop suet up finely and scatter it along with sunflower seeds onto the balcony so the warbler could feed more easily. The warbler was seen several times a day during a warm spell but grew more and more bothered by the aggressive siskins. A pattern developed of feeding earlier and later than the other birds and less often. The last time I observed the bird was 11:30 a.m. Saturday, Jan. 16th when the wind chill was minus 72 degrees. I assume it did not survive the day. Marion Cashdollar photographed the bird at 5 p.m. on Dec. 31st. It was also observed by Bob Janssen, Jerry and Karol Gresser, Wally Jiracek, Phyllis Basford, and Bruce Baer. The area is filled with mature oaks and pines on a south facing ravine of the Minnesota River. A spring is open all winter at the bottom of the ravine. **Elaine Mellott, 9400 Cedar Ave., Bloomington, MN 55420.**

Yellow-rumped (Audubon's) Warbler, Bloomington, Hennepin County January 1982 — Photo by Marion Cashdollar

1980 RECORD OF A CATTLE EGRET FROM COOK COUNTY — The bird was the first observed on May 7, 1980 in Hovland, Cook County. The bird (egret) was around for quite a while, close to two weeks. One day it was in the Johnson's (my folks) yard. Other days it would be in any one of the other neighbor's yards. I noticed it in one yard several days on the way to work. It walked around, poking its head in the grass, feeding. Most al-

ways it was in a mowed grass area of someone's yard. My mother and I were able to get some photos with a telephoto lens, but none are very spectacular. It was a timid type bird and close observation outside was not possible. At times he would walk right in front of the windows of the house, and it was then that we had very good looks at him. **Sandra Lunke, Box 88B, Hovland, MN 55606.**

WHIP-POOR-WILLS IN FALL — On September 16, 1981 Jeannie Joppru and I saw a Whip-poor-will as we were walking through the woods behind Northland Community College in Thief River Falls. Jeannie had been a little bit ahead of me on the path, and she must have almost stepped on the bird. As he flew up, he made a large arc so we could see both wings at once. We did not see him for very long — it was certainly less than a minute. He looked like a large brown moth with long rounded wings. The two white tail patches were the most noticeable markings on the bird. I remember seeing the throat markings, but they were not as obvious as the tail markings. We both agreed that the bird must have belonged to the goatsucker family, and that it could not have been a Common Nighthawk. A nighthawk has pointed wings, and this bird had rounded ones. This was only the second time I had ever seen a Whip-poor-will, and it was by far the better look. We were less than fifteen feet from the bird, and the light was excellent. **Shelley Steva, Route 4, Box 10, Thief River Falls, MN 56701.**

VESPER SPARROW, LATE MIGRANT IN COOK COUNTY — The only bird in sight on a very quiet mild November 3rd, 1981 was a Song Sparrow-type bird hopping on the edge of a gravel driveway adjacent to a lawn in

a residential area along Lake Superior. The sky was almost clear, the sparrow was to our right, the mid-day sun to our left. With binoculars we observed the bird during our initial encounter for approximately two minutes from about 75 feet and then later, on our return trip, for a shorter time. White outer tail feathers were evident as the bird hopped and flew short distances and an eye ring was distinct. We eliminated from consideration the Water Pipit because of the finch bill and hopping behavior and identified the bird as a Vesper Sparrow. In spite of our second encounter with the bird and further close range observation we were unable to see any definite rusty shoulder mark. The sparrow was quiet and continued to hop about the driveway little disturbed by our presence. **Ken and Molly Hoffman, Gunflint Trail, Box 58, Grand Marais, Minnesota 55604.**

YELLOW-HEADED BLACKBIRD WINTERS IN HENNEPIN COUNTY — A record of a Yellow-headed Blackbird anywhere in Minnesota after October 1st is a record worthy of note. During the last week of November 1981, Mrs. William Quam of 9875 Spring Road, Eden Prairie, Hennepin County, reported a male Yellow-headed Blackbird coming to her feeder. The bird came daily to the feeder, mainly in the morning hours throughout December and into early January. During the severe storms in mid to late January, the bird was not seen in the area, but around February 1 what was presumed to be the same bird re-appeared at the feeder and was seen daily until February 13 which was the last day it was seen. I observed the bird at the Quam's feeder on February 11, 1982. It was a full plumaged male, yellow head and breast all black body with the typical white wing patch. Mrs. Quam stated that the bird was in this plumage when first seen in November. As the season advanced, she stated the yellow on the head became more intense. There are eight other records of single individual Yellow-headed Blackbirds attempting to over-winter in the state, from Dakota County (Dec. 1934 to Jan. 5, 1935) Hennepin County (winter 1938-39, Dec. 18, 1971 and Jan. 2, 1976), Carver County (Dec. 26, 1960 to Jan. 1, 1961), Big Stone County (Dec. 15, 1973 and Jan. 5, 1980) Cottonwood, Lyon County (Dec. 19, 1976), Fergus Falls, Otter Tail County (Dec. 20, 1980), John Frentz reported a small flock wintered in the Swan Lake, Nicollet County area until Jan. 25, 1980, and again during Dec. 1980 thru Feb. 1981. A flock of 25 birds was reported in Cottonwood County on Feb. 26, 1943 (very early migrants?) and finally up to 20 were seen with a large flock of Red-winged Blackbirds wintering in the marshes near LaCrescent Houston County during December and January 1981. **Robert B. Janssen, 10521 S. Cedar Lake Rd., #212, Minnetonka, MN 55343.**

RED-BELLIED WOODPECKER IN COOK COUNTY — Bird was observed in feeder and around yard in Aspen and Birch at various times during daylight hours, from May 4 to 11, 1982. Identification was simplified because the bird frequented the bird feeder 10 feet from house. Similar species previously observed are Common Flicker, Yellow-bellied Sapsucker, Downy and Hairy Woodpeckers, Northern Three-toed, and Black-backed Three-toed Woodpeckers. The distinguishing field marks were the red on nape of neck (a female) and the black/white ladder back. It was unusual to see a woodpecker at a feeder when suet was hanging nearby. The feeder contained cracked corn/wild seed mix, sunflower hearts and seed, safflower seed, and thistle seed. **Steve Forsberg, Box 2121, Tofte, MN 55615.**

PURPOSE OF THE MOU

The Minnesota Ornithologists Union is an organization of both professionals and amateurs interested in birds. We foster the study of birds, we aim to create and increase public interest in birds and promote the preservation of birdlife and its natural habitat.

We carry out these aims through the publishing of a magazine, **The Loon;** sponsoring and encouraging the preservation of natural areas; conducting field trips; and holding seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from individual members and affiliated clubs and by special gifts. The MOU officers wish to point out to those interested in bird conservation that any or all phases of the MOU program could be expanded significantly with gifts, memorials or bequests willed to the organization.

SUGGESTIONS TO AUTHORS

The editors of **The Loon** invite you to submit articles, shorter "Notes of Interest" and color and black/white photos. Photos should be preferably 5x7 in size. Manuscripts should be typewritten, double-spaced and on one side of the sheet with generous margins. Notes of Interest should be generally less than two typewritten pages double-spaced. If reprints are desired the author should so specify indicating number required. A price quotation on reprints will be sent upon receipt of information.

Club information and announcements of general interest should be sent to the Newsletter editor. See inside front cover. Bird-sighting reports for "The Season" should be sent promptly at the end of February, May, July and November to Kim Eckert. See inside front cover.

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The LOON

FALL 1982

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MEMBERSHIPS AND SUBSCRIPTIONS: Evelyn Stanley, 213 Janalyn Circle, Minneapolis, Minnesota 55416. To join the MOU and receive both MOU publications, send $10.00 for a regular yearly subscription. Or other classes of membership that you may choose are: Family $12.50 yearly; Supporting $15.00 yearly; Sustaining $25 yearly; Life $150. Canadian and Foreign Subscriptions, $12.50 yearly. **All subscriptions are on a calendar year basis.** Also available: back issues of **The Loon** ($2.50 each ppd.) and MOU checklists of Minnesota birds (minimum lots of 20 for $2.00 postage paid). Gifts, bequests, and contributions to the MOU Endowment Fund should also be sent to the treasurer.

EDITOR OF THE LOON: Robert B. Janssen, 10521 S. Cedar Lake Rd., Minnetonka, MN 55343 (phone 612-546-4220), The editor invites articles, short notes, and black/white illustrations about birds and nature. See back cover for details.

"The Season" section of **The Loon** publishes reports of bird sightings throughout Minnesota. We particularly invite reports from parts of the state that have been neglected or covered lightly in past reports. To become a contributor to "The Season," request the report forms from the **EDITOR OF "THE SEASON," Kim Eckert, 9735 North Shore Drive, Duluth, Minnesota 55804. (phone 218-525-6930).**

EDITOR OF THE MOU NEWSLETTER: Mrs. Marlyn Mauritz, 6930 Tecumseh Lane, Chanhassen, MN 55317. Publishes announcements and reports about activities of the MOU and its affiliated clubs. (Club officers should keep both MOU editors informed.)

CHUCK-WILL'S-WIDOW – FIRST KNOWN OCCURRENCE IN MINNESOTA

W. J. Breckenridge

After more than a century of bird watching by ornithologists in Minnesota, it is a real red-letter day when a new species is located. The Chuck-will's-widow (**Caprimulgus carolinensis**) is our latest such find. And what is more remarkable is that the evidence so far indicates that not just a wandering bird but a fairly extensive population may be involved.

I was led to investigate this possibility by my friend, Mrs. Rozella Gunderson, who in June 1981 called my attention to a whistling call of some night bird similar to that of a Whip-poor-will but somewhat different that had been heard about her place in northern Sherburne County. Since the Poor-will had been recorded once in Minnesota she guessed that it might be that species. I visited the Gunderson tree farm on July 17-18, 1981 and found the bird calling but only occasionally. I had heard Poor-will calls in British Columbia some years ago and I thought at first it could be that bird but an introductory note did not seem to fit into my recollection of its call. I tried recording the call but my recorder was not functioning well and the call was some distance away, so my evidence for identification was not convincing.

Again this year Mrs. Gunderson reported the bird calling very actively throughout the night. So I again visited the Gunderson farm on June 11-12, 1982 with my recorder revamped and I got very satisfactory records of the call. The preliminary note fitted perfectly into the supposed pronouncement of the words "Chuck-will's-widow" and I was convinced that this was the probable identification. On returning home I played the Cornell University recording of the Chuck-will's-widow call and this left no doubt in my mind of its correct identification. While in the field I attempted to call the bird by replaying the call but the bird would not approach as I had been able to do with the Poor-will. I struggled through the heavy underbrush wet with an evening shower in an attempt to see the bird and to my surprise I was able to approach within what I was sure was not more than ten yards but I could not spot the bird perched. Even my use of a strong flashlight did not flush the bird readily. When it finally flew I was startled by a loud "snapping" or "clucking" sound so entirely different from the usual call that I thought it must have been given by some other bird or even a mammal nearby. However, on reading A. C. Bent's account of this bird in his "Life Histories of American Birds" I found an extensive statement describing several unusual notes made by this bird. I now think that this sound could have been made by its clapping its wings together on flushing. Bent further corroborated my identification when he counted the normal calls as given at the rate of 25 per minute while I had checked 26 calls per minute. Bent further stated that the bird gave very long series of whistling calls and one he counted as continuing for 834 calls. I awoke at 4:00 a.m. at hearing the calls and this series continued uninterrupted until 4:30 a.m. Twenty-six

calls per minute for 30 minutes gives 780 calls.

On June 22, 1982 I spent all day crisscrossing the wooded area (largely second growth oak with hazel undergrowth) hoping to flush a bird from a nest or perch but without success. In the evening I played my recordings at intervals beginning at 8:00 p.m. but not until 9:15 did I get any response and that at some distance away. About this time Terry Savaloja arrived and we approached much nearer with a recording and then the bird flew overhead and alighted perhaps 50-60 yards away. As we approached nearer it flushed and we followed but again we were not able to spot the bird perched. This was repeated several times and we got fleeting glimpses of the bird in flight but no observations that would aid in its identification.

While recording the calls I heard a second call coming from a distance which suggested another bird's presence although I know birds can vary the volume of their calls and this might be the case here. Mrs. Gunderson stated that a friend who was interested in birds living about eight miles north of her place reported this same call having been heard along with that of the Whip-poor-will. This strongly suggests that an extensive population of the Chuck-will's-widow may exist in northern Sherburne County.

On the evening of July 3, I again visited the Gunderson tree farm with Donald Bolduc. Our plan was to spot the eyes of the Chuck-wills-widow with a strong flashlight and approach close enough for a flash picture. About 9:20 p.m. when it was still light enough to see reasonably well we heard a call nearby and I gave a few whistling imitations of the bird's call. Within a minute or two the bird flew in and alighted crosswise on a branch about six feet high silhouetted against the sky at a distance of only 30 to 40 feet. In a minute or two it flew out into the woods road we were following and appeared as though it might alight on the ground. But it then flared upward showing distinctly the white tail markings with the parallel dark margins of the tail feathers — a field mark distinguishing the male Chuck-will's-widow from the Whip-poor-will.

The bird then alighted nearby and called several times but as we attempted to approach it flew and stopped calling. It was still too light to blind it effectively with the flashlight to afford a close approach. Sometime later we heard the call from far away to the north in another wooded area. We followed but gave up finding it again since it moved several times without our disturbing it. At no time did we hear two birds calling although it seemed strange that the first calling bird would leave the area it had frequented so much on the other nights to move so far away and then continue to call at the new location. This suggested two birds but was no proof of their presence. **8840 W. River Road, Minneapolis, MN 55444.**

Editor's Note: On June 15, 1982 a number of us visited the Gunderson residence. We had no trouble in seeing and hearing the Chuck-will's-widow shortly after 9:00 p.m. We saw the bird after playing a tape-recording for about five to six seconds. Upon hearing the tape the bird flew by us, landed nearby and began calling. We never did see the bird perched, only in flight, even though it was very close to us. The use of a tape-recorder was not necessary after the initial few seconds to attract the bird.

On two occasions on the evening of the 15th we heard the bird give a very peculiar call which is best described as a mechanical "boing - boing - boing - boing - boing" followed after a one or two second pause by the usual Chuck-will's-widow call. This was one of the strangest sounds I had ever heard come from a bird.

Many other people, at least 30, heard and/or saw the bird but no one else reported this peculiar call.

On the evening of June 25, 1982 Bruce Fall of the Bell Museum was at the Gunderson residence. Bruce reported that one Chuck-will's-widow was singing directly behind the Gunderson residence and another bird was heard at approximately the same time about a ¼ mile to the north. This proves there were at least two birds in the area.

MINNESOTA'S FIRST RUSTY BLACKBIRD NEST

Ken and Molly Hoffman

Between 1968 and 1979 there were six reported sightings of Rusty Blackbirds during the months of June and July, all in Cook County (**Loon** and **Minnesota Birds**). In 1981 a family group consisting of two adults and three long-tailed young was observed, again in Cook County (**Loon** 53:223). This 1981 sighting convinced us that Rusty Blackbirds did breed in Minnesota and it only remained to find a nest. During the spring and summer of 1982 we made the following observations:

May 12th: A male Rusty Blackbird is seen and heard singing the "rusty hinge" song. The observation area is along the South Brule River where it flows close to Forest Service Road 325 (T63N.,R1E). The river is edged with an alder flood plain with sweet gale overhanging the water. Between the river and the road is a 1980 burned over mixed woods. The south side of the river is a Black Spruce - Tamarack bog. A one-acre wet island divides the river flow nearly in half. The island is predominantly alder and sweet gale with only a few spruce trees at one end.

May 19th: A male and a female Rusty Blackbird are seen feeding together along the river edge beneath the tangle of alder bushes.

June 1st: The male arrives with food, perches on top of a spruce, moves to several other tree top perches and finally arrives at what we call his pass-off tree (a 25-foot spruce just back from the river on the south bank, across from the island). The male is immediately joined by the female in the pass-off tree. She assumes a begging posture with wings fluttering and is given food by the male. She leaves the tree with the food and disappears into alder and sweet gale brush. The male flies off in a different direction. The performance is repeated two more times with only slight variations. The female flies to a different location each time. It is difficult to determine exactly where she comes from as she flies to meet the male at the pass-off tree.

June 4th: The male and female interact with Gray Jays and no food carrying is noted. The blackbirds exhibit the most intense agitation as the Gray Jays pass through the river island. A deep cluck note is heard.

June 11th: Both male and female are making trips carrying food and are quiet. The female enters the alder on the island at different points. The male perches conspicuously with food in his beak and flies to the same area of the island on each trip.

Rusty Blackbird nesting habitat, South Brule River, Cook County, June 1982.
Photo by Ken Hoffman

Rusty Blackbird nest, South Brule River, Cook County. Photo by Ken Hoffman

June 12th: Both blackbirds are quiet and carrying food. We approach the suspected nest area in a canoe and move closer to the island when both birds are away gathering food, then quietly watch as they return and deliver their food. They are carrying large-winged insects, as large as damsel or dragon flies. The blackbirds are not alarmed and leave again, we move closer, they return and deliver food. This is repeated until we are able to land on the island and hide in the alder bushes. We approach within 20 feet of the nest and watch the adults deliver food and hear the "Peeping" of young. As we move closer the female becomes alarmed and remains on the nest. She sits tight until we are within six feet of the nest and then flies off quietly. There are four nestlings, perhaps a week old, in a well hidden nest.

June 22nd: The nest is empty but both adult blackbirds are nearby on the island and are very vocal, singing and clucking. From the canoe we see one very short-tailed young blackbird hopping in the alder brush of the island.

June 27th: Kim Eckert has been through the area with a bird tour and tells us that the Rusty Blackbird adults were vocal and active.

July 5th: No adults or young are heard or seen near the island.

July 12th: No blackbirds are seen or heard in the area. We check the nest carefully. It is composed of small deciduous tree twigs and lined with what looks like mud and debris, some pieces of sphagnum moss can be seen in the plaster-like lining. In the bottom of the nest cup is a small pile of pine needles. The inside diameter is four inches at the rim and the depth is approximately 2-1/4 inches. The well-made nest is 12 inches off the surface of the water and mud and is built on the partially prostrate trunks of several alders, well hidden from above by a healthy canopy of leaves. The alder bushes at the nest location are between six and ten feet in height and very thick.

An additional note: On June 12, 1982 one-half mile upstream from the above described nest we encountered a second pair of Rusty Blackbirds. The male was singing and the female was carrying nest materials. The male accompanied the female as she flew downstream to gather nest materials and then followed her to the nest area where he perched and sang while the female flew to the nest and worked in each twig. They seemed unconcerned by our presence and after observing several of her gathering and building trips we easily found the half-built nest on an alder branch surrounded by thick sweet gale and hanging directly over the water of the river. On June 22nd this second pair of blackbirds were in their nest area, the nest structure seemed complete but had no mud-like lining yet. No blackbirds were seen on July 12th and the nest looked as it had on our June 22nd visit. This very late attempt at nesting had apparently not succeeded. **Gunflint Trail, Box 58, Grand Marais, MN 55604**

SECOND BREEDING RECORD FOR THE SOLITARY SANDPIPER SOUTH OF CANADA

Ken and Molly Hoffman

In 1980 and 1981 we had observed Solitary Sandpipers during the summer months at two different locations in Cook County: both were old drained beaver ponds with extensive mud areas and standing dead trees. The possibility that these usually quiet, difficult to locate sandpipers might actually breed in the area was enough to cause us to revisit these promising areas throughout each summer. Also the sighting of a half-grown young sandpiper accompanied by two adult Solitary Sandpipers on the Mississippi River in Aitkin County, Minnesota by Terry Savaloja in 1973 (**Loon** 45:96) was certainly another reason to believe that the Solitary Sandpiper does breed in Minnesota. However, in the spring of 1982 and the early part of June our visits to these promising areas failed to provide even a glimpse of the sandpipers. And so on June 22, 1982, stumbling through dead falls and fighting mosquitoes to explore a new area (in Cook County, T63N., R1W), we were amazed by the sudden noisy assault upon us by two adult Solitary Sandpipers. The attack continued without pause as we carefully walked onto the mud and stubble of an old drained beaver pond. The birds jumped from one dead tree stump to another uttering a loud series of alarm calls "PitPitPitPit . . . etc." A third adult was also present but did not seem to be a participant in the attack and we soon lost sight of it. We were dive-bombed and harassed at each advancing step as the two persisted in what seemed to us to be a defense of nest or young. We advanced as far as the soft unstable mud surface would allow and attempted to locate a nest or see the precocial young. Moving cautiously toward what seemed to be faint "peeping" from young birds proved fruitless: the continuous din created by the calling adults made it difficult to locate these soft sounds and the grass and tangles of roots and trees provided excellent cover for any small hiding chicks. We left, afraid of further aggravating the adults, and planned our next assault, a sneak attack via cover of the woods.

On June 24th we attempted to approach the birds without causing such alarm. The area is not easy to approach without being detected. A large portion of a Black Spruce bog was killed by beaver flooding. Many of the dead trees are still standing and the more peripheral ones still retain dead bushy branches. The sphagnum mat structure somewhat supports a cautious person but much of it is dead and appears to be like a mud flat. Two small watercourses meander across the plain of dead trees. Large treeless open areas have grown into thick marsh grasses and tangles of Speckled Alder are growing in other areas. On each side of the dead tree area there is still live Black Spruce, sphagnum mat, Laborador Tea, and other typical bog vegetation. A leaking beaver dam grown into trees and brush is at the outlet end and is flanked by higher land covered with a mixed woods. Our plan was to move through the wooded high area and approach the flood plain unseen by the sandpipers, observe the hapy family feeding on the mud flats, take a couple photographs of the pleasant scene, and then leave them

undisturbed. However, as before, our stealthy approach was loudly heralded by the vigorous "PitPitPitPitPit . . ." alarm call of an adult on a dead tree top long before we could even see the mud area through the trees. Abandoning stealth we walked out onto the mud flats and cautiously searched the grassy area where "peeping" sounds seemed to be coming. One adult remained near us and continued the sharp alarm calls. The second adult appeared only briefly and then vanished into the tangle of grass and tree

Solitary Sandpiper nesting habitat Cook County, June 1982. Photo by Ken Hoffman

roots, remained quiet and then would suddenly reappear briefly. This disappearing act was repeated several times but we were unable to figure out where the bird vanished to. It was evident that a further effort to locate the young might cause harm and so we retreated to the dead tree area and made a search for possible nests. We located more than a half dozen old nests in small dead Black Spruce trees at heights of from four to twelve feet above the mud and water. Most of the nests appeared to be old Robin nests; at least two were in good condition but we found no traces of egg shells or droppings near any of these nests.

On June 27th, our third visit, we walked directly into the old beaver pond area and were greeted by the loud alarm calls of an adult Solitary Sandpiper. Only one of the two adult sandpipers present was very loud and active in the defense. We walked about and searched. It was evident that, as on our previous visits, the young were well hidden and it did not seem worth it to risk their well-being just to "get a look." The noise of the adult sandpiper also alerted a large bird tour group and we met them as we were leaving. The adult sandpiper continued the loud defense and the tour leader was convinced, as we were, that the adult bird was calling to young hidden in the heavy marsh grass.

On June 30th our approach to the beaver pond was not met with the

usual loud attack. It was obvious that the sandpipers had moved out of the pond area, perhaps driven away by our activity or the activity of the tour group on the 27th. We made our way to a second old drained beaver pond downstream from the original pond and quietly approached from a very steep wooded hillside. Our vantage point was excellent and we saw and heard an adult Solitary Sandpiper occasionally giving the familiar "Peet Weep" call, not the loud continuous alarm call we had become so accustomed to hearing on our pervious encounters. Large areas of mud, puddles and the meandering stream were visible through peek-holes in the tree branches and so it was possible for us to observe without being seen by the adult birds. One adult Solitary Sandpiper perched on a dead tree stub; a Killdeer, a Common Snipe, and a second adult Solitary Sandpiper were feeding on the mud upstream from the perched bird. After a long wait a single short-tailed chick also appeared briefly on the mud flat beneath the perched adult, disappearing into the grass when the adult gave a series of loud alarm calls. The presence of a Belted Kingfisher seemed to be the cause for the alarm. The kingfisher flew on and the sharp "PitPitPit" calls slowed to "Peet Peet" and then to "Peet Weep" and "Peet Weep Weep" and finally the adult was fairly quiet. After a ten minute wait the small young sandpiper chick appeared again on the open mud flat and picked about in the mud and debris. The chick was beige in color, darkest on the back and blended well with the mud. The most conspicuous marking we could see was a distinct dark crown stripe which extended well down the back of the head, blending into the darker back color. We observed the chick for about ten minutes. Other chicks may have been present but tree branches obscured large portions of the feeding areas and we did not wish to alarm the birds. We retreated back into the woods leaving the sandpipers feeding quietly.

Solitary Sandpiper "on guard" at nest area, Cook County June 1982.
Photo by Molly Hoffman

After over four inches of rain we returned on July 11th to the first or upper beaver pond to find the water level much higher and little of the mud areas exposed. However, we were not disappointed as we sloshed into the flooded area and were immediately

discovered by the usual vocal Solitary Sandpiper. We were unable to see any young sandpipers, too many places to hide. We did see one other adult Solitary Sandpiper feeding at the other side of the pond area but it seemed little upset with our presence.

On July 14th we again returned and found only one adult Solitary Sandpiper in the usual defense posture on the upper pond. The intensity of the attack was not as great as previously and the bird seemed to be defending the whole pond area. As long as we made no attempt to advance onto the mud and grass areas the adult would fly back from us and call from a distance, the "PitPitPit" call slowing to "Peet Peet" and finally to "Peet Weep." The adult flew into very thick marsh grass, two birds emerged and flew a short distance and disappeared into more of the thick marsh grass. The glimpse we had of the birds was too brief to be sure, but the second sandpiper may have been the chick we had seen on June 30th. The adult flew again into the dead tree tops and complained about our presence. The water was too deep for us to walk to where the second sandpiper had been seen to land and so we left.

At the upper pond on July 16th we were greeted by a single adult Solitary Sandpiper and, as on July 14th, the attack seemed much less intense. The adult did not long persist in the alarm call and just remained watching from a tree top. It was the warmest reception we had yet encountered since our first visit.

On July 21st, our eighth visit, we found no activity in the upper pond and so moved to the lower pond. Our arrival there was not met with noise from any sandpiper but as we continued to search the pond area we discovered a very quiet secretive Solitary Sandpiper probing the mud behind a small grass island. It appeared to be an individual in juvenile plumage, much whiter on the breast and more olive-brown on the back than an adult. The head was most noticeably different from an adult in that the usually distinct eye ring seemed broken, as if a darker line were drawn from the beak through the eye causing a break in the eye ring on both front and back sides. Is this a stage in the plumage sequence? In its movements and "Peet Weep" call it was like the adult. It was wary and flew when we attempted to approach closer. Was this the chick we had observed first on June 30th? It is possible and we are inclined to believe it may have been. However, the fact that the Solitary Sandpiper becomes a strong powerful flier at an early age certainly precludes anything more than speculation as to the origin of the young bird we saw on this, our final visit.

—Gunflint Trail, Box 58, Grand Marais, MN 55604.

PROCEEDINGS OF THE MINNESOTA ORNITHOLOGICAL RECORDS COMMITTEE

Kim R. Eckert, M.O.R.C. Secretary

Following is a list of all records voted on by M.O.R.C. from January through June of 1982. For an explanation of the format and purpose of this report, see the two previous articles on this subject (**Loon** 53:129-131 and 54:42-46).

Records found Acceptable January-

June, 1982:

—Iceland Gull, 1-2 - 1-9-82, Duluth, St. Louis Co. (vote 7-0, **Loon** 54:1,3-4)

—Great Black-backed Gull, 1-3 - 1-9-82, Duluth, St. Louis Co. (vote 7-0) **Loon** 54:66-67)

—Townsend's Solitaire, 12-30-81 - 1-6-82, Duluth Twp., St. Louis Co. (vote 7-0, **Loon** 54:67)

—Yellow-breasted Chat, 6-30 - 7-4-81, Burnsville, Daktoa Co. (vote 6-1)

—Townsend's Solitaire, Nov. 81 - 1-7-82, Bagley, Clearwater Co. (vote 7-0)

—Townsend's Solitaire, 12-19-81, Duluth, St. Louis Co. (vote 5-2)

—Prairie Falcon, 12-9-81, Rothsay W.M.A., Wilkin Co. (vote 7-0)

—Turkey Vulture, 3-1-82, Minnetonka, Hennepin Co. (vote 6-1)

—Ferruginous Hawk, 12-12-81, Clay Co. (vote 4-3)

—Chipping Sparrow, 2-27 - 2-28-82, Golden Valley, Hennepin Co. (vote 6-1)

—Cinnamon Teal, 4-16 - 4-18-82, Swan L., Nicollet Co. (vote 6-1)

—Yellow-throated Warbler, 5-4 - 5-7-82, Wood Lake Nature Center, Hennepin Co. (vote 7-0, **Loon** 54:180)

—Kentucky Warbler, 5-16-82, Bloomington, Hennepin Co. (vote 7-0, **Loon** 54:189)

—Pomarine Jaeger, 5-20-82, Duluth, St. Louis Co. (vote 7-0)

—Prairie Falcon, 5-16-82, Cottonwood Co. (vote 7-0, **Loon** 54:179

—Ferruginous Hawk, 4-24-82, Big Stone N.W.R., Lac Qui Parle Co. vote 7-0, **Loon** 54:179

—Say's Phoebe, 5-22-82, Blue Mounds S.P., Rock Co. (vote 6-1, **Loon 54:188)**

—Arctic Loon, 6-5-82, Upper Rice L., Clearwater Co. (vote 7-0, **Loon** 54: 178)

—Ferruginous Hawk, 4-17-82, Chippewa Co. (vote 7-0)

—Summer Tanager, 5-7-82, St. Louis Park, Hennepin Co. (vote 7-0, **Loon** 54:180)

Records found Unacceptable January-June, 1982:

—Black Vulture, 10-10-81, Upper Mississippi River N.W.R., Houston Co. (vote 5-2, with 7-0 required for acceptance)

A very difficult record to evaluate. Although the observer was experienced with this species from the South and had a close, prolonged look at this individual, the "white underside wing spots" was the only diagnostic Black Vulture field mark observed. The minority was of the opinion that for a first state record more features should have been described, primarily the manner of flight and the head and tail shapes. Also the details submitted were dated one month after the sighting, suggesting the description is too dependent on the observer's memory.

—Ferruginous Hawk, 9-28-81, Wilkin Co. (vote 1-6)

Since the identification was based primarily on the "white with some pinkish" tail and on "white patches on the outer upperwing surface," the possibility of a paler Red-tailed Hawk was not precluded.

—Mew Gull, 9-12-81, Duluth, St. Louis Co. (vote 4-3, with 7-0 required for acceptance)

Another frustrating record to vote on. The observer is known to be careful and experienced, the gull's smaller size was noted in direct comparison with Ring-billeds, and a "plain short yellow bill" was described. However, it was felt that, like the Black Vulture record above, more than just one field mark should be seen (e.g., eye and leg color were not observed). Also the observation was only a few seconds in duration, and this as well was thought to be inadequate for a first state record.

—Prairie Falcon, 9-11-81, Wilkin Co. (vote 1-6)

While the falcon was "large" and was "light brownish" above, no black axillars were seen even though the bird was seen in flight at close range. A size indication like "large" means little without comparison to another species, and the back color does not preclude Gyrfalcon, Merlin or Peregrine which can appear light brown in some cases.

—Black-legged Kittiwake, 11-11-81,

German Lake, Isanti Co. (vote 2-5)

The identification of this adult gull was based on "all black" wing tips, a "yellowish" bill, and "darkish" feet seen in flight. However, sub-adult Ring-billed Gulls also can have solid black wing tips, and the bill and feet colors described are too vague and were only seen while the gull was in flight when such features are difficult to observe.

—Golden-crowned Sparrow, 9-30-81, Lamberton, Redwood Co. (vote 2-5)

Although the observer watched this bird carefully and may well have seen this species, the only description submitted was "a yellow crown stripe with two dark bordering stripes." However, this sketchy description is inadequate for a first state record, and does not entirely eliminate immature White-crowned Sparrow which can have a tinge of yellow on the median stripe.

—Scarlet Tanager, 1-22-82, Cook Co. (vote 0-7)

This was identified as a male Scarlet Tanager because of the "red body and black wings and tail." However, winter males of this species lose their red plumage in winter, and it was thought this bird was probably a Red Crossbill.

—Prairie Falson, 6-30-81, Anna Gronseth Prairie, Wilkin Co. (vote 0-7)

Although the falcon flew directly over the observer at relatively close range, no black axillars were seen. Also the "brown" back and distinct "single black moustache" suggest this was more likely an immature Peregrine.

—Swainson's Hawk,. 1-4-82, Hastings, Dakota Co. (vote 2-5)

The sketch and written description provided by the experienced observer were almost convincing, especially since they included the white wing linings and dark flight feathers. However, the majority felt that this species is extremely unlikely in the northern U.S. in mid-winter (there are no previous acceptable winter records from any northern state). More troublesome is that misidentifications involving this species, even by relatively experienced observers, are frequent, primarily because of the mistaken belief that a Buteo with a dark chest and tail with narrow light bands and a wider, darker sub-terminal band has to be a Swainson's (both these features were described here and may have been overly influential in the observer's identification; Red-taileds can also have dark chests and melanistic Rough-leggeds often have tails as described above). The observer may have correctly identified this bird, but the record would have been more convincing if it were known if the observer was fully aware of the significance of the record and was unduly influenced by the dark chest and the tail pattern.

—Prairie Falcon, 7-30-81, Clear Lake, Sherburne Co. (vote 1-6)

Although it was quite possible the identification was correct, the observer only saw a "sandy colored back" on a "large" falcon while he was apparently driving at highway speeds. Since the black axillars were not seen, since some immature Peregrines can get quite pale brown on the back, and since it is difficult to see birds well and accurately while driving, it was decided to reject this record.

—Turkey Vulture, 2-28-82, Forest Lake, Washington Co. (vote 1-6)

The identification was based solely on the "V" posture of the wings and the "lighter flight feathers" from below, but such a description does not preclude a dark phase Rough-legged or Red-tailed Hawk.

—Broad-winged Hawk, 3-22 - 3-23-82, Wild River S. P., Chisago Co. (vote 2-5)

The majority voted not to accept based on the description of the "distinct whiteness of the breast, body" and "black wrist markings," which the Broad-winged does not have.

—Gray Jay, 3-22-82, Chisago Co. (vote 2-5)

The inexperienced observer sent in a long report of six possible Gray Jays, but the documentation did not describe the birds with any clarity. One Gray Jay south of its normal

range is not all that unusual, but six within a relatively short distance sitting uncharacteristically out in the open along a roadside did not seem plausible to the majority.

—Least Tern, 4-14-82, Lake Cornelia, Hennepin Co. (vote 4-2, with one abstention, and with 6-1 required for acceptance)

This was another difficult decision, with the majority convinced by the description of very small size in comparison with Herring and Ring-billed Gulls standing nearby, the "white foreheads," yellow bills, and "yellowish" legs. However, the minority was bothered by the lack of direct size comparison with other terns, the failure to note black tips to the bills, and the fact that the observer was looking south somewhat into the sun and may not have been able to determine bill and leg color accurately.

—9735 North Shore Dr., Duluth, MN 55804.

WINTER SEASON

(Dec. 1, 1981 - Feb. 28, 1982)

Kenneth J. La Fond

After two relatively mild seasons, the harsh reality of a Minnesota winter was brought home to the writer on January 9 at the Duluth dump. Gull watching with the wind chill index at -84°F. and a 30-40 mile per hour wind moving considerable debris across the landscape was an experience that will not soon be forgotten. Obviously, this season's weather was in sharp contrast to the preceding two years. In early December, from 5" to as much as 14" of snow fell in south and southwestern Minnesota. Temperatures in the southwest dropped as low as -25°F. at Pipestone in mid-December. December 21 saw a warming with highs in the 30's, even in the north. Cold and snow returned shortly thereafter and in early January, low temperatures of -25°F. in the south and -40°F. in the north were not uncommon. On the ninth and tenth, wind chills of -80° to -100°F. were recorded. The Twin Cities set an all-time snowfall record with 17" on January 20 and then again set a new record two days later with an additional 18½". The latter storm was accompanied by thunder and lightning with wind gusts to 60 miles per hour. Temperatures dropped as low as -52°F. at Tower. The latter part of January saw some warmer weather with highs in the 30° to 40°F. range but high winds resulted in blizzard-like conditions. January in Minnesota averaged at least 10 degrees below average. February started out cold with lows of -15°F. in the south and -35°F. in the north. By mid-February, normal temperatures had returned and a warming trend set in by February 15, which resulted in temperatures as high as 70° in the southwestern corner of the state on February 22. The balance of the month was about average.

In spite of the weather, the number of seasonal reports submitted (74) and the total number of species (138) were virtually identical with last year's totals. Reports were reasonably well distributed throughout the state with, of course, concentrations from the Duluth and Twin Cities areas.

Weather notwithstanding, Duluth was again the "hot spot" in the state. Three Gyrfalcons were present in the harbor area, up to six species of gulls, two Varied Thrushes, Townsend's Solitaire and up to a thousand Bohemian Waxwings were some of the more unusual reports. Minnesota's first winter record of a Lincoln's Sparrow was obtained in the southwest region and a Yellow-rumped Warbler again attempted to over-winter in the Twin Cities area.

Taking a cue from Jan Green's summer reports, this year I have plotted all reports for each species on a state map with the county as the basis for the record. Also, more use has been made of the nine geographic regions illustrated in **Minnesota Birds**, 1975 by Green and Janssen. The following report is essentially a summarization of all of these records with virtually all records reported for rare or uncommon species or species that were reported only a few times. Of necessity, the reports are abbreviated and summarized for the more common species. The phrase "throughout the state" should be understood in the context that the species was reported from at least one county in each of the nine regions.

Inasmuch as Cottonwood is in Lyon rather than Cottonwood County, Becker is in Sherburne rather than Becker County, etc., etc., etc., it would be appreciated if future records are reported on a county basis as much as possible.

Common Loon

Three north reports of December migrants: Duluth, until 12-13, M. Carr; Crow Wing, 12-16 (TS); Otter Tail, Star Lake until 12-13 (SDM). Also, an injured individual was found by a roadside in Beltrami on 12-16 (JC). No south reports.

RED-NECKED GREBE

Only report: Duluth, 2-22 (JG).

Horned Grebe

Two reports: a late migrant in Mille Lacs on 12-2 (RBJ) and a January report from Duluth, 1-3 (TS).

Pied-billed Grebe

Three reports: an overwintering individual at Fergus Falls, Otter Tail Co., (SDM) (GMO); one in Sibley Park, Mankato on 12-15 (JCF) and an early migrant in Dakota, 2-25 (RBA).

White Pelican

Three reports: Black Dog, Dakota County until 12-16 (mob), Hastings, Dakota County 12-13 (JD) (same individual?) and one on the Faribault CBC, Rice County. (see Notes of Interest page 181).

DOUBLE-CRESTED CORMORANT

Two individuals remained at Black Dog until 12-19 (Mob).

