The Loon

SPRING 1998
VOLUME 70 – NUMBER 1

The Loon, Minnesota's magazine of birds, is published quarterly by the **Minnesota Ornithologists' Union**, the statewide bird club. Anyone interested may join. All members receive our two publications: ***The Loon*** and *Minnesota Birding.*

MOU PERMANENT ADDRESS:
J.F. Bell Museum of Natural History
10 Church Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455–0104

EDITOR OF *The Loon:*
Anthony X. Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112. Published quarterly.

ASSOCIATE EDITORS OF *The Loon:*
Parker Backstrom, Karl Bardon, Kim Eckert, Bruce Fall, Robert B. Janssen, Warren Nelson, Peder Svingen, Harrison Tordoff, Nancy Weber.

EDITOR OF *Minnesota Birding:*
Jim Williams, 5239 Cranberry Lane, Webster, WI 54893. Published bi-monthly.

MEMBERSHIPS:
Yearly donations to join the MOU: Single: $20; Youth (through age 17) $15; Family $30; Supporting $50; Life $400. Canadian and Foreign Subscriptions $25. Also available are back issues of ***The Loon*** ($4 each ppd.) and checklists of Minnesota birds (minimum lots of 20 for $5 ppd.).

MINNESOTA BIRD REPORTS:
Statewide 612-780-8890
Duluth 218-525-5952

MOU E-MAIL ADDRESS:
mou@biosci.cbs.umn.edu

MOU INTERNET WEB SITE:
http://biosci.cbs.umn.edu/~mou/

ISSN 0024–645X

Biogeographic Patterns of Breeding Birds in Minnesota

Gerald J. Niemi[1,2], JoAnn M. Hanowski[1], Ann R. Lima[1], David J. Mladenoff[3]

We describe six major biogeographic regions for birds in Minnesota based on breeding bird surveys (1975 to 1990) completed in Minnesota and parts of western Wisconsin. These regions represent agricultural dominated landscapes in southwestern and western Minnesota to the deciduous/coniferous forested areas in the northeastern portion of the state.

Introduction

Minnesota encompasses a broad array of habitat types and landscapes due to its varied climate, topography, soils, and human influence. The broadest pattern is evident moving from the extreme southwestern portion of the state which was dominated by prairies and grasslands, but is now primarily agricultural to the northeast which remains predominantly forested. As habitats and landscapes change across the geographic regions, bird observers know that the probability of finding certain species changes dramatically across these regions. However, beyond simple habitat or landscape changes, it is less well-known what other biological or abiotic factors influence the distribution and abundance of birds in the state.

For instance, nest predation (Hanski *et al.* 1996, Fenske-Crawford and Niemi 1997) and nest parasitism by the Brown-headed Cowbird (Brittingham and Temple 1983) have been implicated as major problems in reduced productivity for many birds and may be associated with declines in many songbird populations (Robinson *et al.* 1995). Yet, Brown-headed Cowbird populations drastically decline from southwestern to northeastern Minnesota as the area of agriculture and number of livestock decreases. Therefore, the influence of Brown-headed Cowbirds in northeastern Minnesota is less than in the southern portions of the state.

Less is known about the overall abundance and distribution of predators in Minnesota and we do not know what species are the dominant predators of breeding birds (Hanski *et al.* 1996, Fenske-Crawford and Niemi 1997). However, many predator populations such as raccoon, red fox, and feral cats have been increasing in Minnesota for the past 20 years, especially in the agricultural regions and in the transitional agricultural/forested regions of the state (Bill Berg, pers. comm.). A better understanding of how these predator populations vary over the state along with improved knowledge about the distribution and abundance of breeding birds will allow us to focus on more sophisticated questions and improve our ability to make more informed decisions to help bird populations.

We present results of a statewide analysis to identify biogeographic regions of the state based on bird distributions. Researchers need to be cognizant of these biogeographic regions and the different factors that may influence species distributions within specific regions. Additional information on landscapes within Minnesota can be obtained from such sources as Green and Janssen (1975), Janssen (1987), Green (1991), Ojakangas and Matsch (1982), or Tester (1995).

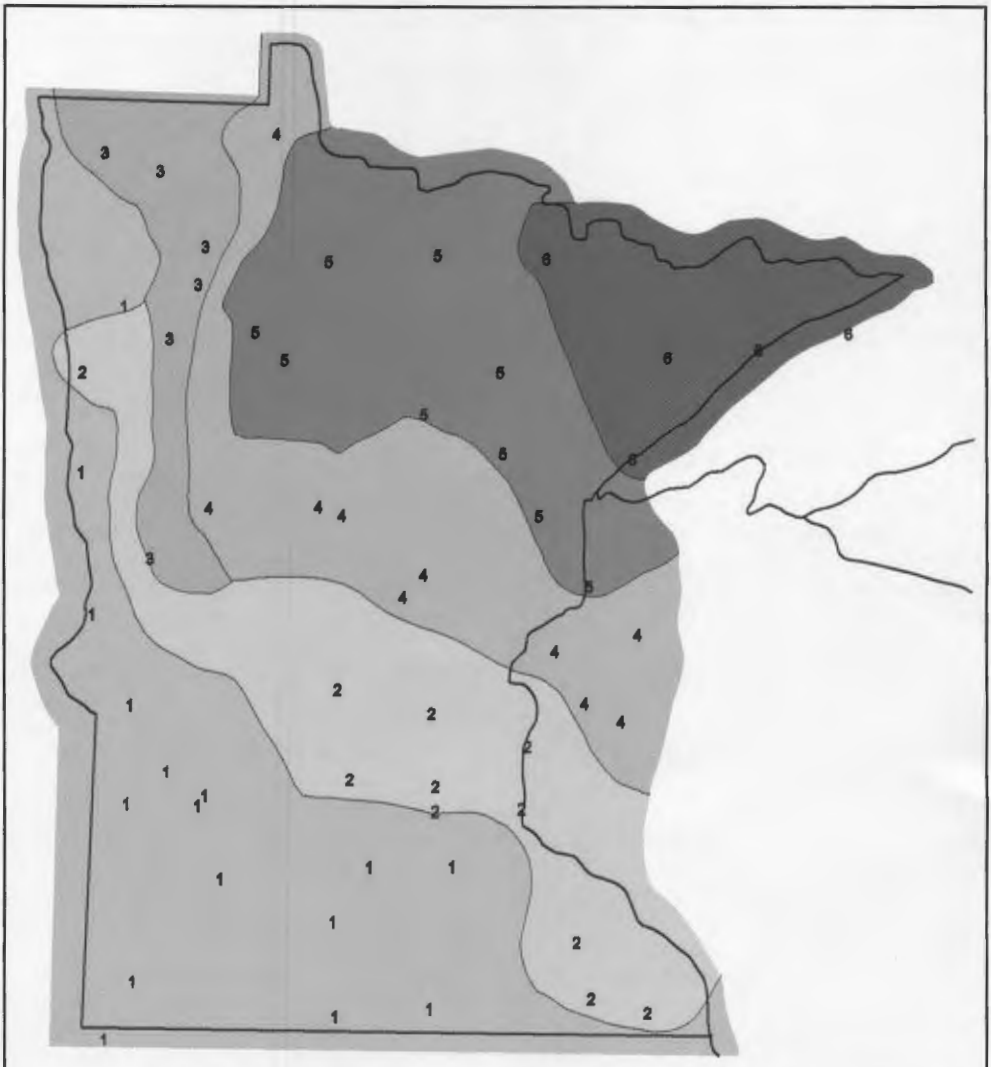


Figure 1. Distribution of six clusters representing bird biogeographic regions for the state of Minnesota. Numbers represent the start of a Breeding Bird Survey roadside count.

Methods

We used 51 Breeding Bird Survey (BBS) roadside counts gathered in Minnesota and six routes sampled in western Wisconsin from 1975 to 1990. These data were obtained from the U.S. Fish and Wildlife Service at their Patuxent Laboratory in Laurel, Maryland. We focused the analysis on the mean count (1975 to 1990) of the 59 most abundant bird species found on the 57 roadside counts. The species were selected based on those with a mean count of greater than 0.7 individuals observed among the 57 routes. We used the TWINSPAN software program which was specifically developed to determine clusters among samples (routes) with many species

Table 1. Percentage of major habitat types in five biogeographic regions of Minnesota. No data were available for Region 1.

Habitat	Region 2	3	4	5	6
Agriculture	85	84	34	20	1
Deciduous Forest	5	8	8	1	1
Coniferous Forest	1	0	9	3	12
Mixed Deciduous Coniferous Forest	3	0	35	50	80
Forested Wetland	1	4	7	17	3
Other	5	4	7	9	3

(Gaugh 1982). The analysis produces "clusters" of roadside routes with similar relative abundances of the 59 bird species. Each route was classified within one of the clusters and an analysis was completed to identify contours that grouped similar routes within a cluster. We also calculated the proportion of individual birds observed along the routes into three migratory classes of birds: permanent residents, short-distance or continental migrants, and long-distance migrants using the mean number of individuals observed for routes within a cluster.

To summarize habitats within a cluster we used the Minnesota Land Management Information System (MLMIS) land cover data, specifically the Land Use/ Land Cover (LUDA) data originally developed by the U.S. Geological Survey (1986). The most recent LUDA data available for the entire state was from the late 1970s and early 1980s. These data are mapped at a resolution of about 16 ha where each 16 ha unit is classified into one of the following habitat types: 1) urban, 2) agriculture, 3) deciduous forest, 4) coniferous (evergreen) forest, 5) mixed deciduous-coniferous forest, 6) water (e.g., lake), 7) forested wetland, 8) nonforested wetland, and 9) barren land (e.g., mined area). We summarized the data into the most common habitat types including agricultural, deciduous forest, coniferous forest, mixed forest, and forested wetland. LUDA data were available for 29 of the 57 routes sampled. We placed 400 m buffers around each of the 29 routes and calculated the mean habitat cover types for routes that fell within a cluster.

The compilation of data was done using a geographic information system (GIS) located at the Natural Resources Research Institute, University of Minnesota, Duluth. The GIS procedures primarily used the ARC/INFO software. The BBS routes and each stop were located and digitized within the road network of each state. Questions on details of methods used should be directed to the authors.

Results

The TWINSPAN analysis identified six clusters, or biogeographic regions, within Minnesota and western Wisconsin (Figure 1). The clustering produced broad groupings of routes that were associated with decreasing agricultural area, increasing forest area, and more specifically with different forest types such as forested wetlands and coniferous forests. For instance, Biogeographic Region 1 (hereafter referred to as Region 1) in southwestern and western Minnesota is dominated by agricultural land (no routes with LUDA data were located within Region 1), while Region 6 in northeastern Minnesota is dominated by forest land (99%) (Table 1). The most abundant bird species in Region 1 was the Common Grackle, while in Region 6 the most abundant bird species was the Ovenbird (Table 2). Each species attained its highest abundance within the state within these respective biogeographic regions. In contrast, the

most abundant species in Regions 2, 3, 4, and 5 was the Red-winged Blackbird. This species was also the second most abundant species found in Region 1.

Biogeographic Regions

Region 1 (Agricultural Region) is an area that transcends the dominant agricultural regions of Minnesota. The region extends from the extreme northwestern corner of Minnesota to the extreme southeastern portion. Sixteen BBS routes were clustered within this region. Species within the region were primarily associated with agriculture (e.g., row crops and pastures), woodlots, and edges associated with these habitats. Species most abundant within this region included the Mourning Dove, Red-headed Woodpecker, Northern Flicker, Horned Lark, Brown Thrasher, Dickcissel, Vesper Sparrow, Yellow-headed Blackbird, Common Grackle, and Brown-headed Cowbird (Table 2). Other species commonly found in this region were Mallard, Ring-necked Pheasant, Killdeer, Rock Dove, American Crow, House Wren, American Robin, European Starling, Common Yellowthroat, Song Sparrow, Bobolink, Red-winged Blackbird, Western Meadowlark, and House Sparrow.

Region 2 (Fragmented Forest Region) was comprised of 11 routes that stretched from extreme southeastern Minnesota (Winona and Houston counties) to northwestern Minnesota in Polk County. The area was primarily agricultural but included patches of both deciduous forest and mixed forest (Table 1). Bird species most abundant within this region, as compared with other regions, were Mallard, Ring-necked Pheasant, Rock Dove, House Wren, American Robin, European Starling, Northern Cardinal, Red-winged Blackbird, Baltimore Oriole, American Goldfinch, and House Sparrow (Table 2). Other species commonly found in this region were the Killdeer, Mourning Dove, Red-headed Woodpecker, Blue Jay, American Crow, Gray Catbird, Brown Thrasher, Warbling Vireo, Common Yellowthroat, Indigo Bunting, Chipping Sparrow, Vesper Sparrow, Savannah Sparrow, Song Sparrow, Eastern Meadowlark, Western Meadowlark, Yellow-headed Blackbird, Common Grackle, and Brown-headed Cowbird. The bird species composition reflects the combination of agricultural area, urban/residential habitat (Twin Cities metropolitan area), fragmented forests, and wetlands found within the region.

Region 3 (Aspen Parkland Region) was comprised of six routes in the northwestern section of Minnesota, extending from Otter Tail County to Kittson and Roseau counties. The area is transitional between the agricultural/prairies to the west and forested areas to the east. The area was also predominantly agricultural (84%), with the remainder deciduous forest and forested wetland (Table 1). The species of the state most commonly found in this region included the Killdeer, Eastern Kingbird, Warbling Vireo, Clay-colored Sparrow, Savannah Sparrow, Grasshopper Sparrow, Bobolink, Western Meadowlark, Brewer's Blackbird, and Baltimore Oriole (Table 2).

The presence of the western edge of the Red Lake Peatland and the surrounding agricultural area probably accounts for the high abundance for many of these species (e.g., Clay-colored Sparrow). Other species commonly found within this region include Common Snipe, Mourning Dove, Northern Flicker, Great Crested Flycatcher, Horned Lark, American Crow, American Robin, European Starling, Yellow Warbler, Common Yellowthroat, Vesper Sparrow, Song Sparrow, Red-winged Blackbird, Common Grackle, Brown-headed Cowbird, American Goldfinch, and House Sparrow.

Region 4 (Transitional Agricultural/Forest Region) was comprised of ten routes that reflect the transitional area between agricultural and forested landscapes. In contrast to the previous regions, here the proportion of agricultural area was about 34%, while the remaining habitat was primarily forested (Table 2). Species most commonly found within this region of the state included the Great

Table 2. Mean number of individuals for bird species observed on BBS routes classified into six biogeographic regions (n = routes per region).

Species	Region					
	1 (n=16)	2 (n=11)	3 (n=6)	4 (n=10)	5 (n=9)	6 (n=5)
Mallard	9.7	10.9	7.9	5.7	1.6	.9
Ring-necked Pheasant	11.6	19.9	.2	.4	0.0	0.0
Killdeer	14.6	13.6	16.8	6.5	5.7	.5
Common Snipe	.3	1.0	4.4	3.6	4.9	1.7
Rock Dove	21.5	26.6	10.2	4.9	.5	0.0
Mourning Dove	58.1	39.6	48.6	13.7	3.6	.1
Red-headed Woodpecker	5.9	4.1	.5	1.1	.1	0.0
Northern Flicker	5.3	5.1	4.2	3.3	3.6	3.7
Alder Flycatcher	.1	.3	3.1	6.5	6.3	8.0
Least Flycatcher	.6	.9	4.9	6.6	11.6	13.2
Great Crested Flycatcher	.9	4.5	5.9	9.2	5.6	.9
Eastern Kingbird	3.8	4.4	6.9	4.8	3.6	.9
Horned Lark	25.2	7.1	25.1	1.1	.3	0.0
Tree Swallow	1.9	6.0	5.7	11.4	14.5	4.1
Blue Jay	4.9	10.1	4.8	11.2	9.3	8.9
American Crow	24.6	35.7	31.2	37.5	25.4	8.1
Black-capped Chickadee	.8	2.7	1.0	4.6	4.8	3.6
House Wren	14.1	17.3	12.6	7.0	2.8	.2
Sedge Wren	1.4	3.5	4.4	7.3	6.3	.8
Veery	0.0	0.8	3.1	13.9	20.5	35.9
Hermit Thrush	0.0	0.0	0.0	1.8	3.7	9.4
American Robin	30.7	40.2	27.4	26.5	28.0	36.1
Gray Catbird	1.5	7.8	3.8	7.9	3.2	.5
Brown Thrasher	6.0	5.0	2.9	3.2	1.1	.3
Cedar Waxwing	.7	2.4	3.0	7.3	5.7	5.3
European Starling	55.9	61.4	22.2	15.2	12.5	1.0
Warbling Vireo	1.6	3.7	6.4	2.6	1.8	.1
Red-eyed Vireo	.4	3.1	5.2	24.3	31.8	45.0
Nashville Warbler	0.0	0.0	.1	3.6	11.7	42.3
Yellow Warbler	1.6	4.5	8.9	10.2	5.3	.5
Chestnut-sided Warbler	0.0	.2	.6	10.1	11.6	44.8
Magnolia Warbler	0.0	0.0	0.0	.1	.3	11.8
Black-and-white Warbler	0.0	0.0	.1	2.0	4.2	7.4
Ovenbird	0.0	.5	1.0	11.6	21.8	60.8
Mourning Warbler	0.0	0.0	.2	2.6	11.3	25.8
Common Yellowthroat	17.6	25.7	21.8	29.4	30.5	12.2
Northern Cardinal	.4	6.4	0.0	.1	0.0	0.0
Rose-breasted Grosbeak	1.3	5.6	3.4	9.2	6.8	10.5
Indigo Bunting	1.5	7.4	1.7	11.2	1.8	.2
Dickcissel	10.3	3.1	.5	.4	0.0	0.0
Chipping Sparrow	4.9	9.3	3.8	16.6	7.8	13.5
Clay-colored Sparrow	1.8	4.1	17.4	10.2	5.9	.3
Vesper Sparrow	35.8	14.6	15.3	5.9	.8	0.0
Savannah Sparrow	9.6	11.8	53.5	10.4	12.9	.4
Grasshopper Sparrow	3.6	2.2	6.3	1.1	.8	0.0
Song Sparrow	14.6	20.0	17.5	21.1	27.3	12.9
White-throated Sparrow	0.0	0.0	.1	1.8	15.7	55.3
Bobolink	18.8	12.3	33.9	10.4	6.1	0.0
Red-winged Blackbird	107.8	185.3	105.6	90.6	33.2	3.5
Eastern Meadowlark	.2	4.8	.2	5.3	1.1	0.0
Western Meadowlark	45.9	34.4	64.6	7.4	1.2	0.0
Yellow-headed Blackbird	37.7	11.8	8.5	2.0	.1	0.0
Brewer's Blackbird	2.2	1.7 2	1.7	8.5	5.8	.1
Common Grackle	124.9	91.9	31.1	14.9	4.0	.8
Brown-headed Cowbird	33.0	16.3	13.6	15.8	12.1	2.1
Baltimore Oriole	3.6	7.5	7.5	6.2	2.6	.4
American Goldfinch	7.3	12.9	10.7	12.3	7.7	1.8
Evening Grosbeak	0.0	0.0	0.0	.1	.3	8.4
House Sparrow	69.8	92.1	17.8	15.8	2.1	0.0

Crested Flycatcher, Blue Jay, American Crow, Sedge Wren, Gray Catbird, Cedar Waxwing, Yellow Warbler, Indigo Bunting, Chipping Sparrow, and Eastern Meadowlark (Table 1). Other common species of the region include Mallard, Common Snipe, Alder Flycatcher, Eastern Kingbird, Tree Swallow, Black-capped Chickadee, American Robin, Red-eyed Vireo, Common Yellowthroat, Rose-breasted Grosbeak, Song Sparrow, Red-winged Blackbird, Brown-headed Cowbird, Baltimore Oriole, and American Goldfinch. Many of the species found within this region are associated with early-successional forests, shrub areas, or agricultural/forest edges.

Region 5 (Hardwood-conifer Forest Region) was comprised of nine routes located in north-central to northern Minnesota in much of Koochiching and Itasca counties and parts of Beltrami, St. Louis, Carlton, and Itasca counties (Fig. 1). This area is primarily forested (>70%) with scattered agriculture (Table 1). Few species were found most abundantly within this region probably because most forested species were found more abundantly in Region 6, while more of the transitional agricultural to forest species were found more abundantly in Region 5. Those species most abundant in Region 5 were the Common Snipe, Tree Swallow, Black-capped Chickadee, Common Yellowthroat, and Song Sparrow. Other species commonly found in this region were the Alder Flycatcher, Least Flycatcher, Great Crested Flycatcher, Blue Jay, American Crow, Sedge Wren, Veery, American Robin, Cedar Waxwing, Red-eyed Vireo, Ovenbird, and Rose-breasted Grosbeak.

Region 6 (Great Lakes Forest Region) included five routes located in extreme northeastern Minnesota including a large portion of St. Louis, Lake, and Cook counties (Fig. 1). The area was primarily forested (>90%) with little agriculture (Table 1). More species were found most abundantly in this region compared with the other five regions. They were the Alder Flycatcher, Least Flycatcher, Veery, Hermit Thrush, Red-eyed Vireo, Nashville Warbler, Chestnut-sided Warbler, Magnolia Warbler, Black-and-white Warbler, Ovenbird, Mourning Warbler, Rose-breasted Grosbeak, White-throated Sparrow, and Evening Grosbeak.

Biogeographic distribution by migration class

There was a broad trend in the distribution of permanent residents, short-distance migrants, and long-distance migrants across the regions. The highest proportions of permanent residents and short-distance migrants were observed in the Agricultural and Fragmented Forest Regions and their proportions generally decreased from these regions in the southwest to the Great Lakes Forest Region in the northeastern portion of the state (Table 3). Long-distance, Neotropical migrants showed the opposite pattern. Their proportion was relatively low in the Agricultural Region and increased to the highest proportion in the Great Lakes Forest Region (Table 3).

Discussion

The biogeographic regions defined here provide a general picture of the breeding bird distribution within the state according to major landscapes from agricultural areas in southwestern and western Minnesota to transitional agricultural and forested areas in central Minnesota to forest-dominated regions in the northeastern portion (Green and Janssen 1975). These transitions reflect the broad ecotones that are formed where major biomes meet within the state. They include the influence of the eastern temperate deciduous forests in the southeast, eastern and north central portions of Minnesota, the grassland or prairie influence and present agriculture from the southwest and western portions, and the boreal forest regions in the northern and northeastern portions of the state. The combination of these biomes and a variety of additional influences such as the glacial history, soils, topography, and influence of man have created a varied

Table 3. Percentage of individuals observed in each of six biogeographic regions by migration class in Minnesota and western Wisconsin.

	Region					
	1	2	3	4	5	6
Permanent residents	18	22	6	10	8	7
Short-distance migrants	64	60	52	53	47	32
Long-distance migrant	18	18	42	37	45	61

physiography within the Minnesota landscape. The distribution and abundance of breeding birds is a reflection of these influences, but is primarily observable as a response to the habitats remaining within these regions.

The six biogeographic regions were created entirely from the BBS roadside count data with no input from habitat, soil conditions, topography, or climate. Yet, the resulting biogeographic regions have a high degree of correspondence with the general pre-settlement vegetation map of Minnesota (Marschner 1974, see also ***The Loon*** 63, No. 2, front cover) or a variety of maps that have been produced or adapted from this map (e.g., Green and Janssen 1975, p. 11; Tester 1995, p. 24). The Agricultural Region corresponds with the former upland grassland/prairie region (currently primarily agriculture). The Fragmented Forest Region corresponds broadly with the maple-basswood and oak woodland vegetation types; an area that is currently highly fragmented by both agriculture and urbanization. The Aspen Parklands Region corresponds reasonably well with the aspen parklands region of northwestern Minnesota, even though the region extends down to include Route 27 in Otter Tail County. Route 27 primarily extends east of the point indicated on Fig. 1 and habitat composition is quite varied. Subtle changes in the clustering algorithm such as including more or fewer species in the analysis could have classified Route 27 in either the Fragmented Forest or Hardwood-Conifer Forest Region.

The Transitional Agricultural-Forest Region is highly associated with transitional, edge habitats between agricultural areas, wetlands, and forested areas, especially those with pine and northern hardwoods such as maple and basswood. The birds most common in this region reflect this transitional nature. For example, several species associated with edges and fragmented landscapes were found here in greatest abundance including the Blue Jay, American Crow, Yellow Warbler, and Indigo Bunting. Route 47 in Lake of the Woods County was included with more southerly routes probably because of the transitional nature of the forests in that region in comparison with those in the more forested regions of the Hardwood-Conifer Region. However, again subtle changes in the input variables to clustering could have classified Route 47 with Aspen Parklands or with the Hardwood-Conifer Region.

The Hardwood-Conifer Region corresponds well with the spruce-fir and bog conifer habitat types (e.g., Green and Janssen 1975, p. 11) and with the combination of peatland and boreal hardwood-conifer forest as seen in Tester (1995, p. 24). This is an area that includes many lowland coniferous forests, such as the Red Lake peatland, Sax-Zim bogs, Floodwood bogs, and the aspen, birch, and balsam fir forests of the state. In this region, many of the species strongly associated with lowland coniferous or peatland habitats such as Palm Warbler or Connecticut Warbler (e.g., Niemi and Hanowski 1992) are not well-represented on routes within the region because most forested wetland habitats (e.g., black spruce, tamarack, and white cedar) are inadequately sampled by the BBS routes

(Mladenoff ms.).

The Great Lakes Forest Region is primarily associated with the forested areas of the state with less influence from large peatland/wetland complexes and little agricultural area. The habitats of the region correspond well with previous descriptions of habitats in the region. These include the boreal hardwood-conifer forest comprised of aspen, birch, balsam fir, and white spruce; the Great Lakes pine forest with white pine, red pine, and jack pine; and northern hardwood forest primarily located along the North Shore of Lake Superior (Green and Janssen 1975, Tester 1995). The coverage of this region is relatively sparse with only six BBS routes. The species found most abundantly in the region, however, are forest-associated species and most are long-distance, Neotropical migrants.

Summary

We identified six biogeographic regions for the most common breeding birds of Minnesota and western Wisconsin. The regions correspond well with the major physiographic regions of the state as reflected by a combination of the pre-settlement vegetation and recent influence by humans. These influences include the conversion of prairies to agriculture, fragmentation of forests due to agriculture and urbanization, and changes in the relative abundance of the predominant forested areas such as increases in aspen and decreases in coniferous species. These biogeographic regions may be useful in designing future studies of breeding birds within this region, especially when considering the potential effects of habitat and landscapes. The regions may also be useful for providing the appropriate context for interpretations of results for various studies conducted throughout the state or to establish common management goals within selected regions. The regions should also prove useful for birders who wish to locate the best possible places to find certain species or suites of species within the state.

Acknowledgments

We thank Phil Polzer and Jim Sales for their extensive expertise in GIS and the production of the biogeographic map. We appreciate the help of the U.S. Fish and Wildlife Service, Patuxent Research Laboratory, Laurel, Maryland, especially the help of John Sauer and Bruce Peterjohn. Thanks also to Jan Green for her relentless encouragement to publish these data. Funding for the project was appropriated by the Minnesota State Legislature from the Environmental Trust Fund as recommended by the Legislative Commission on Minnesota Resources. This paper represents contribution number 217 of the Center for Water and the Environment, Natural Resources Research Institute, University of Minnesota, Duluth.

Literature Cited

Brittingham, M.C. and S.A. Temple. 1983. Have cowbirds caused forest songbirds to decline? BioScience 33:31–35.

Fenske-Crawford, T.J. and G.J. Niemi. 1997. Predation of artificial ground nests at two types of edges in a forest-dominated landscape. Condor 99:14–24.

Gaugh, H. Jr. 1992. Multivariate Analysis in Community Ecology. Cambridge University Press.

Green, J.C. 1991. A landscape classification for breeding birds in Minnesota: an approach to describing regional biodiversity. ***The Loon*** 63:80–91.

Green, J.C. and R.B. Janssen. 1975. Minnesota Birds; Where, When and How many. University of Minnesota Press, Minneapolis, MN.

Hanski, I.K., T.J. Fenske, and G.J. Niemi. 1996. Lack of edge effect in nesting success of breeding birds in managed forest landscapes. Auk 113:578–585.

Janssen, R. 1987. Birds in Minnesota. University of Minnesota Press, Minneapolis, MN.

Marschner, F.J. 1974. The original vegetation of Minnesota. USDA Forest Service, North Central Forest Experiment Station, St. Paul, MN.

Mladenoff, D. ms. How well do U.S. FWS

breeding bird survey (BBS) routes sample regional landscapes. Cons. Biol., submitted.
Niemi, G.J. and J.M. Hanowski. 1992. Bird populations. Pages 31–46 in H.E. Wright, Jr., B.A. Coffin, and N.E. Aaseng, eds. The Patterned Peatlands of Minnesota. University of Minnesota Press, Minneapolis, MN.
Ojakangas, R.W. and C.L. Matsch. 1982. Minnesota's Geology. University of Minnesota Press, Minneapolis, MN.
Robinson, S.K., F.R. Thompson III, T.M. Donovan, D.R. Whitehead, and J. Faaborg. 1995. Regional forest fragmentation and the nesting success of migratory birds. Science 267:1987–1900.
Tester, J. R. 1995. Minnesota's Natural Heritage — an Ecological Perspective. University of Minnesota Press, Minneapolis, MN.
U.S. Geological Survey. 1986. Land use and land cover digital data from 1:250,000 and 1:100,000 scale maps. Data User's Guide 4. Reston, VA.

[1] Center for Water and the Environment, Natural Resources Research Institute, 5013 Miller Trunk Highway, Duluth, MN 55811.

[2] Department of Biology, University of Minnesota, 10 University Drive, Duluth, MN 55812.

[3] Department of Forestry, University of Wisconsin, Madison, WI 53706.

The American Avocet in Minnesota

Peder Svingen

Dr. T. S. Roberts stated in The Birds of Minnesota *(1932) that the American Avocet "has long been extinct in Minnesota" since he knew of no records following the specimen from Rice County in 1892. This article reviews the seasonal occurrence, nesting, and distribution of avocets in Minnesota from the turn of the century through 1997.*

The American Avocet *(Recurvirostra americana)* formerly ranged farther north than at present and also became extirpated from much of its eastern range by the end of the nineteenth century (Bent 1927, Godfrey 1986, Page and Gill 1994). According to Dr. Roberts (Roberts 1919) the American Avocet "was formerly a Minnesota bird and bred in limited numbers, but it disappeared long ago. The writer never encountered it. Dr. Hatch met with it in the earlier days of his bird work — prior to 1870. Dr. Wm. C. Portman, of Jackson, Jackson County, who has observed and collected birds in that locality for many years, told the writer in June of 1893 that he had some years previously seen them in considerable numbers in that vicinity. On one occasion they were in company with Long-billed Curlews and had apparently dropped down during migration to feed and rest."

Other Minnesota historical records include specimens taken in 1887 during the breeding season in Traverse County

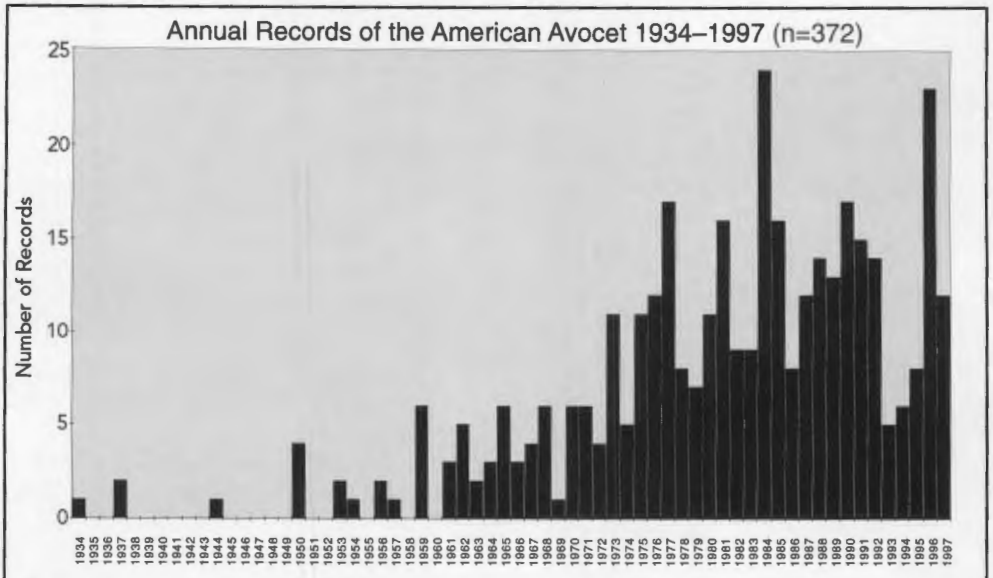


Figure 1.

(Roberts 1932). However, no nests or eggs were found before the twentieth century. Evidence of breeding was finally discovered in Lyon County in 1956 (*The Flicker* 28:168) and the first Minnesota nest was found in 1959 (*The Flicker* 31:101).

Methods

I reviewed all seasonal reports, notes of interest, and articles in ***The Loon*** and its predecessor *The Flicker* for Twentieth Century records of the American Avocet in Minnesota through 1997. Whenever possible, these were cross-checked using available indices. Reports from the same location were counted as more than one record if different numbers of birds were reported on widely separated dates. Individuals or flocks known to be relocated by multiple observers were counted as one record. Reports from the same location in two different seasons were usually counted separately for each season.

All records were then stratified by month, season, year, and county. Migration dates were analyzed in comparison to those in adjacent states. Early June dates were considered to represent late spring migrants unless reported from known breeding locations. Similarly, late June and July dates were treated as early fall migrants, unless known to be breeding birds. Like other shorebird species, a few records could not be satisfactorily classified as either spring or fall migrants; these are simply presented as non-breeding summer records. Unfortunately, a few valid records were apparently never published in the seasonal reports and numbers of individuals seen were frequently omitted. The totals presented here are therefore the minimum number of records and individuals that have occurred in the state.

Results

A total of 372 Twentieth Century records from 45 south and 22 north counties was found, none of which were from the first third of this century. Records increased dramatically after 1970 (Figure 1). Approximately two-thirds of all records (253 of 372) occurred during the spring migration (Figure 2). As expected, the majority of all records (67.7%) were from western Minnesota, especially

Minnesota Breeding Records of the American Avocet

Date	*Location*	*County*	*Outcome*	*Reference*
June 1993	Hamden Slough	Becker	nest flooded	66:21
June 1991	Thielke Lake	Big Stone	pair nested, fledged one young	64:125–126
June 1991	Crookston sewege ponds	Polk	two nests flooded	64:26
June 1990		Clearwater	nested	63:49
June 1988	Browerville	Todd	nested	61:24
June 1987	Johnson Township	Polk	nest with two eggs	60:21
2 June–July 1985	Cottonwood	Lyon	pair nested, one young fledged	57:142
June 1985	County Road 7	Lac Qui Parle	nest abandoned	58:50
10 May–June 1985	Agassiz NWR	Marshall	7 nests with eggs on 22 May, 24 adults	58:27
13 July 1984	Browns Valley	Traverse	nest with two eggs	56:204–205
June 1983	Salt Lake	Lac Qui Parle	nested	56:54
June 1982	East Grand Forks	Polk	nested	55:55
18 June 1980	Agassiz NWR	Marshall	nest, infertile eggs	Janssen 1987
June 1980	Salt Lake	Lac Qui Parle	three nests flooded	53:137
June 1980	Gonvick	Clearwater	four pair, two young	Janssen 1987
12 June 1977	Moorhead lagoons	Clay	nested	Janssen 1987
June 1977	Wells sewege ponds	Faribault	two pair nested, seven young fledged	50:14
28 June 1973	Big Stone NWR	Big Stone	nested, adult with two downy young	45:97–98
31 May–June 1964	Salt Lake	Lac Qui Parle	three pair, two nests with four eggs each	37:82–83
21 May 1961	Salt Lake	Lac Qui Parle	nest with four eggs; max. 20 adults	33:57–58
22 June 1959	Orwell WMA	Otter Tail	three adults with three fledglings	31:99
June 1959	near Madison	Lac Qui Parle	nested	Janssen 1987
31 May 1959	near Alberta	Stevens	nest with four eggs	31:101
20 June–12 July 1956	3 miles NW of Balaton	Lyon	four adults, four half-grown young	28:168

Table 1. Nesting and attempted nesting of the American Avocet in Minnesota. Numbered references are to *The Flicker* or *The Loon*.

the west-central and northwest regions (Figure 3). The top five counties with numbers of records are Lac Qui Parle (48), Lyon (29), Marshall (26), Big Stone (24), and Clay (19).

A total of 24 nesting or attempted nesting records in Minnesota was found (Table 1). Nearly all were from the western tier of counties, from Lyon, Lac Qui Parle and Big Stone in the south, to Clearwater, Polk and Marshall in the north (Figure 4). Summer (mid-June) records of apparent non-breeders, mostly in western Minnesota, are also depicted on Figure 4. Some adults and one year old non-breeding birds are known to return to their breeding grounds (Robinson and Oring 1997) which may explain some of Minnesota's records in consecutive summers at the same location, *e.g.* the 10 June 1978 record from the Wells sewage ponds in Faribault County, where seven young fledged the previous year.

Breeding Distribution

The American Avocet breeds primarily in western North America as far east as southwestern Manitoba, the eastern Dakotas, central Nebraska and southwestern Kansas, northwestern Oklahoma, the Texas panhandle and portions of the Texas coast; it is an irregular and local breeder in southwestern Ontario, western Minnesota, central Iowa (?), central Kansas, and along the Atlantic Coast as far north as Virginia (Robinson *et al.* 1997). Four eggs in an unlined or lined nest scrape are typical; supernumary clutches due to egg dumping have been found (Kondla and Pinel 1978, Giroux 1985). Interspecific nest parasitism by avocets has been reported (Vermeer 1971, Stewart 1975, Giroux 1985, Kuyt and Johns 1992). Avocets often form semi-colonial breeding groups (Robinson *et al.* 1997); one example of this in Minnesota is from Agassiz NWR in 1985.

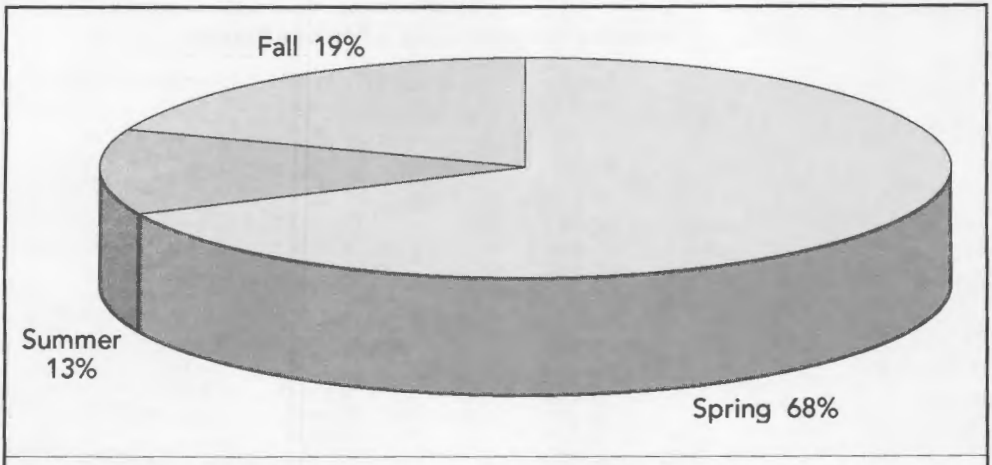


Figure 2. Seasonal distribution of American Avocet records in Minnesota (n=372).

More than half of the Minnesota nesting records (Table 1) are since 1980; the majority of these, along with many of the non-breeding summer records, are from the northwest region (Figure 4). One of the plants associated with breeding avocets, salt-grass, occurs in western Minnesota (Ownbey and Morley 1991). Avocets are well adapted to saline and alkaline wetlands (Mahoney and Jehl 1985). Impoundments, evaporation ponds, and wetlands characterized by common cattail, bulrushes, or sedges are also used (Robinson *et al.* 1997). Since favored breeding habitat includes open flats interspersed with tufts of grass, often near semipermanent and shallow alkaline wetlands (Bent 1927, Palmer 1967, Robinson *et al.* 1997) it is not surprising that so many of Minnesota's summer records are from Salt Lake. The most recent confirmed nesting at Salt Lake was in June 1983, prior to the summer droughts of the late 1980s.

The breeding range in the prairie pothole region of North Dakota is extensive; extreme egg dates are 12 May – 5 July (Stewart 1975, Sidle and Arnold 1982) and dates for dependent young are 9 June – 15 August (R. Martin pers. comm.). Breeding by avocets is uncommon and local in South Dakota (Peterson 1995), primarily from the last third of May through the first half of July; earliest egg dates are 16 May 1994 in Edmunds Co. (*Field Notes* 48:957), 17 May 1992 in Meade Co. *(South Dakota Bird Notes* 44(3):72), and 19 May 1985 in Roberts Co. (SDOU 1991). The latest date for confirmed nesting in South Dakota is 23 July (Peterson 1995). Minnesota egg dates are few but range from 21 May – 13 July (Table 1).

In Iowa, possible breeding near Sioux City in 1986 (*Iowa Bird Life* 56:115, Jackson *et al.* 1996) was inferred from the birds' behavior, as avocets are well known for their elaborate courtship, distraction, and antipredator displays (Hamilton 1975, Sordahl 1982 and 1984). The validity of a 1900 Iowa nesting record has been questioned (Kent and Dinsmore 1996). Wisconsin's only twentieth century breeding record is from Dodge County in June 1973 (Robbins 1991). The Ontario breeding record mentioned earlier is from Lake of the Woods in July 1980 (Peck and James 1983, James 1991).

Migration

The American Avocet migrates primarily through the western United States and winters in coastal and interior

American Avocet Extreme Arrival and Departure Dates						
	North Dakota	South Dakota	Minnesota (North)	Minnesota (South)	Wisconsin	Iowa
Early Spring	3 April	21 March	19 April	10 April	13 April	8 April
	5 April	1 April	21 April	14 April	15 April	12 April
	6 April	4 April	22 April	15 April	19 April	13 April
	8 April	5 April	26 April	17 April	21 April	15 April
	9 April	6 April	27 April	19 April	22 April	16 April
	10 April	8 April	28 April	20 April	24 April	18 April
Late Spring			3 June	31 May	31 May	28 May
			6 June	1 June	1 June	30 May
			8 June	2 June	4 June	6 June
			9 June	5 June	9 June	
			11 June	6 June	14 June	
			9–14 June	9 June		
Early Fall			29 June	22 June	2 July	26 June
			5 July	28 June	3 July	6 July
			6 July	2 July	4 July	7 July
			10 July	3 July	7 July	16 July
			12 July	4 July	8 July	17 July
			13 July	9 July	9 July	19 July
Late Fall	1 Nov.	26 Oct.	9 Sep.	17 Oct.	25 Oct.	20 Oct.
	2 Nov.	27 Oct.	21 Sep.	18 Oct.	27 Oct.	27 Oct.
	3 Nov.	31 Oct.	17 Oct.	19 Oct.	28 Oct.	5 Nov.
	4 Nov.	1 Nov.	21 Oct.	22 Oct.	30 Oct.	6 Nov.
	9 Nov.	2 Nov.	23 Oct.	28 Oct.	31 Oct.	9 Nov.
	11 Nov.	4 Nov.	31 Oct.	1 Nov.	2 Nov.	10 Nov.

Table 2. Extreme early and late dates for spring and fall migration of the American Avocet in Minnesota and adjacent states. Minnesota dates are divided into north and south, following the method in Janssen (1987).

Mexico, uncommonly as far south as Guatamala and the Yucatan Peninsula, as well as along portions of the Pacific, Gulf, and Atlantic coasts in the United States (AOU 1983, Robinson *et al.* 1997). Actual migration routes are poorly understood (Robinson and Oring 1996).

Spring migration mostly takes place from mid-April through mid-May in Minnesota and nearby states, but clearly extends into June (Table 2). Extreme spring dates in Minnesota are 10 April – 14 June, the latter date representing an individual that lingered in Duluth from 9 – 14 June 1989. Early June dates for Iowa and Wisconsin are also shown in Table 2. Although located beyond the scope of this article, the Province of Ontario has at least a half dozen early June records of spring migrants, including one at Rainy River 6 – 9 June 1987 (*American Birds* 41:1430).

In North Dakota "it is very tough to separate nesters from migrants" (R. Martin pers. comm.). In eastern North Dakota on 17 June 1981, the 140 avocets at the Grand Forks AFB lagoons were thought to "probably represent unsuccessful nesters that had begun fall flocking" (*American Birds* 35:953). Similarly, the 50 adults and young at Cactus Flats Pond in Jackson County, South Dakota on 23 June 1979 was considered a migrant flock (*American Birds* 33:875). Some of Minnesota's mid-June reports classified here as non-breeding summer records

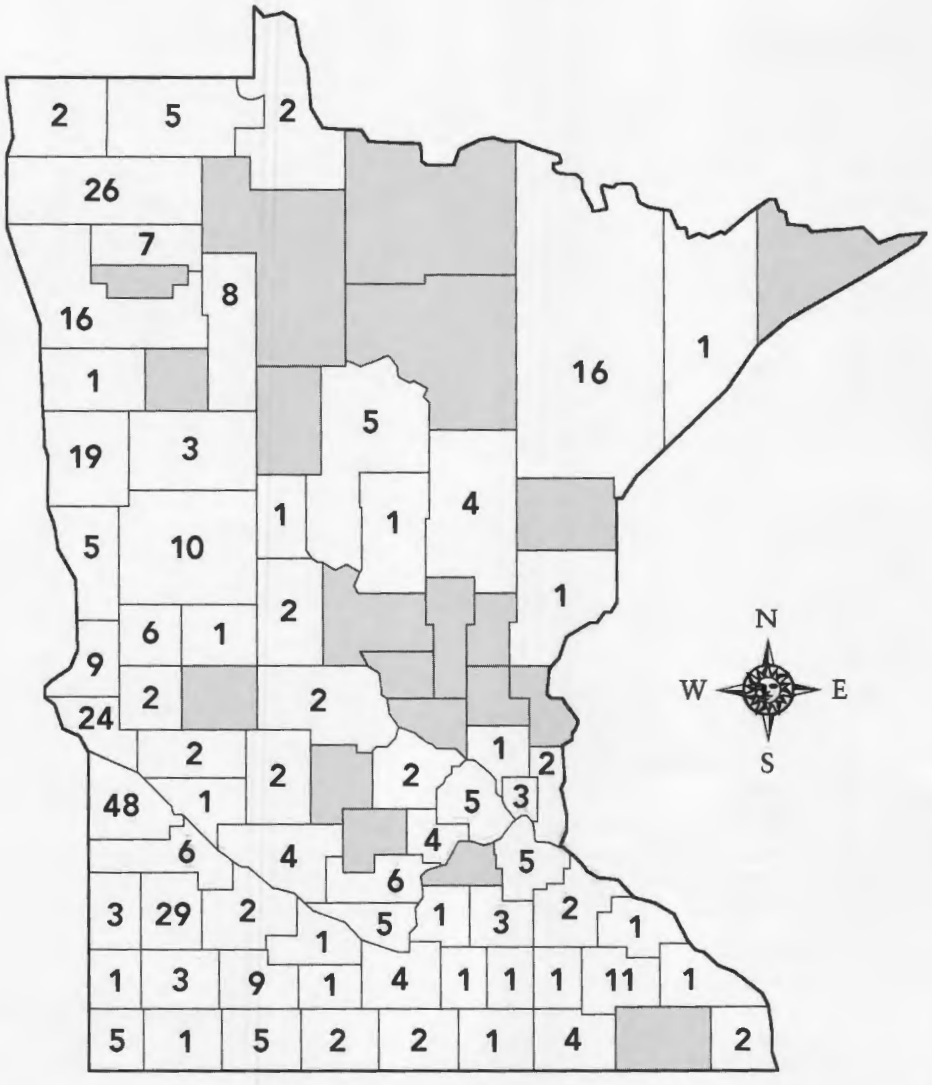


Figure 3. All records (n=372) of the American Avocet in Minnesota 1934–1997. See Figures 4 and 5 for a seasonal breakdown of these records.

(e.g. 15 June 1981 in Marshall County, 17 June 1983 in Polk County, 17 June 1992 in Dakota County) may actually be extremely early fall migrants. Wisconsin has several such records, including 17 June 1982 in Manitowoc and 19 June 1978 in Milwaukee, that are presumed to represent non-breeders (S. Robbins pers. comm.). Farther east, one on 14 June 1988 at Lake Calumet, Illinois and two at Point Pelee, Ontario on 19 June 1988 were all considered to be exceptionally early fall migrants (*American Birds* 42:1283, 1295).

Fall migration is definitely underway by early July and overlaps the nesting

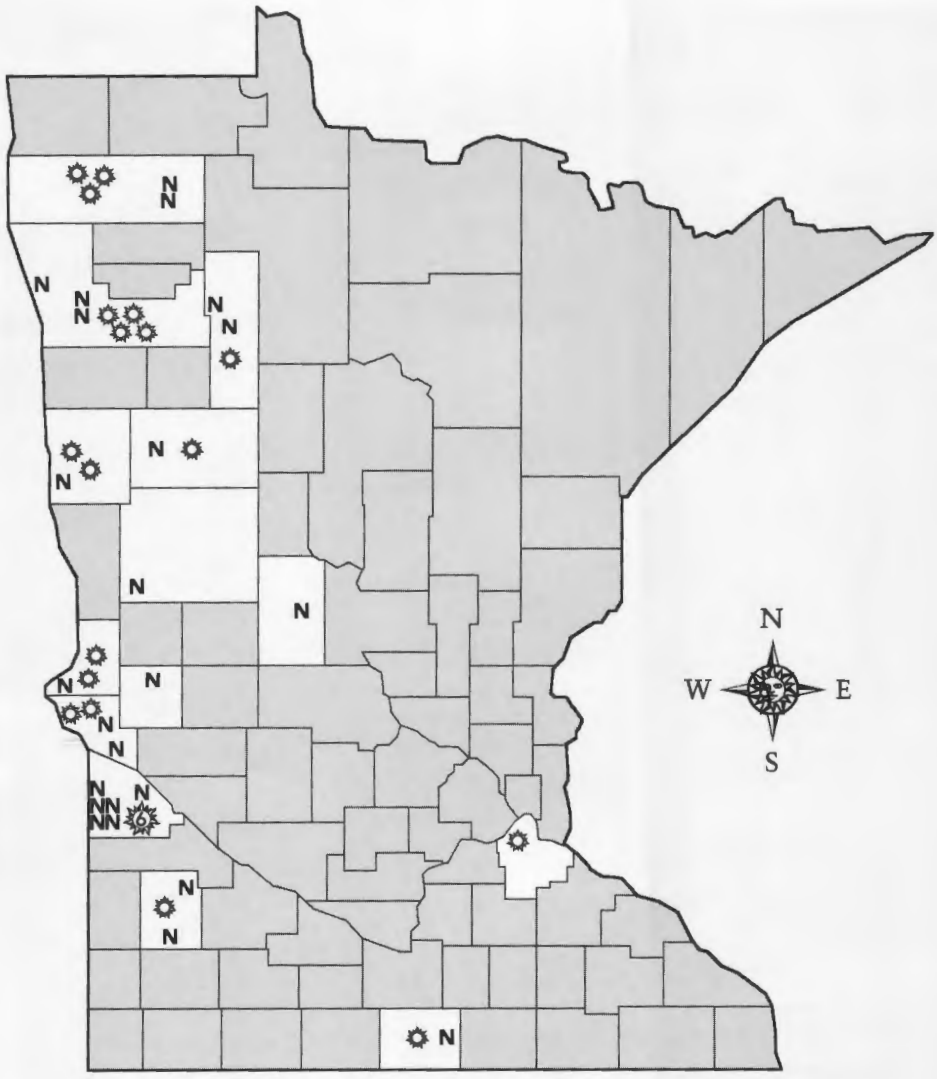


Figure 4. Nesting (n=24, depicted with an " N ") and non-breeding summer (n=24, depicted with a "☼") records of the American Avocet 1934–1997. Non-breeding summer record locations are inexact.

season. North Dakota has peak counts in early August–early September (G. Berkey, unpub. data) while the main period for fall migration in Wisconsin is 15 August–25 September (Robbins 1991). Extreme fall dates in Minnesota are 22 June – 1 November (Table 2).

High counts for North Dakota are at least 10x greater in fall (2,000–3,000) than in spring; spring peaks include 200 on 21 May 1988 in Benson County and 150 on 11 May 1990 in McHenry County (G. Berkey, unpub. data). Representative high counts for South Dakota in spring are 80 on 3 May 1968 at Crow Lake, Jerauld County, and 75 on 13 May 1990

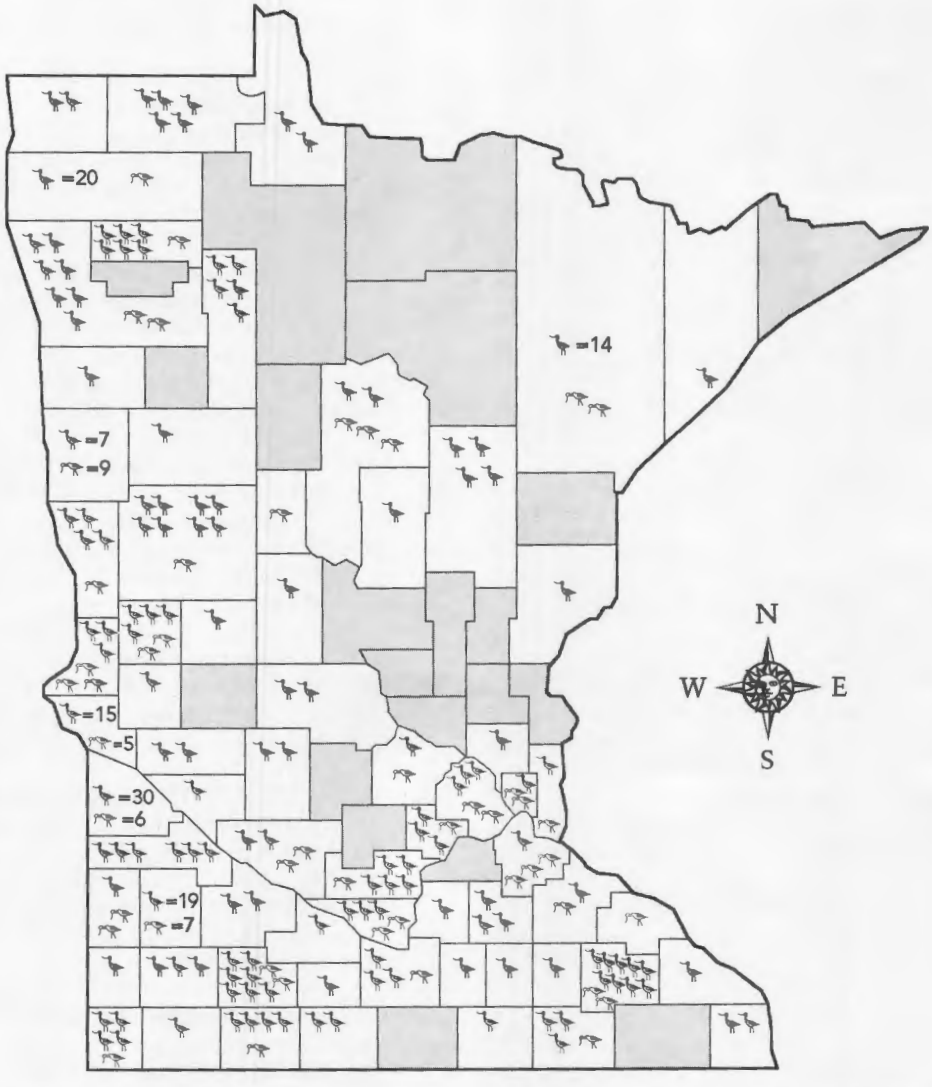


Figure 5. Records of the American Avocet during spring migration (n=253) and fall migration (n=71) in Minnesota 1934–1997. Spring records are represented with a breeding plumaged avocet ( ), and fall records by a basic plumaged avocet ( ).

at Bitter Lake, Day County. Curiously, no high counts for fall are listed in *The Birds of South Dakota* (SDOU 1991) but *South Dakota Bird Notes* cites 78 American Avocets on 12 September 1983 in Day County and 75 on 15 August 1985 at Waubay NWR. Iowa's high count for spring is 50 on 26 April 1986 in Fremont and Mills counties (*Iowa Bird Life* 56:86) and its high count for fall is 82 on 20 October 1994 at Saylorville Reservoir (*Field Notes* 49:54). High counts for Wisconsin are 65 on 25 April 1991 in La-Crosse County (*Passenger Pigeon* 53:342) and 60 on 20 October 1984 in Burnett County (*Passenger Pigeon* 47:108).

High counts for Minnesota (K. Bardon, unpub. data) are mostly from spring, except for the record high count of 76 avocets at Mud Lake, Traverse County, on 9 July 77 (***The Loon*** 50:14). The only other published fall count of >10 is 19 October 1984 in Goodhue County (16 birds). The highest Minnesota spring counts are on 1 May 1977 in Olmsted (35), 2 May 1971 in Lyon (30), 12 May 1980 in Lac Qui Parle (28), 27 April 1996 in Lac Qui Parle (27), 27 April 1996 in Lincoln (25) and 9 May 1991 in Jackson (25) counties.

Discussion

The Twentieth Century status of the American Avocet in Minnesota has changed dramatically over the past five decades, from a casual vagrant prior to the 1950s to a regular migrant and occasional breeding bird. This paper shows spring migration extending well into June in Minnesota. The first fall migrants typically arrive in early July and in exceptional years, by the end of June. About two-thirds of all Minnesota records and nearly all of our high counts are from spring. Where do those thousands of avocets go when they leave North Dakota in the fall?

As previously mentioned, more than half of all Minnesota nesting records are since 1980. Breeding Bird Survey data show statistically significant increases for avocets in the central region of North America during 1966–79 but no significant trends in either this region or survey-wide during the period 1980–96 (Sauer *et al.* 1997). American Avocets "specialize in using the temporally unpredictable wetlands of the arid western United States" (Robinson *et al.* 1997) but may increasingly rely on impoundments, agricultural ponds and sewage lagoons in western Minnesota. Improvements in water quality and development of nesting islands are among the important conservation measures that can enhance reproductive success (Robinson *et al.* 1997). Further research is needed on these issues so that the occurrence of this visually striking and behaviorally fascinating shorebird remains an annual event in Minnesota.

Acknowledgments

I am grateful to Ron Martin (North Dakota), Jeffrey S. Palmer and Robert P. Russell, Jr. (South Dakota), James J. Dinsmore (Iowa), Robert C. Domagalski and Samuel D. Robbins, Jr. (Wisconsin) for providing commentary and reviewing records from their respective states. A few records from these states were undoubtedly overlooked despite due diligence; the responsiblility for such errors of ommission is mine. Bill Huser, Steve Konings, Mark Korducki, and Dennis Kuecherer provided additional information on various records. Anthony Hertzel created the maps and helped extensively with background research. I thank Karl Bardon and Gordon Berkey for permission to use their unpublished data.

Literature Cited

American Ornithologists' Union. 1983. Check-list of North American Birds, 6th edition. Lawrence, Kansas: Allen Press, Inc., pp. 216–217.

Bent, A.C. 1927. Life Histories of North American shorebirds, Part 1. U.S. National Museum Bulletin 142.

Giroux, J-F. 1985. Nest sites and superclutches of American Avocets on artificial islands. *Canadian Journal of Zoology* 63:1302–1305.

Godfrey, W.E. 1986. The Birds of Canada, revised edition. Ottawa: National Museums of Canada, 595 pp.

Hamilton, R.B. 1975. Comparative behavior of the American Avocet and the Black-necked Stilt *(Recurvirostridae)*. Ornithological Monographs 17.

Jackson, L.S., C.A. Thompson, and J.J. Dinsmore. 1996. The Iowa Breeding Bird Atlas. Iowa City: University of Iowa Press, 486 pp.

James, R.D. 1991. Annotated Checklist of the Birds of Ontario, 2nd edition. Toronto: Royal Ontario Museum, 128 pp.

Janssen, R.B. 1987. Birds in Minnesota. Minneapolis: University of Minnesota

Press. 352 pp.
Kent, T.H. and J.J. Dinsmore. 1996. Birds in Iowa. Published by the authors, 391 pp.
Kondla, N.G. and H.W. Pinel. 1978. Clutch size of the American Avocet in the prairie provinces. *Blue Jay* 36:150–153.
Kuyt, E. and B.W. Johns. 1992. Recent American Avocet, *Recurvirostra americana*, breeding records in the Northwest Territories, with notes on avocet parasitism of Mew Gull, *Larus canus*, nests. *Canadian Field-Naturalist* 106:507–510.
Mahoney, S.A. and J.R. Jehl, Jr. 1985. Adaptations of migratory shorebirds to highly saline and alkaline lakes: Wilson's Phalarope and American Avocet. *Condor* 87:520–527.
Ownbey, G.B. and T. Morley. 1991. Vascular Plants of Minnesota: A Checklist and Atlas. Minneapolis: University of Minnesota Press, 307 pp.
Page, G.W. and R.E. Gill, Jr. 1994. Shorebirds in western North America: Late 1800s to late 1900s. *Studies in Avian Biology* 15:147–160.
Palmer, R.S. 1967. Plumage descriptions: Family Recurvirostridae. Pages 150–152 *in* The Shorebirds of North America (G. D. Stout, Ed.). New York: Viking Press.
Peck, G.K. and R.D. James. 1983. The Breeding Birds of Ontario: nidiology and distribution, Volume 1. Toronto: Royal Ontario Museum, 321 pp.
Peterson, R.A. 1995. The South Dakota Breeding Bird Atlas. Aberdeen: South Dakota Ornithologists' Union.
Robbins, S.D., Jr. 1991. Wisconsin Birdlife: Population & Distribution, Past & Present. Madison: University of Wisconsin Press, 702 pp.
Roberts, T.S. 1919. Water birds of Minnesota; past and present. Pages 56–91 *in* Biennial Report of the State Game and Fish Commission of Minnesota, for the Biennial Period Ending July 31, 1918.
Roberts, T.S. 1932. The Birds of Minnesota, Vol. I. Minneapolis: University of Minnesota Press, 691 pp.
Roberts, T.S. 1938. Logbook of Minnesota Bird Life. Minneapolis: McGill Lithograph Company, 355 pp.
Robinson, J.A. and L.W. Oring. 1997. Natal and breeding dispersal in American Avocets. *Auk* 114:416–430.
Robinson, J.A. and L.W. Oring. 1996. Long-distance movements by American Avocets and Black-necked Stilts. *Journal of Field Ornithology* 67:307–320.
Robinson, J.A., L.W. Oring, J.P. Skorupa, and R. B. Boettcher. 1997. American Avocet *(Recurvirostra americana). In* The Birds of North America, No. 275 (A. Poole and F. Gill, Eds.). The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, DC.
Sauer, J.R., J.E. Hines, G. Gough, I. Thomas, and B.G. Peterjohn. 1997. The North American Breeding Bird Survey Results and Analysis. Version 96.4. Patuxent Wildlife Research Center, Laurel, Maryland.
Sidle, J.G. and P.M. Arnold. 1982. Nesting of the American Avocet in North Dakota. *Prairie Naturalist* 14:73–80.
Sordahl, T.A. 1982. Antipredator behavior of American Avocet and Black-necked Stilt chicks. *Journal of Field Ornithology* 53:315–325.
Sordahl, T.A. 1984. Observations on breeding site fidelity and pair formation in American Avocets and Black-necked Stilts. *North American Bird-Bander* 9:8–11.
South Dakota Ornithologists' Union. 1991. The Birds of South Dakota, 2nd edition. Aberdeen: South Dakota Ornithologists' Union, 411 pp.
Stewart, R.E. 1975. Breeding Birds of North Dakota. Fargo: Tri-College Center for Environmental Studies, 295 pp.
Vermeer, K. 1971. Large American Avocet clutches at Dowling Lake, Alberta. *Blue Jay* 29:88.

2602 E. Fourth St., Duluth, MN 55812–1533.

Five Red-throated Loons, 1 June 1997, Duluth, St. Louis County. Photo by Craig Menze.

The Summer Season
(1 June to 31 July 1997)

Terry Wiens

*Highlights for the summer were an **Arctic Tern** at Duluth and **Prairie Warblers** in southeastern Minnesota. Both **Clark's Grebe** and **Scissor-tailed Flycatcher** were involved in nesting attempts, and a **Baird's Sparrow** was found singing in suitable habitat in Clay County. Other unusual observations included a **California Gull** in the northeast; plus **Ross's Goose**, **Parasitic Jaeger**, **Little Gull**, **Snowy Owl**, **Carolina Wren**, **Mountain Bluebird**, and **Spotted Towhee**.*

Following the exceptionally cool spring of 1997, June rebounded with temperatures well above normal in all regions of the state. The thermometer topped 90° in many locations, and no frosts were reported. Rainfall for the month was near normal for almost all of the state (including the northwest, thank goodness!). July turned the tables just a bit, with average temperatures dropping slightly below normal throughout the state. Precipitation was much more extensive in certain areas — the central, east central, south central and southeast regions received roughly twice the normal rainfall for the month.

Seasonal Highlights

A total of 266 species was observed for the season, very near the previous ten-year average of 265. Seasonal reports and/or breeding information were sub-

mitted by 132 individuals, possibly the most ever for a summer season — observer numbers have gradually increased in recent years. Contributors sent in 959 nest or brood cards, and breeding data were collected for 141 species (slightly below average in both cases). Top contributors of breeding information once again included Jean Segerstrom & Mark Newstrom (207 nest/brood cards), Russell Hofstead (78), Forest Strnad (72), and Jack Sprenger (62). Thanks to all contributors for your outstanding field work!

The summer began well with the discovery of an adult **Arctic Tern** on 2 June in Duluth. This bird was carefully identified and determined to *not* be the same Arctic Tern seen nearby just a few days earlier! These two tern records represent the first for the state in over ten years. The only other accidental species recorded this summer, **Prairie Warbler**, has recently been much more common than its status would imply — two separate reports were documented this summer in southeastern Minnesota, following one report in the spring season and the presence of territorial birds in Anoka County last summer.

Four casual species were reported for the season, a typical number in any given summer. Not too surprising was the discovery of a **Clark's Grebe** among the many Western Grebes that nest at Lake Osakis in Todd County. As most of us now realize, this species appears to be rare but regular in the state. Its breeding status is a bit more problematic — although a single adult Clark's has been observed with eggs or young amidst breeding Westerns on three occasions (***The Loon*** 63:220–225, 66:208, 69:225–226), two Clark's breeding together has never been documented. Another, less common waterbird observed this summer was the adult **California Gull** in northeastern Minnesota. There are only 17 or so state records, mostly spring or fall, for this species. Most unusual was the presence of a female **Scissor-tailed Flycatcher** near Elk River in Sherburne County for over a month (certainly the longest an individual has ever spent at one location in the state). This bird formed a pair bond with a male Western Kingbird, and proceeded to build several nests! Finally, there was the discovery of a singing **Baird's Sparrow** in the suitable prairie habitat found near Felton in Clay County.

Other species of note reported this summer included several **Red-throated Loons** lingering into early June on Lake Superior; no fewer than three separate reports of **Tundra Swans**, also in early June, in western Minnesota; summer records of **Snow Geese** (now a regular occurrence) plus a late **Ross's Goose**; and a **Harlequin Duck** found dead along the north shore of Lake Superior.

Also of interest were the **Red Knots** remaining at Duluth until 1 June; the very late **Parasitic Jaeger** along the shores of Lake Superior on 2 June; the **Little Gull** found in central Minnesota in late May and observed into early June; plus the **Northern Hawk Owl** and the very late **Snowy Owl** in the northwest, also seen in early June.

A **Carolina Wren** made a brief appearance in the Twin Cities near the end of July; a male **Mountain Bluebird** paired with a female Eastern; a **Spotted Towhee** was found in early July (the first summer record since this species was split from Eastern); and a most unusual mid-summer record for **White-crowned Sparrow** was documented in Roseau County.

Several species of concern in Minnesota deserve additional attention. Reports of **Upland Sandpipers** and **Loggerhead Shrikes** have decreased in recent years (data for sandpipers contradict recent recommendations by the state DNR to remove the species from special concern status). Other species for which summer reports have been few or nonexistent include **Horned Grebe**, **American Avocet** (see ***The Loon*** 70:11–20), and **Louisiana Waterthrush**. Presumably the hard winters of late have had an impact on many species such as **Gray Partridge**, **Greater Prairie-Chicken**, **Sharp-tailed Grouse**,

and **Northern Bobwhite** (which was not reported). There is some good news, however. **Trumpeter Swans** and **Peregrine Falcons** are responding well to reintroduction. Reports of **Acadian Flycatcher**, **Hooded Warbler**, and **Henslow's Sparrow** were up this season, although it is certainly possible this was the result of increased observer effort.

As always, there were a few species notable because of their absence from the summer reports. In addition to **Horned Grebe** and **American Avocet** already mentioned, the following species have been recorded in seven or more of the past ten years, but not this summer: **Rough-legged Hawk**, **Spruce Grouse**, **Hudsonian Godwit**, **Buff-breasted Sandpiper**, **Red-necked Phalarope**, **Northern Saw-whet Owl**, **Kentucky Warbler**, and **Lark Bunting**.

Format and Acknowledgments

The format for the species accounts is similar to that of recent years, with one notable exception — the addition of breeding record maps (more about those shortly). The key to the seasonal reports is located below. Breeding records are classified based on the criteria found in ***The Loon*** 58:22 or in *Minnesota Birds*, p. 7 (Green and Janssen 1975). Counties for which positive breeding is documented for the first time since 1970 are in italics and identified as such according to updated versions of *County Nesting Records of Minnesota Birds* (Hertzel and Janssen, M.O.U. Occasional Papers: Number 2, 1998). Divisions of the state into regions (e.g. west central, southeast) are based on those delineated in *Birds in Minnesota*, p. 25 (Janssen 1987).

New for this season is the inclusion of breeding record maps. Each species for which at least one **positive** nesting record was documented in 1997 (using the criteria mentioned above) has an accompanying map indicating the counties in which the records occurred. Note that the presence of the maps eliminates the need to include such information in the text — however, counties for which **new** breeding records occur will continue to be mentioned.

A final thanks to all of the summer season reporters who make it possible to document both avian distribution and migration. Thanks also to Anthony Hertzel for compiling the Minnesota Birding Report and for preparing the breeding maps, and to Peder Svingen and Kim Eckert for their assistance in preparing this report.

3230 Strand Rd., Duluth, MN 55803.

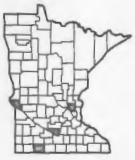
KEY TO SEASONAL REPORTS

1. Species listed in upper case **(PACIFIC LOON)** indicate a Casual or Accidental occurrence in the state.
2. Dates listed in bold **(10/9)** indicate an occurrence either earlier, later or within the earliest or latest dates on file.
3. Counties listed in bold **(Aitkin)** indicate an unusual occurrence for that county.
4. Counties listed in underline **(Aitkin)** indicate a first county record.
5. Counties listed in italics *(Aitkin)* indicate a first county breeding record.
6. Brackets [ ] indicate a species for which there is reasonable doubt as to its origin or wildness.

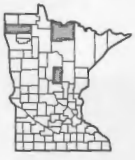
The Season publishes reports of bird sightings from throughout Minnesota. We particularly invite reports from parts of the state that have been neglected or covered lightly in past reports. To become a contributor, request a report form from the Editor of *The Season*, Peder Svingen, 2602 E. 4th St., Duluth MN 55812.

Red-throated Loon — Holdovers from late May observed on L. Superior: 6/1–2 St. Louis (8 on 6/1) mob.

Common Loon — Fewest reports in 13+ years. Observed in 25 counties as far west as Clearwater, Kandiyohi and as far south as McLeod; probable nesting in St. Louis, Aitkin, Stearns.



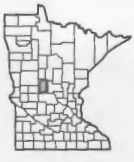
Pied-billed Grebe — New nesting record in *Jackson* RHo; probable nesting in Olmsted. Seen in 31 additional counties statewide.



Red-necked Grebe — Observed in 21 counties as far east as St. Louis and as far south as LeSueur; probable nesting in Becker, Otter Tail, Pope, Hennepin, Waseca.

Eared Grebe — Probable nesting in Roseau, Big Stone; also observed in Pennington, Wilkin, Traverse, Lac Qui Parle.

Western Grebe — Nested in Marshall (50+ nests at Thief L. KB) and Todd (219+ nests at L. Osakis KB); probable nesting in Douglas, Big Stone, Wright. Observed in 15 other counties in all regions except north central and northeast.



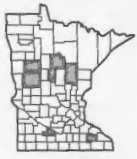
CLARK'S GREBE — One adult with classic field marks observed tending a nest with three eggs at L. Osakis in Todd Co. KB (***The Loon*** 69:225–226). The identity of this bird's mate was not documented — the possibility of hybridization cannot be ruled out.

American White Pelican — Reported in 40 counties statewide (peak of ~1700 observed 7/20 Big Stone LE).

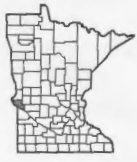
Double-crested Cormorant — Probable nesting in Wright, Nicollet, Olmsted; observed in 39 additional counties throughout state.

American Bittern — Reported in 13 counties as far south as Yellow Medicine, Ramsey; plus 6/17 Houston KB.

Least Bittern — Observed in Marshall, Pennington, St. Louis, Cass, Freeborn, Houston.



Great Blue Heron — Most reports since 1988; seen in 65 counties statewide.

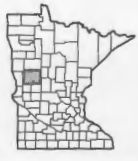


Great Egret — Observed in 28 counties as far north as Wilkin, Aitkin, Pine.

Snowy Egret — Only record: 7/3 Kandiyohi RJF.

Cattle Egret — All records: 6/22 Clay RK, 7/19 Swift (three near Appleton) KB, SC.

Green Heron — Several observers reported seeing lower numbers. Recorded in 34 counties as far northeast as St. Louis; probable nesting in Olmsted.

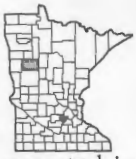


Black-crowned Night-Heron — Probable breeding in Big Stone; also reported in Marshall, Pennington, Otter Tail, Traverse, Kandiyohi, Hennepin, Anoka, Washington, Ramsey, Dakota, Waseca, and Freeborn.

Yellow-crowned Night-Heron — Only record: 6/30 Ramsey AH.

Turkey Vulture — Reported in 41 counties in all regions except west central.

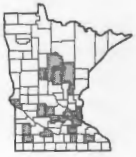
Tundra Swan — First summer reports since 1992: **6/1** Polk (pair) and Pennington (different pair) ABo, **6/4** Otter Tail (3) SDM.



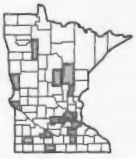
[TRUMPETER SWAN] — Many reports, similar to last year. Five nests produced 20 cygnets in Becker BBe; probable nesting in Hubbard, Wadena, St. Louis. Also reported in Polk, Pine, Stearns, Carver, Rice, Cottonwood.

Snow Goose — Two mid-summer records: 6/21 Pine (St. Croix S.P.) SWe, 6/22 Big Stone LE.

Ross's Goose — Single bird first discovered in late May, lingering until **6/1** at Duluth in St. Louis Co. PS. This represents only the second summer record for this species.

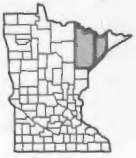


Canada Goose — Many reports. Observed in 60 counties statewide, including new nesting record in *Steele* CH and probable breeding in nine counties.

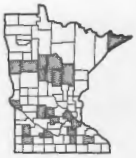


Wood Duck — Seen in 53 counties throughout state. New nesting records in *Wilkin* KB, Kanabec CM; probable breeding in seven counties.

Green-winged Teal — Observed in 16 counties in all regions except northeast.

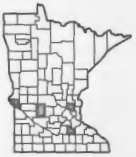


American Black Duck — Seen in Roseau, Polk, Clearwater, Koochiching, St. Louis, Lake; plus 6/6 and 7/23 Chisago RH.

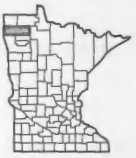


Mallard — Many reports, similar to previous year. Observed in 65 counties statewide; probable breeding in six counties.

Northern Pintail — Seen in Kittson, Roseau, Marshall, Pennington, Clay, Big Stone; plus 6/6 Aitkin WN.



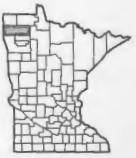
Blue-winged Teal — Observed in 38 counties throughout the state; probable nesting in Olmsted.



Northern Shoveler — Seen in eight western counties plus Clearwater and Olmsted.

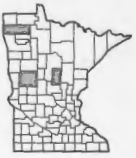
Gadwall — Most reports in 14+ years. Observed in 18 counties as far east as Koochiching in the north and Olmsted in the south.

American Wigeon — Seen in Marshall, Roseau, Lake of the Woods, Clearwater, Itasca, Aitkin, Lac Qui Parle; plus mid-summer sightings 6/20, 26 Hennepin and 7/2 Dakota.



Canvasback — Fewer reports than usual; observed in Kittson, Roseau, Marshall, Mahnomen, Clay, Big Stone, Hennepin.

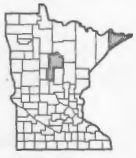
Redhead — Reported in 15 counties as far east as Roseau and Mahnomen in the north, and Hennepin in the south.



Ring-necked Duck — Observed in 19 counties as far south as Lac Qui Parle, Kandiyohi, Anoka; probable breeding in Becker, Aitkin.

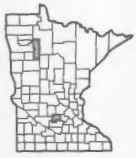
Lesser Scaup — Seen in 12 counties scattered in all regions except northeast.

Harlequin Duck — Injured female discovered on 6/7 near Grand Marais in Cook Co. PB *et al.* (***The Loon*** 69:169–171).

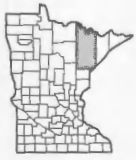


Common Goldeneye — Most reports in 15+ years. Seen in 13 northwest, north central, and northeast counties (including probable breeding in Becker, Hubbard, Aitkin, Lake); plus 6/30 Kandiyohi (male) RJF.

Bufflehead — All reports: **6/1–5** Brown JSp, 7/11 Marshall (pair at Thief L.) KB, **7/26** Hennepin (French L.) SC.



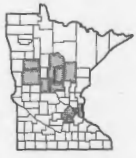
Hooded Merganser — Observed in 22 counties in all regions except southwest. New nesting record in McLeod RbS; probable breeding in Lake, St. Louis, Aitkin, Wright, Dakota.



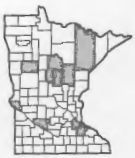
Common Merganser — Reported in Hubbard, Cass, Itasca, St. Louis; probable breeding in Lake. Early south migrant (?) **7/29** Big Stone (adult male at Marsh L.) KB.

Red-breasted Merganser — Observed in Cook; late migrant (?) 6/15 Roseau PS.

Ruddy Duck — Seen in 19 counties as far east as a line through Roseau, Todd, Hennepin, Winona; plus 6/1–2 St. Louis. Probable breeding in Lyon.



Osprey — Observed in 19 counties as far south as Olmsted. New nesting records in *Scott* MMa, *Hennepin* MMa, *Ramsey* MMa, *Washington* MMa; probable breeding in St. Louis.



Bald Eagle — Seen in 35 counties throughout state. New breeding records in *Big Stone* RJ, Dakota TEB, and *Goodhue* DJe; probable breeding in Otter Tail, Anoka, Hennepin, and Olmsted.

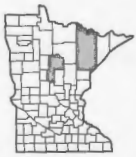
Northern Harrier — Reported in 36 counties statewide.

Sharp-shinned Hawk — Fewest reports in more than 14 years; ten-year average is over ten counties. Observed in Roseau, Clearwater, Koochiching, St. Louis, and in Lake.

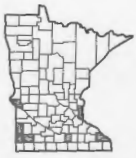
Cooper's Hawk — Seen in 27 counties in all regions except the northeast. New nesting record in *Big Stone* LE; probable nesting in McLeod.

Northern Goshawk — Observed in Koochiching, Aitkin, St. Louis (flying over Lake Superior!) PS.

Red-shouldered Hawk — Probable nesting in Stearns; also seen in Cass, Crow Wing, Aitkin, Anoka, Hennepin, Washington, Scott.



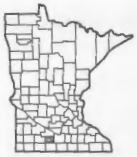
Broad-winged Hawk — Observed in 20 counties as far west as a line through Beltrami, Clearwater, Wadena, Kandiyohi, and Mower. New nesting record in *Cass* MSc, EP; probable breeding in Crow Wing.



Swainson's Hawk — Many reports, due to intensive research efforts; observed in 17 counties within normal range. New nesting records in Lincoln (five nests discovered) MMa, Murray (five nests) MMa, Waseca (one nest) MMa, Washington (one nest) MMa, TEB, and Winona (one nest) MMa; plus 12 nests discovered in Pipestone MMa.

Red-tailed Hawk — Probable nesting in 12 counties; seen in 44 additional counties statewide.

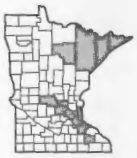
American Kestrel — Observed in 54 counties throughout state. New nesting record in Watonwan DBr; probable breeding in St. Louis, Aitkin, Lyon, Freeborn, Olmsted.



Merlin — Reported in Becker, Beltrami, St. Louis, Lake, Cook; plus an adult male "Richardson's" Merlin observed on **7/11** in Kittson Co. KB.

Prairie Falcon — Single bird observed **6/8** Clay GK.

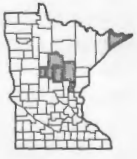
Peregrine Falcon — Many reports, similar to previous two years. Observed in 13 counties; new nesting records in *Stearns* and *Goodhue* (Midwest Peregrine Restoration Project).



Gray Partridge — Few reports, similar to previous three years. Probable nesting in Carver, Freeborn, Olmsted; also observed in Clay, Wilkin, Lyon, Pipestone, Rock, Murray, Cottonwood, Dodge, Fillmore.

Ring-necked Pheasant — *Numbers down 17% statewide;* population drop especially severe in west central and southwest (MDNR). Observed in 37 counties as far north as Wilkin, Kanabec. Nested in Martin BBo, Freeborn ABa; probable nesting in Kanabec, Olmsted.

Ruffed Grouse — MDNR reports drumming counts up 114% in the northeast, 28% in the north central, and 12% in the central hardwoods — but down 17% in the northwest and 20% in the southeast. Observed in 20 counties within range. New nesting record in *Wadena* PBi; probable breeding in Becker, Pine, Olmsted.



Greater Prairie-Chicken — Only report from Clay.

Sharp-tailed Grouse — Observed in Kittson, Roseau, Polk, Aitkin.

Wild Turkey — Many reports, similar to previous year. Seen in 14 counties as far west as Jackson and as far north as Anoka. New nesting records in *McLeod* RbS and *Olmsted fide* DA, BE; probable breeding in Anoka, Scott.

Yellow Rail — Recorded in Marshall, Cass, Aitkin, Morrison. Overly wet conditions greatly reduced the presence (or vocalization) of this species in the northwest.

Virginia Rail — Observed in 13 counties scattered throughout all regions except northeast and southwest; probable breeding in Olmsted.

Sora — Very few reports, similar to 1994. Recorded in 18 counties in all regions except south central.

Common Moorhen — Probable nesting in Wabasha; also observed in Olmsted, Winona.

American Coot — Many fewer reports than last year. Seen in 21 counties in all regions except northeast.

Sandhill Crane — Many reports, similar to previous two years. Seen in 20 counties as far northeast as St. Louis, and as far southwest

as a line through Polk, Stearns, Houston. Probable nesting in Kanabec, Isanti.

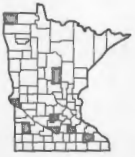
Black-bellied Plover — Several reports: 6/1 Clearwater and Polk, 7/29 Lac Qui Parle, 7/30 Big Stone.

American Golden-Plover — All records: 6/1 Polk, **6/24** (latest north date for an apparent spring migrant) Otter Tail RJ.

Semipalmated Plover — Late migrant 6/1 Clearwater. Fall migrants observed in Big Stone, Renville, Dakota, Clay; early migrant 7/9 Big Stone.

Piping Plover — Observed at traditional Pine/Curry Island site in Lake of the Woods Co. mob.

Killdeer — Seen in 62 counties statewide; peak concentrations on 7/15 at Breckenridge lagoons (144) in Wilkin Co. GO and on 7/27 at Lino Lakes (128) in Anoka Co. KB. New nesting record in *McLeod* RbS; probable breeding in seven counties.



Greater Yellowlegs — Fall migrants reported in 11 counties; early migrant (?) **6/26** Anoka.

Lesser Yellowlegs — Fall migrants observed in 17 counties; early migrant (?) **6/22** Big Stone LE.

Solitary Sandpiper — Far fewer reports than last year. July migrants seen in 12 counties scattered throughout state; plus 6/6 Koochiching.

Willet — Most reports in 14+ years. Late migrant **6/7** Clay. Fall migrants observed in six other counties; early migrant **7/7** Murray.

Spotted Sandpiper — Seen in 37 counties throughout state; fall peak on 7/15 at Breckenridge lagoons (62) in Wilkin Co. GO. Probable nesting in Olmsted.

Upland Sandpiper — Relatively few reports, similar to past five years; this species deserves increased scrutiny. Observed in 11 western counties plus Clearwater, Kandiyohi, Dakota, Olmsted.

Marbled Godwit — Seen in 11 counties from Kittson, Roseau, Beltrami south to Big Stone; probable nesting in Clay.

Ruddy Turnstone — All records: 6/1 Polk, 6/2 St. Louis, **7/21** Lyon.

Red Knot — Five birds lingering from late May until 6/1 at Duluth in St. Louis Co. PS.

Sanderling — All records: 6/1 Polk, 6/1-2 St. Louis, 7/15, 19 Wilkin.

Semipalmated Sandpiper — Migrants observed in 11 counties. Late migrant 6/10 Hennepin, early migrant 7/6 Big Stone; fall peak 7/19 Renville (250) KB.

Least Sandpiper — Late migrants 6/1 Clearwater, 6/2 St. Louis. July reports in 14 additional counties; early migrant 7/6 Big Stone. Fall peak on 7/15 at Breckenridge lagoons (more than 200) in Wilkin Co. GO.

White-rumped Sandpiper — Spring migrants observed in Clearwater, Polk, LeSueur; late migrant 6/15 Roseau. Fall migrants observed in Big Stone, Lac Qui Parle; early migrant 7/7 Olmsted.

Baird's Sandpiper — Only spring migrant: 6/1 Wright. Fall migrants seen in Wilkin, Big Stone, Renville, Dakota; early migrant 7/7 Olmsted.

Pectoral Sandpiper — Very few reports; roughly half the typical number. Late migrants 6/1 St. Louis, **6/8** Swift. Fall migrants observed in six counties; early migrant 7/6 Big Stone. Mid-summer record **6/21** Lyon RgS.

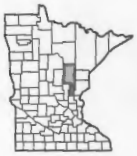
Dunlin — All reports: 6/1 Clearwater and Polk, 6/2 St. Louis.

Stilt Sandpiper — Late migrant **6/18** (latest date on record) Winona KB. Fall migrants observed in Rock, Renville, Big Stone, Yellow Medicine, and McLeod counties; early migrant observed 7/7 Olmsted.

Short-billed Dowitcher — Fall migrants seen in seven counties; early migrant 7/6 Big Stone and Olmsted.

Common Snipe — Observed in 16 northern counties plus Kandiyohi, Anoka, Rice.

American Woodcock — Reported in 14 counties in all regions except southwest and northeast. New nesting record in *Kanabec* CM; probable breeding in Freeborn.



Wilson's Phalarope — Observed in Kittson, Roseau, Clay, Wilkin (where over 200 were counted on 7/15 at Breckenridge sewage lagoons GO), Traverse, Big Stone, Renville; plus 7/8 Olmsted DA, BE.

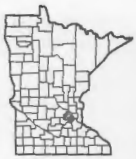
Parasitic Jaeger — Adult light-morph bird observed on **6/2** at Duluth in St. Louis Co. *fide* KE; this is only the third summer record (the first since 1983) for this species.

Franklin's Gull — Observed in 15 counties as far east as a line through Lake of the Woods, Todd, McLeod, Jackson. Peak of 12,000 reported on 7/24 in Douglas KB.

Little Gull — First summer report since 1993. Immature bird (originally found in late May and erroneously reported as an adult in the spring seasonal report) observed through 6/2 at Pelican L. in Wright Co. mob.

Bonaparte's Gull — All records: 6/16 Roseau, 7/11 St. Louis and Marshall, 7/13 Pope, 7/27 Beltrami, 7/29 Big Stone.

Ring-billed Gull — Observed in 42 counties statewide. New nesting record in *Hennepin* MR/DP (***The Loon*** 70:58–59; at least 25 pairs on a rooftop!).



CALIFORNIA GULL — One adult carefully identified on **6/11** at Vermilion L. in St. Louis Co. GOl; the only previous summer records for the state occurred in 1978 and 1989.

Herring Gull — Seen in 15 counties in all regions except south central.

Caspian Tern — Scattered reports throughout the summer from 17 counties in all regions except southwest and south central.

Common Tern — Observed in Roseau, Lake of the Woods, St. Louis, Itasca, Cass, Crow Wing; plus 6/1 Clearwater, 6/15 Marshall, 7/1 Todd.

ARCTIC TERN — Adult bird carefully identified on 6/2–3 at the 40th Ave. W. site in Duluth in St. Louis Co. PS, SB, AH (***The Loon*** 69:171); this bird was different than the one observed in late May at Park Point in Duluth (***The Loon*** 70:59–61). All of the handful of records for this species in the state have occurred in late spring at or near Duluth.

Forster's Tern — Seen in 22 counties as far north and east as a line through Marshall, Clearwater, Wadena, Anoka; no observations in southeast. Probable nesting in Big Stone.

Black Tern — Reported in 43 counties in all regions except northeast; probable nesting in Big Stone, Cass, Aitkin, Morrison, Stearns. Peak of 920 post-breeders observed on 7/29 at Big Stone L. in Big Stone Co. KB.

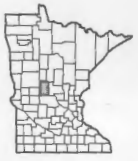
Rock Dove — Observed in 52 counties statewide; probable breeding in Dakota, Freeborn.

Mourning Dove — Seen in 66 counties throughout state; probable nesting in ten counties.

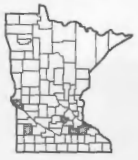
Black-billed Cuckoo — Reported in 40 counties statewide. New nesting record in *Kittson* PS; probable breeding in McLeod, Murray.

Yellow-billed Cuckoo — Observed in ten southern counties plus Kanabec, Aitkin, Kittson; also 7/22 Itasca ABo.

Eastern Screech-Owl — Probable nesting in Murray; also observed in Kanabec, Hennepin, Freeborn.



Great Horned Owl — Reported in 30 counties in all regions except northeast; probable nesting in Yellow Medicine, Hennepin, Olmsted.



Snowy Owl — Extremely late migrant observed on **6/6** at Agassiz NWR in Marshall Co. LS; only two other summer records (1987, 1992) exist for this century.

Northern Hawk Owl — Holdover from spring season observed 6/7 Roseau GK; first summer record since 1992.

Barred Owl — Reported in 18 counties within normal forested range.

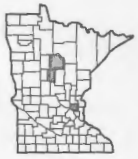
Great Gray Owl — Probable nesting in St. Louis; also seen in Roseau, Koochiching, Lake, Aitkin.

Long-eared Owl — Only report: 6/9 Traverse RJ.

Short-eared Owl — All records: 7/10 Kittson (L. Bronson), 7/11 Marshall, 6/4 and 7/2 Wilkin (Elliot Natural Area).

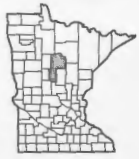
Common Nighthawk — Observed in 33 counties statewide; probable nesting in Brown, Olmsted.

Whip-poor-will — More reports than usual; seen in 14 counties as far south and west as a line through Kittson, Marshall, Todd, Houston.



Chimney Swift — Seen in 44 counties throughout; probable breeding in Olmsted.

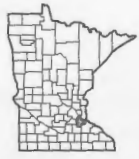
Ruby-throated Hummingbird — Observed in 43 counties statewide. New nesting record in *Cass* EP; probable nesting in Crow Wing, Watonwan, Olmsted. An individual of unusual coloration seen in St. Louis (***The Loon*** 69:223).



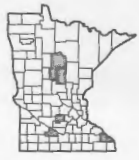
Belted Kingfisher — Reported in 47 counties throughout state. New nesting record in *Crow Wing* JS/MN; probable nesting in Aitkin, Big Stone, Rice, Olmsted.