Great Blue Heron

Four December reports: Otter Tail 12-26 (GMO) in the north and Redwood; 12-26 (LJF); Le Sueur 12-4 (HFC) and Mower; 12-20 (RJ) and 12-21 (RRK).

Whistling Swan

Late north migrants in Bemidji on 12-5 (30) (JP) and 12-6 (AS). In the south migrants were present on the river in Wabasha, Winona and Houston until 12-16 (Mob).

Canada Goose

Two northeast reports: 12-19 Duluth CBC and Lake Co., Two Harbors, 12-14, 4 (SWMS). In the northwest a late migrant was noted in Clay on 12-1 (LCF). In the west central Lac Qui Parle reported "fewer than normal" (CMB) while Fergus Falls had a sharp increase to 6100 overwintering individuals (SDM). Southwest reports from Lincoln and Redwood 12-7, 223 (LJF). Also reported from Stearns, Nicollet

and Martin in the central area, all five Twin Cities counties and Olmsted; 11,000 (FL), Winona and Houston in the southeast.

ROSS' GOOSE

What was most probably an intermediate Ross'/Snow hybrid was reported at Black Dog, Dakota County from 12-12 to 12-14 (mob). Details in the **Loon** 54:105-111.

Mallard

Overwintered in the northeast at Grand Marais, Cook Co. (KMH) and Carlton, Moose Lake 20 (JP). Reported in Lake until 12-14 (SWMS) and at Duluth until 1-12 (KE). Late migrants in the northwest and north central as follows: Pennington 12-6 (SKS), Beltrami 12-5 (JP), 12-6 (AS) and Hubbard 12-4 (HJF). The only other report was of overwintering at Fergus Falls, Otter Tail Co. Also reported from 21 south counties.

Black Duck

Two north reports: overwintered in Cook (KMH) and present in Duluth until 12-13 (KE). Also reported from 12 counties in the southeast quarter of the state.

Gadwall

Reported only from its usual wintering area at the Mill Pond, Scott Co. (mob) with up to 50 in late Feb. (RBJ).

Green-winged Teal

Two reports: Dakota 12-6 (ETS) and Hennepin 2-21 (RBA).

Northern Shoveler

Two reports: Mower 12-27 (RJ) and 12-30, 1-2 (RRK) and Hennepin 2-26 (RBA).

Wood Duck

Overwintered in Otter Tail (GMO). December reports from Anoka 12-24 (OJ) and Nicollet 12-4 (JEF). February reports from Scott 2-14 (ETC) and 2-27 (RBJ), Anoka 2-28 (KL) and Benton 2-20 (RBJ).

Redhead

Two reports of December migrants: Otter Tail 12-9 (SM) and Wabasha 12-21 (WDM).

Ring-necked Duck

Late migrants reported in the north from Beltrami 12-6 (AS), 12-12 (JP) and Crow Wing 12-6 (TS). East central reports from Anoka until 12-25, (OJ) (KL), Ramsey 1-1 (RMH) and Dakota 12-4 (MW). One southeast report from Houston 12-12 (JPAM).

Canvasback

A late migrant in the west central area; Otter Tail 12-9 (SDM) and the southeast; Wabasha 12-2 (WDM) and Houston 12-12 (JPAM). Early migrants also in the southeast; Olmsted 2-28 (3) (BE).

Greater Scaup

Four December reports: Beltrami until 12-6 (AS) and Cook until 12-19 (KMH) in the north and Waseca 12-13 (RBJ) and Houston 12-6 (JPAM) in the south.

Lesser Scaup

The preceding five winters have produced an average of about four reports of this species. This year there were 14. December migrants were recorded in the north from Lower Red Lake, Clearwater 12-4 (KL), Itasca 12-16 fide (TL), Cook until 12-19 (KMH), Duluth until 12-30 (KE) and Mille Lacs 12-2 (RBJ). Late south migrants were noted in Dakota 12-6 (KE), Nicollet 12-4 (JCF) and Wabasha 12-21 (3) (WDM). Three individuals overwintered at Bemidji, Beltrami Co. (AS) (SY) and two Scaup Sp? overwintering at Fergus Falls, Otter Tail were probably of this species. A south report from Olmsted 1-26 (DE) is hard to categorize. Returning migrants were recorded in the southeast and east central in Winona 2-28 (FL), Olmsted (overwintered?) 2-21 (BE), Dakota 2-20 (RBA) and Sherburne 2-27 (SE).

Common Goldeneye

Reported from 22 counties throughout the state with the exception of the northwest and southwest regions. Peak numbers included 835 in Dakota on

12-26 MW) and up to 400 at Harriet Island in St. Paul in late Dec. (KL). At Hastings, Dakota Co. (JD) reported numbers down substantially.

Bufflehead

More reports than usual: late north migrants in Beltrami 12-5 (AS), 12-6 (JP) and Crow Wing 12-6 (TS); south Dec. reports from Dakota 12-6 (KE) (KG), 12-26 (MW) and Houston 12-12 (JPAM). Two overwintered in Otter Tail (GMO) and a female overwintered on the Rum River in Anoka (KL). Three Feb. reports of an early migrant or an undiscovered overwintering female in Dakota from 2-19 to 2-27 (mob).

Oldsquaw

Three Lake Superior reports: Cook, Good Harbor Bay 12-19 (55) (KMH); Lake, Stewart River 1-11 (3) (SWMS) and Duluth 12-3 (1) (KE).

Harlequin Duck

Two reports: Duluth 12-11 a female and an immature male M. Carr and Lake 1-11 an adult male (SWMS).

Ruddy Duck

A late December migrant at Reno, Houston Co. on 12-12 (JPAM).

Hooded Merganser

Four December reports: Beltrami 12-5 (JP), 12-6 (AS) in the north and Dakota 12-6 (ETS), Wabasha 12-23 (WOM) and Houston 12-12 (JPAM) in the south.

Common Merganser

An interesting series of reports from Read's Landing, Wabasha Co.: 12-12 1,000 (WDM); 12-13 35,000 (ETS); 12-14 10,000 (KL); 12-16 200 with the open water area greatly reduced (KL). In the north Dec. migrants reported from Itasca 12-16 fide (TL), Hubbard 12-11 100, 12-14 (2) (HJF), Otter Tail 12-13 (SDM) and Crow Wing 12-2 (RBJ). Overwintered at Duluth (JG). Reported from nine additional south counties. February migrants in Houston 2-28 FL), Lac Qui Parle 2-28 (CMB) and Sherburne 2-15 (EH). In the northeast, Feb. migrants(?) in Cook 2-17 (KMH).

Red-breasted Merganser

Four Lake Superior reports: Cook 12-23 (KMH), Lake 1-11 (SWMS) and Duluth 1-3 (DB) and until 1-6 (KE).

Goshawk

Reported from six north and five south counties including Martin 2-27 (RBJ).

Sharp-shinned Hawk

Four Duluth reports fide (KE) and reports from ten counties in the central, east central, south central and southeast regions.

Cooper's Hawk

Eleven reports: Becker 1-8 (DAJ) and Hubbard 12-27 (HJF) in the north. South reports from Isanti, Anoka, Washington, Hennepin, Blue Earth, Waseca and Winona.

Red-shouldered Hawk

Four reports: Crow Wing 12-19 (TS) in the north and Dakota, Goodhue and Waseca in the south.

Red-tailed Hawk

Reported in 27 counties north to Clay, Otter Tail and Duluth.

Rough-legged Hawk

Twenty-five reports from six north and 15 south counties.

FERRUGINOUS HAWK

This species, which may well be regular in the western regions was reported from Clay 12-12 (LCF).

Golden Eagle

Eight reports: Marshall, fide (SKS) and Becker (TNWR) in the north and Wabasha, Winona and Houston in the southeast (mob).

Bald Eagle

Reports from 19 counties throughout the state with the exception of the northwest and southwest regions. This is about normal countywise but the number of individuals was up sharply, undoubtedly a reflection of this fall's record Hawk Ridge count of 149. De-

pendent on the amount of multiple counting and/or reporting, it appears there may have been about 150-200 individuals in the state at some time during the period. A significant December migration was noted in the Lower Mississippi Valley on 12-14, 15 and 16 when upwards of 75 individuals were counted moving southward (mob). Overwintered in Mankato, **Blue Earth Co.** January reports in the north from Becker, Hubbard and Duluth. Many reports of February migrants including one at nest, Reno, Houston Co. on 2-20 (FL).

Marsh Hawk

Only report: Nicollet 12-6 (LAF).

GYRFALCON

One in Wadena 2-21, D. Oehlenschlager; details in the **Loon** 54:132 and present in Duluth for the fifth year in a row, this time three individuals. **Two** were banded by Dave Evans on 1-28 with at least one remaining into early March and one was trapped by a falconer in Dec., all fide (KE).

PRAIRIE FALCON

Reported from Rothsay, Wilkin Co. 12-9 (SDM).

Merlin

Three northwest and one northeast reports this season: Marshall 2-13 D. Warner; Pennington 2-6 (SKS); Clay 1-27, 2-7 (LCF) and Duluth until 12-10, M. Kohlbry, D. Evans.

American Kestrel

Reported from 34 counties throughout the south, Pennington and Clay in the northwest, Beltrami in the north central and Pine in the east central.

Spruce Grouse

Only report: Cook, Lima Mountain Road, four on 2-16, T and H Hallett.

Ruffed Grouse

Reported from 18 counties throughout its range. Numbers reported down in Itasca (MS) and up in Winona and Houston (FL).

Greater Prairie Chicken

Two reports: Marshall 12-30 (SKS) and Clay 12-13 (GO) (SDM).

Sharp-tailed Grouse

Five reports from Beltrami, Aitkin and Carlton.

Ring-necked Pheasant

Reported from 36 counties throughout the state except the northeast region. The north central report was from near Bemidji (SY) and the northeast report from Duluth. After the record snow falls, late January brought concentrations of 200+ near the Anoka County Airport. By mid-February they were hard to find.

Gray Partridge

Reported from 20 counties from the west, central, south central and southeast regions including a first ever report from the Sand Prairies in **Wabasha** (DWM).

Turkey

Reported from Whitewater and Reno, Houston Co., in the southeast.

SANDHILL CRANE

A report from Polk, sec. 23, T149N, on 12-17 constitutes one of the very few winter records for this species (MH).

American Coot

Eighteen overwintered in the west central at Fergus Falls, Otter Tail (GMO), and December report from Anoka 12-6 (KL), Scott 12-29 (KL) and Dakota 12-6 (KE) (TL). A February report on 2-27 from Dakota (KG).

Killdeer

Reported only from Houston on 2-28 (FL) with the notation "may have overwintered."

Common Snipe

December reports from Dakota 12-21 (MW) and Le Sueur 12-4 (HFO). A January report from Houston 1-11 (EMF).

Glaucous Gull

In the northeast; Lake Superior re-

ports from Cook until 12-9 (KMH), Lake 12-23 (KL) and Duluth up to 10 until 1-9 (KE) (mob). In the east central up to three at Black Dog, Dakota from 12-13 until 12-20 (mob).

ICELAND GULL

Two in the Duluth area until 1-9, details in the **Loon** 54:3-4.

GREAT BLACK-BACKED GULL

Minnesota's third state record: an individual at the Duluth dump from 1-3 until 1-9 (mob); details in the **Loon** 54:66-67.

Herring Gull

Late inland north migrants in Itasca 12-16 fide (TL) and Mille Lacs 12-5 (KL). Lake Superior reports from Grand Marais, Cook County until 1-27 and 2-17 on (KMH); Lake 1-11 and 2-20 (SWMS) and Duluth where there were 552 on the CBC, 300 at the dump until 1-9 and returning migrants showed up on 2-23 (KE).

Thayer's Gull

Duluth reports of up to six individuals until 1-9 (mob) and a report from Black Dog, Dakota on 12-2 and 12-11 (RBA).

Ring-billed Gull

Four north reports: late migrants from the north central region in Beltrami 12-6 (AS) and Crow Wing 12-2 (RBJ), Otter Tail 12-12 (GMO) in the west central and Duluth, one remained until 1-7 (mob). Five December reports in the east central and southeast from Anoka, Ramsey, Dakota and Goodhue with the latest on 12-20.

BONAPARTE'S GULL

Very late migrants from Mille Lacs Lake; 12-2 Crow Wing (60) and Mille Lacs (10) (RBJ) and Mille Lacs 12-6 (21) (TS). Latest dates on record.

Rock Dove

Reported from 53 counties throughout the state including an Anoka report of one on nest 12-20 and one young out of nest 1-3 (SC).

Mourning Dove

Late migrants (?) in the northwest from Kittson 12-3 (KL). The north central Beltrami 12-4 (KL) and Itasca no date (TL). Other north reports from Duluth 31 on CBC and Otter Tail overwintered (SDM). Also reported from 16 counties throughout the south half of the state including an overwintering flock of 160 at the Carpenter Nature Center in Washington Co. (mob).

Screech Owl

Reported from Scott in the central zone and Redwood, Cottonwood, Martin, Fillmore and Houston in the south zones. Also, a verbal report from J. Gislason that the species was present along East River Road, St. Paul, Ramsey Co. throughout the season and has been continuously observed in the area for the past several years.

Great Horned Owl

Reported from 28 counties throughout the state.

Snowy Owl

Reported from ten counties in the north and central zones south to Big Stone, Wright and Washington. In Duluth about 15 overwintered and a peak of 23 was noted in mid-February, all of which were banded by Dave Evans, fide (KE).

Hawk Owl

Two reports: Itasca 12-18 until 12-28 (TL) and Carlton 1-3 (DB).

Barred Owl

Reported from 23 counties throughout the state except the southwest region.

Great Gray Owl

Eleven north reports from Becker, Beltrami, Itasca, Aitkin, St. Louis, Lake and Cook. One south report from Stillwater, Washington Co. 2-16 (RBA).

Short-eared Owl

One in Aitkin on 2-9, fide (WN).

Long-eared Owl

One in Washington on 2-8 (DS).

Barred Owl, Excelsior, Hennepin County, February 1982. Photo by Sam Wakefield.

Boreal Owl

Four winter reports: Hubbard 12-30 (DAJ), Tofte, Cook Co 2-13 (dead), T. Biebighauser, Duluth 2-14 (dead). K. Sundquist and near Lutsen, Cook Co, 2-25, 2-27, T. Biebighauser.

Saw-whet Owl

Four north reports from Marshall 1-15 (KSS), Hubbard 1-26, 2-20 (DAJ), Cook 1-1 (SL) and Proctor, St. Louis Co. 1-31, injured, K. Sundquist. East central reports from Ramsey, Carver and Dakota (RBA) and a southeast report from Houston (JPAM).

Belted Kingfisher

North reports from Otter Tail, overwintered (SDM) (GMO) and Duluth 12-22, fide (JG). A southwest report from Redwood; until 12-26 (LJF) and 10 reports from the Twin Cities area southeastward.

Common Flicker

Three north reports: Otter Tail, overwintered (GMO), Polk 12-17 (MH) and Duluth until 12-30, fide (KE). Reported from 13 counties throughout the south.

Pileated Woodpecker

Reported from 31 counties throughout the state.

Red-bellied Woodpecker

Reported from 13 counties throughout the south half of the state. Five north reports: **Pennington** 12-6 (KSS), Clay 12-7 until 2-22 (LCF), Aitkin 12-19 (WN), Duluth 12-20 (LE) and Pine no date (TP).

Red-headed Woodpecker

Reports from Anoka, Nicollet, Blue Earth and five southeast region counties.

Hairy Woodpecker
Reported from 41 counties throughout the state.

Downy Woodpecker
Reported from 40 counties throughout the state.

Black-backed Three-toed Woodpecker
Reported from Cook, Lake and St. Louis in the northeast and Anoka 12-12, Bunker Hills Park (SC), and Carlos Avery 1-17 (KL) in the east central.

Northern Three-toed Woodpecker
Reported from Cook 12-14, Poplar Lake (KMH) and a most unusual report of one from 12-29 on the Carpenter Nature Center in Washington Co. (mob). This represents the most southerly occurrence recorded in the state.

Horned Lark
Reported from 47 counties throughout the state. Overwintered in Clay, Sherburne, Cottonwood, Olmsted, and Martin. Early migrants on 1-31 in Anoka in the south and Polk in the north.

Gray Jay
Reported from eight counties south to Aitkin and west to Roseau.

Blue Jay
Reported from 52 counties throughout the state.

Black-billed Magpie
Reported from Kittson, Marshall, Red Lake, Polk and Becker.

Common Raven
Reported from 12 counties south to Pine and west to Becker and Pennington.

Common Crow
This year's most widely reported species: 59 counties throughout the state. Overwintered in Marshall (KSS) and Grand Marais (KMH) but missing in Duluth from 1-11 until 2-21 (JG).

Black-capped Chickadee
Reported from 52 counties throughout the state. The Duluth CBC recorded 1202.

Boreal Chickadee
Reported from Cook, Lake, St. Louis, Itasca, Beltrami and Roseau.

Tufted Titmouse
Four reports from Houston County.

White-breasted Nuthatch
Reported from 46 counties throughout the state.

Red-breasted Nuthatch
Reported from 22 counties throughout the state except for the northwest and central regions.

Brown Creeper
Reported from 19 counties north to Beltrami.

MOCKINGBIRD
One reported on the Duluth CBC.

Brown Thrasher
Two feeder reports: Finland, **Lake Co.** until 1-10 (SWMS) and a December report from Bloomington, Hennepin Co. (RBA).

American Robin
Eighteen reports from 15 counties. December reports from Pennington, Polk, Otter Tail, Duluth, Lac Qui Parle, Nicollet and Le Sueur. Overwintered in Hennepin. January reports from Itasca, Hubbard, Crow Wing and Otter Tail. February reports from Ramsey, Dakota, Redwood and Fillmore.

Varied Thrush
One or two individuals in Duluth from about 12-19 until 1-1 (mob). Four RBA reports: Isanti, no date; Anoka, mid Dec.; Hennepin, five days in Dec. and Kandiyohi, January.

TOWNSEND'S SOLITAIRE
Present in Duluth from 12-30 until 1-6 (KE) (mob); details in the **Loon** 54:67.

Golden-crowned Kinglet
Only five reports: Becker and Duluth in the north and Anoka, Hennepin and Wabasha in the south.

Bohemian Waxwing
Thirteen reports from Polk, 100's (RBA), Beltrami, Clay, Otter Tail, Crow Wing, Duluth, peak of 1000 on 1-3, scarce by mid Feb. (KE), Lac Qui Parle 12-18 (CMB) and Washington.

Cedar Waxwing
Reported from 14 counties north to Polk, Beltrami and Duluth.

Northern Shrike
Reports of about 135 individuals from 37 counties throughout the state.

Starling
Reported from 51 counties throughout the state including an overwintering record from Cook (KMH).

YELLOW-RUMPED WARBLER
An **Audubon's** race individual at a Hennepin County feeder from 12-26 until 1-16, details in the **Loon** 54:133.

House Sparrow
Reports from 51 counties throughout the state; absent from Cook after 12-31 (KMH).

Western Meadowlark
Individuals that undoubtedly represent this species were reported in Red Lake 12-18 (SKS), Polk 12-17, D. Svdarsky, and Swift 12-19 (RBJ). Unidentified meadowlarks also reported in December from Wabasha, Faribault, Mower and Houston. Also, a Houston report from 1-6 (EMF).

YELLOW-HEADED BLACKBIRD
A Dakota RBA report and an individual overwintered at a Hennepin County feeder, details in the **Loon** 54:135.

Red-winged Blackbird
Reported from 13 south counties including 1,552 in Houston on 12-19 (JPAM). One December report in the north, Crow Wing 12-2 (RBJ) and three north February reports; Becker 2-2 (TNWR), Hubbard 2-23 (HJF) and Beltrami 2-18 (JP).

Rusty Blackbird
December reports from Swift, Lyon and Redwood. February reports from Houston, Mower, Nicollet and Pennington 2-27 (SKS).

Brewer's Blackbird
Only report: Blue Earth 12-17 (MJF).

Common Grackle
Overwintered in Cottonwood and Murray. December and January reports from 16 additional south counties. In the north, an individual remained in Cook until 12-19 (KMH), Otter Tail on 12-27 (SDM) and migrants (?) in Pennington on 2-15, 2-21 (SKS).

Brown-headed Cowbird
December reports from Dakota and Blue Earth. February reports from Redwood, Murray and Houston.

Cardinal
Reports from 22 counties north to Otter Tail 1-11 until 1-26 (GMO); Duluth, three December reports; and Lake, a female at Finland until 12-12 (SWMS).

ROSE-BREASTED GROSBEAK
One reported at a Crookston feeder, **Polk** County, in December, T. and S. Wolfe, fide (KE).

Evening Grosbeak
Reported from 13 north and 12 south counties, including Swift, Lac Qui Parle, **Cottonwod** and **Martin.**

Purple Finch
Reported from 21 counties north to Pennington and Duluth.

Pine Grosbeak
Reported from 19 counties northeast of a line from Kittson to Dakota.

Hoary Redpoll
A major invasion year. Forty-one reports from 11 north and 11 **south** counties throughout. Distributionwise, this season was about on par with the invasion of 1977-1978; however, this year seemed to have more individuals with several reports of up to five at once.

Hoary Redpoll, Aitkin, Aitkin County. Photo by Warren Nelson.

Common Redpoll
Widespread and numerous reports from 48 counties throughout the state, including Pipestone where the species was last recorded in 1974, Johanna Pals.

Pine Siskin
About average with reports from 29 counties throughout the state.

American Goldfinch
Reported from seven north and 26 south counties.

Red Crosbill
Reported from five northwest counties; Beltrami in the north central and Duluth and Lake in the northeast. South reports from Hennepin, Dakota and Le Sueur.

White-winged Crossbill
A slight increase over last year; 23 reports from 13 counties south to Mower, Blue Earth and Martin.

RUFOUS-SIDED TOWHEE
Three feeder reports: Duluth 1-9, fide (KE); Ramsey, mid January and Hennepin, mid February, fide (OJ).

VESPER SPARROW
A report from Otter Tail; 12-13 (SDM); very few winter records for this species.

Dark-eyed Junco
Reported from eight north and 29 south counties.

Tree Sparrow
Reported from 23 south counties and Clay, Otter Tail and Duluth in the north.

Harris' Sparrow
Reported from Swift, Lac Qui Parle, overwintered (AFE), Murray and Cottonwood in the southwest quarter of the state. Also, a northeast report at a Duluth feeder, 12-27 until 1-5 fide (KE). A south central report from Le Sueur, 1-9, 1-11 and 2-4 (HFC).

White-crowned Sparrow
One report: Ramsey 12-12 (BL).

White-throated Sparrow
One at a Duluth feeder 12-30, fide (KE) and a Nicollet report on 12-4 (JCF).

Fox Sparrow

One at a Duluth feeder on 12-1 and 12-2 (LE) and another at an Edina, Hennepin County feeder on 2-23 (RBA).

LINCOLN'S SPARROW

Minnesota's first winter record was found on the Cottonwood CBC. Details in the **Loon** 54:66.

Swamp Sparrow

One report of an injured individual, at a Mower Co. feeder in December (RRK).

Song Sparrow

December reports from Renville 12-4 (FKS); Redwood 12-26 (LJF); Goodhue 12-5 (DS) and Wabasha 12-23 (DWM). A January report from Otter Tail 1-9 (GMO) and an overwintering report from Edina, Hennepin Co. (RBA). A Mower Co. report with no date given (RRK).

Lapland Longspur

Reported from Lac Qui Parle, Redwood, Cottonwood, Nicollet, Anoka, Olmsted and Mower in the south. North reports from Clay 12-6 (LCF); Pennington, abundant from first week of January until last week of February (SKS) and Beltrami 2-24 (DAJ).

Snow Bunting

Reported from 41 counties throughout the state including 1500 in Aitkin 1-26 (SKS).

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Ken and Molly Hoffman (KMH)
Robert and Michael Holtz (RMH)
James L. Howitz (JH)
Robert B. Janssen (RBJ)
Robert Jessen (RJ)
David A. Johnson (DJ)
Oscar L. Johnson (OJ)
Ron and Rose Kneeskern (RRK)
Erlys Krueger (EK)
Kenneth J. La Fond (KL)
Tim Lamey (TL)
Violet Lender (VL)
Fred Lesher (FL)
Bill Litkey (BL)
William H. Longley (WL)
Sandy Lunke (SL)
Don and Wynn Mahle (DWM)
Steve and Dianne Millard (SDM)
Clare Mohs (CM)
Karen Murray (KM)
Warren Nelson (WN)
Gary and Marion Otnes (GMO)
Jeffrey S. Palmer (JP)
Jon Peterson/Ann McKenzie (JPAM)
Terry Peterson (TP)
Terry Savaloja (TS)
Alan Schmierer (AS)
Madeline Schuller (MS)

Gary Simonson (GS)
Dave Sovereign (DS)
Evelyn T. Stanley (ETS)
Shelley and Keith Steva (SKS)
Forest and Kirsten Strnad (FKS)
Tamarac National Wildlife Refuge (TWR)
Terry Wiens (TW)
Steve Wilson/Mary Shedd (SWMS)
Mark Wright (MW)
Steve Young (SY)

ADDITIONS, CORRECTIONS AND DELETIONS

Additions: Black-backed Three-toed Woodpecker present fall of 1980, spring and fall of 1981, Cook (KMH). Boreal Chickadee present spring and fall of 1981, Cook (KMH).

Corrections: **Loon** 53:198, Belted Kingfisher early north 3-20 Aitkin should be changed to 4-20. **Loon** 53: 194, Common Snipe early south 3-27 Mower should be changed to Dakota. **Loon** 54:131, Whimbrel and Mockingbird should have been 5-31, 1981, Cook (KMH).

Deletions: **Loon** 54:121, Western Sandpiper, St. Louis 8-9. **Loon** 54:127, Chestnut-sided Warbler, 10-10, Ramsey. **Loon** 53:205, Pine Grosbeak, Dakota, 3-29. **Loon** 54:118, Ferruginous Hawk, 9-20 Wilkin (KSS).

FIELD IDENTIFICATION OF THE FERRUGINOUS HAWK

Kim R. Eckert

The Ferruginous Hawk is a very rare or casual visitant in Minnesota, with almost all the acceptable records from the western part of the state during migration. There is difficulty, however, in trying to determine the exact status of this species in Minnesota because of the problems involved in its identification. The main problem involves distinguishing the Ferruginous from paler Red-tailed Hawks which are unfamiliar to less experienced observers but which are of frequent occurrence in western Minnesota. This identification problem is perhaps best illustrated by the number of Ferruginous Hawk records voted on by the Minnesota Ornithological Recoords Committee (M.O.R.C.). Since 1978, M.O.R.C. has completed votes on 18 reports of this species, and no fewer than seven of them have been found unacceptable. Only a few other species have been documented as often for M.O.R.C., but none of them have been found unacceptable with such frequency.

But the Ferruginous Hawk should be expected to occur with some regularity in western Minnesota since the species is relatively common in the Dakotas as close as 100 miles west of

the Minnesota border. During the summer of 1982 I observed several Ferruginous Hawks in the Jamestown, N.D. area, and based on these observations primarily I have reached some conclusions that will hopefully simplify the problem of identifying this species. To illustrate the field marks which are and are not diagnostic, I present below several statements which might appear in descriptions submitted to M.O.R.C. Pretend for the moment that you are a M.O.R.C. member and vote either acceptable or unacceptable on each statement — acceptable means the details are diagnostic Ferruginous Hawk field marks; unacceptable means the details are either inadequate for a conclusive identification or indicate something other than a Ferruginous Hawk.

1) "This Buteo looked larger and appeared to have a longer wing-span than any Red-tailed Hawk I've ever seen."

2) "The tail at a distance appeared all white. When I got closer, I could see the tail was really pink above, pure white at the base, and all white underneath."

3) "Like it says in Peterson's Western field guide, there was a white patch on the upper surface of each wing."

4) "When the hawk took off and circled around, I could see a distinct white patch on the outer primaries near the wing-tips. This patch was on top of the wing, was a long, narrow oval or rectangle in shape, and was aligned parallel to the body."

5) "On the upper surface of each wing, there was a rectangular or oval white patch on the flight feathers. This patch was on the inner primaries, and perhaps faded a bit into the secondaries and outer primaries."

6) "This Buteo was really white. In flight the undersides of the hawk were almost all white, except for the black wing-tips. There was no belly band of streaks visible like a Red-tailed Hawk has. When the hawk banked, I could see the head was very light and there were several whitish areas on the back and wings."

7) "When the hawk was perched I could see what looked like rusty shoulder patches on the wings, and when the hawk flew I could see the reddish brown color extend onto the back."

8) "As the hawk flew overhead, the legs were dark in color, and contrasted with the generally white underparts."

9) "In flight, the hawk glided with its wings held above the horizontal in a slight dihedral, and a few times it stopped to hover for several seconds like a Rough-legged Hawk."

10) "This hawk was perched quite close to me at eye level, and the legs were feathered their entire length. However, they didn't appear dark or rufous at all. Also there was no rufous on the shoulders or back."

11) "This dark-phase Buteo flew overhead: its wing-linings were uniform blackish-brown, its flight feathers and tail were white, and its head, breast and belly looked all reddish brown."

The "correct" votes on each statement follow:

1) Unacceptable, unless this is an expert on hawk identification. While it is true a Ferruginous has a longer body and a greater wing-span than a Red-tailed Hawk, such differences in size and shape are difficult to determine without direct comparison between species. Also, the Red-tailed has broader wings than the Ferruginous, and thus can appear "larger"; furthermore, a hawk's wing profile can change depending on the wind conditions and on whether the bird is leisurely circling or flapping vigorously.

2) Unacceptable. While adult Ferruginous Hawks have white or light reddish or white-and-pink tails, so do paler Red-taileds. Even "typical" Red-tailed Hawks have a lot of white at the base of the tail. It is also important to note that the color or pattern of the underside of a Buteo's tail can be misleading since it might be different than the upper surface in some spe-

cies (e.g., most immatures, pale Red-tailed, Swainson's, dark-phase Rough-legged).

3) Unacceptable. This is by far the biggest problem with reports of Ferruginous Hawks. Many observers are aware of the white wing patch of this species, but not many are aware that many Red-taileds, mostly immatures, also can have distinct wing patches on the upper surface. The key is to note where exactly on the wing the patch is located. See (4) and (5) below.

4) Unacceptable as a Ferruginous, acceptable as a Red-tailed. This patch lies near the tips of the **outer primaries,** tends to be long and narrow in shape, and is generally parallel to the body. See the sketch below.

5) Finally, an acceptable Ferruginous Hawk description! This species' patch is wider than the Red-tailed's, but more importantly it is located on the **inner primaries.** Sometimes the patch extends into the other flight feathers (usually the secondaries) where the white gradually fades out. See the sketch below.

6) Unacceptable. Again such a description can match paler Red-taileds, which can lack the characteristic belly band of this species. It is true that a Ferruginous has a whitish head which typically stands out in contrast with the darker back and wings, but a whiter Red-tailed Hawk also has a whiter head, although this does not contrast with the rest of the light plumage. Also note that even darker "typical" Red-tailed Hawks have irregular spots and patches of white on their back and wings, often a very useful field mark on perched birds.

7) Acceptable. Although immature Ferruginous Hawks generally lack any rusty coloration, adults seen in decent light and at a reasonable distance clearly show such rufous plumage which the Red-tailed lacks. When a Ferruginous shows off its rufous wing coverts or shoulders, it is quite possible to mistake it for a Red-shouldered Hawk.

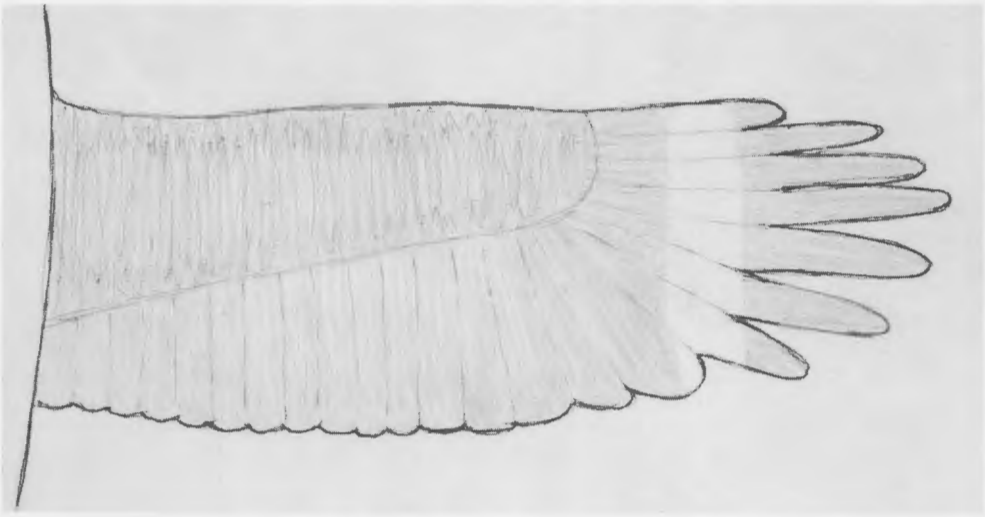
8) Acceptable, of course. A Buteo with brown or rufous feathered legs contrasting with whitish underparts is, as any field guide reader knows, a Ferruginous. However, as pointed out in (10) below, it is important to remember that a Buteo with light colored legs can still be a Ferruginous.

9) Unacceptable. Many observers are under the impression that a hovering Buteo or one that glides with its wings held up in a V like a Marsh Hawk has to be a Rough-legged or a Ferruginous. But Red-taileds often fly in these same ways. As pointed out in (1) above, a hawk's wing profile and position can change with the wind and with how the bird is flying.

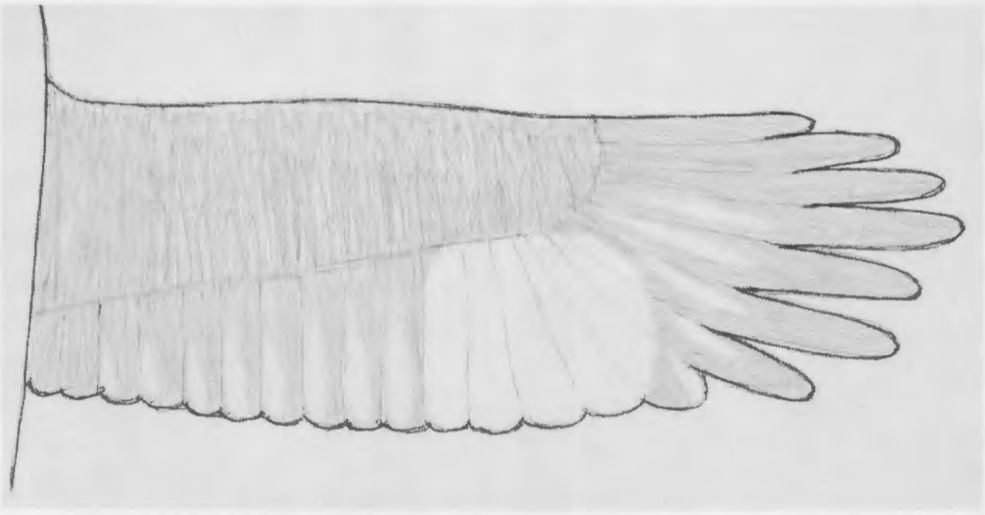
10) Acceptable, as long as it isn't a Rough-legged. Only the Ferruginous and Rough-legged have legs feathered their entire lengths. The lack of dark color on the legs does not preclude Ferruginous since many immatures and some adults have light legs or have legs only lightly barred with brown or rusty. Also, immature Ferruginous Hawks usually have brown backs and shoulders, and do not acquire much in the way of rufous plumage on back, wings or tail until their second year.

11) Acceptable as one of those scarce and beautiful dark-phase Ferruginous Hawks. That red, black and white Buteo I once saw in western South Dakota was the most striking and colorful Buteo I have ever seen.

To summarize, if you see a large Buteo with a long wing-span, white or pink tail, white head, white underparts, and a white patch on the upper surface of the wings, and gliding with its wings held in a dihedral, you may well be looking at a Ferruginous Hawk — but then again it may still be a Red-tailed. Look then for the dark legs or for the rufous back and shoulders to prove it a Ferruginous. But even if it's one of those light-legged Ferruginous Hawks with no rufous anywhere, it's simply a matter of noting exactly where the wing patch is: on the outer primaries near the wingtips = Red-tailed, on the inner primar-



Red-tailed Hawk upper wing surface
(Note: not all Red-tailed Hawks have a wing patch)



Ferruginous Hawk upper wing surface

ies = Ferruginous.

And how did you do on the quiz?

— 11-9 correct: Apply for immediate membership on M.O.R.C.

— 8-6 correct: Your next Ferruginous Hawk report will be accepted by a 7-0 vote.

— 5-3 correct: Admit it, you've had a Ferruginous turned down by M.O.R.C. before.

— 2-0 correct: Come on up to Hawk Ridge and we'll start you out on adult Bald Eagle identification. (But don't forget to resign from M.O.R.C. first!)

—9735 North Shore Dr., Duluth, MN 55804.

THE 1981-82 MINNESOTA CHRISTMAS BIRD COUNTS

Kim R. Eckert

Although this writer may be biased, most impartial observers would have to agree that Duluth's effort of 56 species was quite an achievement. Not only was this the highest CBC total of the year, but it was also up in northern Minnesota, not where one would expect the best variety of winter species. Also, 56 is the second highest species total ever in the state; the record of 59 was set the previous year by both St. Paul and St. Paul Northeast, and each of these CBCs again tied this year at 50, good for third place behind Bloomington's 52 species.

A total of 43 CBCs reported in this season, the most ever in Minnesota. Big Stone N.W.R., however, was conspicuous by its absence; this CBC had been submitting consistently good totals over the years. To compensate, new efforts came from Baudette and Grand Rapids, while remote Voyageur's N. P. again checked in after a year's absence: Mark Johnson's party snowshoed around Shoepack L. all day to record a Goshawk, two ravens, two chickadees and a Pine Grosbeak! Of these 43 CBCs, 38 were submitted for publication in **American Birds.** Among these, Faribault reappears in that publication after several years' absence, and it would be nice if their example were followed by currently "unofficial" Baudette, Cedar Lake, Lamberton, Mankato and Voyageurs.

After two relatively snowless CBC seasons, this year's counts all had snow cover without exception. Temperatures were also decidedly winterlike, with a mere 29° the maximum on any count (Bloomington on Dec. 26). Meanwhile the new crew at Baudette had the coldest weather with a low of -30° and a high of only -16° on Jan. 3. Most Minnesota CBCs choose the first available Saturday for their efforts, figuring to find the most birds and the least cold. Normally that logic is valid, but this season Dec. 19 was about the coldest day of the CBC period, especially in usually balmy southwestern Minnesota where Lac Qui Parle began the day with -21° and ended with a high of +2°.