Red-headed Woodpecker — Although number of counties reported was average, many observers noted on-going declines. Seen in 42 counties as far north as Clay, Clearwater, *Itasca*, Carlton; probable breeding in Cass, Morrison, Anoka, Freeborn.

Red-bellied Woodpecker — Observed in 29 southern counties plus Kanabec, Aitkin; probable nesting in Anoka, Rice, Steele, Freeborn, Olmsted.

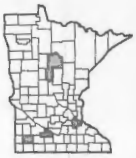


Yellow-bellied Sapsucker — Observed in 33 counties in all regions, including Yellow Medicine and Lyon in southwest. New nesting



record in *McLeod* RbS; probable breeding in Aitkin, Big Stone, Olmsted.

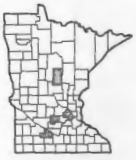
Downy Woodpecker — Reported in 53 counties statewide. New nesting records in *Scott* RJ, *Steele* CH; probable nesting in Crow Wing, Big Stone, Anoka, Dakota, Freeborn.



Hairy Woodpecker — Seen in 47 counties throughout state; probable nesting in seven counties.

Three-toed Woodpecker — Only report: 6/9 St. Louis (Echo Trail) GK.

Black-backed Woodpecker — Probable nesting reported in Lake of the Woods, Beltrami, Cook.



Northern Flicker — Observed in 56 counties statewide. New nesting record in *Brown* JSp; probable nesting in Big Stone, Murray, Rice, Olmsted.

Pileated Woodpecker — Observed in 34 counties as far west as a line through Beltrami, Becker, Stearns, Brown; probable nesting in Crow Wing, Olmsted.

Olive-sided Flycatcher — Reported in St. Louis, Cass, Aitkin, Carlton. Early June migrants observed in six other counties; late migrant **6/19** Nicollet MF.

Eastern Wood-Pewee — Many reports, similar to last year. Seen in 54 counties statewide; probable breeding in Anoka, Olmsted.

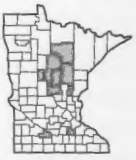
Yellow-bellied Flycatcher — Reported in Roseau, Itasca, Aitkin, St. Louis; plus 6/1 Brown and Freeborn.

Acadian Flycatcher — Most reports ever for this species — twice the previous ten-year average. Nested at Murphy-Hanrahan Park Reserve in Scott Co.; also observed in Anoka, Hennepin, Carver, Nicollet, Dakota, Rice, Goodhue, Wabasha, Winona, Houston.

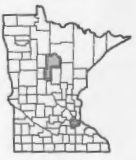
Alder Flycatcher — Observed in 12 northern counties including 6/28 Douglas RJ; also recorded in Anoka County. Late migrants reported in six other southern counties; latest date 6/26 Dakota (on territory?) KB.

Willow Flycatcher — Observed in 20 southern counties plus Kittson, Clay, Wilkin.

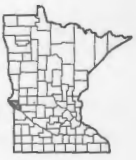
Least Flycatcher — Seen in 40 counties throughout state.



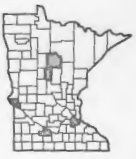
Eastern Phoebe — Reported in 43 counties statewide; probable nesting in Roseau, St. Louis.



Great Crested Flycatcher — Observed in 52 counties throughout state. New nesting record in *Dakota* RHo; probable breeding in Crow Wing, Morrison, Olmsted.



Western Kingbird — Reported in 17 counties as far east as a line through Lake of the Woods, Mille Lacs, Anoka, Watonwan; probable nesting in Sherburne.



Eastern Kingbird — Observed in 58 counties statewide; probable nesting in Lake of the Woods, Watonwan, Olmsted.

SCISSOR-TAILED FLYCATCHER — A single female was observed 6/4 – 7/17 near Elk River in Sherburne Co. mob (***The Loon*** 69:183–185); the bird built several nests in association with a male Western Kingbird.

Loggerhead Shrike — Disturbingly few reports. Probable nesting in Clay, Rice; also reported in Yellow Medicine, Nicollet, Dakota, Goodhue, Olmsted.

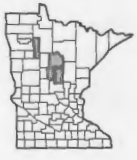
Bell's Vireo — Nest with four eggs discovered at Black Dog Lake in Dakota Co. JL, FKS. Other reports include two singing on 6/25 – 7/26 along N. Hennepin Bike Trail in Hennepin Co. HT, mob; one singing on 6/28 at Frontenac S. P. in Goodhue Co. CH; one singing on 6/13 at Minneopa S. P. in Blue Earth Co. BBo; one on 6/28 and 7/6 in wildlife area south of Waseca in Waseca Co. JSe; plus 6/1 Winona CB.

Blue-headed Vireo — Observed in Roseau, St. Louis, Lake, Aitkin, Carlton; late migrants 6/1 Freeborn, **6/15** Ramsey TT.

Yellow-throated Vireo — Seen in 31 counties in all regions except northeast; probable nesting in Crow Wing, Hennepin, Lyon.

Warbling Vireo — Reported in 41 counties throughout state, including St. Louis in northeast. New nesting record in *Murray* RgS; probable nesting in Hennepin.

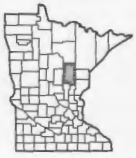
Philadelphia Vireo — Observed in Aitkin, St. Louis, Lake; late migrants 6/1 Lyon, Hennepin and Freeborn, **6/4** Ramsey.



Red-eyed Vireo — Record high number of reports. Seen in 57 counties statewide; probable nesting in Scott.

Gray Jay — Probable nesting in Cook; also reported in Lake, St. Louis, Koochiching, Aitkin.

Blue Jay — Seen in 61 counties statewide; probable nesting in Crow Wing, Lyon, Dakota, Rice, Freeborn.



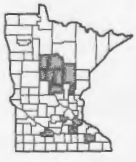
Black-billed Magpie — Reported in Kittson, Roseau, Marshall, Lake of the Woods, Beltrami, Clearwater, St. Louis, Aitkin.

American Crow — Many reports, similar to previous year. Seen in 67 counties throughout state; probable nesting in Murray, Rice, Freeborn.

Common Raven — Most reports in 18+ years. Probable nesting in Aitkin; seen in 19 additional counties as far south and west as a line through Marshall, Pennington, Sherburne, Anoka.

Horned Lark — Seen in 40 counties as far north and east as a line through Roseau, Clearwater, Aitkin, Chisago; probable nesting in Todd, Lyon, Olmsted.

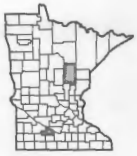
Purple Martin — Observed in 48 counties statewide; probable breeding in Aitkin, Crow Wing, Washington.



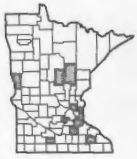
Tree Swallow — Reported in 62 counties throughout state; probable nesting in six counties.

Northern Rough-winged Swallow — Seen in 33 counties in all regions of state; probable nesting in Washington, Dakota, and in Brown.

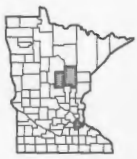
Bank Swallow — Observed in 35 counties statewide; probable nesting in six counties.



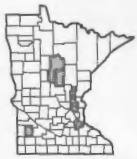
Barn Swallow — Observed in 63 counties statewide; probable nesting in Cass, Stearns, Brown, Freeborn.



Cliff Swallow — Reported in 47 counties throughout state; probable nesting in seven counties.



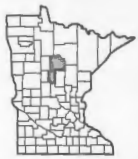
Black-capped Chickadee — Observed in 54 counties statewide. New nesting record in *Kanabec* CM; probable nesting in Aitkin, Morrison, Jackson, Freeborn, Olmsted.



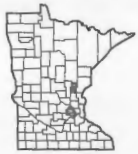
Boreal Chickadee — Only reports from St. Louis, Aitkin.

Tufted Titmouse — Observed in Winona, Fillmore, Houston.

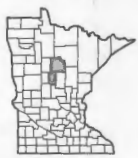
Red-breasted Nuthatch — New nesting record in *Cass* TR, EP; probable nesting in Crow Wing, Lake, Cook. Also seen in Marshall, Beltrami, Clearwater, Hubbard, Aitkin, St. Louis, Carlton, Kanabec, Anoka, Dakota.



White-breasted Nuthatch — Reported in 50 counties throughout state. New nesting record in *Kanabec* CM; probable nesting in Crow Wing, Anoka, Olmsted.

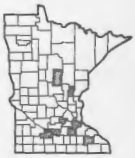


Brown Creeper — New nesting record in *Cass* EP, MSc; also reported in Aitkin, St. Louis, Lake, Carlton, Anoka, Ramsey, Dakota, Nicollet, Brown.



Carolina Wren — First summer record since 1992. Single bird discovered on **7/28** at St. Louis Park in Hennepin Co. SC (not relocated on later dates).

House Wren — Observed in 60 counties statewide; probable nesting in ten counties.



Winter Wren — Probable nesting in Anoka. Also reported in Marshall, Beltrami, Koochiching, St. Louis, Lake, Cass, Aitkin, Carlton; plus Houston (Beaver Creek Valley S.P.) mob, 6/9 Rice (Cannon River Wilderness Park) TBo, 6/27 Rice (Nerstrand Woods S.P.) TBo.

Sedge Wren — More reports than usual. Probable nesting in Olmsted; observed in 50 additional counties statewide.

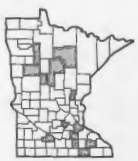
Marsh Wren — Probable nesting in Olmsted; reported in 33 other counties in all regions except northeast.

Golden-crowned Kinglet — Probable nesting in St. Louis; also seen in Marshall, Aitkin, Lake.

Ruby-crowned Kinglet — Relatively few reports; recorded in St. Louis, Lake.

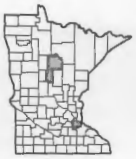
Blue-gray Gnatcatcher — Probable nesting in Brown, Anoka, Winona. Seen in 18 additional counties as far west as Lyon, Big Stone and as far north as Otter Tail, Cass, Aitkin.

Eastern Bluebird — Seen in 54 counties statewide; probable nesting in nine counties.



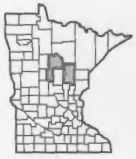
Mountain Bluebird — A male apparently nested with a female Eastern Bluebird near Bemidji in Beltrami County DJo.

Veery — Reported in 32 counties as far south as a line through Wilkin, Kandiyohi, Nicollet, Rice. Southern nesting record for Dakota BF; probable nesting in Crow Wing, Nicollet.



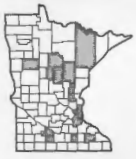
Swainson's Thrush — Observed in Cass, Aitkin, St. Louis, Lake, and Cook counties; plus a late migrant seen 6/1 Hennepin.

Hermit Thrush — New nesting record in *Cass* KD, MSc, TR; also reported in Beltrami, Itasca, St. Louis, Lake, Aitkin, Carlton, and Kanabec.

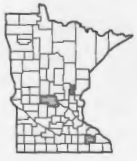


Wood Thrush — Observed in ten counties in the north; reported as far north as St. Louis and Beltrami counties and as far west as Clay and Todd; also seen in 18 southern counties, primarily in the east central, southeast, and south central regions but also including Scott, Big Stone, Rock, Jackson. Probable nesting in Hennepin.

American Robin — Observed in 66 counties statewide; probable nesting in Big Stone, Lyon, Jackson, Freeborn.



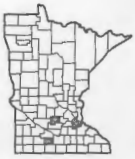
Gray Catbird — Seen in 58 counties throughout state; probable nesting in seven counties.



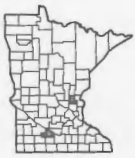
Northern Mockingbird — Only report: 6/1 St. Louis TW.

Brown Thrasher — Observed in 48 counties statewide. New nesting record in *McLeod* RbS; probable breeding recorded in Anoka, Washington, Nobles, and Freeborn.

European Starling — Near record-high number of reports; seen in 57 counties statewide. New nesting record in *McLeod* RbS; probable nesting in Rice, Freeborn, Olmsted.



Cedar Waxwing — Seen in 54 counties throughout the state; probable nesting in Cass, Olmsted.



Blue-winged Warbler — Most reports ever, continuing a seven-year trend showing a gradual increase. Probable nesting recorded in Rice; observed in 15 additional counties as far north as Sherburne and Chisago and as far west as Brown; plus 6/3 **Lyon** (Camden S. P.) RgS.

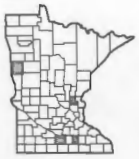
Golden-winged Warbler — Seen in 16 counties as far north as Marshall (***The Loon*** 69:227), St. Louis and Lake, and as far south as Anoka and Washington counties; plus late migrant 6/2 Rice. Probable nesting in Cass, Crow Wing, Aitkin; "Brewster's" Warbler identified 7/6 Kanabec CM.

Tennessee Warbler — Observed in St. Louis, Lake; plus 7/6 Kittson (singing at L. Bronson S.P. and another location) PS. June migrants reported in eight southern counties; late migrants **6/15** Brown JSp, **6/20** Anoka KB. One early migrant: 7/26 Hennepin.

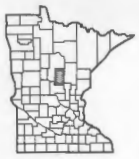
Nashville Warbler — Probable nesting in Crow Wing County. Observed in 17 additional counties as far west and south as a line through Kittson, Marshall, Clearwater, Hennepin, and Ramsey counties; plus late migrants seen 6/1 Freeborn, 6/3 Rice.

Northern Parula — Reported in Beltrami, Clearwater, Cass, Itasca, Aitkin, St. Louis, Lake; plus late migrant **6/13** Chisago RH.

Yellow Warbler — Most reports since 1987; seen in 57 counties statewide. New nesting record in *Steele* CH; probable nesting in Becker, Crow Wing, Dakota, Olmsted.



Chestnut-sided Warbler — Observed in 19 counties as far west and south as a line through Kittson, Marshall, Wadena, Sherburne, Anoka; plus 6/1 Brown and Freeborn, 6/12 Ramsey, 6/18 Scott, 6/23 Rice (Cannon River Wilderness Park) TBo. Probable nesting in Lake.

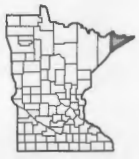


Magnolia Warbler — Reported in Aitkin, St. Louis, Lake; plus late migrant 6/1 Freeborn.

Cape May Warbler — Seen in Koochiching, St. Louis, Aitkin; plus late migrant **6/1** Anoka.

Black-throated Blue Warbler — Only report: singing male in mid-June within **Sax-Zim bog** area in St. Louis Co. DBe.

Yellow-rumped Warbler — Observed in ten north central and northeast counties plus Kittson, Roseau, Marshall; also **6/7** Sherburne, **7/23** Chisago.



Black-throated Green Warbler — Seen in Beltrami, St. Louis, Lake, Cass, Aitkin, Carlton; plus 6/2 Rice, 6/6 Chisago, **6/21** Anoka (singing male at Boot L. SNA; not seen on later visits) KB.

Blackburnian Warbler — Fewest reports since 1984. Probable nesting in Lake; also observed in St. Louis, Cass, Aitkin, Carlton. Late migrants 6/1, **6/4** Anoka.

Pine Warbler — Probable nesting in Cass; also reported in Beltrami, Itasca, St. Louis, Wadena, Aitkin, Carlton, Sherburne, Anoka, Chisago, Ramsey.

PRAIRIE WARBLER — Two summer reports: singing male observed on 6/8 along the Cannon River Bike Trail in **Goodhue** CaB; one male observed 7/4–24 **Fillmore** (mob).

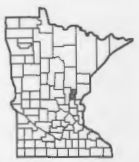
Palm Warbler — Fewest reports since 1990; only recorded in Aitkin.

Bay-breasted Warbler — Only report from Aitkin.

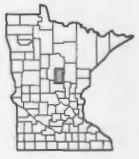
Blackpoll Warbler — Only record: late migrant 6/4 Hennepin DZ.

Cerulean Warbler — Probable nesting in Nicollet; also observed in Becker, Otter Tail, Morrison, Anoka, Scott, Dakota, Rice, Winona.

Black-and-white Warbler — Seen in 14 counties as far west and south as a line through Kittson, Marshall, Clearwater, Anoka, Washington; plus **6/20** McLeod RbS. New nesting record in *Kanabec* CM.

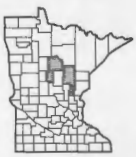


American Redstart — Observed in 45 counties in all regions except west central; probable nesting in Becker, Lake, Olmsted.



Prothonotary Warbler — Probable nesting in Houston; also recorded in Washington, Ramsey, Dakota, Scott, Nicollet, Brown.

Ovenbird — Seen in 35 counties in all regions except west central (including Lyon, Jackson in southwest); new nesting record in *Kanabec* CM.

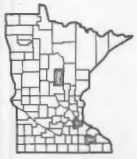


Northern Waterthrush — Reported in Kittson, Roseau, Cass, Aitkin, St. Louis, Anoka.

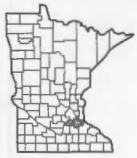
Louisiana Waterthrush — Only report: probable breeding in Houston.

Connecticut Warbler — Observed in Cass, Aitkin, St. Louis, and Cook counties; plus late migrants 6/3 Lyon, **6/19** Ramsey KB.

Mourning Warbler — Seen in 12 northern counties as far west as Roseau, Marshall, Todd; plus Sherburne, Chisago, Anoka, Hennepin, Ramsey, Washington, Dakota (early June, *fide* AH), Rice (6/22 at River Bend Nature Area, TBo, JL). Late migrant 6/2 Brown.



Common Yellowthroat — Observed in 58 counties statewide. New nesting record in *Dakota* SWe; probable breeding in Kanabec, Anoka, Lyon, Murray, and Rice.

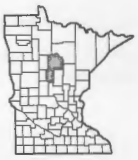


Hooded Warbler — Most reports in 18+ years. New nesting record in Scott BF (four territorial males at Murphy-Hanrahan Park in Scott Co. and Dakota Co.); also recorded 6/13 Morrison (Camp Ripley) WB, 6/13 Sherburne RJ, 6/21 Anoka (Boot Lake SNA) KB.

Wilson's Warbler — Observed 6/4 Lake; plus one non-singing bird seen on **6/30** at Boot Lake SNA in Anoka Co. KB (this individual was not relocated on later dates).

Canada Warbler — Possible nesting in Anoka (Boot Lake SNA, KB, SC); also reported in St. Louis, Lake. Late migrants 6/1 Freeborn, 6/3 McLeod.

Yellow-breasted Chat — Several reports: one on 6/9 along Yellow Bank R. in Lac Qui Parle Co. RJ; two males and possibly one female on 6/24 near Pelican Rapids in Otter Tail Co. AEr; one 6/26 – 7/5 at Nelson's Fen in Olmsted Co. CK, mob.

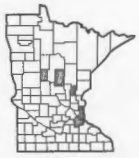


Scarlet Tanager — Observed in 32 counties in all regions (including Lyon, Jackson in southwest) except west central. New nesting record in *Cass* MSc, KD, TR; probable nesting in Crow Wing, Anoka, Scott.

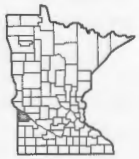
Dickcissel — Reported in 24 southern counties plus Wilkin, Otter Tail, Clay.

Eastern Towhee — Seen in 20 counties roughly along a line from Kittson to Houston; extending as far northeast as Pine, and as far southwest along the Minnesota R. as Renville.

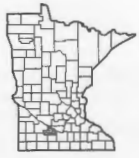
Spotted Towhee — One record: **7/7–8** Hennepin (New Hope) HH.



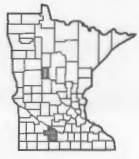
Chipping Sparrow — Observed in 59 counties statewide; probable nesting in Becker, Brown, Olmsted.



Clay-colored Sparrow — Seen in 38 counties as far south as Steele, Dodge, Olmsted; plus 6/7 Rock. Probable nesting in Crow Wing, Ramsey, Washington, Rice.



Field Sparrow — Observed in 28 southern counties plus **Norman**, Otter Tail, Todd, Crow Wing, Kanabec; probable breeding in Anoka, Washington.

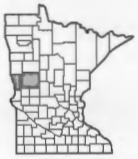


Vesper Sparrow — Seen in 45 counties statewide, including St. Louis in northeast. New nesting records in *Wadena* PB, *Watonwan* DBr; probable nesting in Stearns, Anoka.

Lark Sparrow — Probable nesting in Sherburne, Winona; also observed in Ro-

seau, Clay, Otter Tail, Anoka, Scott, Dakota, Rice, Wabasha.

Savannah Sparrow — Reported in 50 counties statewide; probable nesting in Big Stone, Olmsted.



BAIRD'S SPARROW — First summer record since 1993. Single bird discovered singing on 6/7 at Felton Prairie in Clay Co. AH, PH (***The Loon*** 70:62); subsequently seen through 6/12 mob.

Grasshopper Sparrow — Observed in 21 southern counties plus Kittson, Marshall, Pennington, Clay, Wilkin, Otter Tail, Douglas; probable nesting in Marshall, Big Stone.

Henslow's Sparrow — Most reports in 18+ years. Observed 6/1 Otter Tail SDM; 6/1 – 7/19 Winona (O.L. Kipp S.P.) CB, mob; 6/7 **Kandiyohi** RJF; 6/12 Lac Qui Parle RJ; 6/24 Wilkin (Town Hall Prairie) RJ, SDM; 7/19 **Renville** (Renville sugar beet ponds) SC, KB.

LeConte's Sparrow — Reported in 11 northern counties as far east as St. Louis; plus 6/11 Big Stone RJ, 7/20 Anoka KB, 7/19 Swift KB, SC.

Nelson's Sharp-tailed Sparrow — Several reports: Kittson (three locations near L. Bronson S.P. and Caribou WMA), Marshall (Agassiz NWR), Pennington, Mahnomen, Clay (Felton Prairie), Aitkin (McGregor Marsh).

Song Sparrow — Seen in 60 counties statewide; probable nesting in Olmsted.

Lincoln's Sparrow — Only reports from Roseau, St. Louis.

Swamp Sparrow — Observed in 34 counties in all regions except southwest; probable nesting in Crow Wing, Olmsted.

White-throated Sparrow — Reported in ten north central and northeast counties plus Kittson, Roseau, Marshall, Kanabec; also 6/6 Hennepin, 6/8 Winona, **7/5** Jackson (Kilen Woods S.P.) KB.

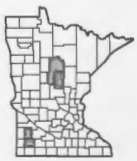
White-crowned Sparrow — Unusual summer report, probably a very late migrant **6/24–25** Roseau (adult) BSi.

Dark-eyed Junco — Only reports from Aitkin, Carlton.

Chestnut-collared Longspur — Observed at traditional Felton Prairie site in Clay Co.

Northern Cardinal — Many reports, similar to last year. Seen in 33 southern counties plus Wadena, Morrison, Kanabec, Pine, Carlton, St. Louis; probable nesting in six counties.

Rose-breasted Grosbeak — Reported in 53 counties statewide. New nesting records in *Cass* MSc, TR, KD and *Murray* RgS; probable breeding in six counties.

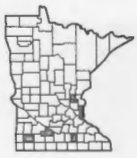


Blue Grosbeak — Observed in Pipestone, Murray, Rock; plus 6/10 **Lac Qui Parle** RJ, 7/31 Renville CMa (no details).

Indigo Bunting — Probable nesting in St. Louis, Olmsted; seen in 49 additional counties statewide.

Bobolink — Probable breeding in Lyon, Olmsted; seen in 48 additional counties statewide.

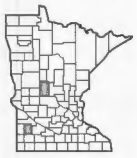
Red-winged Blackbird — Observed in 68 counties throughout state. New nesting record in *Steele* CH; probable nesting in Crow Wing, Olmsted.



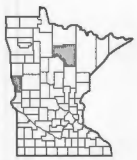
Eastern Meadowlark — Reported in 25 counties as far west as a line through Beltrami, Sherburne, McLeod, Freeborn; probable nesting in Dakota, Goodhue, Olmsted.

Western Meadowlark — Observed in 41 counties in all regions except northeast; probable nesting in Olmsted.

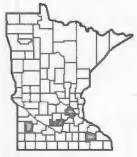
Yellow-headed Blackbird — Seen in 47 counties in all regions, including St. Louis in northeast; probable breeding in Crow Wing, Big Stone, Olmsted.



Brewer's Blackbird — Reported in 25 counties as far south as Renville, Dakota; new nesting record in *Itasca* ABo.



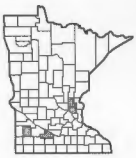
Common Grackle — Observed in 65 counties statewide. New nesting record in *Sibley* DBM; probable nesting in Clay, Crow Wing, Washington, Dakota, Freeborn.



Brown-headed Cowbird — Observed in 59 counties statewide. Breeding record in Murray ND; probable breeding in St. Louis and Nicollet. Parasitized species included Eastern Wood-Pewee, Golden-crowned Kinglet, Veery, Wood Thrush, Prothonotary Warbler, Hooded Warbler, Common Yellowthroat, Northern Cardinal, Chipping Sparrow, Field Sparrow, Savannah Sparrow, and Red-winged Blackbird.

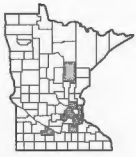
Orchard Oriole — Probable nesting reported from Murray, Goodhue, and Olmsted counties; observed in 13 additional southern counties plus Wilkin, Otter Tail, and Clay.

Baltimore Oriole — Many reports; observed in 62 counties throughout state; probable nesting in eight counties.



Purple Finch — Seen in 13 northeast and north central counties plus Kittson, Roseau, Marshall, Becker, Anoka; new nesting record in *Kanabec* CM, late migrant **6/1** Dakota SWe.

House Finch — Reports continue to increase; observed in 51 counties. New nesting records in *Anoka* MM, *Carver* JS/MN; probable breeding in six counties.



Red Crossbill — Over twice the usual number of reports. Observed in Beltrami, Cass, Aitkin, St. Louis, Lake; plus 6/22 Otter Tail SDM, 6/21 Anoka KB, 7/5 **Jackson** (Kilen Woods S.P.) KB.

White-winged Crossbill — Only report from St. Louis.

Pine Siskin — Probable nesting in Crow Wing; seen in ten additional north central and northeast counties plus Roseau, Becker.

American Goldfinch — Observed in 63 counties. New nesting record in *Kanabec* CM; probable nesting in Anoka, Dakota.

Evening Grosbeak — Probable nesting in Aitkin; seen in seven other north central and northeast counties plus Kanabec. Beginning of fall migration along shore of L. Superior noted in late **June** KE, PS.

House Sparrow — Seen in 54 counties statewide; probable nesting in Lyon, Freeborn.

Contributors

BA	Betty Ammerman
DA	Diane M. Anderson
PB	Parker Backstrom
KB	Karl Bardon
SB	Sue Barton
ABa	Allen Batt
JBe	Joe Beck
TEB	Tom & Elizabeth Bell
BBe	Betsy A. Beneke
DBe	Dave Benson
PBi	Paul J. Binek
TBo	Tom F. Boevers
BBo	Brad Bolduan
ABo	Al Bolduc
DBo	Don A. Bolduc
TBr	Terry P. Brashear
WB	William L. Brown
CaB	Carole Brysky
DBr	Diane Brudelie
PBu	Paul Budde
CB	Cindy Butler
SC	Steve Carlson
MJC	Mary Jo Christopherson
ND	Nelvina De Kam
ED	Ed Duerksen
KD	Kirby Durling
KE	Kim R. Eckert
FE	Fred A. Eckhardt
MEi	Mardene Eide
BE	Bob Ekblad
LE	Lane Ellwanger
AEr	Arland Erickson
ME	Molly Evans
AE	Audrey L. Evers
BF	Bruce A. Fall
LF	Lawrence W. Filter
HJF	Herbert & Jeanette Fisher
EMF	Eugene L. & Marilynn H. Ford
CF	Cole Foster
RJF	Randy & Jean Frederickson
MF	Merrill J. Frydendall
DG	David Grossheusch
CH	Clifford Hansen
AH	Anthony Hertzel
PH	Paul Hertzel
RHo	Russell B. Hofstead
RH	Robert E. Holtz
JH	James L. Howitz
HH	Hap Huber
BH	Bill Huser
RJ	Robert B. Janssen
DJe	Douglas Jenness
DJo	Douglas P. Johnson
MJ/DT	Murdoch Johnson & Dianne Tuff
OJ	Oscar L. Johnson
BK	Byron R. Kinkade
RRK	Ron & Rose Kneeskern
GK	Gene Knight
SKo	Sarah Kohlbry
RK	Rich Kostecke
JSK	John & Susan Kroll
CK	Chuck A. Krulas
JLa	Jacob Langeslag
FL	Fred Lesher
SL	Sue Levy
JL	Jon Little
WL	William H. Longley
OSL	Orvis & Sandy Lunke
CMa	Craig R. Mandel
MMa	Mark Martell
DBM	Dennis & Barbara Martin
MM	Marcus G. Martin
RMa	Ron Martin
CM	Craig Menze
SDM	Steve & Diane Millard
MDNR	MN Dept of Natural Resources
DN	David F. Neitzel
BN	Bill Nelson
WN	Warren Nelson
JN	Jeff R. Newman
CN	Connie M. Norheim
MN	Michael R. North
DNo	Dan Norton
RO	Robert O'Connor
GOl	Greg Olson
GO	Gary Otnes
NO	Nancy Overcott
PPa	Patricia Pagel
EP	Ethan Perry
PP	Pam Perry
DMP	Daphne & Meyers Peterson
KRv	Kathryn A. Rivers
TR	Tim Roth
MR/DP	Merrie Ann Rudelt & Debbi Phillips
MSc	Melinda Schaefbauer
ESH	Eileen Schantz-Hansen
JSc	John Schladweiler
SS	Steven Schon
RbS	Robert Schroeder
RgS	Roger Schroeder
JS/MN	Jean Segerstrom & Mark Newstrom
JSe	Julian P. Sellers
BSi	Beth Silverhus
RSm	Rolf C. Smeby
DBS	Drew & Becky Smith
JSp	Jack Sprenger
LS	Lyn Stenberg
SKS	Shelley & Keith Steva
FKS	Forest & Kirsten Strnad
PSu	Paul Sullivan
PS	Peder Svingen
HT	Howard Towle
TT	Tom Tustison
DV	Dan Versaw
SWe	Steve Weston
TW	Terry P. Wiens
DoW	Doug Willick
SWi	Sylvia Winkelman
DZ	Dave C. Zumeta
mob	many observers

Avian Species Diversity in Urban And Suburban Areas

Robert E. Holtz

In the spring of 1995 five of my Ornithology students surveyed a 12-square-block urban area to determine which bird species utilized such an urban area. The results of that study were reported in the Fall 1995 issue of ***The Loon*** (Holtz 1995). That brief article generated requests for reprints from many sources, including a number of foreign countries. In part, that interest prompted further study of urban area avian utilization.

In the spring of 1997, six of my ornithology students worked on projects related to the 1995 study. Two students surveyed the same 12-square-block urban area near Concordia College (renamed Concordia University as of 1 July 1997). In order to make comparisons with the urban area, two surveyed 12-square-blocks in Roseville, a suburban area. Unfortunately the data for one of these two students was lost. A fifth student surveyed four square blocks in an urban area of St. Paul and a similar sized suburban area in Roseville. The sixth student surveyed a small wooded area and park behind Arlington High School in St. Paul. This was a non-typical urban setting. Disregarding one student's data (computer loss) and noting that one student surveyed both an urban and a suburban area, data was collected by four students in urban areas and two in suburban areas.

Methods

The students did their survey from as early as mid-April until as late as 24 May. Some utilized that entire time span while others limited their surveys to a four week period, primarily in May. They were encouraged to do two surveys per week and most did. They were to also note any breeding/nesting behavior.

One student had her own binoculars, the others used Concordia's 8x36 Bushnells. For birds they did not immediately recognize, students used either Peterson (1980) or Stokes (1996) to make identifications. All students had experience in field identification of birds.

Results

The 12-square-block urban area where 35 species were found in 1995 yielded 40 species in 1997. However, 12 of the 40 species seen in 1997 were not recorded in 1995. This brought the total number of species to 47 for the 12-square-block area. There were seven species recorded in 1995 which were not found in 1997. See Table 1 for a comparison of the two years.

The two students surveying a suburban area found 36 and 28 species respectively. The one who found 28 species found nine which the other student had not found, bringing the 12-square-block suburban total to 45. Both of these students recorded the total number of birds seen. Table 2 indicates that the most numerous were American Robins, followed by House Sparrows and Common Grackles. The top three urban area birds were House Sparrow, European Starling, and House Finch.

The student who surveyed the urban but wooded and park area behind Arlington High School found 40 species. The uniqueness of this survey site is illustrated by the fact that it yielded 15 species not found on the other three urban sites. See Table 3 for these 15 species.

Species	1995	1997
Canada Goose		X
Mallard		X
American Kestrel	X	X
Peregrine Falcon	X	
Rock Dove	X	X
Mourning Dove	X	X
Chimney Swift	X	X
Yellow-Bellied Sapsucker	X	X
Downy Woodpecker	X	X
Northern Flicker	X	
Least Flycatcher	X	X
Great Crested Flycatcher		X
Blue Jay	X	X
American Crow	X	X
Black-capped Chickadee	X	X
White-breasted Nuthatch		X
Brown Creeper	X	
House Wren	X	
Ruby-crowned Kinglet	X	X
Veery		X
Swainson's Thrush	X	X
Hermit Thrush	X	X
American Robin	X	X
Gray Catbird	X	X
Cedar Waxwing	X	
European Starling	X	X
Orange-crowned Warbler		X
Nashville Warbler		X
Yellow Warbler	X	X
Chestnut-sided Warbler		X
Yellow-rumped Warbler	X	X
Palm Warbler	X	
Common Yellowthroat		X
Northern Cardinal	X	X
Rose-breasted Grosbeak		X
American Tree Sparrow	X	X
Chipping Sparrow	X	X
Vesper Sparrow	X	
White-throated Sparrow	X	X
White-crowned Sparrow		X
Dark-eyed Junco	X	X
Common Grackle	X	X
Brown-headed Cowbird		X
Purple Finch	X	X
House Finch	X	X
American Goldfinch	X	X
House Sparrow	X	X
TOTALS	35	40

Table 1. Comparison of recorded species between 1995 and 1997.

Species	Number of Individuals
Great Blue Heron	1
Great Egret	1
Canada Goose	12
Mallard	27
Ring-necked Pheasant	2
Rock Dove	8
Mourning Dove	13
Common Nighthawk	3
Hairy Woodpecker	3
Least Flycatcher	7
Tree Swallow	7
Blue Jay	27
American Crow	96
Black-capped Chickadee	48
White-breasted Nuthatch	12
House Wren	2
Veery	2
Swainson's Thrush	5
Hermit Thrush	1
American Robin	173
Gray Catbird	1
European Starling	23
Tennessee Warbler	2
Orange-crowned Warbler	2
Nashville Warbler	2
Yellow Warbler	9
Yellow-rumped Warbler	23
Blackburnian Warbler	3
Palm Warbler	3
Bay-breasted Warbler	1
American Redstart	1
Ovenbird	1
Common Yellowthroat	12
Northern Cardinal	24
Chipping Sparrow	31
Song Sparrow	27
Swamp sparrow	2
White-throated Sparrow	3
Red-winged Blackbird	31
Common Grackle	128
Brown-headed Cowbird	9
Baltimore Oriole	4
House Finch	47
American Goldfinch	9
House Sparrow	152

Table 2. Suburban species.

Species	# of Individuals (Six Observations)	Species	# of Individuals (Six Observations)
Common Nighthawk	1	Black-and-white Warbler	3 (3)
Eastern Wood-Pewee	1	American Redstart	4 (3)
Eastern Phoebe	1	Worm-eating Warbler	1
Eastern Bluebird	1	Ovenbird	2
Wood Thrush	1	Song Sparrow	2
Brown Thrasher	6 (3)	Harris' Sparrow	1
Golden-winged Warbler	2	Baltimore Oriole	1
Blackpoll Warbler	1		

Table 3. 15 Unique urban species. Parentheses indicates the most seen on one visit.

The student who surveyed this site also charted the dates each species was seen. On 1 May, five species were seen. On 6 May, four species, one of which was new, were seen for a total of six species to that date. On 8 May, seven of nine species were new for a total of 13 species. On 14 May, four of ten were new for a total of 17. On 18 May, 15 of 23 were new for a total of 32. And on 24 May, 8 of 19 were new, bringing the survey total to 40 species.

The total number of species observed by the five students in both urban and suburban settings was 67.

Discussion

Although 12 new species, (see Table 1), were identified in the 12-square-block area near Concordia College in 1997 compared to 1995, there were seven species seen in 1995 which were not observed in 1997. These were Peregrine Falcon, Northern Flicker, Brown Creeper, House Wren, Cedar Waxwing, Palm Warbler, and Vesper Sparrow. Peregrine Falcons had nested on a nearby tower from 1990–1995, but it was demolished in December of 1995. The Vesper Sparrow was an unusual urban sighting and the Pine Warbler was not typical of the area either. Brown Creepers and Cedar Waxwings are not always seen in the area, but it seems strange that no Northern Flickers or House Wrens were observed.

One of the two students who surveyed the above mentioned area observed 24 of the 60 species Buff (1991) listed as either "Widespread backyard birds" or "Common backyard birds east of the Rockies". This, plus the fact that 12 new species were found in 1997, enables me to feel confident that additional surveys in future springs would yield additional species.

It is interesting the Hairy Woodpecker was observed in the suburban area, but no Downy Woodpeckers were observed. Hairys tend to like larger wooded areas than Downys and the suburban area observed was not a large wooded area.

In 1995, the House Finch was the sixth most common species observed in the urban area. That seemed to be a good indicator of its rapid population growth since the mid-80s. In 1997, the House Finch was the third most common species observed. We can see it has continued to expand its population, but one has to wonder whether it will surpass the House Sparrow which was the most common species in both 1995 and 1997. For an overview of the expansion of the range of the House Finch see "Odyssey of the House Finch" by Losure (1997).

Of the 15 urban species found in the area behind Arlington High School, nine were represented by only one individual. The fact that this area provided variety and not large numbers of birds is further illustrated by the fact that on any given date of observation no more than three birds of one given species of the 15 unique species were ever observed, and that was true for only three species: Brown Thrasher, Black-and-white Warbler, and American Redstart.

As in 1995, in 1997 the order Passeriformes was the best represented order. The consistency of this phenomenon is striking. In 1995, 77% were Passeriformes in the urban area. In 1997 it was 79%. The Passeriformes percentage for the suburban area was 80%.

Literature Cited

Buff, Sheila. 1991. The Bird Feeder's Handbook. NY: Lyons and Burford Publishers.

Holtz, Robert. 1995. "Avian Species Diversity and Utilization of an Urban Area," ***The Loon*** 67:163–165.

Losure, Mary. 1997. "Odyssey of the House Finch," The Minnesota Volunteer, Sept.–Oct., 45–49.

Peterson, Roger Tory. 1980. A Field Guide to the Birds of Eastern and Central North America. Boston: Houghton Mifflin Co.

Stokes, Donald and Lillian Stokes. 1996. Stokes Field Guide to Birds: Eastern Region. Boston: Little, Brown and Co.

668 Overlook Drive, Roseville MN 55113.

Proceedings of the Minnesota Ornithological Records Committee

Kim R. Eckert, MORC Chairman

There was a meeting of the Committee on 7 December 1997, and among the items on the agenda was the establishment of term limits for the Committee members. (Previously, the members have been able to serve an unlimited number of one-year terms.) The following procedure was decided on:

- The Chairperson will continue to be one of the seven regular members and will have no term limit; he/she serves subject to the selection and approval of the MOU Board of Directors in the same way as other MOU committee chairpersons. The Chairperson will continue to appoint all regular and alternate Committee members.
- The other six regular members can serve a maximum of two consecutive three-year terms (since the meeting there has been a proposal to change this to six consecutive one-year terms). After this six-year period, the member must be off the Committee for at least one year before being eligible again for membership as either a regular or alternate member.
- The terms of the three alternate members will continue to be for one year, with no limit to the number of years an alternate member may serve.
- When a regular member's position is vacated, either by expiration of his/her term or by resignation, the vacancy will be filled either by one of the alternate members or by a former regular member who has been off the Committee for at least one year. When there is a vacancy in an alternate member's position, the vacancy can be filled by someone who has either never been on the Committee or not been a member for at least one year.
- To initiate the rotation of these term limits, the terms of those regular members with the most seniority expire first. Accordingly, Bob Janssen's term expired at the end of 1997, and he was replaced by alternate member Karl Bardon, and Karl's position as an alternate was filled by Anthony Hertzel. After each calendar year, another regular member's term will then expire in the following order of seniority: Bud Tordoff, Dick Ruhme, Bruce Fall, Ray Glassel, Peder Svingen and Karl Bardon.

The meeting agenda also included votes on the following: seven records documented primarily by photographs, one record with an inconclusive first-round vote, and one previously accepted record which was reconsidered at the request of a Committee member. Accordingly, the following records were voted on and found to be Acceptable:

- Western Tanager, mid-May 1997, near Battle Lake, Otter Tail Co. (photo record #97–71, vote 7–0, ***The Loon*** 70:67).
- Prairie Warbler, July 1997, near Lanesboro, Fillmore Co. (photo record #97–72).
- Band-tailed Pigeon, 24 August 1997, Duluth, St. Louis Co. (photo record #97–73, vote 7–0).
- Scissor-tailed Flycatcher, 2 October 1997, Duluth, St. Louis Co. (photo record #97–74, vote 7–0).
- Black-legged Kittiwake, 2–17 November 1997, Grand Marais, Cook Co. (photo record #97–75, vote 7–0, ***The Loon*** 69:222–223).
- Great Black-backed Gull (2 individuals), 10–28 November 1997, Grand Marais, Cook Co. (photo record #97–79, vote 7–0).
- Scissor-tailed Flycatcher, 4 June – 17 July 1997, near Elk River, Sherburne Co. (photo record #97–80, vote 7–0, ***The Loon*** 69:183–185).

The following records were voted on at the meeting and found Unacceptable:

• Sprague's Pipit (3 individuals), 10 May 1997, near Sabin, Clay Co. (recirculated record #97–42, vote 3–4). The majority felt the description was not complete or specific enough to preclude the possibility of the birds being juvenile Horned Larks, American Pipits, Vesper Sparrows or longspurs. The legs were described as pink, but the light conditions at the time were not described, and some references state that Horned Larks and American Pipits sometimes have legs which are flesh-colored or tinged with pink. The description of the underparts implies they were unstreaked, which alone would preclude Sprague's Pipit. The only reason stated for eliminating Vesper Sparrow from consideration was the lack of a visible chestnut shoulder patch, a mark which is often not visible. Neither observer had any useful experience with this species, and they consulted field guides while making their identification, but in life Sprague's Pipits do not resemble the illustrations in any of the standard field guides. Finally, the location of the birds in a roadside ditch adjacent to a stubble field would be atypical for this species, and it would be highly unusual to find three individual Sprague's Pipits migrating together in Minnesota.

• Baird's Sparrow, 7 June 1997, near Strandquist, Marshall Co. (reconsidered record #97–56, vote 0–7). This record was previously accepted by the majority of the Committee since the plumage description seems to be consistent with this species and since the song heard reportedly matched a Baird's Sparrow tape recording. However, the record was reconsidered after further discussion for several reasons: 1) the song was never actually described; 2) the plumage description of the facial pattern is incomplete; 3) the observer had no previous experience with this species, which is a relatively difficult sparrow for even experienced birders to identify; 4) the field guide used during the observation to identify the bird has an inaccurate illustration of this species; 5) the description appears to be only written from memory three months after the sighting; and 6) a subsequent visit to the site by other observers revealed the habitat was a mix of stubble cornfield, hayfield and trees, which would be atypical for a Baird's Sparrow.

The following records were voted on by mail July–December 1997 and found to be Acceptable:

• Prairie Warbler, 18 May 1997, Fridley, Anoka Co. (record #97–34, vote 7–0).

• Yellow-throated Warbler, 18 May 1997, Bloomington, Hennepin Co. (record #97–35, vote 7–0, ***The Loon*** 69:229).

• California Gull, 11 June 1997, Lake Vermilion, St. Louis Co. (record #97–36, vote 7–0).

• Gyrfalcon, 2 March 1997, near Waskish, Beltrami Co. (record #97–39, vote 7–0).

• Nelson's Sharp-tailed Sparrow, 6 May 1997, near Ghent, Lyon Co. (record #97–41, vote 6–1).

• Western Tanager, 14–15 May 1997, near Rochester, Olmsted Co. (record #97–43, vote 6–1).

• Yellow-throated Warbler, 19 May 1997, Lebanon Hills Regional Park, Dakota Co. (record #97–44, vote 7–0).

• Western Tanager, 19 May 1997, near Greenbush, Roseau Co. (record #97–45, vote 7–0).

• Little Gull, 19 May 1997, Marsh Lake, Big Stone Co. (record #97–46, vote 7–0, ***The Loon*** 69:227–228).

• Clark's Grebe, 25 May 1997, Thielke Lake, Big Stone Co. (record #97–47, vote 7–0).

• Arctic Tern, 29 May 1997, Duluth, St. Louis Co. (record #97–50, vote 7–0, ***The Loon*** 70:59–61).

• Arctic Tern, 2–3 June 1997, Duluth, St. Louis Co. (record #97–51, vote 7–0, ***The Loon*** 69:171).

• Baird's Sparrow, 6–9 June 1997, near Felton, Clay Co. (record #97–52, vote 7–0, ***The Loon*** 70:62).

• Clark's Grebe, 1–13 July 1997, Lake Osakis, Todd Co. (record #97–54, vote 7–0, ***The Loon*** 69:225–226).

• Sage Thrasher, 1–4 May 1997, Blaine, Anoka Co. (record #97–55, vote 7–0).

• Prairie Warbler, 8 June 1997, Cannon River Bike Trail, Goodhue Co. (record #97–57, vote 7–0).

• Snowy Plover, 16 August 1997, Crookston, Polk Co. (record #97–58, vote 7–0).

• Ferruginous Hawk, 24 August 1997, near Aitkin, Aitkin Co. (record #97–59, vote 6–1, ***The Loon*** 70:65).

• Say's Phoebe, 9 September 1997, Grand Marais, Cook Co. (record #97–60, vote 7–0).

• Rock Wren, 5 May 1997, Bloomington, Hennepin Co. (record #97–61, vote 6–1).

• Lazuli Bunting, 29 May 1997, Rochester (?), Olmsted Co. (record #97–62, vote 7–0).

• Blue-winged Warbler, 3 June 1997, Camden State Park, Lyon Co. (record #97–63, vote 7–0).

• California Gull, 16 August 1997, Inver Grove Heights, Dakota Co. (record #97–65, vote 7–0).

• Lesser Black-backed Gull, 4 October 1997, Minneapolis, Hennepin Co. (record #97–66, vote 6–1).

• Red-throated Loon, 27 October 1997, Lake Winnibigoshish, Cass Co. (record #97–68, vote 7–0).

• Red Phalarope, 30 October 1997, Lake Bemidji, Beltrami Co. (record #97–69, vote 7–0, ***The Loon*** 70:66).

• Pacific Loon, 8 November 1997, Vineland, Mille Lacs Co. (record #97–70, vote 7–0).

• Great Black-backed Gull, 26 November – 18 December 1997, Black Dog Lake, Dakota Co. (record #97–78, vote 7–0, ***The Loon*** 70:66–67).

• Red-throated Loon, 1 September 1997, Stony Point, St. Louis Co. (record #97–81, vote 7–0).

• Band-tailed Pigeon, 4 October 1997, Duluth, St. Louis Co. (record #97–82, vote 7–0.

• King Eider, 8 November 1997, Kimball Creek, Cook Co. (record #97–83, vote 7–0).

• Black-throated Sparrow, 8 November 1997, Austin, Mower Co. (record #97–84, vote 7–0, ***The Loon*** 70:64–65).

• Black-legged Kittiwake, 27 November 1997, Two Harbors, Lake Co. (record #97–85, vote 7–0).

• Glaucous-winged Gull, 1–2 December 1997, Grand Marais, Cook Co. (record #97–86, vote 7–0).

The following records were voted on by mail July–December 1997 and found to be Unacceptable:

• Eastern Wood-Pewee, 23 April 1997, Lake Louise State Park, Mower Co. (record # 97–32, vote 1–6). This bird was only heard and never seen, and it would represent a very early migrant during a colder-than-normal spring. Although the song heard was well described by the experienced observer, the majority felt that the possibility of a vocalizing starling or mockingbird being involved is not entirely precluded.

• Western Tanager, 17 May 1997, White Bear Lake, Ramsey Co. (record #97–33, vote 3–4). The entire description consists only of the following: "red head, yellow body with black markings, about 8 inches long." While it was agreed the bird may well have been correctly identified, the majority felt the description is too brief and vague to be accepted.

• Rufous Hummingbird, 25 July – 18 August 1995, Lake Bronson State Park, Kittson Co. (record #97–38, vote 0–7). Although the hummingbird was present for several days, seen by several observers, and may well have been correctly identified, the entire description of the plumage consists only of the following: "golden brown in color to tan." It was unanimously felt that such a description is not nearly specific enough for acceptance.

• Eastern Wood-Pewee (4 birds), 10 April 1997, Faribault, Rice Co. (record #97–40, vote 0–7). The observer was apparently unaware this would be the earliest spring record ever for this species, and the documentation was apparently only written from memory three months after the sighting. The description does not preclude Eastern Phoebe, since the only feature mentioned to eliminate that species was the presence of wing bars; however, contrary to the information in most field

guides, phoebes often have noticeable wing bars. There is also nothing in the brief description (which makes no mention of the presence or absence of an eye ring) to eliminate one of the Empidonax flycatchers.

• Black-headed Gull (2 individuals), 27 May 1997, Forest L., Washington Co. (record #97–48, vote 0–7). The entire description of the two individuals only includes the following: "dark auricular spot, red bill with black tip, red legs, and white tail." With no mention of size or wing pattern, it was unanimously agreed that a potential third state record should be much more completely documented.

• Northern Goshawk, 31 May 1997, Camden State Park, Lyon Co. (record #97–49, vote 0–7). This distant soaring raptor was too far away and seen under unfavorable light conditions for the observer to see any diagnostic plumage features, and with nothing available for direct comparison the size of the bird remains uncertain. The general grayish coloration of the plumage suggests that, if a goshawk, this would be an adult far out of range and season, but it was felt the possibility if it being an adult Cooper's Hawk or even a male Northern Harrier is much more likely.

• Scissor-tailed Flycatcher, 13 June 1997, near Knife River (?), Lake Co. (record #97–53, vote 0–7). The entire description only mentions that "it was a bird with a tail approximately twice the length of its body." While it is quite possible the bird was correctly identified, there is nothing to indicate whether this bird was a passerine or raptor or water bird, etc. (And, even if it were a flycatcher, the possibility of Fork-tailed Flycatcher remains.)

• Tennessee Warbler, 19 June 1997, Brooklyn Center, Hennepin Co. (record #97–64, vote 3–4). It was unanimously agreed that the bird was probably correctly identified, since it was heard by someone familiar with this species' song and since this was during a later-than-normal warbler migration. However, the bird was never seen, and the majority felt the written description of the song heard (like a "sewing machine starting slower and then speeding up") is not specific enough to eliminate other possibilities.

• Common Raven, 28 October 1997, near Rochester, Olmsted Co. (record #97–77, vote 2–5). The documentation does not include mention of the distance or light conditions at the time, or whether or not the observer was using optics at the time, and it seems the observer may have had only a cursory look at it since it appears to have only been watched from a moving car. The description of the bird only mentions that the bird was "very dark" with a "wedged tail" and a bill which was not hooked, and the majority felt that such a description and the conditions at the time involve too many uncertainties to accept such an out-of-range bird.

Whether their records are found to be Acceptable or Unacceptable, the efforts of all those who document their reports of unusual species are appreciated. Accordingly, the Committee acknowledges with thanks all those who provided documentation for the records listed in this article: Diane Anderson, Jared Anez, Karl Bardon (two records), Dave Benson, Terry Brashear, Carole Brysky, Paul Budde (two records), Dave Cahlander, Steve Carlson, Tim Dickson, Larry Dolphin, Kim Eckert (five records), Bob Ekblad, Lane Ellwanger (two records), Deanne Endrizzi, Dave Erwin, Roger Everhart, Cole Foster, Dave Grosshuesch, Jay Hamernick, Mike Hendrickson, Tony Hertzel (three records), Ken and Molly Hoffman, Doug Johnson (two records), Gene Knight, Fay Kotilinek, Chuck Krulas (two records), Fred Lesher, William Longley, Gladwin Lynne, Craig Mandel (two records), Warren Nelson, Frank Nicoletti, Connie Norheim, Mark Ochs, Ric Olson, Shaun Putz, Steve Roman (two records), Orwin Rustad, Roger Schroeder (three records), Drew Smith, Peder Svingen (four records), Mike Tarachow, Dan and Sandy Thimgan, Howard Towle, Tom Tustison, Sylvia Winkelman.

Summary: 52 records voted on; 41 Acceptable (79%), 11 Unacceptable (21%).

8255 Congdon Blvd., Duluth, MN 55804.

Summary of 1997 Spring Hawk Count At Enger Tower, Duluth

Frank J. Nicoletti

Since the 1950s, data have been collected in the fall at Hawk Ridge Nature Reserve in Duluth, St. Louis County. No organized spring raptor count has ever been conducted in the Duluth area or, for that matter, anywhere in the state of Minnesota. Spring raptor movement through the Duluth-Superior area has been anecdotally observed over the years by numerous birders. Movements small and large have been observed, but very little has been documented or even reported. Because of this, Janssen (1987) lists incomplete information about dates of early arrival and late spring departure in the Duluth vicinity. Also, it has no information regarding when the bulk of migration occurs, neither peak numbers, nor dates.

1997 marked the first year that a spring raptor count has been conducted in Duluth. The following report summarizes the results of the survey and includes historical data. This report is a work in progress and it is hoped that data will be collected and analyzed each year for at least three years total. This project has been jointly funded for the 1998 spring season through a matching grant from Hawk Ridge Nature Reserve and the Minnesota Ornithologists' Union.

Purpose

1. To sample or census a population of raptors during migration.

2. To further our knowledge of raptors by determining various flight path preferences and migration sequence of some raptor species by age and sex.

3. To seek an understanding of the mechanics of migration by studying the effects of various topographical and meteorological factors.

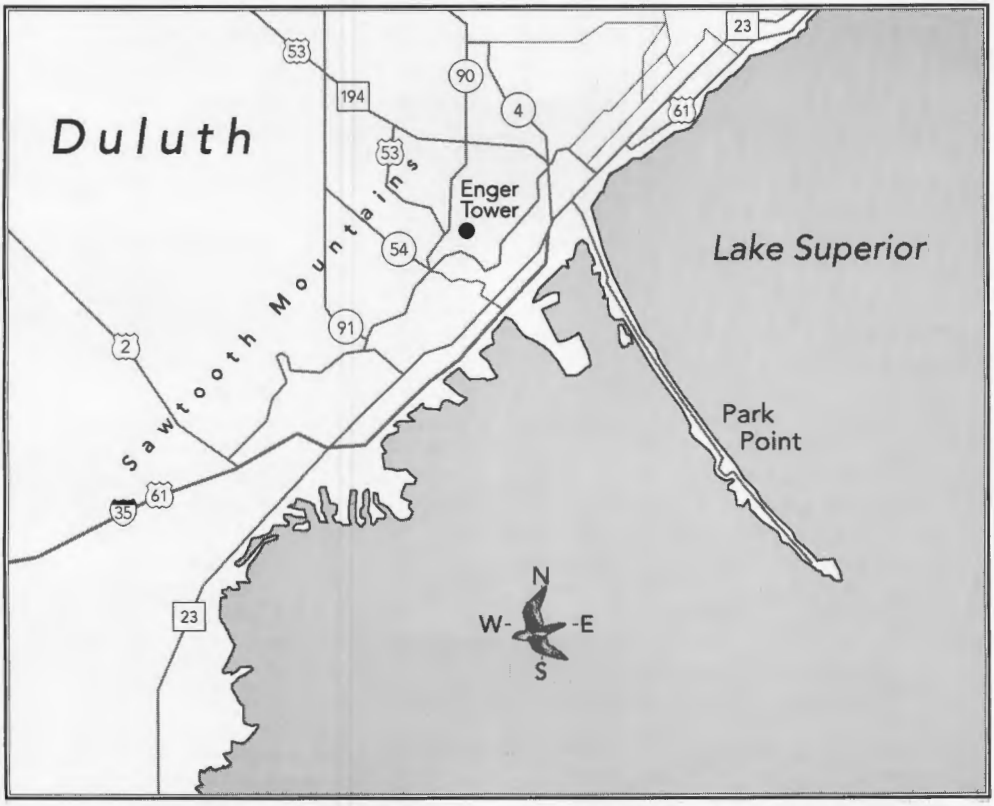
Study Area

Several possible locations in Duluth were considered for the spring raptor count. These included Park Point, Enger Tower, and West Skyline Parkway near Spirit Mountain. Enger Tower was chosen as the site for the count because it combined both excellent views of the prominent north-south ridge and good looks at birds following the Lake Superior shoreline.

Enger Tower is located on West Skyline Parkway within the city limits of Duluth, Minnesota. Enger Tower is situated on a ridge approximately 550 feet in elevation above Lake Superior. The overlook chosen provides good views of the St. Louis River, Duluth Harbor and the western tip of Lake Superior to the south and east. An unobstructed view to the west overlooks a prominent north-south ridge which is part of the Sawtooth Mountains (see map).

Methodology

The method used for this pilot spring hawk count was similar to previous fall studies at Hawk Ridge conducted by this observer. Weather data as well as flight characteristics were taken hourly. Weather data were transcribed from broadcasts by the National Weather Service station at the Duluth Airport which is approximately five miles from Enger Tower. When local conditions differed from the weather report, notes were taken. Weather parameters recorded included temperature, wind direction and



Duluth and vicinity, showing Enger Tower, Park Point, and the Sawtooth Mountains.

speed, barometric pressure and trend, relative humidity, and general sky condition. The observer used 10x50 Leica binoculars and a 30x Kowa scope. Raptor flight data were recorded hourly. All raptors determined to be migrating were recorded with data on age and/or sex.

Results

The historical data in Table 1 were collected primarily by Kim Eckert from birders who call in to the Duluth Birding Hotline. Additional information was gathered by Molly and Dave Evans in the mid- and late 1970s when a banding station was setup on Moccasin Mike Road near Wisconsin Point. The data has been condensed into a usable format. Only species of significant value to the study were included.

Raptor Summary

The official count occurred on 68 of the 72 days between 10 March and 21 May, 1997. Days without coverage were due to inclement weather such as heavy rain, snow, and/or fog. A total of 374.5 hours, or an average of six hours per day, was logged. The total number of raptors was 13,649, representing 16 species; this does not include a Short-eared Owl seen on 29 April. The average number of hawks per day was 201, with an average hourly count of 37. A total of 662 raptors was counted in March, 4,255 in April and 8,732 in May. Table 2 lists the monthly totals for all raptors counted. Peak flight data and date range of occurrence are listed in Table 3.

Highlights were many in this previously uncharted territory. The eagle num-

Species	Earliest Arrival	Latest Departure	Peak
Turkey Vulture	3/29 (1986 & 1988)	5/24 (1979)	101, Wisconsin Point 4/18/76
Osprey	4/6 (1986)	n/a	8, Park Point 5/2/96
Bald Eagle	n/a	n/a	50+, Duluth 3/15/90
Northern Harrier	3/11 (1987)	n/a	24, Wisconsin Point 4/17/76
Sharp-shinned Hawk	3/9 (1991)	n/a	1500, Park Point 4/24/82, 369, Wisconsin Point 4/30/76 200, in 2 hours 4/28/83
Cooper's Hawk	3/31 (1987)	5/9 (1979)	3, Wisconsin Point 4/29/77
Northern Goshawk	3/11 (1992)	4/12 (1986)	14, Wisconsin Point 4/17/76
Broad-winged Hawk	4/13 (1983)	n/a	4,239, Superior WI, 5/9/79 1,615, Wisconsin Point 4/30/77 493, Park Point 5/4/94
Red-tailed Hawk	3/19 (1985)	n/a	131, Wisconsin Point 4/17/76 66, Wisconsin Point 4/8/76 61, West Skyline Parkway 4/11/94 30, in 2 hours Hartley Field 4/3/91
Rough-legged Hawk	3/11 (1992)	5/30 (1983)	47, Wisconsin Point 4/17/76
Golden Eagle	3/9 (1997)	n/a	n/a
American Kestrel	3/19 (1990)	n/a	11, Wisconsin Point 4/30/77
Merlin	3/7 (1985)	5/12 (1982)	n/a
Peregrine Falcon	3/11 (1996)	5/19 (1982)	2, Park Point 5/11/84

Table 1. Historical summary.

Species	March	April	May	Total	% of Count
Turkey Vulture	3	386	75	464	3.4
Osprey	0	33	127	160	1.17
Bald Eagle	603	372	62	1037	7.6
Northern Harrier	2	23	15	40	0.29
Sharp-shinned Hawk	3	482	742	1227	8.990
Cooper's Hawk	0	28	7	35	0.29
Northern Goshawk	1	1	0	2	0.01
Red-shouldered Hawk	0	0	1*	1	0
Broad-winged Hawk	0	542	7633	8175	59.89
Swainson's Hawk	0	0	2	2	0.01
Red-tailed Hawk	37	2283	41	2361	17.3
Rough-legged Hawk	1	61	2	64	0.47
Golden Eagle	8	8	1	17	0.12
American Kestral	0	23	16	39	0.29
Merlin	2	9	4	15	0.11
Peregrine Falcon	1	0	4	5	0.04
Gyrfalcon	0	1	0	1	0.01
unidentified	1	3	1	5	0.04
Totals	662	4255	8732	13649	
Number of days	19/22	28/30	21/21	68/72	
Number of hours	93.5	160	121	374.5	

* An immature Red-shouldered Hawk was seen in Duluth Harbor on 5/31.

Table 2. Monthly totals at Enger Tower, spring 1997.

Species	Total	Peak Flight	Date	Range of Occurrence
Turkey Vulture	464	90	3 April	27 March – 13 May
Osprey	160	26	6 May	18 April – 20 May
Bald Eagle	1037	163	23 March	10 March – 21 May
Northern Harrier	40	4	23 April	28 March – 20 May
Sharp-shinned Hawk	1227	152	10 May	11 March – 21 May
Cooper's Hawk	35	5	17 April	2 April – 6 May
Northern Goshawk	2	1		19 March – 10 May
Red-shouldered Hawk	1	1	31 May	31 May
Broad-winged Hawk	8175	1342	5 May	17 April – 21 May
Swainson's Hawk	2	1		5 & 20 May
Red-tailed Hawk	2361	652	11 April	11 March – 21 May
Rough-legged Hawk	64	21	25 April	31 March – 9 May
Golden Eagle	17	6	11 April	12 March – 5 May
American Kestral	39	4	25 Apr, 2 May	1 April – 13 May
Merlin	15	2	26 Apr, 10 May	17 March – 13 May
Peregrine Falcon	5	1	4 April	19 March – 20 May
Gyrfalcon	1	1	11 April	11 April
TOTAL	13,649			

Table 3. Peak flights and range of occurrence for all raptors recorded at Enger Tower, spring 1997.

bers were certainly impressive. We saw seventeen Golden Eagles, considered a rare spring migrant, and on 11 April we saw six individuals. The Bald Eagle total of 1036 might be the most recorded on any spring count ever. Other notable sightings included an immature gray-morph Gyrfalcon on 11 April, and 22 dark-morph Red-tailed Hawks which represents one percent of the total Red-taileds counted. This is proportionally the same as the fall flight at Hawk Ridge. A sighting of a nearly complete albino Red-tailed Hawk on 11 April was interesting. Two "Krider's" Red-taileds were seen, and two Swainson's Hawks were recorded as well, including an adult light-morph on 5 May and an adult dark-morph on 20 May. There were also three adult dark-morph Broad-winged Hawks.

Conclusions

It is hard to say whether this season was typical or not for this location. Having nothing to compare it to, I can only say that the weather wasn't at all cooperative. Other western Great Lakes sites all reported a poor spring season with near or record low counts, especially the lake sites. This was especially true at Whitefish Point, MI, regarded as the premier hawk watching site in the western Great Lakes region. This site was used for comparison as it is the closest to our area in longitude and latitude. They received similar weather, light conditions and timing of migration as Duluth. Their official report included the 1997 total of 8,238, which was the lowest number of raptors recorded at Whitefish Point since the count began in 1979. It was somewhat surprising that we had counted over 5,000 (60%) more raptors than at Whitefish Point. They reported having winds that were predominantly from the north, and, when from a southerly direction, they were often associated with rain or snow which slowed or completely halted

	April 9		April 25		April 29		May 7		May 9		May 13		May 15	
	ET	PP	ET	PP	ET	PP	ET	PP	ET	PP	ET	PP	ET	PP
Turkey Vulture	1	0	10	2	13	4	0	0	7	0	1	1	0	0
Osprey	0	0	1		4	1	3	0	2	0	9	3	0	0
Bald Eagle	4	0	9	7	1	2	0	0	1	0	12	0	0	0
Northern Harrier	1	0	2	1	1	2	0	0	0	3	1	0	0	0
Sharp-shinned Hawk	0	0	21	5	56	144	23	2	19	44	89	67	9	14
Cooper's Hawk	1	0	0	0	0	2	0	0	0	0	0	0	0	0
Northern Goshawk	0	0		2		0	0	0	0	0	0	3	0	0
Broad-winged Hawk	0	0	10	0	192	7	15	0	469	0	640	266	98	0
Red-tailed Hawk	44	0	38	3	8	3	0	0	0	0	3	0	0	0
Rough-legged Hawk	0	0	0	0	1	0	0	0	0	0	0	0	0	0
American kestrel	0	0	1	0	0	1	3	0	0	0	0	2	0	0
Merlin	0	0	1	0	1	0	0	0	0	0	1	0	0	0
Total	51	0	93	20	277	166	44	2	498	47	759	343	107	14
Time of Day	9–12		9–12		9–1		7–10		8–12		9–1		8–10	
Temp	17–24		50–58		57–63		48–50		36–47		45–50		40–45	
Wind Direction	N–VAR		N		W		SE		N–NW		SW		N	
Wind Speed	O–8		5–9		17–35		13		15–25		8		12–18	

Table 4. Comparison between Enger Tower and Park Point raptor counts, spring 1997. ET = Enger Tower, PP = Park Point.

the migration. We also experienced these same weather patterns. Our site in Duluth, like other lake/shoreline sites, relies on a conducive weather pattern, meaning rising temperatures and winds from the west or the south.

The geological features of the Lake Superior shoreline and the Sawtooth Mountain ridgeline concentrate northbound migrants. Many raptors that move along the south shore of Lake Superior are trapped in the Bayfield, WI, Peninsula area and are unable or unwilling to cross over Lake Superior. They must then follow the lake west and cross at various other points from Superior, WI, into Duluth. Under certain weather conditions, raptors are then concentrated either along the shoreline, the Duluth Harbor, or along the Sawtooth Ridge.

Working with a student, Ryan Brady, we were able to determine that raptors indeed head west along the lake shore toward the Duluth area. From a counting site on the south end of the Chequamegon Bay in 16 days between 1 April to 17 May, he observed 253 raptors in 23 hours, or 11 hawks per hour. All of the 11 raptor species he recorded headed west. He, along with other students from his biology class, will be conducting a more extensive survey next spring.

As an experiment to see which site would yield more hawks, and to study the effect of weather on the movement around the Duluth harbor, John Heid counted migrating hawks from Park Point. A total of 592 hawks was observed during 22 hours over seven days, or three hours per day. Generally, more birds were seen from Enger Tower (1,829), though Park Point yielded more hawks during certain hours (Table 4). The difference between the two sites was mainly due to Sharp-shinned Hawks. He noted that on days with moderate to strong west or southwest winds, Sharp-shinned Hawks hug the dune line often just a few

feet from the ground. This did not hold true for the other raptors. In 1998 we plan on recruiting more help with this study to do further comparisons between the two sites.

One of the purposes of this study was to seek an understanding of the mechanics of migration by studying the effects of various topographical and meteorological factors. I wanted to know how the raptors would move through this area and under what conditions. After watching for a few weeks there emerged distinct flight patterns correlating with certain weather conditions. Some seemed consistent, such as winds with a southerly to westerly component pushing raptors along Allouez Bay, thus putting the flight right over our location. The wind speed also had an effect on the height of the migration, making for some remarkable flights when the wind speed was 10–20 mph or higher, the hawks were often low. On days with an easterly wind the flight seem to be concentrated along the west ridge. Notes were taken almost daily on these flight patterns correlating with the weather. These patterns will be elaborated on further in next season's report with maps showing the flight lines.

Acknowledgments

I would like to thank the Hawk Ridge Nature Reserve for its financial support for the 1997 spring survey. Thanks also to Kim Eckert, Molly and Dave Evans for searching through their notes for historical data. Dave Alexander and Peder Svingen both reviewed this paper. Anthony Hertzel produced the map. Lastly, I'd like to thank the folks who were out counting with me or helped me with other locations: Ryan Brady, Dave Carman, Kate Niemuth, John Heid, Lou Oakland.

Literature Cited

Janssen, Robert B., Birds in Minnesota, 1987, University of Minnesota.

3128 Valet, Duluth MN 55804.

BIRDING BY HINDSIGHT

A Second Look at Songs: Part 3, Warblers

Kim R. Eckert

It wasn't all that long ago when the Summer 1997 issue of ***The Loon*** included an installment about warblers as part of this series of identification articles. The intention was to allay everyone's fear of the dreaded concept of Confusing Fall Warblers — that they aren't as bad as many birders think. But even if you still found those warblers as confounding as ever last fall, at least it's

spring now, the warblers are coming back, they're as colorful as ever, and there's not an ID problem in sight...right?

In sight, perhaps not. But if you plan on listening to those warblers, you will be confronted with many difficulties — enough so, that this article is devoted solely to warbler vocalizations. As mentioned in the two previous installments in this series on bird songs and calls (***The Loon*** 68:62–66 and 69:32–37), the intention had been for there to be one more on vocalizations which would include warblers through winter finches. However, it turns out there is more than enough to discuss here on just the warblers, so there will still be a later installment on vocalizations to cover sparrows, finches and other "post-warbler" species on the checklist.

Again, as was the case with the two earlier articles, there is little reason here to discuss vocalizations of all the species. Instead, the intention is to concentrate more on those which might be unfamiliar to even the experienced listeners and which have the most potential to be involved in misidentifications. And, unfortunately, the potential for aural misidentifications is high when dealing with warblers. Warbler songs tend to be relatively complex, the territorial song(s) of a species can accordingly be quite variable, and these individual variations within a species are often quite dissimilar to each other.

It should go without saying that an article such as this which attempts to describe in words what a bird sounds like can hardly be read in a vacuum. It will only make sense as a supplement to the actual songs you are already somewhat familiar with in the field or when used in conjunction with prerecorded songs on a cassette or CD. (And for those serious about learning warbler songs, I would recommend the two-cassette set produced by Cornell, "Songs of the Warblers of North America" by Donald Borror and William Gunn.) Keep in mind, however, that listening to tapes is no substitute for field experience. In many cases, your best aids for identifying a song include habitat, geographic location and time of year, and these are not found on a tape.

There are two other initial thoughts to keep in mind as you sort through warbler songs and attempt to actually see what you're hearing to confirm your identifications. First, many of those warblers you see with relative ease in May actively flitting through the vegetation will be sitting relatively still when singing on territory. Accordingly, you will find most singing male warblers harder to spot in June than they were when moving around and catching your eye during migration. And second, once you're sure you hear an Ovenbird, Northern Waterthrush, Connecticut or Mourning Warbler and you want to see it, look up, not down. While such species may stay on or close to the ground in migration, on their breeding grounds they often sing perched in a tree dozens of feet above the ground.

Singing the Golden-winged Warbler blues

It is common knowledge among birders with even limited experience at warbler watching that Blue-winged and Golden-winged warblers widely hybridize. What is less generally known, however, is that the plumages of these hybrids are quite variable, and they frequently do not match what the standard field guides conveniently label as "Brewster's" and "Lawrence's" warblers. (But all that would be the subject of another article entirely.) More to the point here is that the songs of these hybrids are probably as variable as their plumages, and even what looks like a "pure" Blue-winged or Golden-winged can sing an atypical song. Therefore, while Blue-wingeds and Golden-wingeds are supposed to say "beee bzzzz" and "bee bzz bzz bzz" respectively, they — and their hybrids — just might sing something more complicated and quite different from their standard songs. Nor would it be surprising to hear a Blue-winged sing a Golden-winged song, or vice versa.

Any attempt to describe all those possible song variations would be quite be-

yond the scope of this series of articles. The point to remember is if you hear, for example, what sounds like a Blue-winged in northern Minnesota, it would be necessary to actually see it to make sure it isn't a hybrid or Golden-winged with an odd song. Similarly, if you hear a buzzy song which sounds like a Prairie Warbler (or, say, a Cerulean in northern Minnesota), be sure to track it down to preclude the possibility of a Blue-winged or Golden-winged warbler singing an atypical song.

(And I still remember that song I clearly heard some 25 years ago in an Arkansas swamp which exactly matched the tape I had with me of the Bachman's Warbler! I suspect it was actually one of those variant songs of a migrating Blue-winged or Golden-winged, but to this day I still wonder. . .)

Nashville, Tennessee 90210

Yes, I realize the name of the TV show is actually "Beverly Hills 90210", but over the years I have heard so many birders claim how hard it is to distinguish the songs of Nashville and Tennessee warblers, that all this fuss could almost be the premise for another soap opera. However, any similarity in the songs of these two warblers is about as superficial as any soap opera.

Only on rare occasions have I heard a distant song which made me wonder momentarily whether it was a Nashville or Tennessee. But the operative word here is "momentarily", and it only took a second listen to figure out which one it was. The two-part pattern of the Nashville's song may somewhat suggest that of the Tennessee, but the latter warbler's song is actually different: louder, sharper, more strongly accented and typically three-parted.

But there actually is a Minnesota warbler with a variable song which often ends up sounding very much like a Nashville: the Yellow-rumped. This ubiquitous bird may be all too familiar to warbler watchers, but I am quite sure that most birders are quite unfamiliar with its song variations. Its colorless song isn't much to begin with, and one of its frequent variations is a two-parted song which closely resembles the "seebit seebit seebit ti ti ti ti ti" of the Nashville Warbler; the only difference to my ear is this Yellow-rumped variation seems a bit slower and "looser" than the Nashville's song.

Give me a buzz anytime

Another frequent song variation in Yellow-rumped Warblers involves some buzzy notes at the end of the song, although such a song still sounds more like a Yellow-rumped than anything else. That aside, however, I've always liked those warblers with buzzy songs: Blue-wingeds, Golden-wingeds, Black-throated Blues and Ceruleans are decidedly uncommon or local, the Prairie Warbler is a genuine rarity in Minnesota, while the more widespread Northern Parula and Black-throated Green are especially striking in appearance.

Unfortunately, in addition to the difficulties already discussed involving the Blue-winged's and Golden-winged's songs, other buzzing warbler songs present some additional identification problems:

- At a distance, one of the Northern Parula's songs (the multi-syllabled one with notes preceding the prolonged buzz) can sound very much like the fast variation of a Black-throated Blue Warbler song — and this faster Black-throated Blue song is probably unfamiliar to most birders. Further, this parula song sounds very much like the Cerulean Warbler's: the main difference is that the very end of the parula's song typically drops off abruptly in pitch. This abrupt ending is not always audible, however, but parulas and Ceruleans are generally not found singing in the same places, so you can usually determine what you're hearing by where you are.
- Speaking of Black-throated Blues, there is a common misconception that it simply sounds like a slow Black-throated Green. In reality, one Black-throated Green song ("zee zee zoo zoo zee") is just as

slow as an average Black-throated Blue song, and, consequently, it can easily be misidentified as the latter warbler. (Think twice before claiming to hear a Black-throated Blue in summer if you're anywhere in Minnesota other than in Lake or Cook county.) The difference is that all the notes preceding the final higher-pitched note in any Black-throated Blue song are on the same pitch ("zur zur zur zee"); in the slow Black-throated Green song, the pitch of the first, second and fifth notes is higher than the third and fourth.

Not all yellow warblers are Yellow

Even though Yellow Warblers commonly nest — and consequently sing — throughout Minnesota, it is disconcerting how difficult it is to recognize this warbler's song much of the time. While its most recognizable song can be transcribed as "sweet sweet sweet sweet ti ti ti ti sweet", this species also gives a lot of nondescript variations of its primary song which lack any clear patterns and defy simple transcriptions. Indeed, I would consider the songs of this widespread species to be among the most difficult warbler songs to learn. (In many cases, I end up relying on the habitat and geographic location more than anything when identifying Yellow Warbler songs.)

Some Yellow Warblers end up sounding very much like Chestnut-sideds: many birders are unaware Chestnut-sideds often give a nondescript Yellow-like song which lacks the normally characteristic, abrupt, lower-pitched ending.

Other Yellow Warblers can sound like a Magnolia (which, in turn, sound a lot like the rare and local Hooded Warbler), some sound like American Redstarts, some like Wilson's, and still others almost sound like Canadas (which, in turn, can sound like Magnolias when they fail to begin their song with their characteristic chip).

So, how does one separate such relatively nondescript, patternless songs? Not by reading this article, unfortunately. Learning bird songs is just plain difficult, and it can be argued that warbler songs are the most difficult of all. As mentioned earlier, the written word is hardly the best medium for describing sounds, which are best learned by hearing them in the field — or possibly on tape. In some cases, I admit this article will be unable to offer solutions to ID problems. The best it can do is call attention to those songs where there are special difficulties and potential for misidentifications so the reader can at least be prepared. (Having said all that, however, I now plunge forward with still more problems!)

Highly confusing songs

As our hearing abilities decline with age, the bird sounds that are typically lost first are those of the higher pitches. In a way, perhaps, this could almost be something frustrated warbler listeners may look forward to since some of the most confusing warbler songs are those with the highest frequencies. After all, you can't misidentify what you cannot hear!

All kidding aside, it takes a lot of concentration and practice to distinguish the high-pitched warbler songs, especially those of the Cape May, Blackburnian, Bay-breasted, Blackpoll and Black-and-white. The previous article in this series on song identification has already mentioned the potential for mistaking the Golden-crowned Kinglet song for that of a Cape May (***The Loon*** 69:35), and there are other difficulties to be aware of when listening to such high-frequency sounds:

- Besides that kinglet, the Cape May Warbler can easily be mistaken for a Bay-breasted when it gives its alternate two-syllabled "seetsee seetsee seetsee" song. This song is so close to the Bay-breasted's that there have been times when I was unable to tell with any confidence which warbler I was hearing. Similarly, a weak or distant song from an American Redstart or Black-and-white Warbler can strongly resemble this two-syllabled Cape May/Bay-breasted song. I would suggest, therefore, that before you claim a heard-only Bay-breasted (especially in summer, since breeding Bay-breasteds are quite local and almost rare

in Minnesota), it would be wise to preclude those other three warblers as possibilities.

• Speaking of the Black-and-white Warbler, its song often sounds more one-syllabled than two, even at close range, and can then be easily mistaken for the primary Cape May song ("seet seet seet seet seet").

• Another high-pitched singer, the Blackpoll Warbler, was actually the first bird whose song eluded Roger Peterson's aging ears (really, I'm not making this up: it was in Churchill in June 1985). If you can hear it, though, the standard Blackpoll song is not that difficult to identify, although I have heard some Blackpolls with slower, shorter and louder songs which sounded very much like Cape Mays. And I once heard a Blackpoll run its notes together into a fast, buzzy trill and sound very much like a Worm-eating Warbler.

• And then there's the Blackburnian, almost everyone's choice for best-looking warbler. It's not mine, though, perhaps because it has too many song variations. The usual perception is that the Blackburnian always ends its songs with a distinctively thin and rising high-pitched note, but there are times this note is either not given or not audible. (And I vote for "not given" over "not audible"; I'm not yet ready to admit I'm old enough for the latter to be true!) When this diagnostic note is not heard, the Blackburnian can sound like any number of warblers, including the Nashville, Yellow, Yellow-rumped, Black-and-white or Wilson's.

• Actually, the most common Blackburnian song heard in Minnesota definitely lacks any distinctive high-pitched note at the end. Instead, listen for a high, thin, somewhat Cape May-like "tsss-sah tsss-sah tsss-sah" song, with these two-syllabled notes having a diagnostic lisping quality which, to my ear, sounds unique.

The trill is gone

In winter, at least, the trills are indeed gone. But with the arrival of spring all those dreaded trill songs of the warblers and other birds return, and — with apologies to B. B. King and his classic song — it's almost enough to make you want to sing the blues. In my opinion, those songs which can be described as a trill are by far the most difficult ones to distinguish. Among the warblers, these include the Orange-crowned, Pine, Palm, Worm-eating and Wilson's, while Dark-eyed Juncos, Chipping and Swamp sparrows do their part to add to the confusion.

There would be much less confusion if all these species confined themselves to their normal songs without variation, but they all frequently vary their songs enough to closely resemble one or more of the other species:

• A typical Orange-crowned Warbler song is a distinctive two-part trill, with the second part shorter and lower-pitched than the first. It is then unlike the typical Wilson's Warbler trill which is usually all on one pitch — or the final note alone sometimes drops in pitch, but then the Wilson's song is even easier to recognize. One problem is I have frequently heard these two warblers sing each other's primary song and then sound essentially indistinguishable. Another problem is that the one-pitched version of these two warblers' songs can often resemble some Palm Warblers and some Swamp Sparrows.

• The normal song of the Pine Warbler is probably the most easily recognized of this group: it sounds slower and shorter than most of the others with a gradual increase in volume at the end. Unfortunately, this warbler can also sing a faster trill and then closely resemble a Dark-eyed Junco or Chipping Sparrow song.

• The most characteristic Palm Warbler song is usually safe to distinguish from the others due to its buzzy quality and "rolling" trill of notes which rise and fall in pitch. It's hardly always that easy, though. As mentioned earlier, some Palms sound quite similar to Orange-crowned and Wilson's warblers or to Swamp Sparrows, while other Palm War-

blers can sound almost identical to juncoes and Chipping Sparrows.

• A Worm-eating Warbler supposedly sounds thinner and buzzier than the Chipping Sparrow, and on the average it probably does. But more than once in Minnesota I've heard what sounded like a perfect Worm-eating song and ended up tracking down a singing Chipping Sparrow instead.

• Since the Dark-eyed Junco is one of Minnesota's most common migrants, and since it frequently sings in spring, its trill with its usually distinctive "ringing" quality might be the best place to begin listening. Or perhaps you'd find the normally dry, rattling trill of the ubiquitous Chipping Sparrow easier to master. Other birders might find the Swamp Sparrow's typically slower song easier to practice on, since this species' habitat alone often indicates its identity. Of course, none of these birds is a warbler, but each of them can sufficiently alter its song enough to sound like one: e.g., juncos can be confused with Palms or Pines; Chippings can also be mistaken for these two (or, as mentioned above, for a Worm-eating); and, again, Swamp Sparrow songs can resemble those of the Orange-crowned, Palm and Wilson's.

Call notes of note

If you've managed to read this far, the difficulties involved in identifying warbler songs should be abundantly obvious. However, believe it or not, learning warbler vocalizations can get even far more challenging: all you have to do is venture beyond songs into the realm of call notes. Rest assured, though, that this section will be brief for two reasons: first, call notes lend themselves to written transcriptions even less than songs; and, second, I readily admit there are a lot of warblers whose call notes I have yet to recognize with any consistent confidence.

But attempting to learn at least some call notes is definitely worth the effort and within the grasp of even the casual birder. Start with the "check" note of the Yellow-rumped Warbler: you'll hear it almost everywhere and thus have plenty of practice with it. The harsh and distinctive "tshh" of the widespread Common Yellowthroat is also relatively easy to learn. Equally prevalent in many places is the loud and sharp Yellow Warbler call note, while in other places the equally loud and sharp "chink" of the Northern Waterthrush is even more recognizable. And that curious and unique call note of the Magnolia is quite unlike any other warbler and hard to forget: somehow this "false" note simultaneously resembles those of a Cliff Swallow, Hermit Thrush and Bobolink.

If you really want to impress your birding friends, it doesn't take long to learn the distinctive and hollow call note of the Mourning Warbler (it has a close resemblance to the Wilson's note and is vaguely reminiscent of a yellowthroat note). Once you do, you'll find this highly sought warbler is actually one of the most common breeding warblers in northern Minnesota. A bigger challenge would be to learn the rich, liquid "pwit" or "squeet" of the similar Connecticut Warbler. This is not because it's rare (in many places in northern Minnesota Connecticuts are more common than Mournings), but simply because they seldom utter their call note for reasons unknown.

If you want to pursue the subject of call notes further, there is an article worth looking at in the June 1996 issue of *Birding* magazine (25:159–168): "Call-Notes of North American Wood Warblers" by Stephen Getty.

Had enough? Still confused? Even more confused than before you read any of this? That's OK. Learning warbler songs is rewarding, but it's not for everyone. There's not a thing wrong with just watching warblers this spring and enjoying what they look like. If you find warbler songs more frustrating than fun, feel free to simply tune them out.

8255 Congdon Blvd., Duluth, MN 55804.

Young Ring-billed Gull, 20 July 1997, Plymouth, Hennepin County. Photo by Merrie Ann Rudelt.

Ring-billed Gulls Breeding in Hennepin County

Merrie Ann Rudelt

The first known breeding colonies of Ring-billed Gulls in Hennepin County have been found in the cities of Plymouth and New Hope. Most remarkable is that both colonies are located atop large, flat-roofed commercial buildings in busy suburban areas.

The Ryerson Steel building in Plymouth is fronted by Hwy 169 just a few hundred feet from Medicine Lake. Activity was first noted here in late March and early April, before ice-out. Over 500 gulls were here and they appeared to be roosting on the roof and leaving at first light. Through April and May, the number of birds decreased to a count of between 200 and 250. The flock was predominately adults with a small percentage of subadults. In mid-May, adults were seen carrying small twigs and other debris to the roof top. This roof can only be viewed from the opposite side of the freeway approximately 1/4 mile away, and because of its configuration, portions are not visible and make accurate counts impossible. On my first viewing of the roof on 28 May, I could see a minimun of three nests. By 20 June, Karl Bardon counted 19 nests. On 30 May, Debbi Phillips noted two adults changing places at a nest. They greeted each other with head nodding, exchanged places on the nest and the new brooder snuggled down.

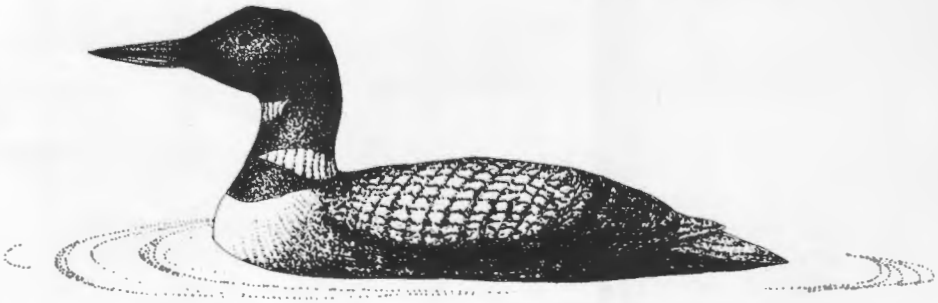
The first three chicks seen on 13 June were about the size of week-old ducklings. On 14 June, two older chicks were seen, their heads being as tall as the back of a standing adult. By the second week

of July there was a minimum of 30 chicks, including a brood of three newly hatched. Hatching occurred over approximately a 30 day period, with broods consisting of one, two or three chicks, with two being most common.

On 9 July, the first fledgling was seen in the air, and by 23 July all chicks seen had fledged or were feathered rather than downy. Many of the fledglings were unwary and continued to wander near the building where there is high truck and car traffic, with predictable results. I brought one injured juvenile to the Wild Life Rehabilitation Center on 20 July.

The Universal International building, near 54th and Winnetka in New Hope, was the second breeding site. This also is a flat-roofed commercial building but with the nearest sizable body of water, Eagle Lake, is one and a half miles away. On 6 July, New Hope Animal Control received an uninjured downy Ring-billed Gull chick that was found in the vicinity after a severe storm. The chick was taken to the Wildlife Rehabilitation Center. We have seen at least 100 Ring-billed Gulls here, again mostly adults with some subadults, although a New Hope police officer estimated the flock to be closer to 500. Four newly fledged juveniles were seen on the ground on 22 July. Although there is no vantage point from which to see the roof top, there seems to be adequate evidence that breeding is indeed occurring at this location as well.

2105 Marquis Road, Golden Valley, MN 55427.



NOTES OF INTEREST

A SUBADULT ARCTIC TERN IN DULUTH — With recent reports of Red-throated Loons and an assortment of shorebirds at Park Point, I decided to check out the Point in the late afternoon of 29 May 1997. Conditions were favorable for scanning Lake Superior since the surface was relatively smooth with only light east winds blowing, and light conditions were good with a high overcast which precluded any potential problems of glare or looking into the sun. My first stop was on the lake side of Park Point at the 12th Street access where a Red Knot was present on the beach and a Red-throated Loon was visible out on the lake. I next scanned the lake from 31st Street and was able to see at least four, and probably five, individual Red-throated Loons, and my next stop was at 43rd Street to see if even more loons might be visible. My attention there, however, was diverted to what appeared to be a flock of small gulls or terns loafing on the beach farther to

the south, and I decided to take a closer look. This flock proved to be a group of about 40–50 terns standing on the lake shore between the Park Point Recreation Area and the Sky Harbor Airport buildings.

As expected, most of the birds proved to be Common Terns *(Sterna hirundo)*, but when I examined them through a 20X Kowa TSN–4 spotting scope at distances of 50–100 feet, I noticed there was also one adult Forster's *(S. forsteri)* among them, and yet another tern caught my eye which I realized was an Arctic Tern *(S. paradisaea)*. After a few minutes of studying the tern's bill shape and color, leg length, primary extension, and its wing pattern and overall proportions in flight, I left to call some other birders and to get a pen and paper to write a description of the bird. The Arctic Tern was still present when I returned several minutes later, and the following description is based on field notes written while the bird was in view and before any references were consulted. It had been first observed at 6:30 P.M., and it was last seen at 7:15 when it flew west towards the bay side of Park Point and out of sight. Dave Benson and John Heid were the only other observers who arrived in time to see the tern before it disappeared. (There was also a report of what appeared to be this same individual on 31 May at 12th Street on Park Point, but to my knowledge this observation has not been documented.)

Bill. It was the bill of this Arctic Tern which first drew my attention and served as one of the most diagnostic features of this bird. Compared to the bills of the Common Terns present for direct comparison, it was clearly shorter in length. In addition, it was noticeably different in shape from a Common's bill, with a straighter and less downcurved culmen. The color of the bill was also distinctive: a mostly uniform dark red overall which shaded gradually to a more blackish red color at the tip. By comparison, the red color on the bills of the adult Common Terns present was not as dark, and this red was clearly delineated from their black bill tips. The darkness on the bill was evidently due to this being a subadult Arctic Tern, which was judged to be two years old (see *Terns of Europe and North America* by Klaus Olsen and Hans Larsson). There was also one adult Common Tern present which had a virtually all red bill with almost no black on the tip; bills such as this are frequently seen on adult Common Terns in summer, and this may lead to misidentifications.

Leg length. The leg color of this Arctic Tern did not noticeably differ from an adult Common Tern, but at rest its legs were clearly shorter than any of the Common Terns standing next to it. This shorter length was most evident as its belly feathers behind the legs were seen to nearly touch the ground, unlike any of the Common Terns present. Also unlike a Common Tern was this Arctic's clumsier walk, due to its shorter legs. Although leg length is a useful field mark on an Arctic Tern, it would probably be diagnostic only with Commons present for direct comparison, and only if the observer is certain the tern is not standing in a depression and does not have its belly feathers fluffed up to conceal part of the legs.

Primary extension. At rest the Arctic Tern's folded wing tips were seen to be nearly even with the tip of its tail, or perhaps falling a bit short of the tail tip. All the adult Common Terns present showed folded wing tips extending noticeably beyond the tail tip. This difference in primary extension is another valid distinction between Arctic and Common terns, and note that if this had been a full adult Arctic Tern (not an apparent two-year-old, as noted above), its tail streamers would be grown to full length, extending farther beyond the folded wing tips, and resulting in a more obvious difference from the Common Terns.

Flight pattern. A few times for no apparent reason, the flock of terns would rise up and fly around for several seconds before setting down on the beach again, and this provided an opportunity to study the Arctic Tern in flight. And, when mixed in flight with the Common Terns, the Arctic was relatively easy to pick out by shape alone. It

always appeared relatively and distinctively "neckless", and its body looked consistently stockier or plumper than any of the Commons flying with it. In addition, the Arctic's wing span and overall body length appeared a bit shorter than the any of the Commons with it, although the shorter length overall may have only been a function of its only partially grown tail feathers.