A composite total of 113 species was tallied on all the CBCs, one of the highest totals ever, and among these were several outstanding finds. In the Crookston CBC circle a Rose-breasted Grosbeak survived at a feeder, and two days before their count a very late Sandhill Crane was spotted. The Cottonwood CBC recorded a Lincoln's Sparrow in a barnyard, the latest date ever for this species by over a month. The sick White Pelican found at Faribault resulted in three letters trying to sort out its origin and fate: first it was considered wild and countable; then it was caught and sent to the Rapto Rehabilitation Clinic for treatment, where word was received a pelican had escaped from the Minnesota Zoo in December, that this was probably the bird and that it should not be counted; then the bird was turned over to the zoo who declared this was not their pelican, resulting in Faribault's White Pelican being reinstated in their total. (And after all that the pelican later died.) Probably the first documented

CBC record of a Greater Scaup in Minnesota was received from Grand Marais. Most exciting was that Northern Three-toed Woodpecker wandering all the way south to the Carpenter Nature Center in the Hastings-Etter circle. Also stirring things up at Hastings was a carefully-described but only possible Swainson's Hawk — this record could have probably been accepted if there wasn't such a long history of Buteos being misidentified as Swainson's in winter in the northern U.S. A more satisfying hawk record was the Gyrfalcon in the southern part of the state at Cedar Creek Bog. A Gyr was also recorded at Duluth, where three Thayer's Gulls, a Mockingbird, and a mountain ash tree hosting a Townsend's Solitaire and two Varied Thrushes simultaneously were found. A St. Paul Northeast feeder performed above and beyond the call of duty with both a Brown Thrasher and a Varied Thrush. Both a Yellow-rumped Warbler and a male Yellow-headed Blackbird were found at Excelsior. Grand Rapids made an impressive debut with a Great Gray Owl and the only Minnesota Hawk Owl record of the winter. Finally, six out of every seven birds counted at Rochester was a Canada Goose — a record 30,000 at Silver Lake were counted somehow.

To conclude this summary, it must be reluctantly reported that too many undocumented and dubious records were reported on several CBCs. A few questionable reports each year are to be expected, but this past CBC season saw an unprecedented number of undocumented rarities. Some of the best (or should I say worst) examples: a count of 111 Song Sparrows, "Red-shafted" Flickers on two CBCs, Golden Eagles on three CBCs (they are regular only on the Wabasha count), several Brewer's Blackbirds including a tally of 13 on one CBC, a White-fronted Goose, and a Great Gray Owl on a southern Minn. CBC. There was also a CBC which tried to include a Common Loon and a Whistling Swan, even though both birds had been recently found injured elsewhere and released within this count's circle. While it is true that all of the birds above may have been correctly identified (well, almost all — I'm still trying to figure out what all those Song Sparrows really were), they are still unexpected rarities which require details. Minnesota has an admirable tradition and reputation for accurate and well-documented bird records, and all CBC compilers and participants have an important role in this.

Afton

41 species (40 in Minn.), 5910 individuals, Boyd Lien compiler, Jan. 1, 1982; noteworthy — Whistling Swan, 2 Tufted Titmice.

Albert Lea

36 species, 2404 individuals, Charles Howard compiler, Jan. 3, 1982; noteworthy — 10 Rusty Blackbirds, Song Sparrow.

Aurora-Hoyt Lakes

22 species, 890 individuals, Chuck Neil compiler, Dec. 20; noteworthy — ad. Bald Eagle, Brown Creeper.

Austin

40 species, 3743 individuals, Terry Dorsey compiler, Dec. 20; noteworthy — Great Blue Heron, Northern Shoveler, imm. Bald Eagle, Ruffed Grouse, American Robin, meadowlark, sp., Swamp Sparrow.

Baudette

15 species, 336 individuals, Martin Kehoe compiler, Jan. 3, 1982; noteworthy — Sharp-tailed Grouse, Black-billed Magpie, Dark-eyed Junco.

Bemidji

32 species, 2145 individuals, Eric Nelson compiler, Dec. 19; noteworthy — 2 Bald Eagles, Northern Three-toed Woodpecker, Black-billed Magpie, American Goldfinch, 40 Red Crossbills, count-week American Kestrel.

Bloomington

52 species, 10,242 individuals,

Thomas Bloom compiler, Dec. 26; noteworthy — 2 Great Blue Herons, Bufflehead, Hooded Merganser, Sharp-shinned Hawk, 2 Bald Eagles, Ring-billed Gull, 17 American Robins, 9 Brown-headed Cowbirds, White-winged Crossbill, White-throated Sparrow.

Cedar Creek Bog, Anoka Co.
35 species, 3591 individuals, Helen Lien compiler, Dec. 20; noteworthy — Great Blue Heron, **Gyrfalcon,** 12 Golden-crowned Kinglets, 1103 Common Redpolls.

Cedar Lake, Scott Co.
27 species, 2261 individuals, Robert Leis compiler, Dec. 19; noteworthy — Canada Goose, Song Sparrow.

Cottonwood
37 species, 3287 individuals, Paul Egeland compiler, Dec. 19; noteworthy — 85 Gray Partridge, 6 Screech Owls, American Robin, Western Meadowlark, Rusty Blackbird, 2 Harris' Sparrows, **Lincoln's Sparrow.**

Crookston
29 species, 2562 individuals, Thomas Feiro compiler, Dec. 19; noteworthy — American Kestrel, 54 Greater Prairie Chickens, Black-billed Magpie, American Robin, Cedar Waxwing, Common Grackle, **Rose-breasted Grosbeak,** 40 Red Crossbills, Dark-eyed Junco, count-week **Sandhill Crane.**

Crosby
32 species, 1979 individuals, Jo Blanich compiler, Dec. 19; noteworthy — Wood Duck, Red-bellied Woodpecker, Golden-crowned Kinglet, Hoary Redpoll, American Goldfinch, Tree Sparrow.

Duluth
56 species, 11,114 individuals, Kim Eckert compiler, Dec. 19; noteworthy — Canada Goose, Lesser Scaup, Red-breasted Merganser, **Gyrfalcon,** 3 Glaucous Gulls, **3 Thayer's Gulls,** 31 Mourning Doves, Common Flicker, Black-backed Three-toed Woodpecker, Gray Jay, 1202 Black-capped Chickadees, 6 Boreal Chickadees, 67 White-breasted Nuthatches, **Mockingbird,** 2 Varied Thrush, Townsend's Solitaire, Golden-crowned Kinglet, 10 Northern Shrikes, Cardinal, 11 American Goldfinches, 28 Red Crossbills, Tree Sparrow, White-throated Sparrow, count-week Red-bellied Woodpecker.

Excelsior
45 species, 7601 individuals, Phyllis Pope compiler, Jan. 2, 1982; noteworthy — Gadwall, Wood Duck, Red-shouldered Hawk, 2 Bald Eagles, American Coot, **Yellow-rumped Warbler,** Song Sparrow, count-week Varied Thrush and **Yellow-headed Blackbird.**

Fargo-Moorhead
41 species (38 in Minn.), 8935 individuals, Ron Nellermoe compiler, Dec. 19; noteworthy — Red-bellied Woodpecker, American Robin, Rusty Blackbird, 112 American Goldfinch, 12 Red Crossbills, 65 Dark-eyed Juncoes, count-week Cardinal, Prairie Falcon and Harris' Sparrow in N.D.

Faribault
43 species, 2112 individuals, Orwin Rustad compiler, Dec. 19; noteworthy — **White Pelican,** 2 Common Snipe, Brown-headed Cowbird, Song Sparrow.

Fergus Falls
44 species, 8755 individuals, Paul Anderson compiler, Dec. 19; noteworthy — 2 Pied-billed Grebes, 6100 Canada Geese, Canvasback, Lesser Scaup, Bufflehead, 20 American Coot, American Robin, Song Sparrow, count-week Ring-billed Gull and Red-bellied Woodpecker.

Grand Forks-East Grand Forks
31 species (14 in Minn.), 7552 individuals, Frank Kelley compiler, Dec. 19; noteworthy — American Robin, Cedar Waxwing, Short-eared Owl in N.D.

Grand Marais
29 species, 1713 individuals, Molly Hoffman compiler, Dec. 19; noteworthy — **Greater Scaup,** 55 Oldsquaw, Common Flicker, Black-backed Three-toed Woodpecker, 11 White-breasted

Nuthatches, Red-winged Blackbird.

Grand Rapids
26 species, 937 individuals, Tim Lamey compiler, Dec. 19; noteworthy — ad. Bald Eagle, Hawk Owl, Great Gray Owl, count-week Brown Creeper.

Hastings-Etter
36 species (34 in Minn.), 2763 individuals, Joanne Dempsey compiler, Jan. 3, 1982; noteworthy — Sharp-shinned Hawk, 5 Bald Eagles, **Northern Three-toed Woodpecker.**

Hibbing
21 species, 1356 individuals, Janet Decker compiler, Dec. 27; noteworthy — American Robin, 12 Dark-eyed Juncoes, count-week Great Gray Owl.

Itasca State Park
16 species, 529 individuals, Dave Bosanko compiler, Dec. 31; noteworthy — Canada Goose.

Lac Qui Parle
35 species, 1977 individuals, Micki Buer compiler, Dec. 19; noteworthy — 11 Bald Eagles, 7 Bohemian Waxwings, count-week Saw-whet Owl.

La Crosse-La Crescent
48 species (33 in Minn.), 6551 individuals, Fred Lesher compiler, Dec. 19; noteworthy — Sharp-shinned Hawk, 17 Pileated Woodpeckers, 1553 Red-winged Blackbirds, 12 Brown-headed Cowbirds.

Lamberton
32 species, 2058 individuals, Lee French compiler, Dec. 26; noteworthy — 84 Gray Partridge, Long-eared Owl, American Robin, Rusty Blackbird, Harris' Sparrow.

Mankato
35 species, 2807 individuals, Merrill Frydendall compiler, Dec. 19; noteworthy — Canada Goose, 2 Bald Eagles, American Robin, White-throated Sparrow.

Marshall
30 species, 2329 individuals, Henry Kyllingstad compiler, Dec. 20; noteworthy — Great Blue Heron, Rusty Blackbird.

Minneapolis
43 species. 8341 individuals, Oscar Johnson compiler, Dec. 19; noteworthy — Ring-necked Duck, Bufflehead, Goshawk.

Mountain Lake-Windom
34 species, 4665 individuals, Edna Gerber compiler, Jan. 1, 1982; noteworthy — Canada Goose, Bald Eagle, **305** Gray Partridge, Harris' Sparrow, Song Sparrow.

Owatonna
39 species, 3240 individuals, Darryl Hill compiler, Dec. 19; noteworthy — Canada Goose, Sharp-shinned Hawk, Snowy Owl, White-throated Sparrow, Song Sparrow.

Rochester
43 species, 35,062 individuals, Vince Herring compiler, Jan. 2, 1982; noteworthy — 30,000 Canada Geese, 6 Snow Geese, Sharp-shinned Hawk, Bald Eagle, American Robin.

St. Cloud-Collegeville
36 species, 2633 individuals, Donald Rubbelke compiler, Dec. 19; noteworthy — 2 Marsh Hawks, Gray Jay, American Robin.

St. Paul
50 species, 12,770 individuals, Kiki Sonnen compiler, Dec. 19; noteworthy — Lesser Scaup, Hooded Merganser, 2 Bald Eagles, American Coot, Common Snipe, Brown Thrasher, Hermit Thrush, 11 American Robins, 2 White-winged Crossbills.

St. Paul Northeast
50 species, 9958 individuals, Persis Fitzpatrick compiler, Jan. 2, 1982; noteworthy — Wood Duck, 4 Sharp-shinned Hawk, Red-shouldered Hawk, 3 ad. Bald Eagles, 4 Common Snipe, Brown Thrasher, Rusty Blackbird, count-week Varied Thrush.

Sherburne N.W.R.
19 species, 571 individuals, Katie Miller compiler, Dec. 19; noteworthy

— no Starlings or House Sparrows!?

Voyageurs N. P., St. Louis Co.
4 species, 6 individuals, Mark Johnson compiler, Dec. 28; nothing noteworthy (but always a noteworthy effort here).

Wabasha
45 species, 7197 individuals, Don Mahle compiler, Dec. 23; noteworthy — 242 Canada Geese, 4000 Mallards, Redhead, Hooded Merganser, Sharp-shinned Hawk, 11 ad. Bald Eagles, ad. Golden Eagle, Song Sparrow, count-week Canvasback.

Walker
26 species, 945 individuals, Harold Hanson compiler, Dec. 19; noteworthy — 3 Bald Eagles, Black-billed Magpie, Brown Creeper, American Robin, Red-winged Blackbird, 14 American Goldfinch.

Warren
28 species, 4698 individuals, Gladwin Lynne compiler, Jan. 3, 1982; noteworthy — Merlin, American Kestrel, 87 Gray Partridge, 6 Black-billed Magpies, American Robin, Hoary Redpoll, 17 Red Crossbills, Dark-eyed Junco, 1336 Snow Buntings.

Wild River, Chisago Co.
34 species, 2675 individuals, Tom Anderson compiler, Jan. 2, 1982; noteworthy — ad. Bald Eagle.

Willmar
34 species, 831 individuals, Ben Thoma compiler, Jan. 4, 1982 (? - outside the legal count period); noteworthy — Ring-necked Duck, imm. Bald Eagle.

Winona
37 species (31 in Minn.), 5234 individuals, Howard Munson compiler, Jan. 2, 1982; noteworthy — Canada Goose, Common Snipe, Brown-headed Cowbird.

— 9735 North Shore Dr., Duluth, MN 55804.

Worm-eating Warbler, Wood Lake Nature Center, Richfield, Hennepin County, 8 May 1982. Photo by Warren Nelson.

DOWNY WOODPECKERS – A MISSING LINK IN A FOREST DISEASE LIFE CYCLE?

[1]Michael E. Ostry, [2]Kathleen Daniels and [3]Neil A. Anderson

During a study on **Hypoxylon** infection of aspen and the role of insects and woodpeckers in this process, we found circumstantial evidence that Downy Woodpeckers (**Dendrocopos pubescens**) may be involved. **Hypoxylon** canker, caused by the fungus **Hypoxylon mammatum,** is one of the most serious diseases of quaking aspen (**Populus tremuloides**) in Minnesota, Wisconsin and Michigan. Infected trees are girdled and killed, usually within five years (Anderson and Anderson 1979). How the fungus enters trees and spreads through an aspen stand is unknown and remains an obstacle to the control of this disease.

Wounds are known to be necessary for infection and insect wounds may be important infection sites (Graham and Harrison 1954, Nord and Knight 1972, Anderson et al. 1979). Graham et al. (1963) reported that some insect larvae bore into and around cankers and one unidentified insect species in particular feeds on infected tissues. Woodpeckers often search out these larvae for food and woodpecker injury is common on cankered portions of trees. But the literature gives no indication that woodpeckers are either directly or indirectly involved in the infection of other trees.

Insects make up 76 percent of the diet of downy woodpeckers (Bent 1939). Specific prey include wood-boring larvae, adult beetles, weevils, ants, and small Homopterans (Solomon 1969, Williams and Batzli 1979). Kilham (1970) found that downy woodpeckers concentrate on trees with a high density of prey. He consistently found them in stands of paper birch (**Betula papyrifera**) infested with bark beetles but did not find them in the surrounding healthy trees. He concluded that the birds were attracted by specific visual characteristics of the infested stands; e.g., crooked or leaning trees, broken branches, old wounds, branch stubs, and the like. Resonance when probing on a larval gallery (Marshall 1967) and visual detection of roughened and discolored surfaces (Kilham 1970, Jackson 1979) are also thought to be methods used by woodpeckers to locate prey.

Birds shift their foraging locations and techniques as prey availability changes seasonally and may use subsurface foraging methods in the winter as opposed to surface gleaning in the summer (Jackson 1970). Travis (1977) found that although no tree species was preferred for foraging in the summer, rough-barked trees that serve as overwintering sites for larvae were preferred in the winter. Birds forage on large trunks and branches in severe weather, apparently to avoid exposure to wind (Grubb 1975).

Birds can spread plant pathogens. Warner and French (1970) report that birds can carry fungal spores, arboviruses, and plant pathogenic bacteria. In their study, Common Grackles (**Quiscalus quiscula**) were experimentally found to transfer rust spores

(**Puccinia coronata**) from infected to healthy oat seedlings. Further, spores applied to the feathers of birds were recovered in good condition from three to 45 days later, indicating that spores could be carried long distances before infecting other plants. Spores of the chestnut blight fungus (**Endothia parasitica**) have been reported to be carried by birds (Heald and Gardner 1914, Gravatt and Marshall, 1926, Baxter and Strong 1931). Birds also play a role in the spread of dwarf mistletoe, a parasitic plant of black spruce and many pine species. The sticky mistletoe seeds adhere to foraging birds and may be carried long distances and deposited on trees when birds preen their feathers (Zilka and Tinnin 1976,

Downy Woodpecker

Ostry and Nicholls 1979, Hudler et al. 1979). Otvos (1979) suggested that birds can affect insect populations by altering their microhabitat. This results when birds flake off and puncture bark creating entry points for wood decay fungi. These alterations may also provide favorable conditions for other tree diseases to become established.

Materials and Methods

Beginning in 1966, a plantation of aspen in which trees were planted annually at 3.05 x 3.05 m spacing was established at Rosemount, Minnesota. Presently, the plantation consists of more than 600 trees that range in height from 0.3 to 10 m. The 1 ha plantation is surrounded by agricultural fields. The nearest wild aspen are 0.8 and 3.7 km away, and only the latter stand has trees infected with **Hypoxylon.** Fresh insect oviposition wounds on plantation trees were tagged in the summers of 1978-1980 and closely observed thereafter. Occurrences and origin of new **Hypoxylon** cankers, insect injuries, and woodpecker injuries to trees were recorded. To determine the frequency of woodpecker use during 1980, tarps were placed on the ground around six trees with main stem cankers to catch bark and chips of wood removed from the cankered stems. Drawings of the cankers showing regions of woodpecker attack were made twice monthly between September 30, 1980, and July 27, 1981.

Results

Branch galls caused by the poplar gall saperda (**Saperda inornata**) were first detected on plantation trees in 1973, and the trees are now heavily infested (Fig. 1). To date, 95 percent of new **Hypoxylon** infections originated in these galls. Evidence of woodpecker attacks on galls was first noted in 1976 (Fig. 2). Since then, downy woodpeckers have frequently been observed foraging on branches and probing and pecking at saperda galls (Fig. 3). Of 2,738 oviposition wounds tagged between 1978 and 1980, 2,409 galls developed and 1,412 (59 percent) of these showed evidence of woodpecker injury. Of 1,837 galls that developed from tagged oviposition wounds in 1978 and 1979, 25 (1 percent) became

infected with **Hypoxylon** and 18 (72 percent) of these had evidence of woodpecker injury before a canker was visible. In 1980, 130 of 158 (82 percent) newly infected galls had woodpecker injury.

Figure 1 — Saperda galls on aspen branch

Solitary male woodpeckers have been seen most often, however, solitary females have also been observed foraging in the plantation. It appears that the characteristic shape of the gall is a visual cue because birds most often land directly adjacent to a gall, inspect it for larvae, and rapidly hop or fly to another gall. Woodpeckers repeated this activity many times on a single tree before flying to the next tree. Much of this pecking is exploratory. We have seen fresh probe marks on galls from which larvae had previously been removed and on galls only partially formed when young larvae had died. Pecking wounds were not observed on oviposition scars

Figure 2 — Woodpecker injury on gall

where galls did not develop because eggs were either not fertile or were parasitized. Woodpeckers spend only a few seconds tapping on galls without larvae and up to 30 seconds on galls that are torn open to extract larvae. Most foraging on galls is done from September through May before adult beetles emerge. In May 1979, birds were observed foraging on galls on lower-most branches that had been covered by snow and unavailable to them earlier.

Evidence of woodpecker foraging on

Figure 3 — Downy woodpecker foraging on gall

Figure 4 — Hypoxylon canker face after woodpeckers have removed wood-boring larvae

canker faces was most frequent between December 1980 and January 1981. Less foraging was evident after this period, although some foraging did occur during most months of the study period. Extensive gouging of cankered wood was noted where wood-boring larvae were removed (Fig. 4). Deep gouges (from 7 to 28 cm across) were common near the center of cankers and smaller holes (usually less than 1 cm across) were present near canker margins. Woodpecker foraging on one canker during January dislodged 34 grams of infected wood and bark tissues. On two occasions, a downy woodpecker was observed foraging on a canker face prior to probing on saperda galls in adjacent trees.

Discussion

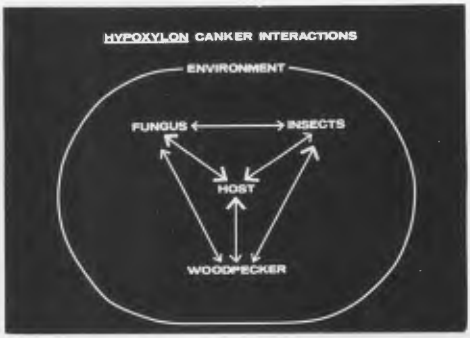
Adult **Saperda** beetles lay eggs in aspen branches usually less than 15 mm in diameter during June and July. Larvae hatch in about two weeks and feed on surrounding woody tissues, boring tunnels under the bark and around the stem. A globose gall forms on the stem at the point of this boring. Larvae bore toward the center of the gall enlarging the tunnel at the end of summer. There they pupate and overwinter. To escape, the following spring adults chew a round exit hole in the side of the gall.

Hypoxylon is a wound parasite and can infect aspen trees through saperda galls. After infection, the fungus may gradually grow down the branch and into the main stem of the tree where it can eventually girdle and kill the tree above the girdled portion (Fig. 5). Galls usually become infected within two years after they develop. Airborne spores of the fungus may be responsible for infection, however, the hole through which borings are ejected and the exit hole are small targets for spores to enter and may, in part, ac-

Figure 5 — Stem canker that resulted from infected branch gall

count for the reason that only 18 percent of the infected galls from 1978 through 1980 were unwounded. Woodpecker injury on galls appears to enhance the likelihood of infection because 82 percent of the infected galls had woodpecker wounds. Probing by the birds increases the number of wounds in which spores may land on each gall. In extracting the insects from galls, birds enlarge openings into the tunnels of the gall where spores could land, germinate, and eventually cause a canker.

In addition to creating favorable conditions for infection by airborne spores, woodpeckers may actually carry the fungus to the wounds they make in galls. Foraging for insects on cankered tree stems brings birds into contact with infected bark and wood tissues and spores that may adhere to their bill and be transferred to other trees when the birds forage on galls.



This may be a rare occurrence, especially in aspen stands with a low incidence of infestation of these insects. However, in stands or plantations where this insect is present in large numbers, downy woodpeckers concentrate their prey-searching activities, as in the Rosemount plantation, and may indeed play a role in the disease life cycle. Although they may be directly or indirectly responsible for infection of some aspen, the role downy woodpeckers play in reducing the population of a damaging insect may outweigh its possible harmful effects.

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AN INVASION OF BOREAL OWLS

Kim R. Eckert

Between November 1981 and April 1982, a total of 39 migrant and winter visitant Boreal Owls were reported in Minnesota. Not included in this total are the few heard and seen inland in Cook County in spring which were probably in potential nesting territories. As indicated on the map, all but three of these were reported from Duluth and along the North Shore of Lake Superior. Also note that 36 of the 39 owls were found from Feb. 13 to Apr. 10, with the bulk of these occurring between early March and early April; the other three occurred Nov. 3-4 (two banded at Hawk Ridge in Duluth) and Dec. 30 (one at Park Rapids). It is also interesting, and somewhat distressing, that 25 of the 39 were either found dead from apparent starvation, or were picked up injured from presumed collisions with vehicles. Probably many of the other 14 owls were also in poor condition but did not appear to be so to the observers.

Previous small influxes of Boreal Owls have been documented in Minnesota as follows: nine recorded along the North Shore Feb. 15 - Mar. 21, 1963 (**Flicker** 35:70-71); 15 reports along the North Shore Jan. 16 - Apr. 6, 1966 (**Loon** 38:45); and 11 seen (seven of these in southern Minn.) Jan. 9 - Apr. 21, 1969 (**Loon** 41:39). By far the largest invasion in Minnesota, or perhaps anywhere, occurred during the winter of 1977-78 when 66 individual Boreal Owls were found, most of these along the North Shore in February and early March (**Loon** 50:63-68). That invasion was truly spectacular, not only because of the unprecedented number of owls, but also because of the ease birders had in locating owls since so many uncharacteristically were active in midday and remained in one place for days at a time, and because there was an accompanying invasion of 200+ out-of-state birders from throughout the country to witness the event.

Although the number of Boreal Owls this past winter approached the magnitude of 1977-78, the characteristics of this invasion were closer to those of the earlier, smaller invasions: the owls were difficult to find, they primarily were active only at dusk or at night, almost all of the owls found could not be relocated on subsequent days, and the majority of the owls were found dead or under apparent stress from hunger. It is not surprising that this invasion mostly occurred toward the end of a severe winter when prey becomes difficult to find and most of the owls are apparently driven south and concentrated along the North Shore. It is interesting to note, however, that the bulk of this invasion began in March, somewhat later than the previous invasions. Most significant were the observations of Tom Martinson of Little Marais who reported a Boreal Owl with another dead Boreal in its talons, and who received a report of one Boreal Owl unsuccessfully attacking another Boreal. Also, Tom observed an owl feeding on the relatively large flying squirrel, although this is not unprecedented as evidenced by the flying squirrel remains found in the 1978 Boreal Owl nest in Cook County (**Loon** 51:25-26), and by the Boreal seen with a squirrel in the Yukon in 1981 (**American Birds** 35:318).

I especially thank Tom Martinson who provided me with details of 12 Boreals in the Beaver Bay - Little

Marais area and Tom Biebighauser who documented nine records in the Taconite Harbor - Lutsen area. Others reporting records to me included: Barb Akre, John Eaton, Dave and Molly Evans, Koni Sundquist and others in the Duluth area, D. J. Johnson in Park Rapids, Audrey Evers in Aurora, Bill Peterson in Grand Marais, Sandy Lunke in Hovland, and Janet Green (Pequot Lakes record).

—9735 North Shore Dr., Duluth, MN 55804.

ARCTIC LOON IN CLEARWATER COUNTY — On 5 June, 1982, we took 30 members of an ornithology class (University of Minnesota, Extension) on an afternoon field trip to Upper Rice Lake, about 16 km NNW of Itasca State Park, in southern Clearwater Co. This is a large (about 6 km^2) but shallow, eutrophic lake, bordered with cattails that extend in patches far from shore. Shortly after we arrived at the southern shore of the lake, one student discovered a loon in the water about 250 m from us and 150 m from shore. We routinely glanced at it through binoculars but quickly realized it was not a Common Loon. We could clearly see very pale gray on the back of the head and neck, extensive white on the back, and a black throat. Five telescopes (20 to 45 power) were then trained on the bird, and we took turns watching it for the next 45 minutes. For the first half hour, the loon was diving repeatedly, apparently feeding, and spent only an estimated 10 seconds per minute on the surface. During the final 15 minutes of observation, it had mostly ceased diving and was resting and preening, and when we left it was still in the same general location. Everyone in class had ample time to study the bird. The weather was clear, about 75°F, and the mid-afternoon sun was behind us. Lighting conditions were near perfect, although the south wind was very strong and gusting. The loon's most prominent field mark was the very pale ashy hindneck and back of the head, which graded into black on the face and chin. The throat, seen from many angles and in full sun, was black, while the upper back was strongly barred with white. Through the telescopes, we could plainly see a large patch of vertical white lines on each side of the neck bordering the throat. The bill was slender, relatively short, straight, and held horizontally. The loon's size was difficult to estimate since there were no other birds nearby, but it appeared noticeably smaller than a Common Loon. While viewing it through the telescopes, we consulted two different field guides, which confirmed beyond any doubt that we had found an Arctic Loon in breeding plumage. Three specimens (Alaska, Manitoba) in adult (definitive) nuptial plumage were examined two days later from the

Bell Museum of Natural History collection (there are no Minnesota specimens). Our bird appeared indistinguishable from these. Arctic Loons were unreported in Minnesota prior to 1969, but since then there have been a number of sightings, most from Lake Superior and most in winter plumage. Eckert recently (**Loon** 52:59-61, 1980) reviewed the status of this species in Minnesota, and reported judgments by the Minnesota Ornithological Records Committee on these sightings. Of the records published or on file at that time, five were discounted for various reasons, leaving seven acceptable ones. Since Eckert's review, there have been three sightings (Loon 53:219, 230; 54:116) in addition to ours. Currently there are 11 state records: six from Lake Superior and five inland. There are also several recent Lake Superior records from adjacent Wisconsin (Amer. Birds 33:178). Although identification of individuals in winter plumage remains problematic, at least four Minnesota sightings, including ours, have been of birds in the distinctive nuptial plumage. **Bruce A. Fall and Kimm J. Hamann, Bell Museum of Natural History, University of Minnesota, Minneapolis, MN 55455.**

PRAIRIE FALCON AND CATTLE EGRET IN COTTONWOOD COUNTY — Returning from the MOU Spring Meeting at Mountain Lake, on Sunday, 16 May 1982, we drove past Pat's Woods (shown on the field trip map), then went a mile and a half east on a county road. We saw a hawk coursing back and forth at low altitudes over a meadow. It then flew toward us, passed at about 50 meters and 20 meters height. It flew rapidly and we noted the pointed wings, light head and back, nearly pure white underparts and dark axillars. It did not have a strongly marked "moustache." We saw the bird for only about two minutes but we had 8x binoculars on it the whole time and the light was excellent. I am familiar with the Prairie Falcon, having seen it frequently in western Dakotas, Utah, and New Mexico, and I am confident that is what we observed. Resuming our trip westward on Minn. Highway 62, we saw a lone white heron standing by the fence at the edge of the right of way and in a wet meadow. We stopped on the highway shoulder about 20 meters from the bird and noted its stout yellow bill, short neck for a heron, darkish legs and lack of any rusty plumage. We are sure it was an immature Cattle Egret. Later we learned that Dr. Kenneth Peterson and Stell, who were ahead of us, had also seen the bird. **Henry Kyllingstad, 206 6th St., Marshall, MN 56258.**

FERRUGINOUS HAWK AND SNOWY EGRET AT BIG STONE DAM — On Saturday, 24 April 1982, Jean Replinger, Don and Sandy Maronde, Bob and Jody Bystrom, and I made an unofficial visit to Salt Lake. Low water level required the use of a telescope to identify shore birds. Most of the "Peeps" were present, also a few Dunlin, both Semipalmated and Piping Plovers, no American Avocets but a few Wilson's Phalaropes and we heard a Marbled Godwit. We then headed for the Bigstone Refuge where the auto tour produced little until we reached the dam. A large buteo flew in from the south, circled and banked several times, giving us good views of upper as well as underparts. The underparts were almost pure white except for a narrow dark trailing edge of the primaries and a dark rusty V formed by its legs. The upper parts were rufous, the wings had light windows near their tips, head much lighter than the back, and the tail showed only a little rusty color. We confirmed our identification of the bird as an adult Ferruginous Hawk by consulting both Robbins and Peterson guides. The mid afternoon light was very good and we watched the bird for several minutes with 8x40

and other binoculars as it approached from Lac Qui Parle and circled northward over Big Stone County. Almost simultaneously with the sighting of the hawk we saw a small white heron fishing among the rocks below the south side of the dam. We all observed the bird with binoculars and 25x scopes noting its slenderness, its all black, slender beak, and black legs with yellow feet which were plainly visible even without glasses as it was less than thirty meters away. This Snowy Egret finally flew off to the eastward, staying on the Lac Qui Parle side of the river. **Henry Kyllingstad, 206 6th St., Marshall, MN 56258.**

YELLOW-THROATED WARBLER AT WOODLAKE NATURE RESERVE — At approximately 7:30 in the morning of May 4, 1982, I sighted a Yellow-throated Warbler near the entrance to the Woodlake Nature Reserve in Richfield. Perched in a willow tree on the west side of the main building I saw a warbler with a clear yellow throat and a white belly. The bird had a white line over the top of the eye and a verticle white "ear patch" on an otherwise dark head. I watched the bird for several minutes from various angles and listened to its song which I did not recognize. Finally, the bird flew off into a large stand of trees to the west. Several hours later I found the warbler again in the same tree. I was able to show the bird to Vic Lewis and Evelyn Stanley, who confirmed that it was indeed a Yellow-throated Warbler. Several employees of the nature center also viewed the warbler. **Jamie Love, 2731 Pillsbury Ave. S., Apt. 304, Minneapolis, MN 55408.**

Editor's Note: Many observers were able to see the above mentioned Yellow-throated Warbler. The bird remained in the area at least till May 7.

SUMMER TANAGER AT WESTWOOD NATURE CENTER — On May 7, 1982 at 1 p.m. my husband, Ted, and my daughter Barb Hanson, and I were birding at Westwood Hills Environmental and Educational Center in St. Louis Park. We walked down to the beginning of the trail around the lake below the center when I saw a flash of red in a tree ahead of me. Having just heard a Cardinal sing, I rasied my binoculars expecting to see one but was surprised to find that the bird I was looking at was something quite different. The sun was shining brightly, revealing a bird the size of a tanager, its entire head, upper breast, back and tail down to the tip a radiant rosy-red — the lower breast and belly a bright yellow with patches of green on the sides and wings. The bill was yellow. We consulted Robbins Birds of North America for identification. Having no black on its wings or tail we eliminated the Scarlet Tanager but since the book did not contain a drawing of the immature Summer Tanager we couldn't come to any definite conclusion. Erick Olson, a naturalist at the nature center, brought down a Bushnell Spacemaster 20 power scope. With that and our 7x35 Bushnell Instafocus custom binoculars we had excellent viewing as it sat in full sunlight, occasionally moving about from one branch to another, but returning to an open space on a branch about 25 yards away. We watched it for over half an hour. An hour later we had the opportunity to use Peterson's new "Field Guide to Birds of the Rockies" and found that his drawing of the immature Summer Tanager very closely resembled the bird we had just seen. At about 5 p.m., Pat Parker, manager naturalist, saw this bird a short distance from the center building and confirmed our identification of an immature Summer Tanager. **Phyllis Lindquist, 5650 Zealand Ave. No., #6, New Hope, MN 55428.**

A DECEMBER WHITE PELICAN — On December 19, 1981, an ailing White Pelican was observed and captured on the frozen Cannon River just below Dundas, Rice County, Minnesota. The temperature was sixteen below zero, Farenheit. A report of a White Pelican sighting had been circulating among birders in Northfield for several days, but nobody had had the time to hike through the heavy snow along the Cannon with its uncertain early-winter ice to check the sighting out. I suppose none of us quite believed it. December 19 was the day of our Christmas Bird Count. Mid-afternoon found three of us walking north on the Cannon, which was now much firmer. Renner Anderson of Minneapolis, who had joined us for the afternoon, Gene Bauer of Northfield, and I spotted the pelican looking very thin and miserable, standing on the ice next to the last tiny bit of open water. It walked drunkenly away as we approached but was unable to fly. We surrounded it and threw a coat over it. Since it appeared that the bird would not survive another day on the river, we decided to take it up to the Raptor Research and Rehabilitation Center at the St. Paul campus of the University of Minnesota. A call to Dr. Pat Redig confirmed that the Center would accept this non-raptor. Renner Anderson and his family got the pelican to the Center by about 5 p.m. Subsequently we learned that the bird was not injured but was carrying a heavy load of ice in its wings. After several days of rest, warmth, and a delousing, the pelican was turned over to the Minnesota Zoo in Apple Valley. The people at the Zoo had recently had one of their White Pelicans fly the coop, but they determined that our Rice County bird was not the one from the Zoo. Ours had no callouses on its feet, a feature that the Zoo birds get from walking around on the paved surfaces at the Zoo. The pelican appeared to do well for several weeks at the Zoo, but in mid-January it stopped eating and a few days later it died. An autopsy was performed but no obvious cause of death could be determined. Despite this sad ending, the pelican's very late sojourn in Rice County had some positive results. The story was picked up in the Northfield and Faribault newspapers and received a good deal of attention. People would ask me for weeks afterward, "How's our pelican doing?" The incident helped make people aware of the diversity of bird life to be found in our area and publicized the Christmas Bird Count and the Raptor Center. **Kirk Jeffrey, 506 E. 7th St., Northfield, MN 55057.**

GYRFALCON RECOVERY FROM WEST CENTRAL MINNESOTA — On April 17, 1982, members of The Nature Conservancy's prescribed burn crew recovered the carcass of an immature gray-phase Gyrfalcon that had been killed along Minnesota Highway 55. The exact location was about two miles west of Paynesville, on the north shoulder of Highway 55, about one-half mile east of the intersections of Hwys. 4 and 55, at the Kandiyohi-Stearns Co. line. The carcass was flexible and only partly scavenged, indicating that it had been recently killed. In the absence of other signs, it is presumed that the bird was struck by traffic. The tail-to-bill length was 22". Because of the partly scavenged condition, a study skin was not possible, however, the skeleton has been added to the collection at the Bell Museum of Natural History and the feathers donated to the Raptor Rehabilitation center at the University of Minnesota. **Jeff Weigel and Jim Evans, The Nature Conservancy, 328 E. Hennepin Ave., Minneapolis, MN 55414.**

ANOTHER LYON COUNTY SUMMER TANAGER — On the evening of 8 May 1982 we received a telephone call from Mrs. Elaine Bicek of Tracy informing us that an all red bird had been seen daily since May 6th at

the farm home of Larry and Marjorie Fischer one mile north of Tracy on County Highway 11. She was sure it was a Summer Tanager. We drove down on the afternoon of the ninth, did not see the bird though it had been there in the morning. The Fischers gave a very clear and thorough description of the bird and its actions, leaving no doubt that it was, indeed, a male Summer Tanager. Larry's brother, Dale Fischer, took several photographs of the bird with a Canon camera with a 600 mm Sigma mirror lens and 2x tele-extender. On June 3rd we saw the photos and Mr. Fischer gra-

Summer Tanager, Lyon Co., May 1982. Photo by Dale Fischer.

ciously allowed us to have the best one which we are submitting with this account for the MOU permanent files. On our return from the MOU outing at Mountain Lake we learned that Mr. Duane Herrick, a competent observer who lives beside Minn. Highway 23 just south of Lynd, had been trying to get in touch with us. He reported that an all red bird, which he described in almost the same words used by the Fischers, had appeared at his place on Friday, May 14, and remained until Sunday morning. All observers mentioned that the lower back and flanks were more orange than the head and upper back and breast. We suspect the same bird was seen at both places. **Henry C. & Gertrude L. Kyllingstad, 206 6th St., Marshall, MN 56258.**

NESTING HAWK OWLS IN LAKE OF THE WOODS COUNTY — In June 1980 I was mowing the yard at our vacation home in Spooner Township (Section 31) of Lake of the Woods County, when I noticed what I thought to be a hawk sitting on a power line over our abandoned barnyard. We had spent less than a month at the farm since we had purchased it a year earlier, and figured it was just another local bird we could add to our farm

Hawk Owl, Lake of the Woods Co., June 1980. Photo by Martin Kehoe.

list. We live and work in northern Illinois, so we were used to seeing birds we didn't recognize up here on our farm. Using the old Peterson guide and looking at it with binoculars and a 15x tripod mounted scope, we were sure it was a Hawk Owl. All week long as I worked, the Hawk Owl hunted. It would swoop down from the wire and get mice within 20 feet of where I was working. It finally dawned on me that it was getting more rodents than it could possibly eat itself. I discovered that after each catch, it would fly three quarters of a mile across the neighbors field to a small woods behind his farm buildings. Picking out a landmark, I went over there to try and find a nest. I had no luck until I saw it return with food and then another adult joined it. They sat in a tree content to let

Hawk Owl nest tree, Lake of the Wood Co., June 1980. Photo by Martin Kehoe.

me look until I headed toward the pastured portion of the woods. I started using their actions as a gauge as to how close to the nest I was. Soon I had it narrowed to three trees. As I tried to climb the nest tree, the adults started to dive at me. The nest was in a crevice of a wind damaged popple tree about 12 feet off the ground. When I looked in, all I could see was small gray owl bodies. I thought probably six or seven. I tried taking pictures, but the diving adults forced me to hold the camera above the nest with one arm and hang onto my perch with the other. As a result, I only have a corner of the bundle of young in my picture. Since the Peterson guide said they nested in northern Canada, I decided to report this to the DNR. Unfortunately the wildlife man wasn't in, and the forestry personnel told me that they have a lot of Hawk Owls in the area. I made the mistake of believing them and didn't pursue it any further. The first week of August brought us back to our farm. Now there were Hawk Owls all around the house. We tried to get a count as they flushed across a break in the trees of the windbreak. We counted as many as six, but were never sure if we had counted them all. When we came back in October, they were gone and I haven't seen any since. **Martin Kehoe, 9484 Yale Bridge Road, Rockton, Illinois 61072.**

Editor's Note: The above statement made by DNR personnel that "they have a lot of Hawk Owls in the area" may conceivable apply to rare occasions in the winter when an invasion of Hawk Owls occurs in Lake of the Woods County. This is not true of the summer months in Minnesota. The above report of a nest of the Hawk Owl is only the fifth documented finding of a nest or breeding evidence for the Hawk Owl in Minnesota. The other nesting

reports are from Norman County (1884), Roseau County (1906), St. Louis County (1963, **The Flicker** 35: 129-134) and a nest with seven young found in Aitkin County on May 9, 1980 (**The Loon** 53: 138). Potential breeding season observations have been made in the following counties: Stearns, Ramsey, Koochiching, Itasca, Beltrami, St. Louis and Cook.

AN EXCEPTIONALLY LATE BROOD OF RUFFED GROUSE — In the evening of September 20, 1981, John Buskala of Cloquet brought me to an active, live Ruffed Grouse chick that he had heard "peeping" and captured while hunting near Floodwood earlier in the day. He could not find the remainder of the brood so presumably this chick had become separated from the rest of the family. This chick was no more than 24 hours old. It weighed 5.9 grams, showed no evidence of elongation of the earliest developing remiges, and upon dissection, was found to have a yolk mass in its abdomen approximately 1 cm in diameter. It was determined to be a female. The gizzard contained a tightly packed wad of insect remains about 5 mm in diameter. The heads of ants were the only identifiable remains. Back-dating events, incubation of the clutch from which this chick hatched would have begun about August 28, and if there were as many as eight eggs in the nest, laying would have commenced approximately 12 days earlier, or on August 16. This episode raises several questions which I won't attempt to answer. One of the most perplexing concerns the interval between the time of mating and egg laying. Did this hen retain viable sperm from a normal late April or May copulation until mid-August? Most, if not all, male grouse enter into their annual molt by the 2nd week of June and this should be associated with a cessation of spermatogenesis. At this latitude in Minnesota the peak of the Ruffed Grouse hatch is between June 5 and 10, with some renesting birds hatching chicks as late as early July. A review of the age distribution of chicks trapped at Cloquet in the fall and shot by hunters across Minnesota (as determined from the state-wide collection of wing and tail material from 1958 to 1980) suggests that late hatched chicks have little likelihood of surviving the winter. So even though Ruffed Grouse hens may renest and finally produce a brood in late June or early July, this second effort appears to be for naught, from the standpoint of benefit to the population. **Gordon W. Gullion, Forest Wildlife Project, University of Minnesota, Cloquet, MN 55720.**

WHITE-EYED VIREO IN HOUSTON COUNTY — On Saturday, May 15, 1982, we were enjoying some rare sunshine on our usual morning walk when we were alerted by a clear but unusual bird song sounding from the brush along the roadside. After some searching, we found a small bird flitting in the brush, pausing occasionally to sing the unique song we'd heard. It finally came out into the open and perched on a bare branch only 10 to 15 feet away from us and in the sunshine. We could see clearly the yellowish "spectacles," the double wing bars, the olive back and head, and the wash of yellow on its sides contrasting with the white of its breast and throat. At first glance we thought it looked as though it had a fine white eye-ring, but upon checking it more closely with our binoculars, we could see that instead it was a white iris, Having seen a White-eyed Vireo in Virginia when we were visiting our daughter there, we suspected that was what we were seeing, but were relieved that the bird stayed around long

enough to give us time to check our field guide. The bird remained in the area for 15 to 20 minutes, giving us ample time to hear its song, notable for its odd little "chip" at the beginning and end. Both that day and the following days when we observed the bird, it seemed oblivious to our presence, sitting accommodatingly in plain sight (and often in close proximity) for some time, flitting both in the brush at low levels but also mid-way up in the trees, and resting often on bare branches as it sang. When we saw the bird again on Sunday, May 16, we called Fred Lesher in LaCrosse, who suggested reporting the sighting on the "hot line" and who also came over and confirmed our identification on Monday morning, May 17. Later that afternoon, we observed it in the same area about 5 o'clock when Jon Peterson and Ann MacKenzie came over from LaCrosse to see it. Though a thunderstorm was coming on fast at the time, Jon got some pictures and also taped the song. We had no doubt about the bird's identity by that time, but were pleased Tuesday morning to have Ray Glassel also confirm our sighting, for having spent some time in Virginia he was very familiar with the species. On Wednesday, May 19, we heard the song on a bluff top a short way east of the place we'd previously been seeing the bird, and feared it was leaving the area, but were delighted to find it back in the usual place a few minutes later. We were in Minneapolis from Wednesday afternoon till Saturday evening, and were surprised to hear the song in our own yard early on Sunday morning, May 23. We did not see the bird then, but noted that the song came from down near the creek across from the house by the time we set out to walk, and consequently were not surprised that we did not see it in the usual area. When Bob Janssen, Kim Eckert and Bill Pieper, who had come down to see the bird, had no luck finding it along the creek or back in the area where it had usually been seen, we were disappointed. But then just as we got back to the house and were about to give up, we heard the song again nearby and were pleased that the others were fortunate enough to get a good look and even to record its song. That, unfortunately, was the last we saw of it, however, nor have we heard that unusual song again. We apparently are on the edge of its usual nesting territory, and can only hope that next year a pair will decide to use our valley for nesting. **Eugene and Marilynn Ford, RR 1, Box 52A, New Albin, IA 52160.**

BEWICK'S WREN IN RAMSEY COUNTY — In the evening of Saturday, April 3, I phoned Liz Campbell to compare notes on increased bird feeder activity that day due to the blizzard. During the course of our conversation, Liz mentioned having received a call from Mrs. Walter Olin in Maplewood who reported a large wren that had been making visits into her yard that day along with 20 other species of migrants and wintering birds. Since Mrs. Olin's residence was much nearer to mine than the Campbell's, I told Liz I would gladly check it out. The next day I went to Mrs. Olin's residence in the early afternoon for an hour, but did not see the bird, although it had appeared throughout the morning. I tried again the following morning at 8:00 and was told upon arriving that the bird had not yet appeared. Mrs. Olin was about to leave the house for the day, but she invited me to stay and wait as long as I wanted. This I did, and the bird finally first appeared at 9:45 — nearly two hours later than the previous mornings! Upon identifying it as a Bewick's Wren, I began spreading the news around the birding community. In the days to follow, the wren was observed and photographed by a host of people, including several MORC members. The excitement was

Bewick's Wren, 1077 Sterling St., Maplewood, Ramsey County, 7 April 1982
Photo by Bill Hilton

attributable to the fact that Bewick's Wrens have rarely appeared in the state in the last 20 years. The wren fed on suet in a hanging log feeder eight feet out from the kitchen window, and would stay only a minute or two per visit before disappearing elsewhere in the neighborhood. On colder days the visits were more frequent, with intervals as short as 15 minutes. As the days grew warmer, the feeder visits diminished, and visits to the brush piles across the road increased. The wren made its visits throughout the morning and in late afternoon with a conspicuous absence in early and mid-afternoon. It was always silent, and was last observed on April 13. A description of the Bewick's Wren is as follows: Size and Shape — long-tailed, slim-bodied, about the length of Black-capped Chickadees in the vicinity; Head and Body — forehead, crown, nape, back, rump, wings, and eye line were a medium grayish-brown with a tint of rust, and some black barring in the primaries and secondaries; cheeks, throat, breast, belly, sides, and superciliary stripe were a "dirty" white; Tail — upper surface was a dark brownish-gray with black barring; undersurface was white with black barring; the white tips of the outer tail feathers were noticeable only when the wren would fan its tail for balancing on the log feeder, or when flying away from the observer; Beak — proportionately long, thin, decurved, black; Legs — black. **Bill Litkey, 589 Granite Ave. N., Oakdale, MN 55119.**

SNOWY EGRET IN NICOLLET COUNTY — On June 25, 1982 at Kuester Slough which is located on Nicollet County Road 12, two miles northwest of Courtland, I saw a Snowy Egret. On driving up to the pond, the white bird immediately caught my eye. Even with the naked eye, due to its small size it appeared to be a Snowy Egret. A look through binoculars showed a black bill, dark legs, showing bright yellow feet when raised. Some plumes(?) were visible, although not prominently displayed. It was much smaller than a Common Egret and did not have the coloring of a Cattle Egret. Using the 20-45x spotting scope the bird was in very close view. **John C. Frentz, 316 Oak Knoll Blvd., Mankato, MN 56001.**

SAY'S PHOEBE AT BLUE MOUNDS PARK — On the afternoon of May 22, 1982, I went to Blue Mounds State Park to do some birding. It seemed like there were birds in every bush and tree. There was no wind at all, light conditions wre good with a light overcast sky. I went and stood in the trees just north of the picnic grounds and after about 10 minutes I noticed a rust-orangish colored bird a little smaller than a Robin, perched on a dead twig a couple of feet off the ground just six feet from me! I knew right away I'd never seen this kind of bird before because of the color, so I quickly took notes mentally: no eye ring. no wing bars, the rusty-orangish color, the bird was facing me but the top of the head looked a shade darker. I took special notice of the color again, and size: little smaller than a Robin, observed it for about 30 seconds and then it flew away. I took notes on the pad I had with me, then checked Robbins field guide and found it to be the Say's Phoebe — I checked the area again for an hour or more but did not see it again. **Mrs. Melvina De Kam, R.R. 2, Box 90, Edgerton, MN 56128.**

LOUISIANA HERON IN BECKER COUNTY — While taking a short walk looking for birds I found a Louisiana Heron feeding in a small pond here in Osage. I first saw the bird as it flew out of a small pine tree. I followed the bird as it landed in another tree about 70 feet away. I assumed it was

just a common heron or perhaps a hawk but certainly nothing unusual. As I got closer I could see the bird more clearly, reddish blue in color with a white belly. The heron was smaller than a Great Blue Heron. Also there was a white plume coming off the back of the head and a dull orange patch on the body of the bird. Through later observations I also saw the white throat bordered by dark brown or red and the obvious thin neck. I was able to see the bird on the average three times a day as I checked up on it to make sure it was still in the area. I found the bird on May 20, 1982, and by May 23rd it was gone. The bird was also observed by Grace Coberly, Jeff Palmer and Noel Benson. **Jeff Mittelholtz, Box 156, Osage, MN 56570.**

KENTUCKY WARBLER AT GIRARD PARK, BLOOMINGTON — On May 16, 1982, I saw a Kentucky Warbler at Girard Park in Bloomington, Hennepin County. My attention was drawn to the bird by its loud persistent song. Walking towards the sound, I saw a bird moving about 2½ feet up in low bushes. Spotting it in the glasses, I saw the bright yellow belly, olive back, then the dark top of the head (Size was somewhat larger than a Common Yellowthroat), yellow spectacles and clearly defined facial markings including a long moustache. I followed it some time as it sang and hopped around within a 10 foot area (interrupted by three joggers). Still singing persistently "chur-EEE, chur-EE, etc." it finally approached to within six feet of me very low on and near the ground. I was able to see the key marks at least four times. Having just listened repeatedly to my warbler tapes, I actually had guessed the bird's identity before I saw it — or at least was interested enough to want to check it out. **Richard P. Ruhme, 9655 Upton Rd. S., Bloomington, MN 55431.**

LARK BUNTING IN COOK COUNTY — My wife and I saw a male Lark Bunting at our home in Taconite Harbor near the shore of Lake Superior on May 12, 1982. Dee saw the bunting first at 10:30 a.m. at our bird feeder in the front yard. It was feeding on the ground alongside a group of about 25 Red-winged Blackbirds, Brown-headed Cowbirds, Yellow-headed Blackbirds and Purple Finches. She identified the bunting from our picture window at a distance of approximately 10 meters, both with and without field glasses. Its white wing patches were clearly visible against its black body both when it flew and perched. We have watched many Bobolinks while working in southern Minnesota and I am certain that this was not a Bobolink. The bunting probably chose Taconite Harbor to stop over because of the open country in our area. **Tom and Dee Biebighauser, Box 404, Schroeder, MN 55613.**

YELLOW-BREASTED CHAT AT DULUTH — From May 13 to 18, 1982 a period of foggy and rainy weather settled into the Duluth area. As expected, this resulted in a large number of warblers and other migrants grounded at Park Point. Late in the morning on May 18 I was birding in the trees just north of the bath house at the Recreation Area when I spotted a Yellow-breasted Chat foraging low in a brushy area at the edge of the trees. It was not clearly visible at first, and its large size and yellow underparts made me think initially that it was a female oriole or tanager. But as I carefully stalked it during the next few minutes, I was able to identify it as a chat. Besides the bright yellow throat and breast, the bird also had a dark, thick and un-warbler-like bill, white spectacles, black lores, greenish-brown back, wings (no wing-bars) and tail, and whitish belly and undertail coverts. No

vocalizations were heard. Eventually the bird disappeared as I tried to maneuver around some bushes to get closer to it, and neither I nor anyone else was able to relocate it later in the day. The Yellow-breasted Chat is only a casual or very rare visitant in Minnesota, with almost all records coming from the southern part of the state. But there are a few previous records from northern Minnesota, including one in Duluth in May, 1974. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

FIRST SPRING RECORD OF A BLACK-LEGGED KITTIWAKE — Although there are four previous documented Minnesota records of the Black-legged Kittiwake in the state (all from Lake Superior and Mille Lacs), they all occurred in late fall. However, on May 27, 1982 I found a second-year kittiwake on the west side of Hearding Island on Park Point in Duluth. Since gulls and terns had been loafing here all spring and since this spot is difficult to see, I decided to borrow a canoe from Ann Gstalder and Julie Calligure to check the area. Among the Ring-billed and Bonaparte's Gulls and Caspian Terns, there was what appeared to be an immature Bonaparte's Gull at first glance. But this gull was only a bit smaller than the Ring-billeds and Caspian Terns present, too large for a Bonaparte's, and the bill was dull

Black-Legged Kittiwake, Minnesota Point, Duluth, 30 May 1982. Photo by Tom Hallett.

yellowish. I could also see the legs were very dark or blackish, there was a black spot behind the eye and a dark smudge around the front part of the eye, but there was no black line on the nape as is typical of first-year kittiwakes. Because of the Bonaparte's-like plumage, the larger size and the yellow bill, my first reaction was that I might be looking at an immature Black-headed Gull. However, as I slowly paddled towards the gull, it took off and I could see the typical immature kittiwake wing pattern: narrow black triangle on the outer primaries, solid black line on the upper wing coverts extending from the bend of the wing to the tertials, rest of mantle gray except for a broad white trailing edge to the wings which was widest halfway out the wings. Tail was black-tipped and appeared squared-off, and the gray of the back extended up onto the nape. Thanks to Julie and Ann, several other birders including Steve and Diane Millard, Fred Lesher, Bob Janssen, and Janet Green canoed to the island the next three days to see the Black-legged Kittiwake; it was last seen May 30 by Jan and Tom Hallett who were able to get a recognizable flight photograph. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

MAY RECORD OF A HOARY REDPOLL — Since the winter of 1981-82 had been an exceptional season for redpolls, it was not surprising when a few Duluth residents reported lingering Common Redpolls at their feeders into early May (the latest date I am aware of was May 6). However, it was quite unexpected when my Bird Identification class found a Hoary Redpoll at Park Point on May 11. We had walked through the trees at the north end of the Recreation Area, and were walking across the grassy dune to look over the lake, when a sparrow-sized bird flushed from the grass and perched in a small, isolated tree about 50 feet away. Its red cap and black chin clearly indicated it was a redpoll, and naturally I assumed it to be a Common. But for some reason, I decided to take a second, closer look at the bird and to my surprise it was an obvious Hoary Redpoll. Although it is difficult if not impossible to tell darker Hoaries from light Common Redpolls, this was one of those "classic" Hoaries: the sides and flanks were virtually unstreaked, the back and wings were a mixture of gray and whitish feathers (rather than brown and buffy), and the rump was pure white and unstreaked. The rump was easily seen since the bird's left wing dropped unnaturally low, giving us a clear view of the rump. Although this wing appeared injured, the bird appeared to fly strongly enough. It was not possible to tell if this was a male or female since it was perched facing somewhat away from us, and male Hoaries only have a slight tinge of pink on the breast which is not obvious or easily seen except at relatively close range. (In my opinion, this is a very helpful difference between male redpolls — if you see a lighter male redpoll which you suspect is a Hoary, it is probably just a Common if the pink is bright, extensive and obvious.) This is apparently the latest Hoary Redpoll date on record and the first May record in Minnesota, since **Minnesota Birds** lists April 23 as the latest date. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

FERRUGINOUS HAWK AT AGASSIZ N.W.R., MARSHALL COUNTY — I first saw this bird at a distance of 1/4 mile on 7 May 1982. It flew toward me, and, in silhouette, looked much like an eagle. It banked, and descended to catch a mouse in a recently burned alfalfa field on the refuge. As it dove, I was impressed by the white primaries and nearly pure white tail. The bird was eagle-like in posture, long-necked, and generally large, particularly the tail. The leg feathers were shaggy at the base of the thigh and the tarsi were fully feathered to the toes. The pure white underparts, including the legs, indicated this was an immature. I have seen this species on several occasions in the West and am confident of the identification. I have seen Krider's Red-tails on numerous occasions in the West and in Minnesota, including one on 1 May at Agassiz, and have never observed as much white on the upper surfaces of the primaries as was present on the 7 May bird. **Jim Mattsson, Refuge Biologist, 230 Kendall Ave. N., Thief River Falls, MN 56701.**

TOWNSEND'S SOLITAIRE AT MANKATO — On April 4, 1982 I observed a bird in a small aspen by a bird feeder. It was facing away from me so that I had a good view of its grackle-shaped tail. My first reaction was, "What a goofy, gray grackle;" It then turned and darted out from a branch toward an American Goldfinch, and then returned to the same branch much like a flycatcher does. I picked up my binoculars and again observed the bird darting out at the goldfinch and returning to the same branch. I observed that the bird was a solid gray with buffy wing patches. The top

of the head seemed to be a dark brown or a dark chestnut brown, not really distinct, more like a "wash." I observed a distinct eye ring. As I watched, the bird flew down to the ground and hopped and scratched much like a Brown Thrasher. It held its tail high while hopping and scratching much as a Brown Thrasher does. This bird was observed at a distance of about 40 feet through 7x35 binoculars. After it flew away I paged through **Peterson's Field Guide,** 1980 edition, and determined that the bird I had seen was a Townsend's Solitaire. I had observed the white eye-ring and the buffy wing patches, but not the white tail sides. I then looked in **Birds of North America.** This source mentions the flycatcher behavior and the notched tail. **The Fieldbook of Natural History** by Palmer and Fowler mentions the white eye-ring and the flycatcher behavior. I then called Merrill Frydendall, described the bird to him, and said he felt sure it was a Townsend's Solitaire. **Delores Paulson, 60 Winneshiek Creek, Mankato, MN 56001.**

HENSLOW'S SPARROW NEST, HENNEPIN COUNTY — On 9 July 1982, with Doug Wells, we went to the picnic grounds area of Hyland Lake Park Reserve, southern Hennepin Co., to search for the Henslow's Sparrows discovered by other observers several weeks previously. After a short search, we found one pair. Both birds were carrying food and were quite disturbed by our presence; we felt we were very near their nest, but were unable to find it. On 11 July, we returned and found the birds in the same location, again carrying food. During ten minutes of observation, we watched both birds drop into the grass and emerge without food. After a five minute search, we found the nest with four young that we estimated were six days old, based on comparison with known-age specimens of other sparrow species in the Bell Museum collection. The nest site, at the top of a knoll in a gently rolling old-field, was the highest elevation within 150 m. Vegetation around the nest was about 0.5 m high, and was mostly timothy (about 80% of the biomass), with small amounts of Kentucky bluegrass, brome and clover. Total herbaceous cover was about 75%, and there was a complete litter layer up to five cm deep. Except for a few knee-high shrubs, there was no woody vegetation within 100 m. The nest was on the ground but not sunken into it, and was very well concealed. It was partially domed with litter, making it invisible from all but the east side. One of us (BAF) returned in the morning of 14 July and found the nest empty except for an unhatched egg, which was saved. Both parents were nearby, agitated and carrying food, and presumably one or more of the young had fledged. By backdating from the probable fledging date, we estimate the first egg of this nest was laid about 20 June. There was a second pair of Henslow's Sparrows about 150 m west of this nest on 11 July. The behavior of these birds (mildly agitated, but not seen to carry food) suggested they had a nest with eggs, but on 14 July only the male was seen, and on 23 July neither bird could be found. Although Henslow's Sparrows are recorded virtually every summer in southeastern Minnesota, few nests have been found in this state. Roberts (**The Birds of Minnesota,** Univ. of Minn. Press, 1936) reported only two, and there are records of about four others published in the **Flicker/Loon,** the most recent being three nests from Winona Co. in 1953 (**Flicker** 26:73). Ours is the first nesting record from the Twin Cities area. **Bruce A. Fall and Roger D. Eliason, Bell Museum of Natural History, Univ. of Minnesota, Minneapolis, MN 55455, 1175 Fifield, Apt. N3, St. Paul, MN 55108.**

RUFF AND REEVE IN AITKIN COUNTY — From April 28 to May 10, 1982, a major migration of Greater and Lesser Yellowlegs was observed in the floodwaters of the Mississippi River near Aitkin, Minnesota. Along with dowitchers, Pectoral Sandpipers, peeps, hundreds of Wilson's Phalaropes, and dozens of Soras, they arrived as most of the large migration of ducks, including hundreds of Greater Scaups, was leaving. The largest number of yellowlegs occurred from April 29 to May 7 when 2,000 plus could be seen in the waters near the Cedarbrook Road. On the morning of May 9th several yellowlegs, Solitary Sandpipers, a couple of dowitchers and many phalaropes were in a flooded area in large trees just north of Aitkin, and among them was a different looking large brown shorebird about the size of a Lesser Yellowlegs, but stouter bodied, smaller than a Greater Yellowlegs, having bright orange legs and straight dark bill with a yellow base. When it flew a short distance showing the two large and conspicuous oval white spots on each side of the lower back, I identified it immediately as a Ruff (Reeve). My husband Steve, and I observed it for 15 to 20 minutes,

Ruff, Aitkin, Aitkin County, 9 May 1982. Photo by Steve Blanich.

Ruff (Reeve), Aitkin, Aitkin County, 9 May 1982. Photo by Steve Blanich.

taking several photographs, then went into Aitkin to tell Warren Nelson about the bird. He joined us in observing and photographing the bird until a thunderstorm came up. We went home, intending to return when the weather cleared. When Warren checked the spot about 4:00 P.M. most of the birds were gone. When he checked back at 7:00 P.M., Bill Brown of Brainerd, whom we had called, was watching a group of birds at least as large as we had seen in the morning. He said, "Jo told me there was a Reeve but she didn't say there was a Ruff." They called us and we arrived in about 20 minutes to see the Ruff and Reeve together. The Ruff's coloration was a henna or rufous head and ruff, with much black in the body plumage, and greenish legs. It was obviously larger than the Reeve, and would enlarge its ruff and the cape on the back of the head and neck when it was very near the Reeve. We observed the birds until dusk when they all flew out far to the west, going down in the vicinity of the river. The Ruff and Reeve could not be found thereafter. **Josephine Blanich, Box 96, Crosby, MN 56441.**

THREE YOUNG GREAT GRAY OWLS IN ITASCA COUNTY — There are very few documented nesting records for the Great Gray Owl in north-central Minnesota (**Loon** 53(3):139; 54(1):20); although more frequent, breeding season observations of adults are relatively uncommon (**Loon** 52(4):161; 53(3):139; 53(4);197; 54(1):20; 54(2):122; Green and Janssen, 1975, **Minnesota Birds**). Bob Salmonson and I saw three young Great Gray Owls on May 26, 1981 in Itasca County (T148N, R29W, Sec. 28). As we drove into a recently cut-over area, one bird flushed and flew across the road in front of our truck and perched in a snag at the edge of the cut, about 100 yards away. (This bird's flight was clumsy and unstable, as if it was an inexperienced flier; we did not see any evidence of injury, either in flight or while perched.) We stopped the truck immediately, heard vocalizations nearby, located their source about 50 feet away, and saw two birds perched 25 feet above ground level in live white pines at the edge of mixed birch, pine and aspen woods. While in the truck, we observed the birds through 7x35 Bushnell Custom binoculars and noted their large size (about 15 inches from head to tail), gray color, downy appearance, concentric gray eye rings and obvious facial disc. The characteristic white neck ring and long tail were not yet apparent in these young birds. All three birds called sporadically (up to 3 - 5 times/minute), emitting a single shriek each time. We left the truck and approached the birds slowly until we were within 20 feet of the perch trees — their yellow eyes were plainly visible to the unaided eye (yellow eyes eliminated Barred Owl; no horns eliminated Great Horned Owl; size, daytime activity and time of year eliminated other possibilities such as Saw-whet, Hawk or Boreal Owl). We continued to observe the owlets, both with and without binoculars, for a total of 35 minutes. The birds watched us, vocalizing occasionally, switching positions in perch trees, but did not fly off. There was no sign of the adults. Observations began at 11:30; it was overcast with light intermittent drizzle. An extensive (at least 500 acres) tamarack - black spruce area 5 - 10 chains (330 - 660 feet) west of the sightings provided suitable nesting habitat. While visiting the same site two days later, we saw two young Great Gray Owls (presumably the same birds) perched 25 - 30 feet up in tamaracks along the edge of the aforementioned tamarack - black spruce area. We watched the birds for 30 minutes from a distance of 200 - 250 feet through a tripod-mounted Bushnell Balascope Senior with a 20x eyepiece. The birds were silent and appeared to be sleeping (eyes closed). As we watched, an adult Great Gray

flew in and landed alongside one of the owlets, but we could not determine the nature of the interaction, if any. Observations began at 11:15; it was sunny. This sighting was 10 - 12 chains (660 - 792 feet) northwest of the May 26th location. On June 1, I saw another Great Gray Owl about four miles northeast of the first sighting location. This bird was an adult, perched 15 feet up in a tamarack tree along a road. **Jane Cliff, U.S. Forest Service, Chippewa National Forest, Blackduck, MN 56630.**

FIRST 20TH CENTURY RECORD OF McCOWN'S LONGSPUR IN MINNESOTA — Although the McCown's Longspur formerly nested in western Minnesota during the 1800s, there has been no record of this species in the state during this century. But on June 11, 1982 a breeding-plumaged male McCown's Longspur was found in Grand Marais in the sandy, grassy strip a few yards north of the Coast Guard station. The bird was found late in the afternoon by Barbara Brown and Jim Ware who were part of a group of birders from the Evanston - North Shore Bird Club of Illinois whom I was guiding on a tour of northern Minnesota. Most of the group, including myself, were resting in the motel after our day of birding up the Gunflint Trail when the bird was found, but eventually all 18 of us were rounded up and had excellent views of the bird during the next few hours. Molly and Ken Hoffman were called and they also saw the longspur that evening, but my call to Jan Green in Duluth brought up several other Minnesota birders the next day who unfortunately were unable to find the longspur. (It was last seen right at sunset on the 11th.) The longspur was relatively tame as it actively fed on seeds within an area several yards in diameter, and it flew a few times a distance of only a few yards when a photographer approached too close (David B. Johnson especially obtained excellent photos). The black patch on the breast, black cap, and rusty shoulder were

McCown's Longspur, Grand Marais, Cook County, 11 June 1982.
Photo by David B. Johnson

all easily seen and made indentification relatively easy. Also striking about the bird were its dark gray or almost blackish bill and its distinct malar stripe which extended from the bill back almost to the nape (this stripe was longer and more obvious than shown in any field guide). When the bird flew its black and white "T" pattern of the tail could be seen, but this was not as obvious or as distinct as shown in the field guides, and did not differ as much from the Chestnut-collared Longspur's tail pattern as I had expected. As unexpected and exciting as this sighting was, it was not without precedent in this region since a McCown's Longspur appeared at Whitefish Point near Sault Ste. Marie, Mich. in May, 1981. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

PURPOSE OF THE MOU

The Minnesota Ornithologists Union is an organization of both professionals and amateurs interested in birds. We foster the study of birds, we aim to create and increase public interest in birds and promote the preservation of birdlife and its natural habitat.

We carry out these aims through the publishing of a magazine, **The Loon;** sponsoring and encouraging the preservation of natural areas; conducting field trips; and holding seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from individual members and affiliated clubs and by special gifts. The MOU officers wish to point out to those interested in bird conservation that any or all phases of the MOU program could be expanded significantly with gifts, memorials or bequests willed to the organization.

SUGGESTIONS TO AUTHORS

The editors of **The Loon** invite you to submit articles, shorter "Notes of Interest" and color and black/white photos. Photos should be preferably 5x7 in size. Manuscripts should be typewritten, double-spaced and on one side of the sheet with generous margins. Notes of Interest should be generally less than two typewritten pages double-spaced. If reprints are desired the author should so specify indicating number required. A price quotation on reprints will be sent upon receipt of information.

Club information and announcements of general interest should be sent to the Newsletter editor. See inside front cover. Bird-sighting reports for "The Season" should be sent promptly at the end of February, May, July and November to Kim Eckert. See inside front cover.

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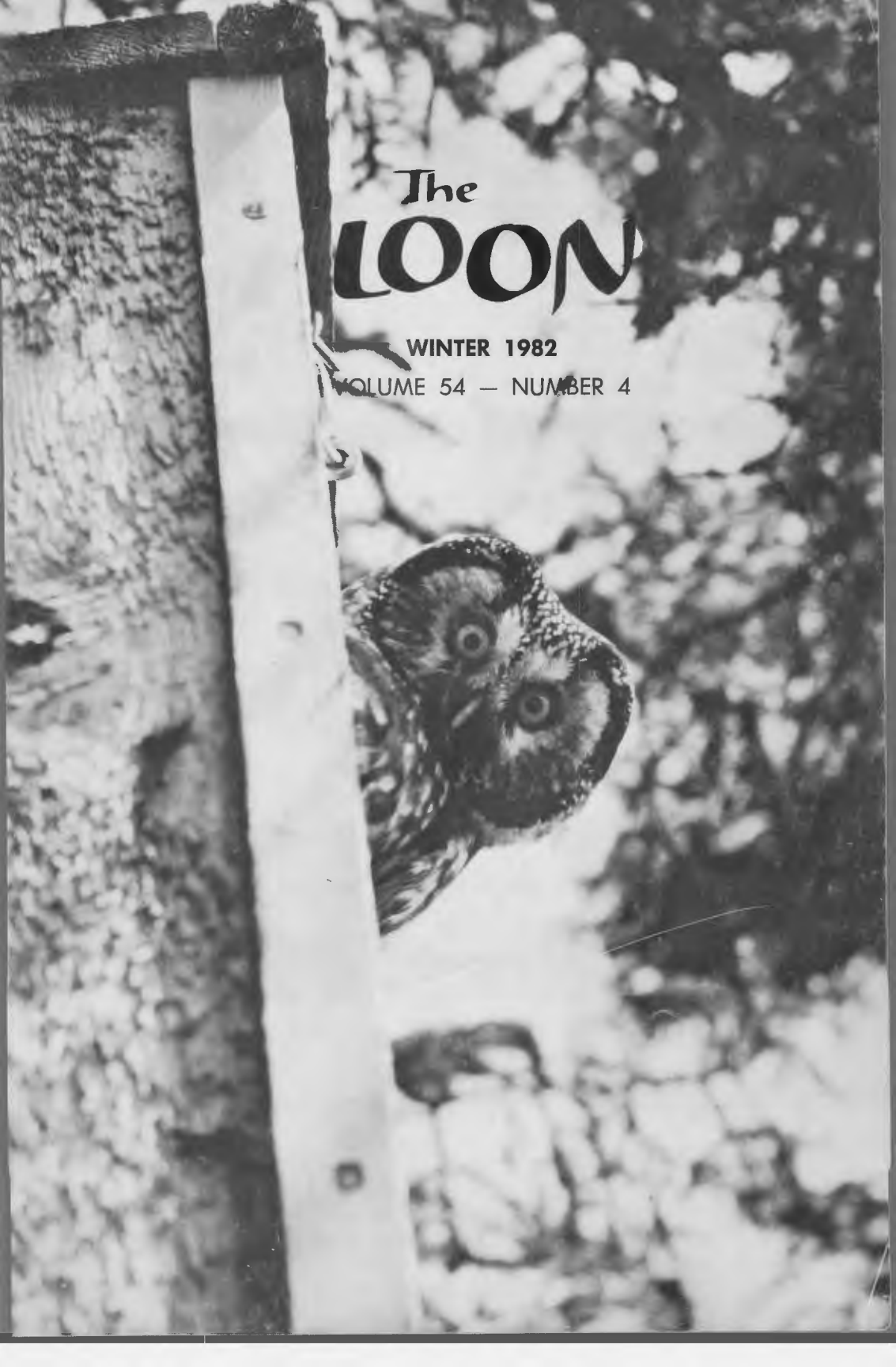

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The LOON Minnesota's magazine of birds, is published four times each year by the **Minnesota Ornithologists' Union,** the statewide bird club. Permanent address: J. F. Bell Museum of Natural History, University of Minnesota, Minneapolis 55455. Anyone interested in birds may join. Any organization with similar aims may affiliate. All MOU members receive our two quarterly publications: **The Loon** and the **MOU Newsletter.**

MEMBERSHIPS AND SUBSCRIPTIONS: Evelyn Stanley, 213 Janalyn Circle, Minneapolis, Minnesota 55416. To join the MOU and receive both MOU publications, send $10.00 for a regular yearly subscription. Or other classes of membership that you may choose are: Family $12.50 yearly; Supporting $15.00 yearly; Sustaining $25 yearly; Life $150. Canadian and Foreign Subscriptions, $12.50 yearly. **All subscriptions are on a calendar year basis.** Also available: back issues of **The Loon** ($2.50 each ppd.) and MOU checklists of Minnesota birds (minimum lots of 20 for $2.50 postage paid). Gifts, bequests, and contributions to the MOU Endowment Fund should also be sent to the treasurer.

EDITOR OF THE LOON: Robert B. Janssen, 10521 S. Cedar Lake Rd., Minnetonka, MN 55343 (phone 612-546-4220), The editor invites articles, short notes, and black/white illustrations about birds and nature. See back cover for details.

"The Season" section of **The Loon** publishes reports of bird sightings throughout Minnesota. We particularly invite reports from parts of the state that have been neglected or covered lightly in past reports. To become a contributor to "The Season," request the report forms from the **EDITOR OF "THE SEASON," Kim Eckert, 9735 North Shore Drive, Duluth, Minnesota 55804. (phone 218-525-6930).**

EDITOR OF THE MOU NEWSLETTER: Mrs. Marlyn Mauritz, 6930 Tecumseh Lane, Chanhassen, MN 55317. Publishes announcements and reports about activities of the MOU and its affiliated clubs. (Club officers should keep both MOU editors informed.)

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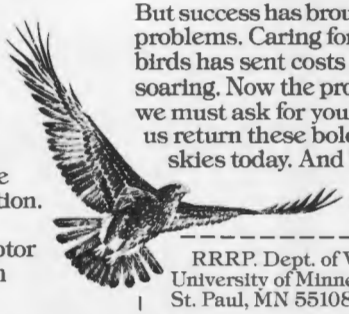

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A SPRUCE GROUSE RECORD FROM PINE COUNTY

David C. Zumeta and Mary Ann Cincotta

On 20 June 1982, while driving east on the main road through Chengwatana State Forest approximately one mile east of the state forest entrance off Pine County Route 10, we observed a female Spruce Grouse walking across the road. The bird was slightly smaller than a Ruffed Grouse with a rounded head, short, rounded tail, and short legs. It was remarkably tame, allowing our car to approach within 15 to 20 feet before it would walk diagonally across the road and disappear behind piles of dirt left by a road grader. The bird repeated this behavior three or four times over a five minute period, allowing us to obtain excellent views of it through 7x50 binoculars.

It was heavily barred with dark brown on the breast and undertail coverts. The grouse's leisurely behavior allowed us to compare it with the plates of grouse, pheasant, quail, and partridge in Peterson (1980). The bird looked most similar by far to the plate of the female Spruce Grouse, although its face appeared to be a plainer, lighter brown than the face of the bird in the plate. It also had fine chestnut streaks in addition to the dark brown, black, and white streaks down the leading edge of the wing shown in Peterson's plate. The bird finally flushed after we had approached so close that it was only four feet from Zumeta, the driver. As the grouse flushed, Zumeta clearly observed a dark brown, rounded tail with a chestnut band at the tip. In flight the bird's wings appeared short and rounded.

The habitat in which we saw the grouse consisted of second growth aspen with an understory of deciduous shrubs and scattered balsam fir, tamarack, and red pine seedlings. Extensive alder swales and sedge meadows were interspersed with the aspen forest in the general vicinity. A few mature tamarack occurred in the aspen forest, but there were no extensive stands of mature conifers adjacent to the road where we saw the bird. This seemed unusual to us, since on the several previous occasions when we had seen Spruce Grouse they had always occurred in dense spruce-fir forest (at high elevations in the White Mountains of New Hampshire), and all of the standard field guides describe their habitat as conifer forest.

Green and Janssen (1975) indicate that there have been recent breeding records for the Spruce Grouse as far south as northern Hubbard, Itasca, and northern St. Louis counties, and that according to Roberts (1932) the species was found as far south as Mille Lacs Lake and Wadena and Carlton counties in the nineteenth century. There apparently has never been a verified record of the Spruce Grouse as far south as Pine County, so this observation represents the southernmost record for Minnesota.