Also quite noticeable on the upper wing surface of the flying Arctic Tern were its whiter secondaries, which is a diagnostic feature separating Arctic from Common Terns at least into their second year. (And these retained white secondaries suggest this was a subadult, rather than an adult still in partial winter plumage.) Also visible on the upper wing surface was a dusky gray carpal bar, similar to that of an immature or winter-plumaged Common Tern, although perhaps not as dark. (This carpal bar was also visible when the tern was at rest.) No other markings were clearly visible on the Arctic's upper wing surface — specifically, there was no trace of any blackish markings on the primaries which would be visible on a Common Tern at any age or season.

One excellent field mark that separates adult Arctic and Common terns in flight overhead would be the translucence of all the Arctic's flight feathers; any translucence on a Common Tern would only be visible on the innermost primaries and outer secondaries. Unfortunately, this Arctic Tern never flew high enough so that its underwing pattern could be studied to any useful extent.

Other features. The Arctic Tern's cap was almost completely black, except for some small white speckles on the forehead. At rest, its underparts were grayer overall than on any of the adjacent adult Commons standing with it at the same angle, but this difference was subtle and I did not notice any contrasting whiteness between the cap and underparts. Although the grayer underparts and whiter cheeks of an adult Arctic Tern can be a useful mark, it must be used with caution since some adult Common Terns at certain angles and in some light conditions can also appear to have this same pattern. And in the case of this Arctic Tern, the subtle nature of the gray underparts was the likely result of it being a subadult.

This represents only the sixth year that Arctic Terns have been documented in Minnesota, with all these records in Duluth during May or June. The previous records were in 1973, 1974, 1978, 1983 and 1985, so that it has been 12 years since the most recent record. Interestingly, however, just a few days after this present record another Arctic Tern, a full adult, was seen in Duluth at the 40th Avenue West Erie Pier area (***The Loon*** 69:171). **Kim Eckert, 8255 Congdon Blvd., Duluth MN 55804.**

GREAT BLACK-BACKED GULL AT DULUTH — On 9 November 1996, while birding at the end of Wisconsin Point, Wisconsin, I observed a third-winter Great Black-backed Gull standing in Minnesota on the opposite side of the Superior entry. This very large gull was seen flying with, chasing, and standing next to numerous Herring Gulls; I estimated it to be 20–30% larger than the Herring Gulls in overall size, wingspan, bill size, and leg length. When standing next to the Herring Gulls, the top of the Herring Gulls' heads only reached the Great Black-backed Gull's shoulder.

The mantle was dark grayish-black, contrasting slightly with the black of the folded primaries, and with some brown mottling in the coverts and tertials. In flight, the mantle was conspicuously dark, contrasting slightly with the coverts, and creating a saddle appearance. There was a small white apical spot at the tip of each primary visible on the folded primary extension, and in flight I noted one large white terminal mirror on the outermost primary which encompassed the entire distal third of the feather. I could not tell if there was an additional mirror on the next primary inward.

The head was mostly whitish, but some dusky streaking was noted on the nape. The center-most group of tail feathers were mottled with dark grayish black on the distal third of each feather, contrasting with the outermost tail feathers which were entirely white. The bill was yellowish with a thick, black, irregularly-shaped subterminal ring, and a very narrow, yellowish tip; I could not see a reddish gonydeal spot. The legs were pink. The eye appeared small and dark, but viewing conditions were poor.

This gull was observed for about 45 minutes during periods of snow and blowing snow with strong winds off the lake. Jason Weckstein and others arrived in time to observe the gull as well. Although sightings of Great Black-backed Gulls have been increasingly common in Minnesota the past six years (six records in 1995 alone), this species is still considered casual (there were no records in 1989 and 1990). **Karl Bardon, 1430 – 100th Avenue NW #212, Coon Rapids, MN 55433.**

BAIRD'S SPARROW IN CLAY COUNTY — While driving the various back roads of Clay County on the bright morning of 6 June 1997, Paul Hertzel and I identified a singing Baird's Sparrow in the fields of the Felton Prairie. We had stopped our vehicle three miles north of Clay County Road 26 along what is known as the "Longspur Road" — a dirt road that runs north/south about 2 1/2 miles west of Clay County Road 27 — when we heard the distinctive song of the Baird's Sparrow.

My notes describe the song as "a few evenly spaced notes on the same pitch followed by a lively, ringing trill on a lower pitch." Cole Foster, who independently discovered this bird on 8 June, wrote in his discription that the song was "a very distinctive 'he he he hr-r-r-r-r-r-r-r-r-r'. The most distinctive portion of the song was the final note. I would describe this note as a rich, mellow, warbled trill, a couple of notes lower in pitch than the first three."

When both Paul and I concluded that the song we were hearing could belong to no other species, we decided to investigate further and wandered into the field in search of the singer. Soon the bird flushed from a clump of taller grasses and flew to a second nearby clump. In attempting to get good, close looks, Paul and I approached slowly and from different angles, hoping that at least one of us could get a definitive glimpse of this now obvious but furtive Baird's Sparrow.

After spending perhaps ten minutes of slow, tentative approach, it became clear the bird was confining itself to a specific territory, making guesses about where it would fly next a bit easier. Eventually we both were able to obtain good looks and recorded the following brief observations in our notes: Large light bill. Flat head, dark crown with buffy central stripe. Buffy wash to the face; dark spot behind the eye. Breast light with darker necklace. Brown back; short, rounded tail when seen in flight. Appeared slightly larger than a Grasshopper Sparrow.

This bird was seen by several other observers for about another week, when it apparently left the area. **Anthony Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112.**

RECORD HIGH PINE GROSBEAK COUNT AT HAWK RIDGE — On 3 November 1997 while conducting the raptor count at Hawk Ridge Nature Reserve, St. Louis County, I recorded an amazing single day count of 1,025 Pine Grosbeaks. This represent the highest daily count ever recorded in Minnesota and apparently exceeds the highest count for the entire Great Lakes Basin (800 at Manitoulin Is., Ontario on 5 November 1995, Robert B. Russell, Jr., unpub data). Another flight this season was also recorded on the 29 October when no fewer than 460 were counted. The weather on the 3rd had temperatures in the low

30s, winds at 10–20 mph from the north, and intermittent flurries. Birds were seen in groups of a few to as many as 30, often calling as they flew by. The grosbeaks were counted with a mechanical clicker by hour and the results are shown below.

Time	8–9	9–10	10–11	11–12	12–1	1–2	2–3	3–4
Number of birds	27	85	220	275	175	90	101	52

I've recorded yearly peaks of Pine Grosbeaks since I began counting raptors at Hawk Ridge in 1991 and the totals are as follows: 125 on 30 October 1991, 40 on 12 November 1992, 50 on 24 October 1993 (very few in both 1992 and 1993), 600+ on 8 November 1994, and 225+ on 4 November 1995. Thanks to Peder Svingen for reviewing this note. **Frank J. Nicoletti, 3128 Valet, Duluth MN 55804.**

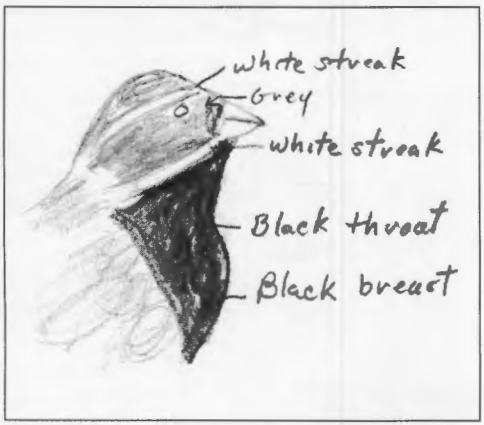
FIRST-YEAR LESSER BLACK-BACKED GULL IN ISANTI COUNTY — On 6 April 1997, a first-year Lesser Black-backed Gull was present in a field in Athens Township, Isanti Co., where it was observed feeding with numerous Ring-billed and a few Herring Gulls. I initially noticed this first-year gull because of the darker mantle color compared to first-year Herring Gulls also present. The mantle color was not the dark gray of typical second-year and older Lesser Black-backed Gulls, but definitely more brownish, although there may have been gray areas mixed in that were not visible to me because of the distance. The dark color of the mantle was more similar to its tertials and primaries compared to first-year Herring Gulls, giving much less contrast between the folded primaries, the tertials, and the mantle. In most first-spring Herring Gulls, the mantle is noticeably paler than the tertials and folded primaries, often appearing very pale grayish white with fine mottling. In addition, the lightly streaked head of this gull contrasted noticeably with the dark brown mantle, and there was a distinct cut-off between the upper edge of the mantle and the lower neck. In most Herring Gulls, the mantle is so pale at the top that there is little contrast with the lower neck. The folded primaries were dark brownish black.

In flight, I noticed that all the primaries and secondaries were uniformly dark, and that this bird therefore lacked the diagnostic paler inner primaries of first-year Herring Gulls. Also, in comparison to a first-year Herring Gull, the subterminal tail band was considerably thinner, slightly darker, more clean-cut, and contrasted more with the rump. The rump and basal portion of the tail were whitish. This bird looked remarkably different than a first-year Herring Gull in flight. Although this bird was larger than a Ring-billed Gull, it was noticeably smaller and slimmer than the Herring Gulls present. In flight, it was agile and long-winged. The bill was long, thin, and mostly blackish (perhaps with a slightly paler base), appearing overall smaller and darker than most first-spring Herring Gull's bills, although some first-spring Herring Gulls can show a mostly dark bill. Although this was my first sighting of a first-year Lesser Black-backed Gull, subsequent experience with young Lesser Black-backed Gulls on the East Coast completely confirmed the characters noted above.

There are now 29 records of the Lesser Black-backed Gull in Minnesota (each individual counted as a different record), and this species has now been seen for 11 years in a row. However, there are only two previous records of first-year Lesser Black-backed Gulls in Minnesota. These two records were on 28 November 1987 at Grand Marais, Cook Co. (***The Loon*** 60:40–41), and 31 March – 1 April 1992 at the Shiely Gravel Pits, Washington Co. (***The Loon*** 64:127). This represents the first record from Isanti Co. **Karl Bardon, 1430 – 100th Ave NW #212, Coon Rapids, MN 55433.**

BLACK-THROATED SPARROW IN MOWER COUNTY — *Description of the bird:* My observation and identification took place on 6 December 1997 within five feet of my bird feeding platform. It was seen three times through my glass door looking out over my backyard. The first time was around 10:00 A.M. The second time was around 11:30 A.M. and the third time was around 2:00 P.M. all within 5–10 feet of viewing. I did not need binoculars except when it flew up in a bush about 30 feet away.

The bird was feeding with 15–20 Dark-eyed Juncos just outside my back door. Once I saw the black throat, the two white streaks on the side of its head and the size I knew immediately it could not be a Harris's Sparrow or a House Sparrow. Over my 17 years of Christmas Bird Counts and spring bird-a-thons I have seen Harris's Sparrow infrequently but enough to be able to identify it readily. The House Sparrow, of course, I have seen many times too numerous to want to count.



The size of the bird was slightly smaller than a Dark-eyed Junco. The color on the back of the bird lent itself more towards brown then gray. Described below are the three very distinctive features that helped me identify the bird:

1) the black throat and breast, 2) the white line or streak going from the upper mandible of the beak over the eye towards the nape of the neck and ending there, 3) another white line or streak proceeding from close to the lower mandible, then crossing through the cheek and stopping at the end of the cheek. The head seemed a little grayer than the back of the bird. (These observations were made before ever looking into a book and trying to identify the bird.)

A drawing was done the day I put the report together and from memory. My memory, I believe, is pretty good because of the excitement of seeing the bird, the amount of time that I saw the bird, and the frequency of the sightings. I had some excellent looks at the bird. The distinctive features previously referred to were observed all three times. I heard no vocalizations.

Species similar to this bird and how eliminated from consideration: When I first saw this bird I had no idea what it was. I was able to eliminate immediately the Harris's Sparrow and the House Sparrow because of previous experience with these birds. I did have to drive to the nature center after my first sighting and get the western bird guide by Peterson to determine the name of the bird. When looking for the bird in the book I went to the family of the Fringiladacea. I was able to pick it out immediately. I also confirmed it in the Stokes *Field Guide To Birds, Eastern Region*. I then went home and saw it a second and third time again.

Field guides and references consulted: Stokes *Field Guide To Birds, Eastern Region*, and Peterson's *Field Guide to Birds, Western Region.*

Light conditions; bird/observer/sun orientation; time of day: Gray overcast day, 10:00 A.M., 11:30 A.M., and 2:00 P.M. Length of observation: 10:00 A.M. – ten minutes. 11:30 A.M. – five minutes, 2:00 P.M. – five minutes.

Habitat: Within ten feet of nearby native wildflower garden. Lots of shrubs in the back of our lot. There is a vegetable garden adjacent to the wildflower garden. **Larry L. Dolphin, 405 – 19th Street, Austin, Minnesota 55912.**

IMMATURE FERRUGINOUS HAWK IN AITKIN COUNTY — On Sunday morning, 24 August 1997, Bill Stauffer and I were birding at the Little Willow Wildlife Management Area, which is located about 16 miles north of the town of Aitkin just south of County Road 3. We had crossed over the bridge and were looking down the river when a large buteo flew in very low from behind us. The first thought from both of us was that the wings seemed longer and slimmer than that of a Red-tailed Hawk.

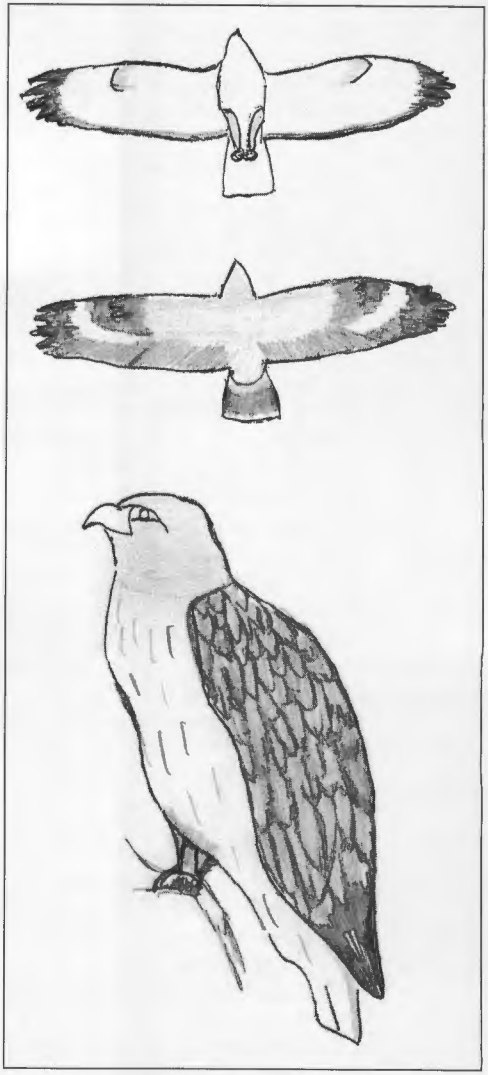
The hawk circled and banked low overhead several times. When it banked, there were conspicuous white patches on the upper wings near the ends. Also very conspicuous was the rust coloring in the upper wings. The rust coloring seemed brighter near the bend in the wings, but it extended across the wings from wing bend to wing bend in a paler rust color.

When banking, the tail appeared to be a pale rust color above with no obvious banding and with a small strip of white at the base of the tail. From below there was a very pale wash of rust at the bend in the underwings and also in the legs. Other than this pale wash, the hawk appeared almost white.

After circling for a few minutes above us, it landed in a dead tree about 150 feet away from us. The perched bird appeared to have a very pale gray colored head, a white belly and black wing tips. The back was a pale rust color and Bill noted that the feathers in the back had a very scalloped look to them so the rust seemed to stand out even more. The hawk sat there for several minutes before flying to another perch farther down the river.

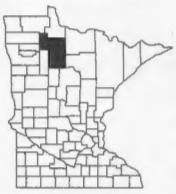
We were pretty confident that we had seen a Ferruginous Hawk but we consulted several identification guides to be certain. All of our notes and observations were consistent with an immature Ferruginous Hawk.

This is a rare occurrence for this part of the state, but checking with Robert Janssen's *Birds in Minnesota* shows that there have been several records for the central part of the state (Wadena, Morrison, Stearns, Aitkin, and in Duluth to mention a few). **Warren Nelson, 603 – 2nd St. NW, Aitkin, Minnesota 56431; Bill Stauffer, 4600 Meadow Rd, Edina, Minnesota 55424.**



Sketches of immature Ferruginous Hawk by Warren Nelson.

RED PHALAROPE AT LAKE BEMIDJI — I saw a Red Phalarope from about 7:45 A.M. to 8:00 A.M. on 30 October 1997 at the Northwoods public boat landing on the north end of Lake Bemidji off Beltrami County Road 21. This is about four miles north of downtown Bemidji. I stopped at the landing while on my way to work to scan the large raft of ducks visible from the county road. The temperature was about 35° Fahrenheit and the sky was overcast. As I looked with my binoculars through the many Common Goldeneyes for a different duck or two, a small shorebird floating on the water appeared from behind a Ring-billed Gull which was swimming in the midst of the ducks. The bird was turning around, although not rapidly and was immediately identifiable as a phalarope. I quickly pulled my scope out of the trunk and was able to get a good look at the phalarope which was only 30 to 40 yards away and which moved closer with the ducks as I watched.



The bird was about half the length of the gull near it and much less than half as heavily bodied. My notes taken while the bird was in view are as follows: "Obvious phalarope, some spinning in water, flash of yellow in bill, all gray back, bill about equal to or slightly longer than black eye stripe, white forehead." The bill was relatively thick, dark in most light and certainly no longer than the length of the head. The flash of yellow near the base of the bill was visible twice while I was watching the bird with the scope. It was hard to tell if the flash of yellow was from the upper or lower bill. There were no visible stripes on the solid gray back. The bird was whitish on the underparts and the forehead and the top of the head were white. A black stripe starting above the eye went down the nape and merged with the gray back in a blackish area. A black stripe through the eye or auricular was fairly broad and extended behind the eye and slightly downward. I did not see the bird fly and as I watched, the entire flock of about 100 birds or so moved several hundred yards into the lake. I was able to check field marks with my National Geographic *Field Guide to the Birds of North America* while the bird was visible.

I went back at noon to see if the bird was still present. There were then only about 70 birds there, all goldeneyes. One boat was out on the lake from the landing, and the few gulls, several Bufflehead and the phalarope which were present earlier were gone.

This is a first Beltrami County record for Red Phalarope and the ninth record for Minnesota. I have had the fortune of seeing many Red-necked Phalaropes over the last several fall seasons and the shortness and the thickness of the bill and the solid gray back separates this bird from the other phalarope species. **Doug Johnson, 7203 Tall Pines Road NE, Bemidji, MN 56601.**

GREAT BLACK-BACKED GULL IN DAKOTA COUNTY — On 26 November 1997, I was alerted to an extremely large gull seen at Black Dog Lake in Dakota County by one of the biologists at the Minnesota Valley National Wildlife Refuge. I decided to go down to that area to see if I could find the gull and identify it. I checked several field guides before I went there. The biologist said it was about twice the size of a Ring-billed Gull. The first-winter Great Black-backed Gull fit her description.

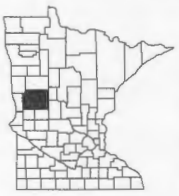
I arrived at Black Dog Lake at 2:30 P.M. and spotted a large gull among the numerous Ring-billed Gulls. I watched the bird through my Kowa TSN–2 with a 20–60 zoom. The bird was about 75 yards away. I did not have a field guide with me, but I took notes. When I returned home I checked with the Golden Guide, Peterson's *Field Guide to Eastern Birds*, the National Geographic guide and the *Ency-*

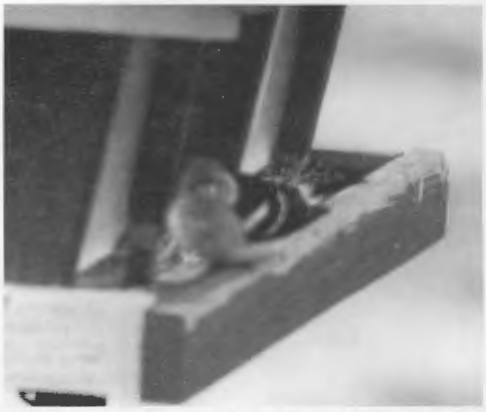
clopedia of North American Birds. I confirmed that the bird was a Great Black-backed Gull in first winter plumage.

Of course it didn't fit the pictures in all the guides exactly. The bird was close to double the size of the Ring-billed Gulls that were nearby. It had a noticeably large, blackish bill, but not completely so — the upper mandible near the nostrils was lighter. The bird was swimming against the current so I didn't get a good look at the tail. Its head was white with very light gray smudges behind the eye as in the Peterson's guide. The breast was white with fine brown vertical streaks. The back and sides were a checkerboard pattern with a darker brown pattern on the back. Wing tips were uniform charcoal black. I did not get a good look at the iris, though it appeared dark. I only saw the tops of the legs when it was standing in shallow water, but not enough to get a good reading on the legs. They were, however, light colored. I watched the bird for about a half an hour while it flicked its bill back and forth in the water almost like it was eating something. **Deanne Endrizzi, 1410 Raleigh Dr., Burnsville, MN 55337.**

Editor's Note: The Great Black-backed Gull was found dead at Black Dog Lake on 20 December 1997. *–KE.*

WESTERN TANAGER FOUND IN OTTER TAIL COUNTY — We initially received word about a Western Tanager in Otter Tail County through Dave Erwin, who had identified this bird in his yard and at his feeder. We phoned and Dave told us he had seen an unusual bird, had scoured his bird book to identify this bird, and (upon seeing this bird's range) was so sure nobody would believe him that he had taken pictures. The afternoon of the next day, Friday, 16 May 1997, we went to the Erwins' lake home on the south side of Deer Lake. They weren't home, and their feeders were empty, but the neighbors were out working in their yard.





Western Tanager, 15 May 1997, Deer Lake, Otter Tail County. Photo by Dave Erwin.

The neighbors told us they had for several days also observed an unusual bird with a distinctive red head. The bird had also been seen feeding beneath their feeders (tubes of sunflower and millet-based bird seed). They had also taken a photo. They were pretty sure it wasn't an oriole, but they hadn't dug out their bird guide yet this spring. They told us the bird had been showing up fairly reliably in the morning and evening.

Within ten minutes (about 5:00 P.M.), as we were watching a Baltimore Oriole in a tree at the perimeter of their yard, another oriole-sized bird showed up in the same tree. This bird then flew to a tree directly in front of us (near the feeders) and perched and foraged about 30 feet off the ground on a exposed branch. With our binoculars, we observed a male Western Tanager in good light at close range. For a total of about five minutes we were able to watch this bird which was in prime breeding plumage with the characteristic bright red head with yellow breast and body and black wings. We heard no vocalization, nor did we see a female. **Dan & Sandy Thimgan, RR 2 Box 33, Battle Lake, MN 56515.**

In This Issue

Purpose of the M.O.U.

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 to promote the preservation of birdlife and its natural habitat.

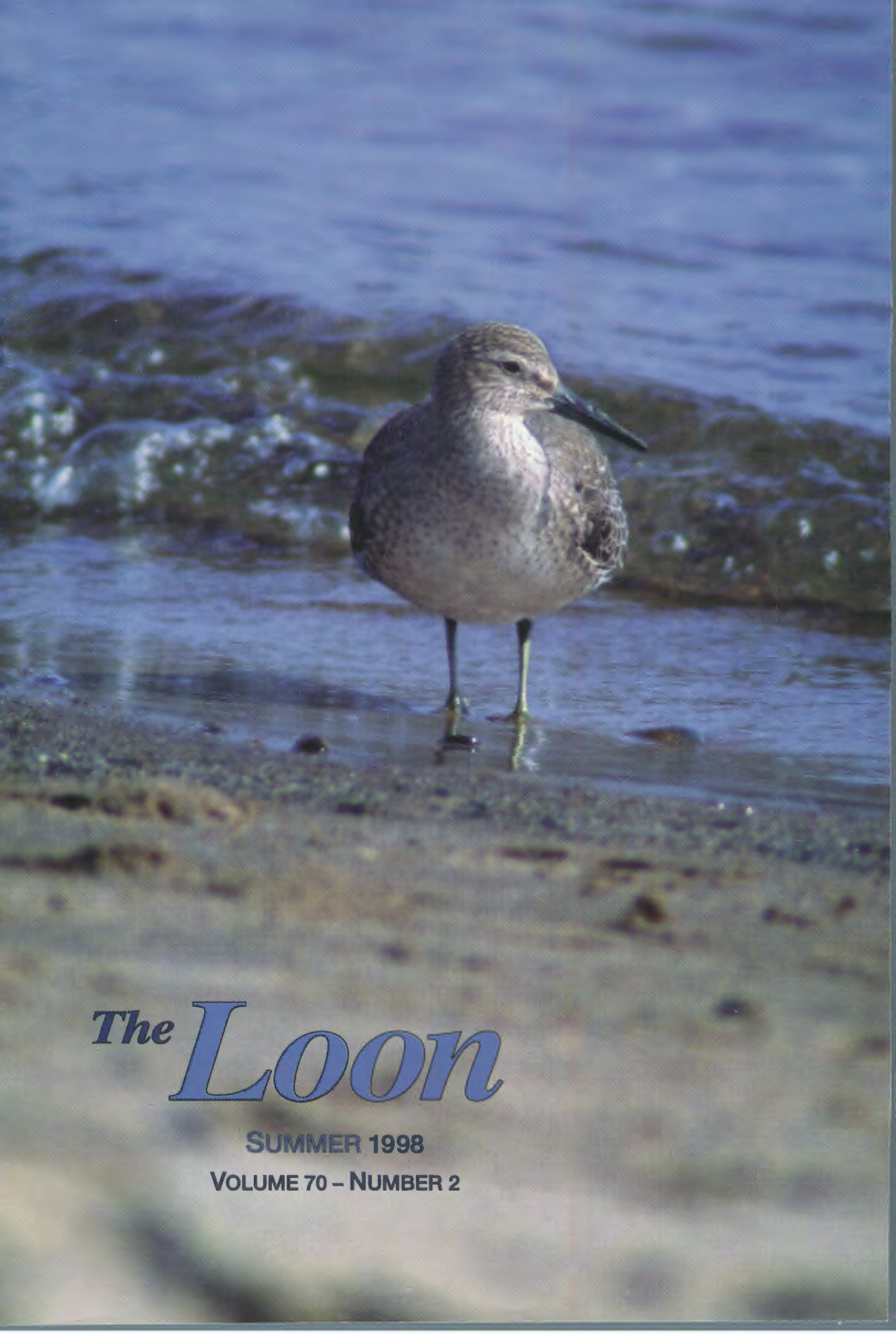
To carry out these aims, we: publish a magazine, ***The Loon***, and a newsletter, *Minnesota Birding;* conduct field trips; encourage and sponsor the preservation of natural areas; and hold seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from members, affiliated clubs and special gifts. The MOU wishes to point out 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*** welcome submissions of articles, "Notes of Interest" and color or black & white photographs. Submissions should be typed, double-spaced and single-sided. Notes of Interest should be less than two pages. Photographs should be 5"x7". Whenever possible, please include a copy of your submission in any standard format on any 3 ½ inch computer disk.

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

printed on recycled paper



The Loon

SUMMER 1998

VOLUME 70 – NUMBER 2

The Loon, Minnesota's magazine of birds, is published quarterly by the **Minnesota Ornithologists' Union**, the statewide bird club. Anyone interested may join. All members receive our two publications: ***The Loon*** and *Minnesota Birding.*

MOU PERMANENT ADDRESS:
J.F. Bell Museum of Natural History
10 Church Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455–0104

EDITOR OF *The Loon:*
Anthony X. Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112. Published quarterly.

ASSOCIATE EDITORS OF *The Loon:*
Parker Backstrom, Karl Bardon, Kim Eckert, Bruce Fall, Robert B. Janssen, Warren Nelson, Peder Svingen, Harrison Tordoff, Nancy Weber.

EDITOR OF *Minnesota Birding:*
Jim Williams, 5239 Cranberry Lane, Webster, WI 54893. Published bi-monthly.

MEMBERSHIPS:
Yearly donations to join the MOU: Single: $20; Youth (through age 17) $15; Family $30; Supporting $50; Life $400. Canadian and Foreign Subscriptions $25. Also available are back issues of ***The Loon*** ($4 each ppd.) and checklists of Minnesota birds (minimum lots of 20 for $5 ppd.).

MINNESOTA BIRD REPORTS:
Statewide 612-780-8890
Duluth 218-525-5952

MOU E-MAIL ADDRESS:
mou@biosci.cbs.umn.edu

MOU INTERNET WEB SITE:
http://biosci.cbs.umn.edu/~mou/

MOU OFFICERS

PRESIDENT: Ann Kessen, 31145 Genesis Ave., Stacy MN 55079
MEMBERSHIP SECRETARY: Elizabeth Bell, 5868 Pioneer Rd S, St. Paul Park MN 55071
RECORDING SECRETARY: Al Batt, RR 1 Box 56A, Hartland MN 56042
TREASURER: Mark Citsay, 210 Mariner Way, Bayport MN 55003

MOU COMMITTEES AND CHAIRPERSONS

CONSERVATION COMMITTEE CHAIR: Robert Holtz, 668 Overlook Drive, Roseville MN 55113
MINNESOTA ORNITHOLOGICAL RECORDS: Kim Eckert, 8255 Congdon Blvd., Duluth MN 55804
NOMINATIONS: Paul Egeland, 8633 Harrison Circle, Bloomington MN 55437
PAPER SESSION: Carrol Henderson, 640 119th Lane NE, Blaine MN 55434
RESEARCH/RECORDS: Karl Bardon,1430 – 100th Ave. NW, #212, Coon Rapids MN 55433
SAVALOJA MEMORIAL FUND: Kim Risen, 2749 Virginia Ave. N #1, New Hope MN 55429
SLIDE LIBRARY: Richard Sandve, 5101 Vincent Ave. S, Minneapolis MN 55410

AFFILIATED CLUBS OF THE MINNESOTA ORNITHOLOGISTS' UNION

AGASSIZ AUDUBON SOCIETY – *President:* Gladwin Lynne, 523 Montanna, Warren MN 56762
ALBERT LEA AUDUBON SOCIETY – *President:* Al Batt, Rt 1 Box 56A, Hartland MN 56042
AUDUBON CHAPTER OF MINNEAPOLIS – *President:* Mary Ellen Vetter, 2536 Brookdale Lane, Brooklyn Park MN 55444
AUSTIN AUDUBON CHAPTER – *President:* Richard Smaby, 601–17th St. SW, Austin MN 55912
BEE NAY-SHE COUNCIL – *President:* Hulda Lind, Rt. 2, Box 2980, Palisade MN 56469
CENTRAL MINNESOTA AUDUBON SOCIETY – *President:* John Peck, 12299 Sauk River Rd., St. Cloud MN 56301
COTTONWOOD COUNTY BIRD CLUB – *President:* Ernie Neufield, Box 53, Mountain Lake MN 56159
DULUTH AUDUBON SOCIETY – *President:* Bruce Munson, 219 Fairmont St., Duluth MN 55803
FARGO-MOORHEAD AUDUBON SOCIETY – *President:* Robert O'Connor, 1353 – 4th St. N, Fargo ND 58102
HIAWATHA VALLEY BIRD CLUB OF WINONA – *President:* Carol Schumacher, 141 Skyline Dr., Winona MN 55987
JACKSON COUNTY BIRD CLUB – *President:* Mary Jo Christopherson, P.O. Box 806, Lakefield MN 56150
LAKES AREA BIRDING CLUB – *President:* Jim Holter, RR 2 Box 239, Detroit Lakes MN 56501
MANKATO BIRD CLUB – *President:* Cathie Atchley, 532 South Ave., North Mankato MN 56003
MINNEAPOLIS AUDUBON SOCIETY – *President:* Barb Galambos, 4375 Wooddale Ave. S, Minneapolis MN 55424
MINNESOTA BIRDING NETWORK – *E-mail:* wncarols@vax2.winona.msus.edu
MN RIVER VALLEY AUDUBON CHAPTER – *President:* Lois Norrgard, 10368 Columbus Circle, Bloomington MN 55420
MISSISSIPPI HEADWATERS AUDUBON SOCIETY – *President:* Leon L. Johnson, 12769 Irvine Ave. NW, Bemidji MN 56601
RICE COUNTY BIRD CLUB – *President:* Dan Milbert, 22425 Dahle Ave., Faribault MN 55021
ROSEVILLE BIRD CLUB – *President:* Margaret E. Kehn, 988 W Country Road D, St. Paul MN 55112
SAINT PAUL AUDUBON SOCIETY – *President:* Dorothy Waltz, 2095 Delaware Ave., Mendota Heights MN 55118
SOUTHWEST MINNESOTA WARBLERS BIRD CLUB – *President:* Jackie Mayer, 418 N 5th St. Marshall MN 56258
ZUMBRO VALLEY AUDUBON SOCIETY – *President:* Joel Dunnette, 4526 County Road 3 SW, Byron MN 55920

ISSN 0024–645X

Obituary
Leata Pearson 1918–1998

Bonnie Mulligan

Leata Pearson began birding in her 60s, a time in life when most people slow down. It was the 1970s when Kim Eckert arrived in Duluth and began offering birding classes. Leata attended faithfully, occasionally one of only two participants. With this foundation for her new found interest, Leata became a regular in the birding community of Duluth. She played an active role in Duluth Audubon and Friends of Hawk Ridge.

She began a Minnesota life list, joined the MOU, and signed on for numerous Minnesota Birding Weekends. Her list numbered over 300, and she could recall the exact place and date of each without referring to her notes.

My first extended time with Leata was on a trip to southeastern Arizona. She was the senior member of a group of seven, but the age difference was not apparent. She hiked up Shelite Canyon for the Spotted Owl, pausing only for a binocular view of some passing bird. We saw 11 owl species on that trip, one of her favorite memories.

A few years ago Leata was diagnosed with two illnesses. The first was macular degeneration, which robbed her of most of her sight. Next came the cancer, with surgery and several regimens of chemotherapy. Still, Leata continued to bird by song rather than by sight. She diligently studied bird tapes.

She was a longtime member of a Hawk Ridge birdathon team with Dick Sandve, Charlie Greenman, and me. By using her ears she was a solid contributor to our total. Even with very limited vision she also took command of our route, navigating us around even the most confounding roads in the Duluth area. The Sunday following the event she always opened her home for brunch and the bird count.

Plans for her to participate in this year's birdathon were made, then changed due to a recurrence of her illness. She birded from her home and contributed to our total.

Her team, along with Kim Eckert, visited her the Sunday following the birdathon. She was seated in her usual chair, greeted us warmly, immediately began asking questions about the count, the birds seen, and the winning team.

Leata spoke of trips outside of Minnesota. A California trip began with Life List number 500 for her, a Heerman's Gull. She planned to bird Alaska with friends until she heard they were "sleeping on the ground and eating tuna from cans in their pockets". Instead she signed up with Wings for "something more luxurious". There was the trip to Newfoundland with Mike Mulligan for the Rock Ptarmigan. Leata, now in her 70s, made the grueling climb up Gros Morn. Near the summit they found the trail blocked by a huge wall of snow marked with evidence of the birds, but no ptarmigan.

There were vignettes from the annual trip at the end of October from Duluth to Grand Marais. Participants brought muffins and other goodies. Food preferences competed with the rarities this time of year usually produced by the North Shore. Leata always got the big corner room at the East Bay Motel so she could host the evening gathering for snacks and the bird count.

Leata died 5 June 1998, ten days after her 80th birthday.

She demonstrated that if you want to

do something, spirit overcomes age. Birding enriched her life. Every trip was, for her, an adventure and a success because it involved both birds and birders. The check marks on her list were encircled by people. This provided her with a storehouse of memories to be taken out and savored during the difficult times. For her, these came with her blindness and illness. Even then she chose involvement and continued to participate in the sport. She connected with the birds by ear, the people by heart. Leata once remarked, "the best thing about birding is the people you meet".

Her funeral service was held in the yard at her home on the banks of the St. Louis River. Chairs were set up and Beethoven's 9th Symphony was played. The birders gathered together and shared their thoughts. Feeders were everywhere and birds were plentiful. Almost without thinking, we started a bird list. Family members spoke of her as a mother of seven and as an activist, devoting time and energy to causes of social justice and peace. I had been asked to talk about Leata's birding adventures. As I began speaking, I became aware that many people's attention was directed over my left shoulder. I turned and looked up at the patch of blue, framed by spring-green leaves. A bird's long dark wings and white head and tail were silhouetted against the spring sky. The eagle circled over us, then drifted beyond the trees.

For a moment, time was suspended and we were linked together in feeling. The group in her yard was gathered together by Leata's presence one last time.

11421 Live Oak Road, Minnetonka, MN 55305.

Nesting and Migration of Swainson's Hawks in Minnesota

Mark Martell[1], Serena Willey[1], and John Schladweiler[2]

Swainson's Hawks (*Buteo swainsonii*) nest on the grasslands of North America from southern Canada into north central Mexico (Johnsgard 1990, England *et al.* 1997). Their breeding range extends eastward into Minnesota where they have been reported nesting in the western and southern parts of the state, east to Dakota County (Johnson 1982, Janssen 1987). Nothing has been reported on migration routes and destinations of Minnesota Swainson's Hawks and little is known about various aspects of their breeding biology in the state. Roberts (1932) considered them regular "summer residents", Schneider and Kneeskern (1975) considered them "common" in the western third of the state, and Johnson (1982) listed 27 nesting records from 1879 to 1981 and believed that there always had been "a small undiscovered" nesting population in the prairie region of the state.

Swainson's Hawks are susceptible to population level threats: 1) they nest in grassland habitats, among the most threatened in North America; 2) they are Neotropical migrants, wintering in the pampas of Argentina; and 3) they feed high on the food chain, making them

Table 1. Nesting records of Swainson's Hawk in Minnesota, 1981–1996, excluding this study.

Date	County	Source
Summer 1981	Lyon	***The Loon*** 54:17
Summer 1981	Lac Qui Parle	***The Loon*** 54:17
Summer 1981	Rice	***The Loon*** 54:17
Spring 1981	Mower	DNR Natural Heritage Files
Summer 1982	Mower	***The Loon*** 55:54
Summer 1984	Dakota	***The Loon*** 57:41
Summer 1987	Mower	***The Loon*** 60:20
Summer 1988	Fillmore	***The Loon*** 61:22
Summer 1988	Mower	***The Loon*** 61:22
Summer 1989	Fillmore	***The Loon*** 62:25
Summer 1991	Fillmore	***The Loon*** 64:23
Summer 1992	Dakota	MOU Files
Summer 1992	Kittson	MOU Files
Summer 1992	Red Lake	***The Loon*** 65:19
Summer 1994	Lac Qui Parle	***The Loon*** 67:23
Summer 1996	Big Stone	***The Loon*** 69:16

susceptible to pesticide and other contaminant threats. England *et al.* (1997) stated that Swainson's Hawks had declined significantly in western United States and that reproduction in Canada had decreased since the 1980s. The species is currently listed as "Special Concern" in Utah, Nevada, Oregon, and Washington, but not in Minnesota. International concerns for the future of Swainson's Hawks have been raised recently (Line 1996) due to the documented population declines on the Canadian prairies (Houston and Schmutz 1995) and heavy mortality from pesticides on Argentinean wintering grounds (Woodbridge *et al.* 1995).

Woodbridge and Bechard (pers. com.) reported finding over 700 dead Swainson's Hawks in Argentina in January 1995, and 5,000 in 1996, poisoned by pesticides used to control grasshoppers. It is not known if any of the dead hawks were from Minnesota.

We began studying Swainson's Hawks in Minnesota in 1996 to find out if the heavy mortality in Argentina might affect the Minnesota breeding population. We have continued the study through 1997 and 1998 to determine migration routes, wintering areas, and breeding population parameters of Minnesota Swainson's Hawks. Our work has been closely coordinated with that of other North American biologists working on satellite tracking, wintering behavior, and contaminant studies of Swainson's Hawks in the United States, Canada, and Argentina.

Our research objectives were to determine for Minnesota Swainson's Hawks: 1) migration routes, timing, and wintering areas; 2) nesting density; 3) productivity; and 4) description and evaluation of nesting habitat.

Methods

Historical Records. We searched the published literature and the files of the Minnesota Ornithologists' Union and the Minnesota Department of Natural Resources Natural Heritage Program since 1981, combining this with Johnson's 1982 list to establish the historical record of Swainson's Hawks in Minnesota.

Study Area. We trapped, banded, and attached radios at nests in western and

Table 2. Locations of known Swainson's Hawk nest sites in Minnesota, 1996–1997.

Nest site	Year	County/ Study Area	Township–Range–Section	Latitude/Longitude
LIN01	1996–97	Lincoln SA 1	T109N R45W S3W	LAT 44° 16.256' N LON 96° 22.922' W
LIN02	1997	Lincoln	T111N R45W S6	LAT 44° 27.296' N LON 96° 19.096' W
LIN03	1997	Lincoln	T110N R45W S30	LAT 44° 17.963' N LON 96° 18.167' W
LIN04	1997	Lincoln SA 1	T109N R46W S12	LAT 44° 15.442' N LON 96° 19.678' W
LIN05	1997	Lincoln SA 1	T109N R46W S28	LAT 44° 12.840' N LON 96° 23.946' W
LQP01	1996	Lac Qui Parle	T119N R45W S09	- - - - - - - -
MUR01	1997	Murray SA 2	T107N R43W S19	LAT 44° 03.700' N LON 96° 02.869' W
MUR02	1997	Murray SA 2	T106N R43W S31	LAT 43° 56.771' N LON 96° 02.635' W
MUR03	1997	Murray SA 2	T106N R43W S34	LAT 43° 56.550' N LON 95° 59.724' W
MUR04	1997	Murray	T106N R42W S10	LAT 43° 59.690' N LON 95° 52.738' W
MUR05	1997	Murray	T105N R41W S32	LAT 43° 51.606' N LON 95° 47.428' W
PIP01	1996	PipestoneSA2	T106N R44W S24	LAT 43° 58.292' N LON 96° 03.961' W
PIP02	1997	Pipestone SA2	T107N R44W S23	LAT 44° 03.572' N LON 96° 05.854' W
PIP03	1997	Pipestone	T108N R44W S21	LAT 44° 09.024' N LON 96° 07.793' W
PIP04	1997	Pipestone SA1	T108N R45W S2	LAT 44° 11.642' N LON 96° 13.366' W
PIP05	1997	Pipestone SA1	T108N R45WS24	LAT 44° 09.101' N LON 96° 12.166' W
PIP06	1997	Pipestone SA1	T108N R45W S6	LAT 44° 11.737' N LON 96° 18.277' W
PIP07	1997	Pipestone SA1	T108N R46W S21	LAT 44° 08.455' N LON 96° 22.451' W
PIP08	1997	Pipestone SA1	T108N R46W S14	LAT 44° 09.458' N LON 96° 19.779' W
PIP09	1997	Pipestone SA2	T107N R44W S2	LAT 44° 05.900' N LON 96° 05.190' W
PIP10	1997	Pipestone SA2	T107N R44W S12	LAT 44° 05.571' N LON 96° 04.236' W
PIP11	1997	Pipestone SA2	T106N R44W S7	LAT 44° 00.464' N LON 96° 09.931' W
PIP12	1997	Pipestone	T107N R45W S26	LAT 44° 02.535' N LON 96° 12.708' W
PIP13	1997	Pipestone SA2	T107N R44W S35	LAT 44° 01.795' N LON 96° 06.195' W
STV01	1996	Stevens	T123N R41W S24	- - - - - - - -
WAS01	1997	Waseca	T108N R22W S7	LAT 44° 10.708' N LON 93° 30.609' W
WSH01	1997	Washington	T127N R21W S27	LAT 44° 48.248' N LON 92° 55.459' W
WIN01	1997	Winona	T105N R10W S35	LAT 43° 50.809' N LON 91° 58.982' W

SA1 – Study area 1
SA2 – Study area 2

southeastern Minnesota in 1996 and 1997. In 1997 we searched intensively for nests on two study areas totaling 298 sq. mi. in southwestern Minnesota. Study Area 1 included Verdi and Lake Benton Townships in Lincoln County and Altona and Fountain Prairie Townships in Pipestone County. Study Area 2 was comprised of Rock and Burke Townships, Pipestone County, and Cameron and Chanarambie Townships, Murray County. These areas are in the Coteau des Prairies region, historically part of an extensive tallgrass prairie ecosystem (Wendt 1984) converted to agriculture in the 19th century for row crops (mostly corn, soybeans, grains) and pasture. We also checked all reports of Swainson's Hawks nesting in Minnesota outside of the study areas.

Surveys/Nest Location. We searched the study areas for nests intensively from 16 June to 27 August 1997, slowly driving 624 miles of section roads at least twice in the period while scanning for hawks and nests. At superior viewing locations, such as hilltops, we searched the sky for soaring birds. Large tree lots which appeared to have suitable habitat not visible

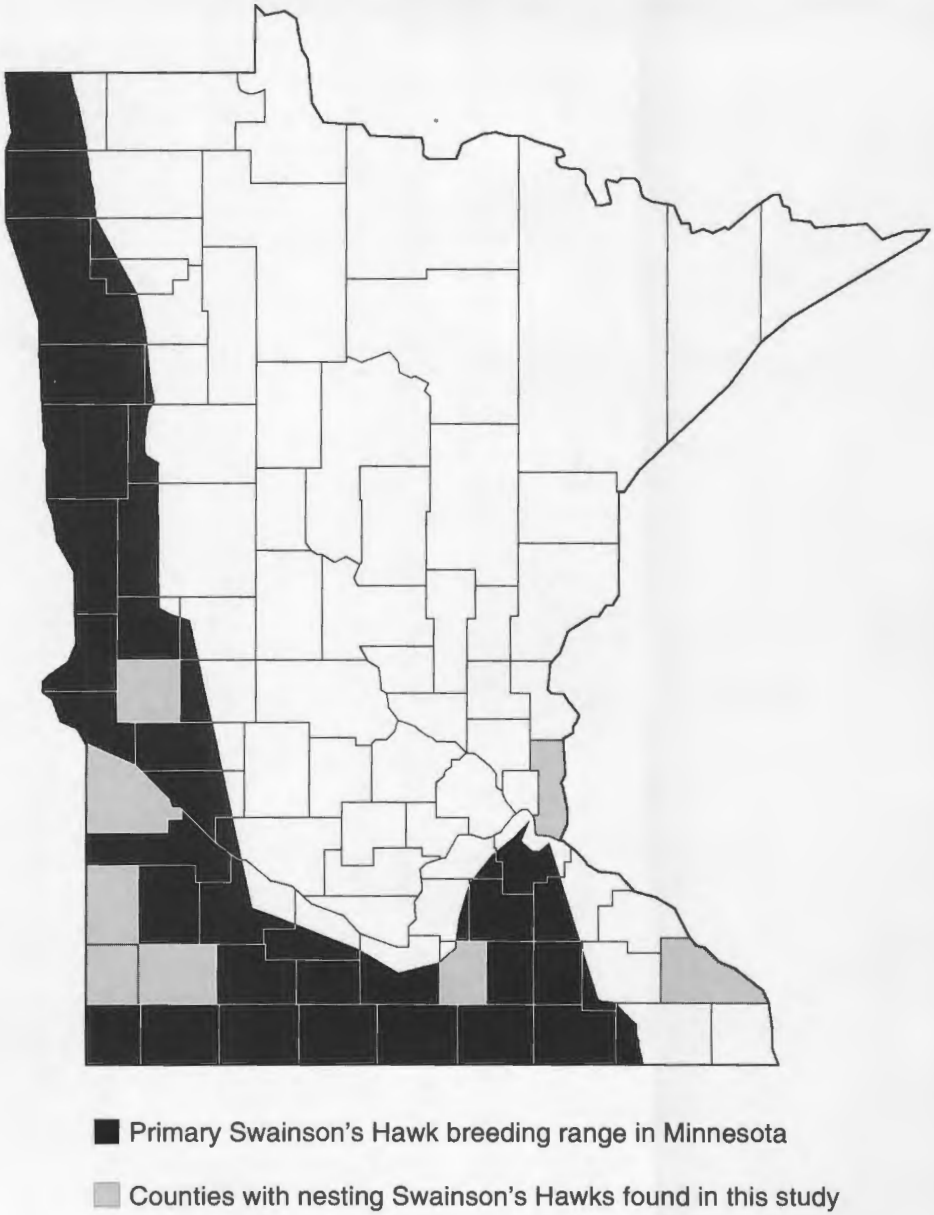


Figure 1. Breeding range of Swainson's Hawk in Minnesota (after Janssen 1987).

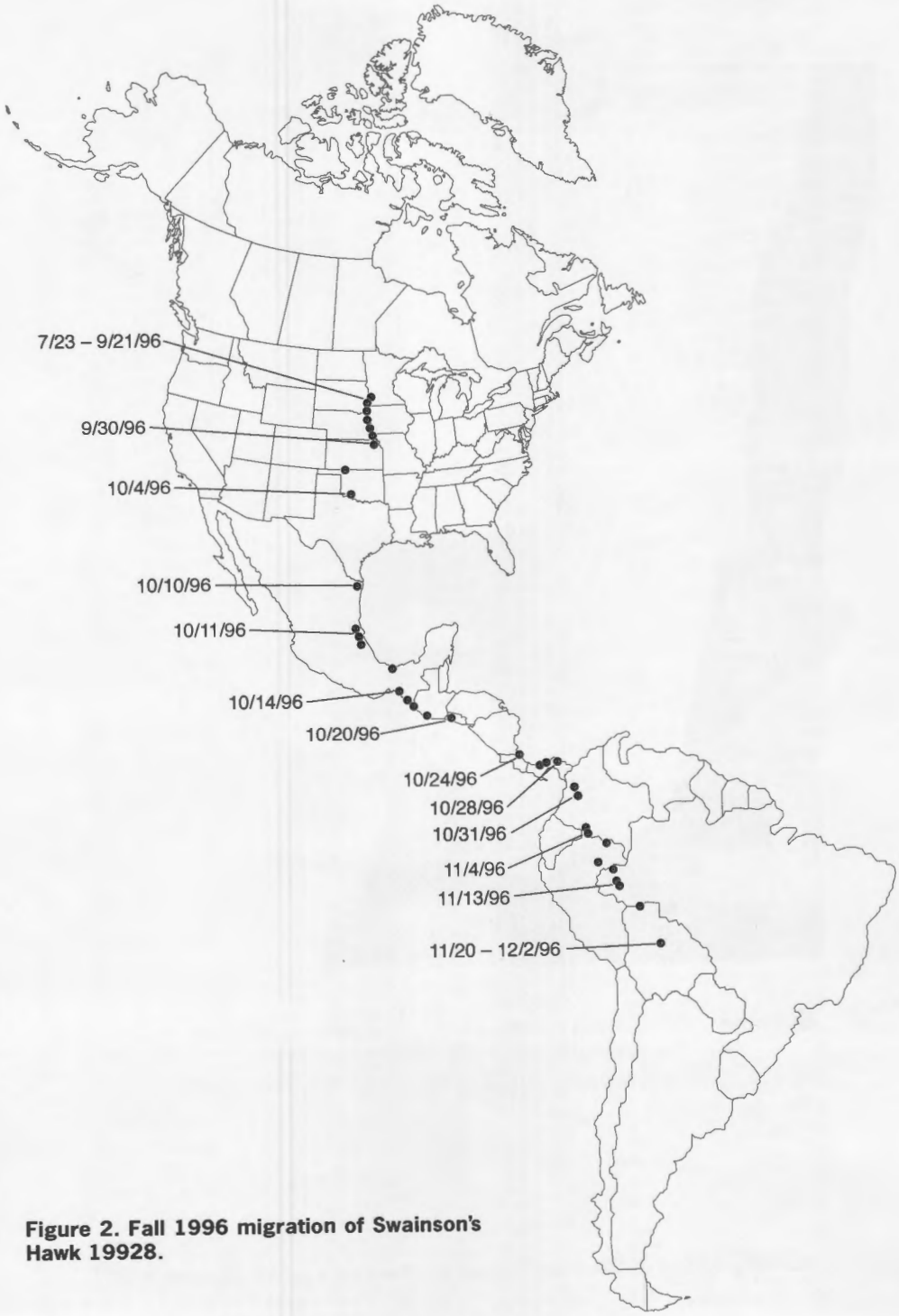


Figure 2. Fall 1996 migration of Swainson's Hawk 19928.

from roads were searched on foot.

Hawk behavior suggesting nesting included scolding by adults, soaring or hovering consistently over the same tree lot, flying to nests to incubate or feed chicks, and brooding, shading, or incubation at a nest. Hawk droppings and downy feathers near nests were also useful indicators of nest activity. When we located Swainson's Hawks not showing nesting behavior, we searched neighboring tree stands and checked the area on subsequent days. Each active nest site was given a unique five-digit code; the first three letters indicate the county, followed by a number assigned sequentially as the sites were identified.

Productivity. We determined productivity by counting nestlings from the ground. A nest was deemed "successful" when nestlings reached bandable age (about 28 days), in lieu of fledging which is difficult to verify.

Trapping, Banding, and Telemetry. We trapped and banded adult Swainson's Hawks on their territories, luring them into nets with owl decoys. Only females weighing more than 1000 grams were fitted with transmitters for satellite tracking, to avoid burdening lighter birds with the radio package. A satellite-tracked radiotelemetry unit (PTT) weighing approximately 30 grams was placed on the back of the bird with Teflon ribbon in a standard backpack configuration (Kenward 1987). Packages of the same weight and dimensions were tested on captive Red-tailed Hawks (*Buteo jamaicensis*) and Ospreys (*Pandion haliaetus*) to ensure that the units would cause no short- or long-term physical injury. All capture, handling, and PTT placement methods were reviewed and approved by the University of Minnesota Animal Care Committee.

Habitat. At each territory, we described the nest site and the tree species used.

Results and Discussion

Nest Location and Chronology. We located 16 nesting records for the years 1981 to 1996 from nine Minnesota counties from the files of the Minnesota DNR, the MOU, and ***The Loon*** (Table 1). In addition, we found 28 Swainson's Hawk nests in eight counties, four in 1996 and 25 in 1997; one site was active both years (Table 2, Figure 1). In 1997, each study area had eight nests, while six more were found in southwestern Minnesota (with the assistance of Bob Osborne and Ken Higgins) outside of the study areas. We also located two sites in 1996 and three in 1997 where adults and/or juveniles were seen but nesting was not confirmed.

Three nests were found in southeastern Minnesota, two by Carol Schumacher and one by Tom Bell and Elizabeth Bell. A nest found in Winona County by Carol Schumacher (WIN01) is the easternmost nest reported for the state and extends eastward the range boundary for the species, shown by Janssen (1987) (Figure 1) to run through Dakota and Mower counties. Perhaps this easterly range extension has occurred recently, as Roberts (1932) did not report Swainson's Hawks nesting in eastern Minnesota. Since 1932, Schneider and Kneeskern (1975), Johnson (1982), and others (Table 1) have reported nesting in southeastern Minnesota.

The 16 historical records (Table 1) combined with those in Johnson's 1982 report total only 43 nests from the state since the late 1800s, a surprisingly low number. Probably few observers and low importance placed on monitoring this species kept the number of reports low. Roberts (1932) considered the Swainson's Hawk common, second on the Minnesota prairie only to the Northern Harrier (*Circus cyaneus*). The 25 nests we located in 1997 are the most recorded in the state in any one year. Unfortunately, the lack of adequate historical data makes analysis of population trends and range changes difficult and unreliable.

In 1997, adults were already on nests by 16 June (our first day of observation). Nestlings were observed between 20 June and 7 August. Fledglings were observed between 24 July and 27 August (the *last* day of fieldwork).

Figure 3. Fall and Spring migration of Swainson's Hawk 19229.

Population Density and Nearest Neighbor Distance. Swainson's Hawk nesting density on Study Area 1 (n=8) was 0.02 nests per sq. km. (0.052/sq.mi.) or one nest/50.2 sq. km. (1/19.3 sq. mi.), and on Study Area 2 (n=8) was 0.021 nests/sq. km. (0.056/sq.mi.) or one nest/46.8 sq. km. (1/18 sq. mi.). For both study areas combined, nesting density (n=16) was 0.021 nests per sq. km. (0.054/sq.mi.) or one nest per 48.5 sq. km. (1/18.7 sq. mi.) Nearest neighbor distances (n=16) ranged from 1.41 km. (0.86 mi.) to 6.47 km (4.01 mi.), mean of 3.86 km. (2.35 mi.).

Nesting densities on our study areas (1 nest/48.5 sq. km.) are lower than reported by most other studies of this species, and are comparable with densities reported from sagebrush and juniper habitats or unsuitable agricultural areas. The mean nearest neighbor density of 3.86 km. recorded by us in 1997 is higher than those reported by England *et al.* (1997) from seven other studies. Accuracy of nesting density data depends on having found all or most of the nests in an area. We think we did a thorough job of locating nests in our study areas, but we cannot claim to have found all nests. Having started late in the breeding season (June 15), we probably missed nests that failed early (which would also inflate our percentage of successful nests). We found two broods after discontinuing intensive searches; others may have been missed.

Productivity and Mortality. In 1997, 19 of the 25 known nest sites (76%) were successful. Thirty-three young were seen and 28 reached bandable age (approx. 28 days), resulting in 1.12 young per active nest and 1.47 young per successful nest. Within the two study areas, 63% were successful (n=16), producing 1.0 young per active nest, 1.6 young per successful nest.

The percentage of successful nests (76%) found in our study is similar to the 81.3% reported from eastern Washington, 71.2% from southeastern New Mexico, and 76.5% from southeastern Idaho (England *et al.* 1997). The numbers of young fledged per active nest (1.12) and per successful nest (1.47) are low compared with other studies (England *et al.* 1997). Low productivity in Swainson's Hawks is thought to be related to low prey availability (Andersen, 1995, England *et al.* 1997).

Nest LIN01 was successful in 1996, and the female, carrying the PTT attached in 1996, was seen sitting on the nest in June 1997. In July 1997, a raccoon was seen sleeping in the nest. Both adults were in the area in subsequent visits, but not on the nest. England *et al.* (1997) in their review of Swainson's Hawks did not report predation by raccoons, although other predators of both adults and young were noted.

One dead chick was found at the base of the nest tree at LIN05, cause of death unknown. One adult was found dead on the shoulder of Highway 30 in Murray County within 0.5 km. of MUR04.

While we have documented for the first time a sizeable nesting population of Swainson's Hawks in western Minnesota, our results indicate that it exists in low density and has low productivity, although the percentage of successful nests is similar to other areas. If southwestern Minnesota is sub-marginal habitat for Swainson's Hawks, it is not clear if this is a result of intensive agriculture in the area, or the result of this population's position near the edge of the species' range.

Other studies of Swainson's Hawks (Andersen 1995, Gilmer and Stewart 1984) have shown great year-to-year variation in both nesting density and productivity, suggesting caution in viewing our data from only one year of study in one part of the state.

Nesting chronology in our study has to be determined by back-dating because of our late start. We saw the first nestlings from the ground in late June; calculating backwards, using incubation time of 34 days (Olendorff *in* England *et al.* 1997) and assuming that chicks were about ten days old when first seen, egg-laying must have occurred in mid-May. Roberts (1932) reported eggs in nests on 12, 23,

26 May and 11 and 19 June in western Minnesota, and Schneider and Kneeskern 1975) reported incubation beginning between 16 – 21 May in southeastern Minnesota.

Trapping, Telemetry, Migration. In 1996, we trapped and banded four adults and fitted two of the females (LIN01 and PIP01) with PTTs. In 1997, seven adults were trapped and banded and three of the females (PIP03, PIP10, WAS01) were fitted with PTTs.

In 1996, migration began around the third week of September, with the tracked birds heading south through Nebraska, Kansas, and into Texas where they joined the path of the western North American breeding Swainson's Hawks near Brownsville. Their migration took them through Mexico, across the Isthmus of Tehuantepec, Central America, Colombia, and Peru. Contact was lost with PIP01 in Bolivia around 1 December after she traveled 8,410 km. (5,213 mi.) in 60 days, an average of 140 km. per day (Figure 2). She was not seen at her breeding area in 1997 and is presumed dead. LIN01 was tracked to Argentina, arriving on the wintering grounds around 18 November, a journey of 10,040 km. (6,224 mi.) in 48 days, an average of 209 km. per day (Figure 3). She remained in Argentina until the fourth week of February, then began the return journey north, arriving in Minnesota the first week of May after traveling an average of 137 km. per day. We found her nesting at the same site she used in 1996. Timing, distance traveled, and distance per day for the Minnesota birds were similar to those reported from western Canada (Schmutz *et al.* 1996, reported in England *et al.* 1997).

Habitat and Land Use. Swainson's Hawk nests were in small woodlots, shelterbelts, and lone trees in or near areas of intensive agriculture. Eleven nests were in cottonwood, seven in ash, two in box elder, one in spruce, and one in red pine. The use of agricultural areas by Swainson's Hawks has been reported from other parts of North America (England *et al.* 1997). Foraging mostly on insects and small mammals, Swainson's Hawks do well where wheat and alfalfa are grown, but poorly where row crops or grasses grow too tall for efficient foraging (England *et al.* 1997). Planting of trees in shelterbelts and around farmsteads is thought to have benefited this hawk. Schneider and Kneeskern (1975) reported that the nests they found in southeastern Minnesota were in the tallest trees in the area, in riparian forests typical of the area. Reports from other areas in North America also indicate a preference for nesting by this species in trees that are solitary or in a grove or shelterbelt.

Summary and Conclusions

Care must be taken when drawing conclusions from a preliminary report with limited data, but some observations can be made. Firstly, our data confirm that there is a breeding population of Swainson's Hawks in southwestern Minnesota, and it is larger than previously documented. We found nesting birds in the southeast, also documented in the past, although their numbers and density remain unknown. Secondly, our telemetry data show that at least some Minnesota Swainson's Hawks migrate to and spend the winter in the Argentinean pampas. This places them, along with other North American Swainson's Hawks, in an area where well documented pesticide threats exist (Woodbridge *et al.* 1995). Although steps have been taken to reduce the use of the pesticides implicated in previous mass poisonings, and no mass deaths were recorded in the winter of 1996–97, it is unlikely that this danger has totally disappeared.

While existing data are inadequate to indicate a change in numbers of breeding Swainson's Hawks in Minnesota, continued monitoring is necessary. Low breeding density, low productivity, potentially high winter mortality, and documented declines in other populations of the species are reasons for concern. Monitoring nest reuse, adult mortality, and popula-

tion productivity on the study areas we have established, and initiating surveys in other parts of Minnesota would help track this population. Continued monitoring by satellite telemetry of migration routes and wintering areas is needed to confirm the pattern suggested by the few birds tracked thus far.

Acknowledgments

This project has been a cooperative effort between The Raptor Center at the University of Minnesota, the Nongame Wildlife Program of the Minnesota Department of Natural Resources, and the Fisheries and Wildlife Cooperative Research Unit at the University of Minnesota. We thank Joel Anderson, Carol Schumacher, Tom and Elizabeth Bell, Bob Osborne, and Ken Higgins for helping to locate and monitor nests. Bob Janssen provided access to the records of the Minnesota Ornithologist's Union, and Jim Fitzpatrick helped with technical assistance. Bill Lane, David Stemper, and Matt Solensky provided essential assistance in the field. Matt Solensky assisted in data analysis and map production. Harrison Tordoff made many helpful comments on an earlier draft which are appreciated. We also thank David Andersen, Marc Bechard, and Mark Fuller for advice and encouragement.

Partial funding for this project was approved by the Minnesota Legislature ML95 Chap. 220, Sect. 19, Subd 6g, and ML97 Chap 216, Sect. 15, Subd. 13I, as recommended by the Legislative Committee on Minnesota Resources (LCMR). Additional funding was provided by: Special Projects Foundation of the Big Game Club, Wallace Dayton, Douglas and Shirley Dayton, Minnesota Falconers Association, National Fish and Wildlife Foundation through a grant to the Minnesota Department of Natural Resources Nongame Wildlife Program, and the members of The Raptor Center at the University of Minnesota.

Literature Cited

Andersen, D.E. 1995. Productivity, food habits, and behavior of Swainson's Hawks breeding in southeast Colorado. J. Raptor Res. 29:158–165.

England, A.S., M.J. Bechard, and C.S. Houston. 1997. Swainson's Hawk (*Buteo swainsonii*). *In* The Birds of North America, No. 265 (A. Poole and F. Gill, eds.). Academy of Natural Sciences, Philadelphia, PA, and American Ornithologists' Union, Washington, D.C.

Gilmer, D.S., and Stewart, R.E. 1984. Swainson's Hawk nesting ecology in North Dakota. Condor 86:12–18.

Houston, C.S. and J.K. Schmutz. 1995. Declining reproduction among Swainson's Hawks in Prairie Canada. J. Raptor Res. 29:198–201.

Janssen, R.B. 1987. Birds in Minnesota. University of Minnesota Press, Minneapolis, Minn., 352 pp.

Johnsgard, P.A. 1990. Hawks, eagles, and falcons of North America. Smithsonian Institution Press, Washington, D.C., 403 pp.

Johnson, D.J. 1982. Raptors of Minnesota – nesting distribution and population status. ***The Loon*** 54:73–104.

Kenward, R. 1987. Wildlife radio tagging. Academic Press, London, 222 pp.

Line, L. 1996. Lethal Migration. Audubon 98:50–56, 94–95.

Roberts, T.S. 1932. The Birds of Minnesota. University of Minnesota Press, Minneapolis.

Schneider, D.G., and R.D. Kneeskern. 1975. Nesting of Swainson's Hawks in Southeastern Minnesota. ***The Loon*** 47: 61–65.

Wendt, K.M. 1984. A Guide to Minnesota Prairies. Minnesota Department of Natural Resources, St. Paul, Minn.

Woodbridge, B., K.F. Finley, and S.T. Seeger. 1995. An investigation of the Swainson's Hawk in Argentina. J. Raptor Res. 29:202–204.

[1] The Raptor Center at the University of Minnesota, 1920 Fitch Avenue, St. Paul, MN 55108.

[2] Minnesota Department of Natural Resources Nongame Program, Box 756, New Ulm, Minnesota 56073.

The Fall Season
(1 August to 30 November 1997)

Dave Benson, Paul Budde, Wally Swanson, and Tom Tustison
Foreword by Peder Svingen

Mild weather and rare birds — who could ask for more? Well, it would have been nice if those rare birds could have all been relocated! Shorebird migration was punctuated by the occurrence of two accidental species: ***Snowy Plover*** *(seventh state record) and* ***Red Phalarope*** *(ninth). Photographs documented one of the two* ***Band-tailed Pigeons*** *at Hawk Ridge Nature Reserve in Duluth, only the sixth and seventh Minnesota records. A well-documented* ***Black-throated Sparrow*** *(fourth state record) also was seen for only one day. Numerous late dates were established among the passerines while* ***LeConte's Sparrows*** *seemed to be everywhere in the southern half of the state.*

For the second consecutive fall, unusually mild conditions through late October induced a wide variety of species to linger later than usual; the number of record or near-record late dates this season is staggering. The autumn migration at Hawk Ridge Nature Reserve (HRNR) was highlighted by record seasonal totals for four species, most notably **Sharp-shinned Hawk**. On the other hand, the "northern owls" were conspicuous by their absence and a November influx of winter finches fizzled out by the end of the period.

The fall occurrence of **Red-throated Loon** and **Pacific Loon** on Lake Superior is no longer completely unexpected, but singles were also found on "big lakes" elsewhere. One **Red-throated** was found on Lake Winnibigoshish, where preliminary surveys of this important pre-migratory fall staging area found numbers of **Common Loons** consistently above those ever documented for Mille Lacs Lake. Mille Lacs produced the only **Pacific Loon** away from those on Lake Superior.

Even though **American White Pelicans** are known to wander eastward in the fall, they are still considered very rare along the North Shore; the size of the two flocks at HRNR was astonishing. Anthony Hertzel's report of first county records for two different species of *Ardeidae* on the same day was extraordinary. **Cattle Egrets** have been scarce throughout 1997 and this fall was no exception; only two lingering birds were found. Two **White-faced Ibises** were reported in southwestern Minnesota, this species could become Regular in Minnesota if the wetlands there received regular coverage. Readers will now find **Turkey Vulture** following the ibises in the species accounts; other changes in taxonomy and nomenclature were recently outlined by Anthony Hertzel (***The Loon*** 69:212–213).

Due to the mild conditions, waterfowl migration was initially late and then more concentrated than usual, especially in western Minnesota where Lane Ellwanger reported a major southbound movement on 10 November after a cold snap iced over virtually all open water. Still rare in fall, the five **Ross's Geese** found on 11 September were not only the first for Lake County, but also record early and one of the largest groups ever found in fall. Eric Nelson, refuge biologist at the Upper Mississippi River National Wildlife and Fish Refuge, reported their highest number of **Canvasbacks** (250,085) since 1978, although only a small portion of this total was in Minnesota waters. The **King Eider** on 8 November was the fifth to be found in fall along the North Shore in Cook County within the past decade; observers are increasingly aware of when and where to search for this Casual species. A male **Barrow's Goldeneye**

Table 1. 1997 Hawk Ridge Nature Reserve composite totals.

Species	*Total*	*Comments*
Turkey Vulture	1,325	1,989 last year
Osprey	**517**	record daily count of **90** on Sep. 17 **record season high** (511 last year)
Bald Eagle	2,407	3,293 last year
Northern Harrier	721	331 last year; 15-yr. avg. is 624
Sharp-shinned Hawk	**22,344**	record daily count of **1,919** on Sep. 17 **record season high** (21,974 in 1976)
Cooper's Hawk	200	177 last year
Northern Goshawk	454	
Red-shouldered Hawk	4	
Broad-winged Hawk	49,327	peak migration Sep. 17–19
Swainson's Hawk	16	
Red-tailed Hawk	9,275	9,678 last year
Rough-legged Hawk	345	413 last year
Golden Eagle	103	119 last year
American Kestrel	2,498	
Merlin	**460**	**record season high** (453 in 1994)
Peregrine Falcon	**111**	record daily count of **21** on Sep. 29 **record season high** (71 in 1992)

returned to overwinter for the third consecutive year at the Blue Lake sewage lagoons in Scott County.

The **22,344 Sharp-shinned Hawks** at HRNR broke an all-time record from 1976! Seasonal records were also set for **Osprey, Merlin** and **Peregrine Falcon** (Table 1). The two **Prairie Falcons** in Hennepin County included one at the Minneapolis-St. Paul Airport that was thought to be a returning individual.

Shorebird migration was protracted again and puzzling; several usually common species including the "peeps" were inexplicably scarce. Reports of the **American Golden-Plover** were up and included several flocks of 70 or more birds, plus numerous smaller groups of 10–50. It has been ten years since the last **Snowy Plover** was found in Minnesota; four of the state's seven records have now occurred in late summer/early fall and all but two are from either Lake of the Woods or the northwest region! An adult **Semipalmated Plover** was found at the Beaver Bay lagoons in Lake County on 25 October; the same two observers found a juvenile there on 26 October 1996 — could this have been the same bird? Open water at these lagoons induced several other shorebirds to linger into November, including a record-late **White-rumped Sandpiper** on the 10th. **Buff-breasted Sandpipers** were down significantly, especially in Duluth. Encouraging were the many reports of **Red-necked Phalaropes** this season; most of these were found on sewage lagoons in the northwest region. Unfortunately, the **Red Phalarope** on Lake Bemidji could not be refound within hours of its discovery.

The most interesting larid was the first-year **Laughing Gull** in Grand Marais, the first for Cook County and the latest ever in the state. Unlike most other rarities this fall, both it and the **Black-legged Kittiwake** in Grand Marais were refound on subsequent days. The first-year **California Gull** in Dakota County was a most challenging identification; it's possible that immatures are overlooked elsewhere in the state during late summer/early fall when plumages are tricky and observer interest in gulls is low.

The first of two **Band-tailed Pigeons** at HRNR was photographed before it disappeared; the one that flew by the main overlook six weeks later was most likely a different individual, although its vanishing behavior was similar. Three of the seven Minnesota records are now from Hawk Ridge! Owls, especially the **Short-eared Owl** were scarce. Peak numbers of the **Common Nighthawk** along the North Shore in late August were up from last fall.

An unidentified ***Empidonax*** in Duluth on the late date of 24 October was intriguing but still most likely a Least Flycatcher. The **Say's Phoebe** in Grand Marais was yet another good find that could not be relocated. An exact count of **173 Eastern Kingbirds** in Big Stone County is mind-boggling. Although still considered Casual in Minnesota, the balmy weather somehow made one **Scissor-tailed Flycatcher** seem fewer than expected this season.

Only two **Carolina Wrens** were reported in all of 1997 and only one was found in 1996. This species has remained scarce since its status became Regular; perhaps the mild winter of 1997–98 will increase its presence in Minnesota. Echoing last fall's commentary on the **Blue-gray Gnatcatcher**, three were found again along the North Shore of Lake Superior, all between mid–September and late October. Two of this season's **Mountain Bluebirds** and all of the **Townsend's Solitaires** were found along the North Shore. In contrast, there was a disappointing total of only three **Varied Thrushes**, which were confined to southern Minnesota.

Warbler migration was protracted and produced little commentary. Steve Carlson reported very poor warbler migration at Lakewood Cemetery in Minneapolis. There were however, numerous late stragglers among the vireos and warblers. How many times have 20 or more warbler species lingered into October in Minnesota? Furthermore, a remarkable seven warbler species were reported this November! These late dates are all highlighted in the species accounts; my favorite is the **Black-throated Green Warbler** in a birdbath on **4 November!** Others may choose November's **Ovenbird** near the Government Center in downtown Minneapolis or the record-late **Yellow-breasted Chat** in Duluth.

Two **Summer Tanagers** were found in late October along the North Shore where they are unexpected at any time of year. This season's records of the **Spotted Towhee** fall neatly into the emerging pattern of late September/early October occurrences in southwestern Minnesota. Larry Dolphin's account of Minnesota's fourth **Black-throated Sparrow** is both entertaining and instructive documentation. Sparrows lingered in many areas, especially the **LeConte's Sparrow** which was found by Robert Janssen alone in at least 15 south counties! The **Nelson's Sharp-tailed Sparrow** is rarely detected anywhere during migration and apparently departs the state early; singles were reported from three south locations this fall. Fortunately for the rest of us, Frank Nicoletti likes to count birds and counts whatever comes along; his tally of **1,025 Pine Grosbeaks** migrating through HRNR on 3 November is the most ever recorded on one day in Minnesota! An apparent influx of other winter finches fizzled out, although **Evening Grosbeaks** were reported as far south as Fillmore and Houston counties by the end of the period.

Unconfirmed and Undocumented Reports: Clark's Grebe on 3 August, possibly the same individual seen in early July on Lake Osakis; Yellow-throated Warbler on 6 September in Anoka County. This section does not include records found Unacceptable by the Minnesota Ornithological Records Committee.

Weather Summary: Mostly dry and very mild conditions persisted until November. August was actually one–two degrees cooler than normal across the state. Temperatures throughout September were two–four degrees above normal in all regions and monthly precipitation was about one inch below normal statewide. October was similarly one–two degrees above normal and slightly drier than usual, except in the three north regions (northwest, north-central, northeast) where temperatures were close to normal and precipitation was

slightly above average. November produced minimal snow cover but it turned decidedly cool with all regions reporting below normal temperatures; these ranged from 2.5 degrees below normal in the northeast to 5.5 degrees below normal in the southwest.

Acknowledgments: Once again, thanks to Kim Eckert and Anthony Hertzel for summarizing reports called in to the MOU "hotlines" in Duluth and the Twin Cities, respectively. Data from Hawk Ridge Nature Reserve in Duluth were made available by Molly Evans and Frank Nicoletti. Median arrival and departure dates were calculated by Paul Budde.

2602 E. 4th St., Duluth, MN 55812.

KEY TO SEASONAL REPORTS

1. Species listed in upper case **(PACIFIC LOON)** indicate a Casual or Accidental occurrence in the state.
2. Dates listed in bold **(10/9)** indicate an occurrence either earlier, later or within the earliest or latest dates on file.
3. Counties listed in bold **(Aitkin)** indicate an unusual occurrence for that county.
4. Counties listed in underline **(Aitkin)** indicate a first county record.
5. Counties listed in italics *(Aitkin)* indicate a first county breeding record.
6. Brackets [ ] indicate a species for which there is reasonable doubt as to its origin or wildness.

The Season publishes reports of bird sightings from 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, request a report form from the Editor of *The Season*, Peder Svingen, 2602 E. 4th St., Duluth MN 55812.

Loons to Vultures

Red-throated Loon
All reports were single birds: **9/1** St. Louis (Stoney Point) PBu, 10/11 St. Louis (Duluth) *fide* KE, 10/27 **Cass** (Lake Winnibigoshish) PS.

PACIFIC LOON
All reports: **9/6** St. Louis BL, 10/24 St. Louis KR *et al.*, **11/8** Mille Lacs (Vineland) KE *et al.*

Common Loon
Peak counts 10/6–20 Lake Winnibigoshish, Cass/Itasca Co. (**1,080–1,108**) AH, KSu, PS. Reported from 25 counties. Late north 11/28 St. Louis (2) PS, 11/29 St. Louis KB. Late south 11/16 Hennepin (2) SC, 11/18 Dakota DBS.

Pied-billed Grebe
Reported from 15 north and 26 south counties. Late north 11/11 Lake GN. Late south 11/24 Hennepin KB.

Horned Grebe
Reported from 12 north and 6 south counties. Late north 10/29 Cass RJ. Late south 11/25 Hennepin KB.

Red-necked Grebe
Reported from eight north and three south counties. Late north 11/11 Lake of the Woods CMG. Late south 11/30 Hennepin SC, KB.

Eared Grebe
Reported from only five north and four south counties. No November reports north. Late south 11/8 Lac Qui Parle (2) DN.

Western Grebe
Reported from three north and eight south counties. Unusual report 10/5 St. Louis (Duluth) *fide* KE. Late north 10/18 Traverse

(4) WM. Late south 10/26 Big Stone LE, 10/27 Hennepin (2) TT. No November records.

American White Pelican
Peak counts: 9/1 Winona (250) CN, 9/16 Dakota (250+) SWe. Unusual numbers reported at HRNR in Duluth where still considered rare: 9/9 St. Louis (34) FN, 10/15 St. Louis (52) FN. Reported from 35 counties statewide.

Double-crested Cormorant
Reported from 47 counties. Late north 11/14 St. Louis LW.

American Bittern
Only reports: 8/10 Cook OSL and Lake DV, 8/20 St. Louis TW, 8/30 Aitkin WN, 9/29 St. Louis JN, 10/17 Olmsted BE.

Least Bittern
Only report: 8/24 **Itasca** (Plug Hat Point on Lake Winnibigoshish) AH.

Great Blue Heron
Reported from 54 counties. Late north 11/15 Aitkin WN.

Great Egret
Reported from 5 north and 23 south counties. Late north 10/18 Traverse (2) WM. Late south 10/29 Chisago CM, 10/31 Houston EMF.

Snowy Egret
No reports.

Little Blue Heron
Only report: 8/24 **Carlton** (adult) AH.

Cattle Egret
All reports: 10/23–11/8 Hennepin (Old Cedar Avenue) mob, **11/17** Rice FKS.

Green Heron
Reported from 10 north and 21 south counties. No November records. Late south 10/11 Hennepin (2) HT.

Black-crowned Night-Heron
Reported from seven south counties. Late south 11/8 Lac Qui Parle PJ, DN.

Yellow-crowned Night-Heron
No reports.

WHITE-FACED IBIS
Only report: **9/25 Murray** (two at Haberman WMA) JaH, RG.

Turkey Vulture
Reported from 38 counties. Late north 10/26 St. Louis (HRNR) FN *et al.* Late south **11/11** Washington DS.

Waterfowl

Greater White-fronted Goose
Reported from six counties. Early south **9/24** Hennepin mob, 9/30 **Stearns** MJ/DT. Late north 10/29 Traverse KE.

Snow Goose
Fewer reports than usual, especially in the south. Peak 10/5 Lake of the Woods (50) PS. Reported from 17 counties. Early north 9/22 Kittson PS. Late north 11/15 Lake DV.

Ross's Goose
All reports: **9/11–14** (record early date) **Lake** (five at Beaver Bay lagoons) mob, 11/4–9 Freeborn RG, ABa.

Canada Goose
Peak 11/16 Big Stone (15,000) LE. Reported from 57 counties statewide.

Mute Swan
Only reports: 10/3 Pine (2) SL, 10/20 and 11/1 Rice (wild?) JL, FKS.

[TRUMPETER SWAN]
Peak counts: 8/27 Becker (58 at Tamarac NWR) BBe, 10/26 Wright (235 on Mississippi River near Monticello) *fide* PP. Reported from 13 counties, including Cottonwood, **Houston**, Morrison, Scott. ***Note:*** For all seasons, please indicate numbers of adults and young; except in winter, give range of dates seen at breeding areas.

Tundra Swan
Peak of only 2,435 on the Mississippi River from Wabasha to Reno counted by USFWS, week of 11/4. Reported from 34 counties.

Early north **9/21** Roseau (3) PS, **9/22** Marshall (2) PS. Late north 11/23 Aitkin WN. **Note:** Single swans or small groups of swans in any season, and all reports outside of usual migration dates, need documentation as these may be Trumpeter Swans.

Wood Duck
Reported from 46 counties. Late north 11/16 Clay RK. Overwinters south.

Gadwall
Peak 10/26 Big Stone LE (90). Reported from 23 counties statewide.

American Wigeon
Reported from 22 counties. Late south 11/25 Hennepin SC, 11/26 Scott RH.

American Black Duck
Reported from seven north and ten south counties. Early south 8/9 Hennepin SC.

Mallard
Reported from 54 counties.

Blue-winged Teal
Reported from 15 north and 23 south counties. Late south 11/1 Wabasha KO.

Northern Shoveler
Reported from 8 north and 17 south counties. Late south 11/30 Hennepin (100+) KB, SC, DN.

Northern Pintail
Reported from 8 north and 14 south counties. No November records north. Late south 11/11 Hennepin SC and Winona DN.

Green-winged Teal
Reported from 31 counties. No November records north. Overwinters south.

Canvasback
Peak count 11/10 Winona (1,200) USFWS. Reported from 22 counties statewide.

Redhead
Reported from 32 counties. Late north 11/30 Otter Tail SDM. Late south 11/30 Hennepin SC, DN.

Ring-necked Duck
Reported from 27 counties. Peak count 10/24 Aitkin (30,000) PJ.

Greater Scaup
Reported from five north and three south counties. Late south 11/30 Hennepin SC.

Lesser Scaup
Peak 11/6 Mahnomen (250) MRN. Reported from 30 counties. Late north 11/30 Otter Tail SDM. Late south 11/30 Scott, Hennepin DN, SC.

KING EIDER
Only report: **11/8** Cook (female/immature) TBr, SR.

Harlequin Duck
Only two reports: 11/2 Cook KMH, KE *et al.*, 11/10–11 **Kandiyohi** (male at Olson Lake) mob.

Surf Scoter
All reports: 10/6 **Itasca** (Lake Winnibigoshish) PS, 10/15 Lake (8) DV, 10/18 Lake (2) and Cook (4) AH; 10/20–27 Cass (3) and Itasca (6) AH, KSu, PS, all on Lake Winnibigoshish; 10/25 Lake (2) WM, 10/29 St. Louis (3) SL.

White-winged Scoter
All north reports: 10/12 Lake JL, 10/14 **Becker** (six on Egg Lake) *fide* BBe, 10/18 Lake (2) AH, 10/20–27 Cass/Itasca (1) AH, KSu, PS, plus seven reports in Cook from 10/18 through 11/21. Three south reports: 10/17 Winona (Lewiston sewage lagoons) RG, RJ, 10/18 **Faribault** (Wells sewage lagoons) CS, 11/4 Wabasha (3) RSe.

Black Scoter
Seven reports from Lake Superior, from 10/16 Cook (2) BL through 11/17 Lake (5) FKS.

Oldsquaw
Thirteen reports north, including 10/25 Cook (80) AH, 10/27 **Cass** (second county record) PS, 11/16 Itasca (1) PS, 11/17 Mille Lacs (1) PS, 11/20–21 Cook (70) KB, plus eight other reports from Lake Superior. Two reports south: 11/25 Wabasha (5) KB, 11/

29 Wabasha DS.

Bufflehead
Peak count 11/6 Mahnomen (75) MRN. Reported from 29 counties. Early north 8/16 Roseau PS. Early south 7/26–9/7 Hennepin (female; summering bird?) SC.

Common Goldeneye
Peak count 11/15 Beltrami (600+) DJo. Reported from 31 counties statewide.

BARROW'S GOLDENEYE
Reported **11/19**+ Scott (Blue Lake sewage lagoons) mob, overwintering male.

Hooded Merganser
Reported from 37 counties. Peak count 11/8 Chippewa (50) ABo. Late north 11/29 Wadena PBi. Late south 11/29 Wabasha DS, 11/30 Anoka KB and Hennepin SC.

Common Merganser
Peak count 11/22–25 Wabasha (only 20,000+ on Lake Pepin) KB, mob. Reported from 20 counties statewide.

Red-breasted Merganser
Reported from 14 counties. Early south **9/20** Hennepin KRv. Late south 11/22–25 Wabasha KB, 11/30 Hennepin SC, PJ, DN.

Ruddy Duck
High count 9/25 Wilkin (**572**) RJ. Reported from 24 counties. Late south 11/30 Scott DN and Hennepin SC.

Osprey to Falcons

Osprey
Reported from 36 counties. Record season at HRNR (**517**). Record daily count at HRNR on 9/17 (**90**) FN *et al.* Late south 11/1 Chisago RG and Olmsted CN.

Bald Eagle
Reported from 47 counties. Peak 10/24 HRNR (200).

Northern Harrier
Reported from 38 counties. Late north 11/9 Aitkin WN. Peak 10/30 HRNR (68).

Sharp-shinned Hawk
Reported from 33 counties. A record season at HRNR (**22,344**). Record daily count at HRNR on 9/17 (**1,919**) FN *et al.* Late north 11/20 HRNR. Late south **11/30** Scott DN.

Cooper's Hawk
Reported from 30 counties. Late north 11/1 Lake GN.

Northern Goshawk
Reported from five counties northeast. Two reports south: 9/29 Rice JLa, JL, 11/21 Olmsted JL. Peak 10/15 HRNR (43).

Red-shouldered Hawk
All reports north: adults at HRNR on 10/15, 10/16 (2), and 10/23 St. Louis FN, 8/31 and 10/4 Becker SDM. Overwinters south.

Broad-winged Hawk
Reported from 17 north and 12 south counties. Peak counts 9/17 HRNR (19,659), 9/19 HRNR (19,584), 9/20 Houston (753) FL. Total of 11 dark-morphs for the season at HRNR. Late north 10/21 HRNR (1) FN.

Swainson's Hawk
Reported from four north and six south counties. Peak 9/29 HRNR (9). Late north 10/9 HRNR (1) FN.

Red-tailed Hawk
Reported from 59 counties. Peak count 10/15 HRNR (1,543). Among the seasonal total of 9,275 at HRNR were several "Harlan's Hawks" and 71 dark-morph Red-taileds.

Ferruginous Hawk
All reports: **8/10** Kittson PS, 8/24 **Aitkin** WN, WSf (***The Loon*** 60:65).

Rough-legged Hawk
Reported from 24 counties. Early south **9/1** Chisago RH. Peak 10/22 HRNR (41).

Golden Eagle
All reports: 10/20 Cass/Itasca PS, AH, 10/30 Cook OSL, 11/2 Becker BBe, 11/8 Rice (4) JL, 11/9 Rice JLa, plus 103 individuals at HRNR for the season.

American Kestrel
Reported from 47 counties.

Merlin
Reported from 13 north and 6 south counties. Unusual report 9/18 Otter Tail (male *richardsonii*) SDM. Peak 10/9 HRNR (73). Record season at HRNR (**460**).

GYRFALCON
Only reports: 11/21–26 **Hennepin** ABo, mob.

Peregrine Falcon
Twenty-five reports from scattered locations; plus record season at HRNR (**111**) including a record daily count on 9/29 (**21**) FN *et al.*

Prairie Falcon
Only reports: 9/18 Otter Tail SDM, 11/25 Hennepin mob (at least two individuals).

Partridges to Cranes

Gray Partridge
Only reports from Freeborn, Houston, McLeod, Murray, Nicollet, Rice.

Ring-necked Pheasant
Reported from 5 north and 23 south counties.

Ruffed Grouse
Reported from 12 north and 6 south counties.

Spruce Grouse
All reports: 9/13 Lake DS and Itasca ABo, 10/25 Cook OSL, 11/27 Lake DV.

Sharp-tailed Grouse
All reports: 10/26 Beltrami DJo, 11/9 Pine (15) CM, 11/22–29 Aitkin (max. 27) WN, CN.

Greater Prairie-Chicken
All reports: 10/11 Clay RO, 11/16 Wilkin SDM.

Wild Turkey
Reported from 14 counties south, plus Becker (wild?).

Northern Bobwhite
No reports except for apparent escaped/released birds in Chippewa (1) FE, Goodhue *fide* DBS, Hennepin (two locations) mob, and Watonwan (3) DBr.

Yellow Rail
No reports.

Virginia Rail
All reports: 8/1 Nicollet BBo, 9/17 Kanabec CM, 9/21 Hennepin TT.

Sora
Late north 10/3 St. Louis DV, 10/9 Aitkin CB, 10/19 Wilkin BBo. Late south 10/4 Hennepin RJ, 10/15 Redwood RJ.

Common Moorhen
Only reports: 8/23 Wabasha KO, 8/23–24 Winona (2) CS.

American Coot
Late north 11/4 St. Louis JN, 11/7 Mahnomen MRN, 11/30 Otter Tail SDM. Late south 11/29 Mower RRK, 11/30 Hennepin SC and Ramsey RH.

Sandhill Crane
Late north 10/19 Aitkin WN, 10/21 Kanabec CM, 11/9 Pine CM. All south reports: 8/12 Anoka GS, 8/17 **Waseca** JSe, 10/10 Sherburne DJe.

Shorebirds

Black-bellied Plover
Late north 10/5 Polk PS, 10/25 Carlton BMu, CG. Late south 10/11 Carver DBo, 10/26 Big Stone LE and Lyon RgS. Peak counts 8/17 Waseca (10) JSe, 9/21 Marshall (11) PS.

American Golden-Plover
Late north 9/28 Wilkin SDM, 10/5 Polk PS, 10/29 Traverse KE. Late south 10/18 Rice JLa, 10/25 Chippewa ABo, 11/8 Lyon (injured) RgS. High counts 9/7 McLeod (115) SWe, 9/8 Carver (120) CMa, 9/28 Polk (132) PS. At least 14 additional flocks of 20 or more birds were reported.

SNOWY PLOVER
Seventh state record 8/16 **Polk** (Crookston lagoons) AH.

Semipalmated Plover
Late north 9/13 Clay CN and St. Louis WM, **10/25** Lake AH, PS. Late south 9/18 Hennepin SC, 9/20 McLeod PBu, 9/21 Big Stone LE.

Piping Plover
No reports.

Killdeer
Late north 10/10 Clay RO, 10/14 Cook KMH, 10/25 Lake AH. Late south 11/1 Hennepin SC, 11/5 Meeker CMa and Rice RJ. Peak count on 8/28 Dakota (125) SWe.

American Avocet
All reports: 8/16–24 Clay (1) mob, 9/21 Pennington (2) PS, 9/26 Jackson (7) SR, 10/9–17 Carver (4) mob.

Greater Yellowlegs
Late north 10/29 Cass RG, RJ, 11/1 Lake DV, 11/2 Cass PS. Late south 11/2 Hennepin TT, 11/5 Meeker CMa, 11/9 Lyon RgS.

Lesser Yellowlegs
Late north 10/4 St. Louis TW, 10/18 Traverse WM, **11/2** Otter Tail DS. Late south 10/26 Big Stone LE, 11/1 Goodhue KO and Waseca OJ. High counts 8/22 Dakota (180) AH, 9/7 Waseca (200+) JL.

Solitary Sandpiper
Late north 9/23 Beltrami DJo, 9/25 Grant RJ, 10/2 St. Louis AE. Late south 9/21 Big Stone LE, 9/28 Olmsted CH, 10/2 Hennepin SC. Peak count on 9/1 Crow Wing (20) PP.

Willet
Only report **9/26** St. Louis (1) FN.