Because we observed the grouse in apparently unsuitable habitat, we realize that this observation appears questionable. An even stronger objection to the validity of our observation is that we saw the bird in a county where it had never been recorded before, and that that county is isolated from the species' primary range in northern Minnesota. Upon closer analysis, however, these objections will prove to be less strong than they first appear.

First of all, although the habitat in which we saw the grouse appeared to be atypical, when we asked Bob Quady, the local District Forester, we learned that immediately south of where we made our observation there is a seven to eight acre white spruce plantation comprised of 1½ foot high trees with some 15 foot high balsam fir around the perimeter. In addition, there is a 15 acre stand of 40 year old tamarack within one half mile to the south of our observation site and two additional tamarack stands comprising a total of 145 acres within a one mile radius of the site. Harrison (1975) lists tamarack swamps as one of the habitat types used by Spruce Grouse. Thus there may be sufficient conifer cover in the general vicinity to support a small number of individuals.

The obvious remaining question is: where did this bird come from? There are at least three possible answers: 1) it was released by the Minnesota DNR, Section of Wildlife or a game farm; 2) it immigrated to Pine County across the St. Croix River from Burnett County, Wisconsin; or 3) it is part of a small, remnant population in Pine County that has not been reported previously.

Neither Lee Hemness, the local Area Wildlife Manager, nor Bill Berg, the grouse Research Biologist with the DNR, Section of Wildlife, are aware of any Spruce Grouse releases in or near Pine County. The Cherubim Game Farm, located west of the Chengwatana State Forest on Route 10, has never raised or released any Spruce Grouse. Thus the first hypothesis appears highly unlikely.

The range map of the Spruce Grouse in Peterson (1980) indicates that the species occurs considerably farther south in Wisconsin than it does in Minnesota. Since 1976 there have been at least three records from Douglas County, Wisconsin, which is adjacent to and due east of Carlton and northern Pine County, and one record from Barron County, Wisconsin, which is due east of Chisago County one county over from the Minnesota border (Eckert, 1978; Janssen, 1977; Tessen, 1977; Tessen, 1979b). Most intriguing are records on 26 May and 4 September 1978 from Burnett County, Wisconsin, which borders southern Pine County on the east (Faanes, 1981; Tessen, 1979a). However, Faanes (1981) considered the Spruce Grouse to be "**formerly** a permanent resident" on the Wisconsin side of the St. Croix River valley, citing only the two 1978 records from Burnett County. Scott (1943) believed that at one time this species probably occurred throughout northern Wisconsin and south along the St. Croix River as far as central Polk County, but the most recent record he cited from the western fringe of Wisconsin was from Dairyland, Douglas County in 1928 or 1929. Thus the second hypothesis appears to be a possibility, but the Spruce Grouse's apparent rarity in northwestern Wisconsin makes it questionable.

The third hypothesis, that the Spruce Grouse has maintained a remnant population in southern Pine County that has heretofore gone undetected, is supported by the fact that the species is sedentary as well as elusive. It is observed quite infrequently even in areas where it is fairly common. In addition, despite the close proximity of southern Pine County to both the Twin Cities and Duluth, it has received relatively little attention from ornithologists and birdwatchers compared to many other parts of Minnesota. The DNR, Section of Wildlife has not had sufficient personnel to conduct regular grouse bag checks in Pine County during the hunting season, although according to Lee Hemness there have been two unverified reports of Spruce Grouse from Duxbury in 1969 or 1970 and Kingsdale in about 1979. Faanes (1981) notes that suitable spruce habitat for this species exists in Pine County. Thus it is possible that a small, localized Spruce Grouse population *may* have been overlooked. Dr. Harrison Tordoff (personal communication) of

the Bell Museum at the University of Minnesota felt that this hypothesis was the most likely.

Despite the scarcity of Spruce Grouse sightings in northwestern Wisconsin, it seems possible that the bird we saw originated from a localized population in Burnett County. If either this or the third hypothesis proves correct, the second major objection to the validity of our observation would be disposed of, since the species' range in Pine County, though disjunct from its primary range in Minnesota, would in fact be continuous with its range in Wisconsin. More intensive fieldwork and hunter bag checks in Chengwatana State Forest, elsewhere in Pine County, and in adjacent counties of Minnesota and Wisconsin need to be conducted to determine whether the second or third hypothesis is more likely and to document the status of the Spruce Grouse in east-central Minnesota and northwestern Wisconsin.

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565 Portland Ave., #306, St. Paul, MN 55102.

THE AMERICAN ORNITHOLOGISTS' UNION, oldest and largest of the ornithological societies in North America, is celebrating the hundredth anniversary of its founding in 1983. Its quarterly journal, THE AUK, now includes about 1000 pages a year of papers on a wide variety of ornitholigical topics. The long-awaited sixth edition of the AOU Checklist of North American Birds will be published in time for the centennial meeting. If interested in knowing more about the AOU please write to Membership Chairman Dr. Gustav A. Swanson, Department of Fishery and Wildlife Biology, Colorado State University, Ft. Collins, CO 80523.

MINNESOTA WOODCOCK[1]

William H. Marshall

The display of singing male American Woodcock (**Philohela minor**) thrills many of us each spring and during the fall the birds are a prime attraction to those relatively few hunters who avidly pursue them. This report presents: 1) information on distribution and history of woodcock populations in Minnesota as derived from the scanty literature, personal reports, and the history of land use changes; 2) available data on migration dates, wintering areas, homing, and longevity and 3) data on weights obtained throughout the eight months that they are found in our habitats.

Acknowledgements: A long term project at the Cloquet Forestry Center (CFC) in Carlton County involved the assistance of forestry students and G. W. Gullion, as well as intensive field work by graduate students G. A. Godfrey, W. P. Wenstrom, and R. O. Morgenweck. This project was supported by the Minnesota Agricultural Experiment Station and the Division of Fish and Wildlife, Minnesota DNR through contract #14-16-008-527 under terms of the Webless Migratory Bird Act administered by the U.S. Fish and Wildlife Service. W. B. Longley provided data on woodcock singing ground counts from DNR reports. The Office of Migratory Bird Management U.S. Fish and Wildlife Service made the banding data available. Weights obtained during the spring and summer were recorded on birds mist-netted by the late Norman and Betty Slade, C. R. Christenson, and the three graduate students as well as J. Cliff. The September-October weight data were obtained through the cooperation of hunters, especially the late F. J. Ward and G. N. Slade. H. B. Tordoff reviewed the manscript, and the Malvin E. and Josephine D. Herz Foundation provided funds for publication.

Distribution: Records of the occurrence of woodcock are probably quite incomplete due to the sedentary habit and secretiveness of woodcock during the daytime. The majority of the modern records lie in the northcentral and northeastern counties of the state — the area corresponding roughly to the original coniferous forested areas. The breeding range, as shown in Green and Janssen (1973) is in this area. However, breeding season records are increasing to the west and north in recent years. R. B. Janssen (pers. comm.) has received reports from Clay, Lac Qui Parle, Pipestone and Rock Counties during the month of June, and from Chippewa County during July. All of these counties are along the western edge of the state and outside the previously described breeding range for the species. Woodcock were not seen in Itasca State Park until the mid-1960's (Marshall, 1969) but nests and broods have been reported often since then. Koopman (1975) reports finding a brood in Becker County in 1973. Also D. L. Svedarsky (pers. comm.) recorded nests and broods in a prairie area invaded by brush in Pennington County in 1975, 1976, and 1977. R. B. Janssen (pers. comm.) also reports that it is a regular summer resident around New Ulm in Brown County; a nest with four eggs was found at LeSueur, LeSueur County on May 20, 1978.

[1]Paper No. 13,015, Scientific Journal Series, Minnesota Agricultural Experiment Station, University of Minnestota, St. Paul, MN 55108.

During the fall most hunting in Minnesota occurs in the northcentral and northeast counties. I have received a report of good hunting in Beltrami County (Watts, pers. comm.); Maertens (1970) lists hunter kills in Marshall Co.; there is one band return from Blue Earth County; and F. D. Irving tells me of finding some birds near Owatonna in the fall of 1977.

Population History: There have undoubtedly been major changes and shifts in woodcock populations. These can be summarized from the scanty early literature, more recent information; and by coupling a knowledge of the bird's habitat preferences with the major changes in land use that have occurred in the last 100 years.

T. S. Van Dyke (1892) wrote that there was marvelous (spring) shooting in the bottomlands of the Mississippi below Lake Pepin some 20 years before i.e., about 1870. In an earlier article describing this trip for **Sports Afield** he reports shooting 40 birds in three hours. An intensive search of newspaper files by Swanson (1940) revealed that, between 1895 and 1900, many birds were shot along the Mississippi and Minnesota River bottoms above and below St. Paul and that woodcocks were sold in markets and restaurants in 1862, 1864, and 1873. Later, Roberts (1919) reported woodcocks were scarce and Roberts (1936) indicated that they were uncommon though originally found in the hardwood forests of S.E. Minnesota.

This may well have been the case for two reasons. In the early agricultural and pre-logging period most forests were mature — hence not attractive to breeding woodcock. Also, Fisher (1901) states that "lack of protection in the winter and spring and summer shooting are major threats" and that market hunting in the deep south as well as in the northern states was the major cause of mortality. He predicted that, unless protection is established we will "grieve over the loss of one of the finest game birds." Protection developed a few years later with the enactment of Federal and State laws against market hunting and establishment of seasons and bag limits for sport hunting.

It is now apparent from censuses of singing males and hunter bag reports that both breeding densities and fall concentrations are low in the southeastern counties but that they are considerable in many northeast and north central habitats. At CFC, where there have been records of singing males annually since 1946, most recently logged areas in this 5 mi^2 tract have been occupied each year (Marshall, 1958 and unpubl. data).

This history of continued scarcity in S.E. Minnesota but recent high populations in northern areas is undoubtedly related to changes in land use practices over the past 60 years. Southeastern Minnesota has had increasingly intensive agriculture and dairy farming leaving only mature hardwoods in the river bottoms and scattered woodlots i.e. poor woodcock habitats. In contrast, northern Minnesota, which was first logged and then suffered many wildfires prior to 1920, has had relatively little logging, good fire protection, and marginal farming since then. This combination has resulted in large areas of early stages in forest succession which are renewed or maintained by less extensive logging and marginal farming i.e. good woodcock habitats as demonstrated at CFC (Marshall, unpubl. data).

Spring Arrival: Woodcock arrive in Minnesota and move north through the state with the appearance of the first patches of bare ground. The early season data on weights, all from the Twin Cities area, show that in some years they arrive by the middle of March (Fig. 1). Roberts (1938) lists four first woodcock observations in this area as 19, 25, 26, and 27 March. In 1937 Morgenweck collected an adult female in Blaine TWP on 13 March and remarked that birds were numerous until 25 March after which

the numbers dropped off rapidly. The weather patterns were such that snow melt to the north did not occur until the latter date and undoubtedly most birds moved on.

At CFC, between 1947 and 1956, arrival dates varied from 8 April to 5 May — the latter date in a year with heavy snowfalls in March and April (Marshall, 1958). In years with an early arrival date, some males were known to spend the days (and presumably nights) on bare ground on a southeast slope under a dense jack pine (**Pinus banksiana**) stand and to fly out to nearby snow covered areas to display and perform their nuptial flights.

Fall Departure: For many years the hunting season has extended into early November, but as shown in Figs. 1 and 2, most, if not all, birds have left the state by the last week of October. There may be a differential departure by age, since the weights of adult birds peak in mid-October while the young of the year peak during the last week of the month. However, the sex and age data themselves do not corroborate this.

Probably there is a movement of birds to the south prior to major cold snaps, when large numbers leave. Thus the late Tom Wann, known for years as "Mr. Woodcock" among Minnesota hunters, wrote "gradual migration goes on until about October 15. Then it increases in volume greatly — between October 15 and 25 — it is over by November 1." There have been exceptions, thus, Mr. Wann states, "after one storm on the 13th of October (1950 or 1951) which was too tough for them we were not able to find a bird anywhere." In contrast, in 1977, birds were present in many coverts through the first two weeks of November (pers. observ.).

More specific data are provided by field work at CFC between October 7 and November 5, 1970. Godfrey (1974) was in the field almost continuously and was able to radio mark three birds. With the season's first sharp freeze on 8, 9, and 10 October, the number of birds seen each day rose from five to 14 and remained between six and 10 until another cold spell on 14 and 15 October. Minimum temperatures dropped to -5 degrees C and only one bird was seen on these two days.

During the next 11 days minimum temperatures rose slowly to 13 degrees C and maximum temperatures were slightly above that level. During this time the number of woodcocks seen varied from one to six — average three. A drop in max and min temperatures to $\leq$ 0 degrees C or less on 28, 29, and 30 October was accompanied by a drop in the number of birds seen to one or two. The min temperatures remained low, the three birds carrying transmitters left the area; and no birds were seen after 2 November. Godfrey (1974) states "the fall departure occurred between the departure of a low pressure system and the entrance of a high pressue cell."

Wintering Areas: The banding data, through 1981, clearly indicate that Minnesota woodcock spend the winters directly to the south. There have been 23 recoveries showing movement by birds banded in Minnesota. Nine recoveries within the state indicate a north-south movement; two birds have been recovered to the east — one in Connecticut (two years later) and one near Green Bay, Wisconsin. The other twelve out-of-state recoveries lie to the south — with one slightly to the west in central Texas and one to the east in Mississippi (Fig. 3).

Twenty-four birds banded in other states have been recovered in Minnesota (Fig. 4). Of interest is what appears to be a fall movement of birds (eight of nine were immatures) from north-central Wisconsin into Minnesota. In contrast 14 birds banded in Louisiana have been taken in Minnesota and there is one record of a male banded in Oklahoma during spring migration and was taken in Pine County. These scanty records clearly indicate a rather narrow band of north-south migration.

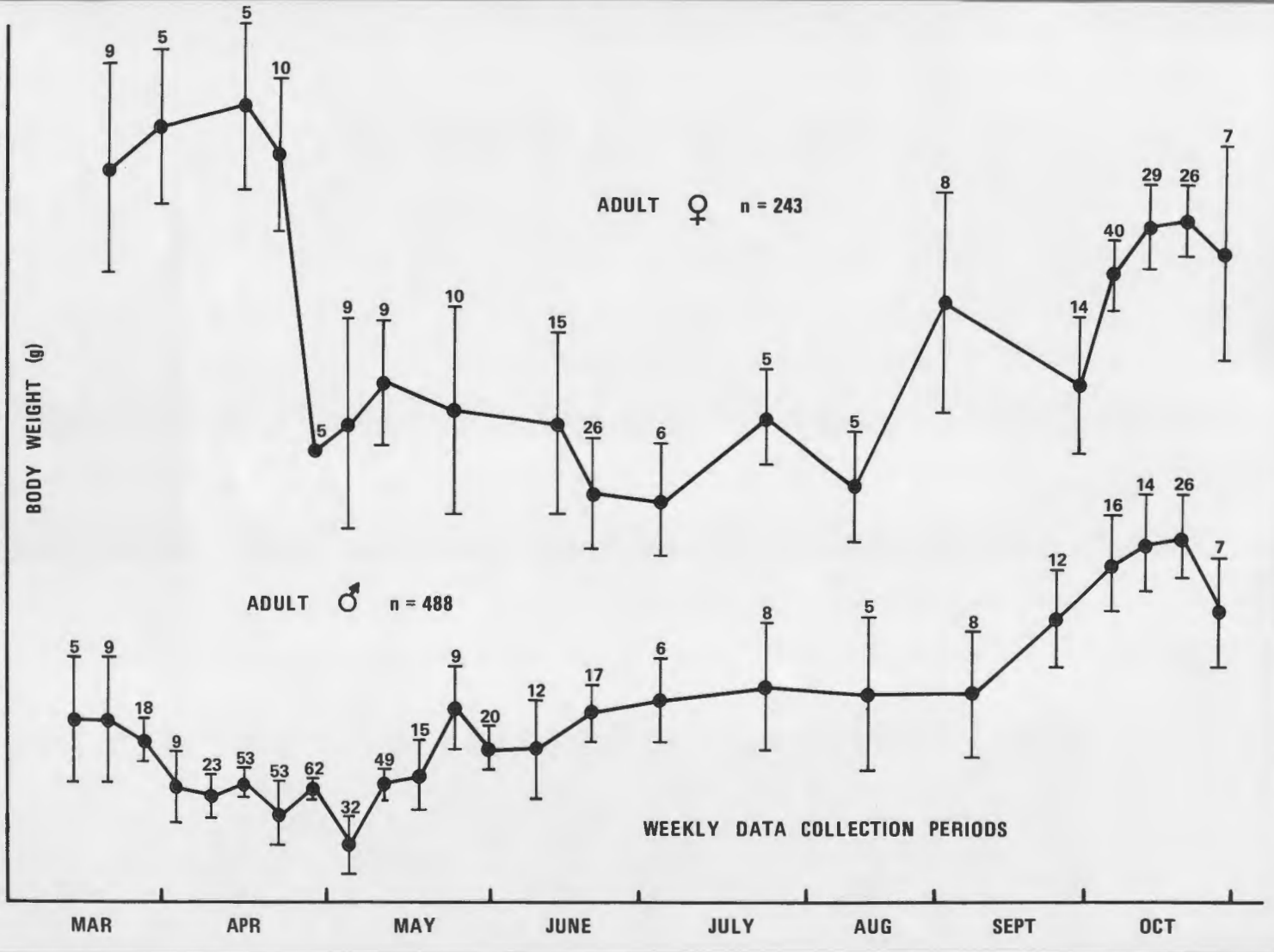

Fig. 1 — Weights of adult American Woodcock in Minnesota March- October.

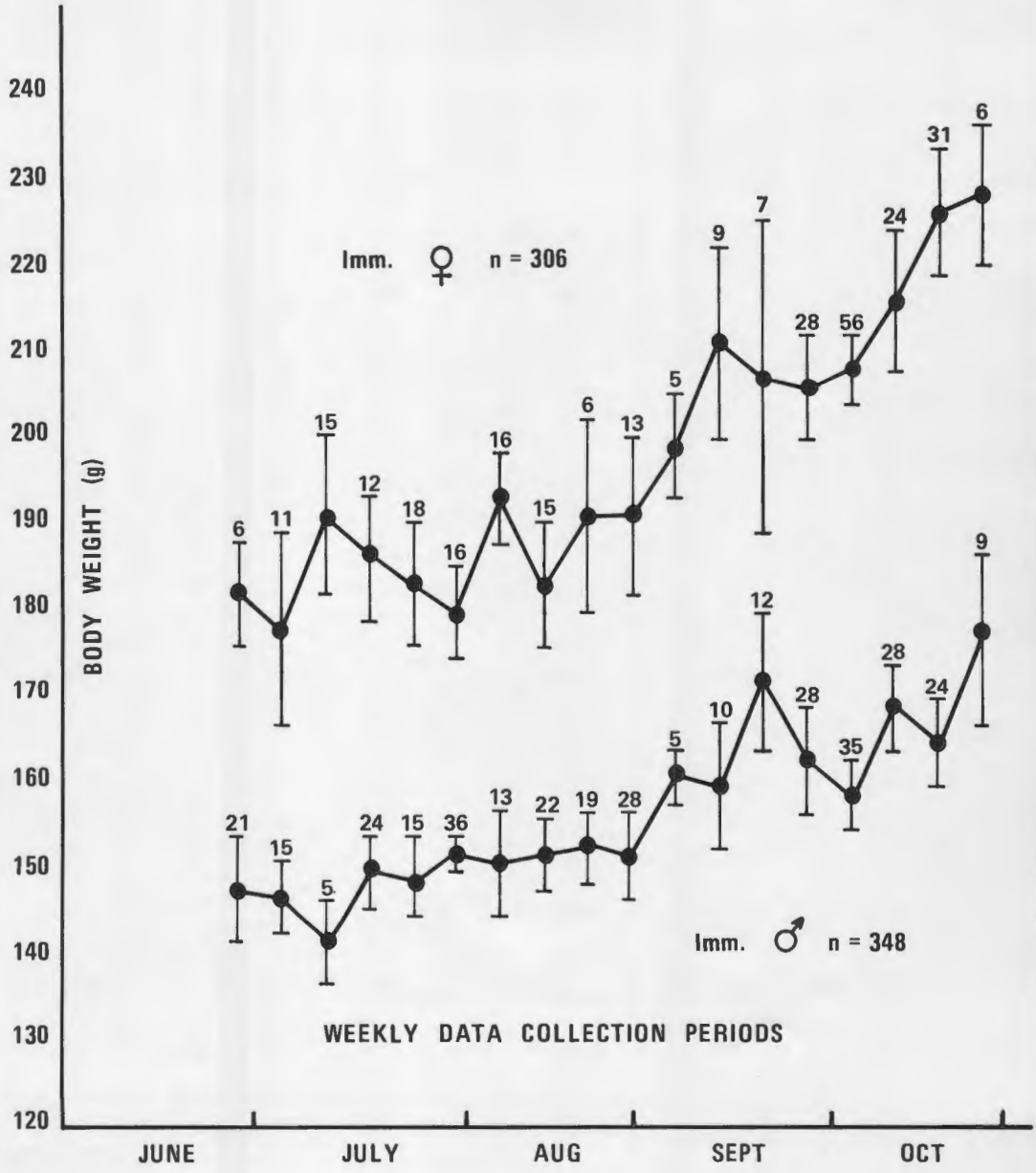

Fig. 2 — Weights of immature American Woodcock in Minnesota June-October.

Homing: One fascinating aspect of migration is the return of woodcock from the wintering grounds to locations where they had been banded during the previous spring and summer. Data on homing obtained in this study are all for males taken at singing grounds and since trapping efforts were not uniform between years, they cannot be compared quantitatively except for one four year period. For the 1967-70 period Godfrey (1974) trapped intensively in and near the CFC. He estimated that, on an annual basis, 19.4% returned to the same singing ground and that an additional 2.6% were taken within 100 m. The maximum known distance between recaptures was 3.4 km.

There are two outstanding examples of annual fidelity to CFC. A male, banded in 1963, was retrapped in 1967 approximately 1.5 km distant and then on this same singing ground in 1968 and 1969. (There was no banding effort between 1964 and 1966). Another male banded in 1959 was recaptured on a singing ground .4 km distant in 1960 and again in 1963. Also, a male banded as a juvenile in 1973, was recaptured in 1976 at the same singing ground.

An additional indication of homing is provided by the banding data. Thus, of 24 Minnesota returns of birds banded in the state one or more years earlier, 13 were at the same location. Eleven were in different locations, but those more than 20 miles apart could well have been migrating birds as they were on a north-south axis.

Longevity: Using data for males mist netted at CFC during the spring seasons of 1967-70, Godfrey (1974) estimated a "mean life expectancy" of 1.8 years with a "juvenile mortality" extended to three years and projected a life span of 11 years.

Another indication of longevity can be gained from Minnesota band returns although the age at capture is not known in many cases. Of 22 recoveries by hunters, 68% were reported in the first 18 months with the remainder at three, four and six years. Similarly data from mist net recoveries showed 63% in the first 18 months and the remainder at two, three, four, and seven years. These data are in general agreement with Godfrey's estimates and indicate a high mortality during the first two years that tapers off rapidly with a maximum of seven-11 years.

Weight Changes: The seasonal variations in the weights obtained for 1385 woodcock between March 9 and November 2 between 1958 and 1976 are shown in Figs. 3 and 4.

Adult males—Based on 488 weights, the adult males lost weight (-8g=12%) during March and April. They regained this (+19g = 15%) in May and June and then showed little change (+3g) in the next two months. However, between mid-September and late October they gained again (+23g = 15%).

Adult females — The weights of 243 adult females showed a major loss (-57g = 24%) after mid-April and late June, then little change (+2g) in between May and August which was followed by a large increase (+39g = 22%) in September and October.

Hatching year males — 348 weights of this class shows that their weights were similar to those of adult males by late June and that there was a negligible gain (+4g) for the next three months. During September and October they kept up with the adults as they gained rapidly (+26g = 17%).

Hatching year females—The weights of 306 birds had caught up with those of the adult females by late June and then showed a small gain (+9g) during the next two months. They too made a major gain (+37g = 19%) in September and October.

In summary, the adult males lost weight during March and April — when they were displaying; gained slowly in May and June; then held at these levels in July and August. The adult females lost weight rapidly while nesting in April; continued to lose weight slowly through May and June

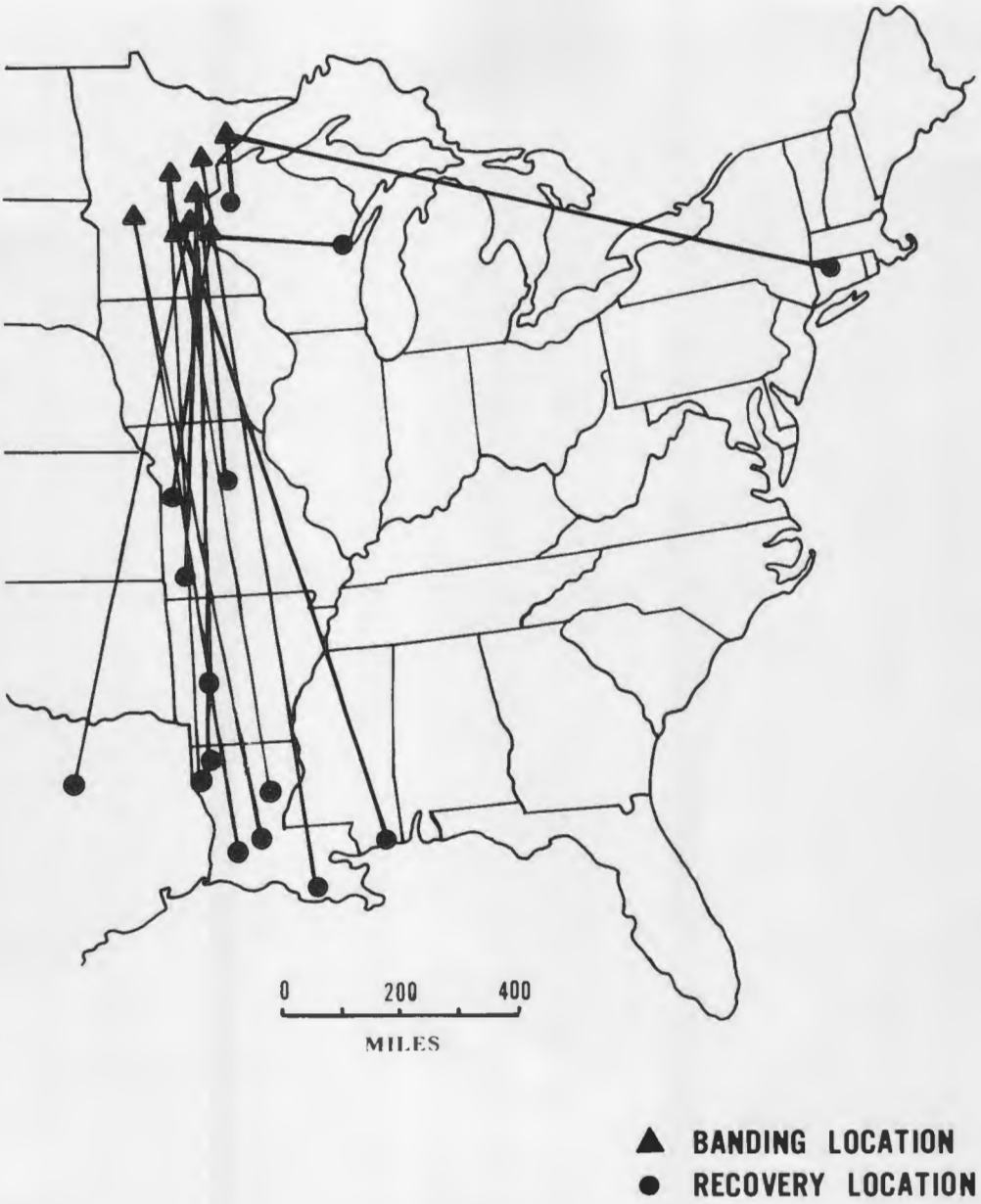

Fig. 3. Recoveries of Minnesota Banded Woodcocks

Fig. 4. Minnesota Recoveries of Banded Woodcocks

but gained slowly during the next two months. Both sexes gained weight rapidly in September and October although the percent of gain was greater for females than males. The juvenile birds approached the adults in weight by late June; increased slowly in July and August; and like the adults, showed a sharp rise in Setember and October.

I compared the data for June through October with those from Maine (Owen and Krohn, 1973) and found they were almost identical. The late October weights are almost identical with those tabulated for Nova Scotia, Michigan, and Wisconsin (Marshall, 1970). Another interesting comparison is with data from Louisiana. Lynch (1952) reported on three sets of data for male and female birds — so I combined the Minnesota adult and immature weights in each sex for the last week of October. During a "normal" winter two sets of data from Louisiana show that the males were 11 and 18% lighter than the average for Minnesota birds. The average weight for females was 11 and 14% less. Twenty-five birds weighed at the end of a five-day winter "freeze" in Louisiana were 25-26% lighter than the Minnesota birds, indicating a 15% loss over this short period of exposure to cold. Thus considerable weight losses are not unusual for woodcock either seasonally or over short periods of stress.

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A NESTING BOREAL OWL IN MINNESOTA

Thomas M. Matthiae

This past winter northern Minnesota experienced a large invasion of Boreal Owls. In the North Shore area near Tofte many people, including myself, made sightings of live and dead Boreal Owls. However, on May 3, 1982 I made an exciting discovery. As an employee of the U.S. Forest Service, I was conducting a survey of waterfowl use of nest boxes and found one to be occupied by a Boreal Owl. Positive identification was possible from its size, dark facial rings, spotted forehead, and ivory colored bill. This was the third known nesting of a Boreal Owl in Minnesota (**Loon** 54, 2: 99-100).

The Superior National Forest installs and maintains waterfowl nesting boxes on many lakes, ponds, and streams. This particular structure is located on a lake about 25 miles north of Lutsen, Cook County, Minnesota; it is nailed to a six-inch diameter balsam fir about 10 feet from water's edge. Height from ground level to the base of the box is about 12 feet, and the aspect of the entrance is 225°. As with most of our boxes, it is constructed of 1-inch thick rough sawn cedar, with exterior dimensions of 12"x12"x24", an oval entrance hole 3"x4", and a hinged top for easy access and cleaning. The bottom is lined with about three inches of cedar chips for nesting material.

The vegetation around the box consists of mature black spruce, balsam fir, and white cedar, with an understory of speckled alder and seedling conifers. Further inland the timber type merges to white birch and trembling aspen.

The first day I saw the Boreal Owl I stayed only long enough to indentify it. It did not leave the nest box but perched in the entrance and watched me for several minutes, then returned to the interior of the box. (See front cover photo). I returned on the 6th of May with a ladder to check the contents of the box. When I set the ladder against the tree, the owl appeared in the box entrance, and flew to a balsam fir approximately 15 feet away. The owl perched in this tree the entire time I was at the box. Upon opening the box I found three ivory colored eggs clustered in the center of the nest, and eight Boreal Red-backed Voles tucked into the corners of the box. The voles appeared to be freshly killed. The owl returned to the interior of the box about two minutes after I climbed down and removed the ladder and did not appear at the box entrance for about five minutes. I was able to photograph both the adult owl and the nest contents during this visit (Fig. 1).

I visited the nest again on the 25th of May, at which time the owl again appeared at the entrance as soon as I set up the ladder. However, this day it was more reluctant to leave the nest box, and waited until I was within about four feet to leave. When I approached closer, it flew to the same perch tree used during my previous visit. Upon checking the nest contents I found one of the eggs hatched, probably within the last 24 hours. There were also six Red-backed Voles in the nest, again appearing freshly killed (Fig. 2).

The chick was of a dark pinkish color, with the developing feathers about 1/16 of an inch in length. It was basically immobile, being unable to even lift its head from the nest floor. I again photographed the nest contents and then returned to the ground. The adult returned to the nest as soon

Fig. 1 — Boreal Owl nest with three eggs, May 6, 1982 — Photo by Thomas Matthiae

Fig. 2 — Boreal Owl nest with two eggs and newly hatched young one day old, May 25, 1982 Photo by Thomas Matthiae

as I removed the ladder and would not reappear at the entrance.

The next day, the 26th, I returned to the nest site with Tom Biebighauser, Tofte Ranger District biologist. The owl did not appear until I was on the ladder. It then returned to the interior and did not reappear until I was almost at the nest box, at which point it flew to its previously used perch site.

I found one more hatched egg, as well as six Red-backed Voles. The younger chick, which would have hatched in the previous 24 hours, appeared at the same stage of development as had the first chick on the 25th. The older chick was able to move about the nest floor somewhat clumsily.

While Tom Biebighauser was climbing to look at the nest, the owl flew to a different perch a little further from the nest. When we removed the ladder the owl returned to the box entrance, perched there for about 30 seconds, then went inside to the nest.

I made my next visit on the third of June with a trainee forester. The owl did not appear when I climbed to the nest, and upon checking the nest I found it to be empty; there were no chicks or eggs, and no adults in sight. The only remains in the nest were several rodent bones, a small amount of down, and about 15 to 20 adult primary feathers. During a search of the immediate area we found what appeared to be rodent remains under the nest tree and a regurgitated pellet under a nearby black spruce.

We found no evidence that suggested what happened to the adult or the chicks, although animal predation is the most likely possibility.

It is unfortunate that the complete development of the owl chicks could not have been observed. It would have been a unique opportunity for myself and an uncommon nesting success for Minnesota. **Box 2231, Tofte, MN 55615.**

Boreal Owl, Aurora, St. Louis Co., 18 March 1982 — Photo by Mark Boback

COMMON GOLDENEYES AT BLACK DOG LAKE

Jeb Barzen

As part of a project developing a trapping technique for Common Goldeneyes (**Bucephala clangula**) wintering in the Twin Cities area, I have had the opportunity to observe goldeneyes at Black Dog Lake for two winters. The lake lies between the Cedar Avenue and Interstate 35 bridges along the Minnesota River (in Burnsville), but is split in half by the Black Dog Generating Plant by a dike/road. Portions of both the east and west halves remain open and are used by waterfowl during the winter because of the plant's warm water effluent. It is on the west arm that the goldeneyes concentrate.

If, while on a winter birding trip, you stopped at Black Dog Lake to see many different species of waterfowl you might drive away disappointed, for the only species of waterfowl to consistently winter at Black Dog Lake are Mallards (**Anas platyrhynchos**), Canada Geese (**Branta canadensis**), Black Ducks (**Anas rubripes**), Common Mergansers (**Mergus merganser**) and Common Goldeneyes. Yet there is a good opportunity for birding at Black Dog if you increase your observational skills through watching the activities of waterfowl there. In particular, by watching the goldeneyes carefully several questions may soon develop: What are the advantages to wintering so far north? How do the birds utilize Black Dog? How many are there? And so on. Even though these questions are simple, they are not readily answerable unless you take time to watch the birds. With the goldeneyes, some of these questions remain unanswered today while others can be answered, at least in part, after watching for an hour or so.

Of the species of waterfowl wintering at Black Dog Lake, the Common Goldeneye offers an array of activity such as courtship that is both easily seen and is common in mid to late winter (December to break-up), a time when other species present are not as active in courtship. At first, these behavioral traits can be over-looked, but with patience they can be seen and understood. The purpose of this article is to highlight aspects of the Common Goldeneye's winter ecology that may be seen at Black Dog Lake. On a broader scale, my purpose here is to identify Black Dog as an interesting winter habitat in which to bird.

To begin with, some advantages of birding at Black Dog Lake are that you can:

1) bird without disturbing either the birds or people living in the area.

2) have easy visibility of your subject (there are no trees to bar your line of sight).

3) conveniently be at Black Dog at dusk and dawn when goldeneyes are most easily seen and active, however, there are usually a few goldeneyes prsent throughout the day.

Some disadvantages of birding at Black Dog Lake are that:

1) binoculars are acceptable for observations, though not as effective as spotting scopes. Spotting scopes, on the other hand, are expensive.

2) careful observation requires you to sit in one position for a longer period of time than identifying birds usually requires. Immobility in winter can lead to a very cold body.

Winter Plumage of Common Goldeneyes:

The first step in observing birds is

to know what you are looking at. In Common Goldeneyes, the adult male and female are in their breeding plumage (such as are shown in any field guide) by winter. Yet, because goldeneyes do not tend to breed until their second year, immature males retain a female-like plumage until some time in their second winter (Bellrose 1978). Thus, from January through the spring, you may see second year males in a transition, changing from immature to adult plumage. This may consist of a gradient ranging from having predominantly adult plumage, but retaining some gray mottling in the breast and side feathers, to a female-like plumage having a light, but apparent, facial disk in the same position as found on adult males. Males in their first winter plumage are female-like as well, but can be distinguished from a female by their larger size (Dane, et al. 1959, Bellrose, 1978).

It is not well known if females breed in their first spring, but, whether they can or not, there is no observable (from the field) plumage transition in the winter similar to males. On the other hand, adult female Common Goldeneyes do show a non-plumage change at the onset of breeding by developing a yellow tip on the bill (covering approximately half of the bill) that begins to appear by January or February (Bellrose 1978). This yellow bill-tip is not found on males and it may be absent on some adult females, as well in early spring (Bellrose 1978). Also, at Black Dog Lake the goldeneyes are far enough away or in poor enough light to make distinguishing a yellow bill-tip difficult. Therefore, distinguishing between adult, breeding females and immature males or females can be difficult at times. For a more thorough descriptive account of general Common Goldeneye plumage see Bellrose (1978).

Winter Movements and Numbers:

Once you know what you are looking at, the next step is to watch for clues such as movements, to begin unraveling goldeneye ecology. In the winter, Common Goldeneyes use Black Dog Lake primarily as a resting area at night (Cooper and Johnson 1977, Sayler and Afton 1981). Courtship is also seen at Black Dog as early as January or February (Sayler and Afton 1981) while the birds primarily feed along the Mississippi River in open areas (Breckenridge 1953, Cooper and Johnson 1977, Sayler and Afton 1981). The majority of these birds leave and arrive at Black Dog during the crepuscular hours (Cooper and Johnson 1977, Sayler and Afton 1981), but generally there are enough birds present just after dawn and before dusk to provide for good observations. This movement behavior has also been seen in Minnesota between the Broadway and Plymouth Avenue bridges (Breckenridge 1953) and at St. Cloud (Jeff Latzka, unpubl.). Of these areas, the Broadway bridge area is little used at present (Cooper and Johnson 1977) and the St. Cloud area has open water for both rafting and feeding areas maintained by the Mississippi River itself.

During the night, the goldeneyes at Black Dog raft together near the ice in open water in one large flock of 300 to 400 birds, even though they return in smaller flocks of 1 to 70 birds. This dependence on open water is so extreme as to make it uncommon to see goldeneyes on land. The density of the raft appears to depend on wind and possibly temperature, such that on cold, windy nights the birds tend to form a tight group that hangs close to the ice edge while on calm, warm nights the birds tend to raft in scattered strings extending out from the ice, sometimes as much as a quarter of a mile.

Courtship Behavior:

After understanding Common Goldeneye identification and movements as they winter at Black Dog Lake, the next step is to begin observing their courtship behavior. Before the geese or puddle ducks at Black Dog begin to court, Common Goldeneye court-

ship is already evident. In Massachusetts, Dane et al. (1959) fully described Common Goldeneye courtship and said that there, rudimentary male displays such as simple head throws were seen as early as December, while female displaying and copulation begins by February. At Black Dog, male and female displaying as well as copulation were seen throughout February in 1982.

The adult male's headthrow is probably the most commonly seen and recognized portion of the goldeneye display. The simple headthrow can occur alone or can be integrated with a neck stretch (bowsprit in Dane et al. 1959) and/or a kick. This more complex head throw is accompanied by an abrupt nasal "rree-deep" ("zzee-at" in Townsend 1910, "zeee-zeee" in Johnsgard 1965, and similar to a Common Nighthawk in Robbins, et al. 1966), while the simple head throw has a softer 'zrrr' ("rrrrt" in Johnsgard 1965) for a vocalization (Dane et al. 1959, Lind 1969, Johnsgard 1965). Even the soft vocalizations can be heard across long distances of Black Dog Lake on a calm day.

More subtle adult male courtship may be seen as a female solicits, which is a form of precopulatory behavior consisting of the female decreasing her buoyancy by compressing her feathers and thus crouching, or sinking, in the water (prone position in Dane et al. 1959). Bill dips with a slight headshake that splashes water, a ritualized (dramatized) drinking, and wing/leg stretches can all be interpreted as major precopulatory displays given by the male. Once the male and female have completed their precopulatory displays, copulation may or may not take place. Dane et al. (1959) reported that in wintering goldeneyes on the Merrimac River there were three incomplete precopulation sequences for every complete one. If copulation does take place, the male begins by steaming (swimming fast) towards the female and mounting her after grabbing her nape feathers with his bill (Dane et al. 1959).

After copulation is completed the male dismounts and swims away from the female, rotating his head horizontally back and forth (ticking in Dane et al. 1959) and emitting a soft vocalization. During this time the female bathes and goes through other comfort movements, such as wing flaps (Dane et al. 1959, Lind 1959), Johnsgard 1965).

In addition to soliciting, female Common Goldeneye courtship behavior is very prevalent, but far more subtle than male displays. These behaviors can include aggression toward other males, neck stretches ("head-up" in Dane et al. 1959) and dips which are similar to a male's head-throw-kick display without the kick (Dane et al. 1959).

For a more detailed summary of Common Goldeneye courtship, Johnsgard (1965) offers a good general description and provides excellent drawings, as well. Dane et al. (1959) is more detailed than Johnsgard and deals quantitatively with Common Goldeneye behavior. Photos showing goldeneye courtship displays are excellent as well. Lastly, Lind (1959) also gives a detailed account of Common Goldeneye behavior but centers his discussion on the comparative and evolutionary background of these displays.

Summary:

This article briefly describes Common Goldeneye ecology seen at Black Dog Lake. Much of this ecology is still unknown about wintering Common Goldeneyes at Black Dog Lake and elsewhere. As you watch these birds you may find that more questions arise than do answers, and this in turn leads to more watching. The winter ecology of Common Goldeneyes adds to the uniqueness of Black Dog Lake as a winter habitat for waterfowl. Not only can this resource provide interesting questions on a scientific level, but on a level of amateur observation and inquiry, as well. In the mid-winter of Minnesota, when the

visible faunal diversity is low, the goldeneyes at Black Dog can provide for good birding if you take the time to look.

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BOOK REVIEWS

An Atlas of the Birds of the Western Palaearctic by Colin Harrison. 1982. Princeton University Press, Princeton, NJ 08540. 322 pp. $25.00.

Why review a book with a title like this in a Minnesota bird journal? A good question especially if one understands that "Palaearctic" means Europe, non-Tropical Asia and North Africa. Well, for one thing this book as a bargain, considering that it contains maps for 826 species with a sketch of over 800 of them on the same page as the map. The sketches are intended

to remind the reader of what the bird looks like; they are not guides to identification. The maps are larger (most of them 2-3/8 inches square) than in the standard European field guides and cover more territory. They are in color, showing breeding range, wintering range, permanent range and significant migration routes. Because a wider geographic range than just Europe is used, the reader has a better sense of the total distribution of species especially those that center in the Mediterranean or across the steppes or tundra of Asia. This knowledge is increased by the author's use of composisite maps, showing together several closely related species that replace each other either ecologically or geographically, across the total land mass of Europe and Asia. For North American readers this is useful to correctly place many waterbirds or shorebirds that occur here either as regular migrants or strays.

Any bird student with an interest in biogeography can learn from the author's main purpose in creating this atlas which gives an excellent illustration of the patterns of distribution of birds of Europe, leading to an understanding of how those patterns evolved. In the introduction he has many maps of climate and vegetation, both now and during the Ice Ages (Pleistocene). As he says a "knowledge of the changes of habitat distribution during the Pleistocene period may help us to understand the evolution and present disrtbution of species and subspecies."

It is impossible for a North American reviewer not to wish that historical biogeography in this country was as far advanced as this atlas. In the United States we do not even have basic maps of the ranges of species on a continent-wide basis, never mind an attempt to put these ranges into historical and ecological perspective. Considering how popular birding has become there must be a market in this country for an up-to-date atlas of our avifauna.

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Gulls: an Ecological History. By Frank Graham, Jr. Photographs by Christopher Ayres. Van Nostrand Reinhold Company. New York, N.Y. 1982. 179 pages. Paperback $8.95.

Currently there is a large market for items with a "gull theme" (e.g., books, art, souvenirs), especially in North American coastal communities. The quality of most of it is, at best, mediocre. For this reason, I began reading Graham's book with great hesitation. Much to my surprise, I found it to be well written, informative on a wide range of topics, and for the most part, scientifically accurate. The author's purpose in writing this book was to document, what he calls, the "social history" of gulls. His goal was to demonstrate how larid population fluctuations mirror the earth's larger environmental problems. Each chapter is filled with information that includes summaries of many of the major studies on the biology of gulls, historical accounts of the role of gulls in bird conservation efforts, and examples of present day conflicts between humans and gulls. The book is illustrated with over 50 black and white photographs; most are above average in quality.

In Chapter 1, Graham examines the long history of human fascination and interaction with gulls. Among his examples, he recounts the role of gulls in saving the life of Longfellow's Hiawatha as well as the crops of Utah's Mormons. He begins the second chapter by criticizing the inappropriateness of the term "seagull" (many species have a very limited association with salt water) and this leads him to a discussion of the process of speciation. Chapter 3 is composed of various subjects pertaining to the general biology of gulls (e.g. longevity records, salt glands, orientation, aerodynamics of flight, feeding habits). Although I

found this chapter a bit disconnected, I was pleased he criticized the popular misconception that gulls eat only fish and garbage. Unfortunately, evolutionary biologists will be uncomfortable with his ending to Chapter 3; he suggests that a possible function of "food-finding" calls may be to help preserve the species. In the fourth chapter, the author does a reasonably accurate job of explaining the process of natural selection and the meaning of the term "adaptation." He illustrates his points with well chosen examples from the gull literature. In Chapter 5, he considers basic aspects of the breeding season by focusing on courtship, parental care, and factors influencing reproductive success. I was disappointed that he made no effort to enlighten readers on recent discoveries of alternative reproductive strategies in gulls (e.g. female-female pairs, polygynous trios).

I found the middle section of the book (chapters 6-12) to be of greatest interest. In these 7 chapters, Graham traces the early efforts of conservationists to establish bird protection laws in this country. He accomplishes this by detailing the use of gulls (and other avian species) for food and fashion. I was fascinated by his description of gulls as part of banquet fares in the big houses of England. For example, he reports that during the seventeenth century, chicks were collected in the breeding colony and fattened in "gull houses" on country estates. Despite the precarious status of some species of gulls at the turn of the century, less than two decades after passing of the Lacey Act (prohibited interstate traffic in birds killed in violation of state laws) and the ratification of the Migratory Bird Treaty (protected most nongame species), gull numbers had increased so rapidly that the U.S. government initiated a program to control Herring Gulls along the Atlantic Coast.

In the last third of the book (chapters 13-17 Graham explains how human activities often led and are leading to dramatic population increases in North American larids and how these increases ultimately result in direct conflicts between humans and gulls. Primary conflicts include gull predation on the eggs or young of other less common species of waterbirds, increases in gull-aircraft collisions, and gull contamination of city water supplies. Graham concludes by emphasizing that both human and gulls have prospered in the modern industrial world, and that because many unwise human environmental practices have brought humans and gulls into conflict, we should use gulls as indicators of the seriousness of considerably larger environmental problems.

This book probably will appeal most to those who spend their summers or vacations in areas where gulls are abundant. Although it is written for a non-scientific audience, the book contains information not readily available in other sources, so it should be of interest to serious gull biologists as well.

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Spring Season

(March 1 - May 31, 1982)

Dick Ruhme, Don Bolduc and Oscar Johnson

For the spring season which is March 1 through May 31 there were 304 species reported on 74 seasonal reports. In contrast to the past few springs, this March was like old times — it snowed often and was extremely cold at times. Temperatures in the north on the ninth indicate records were broken, -22° at Duluth and -26° at Warroad.

During the middle of March, when temperatures moderated, the snows came with six and one-half inches at Duluth and two to three inches in the central part of the state. The cold remained throughout the rest of the month with above average precipitation. Certainly the harsh winters with much snow can account for: more reports in the southern counties of birds that ordinarily remain in the north (as Ravens) and also for a greater number of dead birds (as Boreal Owls).

Interesting and unusual species reported to RBA and by observers in March were: Gyrfalcons in Duluth; Ferruginous Hawk, Big Stone (April and May in Chippewa and Marshall); Prairie Falcon, Wilkin (May in Cottonwood); Great Gray Owl, Hubbard, Beltrami (April, St. Louis); Northern Three-toed Woodpecker, St. Louis, Washington (May in Cook); Mountain Bluebird 5 counties March through May; Red Crossbills March to April with young.

With temperatures in the fifties the first two days of April, things looked promising indeed. But on the third and fourth when the storms brought snow, severe below zero cold in the north and somewhat warmer in the south, several observers reported many birds at roadsides and feeders. The front page of the metro newspaper reported robins being driven back south! The season's snowfall was reported as 95".

About mid-April the temperatures returned to normal with above averages the remainder of the month. April pleased many observers with Snowy Egret, Big Stone, Lac Qui Parle; Cattle Egret, Olmsted, Dakota, Scott; Cinnamon Teal, Nicollet; Spruce Grouse, Cook (May in Lake); Boreal Owl April through May, Cook; Bewick's Wren, Ramsey.

The temperature in May was above average for the first few days, then normal with showers on and off the rest of the month. This resulted in good birding due to the frequent grounding of migrants. Waves were frequent and spread out as follows: Warblers: 4th to 9th in southeastern Minnesota; 20 species with 5 vireos at Faribault on the 9th; 20 species in St. Paul on the 11th; a peak in the metro area on the 13th; Duluth on the 14th to the 22nd with 22 species reported by JB on the 2nd; and a wave on the 27th in Marshall. A wave of Least Flycatchers, thrushes and Catbirds occurred on May 11th.

May produced many exciting birding reports: Yellow-crowned Night

Heron, Scott; Peregrine Falcon, Aitkin, Duluth, Wright; Yellow Rail, Houston; Wilson's Plover, Willets, Whimbrel, Red Knot, Pomarine Jaeger, Laughing Gull, Thayer's Gull, Little Gull, Black-legged Kittiwake, Burrowing Owl, Yellow-breasted Chat, Duluth; 300 Hudsonian Godwits, Polk; Ruff and Reeve, Aitkin; Red-bellied Woodpecker, Cook; Say's Phoebe, Rock; Mockingbird, Clay, Cottonwood, Lac Qui Parle, Duluth; White-eyed Vireo, Houston; Blue-winged Warbler (Brewster's), Yellow-throated Warbler, Worm-eating Warbler, Hooded Warbler, Hennepin; Kentucky Warbler, Dakota; Summer Tanager, Lyon; Hoary Redpolls late in Duluth.

You are reminded that returning REQUEST FOR DETAILS forms providing the necessary description and information is essential to the accuracy of these reports. D.B.

Common Loon

Early south 4-2 Rice KJ, 4-6 Washington TBB, 4-12 Mower RRK; early north 4-15 Otter Tail SDM, 4-17 Aitkin WN and Hubbard DJ, 4-18 Cass KSS.

Red-throated Loon

5-18 Duluth KE, others, 5-24 Duluth JD (5), 5-28 Cook SDM.

Red-necked Grebe

Early south 4-10 Scott GS; early north 4-16 St. Louis JG, 4-17 Aitkin WN, 4-21 Marshall ANWR, 4-23 Otter Tail GMO, 4-26 Cook KMH.

Horned Grebe

Early south 3-27 Dakota BL, 4-8 Wabasha DWM, 4-14 Anoka SC; early north 4-4 Otter Tail SDM, 4-17 Aitkin WN, 4-22 Beltrami JSP.

Eared Grebe

Early south 4-24 Yellow Medicine HK, 4-27 Hennepin VL and Scott RJ; early north 4-25 Polk MH, 4-27 Marshall ANWR, 4-28 Aitkin TCS.

Western Grebe

Early south 4-5 Washington TBB, 4-18 Stearns NH, 4-21 Blue Earth JCF and Lac Qui Parle CMB; early north 4-16 Aitkin JB, 4-18 Otter Tail SDM, 4-29 Marshall ANWR.

Pied-billed Grebe

Early south 3-18 Olmsted JEB, 3-24 Lac Qui Parle HK, 3-27 Anoka SC and Faribault RJ; early north 3-14 Otter Tail SDM, 4-3 Beltrami AS, 4-4 Marshall JSP and St. Louis LW.

White Pelican

Early south 4-1 Big Stone KL, 4-4 Rice RJ, 4-7 Lac Qui Parle CMB; early north 4-11 Otter Tail SDM, 4-14 Marshall ANWR, 4-16 Pennington KSS.

Double-crested Cormorant

Early south 4-1 Daktoa SC, Lac Qui Parle KL, 4-2 Rice KJ; early north 4-11 Otter Tail SDM, 4-13 Beltrami AS, 4-14 Polk MH.

Great Blue Heron

Early south 3-13 Dodge RJ, 3-14 Anoka KL, 3-15 Stearns NH; early north 3-16 Otter Tail GMO, SDM, 3-23 Hubbard BM and St. Louis KE.

Northern Green Heron

Early south 4-11 Dakota BE and Hennepin VL, 4-19 Olmsted JEB, 4-22 Mower RRK; early north 4-29 Mille Lacs CF/KB, 5-5 St. Louis TL, 5-7 Otter Tail SDM.

Cattle Egret

4-19 Olmsted BE, 4-25 Dakota JD, 5-6 Marshall ANWR, 5-15, 16 Cottonwood CMB, DB, OJ, 5-17 Houston FL, 5-23 Houston KE, RJ and Scott (no dates) WL.

Great Egret

Early south 3-29 Houston FL, 4-1 Dakota SC, 4-2 Nicollet JCF, Ramsey BL and Rice KJ; early north **3-29** Otter Tail SDM, 4-12 Crow Wing JB, 4-13 Marshall ANWR.

SNOWY EGRET

4-24 Lac Qui Parle HK, 4-25 Big Stone BL.

LOUISIANA HERON

4-20, 21 Becker JP, J. Mittleholtz.

Louisiana Heron, 20 May 1982, Osage, Becker Co. — photo by Jeff Mittelholtz

Black-crowned Night Heron
Early south 4-9 Ramsey RH, 4-13 Hennepin SC, 4-15 Washington TBE; early north 4-13 Marshall ANWR, 4-24 Otter Tail SDM, 5-2 **Duluth** KE.

Yellow-crowned Night Heron
5-8 Scott RJ.

Least Bittern
5-10 Olmsted JEB, 5-15 Martin EB/K, 5-20 Blue Earth MF, 5-27 Goodhue BL.

American Bittern
Early south 4-11 Houston JP/AM, 4-21 Rice KJ, 4-24 Jackson BL; early north 4-18 Aitkin WN, 4-23 Mille Lacs CF/KB, 4-27 Marshall ANWR and St. Louis KE.

Whistling Swan
Early south 3-26 Wabasha DGW, 3-27 Dakota JD; early north 3-28 Otter Tail SDM, 4-1 Pine LW; late south 4-6 Faribault JCF, 4-11 Murray LJF; late north 4-16 Aitkin JB and Mille Lacs CF/KB, 4-19 Marshall ANWR.

Canada Goose
Permanent resident; reported from 24 counties south 16 north.

Snow Goose
Early south 3-4 Hennepin RJ, 3-6 Olmsted JEB (wintering birds); early north 3-28 Otter Tail SDM, 4-10 Aitkin WN; late south 3-30 Stearns NH, 4-1 Redwood LJF; late north 5-8 Wilkin GMO, 5-17 Pennington KSS.

White-fronted Goose
Early south 3-24 Blue Earth JCF, 3-27 Olmsted BE, 3-29 Wabasha DWM; early north 3-23 Becker EH/SS, 3-28 Otter Tail SDM.

Mallard
Permanent resident; reported from 20 counties south, 13 north.

Black Duck
South 3-1 Dakota RH and Washington TBB, 3-7 Winona OJ (wintering birds); early north 3-30 Otter Tail SDM, 4-2 Lake SW/MS, 4-10 Cook MH.

Gadwall
Early south 3-14 Lac Qui Parle CMB, Lyon and Murray HK, 3-17 Olmsted JEB; early north 3-18 St. Louis KE, 3-21 Otter Tail SDM, 4-4 Beltrami JSP.

Pintail
Early south 3-6 Hennepin RH, 3-11 Martin EB/K, 3-13 Wright AB, DB; early north 3-28 Otter Tail SDM, 4-1 Marshall ANWR, 4-4 Beltrami JSP and St. Louis M. & D. Evans.

Green-winged Teal
Early south 3-14 Murray HK, 3-21 Washington TBB, 3-23 Nicollet JCF; early north 3-30 Otter Tail SDM, 4-2 Grant KL, St. Louis KE.

Blue-winged Teal
Early south 3-18 Olmsted JEB, 3-23 Mower RRK, 3-24 Blue Earth JCF; early north 4-2 Grant and Otter Tail KL, 4-12 Polk KSS, 4-15 Marshall ANWR, Mille Lacs CF/KB and St. Louis KE.

CINNAMON TEAL
4-16 through 18 Nicollet JCF.

American Wigeon
Early south 3-14 Lac Qui Parle CMB,

3-17 Murray HK and Olmsted JEB; early north 3-28 Otter Tail SDM, 4-2 Marshall ANWR, 4-3 Beltrami JSP.

Northern Shoveler

Early south 3-14 Lac Qui Parle CMB, 3-21 Houston FL, 3-23 Anoka KL and Blue Earth JCF; early north 3-28 Otter Tail SDM, 4-1 Beltrami JSP, 4-9 Itasca TL.

Wood Duck

Early south 3-12 Renville LJF, 3-20 Le Sueur HC, 3-23 Nicollet JCF; early north 3-28 Otter Tail SDM, 4-2 Beltrami JSP, 4-10 Aitkin WN.

Redhead

Early south 3-14 Murray HK, 3-20 Martin EB/K, 3-24 Blue Earth JCF and Olmsted JEB, RJ; early north 3-30 Otter Tail SDM, 4-12 Polk KSS, 4-15 Marshall ANWR.

Ring-necked Duck

Early south 3-7 Olmsted DB, 3-14 Lac Qui Parle CMB and Murray HK; early north 3-21 Otter Tail SDM, 4-12 Marshall ANWR and Polk KSS.

Canvasback

Early south 3-3 Olmsted JEB, 3-21 Scott ES, 3-22 Winona BL; early north 4-7 Beltrami JSP, 4-9 Itasca TL, 4-15 Marshall ANWR and Otter Tail SDM.

Greater Scaup

Early south 3-11 Olmsted BE, 3-26 Dakota AB, 3-31 Murray HK; early north 3-1 Beltarmi JSP, 3-10 St. Louis MH, 3-18 Otter Tail SDM.

Lesser Scaup

Early south 3-1 Olmsted JEB, 3-13 Wright AB, 3-14 Dakota ES, Lac Qui Parle CMB, Hennepin OJ; early north 3-14 Otter Tail GMO, 3-31 Marshall ANWR, 4-3 St. Louis KE.

Common Goldeneye

Late south 4-25 Houston JP/AM, 5-10 Stearns SE, 5-23 Stevens KL.

Bufflehead

Early south 3-12 Martin KL, ES, 3-14 Houston EMF; early north 3-14 Otter Tail GMO, 3-20 Mille Lacs CF/KB; late south 5-8 Rice RJ, 5-19 Stearns NH; late north 5-12 Grant SDM, 5-15 Cook USFS.

Oldsquaw

All reports Cook County: 3-17 MKH, 5-26 MKH, 5-27 FL, 5-30 MKH.

White-winged Scoter

4-4 Wabasha WDM, 5-18 Marshall ANWR, 5-19 Duluth KE, 5-24 Duluth SDM, 5-26 Cook MKH.

Ruddy Duck

Early south 3-14 Lac Qui Parle CMB, 3-21 Olmsted JEB, BE, KL, 3-22 Wabasha DWM; early north 4-4 Otter Tail SDM, 4-15 Marshall ANWR, 4-30 Crow Wing TS. Also 5-11 **Duluth** KE.

Hooded Merganser

Early south 3-18 Houston EMF and Washington BL, 3-21 Dakota ES; early north 3-27 St. Louis TL, 3-28 Otter Tail SDM, 3-30 Marshall KSS.

Common Merganser

Late south 4-18 Hennepin OJ, 4-23 Wabasha WDM, 4-26 Ramsey BDC.

Red-breasted Merganser

Early south 3-21 Dakota ES, Goodhue KL, Martin EB/K and Olmsted JEB, BE; early north 3-30 Marshall KSS, 4-10 Lake MH; late south 5-18 Dakota SC, 5-22 Washington DB.

Turkey Vulture

3-26 Goodhue AB, DGW, 3-27 Lac Qui Parle HK, 3-31 Goodhue BL; early north 4-4 St. Louis D. Green, 4-7 Beltrami JC, 4-11 Crow Wing TS.

Goshawk

Late south 4-9 Anoka OJ, Scott DJ, 4-28 Wabasha DMW, 5-15 Goodhue AB.

Sharp-shinned Hawk

Early south 3-2 Wabasha DWM, 3-5 Le Sueur HC and Ramsey RJ; early north 3-28 Isanti OJ and Otter Tail SDM, 3-31 St. Louis Koni Sundquist.

Cooper's Hawk

Early south 3-27 Stearns SE, 3-28 Hennepin ES, 4-9 Hennepin OJ and Houston JP/AM; early north 4-3 Crow

Wing JB, 4-11 Otter Tail SDM, 4-12 Hubbard DJ.

Red-tailed Hawk
Permanent resident south; early north 3-1 Clay LCF, 3-21 Otter Tail SDM, 3-26 Mille Lacs CF/KB and St. Louis KE. Reported from 13 counties north, 24 south.

Red-shouldered Hawk
Early south 3-26 Dakota AB, Goodhue DGW, 3-27 Anoka SC; early north 3-27 Aitkin WN, 3-28 Crow Wing JB, 3-31 Otter Tail SDM.

Broad-winged Hawk
Early south **3-27** Lyon HK, 4-14 Blue Earth MF, 4-17 Rice KJ, Washington KM, DGW; early north 4-6 Mille Lacs CF/KB, 4-15 Crow Wing SE, 4-24 Clearwater JSP, Cook MKH and St. Louis KE.

Swainson's Hawk
Early south 4-7 Lac Qui Parle CMB, 4-12 Mower RRK, 4-16 Olmsted JEB, BE; early north 5-2 Red Lake RJ, 5-15 Chippewa KL, 5-17 Marshall KSS.

Rough-legged Hawk
Late south 4-11 Houston JP/AM, 4-16 Anoka DS, 5-8 Winona FL; late north 4-27 Pennington KSS, 4-28 Crow Wing DJ, 5-6 Beltrami JC.

FERRUGINOUS HAWK
4-17 Chippewa KL, 4-24 Big Stone HK, 5-7 Marshall JM, 4-15 Cottonwood many obs.

Golden Eagle
3-6 Marshall KSS.

Bald Eagle
Reported from 27 counties. Peak 3-26 Wabasha DGW (13A, 20I). Nesting reported 3-6 Houston FL.

Marsh Hawk
Early south 3-14 Olmsted JEB, 3-15 Renville FKS, 3-16 Blue Earth JCF; early north 3-3 Marshall ANWR, 3-14 Otter Tail GMO and Wilkin SDM.

Osprey
Early south **3-28** Cottonwood LAF, 4-13 Mower RRK and Ramsey RH; early north 3-23 Hubbard DJ, 3-28 Otter Tail SDM, 3-15 Aitkin WN.

Gyrfalcon
Overwintered, last seen 3-21 Duluth M. & D. Evans.

PRAIRIE FALCON
3-14 Wilkin SDM, 5-16 Cottonwood HK.

Peregrine Falcon
Early south 4-5 Ramsey KL; early north 4-28 Crow Wing fide KE, 4-29 Marshall ANWR, 5-3 Otter Tail SDM; late south 5-25 Washington BL.

Merlin
Early south 3-28 Stearns NH, 3-31 Hennepin RH; early north 3-28 Crow Wing JB, 4-16 Clay LCF, 4-23 Lake KL.

American Kestrel
Early north 3-4 Otter Tail GMO, 3-14 Wilkin SDM, 3-19 Clay LCF.

Spruce Grouse
Permanent resident; reported 4-18, 4-26, 5-6 Cook MKH, 5-6 Lake SW/MS.

Ruffed Grouse
Permanent resident; reported from 12 counties north, 14 south.

Greater Prairie Chicken
Permanent resident; reported 3-14 Otter Tail SDM, 4-14 **Marshall** ANWR, 4-25 Cass WN, 4-27 Pennington KSS, 5-8 Polk MH.

Sharp-tailed Grouse
Permanent resident; reported 4-17 Marshall JSP, 5-5 Lake of the Woods TW, 5-8 Polk MH, 5-17 Pennington KSS, also Red Lake (no date) KL.

Bobwhite
Reported 3-26 Houston AB.

Ring-necked Pheasant
Permanent resident; reported from eight counties north, 30 south.

Gray Partridge
Permanent resident; reported from 11 counties north, 16 south.

Turkey
Reported 3-1 to 5-31 Houston EMF, 5-22 Winona DGW, 5-27 Houston BL.

Sandhill Crane
Early south 4-2 Anoka BH, 4-12 Lyon HK, 4-25 Lac Qui Parle SC; early north 3-31 Marshall ANWR KSS 4-14 Polk MH, 5-2 Lake of the Woods TW.

Virginia Rail
Early south 4-26 Hennepin SC, 4-30 Houston JP/AM, 5-2 Wright ES; early north 4-27 St. Louis KE, 5-9 Polk MH, 5-17 Marshall ANWR.

Sora
Early south 4-17 Rice KJ, 4-18 Hennepin SC, 4-21 Ramsey RH; early north 4-24 Otter Tail SDM, 4-27 Pennington KSS, 4-29 Marshall ANWR.

Yellow Rail
4-30 to 5-2 Houston JP/AM, FL.

Common Gallinule
4-28 Olmsted BE, 5-12 Wabasha DWM, 5-27 Hennepin ES.

American Coot
Early south 3-6 Hennepin RH, 3-17 Blue Earth JCF, 3-20 Olmsted BE; early north 4-1 Marshall ANWR, 4-12 Polk KSS, 4-16 Aitkin JB, WN and Beltrami JC.

WILSON'S PLOVER
5-15 to 20 Duluth TL, LW, many obs.

Semipalmated Plover
Early south 4-24 Lac Qui Parle SC, HK, 4-30 Hennepin ES, Nicollet JCF, Wabasha BL; early north 5-7 Otter Tail SDM, 5-8 Wilkin FL; late south 5-15 Olmsted BE, 5-27 Ramsey SC; late north 5-27 St. Louis MH, 5-30 Lake of the Woods TW.

Piping Plover
4-24 Lake of the Woods TW, Lincoln BL, HK, 4-25 Lac Qui Parle BL, 5-8 St. Louis JG, TL and 5-22 St. Louis LW.

Killdeer
Early south 3-10 Mower RRK, 3-14 Cottonwood LAF, Dakota JD, Lyon HK and Olmsted JEB, BE; early north 3-17 Clay SDM, 3-29 St. Louis LW, 3-30 Pennington KSS.

American Golden Plover
Early south 4-15 Houston EMF, 4-24 Redwood RJ; early north 4-28 Aitkin JB, 5-4 Clay LCF; late south 5-18 Houston EMF and Rice KJ; late north 5-23 St. Louis ES, 5-25 Polk KSS.

Black-bellied Plover
Eary south 4-25 Lac Qui Parle BL, 4-26 Lyon HK; early north 5-6 Aitkin WN, 5-8 Pennington KSS and St. Louis JSP; late south 5-16 Yellow Medicine CMB, 5-22 Wabasha DGW; late north 5-28 Marshall ANWR, 5-30 Clearwater RJ.

Ruddy Turnstone
Early north 5-5 Polk KSS, 5-12 Aitkin WN; late south 5-16 Yellow Medicine CMB, 5-22 Martin EB/K; late north 5-28 St. Louis AB, 5-31 Lake of the Woods TW.

American Woodcock
Early south 3-21 Houston FL and Washington DS, 3-22 Le Sueur HC; early north 3-28 Mille Lacs CF/KB, 3-29 Otter Tail SDM, 4-1 St. Louis KE.

Common Snipe
Early south 3-28 Redwood LJF, 4-1 Dakota JC, 4-2 Nicollet JCF and Wright RH; early north 4-2 Douglas KL, 4-12 Pennington KSS, 4-13 Otter Tail SDM.

Whimbrel
5-20 Duluth (8) KE.

Upland Sandpiper
Early south 5-1 Murray LJF, 5-8 Chippewa CMB; early north 5-1 Carlton LW, Douglas AB, Otter Tail GMO and Polk KSS.

Spotted Sandpiper
Early south 4-4 Stearns NH, 4-21 Lyon HK, 4-27 Mower RRK; early north 4-15 Pennington KSS, 4-30 Aitkin TS, 5-1 Carlton LW and St. Louis KE.

Solitary Sandpiper

Early south 4-24 Big Stone HK, 4-25 Houston FL, JP/AM; early north 4-30 Aitkin TS and Otter Tail SDM; late south 5-14 Nicollet JCF, 5-22 Olmsted BE; late north 5-17 Lake SW/MS, 5-18 St. Louis JG.

Greater Yellowlegs

Early south 3-31 Redwood KJ, 4-7 Blue Earth JCF; early north 4-12 Polk KSS, 4-13 Otter Tail SDM; late south 5-29 Washington DS; late north 5-20 Carlton DB, 5-28 Cook MKH.

Lesser Yellowlegs

Early south 3-31 Blue Earth JCF, 4-1 Rock KL; early north 4-2 Otter Tail GMO, 4-12 Polk. KSS; late south 5-13 Hennepin OJ, 5-14 Nicollet JCF and Olmsted BE; late north 5-26 Aitkin TDS, 5-28 Cook KMH.

Willet

Early south 4-24 Jackson BL, Redwood KJ, 4-25 Lac Qui Parle SC; early north 5-5 Aitkin WN, 5-8 Duluth JG, TL, Marshall ANWR and Ottar Tail GMO.

Red Knot

5-19 Lake of the Woods TW, all other reports from Duluth 5-19, 22, 23, 26, 27 KE, many obs.

Pectoral Sandpiper

Early south 4-15 Lyon HK, 4-16 Wabasha DWM; early north 4-22 Otter Tail SDM, 4-29 Aitkin JB, WN; late south 5-16 Cottonwood CMB, Rice KJ, 5-18 Nobles GS; late north 5-13 Marshall ANWR, 5-29 Pennington JSP.

White-rumped Sandpiper

Early south 4-24 Lac Qui Parle HK, 4-30 Hennepin ES, 5-8 Olmsted JEB, 5-9 Washington DGW; early north 5-16 Duluth KE, TL, 5-17 Pennington KSS, 5-20 Carlton DB; late south 5-29 Ramsey KL; late north 5-27 Duluth, FL, 5-30 Clearwater RJ, 5-31 Otter Tail SDM.

Baird's Sandpiper

Early south 4-24 Watonwan RJ, Lincoln BL, Lac Qui Parle SC, HK, 5-4 Nicollet MF; early north 4-25 Otter Tail SDM, 5-1 Douglas AB; late north 5-26 Pennington KSS.

Least Sandpiper

Early south Lac Qui Parle 4-24 HK, 4-25 BL, 5-6 CMB, 4-30 Nicollet JCF, 5-2 Wabasha DWM; early north 5-3 Otter Tail SDM, 5-9 St. Louis KE, 5-12 Aitkin WN, 5-13 Marshall ANWR; late north 5-21 Lake of the Woods TW, 5-22 St. Louis MH, LW, Pennington 5-26 KSS, 5-29 JSP.

Dunlin

Early south 4-24 Lac Qui Parle SC, 5-6 Wabasha DWM, 5-7 Nicollet JCF, 5-10 Lyon HK; early north 4-17 St. Louis KE, 4-30 Otter Tail SDM, 5-1 Polk KSS, 5-10 Aitkin TS; late south 5-22 Wabasha DGW; late north 5-24, 30 Lake of the Woods TW, 5-26 Polk KSS, 5-29 Pennington JSP.

Semipalmated Sandpiper

Early south 4-24 Lincoln BL, Lac Qui Parle 4-24 SC, HK, 5-2 AB, 4-30 Nicollet JCF, 5-4 Olmsted BE; early north 4-30 Otter Tail SDM, 5-8 Red Lake AS, 5-12 Aitkin JB, WN, 5-13 Marshall ANWR; late south 5-19 Lac Qui Parle GS, 5-22 Wabasha DGW; late north 5-25 Pennington KSS, St. Louis 5-26 KE, 5-29 MH, 5-31 Otter Tail SDM.

Western Sandpiper

4-24 Lac Qui Parle HK, 5-2 Olmsted BE, 5-14 Nicollet JCF, 5-15 Traverse KL, 5-17 Pennington KSS — all reports.

Sanderling

Early south 5-6 Lac Qui Parle CMB, 5-16 Yellow Medicine CMB; early north 5-8 Pine LW, St. Louis 5-17 KE, 5-18 JG; late north 5-26 Cook MKH, Pennington 5-26 KSS, 5-29 JSP, 5-28 St. Louis AB.

Short-billed Dowitcher

Early south 4-24 Lincoln BL, 4-29 Rice KJ, Lac Qui Parle 5-2 AB, 5-6 CMB, 5-8 Scott RJ, Martin EB/K; early north 5-12 Crow Wing JB, 5-13 St. Louis TL, Marshall ANWR, 5-14 Duluth JG; late south 5-16 Meeker OJ,

Yellow Medicine GMB; late north 5-20 Duluth RJ, DB, 5-28 Aitkin WN, 5-30 Red Lake RJ.

Long-billed Dowitcher

Early south Lac Qui Parle 4-25 SC, 5-2 AB, Nicollet 4-30 JCF, 5-4 MF, 5-2 Wabasha DWM; early north 4-25 Otter Tail GMO, 4-29 Aitkin WN; late south Yellow Medicine 5-16 CMB, 5-18 HK; late north 5-12 Otter Tail SDM, 4-25 Steele EK sp.? 4-30 Aitkin JB sp.?

Stilt Sandpiper

5-7 Nicollet JCF, 5-16 Rice KJ, 5-20 Carlton RJ, DB, 5-24 Marshall ANWR, 5-30 Red Lake RJ — all reports.

Buff-breasted Sandpiper

Only report — 5-15 Jackson RJ, HK.

Marbled Godwit

Early south 4-25 Martin EB/K, 5-2,3 Wabasha DWM, 5-8 Chippewa CMB; early north 4-11 Polk fide MH, Pennington 4-12 KSS, 4-17 JSP, 4-14 Marshall ANWR, 4-18 Otter Tail SDM, 5-1 Red Lake RJ; late south 5-15 Cottonwood DB, JEB, 5-20 Renville FKS; rare in these counties 5-20 **Duluth** KE, 5-23 **St. Louis** AE, 5-26 **Cook** MKH.

Hudsonian Godwit

Early south 4-24 Watonwan RJ, 5-6 Lac Qui Parle CMB, 5-10 Martin EB/K; early north Aitkin 4-30 TS, 5-4 WN, 5-4 Otter Tail GMO; late south 5-16 Yellow Medicine CMB, 5-29 Ramsey KL; late north **St. Louis** 5-18 JG, 5-20 KE, 5-22 BL, 5-23 JG, 5-19 Wilkin GS, 5-24 Marshall ANWR. Peak number 5-15 Polk KSS (**300**).

RUFF

5-9 Aitkin JB, WN (1m,1f). See Notes of Interest, THE LOON, Vol. 54, No. 3, p. 193.

American Avocet

All reports — Lac Qui Parle 4-25 SC, 5-2 AB, 5-1 Otter Tail GMO, 5-6 Steele EK, 5-19 Yellow Medicine HK, 5-22 Lake of the Woods TW, 5-29 Pennington JSP, 5-31 Grant SDM.

Wilson's Phalarope

Early south 4-24 Lac Qui Parle HK, SC, Nicollet RJ, Watonwan BL, 4-30 Olmsted JEB; early north 5-4 Pennington KSS, Aitkin 5-4 WN, 5-5 JB, 5-5 Marshall ANWR, 5-31 **St. Louis** SS.

Northern Phalarope

All reports — 5-10 Lyon HK, Marshall 5-24 ANWR, 5-28 JSP, 5-28 Nicollet JCF, Carlton RJ, 5-30 Red Lake RJ.

POMARINE JAEGER

5-20 Duluth RJ, DB, R. Ruhme, R. Glassel, 5-22 Duluth MH sp.?

Herring Gull

Reported from 22 south and 13 north counties.

Thayer's Gull

Only report — 5-15 Duluth JG.

Ring-billed Gull

Reported from 22 south and 22 north counties.

LAUGHING GULL

5-18 to 21 Duluth KE (1 ad), 5-21 JB.

Franklin's Gull

Early south 3-21, 4-4 Dakota ES, 3-31 Blue Earth JCF, Redwood 3-31 RJ, 4-13 LJF, 4-15 Lyon HK; early north 3-29 Otter Tail SDM, 4-12 Pennington KSS, Marshall 4-12 ANWR, 4-17 JSP.

Bonaparte's Gull

Early south 4-14 Hennepin AB, 4-17 Kandiyohi RJ, Lyon HK, 4-19 Wabasha DWM; early north 4-12 Pennington KSS, 4-16 Marshall ANWR, 4-17 Otter Tail SDM, 4-22 St. Louis TL; late south 4-30 Wabasha DWM, 5-18 Anoka SC; late north St. Louis 5-20 DB, 5-22 OJ, FL, 5-23 Lake of the Woods TW, 5-28 St. Louis AB.

LITTLE GULL

5-19 Park Point, Duluth KE (2).