Spotted Sandpiper
Late north 9/20 Lake DV, 9/27 St. Louis CM, 10/20 Kanabec CM. Late south 9/9 Brown JSp, 9/19 Hennepin TT, 9/28 Olmsted CH.

Upland Sandpiper
All reports: 8/1 Big Stone KB, 8/2 Hennepin TT, 8/2 Lake of the Woods (2) PS, 8/15 Lyon RgS, 8/17 Jackson MJC, (no date) Dakota SWe.

Whimbrel
No reports.

Hudsonian Godwit
No reports.

Marbled Godwit
Only reports: 8/17, 9/1 Big Stone LE.

Ruddy Turnstone
All reports: 8/16 Lake DV, 9/1 Clay (2) CN, 9/3 Lyon RgS, 9/7–8 St. Louis SL, TT.

Red Knot
All reports: 8/9 Beltrami (1) PS, 9/6 St. Louis (7) BL, 9/13–14 St. Louis (1) TBr.

Sanderling
Late north 9/20 St. Louis RH, 9/21 Pennington PS, 10/5 Polk PS. Late south 9/8 Dakota DBS, 10/2 Rice JL, FKS, 10/26 Big Stone (1) LE. Peak count 9/17 St. Louis (30) CMa.

Semipalmated Sandpiper
Late north **10/25** Carlton BMu, CG. Late south 9/14 Steele FKS. Peak count 8/17 Big Stone (120) LE.

Least Sandpiper
Late north 9/2 Cook KMH, 10/19 Otter Tail DS, 10/24 Itasca (1) PS. Late south 9/19 Sherburne RJ, 9/20 McLeod PBu, 10/18 Big Stone (4) WM. High count of 350+ on 8/24 Clay CN.

White-rumped Sandpiper
Late north 10/25 Cook WM, 10/29 Cass RG, RJ, 11/1 Beaver Bay and Two Harbors, Lake Co. mob, **11/10** (latest date on record, same bird?) Lake AH, PS. All south reports: 8/7 Renville CMa, 8/20–24 Dakota DBS, TEB.

Baird's Sandpiper
Late north 9/18 St. Louis SS, 10/10 Clay AH, **11/9** (ties latest north date) Cass (1) PS. Late south 10/18 Chippewa ABo, 10/26 Brown JSp, **11/8** Lac Qui Parle (1) PJ, DN.

Pectoral Sandpiper
Late north 11/2 Otter Tail DS, 11/3 Cass PS, 11/10 Lake (1) AH, PS. Late south 11/1 Stearns BL, 11/4 Hennepin SC, 11/5 Meeker CMa. Peak count 8/22 Dakota (250) AH.

Dunlin
Late north 11/1 Lake KE *et al.*, 11/3 Cass PS, 11/10 Lake (same bird as 11/1?) AH, PS. Late south 11/4 Hennepin SC, 11/5 Meeker CMa. Peak count 10/18 Carver (32) PBu.

Stilt Sandpiper
Late north 9/6 Polk PS, 9/13 Clay CN. Late south 9/26 Dakota DBS, **10/21** (second latest date on record) Carver RG. High count only 42 on 8/24 Clay CN.

Buff-breasted Sandpiper
Late north 9/6 Lake JHe, JN and St. Louis mob, 9/28 St. Louis PE. Late south 9/14 Rice JL, 9/26 Jackson SR. Also seen 8/16 **Douglas** (1) AH. Fewer reports than usual. Peak count of 30+ on 8/3 Dakota TT.

Short-billed Dowitcher
Late north 9/7 Marshall PS, 9/8 Aitkin CB. Late south 9/7 Waseca JL, 9/9 Rice JLa, JL. Peak count 8/9 St. Louis (8) SL.

Long-billed Dowitcher
Late north 9/28 Marshall PS, 9/28–10/5 Polk PS, 10/5 Lake of the Woods PS. Late south 10/23 Hennepin SC, 10/26 Big Stone LE. The dowitcher reported 10/31 McLeod RbS was most likely this species, as Short-billed Dowitchers generally depart the state by mid-September. Peak count 10/16 Carver (67) WM.

Common Snipe
Late north 11/3 Todd JSK/SDu, 11/12 St. Louis JN. Late south 11/7 Washington DS, 11/23 Hennepin SC. Peak count 10/9 Carver (62) AH.

American Woodcock
Late north 10/12 Beltrami DJo, 10/14 Carlton LW, 10/22 St. Louis JN. Late south 10/6 Washington TEB, 10/16 Hennepin SC, 11/7 Brown JSp.

Wilson's Phalarope
Late north 8/16 Polk AH, 8/17 Red Lake PS, 9/13 Clay CN. Late south 8/17 Big Stone LE, 9/7 Waseca JL, **10/15** Carver (1 bird; second latest date on record) PBu. Peak count 8/10 Roseau (32) PS.

Red-necked Phalarope
Late north 9/6–7 Pennington (16) PS, 9/13 Clay CN, 9/21–22 Marshall (2) PS. Late south 8/17 Dakota DBS, 9/13 Lac Qui Parle (3) BL, **10/17** Lac Qui Parle (2) WM. Unusual location 8/30 **St. Louis** (3) KE. Peak counts 8/10 Roseau (41) PS, 8/16–17 Polk (31) AH, PS. Grand total ~240 individuals reported statewide.

RED PHALAROPE
Ninth state record found **10/30 Beltrami** (Lake Bemidji) DJo (***The Loon*** 70:66).

Jaegers to Terns

Parasitic Jaeger
All reports: 9/1, 9/7 (dark-morph), 9/16 Duluth, St. Louis Co. *fide* KE. Unidentified jaegers reported 10/5, 10/12 Duluth mob.

LAUGHING GULL
One first-winter bird seen **11/28–30 Cook** (Grand Marais) KE, KMH *et al.* This was not only a first for the county but also the latest ever in the state.

Franklin's Gull
Late north 10/11 Clay RO, 10/18 Traverse WM. Late south 11/8 Chippewa ABo, 11/9 Olmsted CH, 11/18 Washington RJ. Unusual reports 8/9 **Lake** (1) DV and 9/29 Duluth, St. Louis Co. (7) MH. High counts 4,200 on 8/16 Douglas AH and 3,500 on 9/21 Big Stone LE.

Bonaparte's Gull
Late north 11/15 Aitkin WN, 11/16 Itasca PS, 11/22 Mille Lacs AH. Late south 11/10 Dakota DBS, 11/15 Carver PJ, 11/22 Wabasha KB. Peak counts >2,500 on Lake Winnibigoshish 10/6–20 Cass/Itasca AH, KSu, PS.

Ring-billed Gull
Late north 10/31 Mille Lacs HT, 11/8 Bel-

Thayer's Gull, 26 October 1997, Grand Marais, Cook County. Photo by Dennis Martin.

trami DJo, 11/22 Aitkin WN. Late south 11/30 Dakota DN, Hennepin SC, and Ramsey DS.

CALIFORNIA GULL
One first-year bird reported 8/16 Dakota (Pine Bend landfill) DBS.

Herring Gull
Late north 11/8 Beltrami DJo, 11/20 Cook KMH, 11/22 Aitkin WN. Late south 11/30 Hennepin SC and Ramsey DS. High count of 5,000+ on 11/20 Cook (Grand Marais) KMH.

Thayer's Gull
Many reports: 10/10 Dakota DBS, 10/10–18 Hennepin (min. 4) PBu, 10/25–11/21 Cook (max. 4) mob, 11/8–25 Dakota (max. 4) KB, PBu, 11/11–30 Hennepin (max. 3) SC, PBu, 11/22–25 Wabasha (2) KB, 11/26 St. Louis KB, 11/28 Anoka (1) and **Isanti** (max. 3) KB, 11/28 Dakota TT.

ICELAND GULL
One first-winter bird reported **11/2–30** Cook (Grand Marais) KE, MH *et al.* Another first-winter bird photographed in Grand Marais was an apparent intergrade with *thayeri* (KB, PS, mob).

LESSER BLACK-BACKED GULL
One adult 10/4 Hennepin (Lake Harriet) PBu, was never relocated.

GLAUCOUS-WINGED GULL
Second state record found 11/26 **St. Louis** (Duluth) KB. This individual in second-winter plumage could not be relocated until 12/13 when it returned to the Minnesota side of the Superior Entry; it was then seen only at the Superior landfill in Douglas

County, Wisconsin through at least 12/22 (PS).

Glaucous Gull
Early north **10/25** (second earliest date on record) Lake KE *et al.* Late north 11/28 St. Louis PS, 11/30 Cook TT. All south reports: 11/23 Hennepin (first or second-winter) PBu, 11/24–28 Dakota (first-winter) KB, TT, 11/25 Hennepin (third-winter) KB, 11/25 Hennepin (adult and immature) SC, 11/27 Hennepin (first-winter) KB, 11/30 Dakota (age?) PJ, DN. Peak count 11/26 St. Louis (9) KB.

GREAT BLACK-BACKED GULL
Reported **11/10**–28 Cook (Grand Marais) KMH, mob, including two first-winter birds photographed side-by-side on 11/20–21 (KB). Another first-winter bird 11/26+ Dakota (Black Dog Lake) DEn *et al.* (***The Loon*** 70:66–67) lingered until 12/20 when it was found dead.

BLACK-LEGGED KITTIWAKE
One bird in first-winter plumage 11/2–17 Cook (Grand Marais) KE *et al.* (***The Loon*** 69:222–223) was possibly the same individual seen **11/27** Lake (Two Harbors) MT, MD.

Caspian Tern
Late north 9/18 Beltrami DJo, 9/28 Aitkin WN and Kittson PS. Late south 9/15 Dakota DBS, 9/19 Sherburne RJ, 9/24 Hennepin DBo. Peak count on 9/14 Cass (13) MRN.

Common Tern
All reports: 8/22 Cass (3) MRN, 9/13–20 St. Louis MF, TT, 9/14 Mille Lacs ABo, 9/21 Lake of the Woods (16) and Roseau (6) PS. Peak count 8/6 (only 30+) on Mille Lacs Lake CM.

Forster's Tern
Late north 9/16 Beltrami DJo, 10/5 Roseau PS. Late south 9/1 Big Stone LE, 9/3 Renville CMa, **10/17** Hennepin SC. Peak count 9/21 Roseau (44) PS.

Black Tern
Late north 9/6 Pennington PS, 9/13 Clay CN. Late south 9/3 Renville CMa, 9/5 Stearns RJ, 9/7 Hennepin SC. Peak count only 25 on 9/6 Pennington PS.

Doves to Kingfishers

Rock Dove
Reported from 18 north and 28 south counties.

BAND-TAILED PIGEON
Apparently different birds seen 8/24 and 10/4 at Hawk Ridge Nature Reserve, St. Louis Co. mob.

Mourning Dove
Seen in 18 north and 28 south counties.

Black-billed Cuckoo
Late north 8/10 Kittson PS and Lake DV, 8/31 Aitkin WN, 9/24 St. Louis FN. Late south 8/21 Rice TBo, 8/23 Anoka SC, 8/27 Houston EMF.

Yellow-billed Cuckoo
All reports: 8/10 Dakota TT, 9/14 Washington TEB, 9/15 Brown JSp.

Eastern Screech-Owl
Reported from Kanabec and Todd in the north, plus Brown, Hennepin, Houston, McLeod, Murray.

Great Horned Owl
Reported from 8 north and 17 south counties.

Snowy Owl
All reports: 11/15 Duluth, St. Louis Co. *fide* KE, 11/21 Hennepin *fide* AH, 11/22 Stevens *fide* AH, 11/26 Polk *fide* AH, 11/30 Aitkin WN.

Northern Hawk Owl
All reports: **9/17** St. Louis (Lake Vermilion) AH, 11/5 St. Louis (Sax-Zim Bog) MH, 11/28 St. Louis (Duluth Twp.) EG, WM.

Barred Owl
Reported from 8 north and 11 south counties.

Great Gray Owl
All reports: 8/4–9 Lake DV, mid-August–11/11 St. Louis (near Sax) MH, BY, 11/28 St. Louis (Melrude) BY.

Long-eared Owl
All reports: 10/4 Carlton LW, plus Dakota, Hennepin, Ramsey, Rice, Wright.

Short-eared Owl
Only report: 9/30 St. Louis *fide* KE.

Boreal Owl
Only report: one banded 11/5 at Hawk Ridge Nature Reserve, St. Louis Co. DEv.

Northern Saw-whet Owl
Only reports: 10/17 St. Louis TW, 11/9 St. Louis JN.

Common Nighthawk
Late north 8/18 Crow Wing PP, 9/14 St. Louis DJo, 9/17 Clay GN. Late south 10/3 Rice TBo, 10/4 Nicollet MF, 10/8 Ramsey TT. Peak migration count >10,000 on 8/26 Duluth KE, FN.

Whip-poor-will
All reports: 8/1 Anoka RH, (no date) Cook OSL, 9/6 Marshall PS.

Chimney Swift
Late north 9/6 Wadena PBi, 9/13 St. Louis SDM, 9/17 Clay MRN. Late south 9/14 Brown JSp, 9/24 Hennepin SC, 10/3 Ramsey TT.

Ruby-throated Hummingbird
Late north 9/15 St. Louis AE, 9/17 Becker BBe, 9/23 Kanabec CM. Late south 9/27 Lyon RgS, 9/28 Washington BL, 10/12 Nicollet LF. Peak count 8/22 Becker (18) BK.

Belted Kingfisher
Late north 11/2 Aitkin WN, 11/5 St. Louis JN, 11/6 Becker BK. Reported from 28 south counties.

Woodpeckers to Flycatchers

Red-headed Woodpecker
Late north 10/9 Clay SDM, 10/18 Aitkin WN, **10/26** Mille Lacs TT. Reported from 18 south counties.

Red-bellied Woodpecker
Late north 10/31 Mille Lacs HT, 11/22 Otter Tail SDM, 11/29 Wadena PBi. Unusual report from Duluth in late October *fide* KE. Reported from 27 south counties.

Yellow-bellied Sapsucker
Late north 10/17 Itasca BN, 10/18 Cook AH, **11/16** St. Louis JN. Reported from 15 south counties.

Downy Woodpecker
Seen in 17 north and 29 south counties.

Hairy Woodpecker
Reported from 17 north and 25 south counties.

Three-toed Woodpecker
No reports.

Black-backed Woodpecker
All reports: 9/8 Beltrami PS; 9/23–November at Hawk Ridge Nature Reserve, St. Louis Co. (max. 3) mob; 10/2 St. Louis (Fisherman's Point) AE, 10/19 Hubbard DJo, 10/20 Cook KMH, 10/26 Beltrami DJo, 11/27 Lake DV, 11/30 Aitkin WN.

Northern Flicker
Reported from 17 north and 27 south counties.

Pileated Woodpecker
Reported from 16 north and 16 south counties.

Olive-sided Flycatcher
Early south 8/10 Brown JSp, 8/16 Hennepin SC, 8/18 Ramsey TT. Late north **9/21** Aitkin WN, **9/28** Kittson PS. Late south 9/23 Cottonwood EEG, 9/24 Hennepin TT, 9/30 Hennepin OJ.

Eastern Wood-Pewee
Late north 9/20 Carlton LW and St. Louis TT, 9/21 Lake DV. Late south 9/21 Lyon RgS, 9/27 Rice JLa, and 9/28 Hennepin SC.

Yellow-bellied Flycatcher
Only report: 8/25 Cass MRN (identified in the hand by plumage and physical measurement criteria from *Identification Guide to North American Passerines* by Pyle *et al.* 1987).

Acadian Flycatcher
Only report: 8/13 Goodhue KB.

Alder Flycatcher
All north reports: 8/7 St. Louis TW, 8/8 Clay RO, 8/10 Kittson PS. All south reports: 8/2 Anoka KB, 8/12 Anoka GS, 8/16 Hennepin SC.

Willow Flycatcher
All reports: 8/2 Dakota TT, 8/5 Hennepin KB, 8/15 Hennepin SC.

Least Flycatcher
Late north 9/15 St. Louis TW, 9/20 St. Louis (2) TT, 9/22 Clay MRN. Late south 9/12 Brown JSp, 9/13–14 Fillmore NO. ***Note:*** All of the *Empidonax* flycatchers reported herein are singing/calling birds as indicated by the observers on their seasonal report forms.

Eastern Phoebe
Late north 10/4 St. Louis TW, Aitkin WN and Becker DN, 10/14 Todd JSk/SDu. Late south 10/18 Hennepin TT, 10/19 Brown JSp, 10/26 Hennepin HT.

SAY'S PHOEBE
Only report: 9/9 Cook KMH (***The Loon*** 70:121–122).

Great Crested Flycatcher
Late north 9/17 Beltrami DJo, 10/17 Cook BL, **10/25–28** (carefully scrutinized to rule out other *Myiarchus* flycatchers; second latest date for state) Cook *fide* KE. Late south 9/13 Dakota DBS, 9/17 Hennepin SC, **10/9** Washington DS.

Western Kingbird
All reports: 8/10 Kittson PS, 8/11 Big Stone LE and Wilkin FL, 8/16 Clay DWi. Total of only 4 birds reported versus at least 55 last year.

Eastern Kingbird
Late north 9/9 Cook KMH, 9/15 Carlton LW, 9/21 Wadena PBi. Late south 9/7 Hennepin TT, 9/17 McLeod RJ, 9/26 Murray ND. An incredible total of **173** birds was reported from various locations throughout the county on 8/17 Big Stone LE. This compares with LE's peak count of 70 on 8/4 in Big Stone last year.

SCISSOR-TAILED FLYCATCHER
Only report: 10/2 St. Louis (photographed at the Duluth airport; uncharacteristically for fall, did not linger) mob.

Shrikes to Swallows

Loggerhead Shrike
All reports: 8/7 Dakota (4) DBS, 8/10 Dakota GS, 8/17 Dakota (2) TT, 9/13 Hennepin OJ, 10/22 (an unusual date — all October Loggerhead Shrike reports should be documented) Anoka RH. Total of only nine birds reported (19 l.y.).

Northern Shrike
Early north 10/19 St. Louis FN, 10/21 Becker BBe and Todd JSK/SDu, 10/22 St. Louis NJ. Early south 10/20 LeSueur JL, 10/26 Rice JL, 11/14 Stevens MJ/DT.

Bell's Vireo
All reports: 8/5–15 **Hennepin** KB, SC, 8/30–31 **Lac Qui Parle** BL, RG.

Yellow-throated Vireo
Late north 9/20 Aitkin WN, 9/26 Kanabec CM, **10/6** (latest north date) St. Louis *fide* KE. Late south 9/7 Hennepin WM, 9/14 Brown JSp, **10/5** Hennepin SC.

Blue-headed Vireo
Early south 8/23–24 Wabasha KO, 9/1 Cottonwood ED. Late north 10/3 Aitkin CB, 10/15 Koochiching CMG, 10/17 and Lake DV. Late south 10/5 Hennepin TT, 10/11 Hennepin HT, and 10/16 Hennepin SC.

Warbling Vireo
Late north 9/9 Becker BBe, 9/13 St. Louis MF, **9/22** Aitkin CB. Late south 9/11

Brown JSp, 9/17 Hennepin SC, 9/21 Big Stone LE.

Philadelphia Vireo
Early south 8/31 Hennepin mob, 9/1 Lac Qui Parle FE, and 9/3 Scott (2) RJ. Late north 9/19 Aitkin CB, 9/20 St. Louis RH and Aitkin WN. Late south 9/20 Brown JSp, 9/21 Fillmore NO, 9/28 Hennepin SC.

Red-eyed Vireo
Late north 9/20 Aitkin WN, 10/18 Cook BL, **10/22** Cook KMH. Late south 9/26 Brown JSp, 10/4 Hennepin TT, 10/9 Hennepin SC.

Gray Jay
Reported throughout the normal range.

Blue Jay
Reported throughout the state.

Black-billed Magpie
Unusual was a mid-August report of a flyby at HRNR, St. Louis Co. *fide* KE. Another was seen 10/26 near Ely, St. Louis Co. BT. Otherwise, reported throughout the normal range, including 11/11 Becker (1) MRN.

American Crow
Reported throughout the state.

Common Raven
Reported within the normal range.

Horned Lark
Late north 11/6 St. Louis LW, 11/10 Cook KMH, **11/30** Wilkin SDM. Late south 11/5 Renville CMa, 11/16 Big Stone LE, 11/30 Waseca JZ.

Purple Martin
Late north 9/1 Wadena PBi, 9/6 Clay (2) GN. Late south 9/14 Hennepin TT.

Tree Swallow
Late north: no representative reports. Late south 10/17 Winona RJ, 10/18 Carver PBu and Olmsted CH. Peak count 8/10 Kittson **(1,000)** PS.

Northern Rough-winged Swallow
Representative late north 9/13 Clay CN. Late south 10/4 Hennepin RJ, 10/10 Hennepin TT.

Bank Swallow
Late north 9/1 Wadena PBi, 9/7 Aitkin WN. Late south 9/1 Olmsted CN, 9/3 Renville CMa.

Cliff Swallow
Late north 9/8 Kanabec CM, 9/13 Clay CN, 9/15 St. Louis TW. Late south 9/21 Big Stone LE, 9/23 Cottonwood EEG, 9/25 Hennepin SC.

Barn Swallow
Late north 9/7 Aitkin WN, 9/14 Wadena PBi and Clay CN. These data don't appear representative as the 12-year median late north date is 10/12. Late south 10/17 Chippewa ABo, 10/18 Washington RJ and Rice JLa.

Chickadees to Gnatcatchers

Black-capped Chickadee
Reported throughout the state.

Boreal Chickadee
Unusual number **(24)** reported 11/30 Aitkin WN. Otherwise, reported throughout the normal range.

Tufted Titmouse
All reports: Houston and Fillmore throughout the period EMF and NO, respectively; 10/30 Houston (2) FL.

Red-breasted Nuthatch
Reported throughout the state.

White-breasted Nuthatch
Reported throughout the state.

Brown Creeper
Reported throughout the state. Late north 11/15 Cook OSL, 11/20 Todd JSK/SDu, 11/30 St. Louis TW.

Carolina Wren
Only report: one seen at feeder in Roch-

ester from 9/21 (to the end of the period) Olmsted *fide* AH.

House Wren
Late north 9/6 Becker BK, 9/13 Clay CN. Late south 10/7 Hennepin SC, 10/10 Cottonwood RJ, 10/11 Hennepin TT.

Winter Wren
Late north 10/24 St. Louis TW, **10/27** St. Louis JBe, JN, **10/29** Lake DV. Late south 11/21 Hennepin TT, 11/28–29 Hennepin (max. two at Cedar Lake) SC.

Sedge Wren
Late north 9/14 Cass MRN, 9/21 Aitkin WN, 10/5 Lake of the Woods PS. Late south 10/10 Cottonwood and Brown RJ, 10/15 Nobles RJ.

Marsh Wren
Late north 9/13 Clay (2) CN. Late south 11/4 Rice TB, **11/9** Ramsey TT, **11/16** Hennepin TT.

Golden-crowned Kinglet
Early south 9/21 Hennepin SC, 9/24 Brown JSp, 9/25 Houston EMF. Late north 11/8 Carlton LW and Clay (2) CN, 11/30 Aitkin WN. Late south 11/22 Olmsted CH, 11/25 Rice TBo, 11/28 Brown JSp.

Ruby-crowned Kinglet
Early south 8/29 Hennepin TT, 9/1 McLeod RbS, 9/4 Murray ND. Late north 10/15 St. Louis TW, 10/20 Cook KMH, 10/25 Lake DV. Late south 11/7 Brown JSp, 11/10 Rice TBo, 11/16 Brown BBo.

Blue-gray Gnatcatcher
Late north 9/18 **St. Louis** (HRNR) FN, 9/26 **Cook** (Schroeder) RRS, **10/26 Lake** (Knife River) RRS. For the second fall in a row, three were found along the North Shore where unexpected. Late south 9/12 Olmsted CH, 9/18 Houston EMF, 9/23 Hennepin SC.

Bluebirds to Waxwings

Eastern Bluebird
Late north 10/26 Lake RRS, 10/29 Kanabec CM, 11/9 Aitkin WN. Late south 11/7 Brown JSp and Mower RRK, 11/12 Fillmore NO.

Mountain Bluebird
All reports: 8/1 Beltrami (same bird that nested with an Eastern at Calvary Lutheran Church in Bemidji) DJo, 10/21 St. Louis (female) KE, PS, 11/2 St. Louis (male in Ely) BT, **11/8** St. Louis (male in Duluth) DSc.

Townsend's Solitaire
All reports: 10/5 St. Louis (HRNR) mob, 10/25 St. Louis (HRNR) mob, 10/25 Lake (Two Harbors) mob, 10/25 Cook (Grand Marais) AH, PS *et al.*, 11/4 St. Louis (W. Tischer Road) mob, 11/4 St. Louis (HRNR) FN, 11/21 St. Louis (Brighton Beach) KB, 11/26 St. Louis (location?) LW.

Veery
Total of only 11 birds reported from 8/16 to 9/21. Late north 9/17 St. Louis AE, 9/21 Lake DV. Late south 8/31 Hennepin SC, 9/2 Brown JSp, 9/6 Hennepin TT.

Gray-cheeked Thrush
All reports: **8/21** (earliest south date) Hennepin SC, 9/3 Itasca BN, 9/13 Lake RJ, 9/21 St. Louis AE, and **10/13** Washington DS. Total of only five birds (four l.y.).

Swainson's Thrush
Early south 8/29 Hennepin TT, 8/31 Hennepin SC, 9/2 Winona RJ. Late north 10/1 Aitkin LF, **11/1** Lake KE *et al.*, **11/6** (bird was eating apples; latest north date) Aitkin CMG. Late south 9/28 Rice TBo, 10/1 Hennepin SC, 10/11 Hennepin HT.

Hermit Thrush
Early south 9/25 Hennepin (3) SC, 9/30 Brown JSp, 10/2 Hennepin OJ. Late north 10/27 St. Louis JBe, 11/20 Cook KB, RJ. Late south 11/12 Hennepin TT, 11/18 Hennepin SC, 11/23 Stevens MJ/DT.

Wood Thrush
All reports: 8/11 Aitkin CMG, 9/9 Henne-

pin SC, 9/20 Olmsted CH, 10/8 Freeborn ABa, **11/6–10** (latest date on record for state) Hennepin (Minneapolis) TT *et al.*

American Robin
Reported throughout the state.

Varied Thrush
All reports: **9/16** (record early south and ties earliest arrival date for the state) Cottonwood (Mountain Lake) *fide* RJ, 11/15 Ramsey RH, 11/19–27 Cottonwood (Windom) *fide* AH.

Gray Catbird
Late north 9/26 Carlton LW, 9/27 St. Louis CM, 9/30 St. Louis KO. Late south 10/4 Houston EMF and Hennepin SC, 10/11 Lac Qui Parle FE.

Northern Mockingbird
All reports: 8/12 Brown JSp, 8/23 Aitkin WN, WSf, 10/25 Cook MH *et al.*, 11/9 Hennepin BG, 11/24–30 **Becker** (Detroit Lakes) BBe.

Brown Thrasher
Late north 9/13 Kanabec CM, 9/21 Lake DV. Late south 9/21 Hennepin HT, 10/18 Ramsey RH, 10/19 Hennepin SC.

European Starling
Reported throughout the state.

American Pipit
Early north **9/4** St. Louis SWe, 9/9 Cook KMH, and 9/13 St. Louis MF. Early south **9/3** (earliest south date) Hennepin SC, 9/16 Dakota DBS, and 9/20 Hennepin SC. Late north 10/25 Carlton LW, 10/26 Cook WM, 10/28 St. Louis SS. Late south 10/26 Big Stone LE and Rice JL, 10/27 Lyon RgS.

Bohemian Waxwing
Early north 10/22 Cook (300) KMH, 10/24 St. Louis SS, TW. Peak numbers 10/25 Cook (**1,000+**) mob, 11/16 Aitkin (**700**) WN.

Cedar Waxwing
Reported throughout the state.

Warblers

Blue-winged Warbler
Late south 9/5 Washington RJ, 9/10 Fillmore NO, **9/28** (latest date on record) Houston EMF. "Brewster's Warbler" reported **10/14** (this would be an extremely late for either of the two parent species) **St. Louis** AE.

Golden-winged Warbler
Late north 9/1 Aitkin WN, 9/8 Kanabec CM, and **9/14** Aitkin CB. Late south 9/21 Hennepin SC, WM, and **10/4** Hennepin HT.

Tennessee Warbler
Early south 8/15 Hennepin SC, 8/21 Brown JSp, 8/22 Dakota TT. Late north 10/6 Cook KMH, **10/26** Cook WM, **11/2** Cook MH. Late south 10/7 Houston EMF, 10/11 Hennepin SC, and 10/14 Fillmore NO.

Orange-crowned Warbler
Early north 8/23 Beltrami DJo, 8/24 Itasca BN, 8/31 Aitkin WN. Early south 9/2 Houston EMF, 9/11 Hennepin SC, 9/17 Brown JSp. Late north 10/11 Clay RO, 10/12 Lake DV. Late south 10/31 Hennepin JBe, **11/4** Hennepin (2) SC, **11/15** Hennepin TT.

Nashville Warbler
Late north 10/25 Lake PS, **10/29** Lake DV, **11/4** (latest north and third latest ever for the state, found dead on 11/5) St. Louis DKi. Late south 10/11 Hennepin TT, 10/12 Nicollet MF, 10/25 Hennepin SC.

Northern Parula
Early south 8/31 McLeod RbS, 9/3 Hennepin SC, and 9/7 Hennepin (3) TT. Late north 9/18 Cook KMH, and 9/20 St. Louis RH, 9/21 Lake DV. Late south 9/21 Hennepin TT, 9/26 Olmsted CH, 9/28 Hennepin SC.

Yellow Warbler
Late north 9/14 St. Louis WM, 9/20 St. Louis TT, 9/27 Aitkin WN. Late south 9/

23 Washington DN, **10/4** Hennepin SC, **10/22** (second latest for the state) Hennepin TT.

Chestnut-sided Warbler
Late north 9/26 Cook MH, 9/28 Aitkin CB and St. Louis AE. Late south 9/21 Big Stone LE, 9/25 Hennepin SC, 10/7 Houston FL.

Magnolia Warbler
Early south 8/21 Hennepin SC, 8/23 Ramsey TT, 8/26 McLeod RbS. Late north 9/28 Kittson PS, 9/30 St. Louis AE, **10/18** (ties latest north) Lake AH. Late south 9/29 Hennepin TT, 10/1 Hennepin SC, 10/4 Fillmore NO.

Cape May Warbler
Early south 8/27 Washington RJ, 8/28 Houston FL, 8/30 Dakota TT. Late north 10/5 Beltrami DJo, 10/27 St. Louis JBe, FN. Late south: no representative late south dates.

Black-throated Blue Warbler
Early south 9/2 Hennepin (the first of **five** individuals, all seen within the county beginning on 9/2–9) SC, 9/5 Rice JLa, JL, 9/6 Hennepin (one singing male) TT. Late north 9/18 Cook JBr, and **10/6** (ties second latest north, seen at HRNR) St. Louis *fide* KE. Late south 9/26 **Houston** FL, and 10/4 Hennepin (2) mob. Total of 17 birds (13 l.y.) from 7 different counties.

Yellow-rumped Warbler
Early south 8/20 Hennepin SC, 8/25 Washington DS, 9/14 Hennepin (2) TT. Late north 11/7 St. Louis LW, 11/15 Lake MH, DV. Late south 11/8 Rice JL, 11/9 Brown JSp, 11/28 Hennepin (2) SC.

Black-throated Green Warbler
Early south 8/30 Hennepin TT, 8/31 Rice TBo, 9/2 Brown JSp. Late north 9/21 Kanabec CM, 9/25 Cook KMH, **10/18** (latest north date) Cook BL. Late south 10/1 Fillmore NO, 10/4 Hennepin TT, **11/4** (observed at a birdbath — latest date on record) Hennepin ES, *fide* SC.

Blackburnian Warbler
Early south 8/10 Anoka JBe, 8/20 Hennepin SC, 8/21 Brown JSp. Late north 9/13 St. Louis AE, 9/18 Cook KMH, 9/19 Aitkin CB. Late south 9/28 Fillmore NO and Hennepin SC, **10/12** (ties second latest south) Nicollet MF.

Pine Warbler
Late north 9/20 (singing) St. Louis TT, 9/27 St. Louis CM and Aitkin WN. Late south 9/30 Dakota DBo, 10/11 Hennepin HT.

Palm Warbler
Early south 9/2 Olmsted RJ, 9/3 Dakota TT, 9/6 Anoka MM. Late north 10/24 Cook KMH, 10/25 Crow Wing BL, 10/26 Cook WM. Late south 10/11 Carver PBu, 10/19 Hennepin SC, TT.

Bay-breasted Warbler
Early south 8/23 Wabasha KO, 8/29 Hennepin TT, 9/5 Dakota DBS. Late north 9/18 Becker BBe, 9/19 Carlton LW and Kanabec CM. Late south 9/20 Hennepin SC, 9/25 Hennepin SC, 9/27 Dakota TT.

Blackpoll Warbler
Early north 8/29 Kittson RJ, 9/1 Wadena PBi and St. Louis PBu. Early south 8/21 Brown JSp, 8/27 Hennepin SC, 9/2 Murray ND. Late north 9/20 St. Louis TT, 9/21 Lake of the Woods PS, 9/28 Aitkin WN. Late south 9/10 Brown JSp, 9/27 Washington EP, 9/28 Hennepin SC. Total of 18 birds reported from 12 counties.

Cerulean Warbler
No reports.

Black-and-white Warbler
Late north 9/24 Kanabec CM, 9/28 St. Louis AE, 10/4 Aitkin WN. Late south 10/8 Houston EMF, 10/14 Hennepin SC, 10/15 Nicollet MF.

American Redstart
Late north 9/23 Kanabec CM, 9/26 St. Louis AE, 9/28 Aitkin WN. Late south 9/25 Hennepin SC, 9/27 Houston EMF, **11/9** (second latest south date) Houston BC.

Prothonotary Warbler
All reports: 8/10 Scott DN, 8/13 Goodhue KB, 8/24 Winona CB, 9/1 Goodhue BL.

Ovenbird
Late north 9/19 Kanabec CM, 9/20 Carlton LW, 10/13 Aitkin CB. Late south 10/7 Hennepin SC, 10/15 Hennepin TT, **11/7–10** Hennepin (downtown Minneapolis at the NSP Plaza; this same individual may have been present since 10/15) GP, TT, SC.

Northern Waterthrush
Late north 9/20 Carlton LW, 9/21 Lake of the Woods PS, 10/2 St. Louis AE. Late south 10/4 Hennepin PBu, 10/5 Hennepin TT, 10/14 Hennepin SC.

Louisiana Waterthrush
No reports.

Connecticut Warbler
Only south reports: 8/31 Washington WL, 9/6 Stearns RJ. Late north 9/3 Aitkin CB, 9/17 Kanabec CM.

Mourning Warbler
Early south 8/18 Hennepin *fide* AH, 8/20 Brown JSp, 8/22 Ramsey TT. Late north 9/15 St. Louis AE, **9/22** Itasca BN, **9/28** Kittson PS. Late south 10/2 Ramsey AH, 10/7 Houston FL.

Common Yellowthroat
Late north 9/21 Aitkin WN and Lake DV, 9/27 St. Louis CM, 9/30 Beltrami DJo. Late south 10/4 Lyon RgS, 10/22 Hennepin PBu.

Hooded Warbler
No reports.

Wilson's Warbler
Early north 8/16 Crow Wing PP, 8/18 Carlton LW, 8/21 Lake DV. Early south 8/20 Hennepin SC, 8/21 Brown JSp, 8/22 Rice TBo. Late north 9/13 St. Louis AE, 9/18 Cook KMH, **10/24** (latest north date) Lake *fide* KE. Late south 9/10 Dakota DBS, 9/19 Hennepin TT, and 9/23 Brown JSp.

Canada Warbler
Early south 8/20 Hennepin SC, 8/21 Brown JSp, 8/22 Le Sueur MF. Late north 8/24 Beltrami DJo, 8/31 Aitkin WN, 9/9 Lake DV. Late south 9/5 Rice JL, JLa and Washington RJ, 9/9 Hennepin SC.

Yellow-breasted Chat
Only one report: **10/18** (latest date on record) Duluth, **St. Louis Co.** KE, mob.

Tanagers to Snow Bunting

Summer Tanager
Only reports: **10/18–23 Cook** (Good Harbor Bay) CMa, mob, **10/19–24 St. Louis** (Stoney Point) KE, mob.

Scarlet Tanager
Late north 9/14 Carlton LW, 9/21 Aitkin WN, 9/23 Kanabec CM. Late south 9/21 Brown JSp and Rice JL, 9/29 Houston EMF, 10/5 Hennepin TT.

Spotted Towhee
All documented reports: 9/27 (female) **Lyon** RgS, 10/7–12 Moulton Twp., Murray Co. (male) ND, 10/13 **Brown** (male) JSp, 10/15 Iona Twp., Murray Co. (male) ND.

Eastern Towhee
Only north report: 10/5 Becker DN. Late south 10/5 Hennepin SC, 10/9 Rice TBo, 10/17 Houston EMF.

American Tree Sparrow
Early north 10/10 Cook KMH, 10/11 Aitkin WN, 10/12 Roseau PS. Early south 10/8 Lyon RgS, 10/17 Winona RJ. Peak movement north between 10/26 and 11/5. Late north 11/9 Carlton LW, 11/21 Becker BBe.

Chipping Sparrow
Late north 10/16 Lake DV, 10/18 Crow Wing PP, 11/8 Clay GN. Late south 11/7 Ramsey RH, 11/8 Hennepin SC, TT, **11/22** Lyon RgS.

Clay-colored Sparrow
Late north **10/23** Cook/Lake CMa, **10/26**

Cook KE, **11/18** (latest fall date anywhere in the state) Becker BBe. Late south 10/7 Houston FL and Rice TBo, 10/10 Cottonwood RJ, **11/9** (latest date south) Lyon RgS.

Field Sparrow
No north reports. Late south 10/25 Olmsted CH, 11/4 Hennepin SC, 11/5 Freeborn RJ.

Vesper Sparrow
Late north 10/4 Wilkin SDM, 10/13 Carlton LW, 10/16 St. Louis DBe. Late south 10/11 Hennepin TT, 10/15 Pipestone RJ, 10/26 Olmsted CH.

Lark Sparrow
All reports: 8/3 Washington GS, 8/10 Sherburne PBu, 8/15 **St. Louis** (Cotton) *fide* KE

BLACK-THROATED SPARROW
Fourth state record 11/8 **Mower** (Austin) LDo (erroneous date published in ***The Loon*** 70:64).

Lark Bunting
No reports.

Savannah Sparrow
Late north 10/15 Cook KMH, 10/23 Lake CMa, 11/1 Pine RJ. Late south 10/27 Lyon RgS, 11/8 Hennepin SC, TT.

Grasshopper Sparrow
Only north report: 8/8 Clay RO. Late south 8/10 Sherburne PBu, 8/17 Brown JSp, 10/2 Rice JL.

Henslow's Sparrow
No reports.

LeConte's Sparrow
Unusually widespread in the south during the first half of October, with reports from a total of 17 counties (reported from 15 different south counties by RJ alone!). Late north 9/25 Grant and Traverse RJ, plus 10/4 Wilkin (8) SDM. Late south 10/17 Washington RJ, and 10/18 Fillmore RG.

Nelson's Sharp-tailed Sparrow
All reports: 8/3 Aitkin TBr, 9/21 French Lake, Hennepin Co. HT, 9/28 Resurrection Cemetery, Dakota Co. TT, **10/18** (ties latest south date) Old Cedar Ave. Bridge, Hennepin Co. TT.

Fox Sparrow
Early north 9/20 St. Louis RH, 9/25 Cook KMH, 9/26 Itasca ABo. Early south 9/20 Hennepin SC, 9/23 Brown JSp, 9/30 Rice TBo. Late north 11/8 Clay GN and St. Louis JN, 11/18 Kanabec CM. Late south 11/30 Olmsted CH.

Song Sparrow
Late north 11/10 Becker BK, 11/20 St. Louis JN, 11/21 Todd JSK/SDu. Observed in 29 south counties.

Lincoln's Sparrow
Early south 8/31 Hennepin SC, 9/11 Brown JSp, 9/23 Olmsted CH and Washington TEB. Late north 10/11 Clay RO, 10/14 Beltrami DJo, 10/28 Todd JSK/SDu. Late south 11/8 Chippewa ABo, 11/9 Ramsey TT, **11/20** Hennepin TT.

Swamp Sparrow
Late north 10/4 Wilkin SDM, 10/15 St. Louis TW, 11/2 Otter Tail DS. Late south 11/23 Hennepin (4) SC, 11/28 Dakota TT.

White-throated Sparrow
Early south 9/6 Hennepin TT, 9/31 Brown JSp and Dakota DBS. Late north 11/18 Becker BBe, 11/23 St. Louis NJ, 11/25 Aitkin CMG. Late south 11/30 Hennepin mob and Houston EMF.

Harris's Sparrow
Early north 9/14 St. Louis TW, 9/17 Kanabec CM, 9/20 Cook KMH. Early south 9/23 Lyon RgS, 9/27 Dakota TT, 9/28 Brown JSp. Late north 11/8 Clay (6) CN, RK, 11/22 St. Louis JN, 11/25 Aitkin WN. Late south 11/20 Freeborn ABa, 11/23 Nicollet LF, 11/26 Lyon RgS.

White-crowned Sparrow
Early north 9/10 Cook KMH, 9/14 St. Louis TW, 9/18 Becker BBe. Early south

9/20 Ramsey AH, 9/21 Big Stone LE, Hennepin TT and Lyon RgS. Late north 11/11 Becker BK, 11/16 Aitkin WN, and 11/27 Cook OSL. Late south 10/18 Washington RJ, 10/19 Dakota TT, 10/22 Hennepin SC.

Dark-eyed Junco
Reported from 17 north counties throughout the period. Early south 9/11 Hennepin SC, 9/19 Sherburne RJ, and 9/20 Anoka MM. Three "Oregon" race sightings of four individuals: 10/16 Dakota DBS, 11/22 Stearns (2) MJ/DT, 11/23 Clay MRN.

Lapland Longspur
Early north 9/20 St. Louis TT, 9/21 Lake DV, 10/5 Roseau (~100) PS. Early south 10/1 Ramsey RJ and Hennepin (43) TT, 10/2 Dakota DBS. Late north 10/20 St. Louis LW, TW, 10/26 Cook WM. Late south 10/27 Lyon RgS, 11/2 Freeborn ABa, 11/4 Renville CMa.

Smith's Longspur
No reports.

Chestnut-collared Longspur
Only report: 8/8 Felton Prairie, Clay Co. (4) RO.

Snow Bunting
Early north 10/11 Aitkin WN, 10/12 Lake JL. Early south 10/25 Brown JSp, Chippewa ABo and Dakota counties KO. Largest flock 11/16 Big Stone (400 birds) LE.

Cardinals to Orioles

Northern Cardinal
Reported from 5 north (including 10/26 Lutsen, **Cook Co.** *fide* AH) and 23 south counties.

Rose-breasted Grosbeak
Late north 9/14 Aitkin CMG and Kanabec CM, 9/23 St. Louis NJ, and 9/28 Wadena PBi. Late south 10/4 Hennepin SC and Sherburne KO, plus 11/23 Dakota *fide* AH.

Blue Grosbeak
Only report: **10/2** Rock ND.

Indigo Bunting
Late north 9/3 Kanabec CM, 9/6 Lake DV, 9/7 Cook KMH. Late south 9/29 Ramsey TT, 10/14 Hennepin SC.

Dickcissel
All reports: 8/3 Brown JSp, Dakota ABo and Washington GS, 8/7 Renville CMa, 8/11 Jackson MJC, 9/19 Lyon RgS.

Bobolink
Late north 8/28 Pennington RJ, 9/8 Aitkin CB, 9/13 Clay CN. Late south 9/13 Waseca JSe, **10/15** (ties second latest date south) Hennepin PBu.

Red-winged Blackbird
Reported throughout the period, north and south.

Eastern Meadowlark
Late north 9/28 Aitkin WN; all later north reports were from Cook, the latest being **11/26** Cook (Grand Marais) KMH. Late south 10/1 Ramsey RJ, 10/10 Sherburne DJe, 10/13 Houston EMF.

Western Meadowlark
Late north 10/5 Lake of the Woods PS, 11/11 Becker and Mahnomen MRN. Late south 10/27 Lyon RgS, 11/4 Hennepin SC, 11/5 Renville CMa.

Yellow-headed Blackbird
Very few reports after August, all of which are included here. Late north 9/21 Aitkin WN, 10/9 St. Louis JN. Late south 9/1 Big Stone LE, 9/3 Renville CMa, 10/4 Sherburne KO.

Rusty Blackbird
Early north **9/9** St. Louis FN, 9/20 Lake DV and St. Louis RH, 9/21 Lake of the Woods PS. Early south 9/21 Hennepin SC, 10/1 Washington RJ, 10/10 Dakota TT and Sherburne (100) DJe. Late north 10/29 Cass RJ, 11/15 St. Louis JN. Late south 11/5 Renville (100) CMa and Rice TBo, 11/15 Ramsey RH, 11/18 Waseca JZ.

Brewer's Blackbird
Late north 9/25 Traverse RJ, 10/11 Clay RO, 11/10 Becker BK. Late south 10/29 Olmsted CH, 11/5 Rice TBo, 11/18 Waseca JZ.

Common Grackle
Late north 11/30 Aitkin WN and Clay MRN. Reported from 17 north and 30 south counties.

Brown-headed Cowbird
Late north 8/22 Beltrami DJo, 9/7 Aitkin WN. Late south 10/10 Cottonwood RJ, 11/8 Dakota PBu.

Orchard Oriole
All reports: 8/3 Dakota TT, 8/10 Houston EMF.

Baltimore Oriole
Late north 8/26 Kanabec BA, 8/31 Becker BK, 9/14 Aitkin WN. Late south 9/9 Nicollet LF, 9/14 Hennepin TT, 9/17 Washington DS.

Finches to Old World Sparrows

Pine Grosbeak
Early north 10/22 St. Louis TW, 10/23 Cook KMH. Peak numbers 10/29 HRNR, St. Louis Co. (490) FN, 11/3 HRNR (**1,025**, a record flight for the entire Great Lakes Basin!) FN (***The Loon*** 70:62–63).

Purple Finch
Early south **8/21** Hennepin SC, **8/22** Brown JSp, and **8/23** McLeod RbS. SC reported more individuals of this species this fall than in the last seven combined. In all reported from 15 north and 17 south counties.