BLACK-LEGGED KITTIWAKE

5-27 Park Point, Duluth KE, FL, SDM (1-2nd yr), 5-28 Duluth RJ, MH, 5-30 Duluth KE. See Notes of Interest, THE LOON, Vol. 54, No. 3, p. 190.

Forster's Tern

Early south Hennepin 4-14 AB, VL, Anoka SC, Lyon HK, 4-15 Hennepin

RJ, 4-16 Nicollet JCF, Houston JP/AM; early north 4-18 Grant SDM, 4-24 Mille Lacs AB, 4-28 Marshall ANWR, 5-4 Beltrami JSP.

Common Tern

Early souht 4-14 Washington KM, 4-20 Hennepin VL, 4-23 Wabasha DWM, 4-27 Olmsted JEB, 4-29 Lyon HK; early north 5-1 Douglas RJ, Hubbard DJ, St. Louis 5-4 TL, 5-5 KE, JG, LW.

Caspian Tern

Early south 4-25 Stearns NH, Hennepin 4-27 DB, 4-28 ES; early north 5-2 St. Louis KE, 5-3 Beltrami AS, 5-4 Lake of the Woods TW; late south 5-27 Hennepin ES, 5-29 Blue Earth MF, 5-30 Ramsey KL **90**, 5-31 Washington DS, Ramsey BL **90;** late north 5-30 Cass KSS, Hubbard TCS, 5-31 Lake of the Woods TW, Douglas RH.

Black Tern

Early south 4-30 Olmsted JEB, 5-1 Mower RRK, 5-5 Ramsey RH, Hennepin ES, 5-7 Nicollet JCF; early north 5-9 Douglas SDM, Beltrami 5-13 AS, 5-14 JSP, 5-14 Lake of the Woods TW, 5-15 Hubbard HJF, Pennington KSS.

Rock Dove

Permanent resident reported from 42 south and 21 north counties.

Mourning Dove

Some wintering birds; early north 3-9 Polk MH, 3-15 St. Louis KE, 3-17 LW, 3-19 Hubbard DJ; reports from 22 other northern counties and 36 south counties.

Yellow-billed Cuckoo

Houston 5-16 JP/AM, 5-30 FL, 5-18 Lyon HK, 5-19,28 Hennepin ES, 5-22 Olmsted JEB, 5-23 Anoka KL, 5-28 Nicollet JCF — all reports.

Black-billed Cuckoo

Early south Hennepin 5-13 BDC, 5-14 SC, 5-16 AB, 5-13 Houston EMF, Le Sueur HC, 5-14 Nicollet JCF, 5-15 Cottonwood JEB, DB, OJ; early north 5-12 Polk MH, 5-16 Otter Tail SDM, 5-17 Becker EH/SS, 5-23 Beltrami AS.

Screech Owl

Permanent resident reported from Hennepin, Houston, Jackson, Lyon, Martin, Rock, Washington and Crow Wing counties.

Great Horned Owl

Permanent resident reported from 24 south and 15 north counties.

Snowy Owl

5-16 St. Louis S. Berdie.

Hawk Owl

4-8,11 Duluth J. Eaton.

Burrowing Owl

5-6 Lac Qui Parle CMB.

Barred Owl

Permanent resident reported from 19 south and nine north counties.

Great Gray Owl

3-4 Beltrami DJ, 3-23, 5-24 Hubbard JC, St. Louis 4-14 R. Fields fide JG, 5-22 AE, 5-26 fide KE, 5-29 D. Zumeta, 5-20 Roseau KE — all reports.

Long-eared Owl

4-21 Hennepin AB, 4-26 Otter Tail SDM, 4-28 Lyon HK, 5-15 Cook MKH — all reports.

Short-eared Owl

All reports: 3-24 Fillmore RJ, 3-31 St. Louis M/D Evans fide KE, 3-31 Lyon HK, 4-24 KSS, 5-1,2 RJ, Red Lake, 4-25 Marshall ANWR, 5-8 Polk MH.

Boreal Owl

3-18 St. Louis AE, 3-19 Crow Wing G Kvale fide JG, Cook 3-19, 4-15 MKH, 4-6,11 SL, 3-7 to 4-11 Cook m.ob. From 3-3 to 4-10 a total of 24 were found on the North Shore (most dead or starving). On 5-3,6 a nest and three eggs were found; they hatched 5-24 to 26 and were gone by 6-3.

Saw-whet Owl

South: 3-2, 4-17 Houston JP/AM, 3-6 Olmsted BE, 3-31 Stearns NH; north: St. Louis 3-6 to 14 fide KE, 3-22 M. Carr fide KE, 3-31 Aitkin WN, 4-8 Beltrami AS, Cook 4-10 MH, 4-15 MKH, 5-27 Hubbard DJ — all reports.

Whip-poor-will

Early south Houston 4-23 EMF, 5-10 JP/AM, 5-5 Hennepin, Anoka SC, 5-11 Scott RJ; early north 4-29 Marshall ANWR, 4-30 Crow Wing TS, 5-3 Lake of the Woods TW.

Common Nighthawk

Early south 4-29 Houston FL, 5-5 Washington TBB, 5-7 Hennepin RJ, SE, 5-8 Houston JP/AM, Anoka SC; early north 5-8 Aitkin WN, 5-10 Mille Lacs CF/KB, 5-14 Beltrami JSP, Otter Tail SDM, Hubbard HJF.

Chimney Swift

Early south 4-24 Blue Earth BL, Nicollet RJ, Hennepin OJ, 4-25 Martin EB/K, 4-27 Houston JP/AM, Hennepin SC, Dakota JD; early north 4-25 Crow Wing TS, 5-2 Traverse AB, 5-3 Crow Wing JB, Marshall ANWR.

Ruby-throated Hummingbird

Early south 5-8 Houston EMF, JP/AM, 5-9 Blue Earth JCF, 5-12 Le Sueur HC; early north 5-4 Beltrami AS, 5-11 St. Louis M. Evans, 5-12 Lake of the Woods TW, Crow Wing JB.

Belted Kingfisher

Some over-winter mostly in south counties; early north 3-29 Otter Tail SDM, 4-2 Marshall ANWR, 4-3 Mille Lacs CF/KB, Hubbard DJ.

Common Flicker

Early north 3-10 St. Louis K. Sundquist fide KE (probably overwintered), 3-28 Otter Tail SDM, 3-30 Lake SW/MS. Reported from 14 other north counties and 32 south counties.

Pileated Woodpecker

Reported from 20 south and 14 north counties.

Red-bellied Woodpecker

5-5 **Cook** KE, m.ob., 5-12 Otter Tail SDM, 5-31 Douglas RH; reported from 25 south counties.

Red-headed Woodpecker

Early north 4-28 Otter Tail SDM, 5-8 Aitkin WN, Pennington KSS, 5-9 Clay LCF, Cook SL, 5-10 Becker DJ, Beltrami JSP. Reported from 10 other northern counties and 25 south counties.

Yellow-bellied Sapsucker

Early south 4-1 Martin EB/K, 4-2 Hennepin ES, Nicollet JCF, Anoka BH, 4-3 Mower RRK, Olmsted JEB, Blue Earth MF, Rice KJ; early north St. Louis 4-2 KE, 4-6 LW, 4-3 Aitkin WN, 4-13 Mille Lacs CF/KB.

Hairy Woodpecker

Permanent resident reported from 23 south and 20 north counties.

Downy Woodpecker

Permanent resident reported from 28 south and 14 north counties.

Black-backed Three-toed Woodpecker

All reports — 3-3 St. Louis JG, 3-3, 4-5,7, 5-8 Lake SW/MS, 4-14 Cook SL, 4-23 St. Louis AE, 5-15 Cook US Forest Service; resident Cook MKH.

Northern Three-toed Woodpecker

All reports — 3-13 Washington JD, 3-18 St. Louis BLG, 5-3, 12 Cook MKH, 5-25 Tofte JD.

Eastern Kingbird

Early south **4-11** Le Sueur JD, 5-2 Olmsted BE, 5-4 Houston EMF, 5-7 Washington TBB; early north 5-6 Becker DJ, 5-8 Aitkin WN, 5-9 Beltrami AS, JSP, 5-10 St. Louis LW.

Western Kingbird

All reports — 5-8 Cass KL, Morrison NH, Pennington ANWR, 5-9 Stearns CM, 5-12 Otter Tail SDM, 5-15 Polk KSS, 5-17 Becker EH/SS, Clay LCF, 5-18 Rock GS, 5-20 Redwood LJF, 5-21 Roseau GS, 5-22 Pine OJ, 5-30 Anoka SC.

Great Crested Flycatcher

Early south 5-6 Dakota HK, Hennepin 5-7 DB, 5-8 SE, 5-8 Scott RJ, Goodhue BDC, Washington WL, Winona FL; early north 5-5 Pennington KSS, 5-13 Becker EH/SS, Aitkin TCS, Morrison NH.

Eastern Phoebe

Early south 3-24 Fillmore RJ, 3-26 Wabasha DGW, 3-29 Mower RRK, 3-31

Washington BL; early north 4-1 Crow Wing JB, 4-2 Lake of the Woods TW, 4-3 Hubbard DJ, 4-4 Crow Wing TS, Beltrami JSP, Mille Lacs CF/KB.

SAY'S PHOEBE

5-22 Blue Mounds State Park, Rock Co. N. DeKam — only report. See Notes of Interest, THE LOON, Vol. 54, No. 3, p. 188.

Yellow-bellied Flycatcher

All reports — Hennepin 5-10 OJ, 5-11 AB, VL, 5-17 SC, 5-22 DB; St. Louis 5-15 TL, LW, 5-20 BLG, 5-25 KE; 5-15 Jackson ES, 5-16 Murray HK, Cottonwood JEB, 5-19 Crow Wing JB, 5-20 Lake SW/MS, Dakota JD, Renville FKS, 5-23 Redwood LJF, 5-28 Lac Qui Parle AFE, 5-29 Washington DS, 5-30 Cook MKH.

Acadian Flycatcher

5-27 Houston BL, 5-30 Beaver Creek Park FL — all reports.

Willow Flycatcher

5-13 Lac Qui Parle CMB, Houston 5-16 EMF, 5-23 RJ, Dakota 5-18 SC, 5-19 JD, 5-23 Rice KJ, Martin EB/K — all reports.

Alder Flycatcher

Hennepin 5-5 ES, 5-17 SC, 5-19 DB, 5-8 Polk MH, Clay 5-11 LCF, 5-24 KL, 5-12 Lyon HK, St. Louis 5-14 JG, 5-15 KE, LW, 5-25 SDM, 5-20 Marshall ANWR, 5-22 Olmsted JEB, Cook 5-22 FL, 5-26 MKH, 5-23 Houston RJ, 5-27 Anoka JLH, Hennepin ES, 5-29 Stearns NH, 5-30 Lac Qui Parle CMB — all reports.

Least Flycatcher

Early south Hennepin 4-21 RH, 5-4 DB, 5-5 ES, 5-6 VL, 5-4 Nicollet MF, 5-5 Stearns SE, Washington DMB; early north 5-10 Pennington KSS, Clay LCF, 5-11 St. Louis KE, Lake SW/MS, Mille Lacs CF/KB, 5-12 Otter Tail SDM, Hubbard BM, Beltrami JC, Marshall ANWR.

Eastern Wood Pewee

Early south Washington 5-1 KM, 5-5 DS, 5-9 Houston JP/AM, 5-10 Lyon HK; early north 5-14 Crow Wing GS, Mille Lacs CF/KB, 5-16 Otter Tail SDM, St. Louis 5-16 TL, 5-18 KE.

Olive-sided Flycatcher

Early south Hennepin 5-6 SC, DB, 5-9 ES, SDM, BDC, 5-7 Nicollet JCF, 5-10 Olmsted BE; early north 5-13 Morrison NH, 5-14 St. Louis LW, 5-17 Lake SW/MS, 5-18 Clay LCF; late south 5-26 Ramsey SC, 5-28 Houston EMF, Hennepin ES, 5-31 Anoka JLH.

Horned Lark

Reported seen in 79 counties KL.

Tree Swallow

Early south Anoka 3-21 KL, 4-9 OJ, 3-30 Wabasha DWM, 3-31 Dakota BL, 4-2 Ramsey RH, 4-8 Washington DS; early north 4-3 Crow Wing JB, 4-9 Itasca TL, 4-12 Beltrami JSP, 4-14 St. Louis KE, Crow Wing SE.

Bank Swallow

Early south 4-12 Olmsted JEB, 4-18 Winona AB, 4-24 Brown RJ, Hennepin DB, 4-25 Lyon HK, 4-28 Ramsey RH; early north 5-1 Carlton LW, 5-3 Otter Tail SDM, 5-7 Morrison AB, 5-8 Polk MH, 5-9 St. Louis KE, Crow Wing JB.

Rough-winged Swallow

Early south 4-15 Houston EMF, 4-16 Olmsted BE, 4-17 Rice KJ, 4-21 Hennepin SC, RH, 4-22 Ramsey BL, BDC; early north 4-14 Otter Tail SDM, 4-24 Mille Lacs AB, 4-28 St. Louis KE, JG, 5-1 Carlton LW.

Barn Swallow

Early south **3-31** Anoka KL, 4-16 Nicollet JCF, 4-17 Rice KJ, Redwood LJF, 4-18 Winona AB, Lac Qui Parle CMB, 4-19 Lyon HK, 4-21 Mower RRK, Hennepin SC; early north 4-18 Otter Tail SDM, 4-24 Mille Lacs AB, 4-25 Cook MKH, 4-27 St. Louis KE, Pennington KSS.

Cliff Swallow

Early south 4-25 Big Stone BL, 4-28 Lyon HK, Stearns 5-5 NH, 5-6 SE; early north 4-24 Beltrami JSP, Otter Tail SDM, 4-26 Marshall ANWR, St. Louis 4-27 KE, 4-30 JG, 4-27 Pennington KSS, 5-1 Clay RJ, Lake of the Woods TW.

Purple Martin
Early south 4-1 Olmsted JEB, 4-4 Rice RJ, 4-10 Stearns NH, 4-13 Wabasha DWM, Lyon HK; early north 4-13 Pennington KSS, 4-14 Otter Tail SDM, Crow Wing 4-14 SE, 4-15 TS, 4-15 Beltrami AS, JSP, 4-16 Aitkin JB, 4-18 Clay LCF.

Gray Jay
Permanent resident reported from Beltrami, Cook, Hubbard, Itasca, Lake, Marshall and St. Louis counties.

Blue Jay
Permanent resident reported from 33 south and 28 north counties.

Black-billed Magpie
Present entire period from Polk and Marshall KSS. 3-3 Beltrami DJ, 3-10 Polk MH, 3-15 Hubbard DJ, 4-17 Marshall JSP, 5-1,2,30 Red Lake (nest) RJ, 5-16 Marshall KL, Roseau 5-21 GS, 5-22 AB — all reports.

Common Raven
Reported from 13 north counties and 3-26 Winona AB.

Common Crow
Permanent resident reported from 45 south and 27 north counties.

Black-capped Chickadee
Permanent resident reported from 32 south and 15 north counties.

Boreal Chickadee
Present entire period Cook MKH, SL, Lake SW/MS, St. Louis TW, 3-27 Duluth TL, 4-10 St. Louis KE, MH — all reports.

Tufted Titmouse
3-1 to 5-31 Houston EMF (2-4), 3-6 Houston FL (2) — only reports.

White-breasted Nuthatch
Permanent resident reported from 27 south and 14 north counties.

Red-breasted Nuthatch
Late south 5-10 Rice KJ, 5-12 Pope GS, 5-14 Hennepin OJ, SC. Reported from 12 other southern counties and as present entire period Wabasha WDM. Reported 12 north counties and present entire period Cook MKH, St. Louis JG.

Brown Creeper
Early north 3-1 Clay LCF, 3-2 Beltrami JSP, 4-1 Becker EH/SS; late south 5-12 Frontenac PF, 5-22 Cottonwood LAF. Reported from 21 south and 14 north counties.

House Wren
Early south 4-19 Houston EMF, 4-24 Washington TBB, 4-26 Hennepin SC, 4-28 Blue Earth MF; early north 5-1 Douglas RJ, 5-4 Otter Tail SDM, 5-5 Beltrami JSP, 5-7 Clay LCF, 5-8 Aitkin WN.

Winter Wren
Early south 4-3 Olmsted JEB, 4-6 Hennepin VL, SC, 4-9 Anoka BH, 4-10 Washington BL, Lyon HK, Rice KJ; early north **3-30** Otter Tail GMO, 4-1 Clay LCF, 4-2 Hubbard BM, 4-9 Beltrami AS; late south 4-17 Kandiyohi RJ, 4-21 Hennepin AB.

BEWICK'S WREN
Reported Ramsey 4-3 to 4-10 by m.ob. See Notes of Interest, THE LOON, Vol. 54, No. 3, p. 186.

Long-billed Marsh Wren
Early south 5-3 Lac Qui Parle CMB, 5-7 Olmsted JEB, Goodhue DB, Hennepin 5-8 DGW, 5-9 RJ, ES, 5-8 Martin EK/B, Anoka SC; early north 5-6 Marshall ANWR, 5-8 Red Lake AS, 5-16 Clay LCF, 5-17 Pennington KSS.

Short-billed Marsh Wren
arly south 5-6 Hennepin ES, 5-8 Rice KJ, Martin EB/K, 5-11 Lac Qui Parle CMB, 5-13 Olmsted JEB, 5-14 Nicollet JCF; early north 5-11 Otter Tail SDM, 5-15 Aitkin SC, 5-16 Clay LCF, Pennington KSS, 5-17 Marshall ANWR.

Mockingbird
Reported by m.ob. 4-27 to 5-22 from the following counties: Cottonwood, Lac Qui Parle and St. Louis.

Gray Catbird
Early south 4-25 Blue Earth MF, 5-1 Olmsted JEB, 5-4 Hennepin VL, 5-5 Houston EMF; early north 5-10

Crow Wing JB, Mille Lacs CF/KB, Hubbard BM, 5-11 St. Louis KE, TL, 5-12 JG, 5-12 Beltrami AS, JSP.

Brown Thrasher

Early south 3-28 Olmsted BE, (wintering bird?), 4-7 Martin EB/K, 4-18 Houston EMF, 4-20 Mower RRK, Hennepin 4-22 AB, 4-23 DB; early north 4-24 Otter Tail SDM, 4-26 Becker EH/SS, 5-1 Itasca TL, St. Louis KE, Lake SW/MS, 5-3 Mille Lacs CF/KB.

American Robin

Early south 3-1 Lyon HK, Hennepin SC (probably overwintering birds), 3-6 Houston FL, 3-7 JP/AM; early north 3-15 Hubbard DJ, 3-17 Otter Tail SDM, 3-24 Mille Lacs CF/KB. Reported from 41 south and 33 north counties.

Wood Thrush

Early south **4-11** Blue Earth MF, 5-6 Houston EMF, 5-8 Winona FL, Rice KJ, 5-9 Olmsted JEB; early north 5-10 Becker EH/SS, 5-11 Mille Lacs CF/KB, 5-12 Otter Tail SDM, St. Louis 5-14 TL, 5-15 JG, 5-16 KE.

Hermit Thrush

Early south 4-4 Anoka KL, Hennepin ES, 4-9 Olmsted JEB, 4-10 Goodhue BL, Washington TBB, 4-11 Houston JP/AM, 4-12 Le Sueur EK; early north 3-31 Otter Tail SDM, 4-2 Crow Wing JB, Beltrami JSP, 4-4 Marshall ANWR, St. Louis D. Green, 4-16 St. Louis JG; late south 5-6 Blue Earth MF, 5-9 Houston JP/AM, 5-14 Olmsted BE.

Swainson's Thrush

Early south **4-4** Olmsted BE (good details), 5-2 Anoka JLH, 5-3 Stearns SE, 5-4 Mower RRK, Hennepin SC; early north **4-18** Pine KSS, St. Louis 4-22 TL, 4-25 LW, 5-4 Polk MH; late south 5-21 Wabasha DWM, Hennepin SC, 5-27 Cottonwood LAF.

Gray-cheeked Thrush

Early south 4-21 Wabasha DWM, 5-2 Anoka JLH, 5-4 Mower RRK, Stearns SE; early north 5-8 Cass KL, Marshall MH, 5-9 Beltrami AS, 5-10 Clay LCF; late south 5-20 Hennepin SC, 5-22 Olmsted BE, 5-29 Washington DS; late north 5-26 Cass JSP.

Veery

Early south Hennepin 5-5 SC, 5-6 AB, DB, 5-7 Lyon HK, Olmsted JEB, 5-8 Anoka JLH; early north 5-8 Clearwater AB, 5-9 St. Louis LW, 5-10 Mille Lacs CF/KB, 5-13 Lake SW/MS, Todd GS, Crow Wing JB.

Eastern Bluebird

Early south 3-14 Murray HK, Mower RRK, 3-17 Houston EMF, 3-21 Dakota JD, 3-22 Wabasha BL, 3-23 DWM; early north 3-21 Otter Tail SDM, 3-30 Mille Lacs CF/ KB, 4-2 Becker DJ, 4-6 St. Louis D. Evans, 4-7 Marshall ANWR. Reported from 19 south and 15 north counties.

MOUNTAIN BLUEBIRD

3-17 Brown EB/K, 3-29 Otter Tail TS, SDM, 4-9 Carlton D. Dart, Lyon HK — all reports.

TOWNSEND'S SOLITAIRE

4-14 Mankato D. Paulson. See Notes of Interest, THE LOON, Vol. 54, No. 3, p. 191.

Blue-gray Gnatcatcher

Reported from a total of 14 south counties; early dates, 4-25 Houston EMF, JP/AM, Dakota JD, Rice KJ, 4-29 Washington BL, Hennepin 5-2 OJ, 5-5 ES, SC, 5-6 RJ, AB, Stearns SE, 5-9 Scott SDM (nesting).

Golden-crowned Kinglet

Early north 4-1 Becker EH/SS, 4-2 Beltrami JSP, 4-4 St. Louis KE, LW, Clay LCF, Mille Lacs CF/KB, Marshall ANWR; late south 4-18 Hennepin OJ, Dakota JD, 4-19 Renville FKS, 5-11 Nicollet MF.

Ruby-crowned Kinglet

Early south 3-27 Faribault RJ, 3-31 Mower RRK, Hennepin SC, 4-1 Lac Qui Parle AFE, 4-2 Rice KJ, Nicollet JCF; early north 4-2 Beltrami JSP, 4-4 Marshall ANWR; late south Hennepin 5-19 OJ, 5-21 SC, 5-20 Wabasha DWM.

Water Pipit

All reports — Cottonwood 3-21 L.

Rupp, 5-15 TBB, 4-14 Crow Wing JB, 4-15 Hennepin PF, 4-21 Pine RJ, 4-23 Otter Tail GMO, 4-24 Lac Qui Parle SC, 5-15 Lake of the Woods TW, St. Louis 4-26 JG, 5-18 KE, 5-22 BL, OJ, 5-23 ES, 5-24 JD.

Bohemian Waxwing

All reports — Pennington 3-9, 4-8 KSS, Otter Tail 3-13, 3-23, 4-5 SDM, 3-22 Marshall ANWR, 4-9 Beltrami JSP, St. Louis 3-27 TW, 4-2 LW, 4-7 KE, 4-19 TL.

Cedar Waxwing

51 reports from 18 south and 14 north counties.

Northern Shrike

Late south 4-10 Anoka KL, Washington AB, 4-17 Rice KJ; late north 4-20 St. Louis KE, 4-25 Cook MKH.

Loggerhead Shrike

Early south 3-27 Faribault RJ, Olmsted JEB, 3-30 Stearns NH, 4-2 Ramsey RH; early north 4-9 Mille Lacs DJ, 4-18 Grant SDM.

Starling

Permanent resident reported from 40 counties south and 27 counties north.

WHITE-EYED VIREO

5-15 through 5-23 Houston EMF, FL, RJ.

Bell's Vireo

Four reports: 5-17 Winona GS, 5-22 Wabasha DGW, 5-23 Wabasha DWM, 5-27 Wabasha and Goodhue BL.

Yellow-throated Vireo

Early south 5-7 Wabasha DWM, 5-9 Goodhue DGW, Hennepin DB, SDM, ES, 5-11 Hennepin SC, Houston EMF, Mower RRK; early north 5-10 Mille Lacs CF/KB, 5-15 Morrison GS, 5-17 Marshall ANWR.

Solitary Vireo

Early south 5-3 Olmsted JEB, 5-4 Mower RRK, 5-5 Hennepin SC, ES; early north 5-9 Polk MH, 5-10 Clay LCF, Crow Wing JB, 5-11 Cook MKH, Lake SW/MS, St. Louis KE.

Red-eyed Vireo

Early south 5-8 Hennepin DB, SE, OJ, 5-9 Blue Earth JCF, 5-10 Ramsey RJ, Redwood LJF; early north 5-10 Mille Lacs CF/KB, 5-11 Lake SW/MS, 5-15 Beltrami AS.

Philadelphia Vireo

Early south 5-8 Nicollet MF, 5-9 Hennepin SDM, Lac Qui Parle CMB, 5-11 Dakota JD; early north 5-9 Polk MH, 5-10 Crow Wing JB, 5-14 St. Louis JG.

Warbling Vireo

Early south 5-4 Hennepin SC, 5-5 Hennepin AB, DB, RJ, Stearns SE, 5-6 Hennepin ES, Lyon HK; early north 5-9 St. Louis AE, 5-10 Aitkin TCS, 5-11 St. Louis KE, TL.

Black-and-white Warbler

Early south 4-27 Hennepin AB, SC, 5-2 Lyon HK, Rice KJ, 5-3 Wabasha DWM; early north 5-2 Otter Tail SDM, 5-4 Beltrami JSP, 5-6 Mille Lacs CF/KB, Pennington KSS; late south 5-25 Rice KJ.

Prothonotary Warbler

Four reports: 5-15 Olmsted BE, 5-20 Ramsey SC, 5-22 Houston DGW, 5-23 Houston RJ.

WORM-EATING WARBLER

5-7 through 5-9 Wood Lake Nature Center Hennepin m.ob., 5-19 T.S. Roberts Sanctuary Hennepin DB.

Golden-winged Warbler

Early south 5-7 Goodhue DB, 5-9 Blue Earth JCF, Goodhue DGW, Hennepin SDM, Le Sueur EK, Olmsted JEB, 5-11 Dakota JD; early north 5-10 Crow Wing JB, Mille Lacs CF/KB, 5-11 Crow Wing TS, 5-15 Beltrami AS.

Blue-winged Warbler

Early south 5-5 Houston EMF, 5-7 Hennepin AB, SC, RJ, 5-8 Hennepin OJ, DGW, Houston JP/AM, Washington RH.

Tennessee Warbler

Early south 5-3 Hennepin SC, 5-4 Hennepin AB, DB, 5-5 Hennepin RJ, VL, Houston JP/AM, Wabasha DWM;

early north 5-7 Clay LCF, 5-10 Beltrami JSP, Crow Wing JB, 5-12 Marshall ANWR, Otter Tail SDM.

Orange-crowned Warbler

Early south 4-20 Lac Qui Parle AFE, 4-21 Hennepin AB, 4-26 Hennepin SC, ES; early north 4-18 Beltrami JSP, 4-24 Clay LCF, 4-25 St. Louis JG; late south 5-19 Washington DMB, 5-25 Cottonwood LAF; late north 5-22 Clay LCF, 5-23 Cass WN.

Nashville Warbler

Early south 5-3 Hennepin SC, OJ, Mower RRK, Rice KJ, Wabasha DWM, 5-4 Hennepin AB, DB, Fillmore SE, 5-5 Hennepin RJ, VL, ES; early north 5-4 Beltrami JSP, Mille Lacs CF/KB, St. Louis KE, TL, 5-5 St. Louis JG, 5-6 Pennington KSS; late south 5-30 Hennepin DB.

Northern Parula

Early south 5-5 Houston JP/AM, 5-6 Hennepin DB, SC, ES, 5-9 Goodhue DGW, Wabasha DWM; early north 5-9 Beltrami AS, 5-10 Crow Wing JB, 5-11 St. Louis AE; late south 5-16 Cottonwood CMB.

Yellow Warbler

Early south 5-4 Hennepin DB, OJ, Wabasha DWM, 5-5 Hennepin SC, Houston JP/AM, 5-6 Blue Earth MF, Hennepin AB; early north **5-1** Pennington KSS, 5-7 Beltrami AS, 5-8 Cass JSP, Clearwater AB.

Magnolia Warbler

Early south 5-5 Hennepin SC, 5-6 Hennepin DB, ES, 5-7 Rice KJ; early north 5-10 Clay LCF, Crow Wing JB, 5-11 St. Louis LW, 5-12 Polk NH; late south 5-25 Rice KJ, 5-27 Lyon HK, Martin EBK.

Cape May Warbler

Early south 5-4 Mower RRK, 5-9 Goodhue SC, DGW, 5-10 Wabasha DWM; early north 5-10 Crow Wing JB, St. Louis JG, 5-11 Clay LCF, Cook MKH, Lake SW/MS, St. Louis KE, 5-12 St. Louis AE; late south 5-27 Lyon HK.

Black-throated Blue Warbler

Six reports: 5-15 Cook MKH, St. Louis KE, 5-16 St. Louis TL, 5-18 St. Louis JB, 5-25 Cook FL, Goodhue VL.

Yellow-rumped Warbler

Early south 4-2 Hennepin ES, 4-4 Dakota ES, 4-6 Hennepin SC; early north 4-12 Beltrami JSP, AS, St. Louis AE, 4-13 St. Louis TL, LW, 4-14 St. Louis KE; late south 5-17 Hennepin DB, Houston FL, 5-18 Hennepin VL, Houston JP/AM.

Black-throated Green Warbler

Early south 5-3 Hennepin OJ, 5-5 Hennepin AB, DB, SC, RJ, ES, 5-7 Lyon HK; early north **4-25** Beltrami AS, 5-8 Clearwater AB, 5-10 Crow Wing JB, Lake SW/MS; late south 5-17 Hennepin DB.

Cerulean Warbler

Early south 5-5 Wabasha DWM, 5-8 Hennepin OJ, 5-9 Goodhue SC; one report north 5-31 Otter Tail SDM.

Blackburnian Warbler

Early south 5-3 Wabasha DWM, 5-4 Hennepin SC, 5-6 Hennepin DB, OJ, ES; early north 5-8 Clearwater AB, 5-9 St. Louis KE, LW, 5-10 Beltrami JSD. Mille Lacs CF/KB; late south 5-23 Washington TBB.

YELLOW-THROATED WARBLER

5-5 and 5-6 Wood Lake Nature Center Hennepin m.ob.

Chestnut-sided Warbler

Early south 5-5 Hennepin DB, 5-7 Hennepin AB, SC, RJ, ES, 5-8 Hennepin OJ, Rice KJ; early north 5-10 Mille Lacs CF/KB, 5-11 Crow Wing JB, 5-14 St. Louis JG, LW.

Bay-breasted Warbler

Early south 5-9 Goodhue SC, 5-14 Hennepin BDC, 5-15 Goodhue BL, Jackson RJ; early north 5-15 Cook MKH, Morrison GS, 5-16 Beltrami JSP, 5-17 Crow Wing JB, Pennington KSS; late south 5-22 Le Sueur HC, MF, Olmsted JEB.

Blackpoll Warbler

Early south 5-4 Hennepin DB, OJ,

5-5 Hennepin AB, SC, RJ, ES, 5-6 Blue Earth MF; early north 5-5 Crow Wing TS, 5-8 Clearwater AB, 5-9 Clay LCF, Polk MH; late south 5-27 Martin EBK; late north 5-30 St. Louis SDM.

Pine Warbler

Early south 5-2 Ramsey DGW, Washington DS, 5-5 Ramsey RH, 5-9 Houston EMF, Scott SDM; early north 4-25 Beltrami AS, 4-26 Crow Wing JB, Hubbard BM.

Palm Warbler

Early south 4-13 Stearns NH, 4-25 Dakota JD, 4-27 Hennepin SC, OJ; early north 5-2 Lake of the Woods TW, St. Louis KE, 5-3 Cass RJ, Clay LCF, Mille Lacs CF/KB, 5-4 Beltrami JSP, Cook MKH, Hubbard BM, Marshall ANWR; late south 5-12 Hennepin OJ, Houston EMF, 5-14 Nicollet JCF.

Ovenbird

Early south 4-29 Lyon HK, 5-4 Stearns SE, 5-6 Hennepin SC, Houston EMF; early north 5-5 St. Louis JG, 5-6 Mille Lacs CF/KB, 5-7 Clay LCF.

Northern Waterthrush

Early south 4-26 Hennepin AB, 4-27 Hennepin VL, 4-28 Ramsey BL; early north 5-2 Otter Tail SDM, 5-5 Beltrami JSP, 5-6 Mille Lacs CF/KB, Pennington KSS, St. Louis JG; late south 5-15 Anoka JLH.

Louisiana Waterthrush

Five reports: 5-1 Olmsted JEB, BE, 5-9 Houston JP/AM, 5-14 Houston BDC, 5-30 Houston FL.

Connecticut Warbler

Early south 5-10 Olmsted BE; early north 5-21 St. Louis KE, 5-22 Lake of the Woods TW, 5-23 Beltrami AS; late south 5-27 Hennepin ES, 5-28 Hennepin OJ.

Mourning Warbler

Early south 5-11 Hennepin VL, 5-13 Hennepin SC, 5-14 Nicollet JCF; early north 5-17 Crow Wing JB, 5-18 Lake of the Woods TW, 5-19 St. Louis AE; late south 5-26 Hennepin ES, 5-27 Cottonwood LAF, Hennepin DB.

Common Yellowthroat

Early south 5-7 Martin EBK, 5-8 Anoka JLH, Goodhue BDC, Hennepin SC, Olmsted JEB, BE, Washington RH, 5-9 Goodhue DGW, Hennepin RJ, ES, Houston JP/AM, Rice KJ, Washington TBB; early north 5-10 Clay LCF, 5-11 Mille Lacs CF/KB, 5-14 St. Louis JG.

YELLOW-BREASTED CHAT

5-18 St. Louis KE.

HOODED WARBLER

5-6 Hennepin RJ, ES, 5-7 Hennepin SC.

Wilson's Warbler

Early south 5-8 Hennepin DB, OJ, Martin EBK, Olmsted JEB, BE, Stearns NH, 5-9 Goodhue DGW, Hennepin ES, Houston JP/AM, 5-11 Hennepin SC, Houston EMF, Nicollet MF, Washington WL; early north 5-8 Clearwater AB, 5-10 Clay LCF, 5-11 Crow Wing JB, Mille Lacs CF/KB, St. Louis KE; late south 5-28 Dakota JD, 5-29 Hennepin SC, late north 5-23 Aitkin WN.

Canada Warbler

Early south 5-10 Olmsted JEB, 5-12 Houston EMF, Mower RRK, 5-14 Olmsted BE; early north 5-14 St. Louis JG, 5-15 St. Louis KE, 5-17 Crow Wing JB, Polk KSS; late south 5-25 Hennepin SC, 5-27 Houston EMF.

American Redstart

Early south 5-4 Hennepin SC, 5-5 Houston JP/AM, 5-6 Hennepin OJ, ES; early north 5-6 Mille Lacs CF/KB, 5-9 Clay LCF, Polk MH, 5-11 Marshall JSP.

House Sparrow

Reported from 59 counties throughout the state.

Bobolink

Early south 5-4 Nicollet MF, 5-5 Houston EMF, Redwood LJF, Wabasha DWM, 5-6 Olmsted BE; early north 5-6 Mille Lacs CF/KB, 5-8 Aitkin WN, Beltrami AS, Pine LW, 5-9 Crow Wing JB, Pennington KSS, Polk MH.

Eastern Meadowlark
Early north 3-30 Aitkin TCS, 4-1 Pine LW, 4-3 Mille Lacs CF/KB.

Western Meadowlark
Early north 3-17 Clay SDM, 3-18 Becker DJ, 3-22 Otter Tail GMO.

Yellow-headed Blackbird
Early south 3-31 Murray HK, 4-4 Scott AB, 4-14 Redwood LJF; early north 4-12 Polk KSS, 4-14 Marshall ANWR, 4-15 Otter Tail SDM.

Red-winged Blackbird
Early south 3-6 Le Sueur EK, 3-7 Pipestone KE, RJ, Wabasha DB, OJ, 3-9 Le Sueur HK; early north 3-14 Otter Tail GMO, Wilkin SDM, 3-23 St. Louis TW, 3-27 Aitkin WN.

Orchard Oriole
Early south 5-13 Blue Earth MF, Winona FL, 5-15 Cotonwood m.ob., Goodhue AB, JD, Houston EMF, 5-16 Lac Qui Parle ANWR; early north 5-18 Clay KL, 5-26 Clay LCF.

Northern Oriole
Early south 4-24 Cottonwood LAF, 5-1 Godhue DB, 5-2 Washington TBB; early north 5-9 Aitkin WN, 5-10 Clay LCF, Mille Lacs CF/KB, St. Louis fide KE, 5-11 St. Louis LW.

Rusty Blackbird
Early north 4-15 St. Louis KE, 5-17 Otter Tail SDM, 4-24 Beltrami JSP; late south 4-22 Olmsted BE, 4-23 Nicollet JCF; late north 5-1 Polk RJ, 5-19 Cook MKH.

Brewer's Blackbird
Early south **3-11** Blue Earth JCF, 3-14 Redwood LJF, 3-21 Dakota JD; early north 4-1 Pine LW, 4-14 Lake SW/MS, Marshall ANWR, 4-18 Otter Tail SDM.

Common Grackle
Early north 3-26 Otter Tail SDM, 3-31 St. Louis fide KE, LW, 4-1 St. Louis JG.

Brown-headed Cowbird
Early south 3-6 Redwood LJF, 3-17 Blue Earth JCF, 3-20 Washington DMB; early north 4-4 St. Louis KE, 4-15 St. Louis TL, 4-16 Aitkin WN, Cook SL, St. Louis JG.

Scarlet Tanager
Early south 5-8 Winona FL, 5-9 Olmsted BE, 5-10 Dakota JD; early north 5-15 Beltrami AS, 5-18 Beltrami JSP, St. Louis JG, 5-19 Mille Lacs CF/KB.

SUMMER TANAGER
5-9 Lyon HK.

Cardinal
Reported from 22 counties south and from Crow Wing, Lake, Roseau and St. Louis counties north.

Rose-breasted Grosbeak
Early south 4-30 Redwood LJF, Washington TBB, 5-1 Houston EMF, 5-3 Mower RRK; early north 5-6 Crow Wing TS, 5-9 Clearwater AB, Mille Lacs CF/KB, Polk MH, St. Louis fide KE, LW, 5-10 Beltrami JSP, Clay LCF, St. Louis AE.

Indigo Bunting
Early south 5-2 Washington TBB, 5-9 Dakota JD, Goodhue DGW, Hennepin BDC, Houston EMF, 5-11 Redwood LJF; early north 5-15 Clay LCF, St. Louis fide KE, LW, 5-17 Mille Lacs CF/KB, 5-23 Aitkin WN, Beltrami AS, Marshall KSS.

Dickcissel
One report: 5-30 Dakota JD.

Evening Grosbeak
Late south 4-26 Anoka BH, 4-30 Goodhue BL.

Purple Finch
Reported from 38 counties throughout the state.

Pine Grosbeak
Late south 4-3 Washington GS; late north 4-5 Lake SM/MS, 4-26 Itasca DB.

Hoary Redpoll
Late south **4-15** Anoka (at feeder) SC; late north 4-23 Aitkin WN, 4-24 Lake SW/MS, **5-11** St. Louis KE.

Common Redpoll
Late south 4-22 Anoka JLH, Henne-

pin VL, 4-28 Washington DGW; late north 5-2 St. Louis JG, 5-6 St. Louis KE.

Pine Siskin
Reported from 19 counties south and 18 counties north.

American Goldfinch
Reported from 19 counties south and 14 counties north.

Red Crossbill
One report south 5-9 Dakota JD; three reports north 3-28 Polk MH, 4-15 Hubbard HJF, 5-20 Beltrami JSP.

White-winged Crossbill
Five reports: 3-1 Marshall ANWR, 3-9 St. Louis TL, 3-20 Aitkin WN, 4-30 Martin EBK, 5-19 Blue Earth MF.

Rufous-sided Towhee
Early south 4-18 Houston EMF, 4-23 Nicollet JCF, 4-29 Washington BL; early north 5-1 Hubbard BM, 5-2 Hubbard DJ, 5-7 Beltrami JSP.

Lark Bunting
One report: 5-12 Lake USFS.

Savannah Sparrow
Early south 4-10 Goodhue BDC, 4-15 Houston EMF, 4-23 Lyon HK, Washington DGW; early north 4-20 Cook MKH, 4-23 Marshall ANWR, 4-24 Otter Tail SDM.

Grasshopper Sparrow
Early south 5-2 Washington TBB, 5-9 Goodhue DGW, 5-10 Stearns NH; early north 4-17 Otter Tail GMO, 5-24 Marshall KSS, 5-30 Red Lake RJ.

Henslow's Sparrow
Two reports: 5-8 Winona FL, 5-17 Winona GS.

LeConte's Sparrow
Early south 4-15 Olmsted JEB, 4-24 Martin EBK, 4-25 Lac Qui Parle SC; early north 4-28 Marshall ANWR, 5-10 Clay LCF, 5-15 Beltrami AS.

Sharp-tailed Sparrow
One report: 5-30 Aitkin WN.

Vesper Sparrow
Early south 4-4 Le Sueur AB, 4-9 Houston JP/AM, 4-10 Mower RJ; early north 4-12 Otter Tail GMO, 4-13 Clay LCF, Otter Tail SDM, 4-17 Aitkin WN.

Lark Sparrow
Early south 4-25 Houston JP/AM 4-26 Sherburne EH/SS, 5-1 Anoka JLH; early north 5-19 Wilkin KSS, 5-23 Clay LCF, 5-31 Beltrami RJ.

Dark-eyed Junco
Late south 5-17 Ramsey RH, 5-22 Olmsted JEB.

Tree Sparrow
Late south 4-26 Hennepin SC, 4-27 Hennepin AB, VL, 5-1 Olmsted JEB; late north 4-29 Pennington KSS, St. Louis JG, 4-30 Cook MKH, Lake SW/MS, 5-1 Red Lake RJ, 5-5 Lake of the Woods TW.

Chipping Sparrow
Early south 4-13 Anoka SE, 4-14 Washington TBB, 4-15 Dakota JD, Houston EMF, Washington WL; early north 4-9 Aitkin WN, 4-14 Lake of the Woods TW, 4-20 St. Louis TL.

Clay-colored Sparrow
Early south 4-27 Lyon HK, 5-1 Rice KJ, 5-2 Washington TBB; early north 4-24 Cass and Itasca AB, 4-30 Otter Tail SDM, 5-4 Clay LCF, Pennington KSS.

Field Sparrow
Early south 3-27 Stearns SE, 4-2 Nicollet JCF, 4-7 Hennepin SC, VL; early north 4-17 Otter Tail SDM.

Harris' Sparrow
Early south 3-7 Lyon RJ (wintering bird), 4-27 Redwood LJF; early north 3-28 St. Louis fide JG (overwintered), 5-4 St. Louis KE, 5-6 Crow Wing JB, Marshall ANWR, Otter Tail SDM; late south 5-15 Cottonwood LAF, OJ, 5-17 Lac Qui Parle AFE; late north 5-20 Polk GS, 5-24 Clay LCF.

White-crowned Sparrow
Early south 4-17 Olmsted JEB, 4-23 Nicollet JCF, 4-25 Washington KM; early north 4-15 St. Louis LW, 4-24 St. Louis TL, 4-25 Cook SL; late south

5-22 Wabasha DGW, 5-23 Cottonwood LAF; late north 5-22 Lake of the Woods TW, 5-25 St. Louis SDM.

White-throated Sparrow

Early south 4-4 Dakota RJ, 4-14 Houston EMF, 4-16 Le Sueur HC; early north 4-19 Crow Wing JB, 4-24 Carlton LW, Clay LCF, St. Louis JG, 4-25 Beltrami AS, St. Louis KE, BLG, TW; late south 5-20 Ramsey SC, 5-24 Hennepin ES.

Fox Sparrow

Early south 3-24 Fillmore RJ, 3-29 Nicollet JCF, Olmsted JEB, 3-30 Hennepin RH; early north 3-30 Clay LCF, Otter Tail SDM, 4-2 Beltrami JSP, St. Louis KE, 4-3 Itasca TL, St. Louis fide JG; late south 5-1 Olmsted BE, 5-4 Houston EMF; late north 5-1 Cook MKH, 5-27 Clearwater M. Mason.

Lincoln's Sparrow

Early south 4-10 Ramsey RH, 4-13 Le Sueur HC, 4-17 Renville KL; early north 4-25 Beltrami AS, 5-1 Clay LCF, 5-7 Otter Tail SDM; late south 5-16 Martin EBK, 5-20 Ramsey SC.

Swamp Sparrow

Early south 3-31 Hennepin RH, 4-3 Olmsted JEB, 4-4 Anoka KL, Dodge RJ, Le Sueur AB, Olmsted BE, Washington GS; early north **4-4** Crow Wing TS, Otter Tail GMO, 4-14 Beltrami AS, 4-18 Aitkin WN.

Song Sparrow

Early south 3-25 Hennepin DB, SC, 3-26 Nicollet JCF, 4-27 Olmsted JEB, early north 3-29 Otter Tail SDM, 3-30 Otter Tail GMO, 4-1 St. Louis LW.

Lapland Longspur

Late south 4-11 Houston JP/AM, 4-25 Lac Qui Parle SC; late north 5-20 St. Louis DB, RJ, 5-24 Lake of the Woods LW.

Chestnut-collared Longspur

Two reports: 5-15 Clay ANWR, 5-19 Clay J. Herman.

Snow Bunting

Late north 5-5 Lake SW/MS, 5-9 Lake of the Woods LW.

CONTRIBUTORS

ANWR, Agassiz aNtional Wildlife Refuge
RBA, Rare Bird Alert
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TBB, Tom and Bette Bell
JB, Jo Blanich
AB, Al Bolduc
DB, Don Bolduc
JEB, Jerry E. Bonkoski
EB/K, Ed Brekke, Kramer
CMB, Chuck and Micki Buer
BDC, Betty and Doug Campbell
SC, Steve Carlson
HC, Horace F. Chamberlain
JC, Jane Cliff
JD, Joanne Dempsey
KE, Kim Eckert
AFE, Alpha and Frederick Eckhardt
BE, Bob Ekblad
SE, Steve Elfelt
AE, Audrey Evers
LCF, Laurence and Carol Falk
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HJF, Herbert and Jeanette Fisher
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JCF, John C. French
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DGW, Dick and Gloria Wachtler
LW, Larry Weber
TW, Terry Wiens
SW/MS, Steven Wilson, Mary Shedd

THE M.O.U. 300 CLUB

1982 proved to be the best year for 300 Club members since we started the club. Lifers kept coming for just about everyone throughout the summer and fall. Two of these birds, Mew Gull and Anhinga were new for the all time Minnesota list and another, the Great-tailed Grackle awaits confirmation by the Records Committee. Here are the totals as of December 31, 1982.

Kim Eckert	354	Oscar Johnson	318
Bob Janssen	354	Ruth Andberg	316
Ray Glassel	354	Dick Wachtler	314
Terry Savaloja	347	Wally Jiracek	314
Paul Egeland	344	Gloria Wachtler	313
Bill Pieper	344	Gary Otnes	313
Dick Ruhme	342	Allison Bolduc	310
Janet Green	337	Brother Theodore	310
Ron Huber	337	Doug Campbell	309
Bill Litkey	337	Betty Campbell	307
Liz Campbell	335	Nestor Hiemenz	305
Jo Blanich	335	Henry Kyllingstad	305
Karol Gresser	332	Violet Lender	303
Don Bolduc	331	Jon Peterson	302
Jerry Gresser	326	Jo Herz	301
Evelyn Stanley	322	Ann McKenzie	301
Steve Millard	318	Warren Nelson	300

Total species 375

FIFTH MINNESOTA RECORD OF A LAUGHING GULL — On May 18, 1982 I was birding at Park Point with my Bird Identification class when I spotted a black-headed gull flying by at a distance out over Lake Superior. Besides the black head I could also see that the mantle appeared to be a uniform dark gray, and that the size appeared too large for a Bonaparte's. But the gull was too far away to identify with any certainty, although I told my class at the time it was most likely a Franklin's. But on May 20, while out again with my class, we relocated what was probably this same individual standing with other gulls and terns on the sand bar on the west side of Hearding Island. Although the bird was perhaps 150 yards away and we were looking somewhat into the sun, we could see its black head, white eye-ring, uniform dark gray mantle, black folded wing-tips, white underparts, and dark bill and legs (exact color not possible to determine); also its size was between that of the Bonaparte's Gull and that of the Caspian Tern, with both species available for direct size comparison. At that point I knew the gull was either a Franklin's or a Laughing, and its size suggested it was probably a Laughing, but a better look was needed to tell for certain. Eventually the gull took off and flew and luckily came right towards us. We were then able to see the dark gray mantle gradually darkened into black wing-tips with no white markings on the upper wings except for a white trailing edge limited to the secondaries and inner primaries. Also, the under surface of the wings was white on the inner half near the body but blackish on most of the outer half toward the wing-tips; this under wing pattern was especially obvious and is also a diagnostic difference between adult Laughing and Franklin's Gulls. This Laughing Gull was last seen here on May 22 by Jo Blanich. It is interesting that at the same time a second Minnesota record Wilson's Plover was in Duluth, and both this species have very similar ranges along the Atlantic/Gulf coast. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

SNOWY PLOVER AT LAKE OF THE WOODS — On 11 July, 1982 I sighted a Snowy Plover (**Charadrius alexandrinus**) on Pine/Curry Island, Lake of the Woods. The bird was seen loafing with five to ten Piping Plovers (**Charadrius melodus**) on open sandy beach at the southwestern tip of the island. Body shape and color were very similar to that of the Piping Plover. The back, wings, and top of head were an unmarked sandy color, interrupted only by a white collar which circled the back of the neck. The undersides were pure white with a black streak running across the side of the neck just above each shoulder. Together these streaks formed the outline of a black band across the upper breast, interrupted by a gap of about two cm in the center. The bill was solid gray-black. The head, excepting the sand crown, was white. A black band ran across the front of the crown from eye to eye, and a thin black eye line widened into a distinct but not solid black cheek patch. The legs were dull gray. In close comparison the bird was slightly smaller and slimmer than a Piping Plover. The bill appeared slimmer, but not longer, than a Piping Plover's bill. The black cheek patch, dark bill, and

Snowy Plover center, Piping Plover on right, Morris Pt., Lake of the Woods Co., July 17, 1982. Photo by Warren Nelson

dull legs were in distinct contrast to the light cheek, partly orange bill, and orange legs of the Piping Plover. The bird was seen with 7x35 binoculars for 10 to 15 minutes at distances as close as 10 m. Using Peterson (1980) and Robbins (1966) the bird was identified as a Snowy Plover in breeding plumage. It remained in the area for seven days and was seen by many observers on the open or sparsely vegetated beachs of both Pine/Curry Island and Morris Point, a nearby mainland peninsula. The Snowy Plover, a worldwide species, breeds in North America along the Gulf Coast, the Pacific Coast, and inland as far north as Utah, Colorado, and Kansas (A.O.U. Checklist of North Ameriacn Birds, Fifth Edition). The bird is accidental in the Great Lakes region. This sighting represents the third record for Minnesota, the first being in the spring of 1976 at Marshall, Lyon Co. (Kyllingstad, **Loon** 48:115, 1976) and the secon din the spring of 1981 at Big Stone NWR, Big Stone Co. (Berber, **Loon** 53:220-221, 1981). **Terry Wiens, Department of Biology, University of Minnesota Duluth, Duluth, Minnesota 55812.**

WILSON'S PLOVER AT DULUTH — While hiking and birding along the lake at Park Point, Duluth, on Saturday, May 15, 1982, I watched a Wilson's Plover. The time of the sighting was about 12 noon and though there were many reports of this bird later, I was not aware of any sightings earlier than this time. I was on the lake side very close to the airport. I was able to get within 50 feet of the bird and study it with a 15-60x Bausch and Lomb spotting scope. Nearby was a Killdeer and a Spotted Sandpiper which gave me good size comparisons. I was struck by four obvious signs: 1) a pinkish leg color that was obviously different from that of the Semipalmated Plover; 2) a size making it too large for the Semipalmated Plover but still noticably smaller than the Killdeer; 3) a much thicker bill than seen in the Semipalmated Plover; and 4) a black bill compared to the lighter colored bill of the Semipalmated Plover. Also of note was the fact that the ring and facial marks were brown and not black, making this bird a female. **Larry A. Weber, 12 Chester Pkwy., Duluth, MN 55805.**

While birding in the area of the Park Point Recreation Area on May 17, 1982, Steve Mayer and I discovered an unusual plover in a mixed flock of shorebirds. The bird was observed for approximately one hour with the aid of 10x50 binoculars and a 15-60x spotting scope at distances ranging from 10 to 50 meters. The following is a description written from field notes taken while the bird was in view. A plover, smaller than a Killdeer, but larger than a nearby Semipalmated Plover. Back, wings, crown and side of face a dark sandy brown, lighter than the brown of the Semipalmated Plover, and apparently darker than the light "dry" sand color of the Piping Plover (seen earlier in the day). Complete brown neck band, wide at the bend of the wing, but narrowing to a thin dark line at the center of the breast. Underparts, throat, forehead, supercilliary stripe and collar extending from the throat completely around the back of the neck all white. The white of the forehead was continuous with the white supercilliary stripe and white around the base of the bill. Legs dull pink. Bill large like the bill of a Killdeer, much larger than the bill of a nearby Semipalmated Plover, and entirely black. Observations of the bird while in flight on May 19, 1982 revealed a brown rump and center of the tail. This bird was relocated by myself and many observers during the next couple of days. This represents the second record of the Wilson's Plover in Minnesota. The only other sighting occurred in the same area on July 4, 1981 (Eckert, **Loon** 53:123-125, 1981). **Tim Lamey, Dept. of Biology, University of Minnesota, Duluth, MN 55812.**

FIRST NESTING RECORD OF RED-TAILED HAWK IN RAMSEY COUNTY— The Red-tailed Hawk is Minnesota's third most abundant hawk. However, a search of the literature reveals that there is no nesting record for this species in Ramsey County, although all the surrounding counties do have such accounts. As part of my graduate work in Wildlife Management at the University of Minnesota, I am conducting a comprehensive wildlife inventory of the Twin Cities Army Ammunition Plant (TCAAP) in northwestern Ramsey County. The TCAAP site is about 900 hectares in size. Approximately one third of this area is developed, but the remainder is forest, grassland, and marsh. For the past year I have observed a pair of Red-tailed Hawks that appeared to reside on the area. A large nest of sticks 20 meters high in a cottonwood tree in the interior of the TCAAP seemed to be the center of their territory. The birds would get very agitated when I approached the

nest tree, but I never saw either bird attending the nest. Additionally, I never saw any sign of young hawks in the nest during the 1982 spring season. It appeared that perhaps the birds were not breeders. However, on 21 May 1982, upon searching around the base of the nest tree, I found a dead youngster which had apparently fallen out of the nest. The bird was still downy, and weighed 569.1 grams. I could not see any external wounds, but I suspect the bird suffered fatal injuries from its fall. The adults were still protective of the nest area, so I am assuming there may have been other young. I hope to monitor the success of the pair to determine if they do raise young. I would not be surprised if the TCAAP is the only place in Ramsey County where the human-intolerant Red-tail can still be found nesting. **Thomas J. Landwehr, Research Assistant, Department of Entomology, Fisheries and Wildlife, University of Minnesota, St. Paul, MN 55108.**

FIRST SPRING RECORD FOR A POMARINE JAEGER — On 20 May 1982, Don Bolduc, Ray Glassel, Dick Ruhme and I were on Minnesota Point, Duluth at about 8:00 a.m. Our purpose in being there was to try and locate the Wilson's Plover that had been seen in the vicinity of the airfield. We could not find the plover near the airfield so we walked east toward the lake shore. We were still behind the dunes when I saw a Caspian Tern flying from left to right in front of us. There were also several Herring Gulls out in front of us. All of a sudden Dick and I spotted a large jaeger that seemed to come from out of nowhere. The bird was coming straight at us; it immediately wheeled and headed out toward the lake, disappearing behind the dunes. This all happened within a matter of about ten seconds. We ran up the dune but could not locate the bird. While the bird was under observation I noted that it was as large or larger than the Herring Gulls which were very close to it for a few seconds. I noted the dark breast band, dark cap, white under the chin and a white breast (below the band) and belly. I was watching the size of the bird so closely in comparison to the gulls that I failed to note anything about the tail. Luckily Dick noted, as the bird wheeled, about three inch long extensions coming from the middle of the tail. Both Dick and I noted the bulky body of the bird. The back of the bird was a dark brown, slightly lighter than the cap. We searched the area for the next hour or more but did not see the bird again. A few minutes after seeing the jaeger we saw the Wilson's Plover feeding on the beach. **Robert B. Janssen, 10521 S. Cedar Lake Road, #212, Minnetonka, MN 55343.**

YELLOW-CROWNED NIGHT HERON AT THIEF LAKE — On July 24, 1982 Keith and I were canoeing with Mike and Arlyne Johnson. We were paddling around in Thief Lake Wildlife Management Area in Marshall County. We wanted to see if there were any colonies of grebes or gulls out in the lake. There were no gulls — too wet early in the season, but there were at least two colonies of Eared Grebes and there were many Western Grebes with young on their backs. And we found a Yellow-crowned Night Heron in a Black-crowned Night Heron colony. It happened like this: when we were all paddling on the north side of the lake, we heard many young birds that were in the phragamities ahead of us. So we went to investigate and found a large — over one hundred adults — colony of Black-crowned Night Herons. While we were looking at the adults and the young, Keith yelled, "Look at that real dark one!" The bird was slate gray all over with white on the top of the head and also on the sides. He indeed looked very

different from the Black-crowns, who had black on their backs and white on their fronts, and no white on the top of their heads. I had thought I had seen, very briefly, a Yellow-crowned Night Heron three weeks earlier at Theif Lake, so I felt good about seeing the species again. When we talked to Jim Mattsson, Biologist at Agassiz National Wildlife Refuge, he said that that the Yellow-crowned must have been nesting with the Black-crowns. We said that we did not think that the bird must have been nesting since he dod not stay in the area very long. Jim said, however, that Yellow-crowns do not stay around when there is nest disturbance, so the behavior we saw was consistent. I am afraid that we would not have been able to distinguish between the immatures of either species, so we are unable to say if the Yellow-crowned Night Heron was successful in its nesting attempt. If the birds are nesting successfully at Theif Lake it would certainly be farther north than they have nested before. **Shelley Steva, Route 4, Box 10, Thief River Falls, MN 56701.**

PRAIRIE CHICKENS - MARSHALL COUNTY — On June 24, 1981, while doing one of the Breeding Bird Surveys (Route 50, Grygla), I heard what seemed like an unmistakable call — the booming of a dancing Greater Prairie Chicken. I could not believe my ears when I heard it — this area was at least 25 miles northeast of the newly established booming ground at Agassiz National Wildlife Refuge, and many miles north of the areas well known to be Prairie Chicken country — those areas near Rothsay or near Crookston. Since the call is so distinctive, I wrote it down on the Breeding Bird Survey form and sent it on. On June 12, 1982 my husband Keith and myself finished the other Breeding Bird survey that I do. Since this ended up just a few miles from where I had heard the bird last year, we decided to go to the area. We drove down a muddy unimproved township road when we saw two grouse on the road in front of us. As they flew, we noticed the short, black tails that were not trimmed in white. So I then knew that I had not made up the sound in my mind — there were indeed Greater Prairie Chickens in that area. I suppose that these birds are a carryover from when the prairie chicken population went all the way up into Canada. The woman who did this Breeding Bird Survey Route before me, Sally Vasse, had also heard the calls. She also thought that she was making up the calls in her mind, so she did not send them on. This does prove the birds have been in the area for a few years — Sally did this route from about 1976-1979. I tok over in 1980. The birds were found in Marshall County, on the edge of Valley and Eckvoll Townships (T156N; R39W; 7). **Shelley Steva, Route 4, Box 10, Thief River Falls, MN 56701.**

BEWICK'S WREN IN FREEBORN COUNTY — On July 6, 1982, at approximately 2:00 p.m., I observed a Bewick's Wren at Nelson Wildlife Sanctuary, an 18-acre preserve owned by The Nature Conservancy near Albert Lea, Freeborn County. Most of the preserve is wooded, however I observed the bird in a powerline corridor that has been cut through the woods, and contains large brush piles, shrubs, and a portion that has been cleared for a large vegetable garden. The Bewick's Wren flushed from an overgrown brush pile, and perched on the top of the pile for two or three minutes. The white eye-stripe, clearer breast, and longer tail distinguished it from House Wrens, while white markings on the outer rectrices distinguished it from a possible Carolina Wren. I searched the brush pile, but was unable

to locate a nest, and was not able to relocate the bird after it flew. I note with interest that House Wrens were singing within about 50 yards of the place I flushed the Bewick's Wren. These two species are supposedly antagonistic, and generally do not nest in the same area. **Jim Evans, The Nature Conservancy, 328 E. Hennepin Ave., Minneapolis, MN 55414.**

POSSIBLE CANNIBALISM IN BOREAL OWLS — I live about 65 miles north of Duluth on the north shore of Lake Superior. After sighting two Boreal Owls, one on March 7, 1982 and one on March 9th, I flushed a Boreal Owl on March 10th out of a pine tree in my yard. I noticed it had something in its grasp. It was dusk and I had a hard time seeing what it was holding. I tried to follow it and flushed it once more. There were Boreal Owl breast feathers where it had been sitting. I thought it had tried to catch a red squirrel and there was a real tussle going on. (I'm pretty sure a Boreal Owl would not be able to fly with a red squirrel.) It was getting very dark and I was unable to find the owl again. On March 18th I was walking in the woods approximately 50 yards north of my last sighting when I found a single Boreal Owl wing. About 10 feet away, laying on the snow was a dead Boreal Owl with both wings intact. The possibilities for what happened are many but I concluded that a fairly healthy owl attacked a weaker owl and had killed and eaten it. Then it could not find any other food and it starved to death. It also could have been injured when it attacked the other owl. Twenty-five days later, on April 4th, Frank Dickson, a friend of mine who also lives on the shore approximately 15 miles south, reported that he had seen a Boreal Owl sitting on a bale of straw in his yard. While he watched, another Boreal Owl attacked the roosting owl. The owls began fighting on the ground and when the intruder couldn't gain an advantage, it flew off. The original owl (apparently) was then seen again the next two days in the same area. While these two observations do not represent scientific proof, they do raise the question, will Boreal Owls resort to cannibalism under certain conditions? With deep crusty snow and few open, clear areas to hunt for mice, another weaker owl might be the only choice between starvation or at least a few more hours of life. **Tom Martinson, Little Marais, MN 55611.**

RUSTY BLACKBIRDS — LAKE COUNTY — On June 17, 1982, Larry Strecker, U.S. Forest Service Wildlife Biologist, and I canoed down Hog Creek towards Perent Lake to determine the status of the Wilson's Warbler breeding population found there in 1980 (**The Loon** 52:182-183). We succeeded in locating seven to eight individual singing males. When we were about half-way to the lake (T62W, R6W, Sec. 33; Lake County) we encountered a pair of noisy blackbirds in the dense alder brush and sedges along the edge of the creek. Since both birds were carrying insects in their bills, we paused to see if there might be a nearby nest, and to identify what obviously wasn't the common blackbird in this area, the Red-winged. The habitat suggested Rusty Blackbird, and observation of the birds with binoculars at distances of eight to 50 feet for the next half hour confirmed my suspicion — tail and bill blackbird size as opposed to grackle size, male black with a yellow eye, female noticeably lighter (grayish) with a distinct light eye. As we watched, the adults repeatedly carried food to three locations. Each time they did so, they would descend out-of-sight into the dense undergrowth, we would hear a young bird calling softly from that spot, and the adult would emerge without any food in its bill. One of the fledglings was less than 10' from where we sat in the canoe. We failed to see the

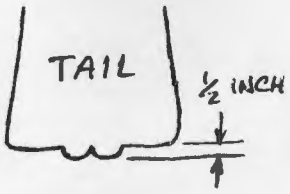
young in a subsequent brief search of two of the locations, and a more thorough search was precluded by our fear of trampling what sounded like recently fledged birds in the very dense vegetative growth. When returning upstream the next day, we encountered a pair of adult carrying food to a spot at last 100 yards from the previous day's sighting. I was thinking that was quite a distance for the chick to have traveled in one day, when a second male Rusty Blackbird appeared and was chased from the area by the first male. This, and the fact that several other Rusty Blackbirds were later seen further upstream, indicate there may have been two or more pairs residing and/or nesting along Hog Creek. **Steven G. Wilson, U.S. Forest Service, Star Route Box 207, Isabella, MN 55607.**
Editor's Note: See **The Loon** 54:141-143 for Minnesota's first confirmed Rusty Blackbird nesting.

COOPER'S HAWK NESTING IN WABASHA COUNTY — An adult Cooper's Hawk was first observed on 9 June 1982 at Weaver Dunes, a 442 acre preserve owned by The Nature Conservancy near Kellogg, in Wabasha County. In subsequent weeks individual adults were seen and on 12 July we heard and saw a pair of adults being mobbed by Common Crows and cackling in return. The following day we captured and released an after second year, female in a live trap. Her measurements were: wing chord 255 mm, tail lngth 169 mm, and tarsus length 67 mm. Additional sightings occurred and on 31 July we observed three eyases capable of flight perched in a clump of dead oaks. The nest was found nearby 10 meters up a large Jack Pine. It measured 35 cm. outside diameter and 18 cm. outside depth. It was lined with pine bark and had oak leaves incorporated into its lower part. We found down throughout the nearby branches, and a Cooper's Hawk's left secondary and the carcasses of several passerines under the tree. Two of the eyases were seen again on 3 and 4 August. We believe this to be the first nest record of Cooper's Hawks in Wabasha County. **John S. Coleman and Jim Evans, The Nature Conservancy, 328 E. Hennepin Ave., Minneapolis, MN 55414.**

A LAKE SUPERIOR "PELAGIC" TRIP — MINNESOTA'S FIRST MEW GULL — Paul Egeland, Richard Ruhme, Don Bolduc, Ray Glassel and I were aboard the power boat, the "Norsk," captained by a Coon Rapids man, Frank Burg on September 19, 1982. We had engaged this boat for the purpose of determining whether or not there were unusual species, or any species at all, of pelagic-type birds that might be found on the off-shore areas of Lake Superior. Our "chum" supply included generic cat food and puffed wheat. We had left the Knife Harbor at 7:40 A.M. and had proceeded in a northeasterly direction to the center part of the lake and found the off-shore area of the lake to be largely void of bird life. That being the case, we turned around and headed for Duluth Harbor where we found some gulls, but nothing unusual. We passed through the canal and we went through the harbor area and went back out through the Superior entry, crossed back over towards the north shore and moved back towards Knife Harbor. About 2:30 P.M. we were at the area of the Knife Island and we asked the captain if he would circle around the island so we could check the gulls that were loafing there. The gulls we found were primarily Herring Gulls but there were a few Ring-bills present and curiously enough a Merlin and a possible Common Raven. As we came back around the island on what would be approximately the east point of the island we noticed several Ring-billed Gulls, two of which were standing with a gull that was similar

but smaller. This bird we identified as an adult Mew Gull. The details of the observation by the five individuals at a distance of approximately fifteen yards was as follows: 1) The bird was smaller than the two Ring-billed Gulls it was with. 2) The bill was yellowish (a sort of dull), and was smaller and shorter with no ring. 3) The legs were greenish and the bird stood shorter than the Ring-billed Gulls. 4) The bird had a clear gray mantle, a shade darker than that of the Ring-billed Gulls and the Herring Gulls present. 5) There were gray or dusky streaks on the head and neck indicating winter plumage. 6) When the bird flew we noted prominent white spots near the wing tips. 7) Lastly, the eye was considered by all to be darkish with perhaps some flecks of yellow. We had good light although from time to time it would rain. The time of observation was approximately three to five minutes. The bird flew in a more or less westerly direction and seemed to have cleared Knife Island before we lost track of it. All of the field notes we took at the time of observation were taken before consulting any field guide. The only item that we tried to check was eye color and the field guides are of no use in that regard. Two days later after we had already decided that the eye color was dark we checked in the Godfrey's "Birds of Canada" where the description of the eye indicated darkish with some flecks of yellow possible. Based on the conclusion of all five observers and the diagnostic field marks all of which we noted we feel confident in the identification of this rare gull. Presumably it has appeared from a northwesterly direction since it nests in Alaska and the Yukon and the Northwest Territories. Normally the biird would winter on the west coast. It is also of interest that this particular bird together with two Ring-billed Gulls was standing on the lowest part of the island just out of the water, since the pecking order would indicate that the Herring Gulls would occupy the higher places. The only birds associating with this particular Mew Gull were two Ring-bills, which afforded an excellent comparison between those two species. The only other small gull likely to occur that would in any way resemble this bird would have been the kittiwake, which would have had black legs and no white wing spots. **Bill Pieper, 11731 Evergreen Circle, Coon Rapids, MN 55433.**

ANOTHER POMARINE JAEGER IN DULUTH — Early in the evening of September 6, 1982, my Bird Identification class observed an immature Pomarine Jaeger flying over the south end of the airport runway at Park Point. I first spotted the bird leisurely flying towards us at a low altitude and my first assumption was that it was a first-year Herring Gull because of its size, relatively uniform brownish color, and "gull-like" wing tips: somewhat pointed, but at the same time almost rounded and not at all sharply pointed as one would expect in a typical jaeger. But as the bird approached us and began to slowly circle almost directly overhead, the white patches at the base of the primaries became evident, and I immediately shouted "jaeger." During the next several seconds as the 12 of us watched the bird circle no more than 20 or 30 yards away, I knew that it was most likely a Pomarine because of its size and shape, but since there was no other bird near by for direct size comparison, I knew that such an identification would be premature unless there were projecting central rectrices. (In my opinion, it is very risky to attempt jaeger identification based only on flight or size without direct comparison — I have seen several definite Parasitics that appeared large enough and flew slowly enough to appear Pomarine-like.) Fortunately, a close look at the tail revealed that the two central rectrices projected perhaps a half inch beyond the rest of the tail,



and their tips were clearly rounded and not pointed, as shown in the sketch above. At this point I knew it was a Pomarine for sure, and evidently an immature because of the abbreviated length of the central rectrices, the lack of breast band and black cap, and its overall uniform mottled brown plumage. The jaeger eventually and gradually flew across the bay towards Superior, Wis., and was lost from sight as it appeared to be migrating in a southwesterly direction. **Kim Eckert, 9735 North Shore Dr., Duluth, MN 55804.**

A LATE BLACK-AND-WHITE WARBLER — While I was working at my desk on October 26, 1982, a Black-and-white Warbler whisked into the apple tree just beyond my window, plummeted to the lower trunk, wound her way up it, zipped to the upper branches, and circled the trunk again. In the gentle sunlight of an October morning with the temperature in the fifties, it was striking. The white throat and breast caught my eye first, then the warbler-like bill, the white line over the eye and the white stripe in the middle of the crown. I watched this private show at a distance of only eight feet. The identification was based on the above and also the black and white stripes on the back, and white outer tail feathers. A tinge of dark brown on the primaries suggested that it was a female or immature bird. **Marion Risser, 623 2nd St. S.W., Stewartville, MN 55976.**

BAND-TAILED PIGEON AT HAWK RIDGE — On Saturday afternoon, September 18, 1982, Kirk Jeffrey, Chuck Neil and I were observing the raptor migration from Summit Ledge at Hawk Ridge Nature Reserve, Duluth, Minnesota. At about 2 o'clock we observed a pigeon-like bird approaching us from the northeast at just below eye level. As the bird veered to our right and flew along the lake side of Summit Ledge, we noted that its size, silhouette and flight pattern all suggested a Rock Dove. We were surprised, however, to observe that the bird lacked the characteristic white rump of the Rock Dove. Just as we began to puzzle over the identity of this unusual pigeon, it obligingly circled around behind us and alit in a snag about 20 yards to the southwest of us. Through our 20x spotting scopes we enjoyed an unobstructed view of the pigeon while it remained quietly perched for about two minutes. We made the following observations prior to consultation of our field guides: the silhouette of the bird was pigeon-like, somewhat larger and bulkier than a Rock Dove; the bill was olso pigeon-like, yellow at the base and black at the tip; there was a distinct white crescent encircling the nape and sides of the neck; the tail was rounded and relatively short; the upper and lower parts as well as the wings appared a uniform dull grey. After recording our observations on tape, we consulted Robbins' **Birds of North America** and concluded that we had seen a Band-tailed Pigeon. Our sighting is the fourth Minnesota record of the Band-tailed Pigeon. **Renner Anderson, 1929 Oakland Rd., Minnetonka, MN 55343.**

YELLOW-CROWNED NIGHT HERONS NEST AGAIN IN AITKIN COUNTY — In mid-June, 1982 I was told that the Yellow-crowned Night Herons, which had nested on the Jacobson wild rice paddies last year, had returned. I ran right out and being the birdwatcher that I am, I couldn't find them anywhere. They kept telling me the birds were there every morning and nearly every evening, but with unerring accuracy, I managed to "miss them by five minutes" eleven times in a row. Finally, on July 25, about six weeks after being told that the birds were there, one of the birds decided to come out of hiding. They really did exist! I ran out to the paddies the next few evenings and with a change in luck, managed to watch them quite closely. The herons seemed to fly into one particular group of trees quite often and on the third night, I thought I could hear young. Well, it did look like a good possible nesting spot. The only problem was "how to get there from here?" The trees are in a flooded area and the brush is very thick — so the use of a canoe was out. Solution — chest high waders. Right? Ha!! I started wading into the area. About a hundred feet in through a foot of

Yellow-crowned Night Heron, Aug. 1982, Jacobson, Aitkin Co. — photo by Warren Nelson

Immature Yellow-crowned Night Heron (Note how far legs extend beyond tail, a good field mark in Yellow-crowns). — photo by Warren Nelson at Jacobson Rice paddies, Aitkin Co., August 1982.

mud and water, I scared out sixteen Green Herons. I must be getting close. Fifty feet more — six more Green Herons and deeper mud. One foot forward, two feet down, one foot forward, two feet down. More Green Herons Must be close! One foot forward, three and a half feet down. Oh ——! Here I stand in nearly chest high mud. A lot of questions ran through my mind: What am I doing here? Is any bird worth this? How come there aren't any big trees around here to grab onto? If I can't pull myself out, what do herons taste like? And, what was the reason I took up birdwatching in the first place? Well, a half hour and several small broken trees later, I'm back up to only two feet of mud. Head on. Not a chance! Maybe some other time. Two days later, I came back. Why? My mind hasn't been working right lately. To my relief, there are two young Yellow-crowned Night Herons flying around. I don't have to brave Okefenokee again. The paddies were jammed with frogs — thousands of them — heron heaven. Needless to say, there had to be at least thirty Green Herons, a dozen Great Blue Herons, and the four Yellow-crowns in the area. The young Yellow-crowns were very active, a bit skittish and a lot prettier than I thought they would be. I last saw the birds on August 14 — about midway through the rice harvest. In those three weeks, a lot of people got to see the herons. Maybe if they come back next year, I can con some other fool into walking into the rookery. **Warren Nelson, 603 2nd St. N.W., Aitkin, MN 56431.**

BANDED PINE SISKIN — On May 13 and 14, 1982 I banded over 350 birds in a nine hour time span in Koni Sundquist's yard in Duluth. Over 100 of the birds were Pine Siskins. The siskins appeared to be moving through as none showed any signs of breeding. One of the siskins had a band on which was not mine. Last month I was sent a recovery certificate with information that this siskin had been banded on April 9, 1982 in or near Marlton, N.J., which is about 40 miles east of Philadelphia, PA. Thus the bird moved a distance of about 1200 miles in 34 days. **Dennis Meyer, 2874 N. Western Ave., St. Paul, MN 55113.**

AMERICAN AVOCETS IN RAMSEY COUNTY — On Oct. 10, 1982 we sighted four American Avocets in winter plumage on the east end of Como Lake in St. Paul. The birds were standing together among a flock of gulls in very shallow water on the edge of the lake. We were able to approach within 25 yards of the birds before thy flew off, circled the lake and returned to the same area. Their large size, upturned bill, and very striking black and white pattern (noticable both in flight and while standing) left no question as to their identity. We observed them for approximately 15 minutes through 7x35 binoculars. **Mark Martell and Colleen Curran, 1024 Stinson Ave., St. Paul, MN 55103.**

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PURPOSE OF THE MOU

The Minnesota Ornithologists Union is an organization of both professionals and amateurs interested in birds. We foster the study of birds, we aim to create and increase public interest in birds and promote the preservation of birdlife and its natural habitat.

We carry out these aims through the publishing of a magazine, **The Loon;** sponsoring and encouraging the preservation of natural areas; conducting field trips; and holding seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from individual members and affiliated clubs and by special gifts. The MOU officers wish to point out to those interested in bird conservation that any or all phases of the MOU program could be expanded significantly with gifts, memorials or bequests willed to the organization.

SUGGESTIONS TO AUTHORS

The editors of **The Loon** invite you to submit articles, shorter "Notes of Interest" and color and black/white photos. Photos should be preferably 5x7 in size. Manuscripts should be typewritten, double-spaced and on one side of the sheet with generous margins. Notes of Interest should be generally less than two typewritten pages double-spaced. If reprints are desired the author should so specify indicating number required. A price quotation on reprints will be sent upon receipt of information.

Club information and announcements of general interest should be sent to the Newsletter editor. See inside front cover. Bird-sighting reports for "The Season" should be sent promptly at the end of February, May, July and November to Kim Eckert. See inside front cover.

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