House Finch
Reported from 11 north and 27 south counties.

Red Crossbill
Reported from Aitkin, Becker, Carlton, Lake, and St. Louis counties north, with one report at the end of August (8/21–29 St. Louis *fide* KE) and the remainder in late October and November. All south reports: 11/4 Washington (8) WL, 11/6 Hennepin SC, 11/12 Hennepin (2) RJ, 11/30 Dakota JL.

American Goldfinch, September 1997, Anoka County. Photo by Marcus Martin.

White-winged Crossbill
Reported from Aitkin, Clay, Itasca, Lake and St. Louis counties north, with most reports during the first week of November. An incredible number of south reports hinted of a winter invasion: 8/27 Hennepin LE, 11/1 Ramsey *fide* AH, 11/5 Renville CMa, 11/10 Dakota DBS, 11/15 Rice JL, JLa, 11/21 Brown BBo, 11/28 Carver DBM and Hennepin TT.

Common Redpoll
Early north 10/19 St. Louis mob, 10/22 Cook KMH, 10/25 Lake DV. Early south 10/25 Brown JSp, 10/26 Hennepin HT, 10/27 Murray ND. Widely reported across the state. Largest flock was 250 on 11/11 at Hamden Slough NWR, Becker Co. MRN.

Hoary Redpoll
All reports: 10/26–11/1 Cook KE, 11/2–4 St. Louis (Duluth) *fide* KE, 11/10 Lake AH, PS, 11/16 St. Louis (Hoyt Lakes) AE, 11/22 Beltrami (2) DJo, 11/25 Marshall *fide* AH.

Pine Siskin
Reported from 17 north and 18 south counties.

American Goldfinch
Reported from 22 north and 32 south counties. AH reported two adults feeding begging young as late as 10/10 in Ramsey.

Evening Grosbeak
Reported from 15 north counties. PS found them more numerous than usual in the north-central part of the state. All south reports: 10/16 Hennepin SC, 10/17 Fillmore NO, 10/20 Wabasha *fide* AH, 10/31 Houston EMF, 11/10 Stearns MJ/DT, mid-November Chisago and Dakota *fide* AH.

House Sparrow
Reported from 13 north and 27 south counties.

Contributors

BA	Betty Ammerman
DA	Diane M. Anderson
KB	Karl Bardon
ABa	Al Batt
JBe	Joe Beck
TEB	Tom & Elizabeth Bell
BBe	Betsy A. Beneke
DBe	David R. Benson
PBi	Paul J. Binek
TBo	Tom F. Boevers
BBo	Brad Bolduan
ABo	Al Bolduc
DBo	Don A. Bolduc
TBr	Terry P. Brashear
JBr	Julie Brophy
DBr	Diane Brudelie
PBu	Paul Budde
CB	Cindy Butler
SC	Steve Carlson
MJC	Mary Jo Christopherson
BC	Brian M. Collins
ND	Nelvina DeKam
LDo	Larry Dolphin
MD	Merce Dostale
ED	Ed Duerksen
SDu	Sue Durrant
KE	Kim R. Eckert
FE	Fred A. Eckhardt
PE	Paul Egeland
BE	Bob Ekblad
LE	Lane Ellwanger
DEn	Deanne Endrizzi
RE	Ron A. Erpelding
DEv	David Evans
ME	Molly Evans
AE	Audrey L. Evers
THF	Tom & Helen Ferry
LF	Lawrence W. Filter
HJF	Herbert & Jeanette Fisher
EMF	Eugene L. & Marilynn H. Ford
RJF	Randy & Jean Frederickson
MF	Merrill J. Frydendall
CMG	Clare & Maurita Geerts
BG	Bill George
EEG	Edna & Ellis Gerber
EG	Esther Gesick
RG	Ray A. Glassel
CG	Charlie Greenman
DG	David Grossheusch
RHa	Roger Haglund
JHa	Jay E. Hamernick
CH	Clifford Hansen
JaH	Jack Heather
MH	Mike Hendrickson
AH	Anthony Hertzel
JHe	Joel Hessen
KMH	Ken & Molly Hoffman
RH	Robert E. Holtz
JH	James L. Howitz
NJ	Nancy A. Jackson
RJ	Robert B. Janssen
PJ	Paul Jantscher
DJe	Douglas Jenness
DJo	Douglas P. Johnson
MJ/DT	Murdoch Johnson & Dianne Tuff
OJ	Oscar L. Johnson
JJ	Jeanie Joppru
DK	Don Kienholz
BK	Byron R. Kinkade
KK	Karla Kinstler
RRK	Ron & Rose Kneeskern
SKo	Sarah Kohlbry
RK	Rich Kostecke
JSK	John & Susan Kroll
PKL	Pat & Ken Lafond
JLa	Jacob Langeslag
FL	Fred Lesher
SL	Sue Levy
BL	Bill Litkey
JL	Jon Little
WL	William H. Longley
OSL	Orvis & Sandy Lunke
CMa	Craig R. Mandel
WM	William Marengo
DBM	Dennis & Barbara Martin
MM	Marcus G. Martin
CM	Craig Menze
SDM	Steve & Diane Millard
BMu	Bonnie Mulligan
DN	David F. Neitzel
BN	Bill Nelson
EN	Eric C. Nelson
WN	Warren Nelson
JN	Jeff R. Newman
FN	Frank Nicoletti
GN	Gary E. Nielsen
CN	Connie M. Norheim
MRN	Michael R. North
RO	Robert O'Connor
KO	Ken Oulman
NO	Nancy Overcott
EP	Ethan Perry
PP	Pam Perry
DMP	Daphne & Meyers Peterson
GP	Greg Pietila
KRv	Kathryn A. Rivers
SR	Steve Roman
DSc	Dave Schimpf
SS	Steven Schon
RRS	Rick & Robyn Schroeder
RbS	Robert Schroeder
RgS	Roger Schroeder

CS	Carol A. Schumacher
BSe	Blaine Seeliger
JS/MN	Jean Segerstrom & Mark Newstrom
RSe	Ron Selbitschka
JSe	Julian P. Sellers
GS	Gary Simonson
BSi	Beth Siverhus
RSm	Rolf C. Smeby
DBS	Drew & Becky Smith
DS	Dave P. Sovereign
JSp	Jack Sprenger
ES	Evelyn Stanley
WSt	William Stauffer
FKS	Forest & Kirsten Strnad
KSu	Karen Sussman
PS	Peder Svingen
MT	Michael Tarachow
BT	Bill Tefft
HT	Howard C. Towle
TT	Tom Tustison
DV	Dan Versaw
LW	Larry A. Weber
SWe	Steve Weston
TW	Terry P. Wiens
DWi	Dennis D. Wiesenborn
SWi	Sylvia Winkelman
BY	Ben Yokel
JZ	James E. Zimmerman
DZ	Dave C. Zumeta
mob	many observers
MBW	Minnesota Birding Weekends
MCBS	Minnesota County Biological Survey
MDNR	Minnesota Department of Natural Resources
NRRI	Natural Resources Research Institute
SPAS	St. Paul Audubon Society
USFWS	U.S. Fish & Wildlife Service

The 1997 Migration at Hawk Ridge

Frank J. Nicoletti

Data on birds migrating over Hawk Ridge were compiled on an irregular basis until 1971, when systematic yearly counts began. Prior to 1991, the count from the overlook would end on 31 October; any birds seen after that were observed from the banding station. Since 1991, the count has continued from the main overlook right on through November. This year, the count began on 15 August and continued through 30 November. Extending the period at the overlook in this way has yielded new insights into the later migrants. The following is a summary of what occurred on the ridge in 1997, the 26th consecutive year a full-time count has been conducted.

1997 Results

The official count was in operation for 106 days (15 August – 30 November). A total of 1159.75 hours of observation was logged at an average of nine hours per day. A total of 90,107 raptors was counted this season (Table 1). This is the third highest total since the full-time count began in 1972. Record season and/or daily high counts were set for four species (Table 2).

Monthly Summary

August

August started out slow. Only local raptors were seen before the 18th, including several immature Broad-wingeds and harriers, being harassed by ravens. A family of Cooper's Hawks was seen (two adults and one immature). Flocks of Cedar Waxwings and several small groups of Evening Grosbeaks migrated through on the 20th. No raptor movement was seen until the 18th, when eight of the regular 14 species showed up.

On the 21st, a light northerly wind brought nine harriers, 40 Sharp-shinneds, a single Red Crossbill, a few Purple

Table 1. Composite totals. Monthly raptor counts at Hawk Ridge, Fall 1997.

Species	August	September	October	November	Totals
Turkey Vulture	11	645	669	0	1325
Osprey	39	424	54	0	517
Bald Eagle	28	315	1520	544	2407
Northern Harrier	78	476	165	2	721
Sharp-shinned Hawk	636	13719	7966	23	**22344**
Cooper's Hawk	7	84	110	0	201
Northern Goshawk	1	59	337	57	454
Red-shouldered Hawk	0	0	4	0	4
Broad-winged Hawk	233	49025	69	0	49327
Swainson's Hawk	0	15	1	0	16
Red-tailed Hawk	27	563	8171	514	9275
Rough-legged Hawk	0	0	226	119	345
Golden Eagle	0	0	67	36	103
American Kestrel	108	1989	401	0	2498
Merlin	22	177	260	1	**460**
Peregrine Falcon	1	90	20	0	**111**
Total raptors	1190	67581	20040	1296	90107
Days	16	30	31	29	106
Hours	191	377	374.25	244.5	1159.75

Bold numbers represent record totals.

Finches, Evening Grosbeaks, and over 50 Common Nighthawks.

On the 24th, the second record of a Band-tailed Pigeon occurred on the ridge. It was observed for over an hour by more than 20 birders as it perched in nearby trees. Raptor movement that day was fair, highlighted by a close look at an immature Peregrine, dark in coloration, suggesting it was produced by a local eyre.

The 26th saw good movement of Purple Finches, Cedar Waxwings, and the first Pine Siskins, Solitary Sandpipers, one Common Loon, and a large flight of nighthawks — groups of a few hundred to a thousand were seen in the morning, often kettling in large swirls, and more were counted that afternoon migrating out over Lake Superior. The combined count for both locations was over 10,000, the fourth highest daily count.

September

Like August, September began slow. On the 2nd, 553 hawks were seen, mostly Sharp-shinneds, as well as an early movement of Blue Jays (50+) and the first two Sandhill Cranes of the season. September 4th brought the first migrating ravens, and the 5th saw a large movement of Cliff Swallows, Blue Jays, and three Pectoral Sandpipers. On the 9th, a cold front with northwest winds brought over 3,000 hawks — 1,126 Sharp-shinneds, 1,661 Broad-wingeds, and 126 kestrels. The 5th also brought a large migration of passerines, which included Red-breasted Nuthatches, Evening Grosbeaks, Scarlet Tanagers, an early Rusty Blackbird, and, unexpectedly, 34 American White Pelicans along the Lake Superior shore.

On the 10th, there were almost 1,600 hawks, including two adult dark-morph Broad-wingeds. On September 11th, 12

Table 2. Peak flight and range of occurrence of raptors at Hawk Ridge, Fall 1997.

Species	Total	Peak Flight and Date	Range of Occurrence
Turkey Vulture	1325	171 on 20 Sept.	18 Aug. – 26 Oct.
Osprey	**517**	**90** on 17 Sept.	18 Aug. – 21 Oct.
Bald Eagle	2407	200 on 24 Oct.	18 Aug. – 27 Nov.
Northern Harrier	721	80 on 29 Sept.	18 Aug. – 3 Nov.
Sharp-shinned Hawk	**22344**	**1919** on 17 Sept.	18 Aug. – 20 Nov.
Cooper's Hawk	201	14 on 3 and 9 Oct.	18 Aug. – 19 Oct.
Northern Goshawk	454	43 on 16 Oct.	Aug. – 25 Nov.
Red-shouldered Hawk	4	2 on 16 Oct.	15 Oct. – 23 Oct.
Broad-winged Hawk	49327	19659 on 17 Sept.	18 Aug. – 21 Oct.
Swainson's Hawk	16	9 on 29 Sept.	15 Sept. – 9 Oct.
Red-tailed Hawk	9275	1543 on 16 Oct.	22 Aug. – 27 Nov.
Rough-legged Hawk	345	41 on 22 Oct.	7 Oct. – 26 Nov.
Golden Eagle	103	16 on 20 Oct.	13 Oct. – 20 Nov.
American Kestrel	2498	331 on 17 Sept.	18 Aug. – 24 Oct.
Merlin	**460**	**73** on 9 Oct.	21 Aug. – 3 Nov.
Peregrine Falcon	**111**	**21** on 29 Sept.	24 Aug. – 18 Oct.

Bold numbers represent record totals.

American Golden-Plovers and seven Sandhill Cranes were seen. The 13th brought two more cranes. Hawk flights resumed on the 14th, highlighted by four Peregrines traveling together along the ridge top. (Our MOU speaker for the weekend, Clay Sutton, saw a Pine Martin down the road from the lookout; this was followed by more sightings of one or two martins over the next couple months.)

On September 15th, an adult dark/rufous-morph Swainson's Hawk passed overhead, as well as a Red-headed Woodpecker, and over 650 Canada Geese. It rained on the 16th, and on the 17th winds were strong from the west, bringing 22,187 raptors, including a new daily record of 1,919 Sharp-shinneds, 19,659 Broad-wingeds (among them six dark-morphs), and another Swainson's Hawk. The next day brought 4,000 Broad-wingeds, a Blue-gray Gnatcatcher (third record for the ridge), and a Red-headed Woodpecker.

The 19th brought a total of 21,616 raptors, among them 19,584 Broad-wingeds and 1,438 Sharp-shinneds. Passerines included a good influx of White-throated Sparrows, flickers, Palm and Yellow-rumped Warblers, a few American Pipits, 19 Lapland Longspurs, and seven Sandhill Cranes. The 20th brought the last push of Broad-wingeds (1,516) for the season, while the adult Sharp-shinned flight was just starting. Turkey Vultures peaked at 171 and the first dark-morph Red-tailed Hawk showed up.

The flight for the rest of the month was moderate, numbering 100 to 500 hawks per day, with the exception of the 25th, when 1,171 raptors were counted. Highlights for the end of the month were a Red-headed Woodpecker and two Black-billed Cuckoos. On the 25th, a few species of shorebirds were observed, and Dudley Edmundson saw a Black-billed Magpie migrate by Summit Ledge. The 26th had an adult male "Richardson's" Merlin and a Willet (a first for Hawk Ridge), chased by an immature Peregrine Falcon.

On the 29th, there was light rain and

howling northwest winds (20–30 mph), keeping the hawk count to only a few hundred, staying low and riding the ridge, but also on this day were 21 Peregrines (a new Hawk Ridge daily record) hugging the ridge top and at times so close, observers didn't even need binoculars. Nine Swainson's Hawks showed up, including a group of six adults. On the 30th, four Swainson's Hawks were seen, as well as three Snow Geese, and ten Sandhill Cranes.

October

The beginning of October brought steady hawk flights of 500 to 1000 per day. Adult Sharp-shinneds were most numerous until mid-month, when they began to be outnumbered by Red-taileds. The 3rd brought a partial albino Red-tailed, eight Peregrines, and 14 Cooper's Hawks, the season's high for that species.

October 4th was highlighted by the fall's second Band-tailed Pigeon; unlike the first one, this one flew by quickly and did not stick around. On the 5th, the season's first Black-backed Woodpecker (a female) showed up in the pines and remained there until early November. Also on that date was a Townsend's Solitaire, a rare but annual migrant at Hawk Ridge, and the fourth Red-headed Woodpecker of the season. On the 6th, there were few hawks, but for the third day in a row, thousands of robins migrated along the lake, as well as good numbers of flickers, Blue Jays, Ruby-crowned Kinglets, Palm and Yellow-rumped Warblers, and the first Winter Wren.

Migration slowed until October 9th, when there were 558 Sharp-shinneds, 14 Cooper's Hawks, and one Swainson's Hawk. The first Snow Buntings were seen on October 13th, as well as 25 Bonaparte's Gulls. A flock of 53 American White Pelicans was seen on the 15th. Boreal Chickadee was first seen on the 22nd and 69 Bohemian Waxwings on the 23rd. From the 13th to the 24th, raptor flights were good, with 6,000+ Red-taileds outnumbering Sharp-shinneds; the Red-taileds were coming through earlier than usual and thus there was no late-October flight. There were 60+ dark-morph Red-taileds (71 for the season total), a few dark-morph "Harlan's", five "Krider's", two additional partial albino and one nearly all-albino. The highlight of the season must go to the partial albinistic dark-morph Red-tailed, which is probably the only one of its kind ever found in North America (see ***The Loon*** 70:117–118). An impressive count of 460+ Pine Grosbeaks was made on the 23rd. The rest of the month was uneventful; even the eagle migration was mediocre, with 16 Goldens on October 20th, and a peak of 200 Bald Eagles on the 24th.

November

Hopes for November were high, but it proved to be a slow month. There were only three days that broke the 100 barrier: 238, 201, and 118 raptors on November 3, 5, and 12th, respectively. Adult Northern Goshawks were seen in the latter part of the month. 100+ Common Loons and nine late Sandhill Cranes were observed on November 3rd as well as an amazing 1,025 Pine Grosbeaks, the largest single-day count ever in the Great Lakes drainage basin (see ***The Loon*** 70:62–63). Other notable sightings were a few crossbills (both species), winter finches, and two Townsend's Solitaires on the 4th, and 36 Tundra Swans on the 11th.

As with previous years, I'm still amazed with the migration and the diversity of individual species and their numbers. Getting up to the ridge in the early morning, watching a large flight of passerines or a single raptor moving down the shore — wondering where he came from and where he is going — or watching how the different species react to changes in the weather during the course of the day is very special. It's magic to see this happen on the ridge each day, and I look forward to the 1998 season.

Thanks to Anthony Hertzel, Peder Svingen and Nancy Weber for their help with this paper.

3128 Valet Road, Duluth MN 55804.

Breeding Site Fidelity in a Whip-poor-will

Michael R. North

In a previous article, I reported on a Whip-poor-will *(Caprimulgus vociferus)* nest I found in Chippewa National Forest, Cass County on 12 June 1996 (North 1996, ***The Loon*** 68:168–188). That breeding effort produced two young by 17 June which subsequently survived to fledge by 8 July.

On 9 June 1997, at about 8:00 A.M., I returned to the previous breeding site to search for the Whip-poor-will, and immediately flushed the female from one egg. On 14 June, I flushed the female from two eggs. The first egg could have been laid on 8 June and the second laid on 9 June after 8:00 A.M., or the first egg could have been laid on 9 June and the second on 10 June. The eggs were laid on red oak leaves under a 0.80 m tall hazel (the hazel did not bear fruit so identification of species was uncertain). I later measured the distance between the 1996 and 1997 nests to be 238 inches (6.04 m).

On 30 June, at 2:30 P.M., I found two very small, dry downy young, with down-covered legs, One young was still at the nest and the other was <0.3 m away. It appeared from the condition of the young (i.e., both were dry) that one or both probably hatched 29 June; it is unlikely both hatched 30 June and had time to dry completely. Thus, the incubation period for the two eggs would have been 19–21 days, which agrees with the incubation period given by Kaufman (1996).

On subsequent visits 6 and 10 July, I failed to find the brood or an adult despite searching appropriate habitat up to 30 m from the nest. Chicks at 8–12 days of age should have been well within 30 m of the nest (see North 1996, ***The Loon*** 68:186–188), therefore, I believe they were depredated. Eastern chipmunks were observed within 10 m of the nest on both 6 and 10 July. Other mammalian predators known to occur in the immediate area include raccoon, red fox, gray wolf, black bear, fisher, and red squirrel (Hanski et al. 1996, pers. obs.). Measurements at the nest were taken on 6 and 10 July when eggs/young were not present.

Harrison (1975) reported that Whip-poor-will pairs attached to a territory will return to it year after year, although I have found no other corroborating references or data to support that. However, marked Common Nighthawks *(Chordeiles minor)* have used the same nest sites for several years, but not necessarily consecutive years (Poulin *et al.* 1996). My findings corroborate Harrison's statement that nest site fidelity occurs in Whip-poor-wills. Although I have not banded the adult Whip-poor-wills, it is implausible that the second nest belonged to a female Whip-poor-will other than the first one or its offspring, given the relative scarcity of the species in the state. Even the possibility that the second female was the offspring of the first female from 1996 seems remote. Although age of first breeding is unknown for most caprimulgids (Csada and Brigham 1992, Poulin *et al.* 1996, Bowers and Dunning 1997, Latta and Baltz 1997), I suspect most do not nest in their second year.

References

Bowers, R.K., Jr., and J.B. Dunning, Jr. 1997. Buff-collared Nightjar, Birds of North America, No. 267. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, D.C.

Csada, R.D., and R.M. Brigham. 1992.

Common Poorwill. Birds of North America, No. 32. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, D.C.
Hanski, I.K., T.J. Fenski, and G.J. Niemi. 1996. Lack of edge effect in nesting success of breeding birds in managed forest landscapes. Auk 113:578–587.
Harrison, H.H. 1975. A field guide to bird's nests. Houghton Mifflin Co., Boston.
Kaufman, K. 1996. Lives of North American birds. Houghton Mifflin Co., Boston.
Latta, S.C., and M.E. Baltz. 1997. Lesser Nighthawk. Birds of North America, No. 314. Academy of Natural Sciences, Philadelphia, and American Ornithologist's Union, Washington, D.C.
North, M.R. 1996. Whip-poor-will nest in Cass County. ***The Loon*** 68:186–188.
Poulin, R.G., S.D. Grindal, and R.M. Brigham. 1996. Common Nighthawk. Birds of North America, No. 213. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, D.C.

North Country Ecological Studies, P.O. Box 13, Moorhead, MN 56561.

BIRDING BY HINDSIGHT

A Second Look at Hawks

Kim R. Eckert

I suppose it's now politically correct to call them raptors. But then to be scientifically correct you'd have to go a step further and call them diurnal raptors to distinguish them from owls. For simplicity's sake, let's just call them hawks for now (or chicken-hawks, to be politically incorrect!) and explain that we're referring to those birds classified in the Order Falconiformes, even those things without the word "hawk" in their names: i.e., Osprey, kites, eagles, Northern Harrier, American Kestrel, Merlin and falcons.

It would be nice if hawk identification were as easy as deciding what group name to use. But, as virtually every birder knows, hawks present some of the most difficult problems around, difficulties even experienced birders often fail to solve. Hawks are typically seen at long distances or when just flying by, which makes it hard to study their plumages. And the plumages they have don't usually amount to very much: as predators partly relying on being inconspicuous to successfully hunt, hawks generally lack

bold plumage patterns or distinctive colors. Some hawks (eagles and buteos especially) vary considerably in their appearance within the species, even those of the same age or sex. We're also told by seasoned hawk watchers to always consider a hawk's shape and flight style when trying to identify it, but those features can change dramatically depending on whether that hawk is soaring, pursuing prey, gliding, diving, or flying with or against the wind.

Those all-purpose field guides we rely on are also of limited help — their condensed and overly simplified species accounts often lead the unwary and inexperienced birder to as many misidentifications as correct ones. While you can't entirely learn hawk identification from a book, I can at least recommend two specialized references by William Clark and Brian Wheeler which advance far beyond the standard field guides: *A Field Guide to Hawks* (part of the Peterson Field Guide Series by Houghton Mifflin, 1987 — note that a second edition is reportedly coming) and *A Photographic Guide to North American Raptors* (Academic Press, 1995).

This article is hardly intended to be a complete analysis of hawk identification problems. The bewildering assortment of Red-tailed Hawk plumages, for example, goes far beyond the scope of this "Hindsight" series of articles. And, even after 20 years as naturalist at Hawk Ridge Nature Reserve, I still hesitate to identify Cooper's Hawks with any consistent certainty — Frank Nicoletti, Hawk Ridge's resident hawk counter and ID expert, will readily vouch for this self-assessment! Perhaps these more complex subjects will be the basis of future articles in this series, but for now I will simply introduce and briefly discuss some of the most frequent identification problems Minnesota birders seem to face. It can even take the form of a David Letterman-like Top Ten List — "Top Ten Reasons Why Hawks Are Misidentified" — although, unlike Letterman, let's begin with reason Number One:

1) Bald Eagles aren't always bald.

While I'm sure such a fine and upstanding MOU member as yourself would never mistake an immature Bald Eagle for a Golden Eagle (or at least would never admit it!), I suspect this is the most frequent hawk identification error of all. With so much interest on the part of so many who like to watch eagles, there are a lot of casual observers out there who understandably but erroneously assume that any eagle with out a white head and tail must be a Golden. Of course, it normally takes a Bald Eagle four years to attain its trademark plumage, and before then that relatively dark immature eagle faces three years of potential misidentifications by its adoring public.

But even more experienced hawk watchers can still make a similar mistake. The next time an immature Bald Eagle flies over, take a good look at its tail and don't be surprised if it's mostly whitish with a dark tip — just like an immature Golden Eagle. If a birder concentrates too much on this one field mark, chalk up yet another Bald Eagle mistaken for a Golden.

And speaking of immature Bald Eagles, be sure to read on as to how they end up being misidentified as Ospreys (Reason #4) and even Swainson's Hawks (Reason #7).

2) Seen almost everywhere and identified as almost everything.

The hawk responsible for all this rampant confusion is the Red-tailed, and this is due in part to this species' highly variable assortment of plumages which include features the field guides fail to mention. One thing which always confounds the novice hawk watcher is the immature's lack of a red tail (it's brown and barred). Another prevailing source of confusion is that Red-taileds of all ages (except for dark-morph birds) have whitish upper tail coverts and are typically whitish as well on the base of their tails — and many paler Red-taileds of the Great Plains have tails which look more white than red. Since the field guides say

little or nothing about this, hawk watchers often think they're seeing a Rough-legged or Ferruginous or even a Northern Harrier.

An immature Red-tailed has another feature which frequently misleads the unwary: its wings have whitish panels or "windows", and these lead to many erroneous reports of Ferruginous and Red-shouldered hawks. Note, however, these pale areas are rectangular or square in shape, aligned parallel to the body, and include both the inner primaries and primary coverts. The whitish patches on a Ferruginous are aligned perpendicular to the body along the base of the flight feathers, but they exclude the wing coverts. And those on a Red-shouldered are narrower crescent-shaped lines parallel to the body and limited to the outer primaries.

I could go on here to explain how the head-throat-chest patterns of Red-taileds, Rough-leggeds (see Reason #6) and Swainson's (Reason #7) get mixed up as well. But let's just say for now if you see a funny-looking buteo and you're not sure what it is, call it a Red-tailed and you'll usually be right.

3) They have a lot in common with Whooping Cranes.

It happens all the time with Snow Geese and pelicans and even paler-looking Sandhill Cranes. They just don't get all the press coverage enjoyed by those endangered Whooping Cranes, and, as a result, overly optimistic observers often engage in too much wishful thinking and report them as Whoopers. Similarly, the endangered Peregrine Falcon gets so much attention that when an unfamiliar hawk is encountered by someone, it's again only natural for wishful thinking to take over. The result: almost any hawk can and does get reported as a Peregrine. (And if all those Peregrine reports were true, it would hardly rank as an endangered species any more.)

Probably the hawk most frequently mistaken for a peregrine would be the Merlin, which is also a dark falcon with "whisker" marks or "sideburns". But I have also seen immature Broad-winged Hawks miscalled Peregrines due to their similar size, dark malar areas, and frequently pointed-wing profiles (see Reason #5). And the face patterns of some Gyrfalcons (especially gray-morph immatures) with their dark and quite noticeable whisker marks are also strongly reminiscent of Peregrines.

Conversely, real Peregrines can be mistaken for other things. This is especially true of immature tundrius Peregrines, those relatively pale-headed birds from the Arctic which are most of the migrant Peregrines in Minnesota each fall.. They have narrow sideburns and pale superciliums, and the result is a strong potential for confusion with a Prairie Falcon or a Gyr.

4) The winter of our discontent with Ospreys and Broad-wingeds.

And now, a shameless attempt to inject a bit of literary class into this TV-type Top-Ten treatise. If John Steinbeck had been a birder, one might guess the title of one of his best known works could be about misidentifying hawks in winter. Dismay may be a better word than discontent for it, but it is often downright disturbing how often Ospreys, Broad-winged Hawks (and even Swainson's) are reported here from November through March. At this time of year these three species are supposed to be in Central or South America, but this fact is not taken into account by some misidentification experts.

So, if they're not Ospreys or Broad-wingeds or Swainson's, what is really being seen out there? I suspect Bald Eagles or Rough-legged Hawks are the source of most of those Osprey reports. Subadult Bald Eagles can have a mostly whitish head with an Osprey-like line through the eyes. And a light-morph Rough-legged has a black "wrist" or carpal mark on the under wing which can be mistaken for a similar mark on an Osprey — but note, despite what some field guides show, the black on an Osprey's under

wing is not limited to the carpal area.

As for those winter Broad-winged reports, I assume that other hawks with dark and light tail bands are what birders are really seeing: i.e., Red-shouldereds or Cooper's or one of the other accipiters (see Reason #8 for an explanation). And what about those erroneous Swainson's reports? I suspect what is really being seen are adult male Rough-legged Hawks (Reason #6), Red-taileds or even immature Bald Eagles (Reason #7).

5) Hawks are often trying to make a point.

"Look at the hawk's shape," is what all those self-righteous and self-appointed experts (myself included!) keep reminding all those watchers struggling with hawk identification. But that's easier said than done, partly because an essential part of a hawk's shape is its wing tips. Although they're supposed to pointed on falcons and rounded on just about everything else, it doesn't always work out that way.

The rounded wing tips of any hawk can look pointed if, for example, that hawk is flying into the wind. As a result, I have frequently seen accipiters and buteos mistaken for falcons: e.g., immature Broad-wingeds (see Reason #3) and adult Northern Goshawks with their dark cheek patches are miscalled as Peregrines; and goshawks of any age have a long history of being mistaken for Gyrfalcons.

Another surprising source of confusion are Northern Harriers, especially females and immatures which show dusky patches at the base of their under wings. Take one high-flying harrier (and they often fly at unexpectedly high altitudes in migration), turn it into the wind to give its wing tips a pointed aspect, add in a glimpse of its dark under wings, and you have the recipe for one erroneous Prairie Falcon sighting.

Finally, a couple other comments on falcons, those hawks which are supposed to have truly pointed wing tips. First, take some good looks at American Kestrels flying by and you'll quickly come to realize how often their wing tips actually look more rounded than pointed (which often serves to separate them from Merlins). And, second, note that the larger falcons (Prairie, Peregrine and Gyrfalcon) often circle around overhead while hunting or migrating — and when not in a hurry, these hawks can appear to have wing tips which look quite rounded.

6) Adult males aren't always in the field guide.

As every field guide reader knows, the first — and sometimes only — things pictured are adult males. Whether it's a duck, bluebird, warbler, tanager, cardinal, oriole or finch, the generally more colorful plumages of those adult males are what sells books and are what people want to look at. With many birds, of course, there is little or no difference between the sexes or ages, but it is curious that for a long time one adult male never has been portrayed in the field guides: the Rough-legged Hawk! The *Geographic* guide sort of has an illustration of one (but not really), and, of course, Clark and Wheeler's two references mentioned earlier show it. But even now about all the books actually show us is an immature Rough-legged.

Naturally, when an adult male Rough-legged flies into view (and for the moment let's just talk about light-morph birds), it can't help but cause confusion. Its tail is multi-banded, not clean-cut as on a female or immature with a white base and black band. It also lacks the oft-illustrated body pattern of the female/immature: i.e., buffy head and chest sharply contrasting with a solid black belly. Instead, adult males (and some adult females) are more variable, with a darkly streaked throat/upper breast area, a streaked belly, and a lighter area in between. The result is that many an adult male Rough-legged has become mistaken for a Red-tailed Hawk (which usually has a streaked belly and whiter chest) or a Swainson's (because of its dark throat/breast band).

Two final comments on Rough-legged Hawks. First, on several occasions I have seen birders watch a hawk hover over its intended prey and assume they were looking at a Rough-legged. The truth is almost any species of hawk can hover. Second, any discussion of the more difficult issue of dark-morph Rough-leggeds (and other buteos) will have to wait. For one thing, there isn't enough space here, and, for another, my knowledge of dark-morph Rough-leggeds ranks right up there with my expertise on Cooper's Hawks!

7) You might look strange too if you ate grasshoppers.

The strange-looking, insect-eating hawk I refer to here is the Swainson's Hawk. While the identification of adult light-morph birds is pretty straightforward, and dark-morphs don't occur often enough in Minnesota to be a frequent problem, those first- and second-year immatures can look especially odd. At that age the Swainson's diagnostic under wing pattern is more obscure, and its head and body are boldly and variably marked with dark brown spots and patches. The darkest markings are typically on the sides of the neck, suggesting the beginnings of this species' trademark chest band.

Actually, this chest band on a Swainson's is not nearly as useful a mark as is its diagnostic under wing pattern of dark flight feathers contrasting with whitish wing linings. Birders who rely too much on looking at throat/breast bands, as previously mentioned, can misidentify adult male Rough-leggeds as Swainson's. Red-taileds as well get confused with Swainson's all the time as a result of their dark neck/throat areas which suggest a Swainson's-like chest band. And, despite their superior size, many immature Bald Eagles are another source of confusion: not only can they have a dark chest area, but they also show an under wing pattern reminiscent of a Swainson's.

A Swainson's Hawk also confuses many because of its small but well defined white patch on the upper tail coverts. Since most birders are unaware of this, confusion with Northern Harrier results. Finally, be aware of one useful mark to look for on a perched Swainson's. Its folded wing tips reach — or even extend a bit beyond — the end of the tail, unlike other Minnesota buteos (although note that the wing tips on some perched Rough-leggeds can almost reach the end of their tails).

8) Band width problems aren't only on the internet.

I'm told there are band width problems on the internet, but I have no idea what that means. Unless, that is, it's birders discussing by e-mail the problems they're having with tail band widths as they identify hawks. It seems those pesky field guides are at it again, failing to show the way things really are. We are led to believe, for example, that accipiters and adults Broad-winged Hawks have dark and light tail bands of equal width, and that the light tail bands on Red-shouldereds are narrower than the dark ones.

In reality, however, the dark tail bands on all three accipiters are actually narrower than the light bands, with this feature especially evident on the under side of the tails. Conversely, the one visible white tail band on an adult Broad-winged Hawk is actually a bit narrower than the two visible black bands. (And be aware that, despite what the pictures in the books show, only three tail bands — two black, one white — are usually visible on a flying adult Broad-winged.) Adding to the confusion are some Red-shouldereds whose dark and light tail bands can appear to be about the same width. The result of all this: Red-shouldereds mistaken for Broad-wingeds and vice versa.

And while we're on the subject, keep in mind that the tail banding on an immature Broad-winged is indistinct and unlike that of an adult. Remember as well, as mentioned earlier in this article, that adult light-morph Rough-legged Hawks have multi-banded tails. Even

more confusing are adult dark-morph male Rough-leggeds: they actually have tail banding quite similar to that on a Red-shouldered!

9) Some windows could even confuse Bill Gates.

The previous section was about band widths, this one is about windows, and neither one has a thing to do with computers. The "windows" under discussion here refer to the pale panels or translucent patches on the wings of some hawks (and these can be just as confusing to hawk watchers as Bill's Windows are to hapless computer users!). Reason #2 earlier discussed how immature Red-taileds often become mistaken for Ferruginous or Red-shouldered hawks due to their windows. An immature Broad-winged Hawk, by the way, has windows much like those on a Red-tailed: i.e., pale rectangles on the inner primaries and primary coverts aligned parallel to the body. Note as well that immature and some adult Rough-legged Hawks have windows on their outer primaries: somewhat like those on a Ferruginous Hawks, although smaller.

Interestingly enough, I have also seen accipiters with translucent wing windows. It has only been in recent years that I became aware of how a backlit accipiter often shows windows when viewed from below: they tend to be narrow, aligned parallel to the body, limited to the outer primaries, and consequently are a possible source of confusion with Red-shouldered Hawk.

10) They're no longer hawks, but they're still misidentified.

Don't get too attached to your favorite field checklist since some recent changes are affecting the way it will look. Those hook-billed shrikes and vireos, for example, now appear earlier on that list, right after the flycatchers. And Minnesota hawk watchers will find one less Falconiformes species to deal with: the Turkey Vulture has been promoted to appear ahead of waterfowl on the list.

I expect, however, that hawk watchers will still watch and count vultures — and continue to include them in their misidentifications. Probably the most frequent problems involve Turkey Vultures, dark-morph buteos (especially Rough-legged Hawks) and adult Golden Eagles, since these are all blackish overall with contrastingly paler flight feathers on the underwing. It is amazing, for example, how vulture-like a Golden Eagle can appear due to its relatively small head (compared to a Bald Eagle) and the frequent dihedral aspect of its wing profile.

By the way, even though there are no Black Vulture records for Minnesota, this species is quite overdue to make an appearance. If you think you've found one here, be sure to keep two things in mind. First, at certain angles a Turkey Vulture's outer primaries when seen from above can look paler than the rest of the wing and thus suggest the pattern of a Black Vulture. And, second, the next time you are down South and see a Black Vulture, don't be surprised if it glides with a dihedral: despite what almost all the guides say, Black Vultures do this all the time. (The flight difference between the two vultures is not in their glide but in their flapping: slow and labored in the Turkey Vulture, quicker and snappier in the Black.)

Now that August and the early signs of fall migration are upon us, this would be as good a time as any to start working on your hawk identification skills. With so many raptors — diurnal and nocturnal alike — heading south in the coming weeks past Hawk Ridge Nature Reserve in Duluth, there will be plenty of opportunities to make use of the identification hints mentioned above. And if you see me there and have any more questions, just ask. About anything — well, almost anything. If it's about Cooper's Hawks, better talk to Frank.

8255 Congdon Blvd., Duluth MN 55804.

BOOK REVIEWS

A FIELD GUIDE TO WARBLERS OF NORTH AMERICA. By Jon L. Dunn and Kimball L. Garrett. Houghton Mifflin Company. Houston and New York, 1997: 656 pp., covers 60 North American species, 32 color paintings, 141 color photographs, 60 color maps, and 13 drawings. $20 (paper). Reviewed by Tom Tustison.

This guide is the culmination of nearly a decade of scholarly research and review. The manuscript has undergone thorough scrutiny by a respectable assembly of experts.

The book is really more a reference book than a field guide. Its detailed plates put it in the category of an advanced field guide to North American warblers. It systematically describes the recognizable subspecies as well as most normal plumage variations of each species (excluding the ephemeral juvenile plumage). Artistically, there may be better illustrations in other books, but the intensity of the research may not compare.

The color paintings follow the Peterson methodology to illustrate each species and demonstrate subtle distinctions in plumage for each differentiable age, sex, and subspecies. For most species, both first year and adult plumages are illustrated for both sexes including both spring and fall plumages. It should also be mentioned that the book does a superb job of describing and illustrating many of the known hybrids.

The text is informative on a number of subjects ranging from behavior to distribution to molts. The text does not seem to have any glaring errors; however, I must confess I have not read all 656 pages. Because it is a national guide as opposed to a local one, it must be somewhat general in its description of migration and distribution tendencies. Vagrancy patterns are well described and will probably be of interest to those striving to learn more about migration.

On a national scale, the maps are well researched and edited. The methodology for the preparation of the maps is fundamentally sound. However, there are still flaws in the ultimate product.

In states such as Minnesota which do not have breeding bird atlases, the maps are little more than a duplication of some other author's subjective viewpoint. For example, in Minnesota, the only confirmed breeding record of the Tennessee Warbler in the past 28 years is in St. Louis County. However, the maps lead one to believe that confirmed breeding occurs across almost the entire northern tier of Minnesota counties. I know of no objective data which supports the representation in the guide. If you look at other species, such as the Cape May Warbler among others, you will find a similar pattern.

Admittedly, the authors acknowledge the problem of subjectivity of range maps in states that do not have breeding bird atlas projects. But when looking at the actual maps, the reader has no way to differentiate those states which have objective breeding bird atlases from those which do not. Therefore, all shaded portions automatically become confirmed breeding areas. Consequently, these digitized maps give us a general representation of breeding ranges on a national

scale, but should be viewed skeptically when looking at any particular state or local geographic area.

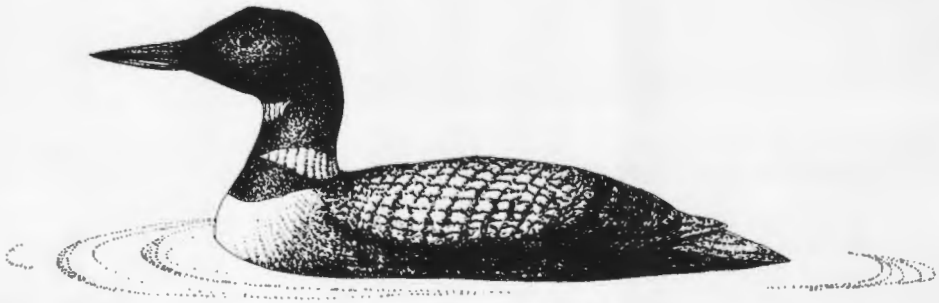
Finally, I disagree with the authors bold assertion on page 9 that "With few exceptions, there is little controversy about the species limits of North American warblers..." In fact, I think that in states without much hard data such as breeding atlases, there may be a false sense of security about the current state of knowledge of local breeding ranges. In my opinion, there is much more to be learned about species limits both locally and nationally.

Finally, the index of this book is based on a slightly modified AOU checklist order. This makes the index quite clumsy for the average reader to use, and it can be frustrating when trying to find a particular species quickly.

In conclusion, I congratulate the authors for a fine job in completing this massive undertaking. The book should get an "A" for effort and research. The book itself does have some shortcomings and rates a "B+" or "A-" for content.

For the $20 price, the book deserves a place on the reference library shelf. However, for the beginning birder, I would recommend a more basic field guide which might be supplemented with this book.

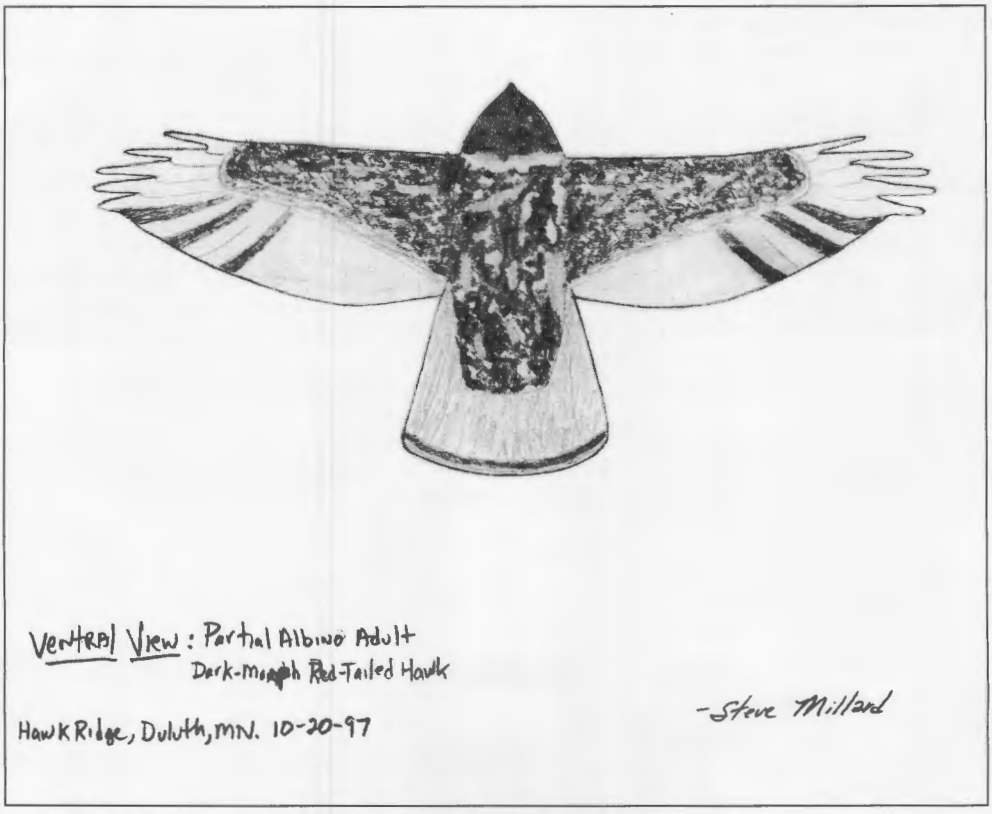
1678 Ashland Ave., St. Paul, MN 55104.



NOTES OF INTEREST

FIRST DESCRIPTION OF ALBINISM IN A DARK-MORPH RED-TAILED HAWK IN NORTH AMERICA — On 20 October 1997, at 11:55 A.M. a partially albinistic dark-morph Red-tailed Hawk *(Buteo jamaicensis calllrus)* was sighted while conducting the hawk watch at Hawk Ridge Nature Reserve, Duluth, Minnesota At the time of the observation the skies were 50% cloudy with excellent light conditions. Winds were west, light to moderate, and produced a fair hawk flight of 875 raptors for the day, including 633 Red-tailed Hawks.

The bird was first seen at a distance of approximately 100 meters and 50 meters above ground surface. This buteo was carefully identified as an adult dark-morph Red-tailed Hawk. The bird appeared as follows: ventrally, the body from



Sketch of albinistic dark-morph Red-tailed Hawk by Steve Millard.

head to undertail coverts and the underwing coverts were mostly chocolate brown. The body and underwing coverts were randomly patterned with white mottling, comprising approximately 25% of the body feathers. A white collar seemed to separate the dark body from the throat, but the border of the collar was irregular due to the intrusion of dark feathers. The white patches on the underwing coverts were smaller then those on the body. The tail appeared normal from above and below. What appeared to be the number 3 and 5 primary and the number 2 secondary on each wing appeared normal. All of the other flight feathers were pure white. With the exception of the three normal flight feathers on the wing and the tail the bird appeared all white on the dorsum. The head however, was not seen well enough to ascertain plumage color.

Albinism in Red-tailed Hawk is more frequent then any other raptor. Each fall at Hawk Ridge, for example, there are four to six individuals that show signs of albinism. Henry C. Kendell, who has been collecting reports of albinism in Red-tailed Hawk from across North America, has received over two hundred individual records and reports none involving dark-morph birds.

We would lie to thank Jeff Dodge, Peder Svingen and Anthony Hertzel for reviewing this note and to Henry C. Kendell for sharing his notes. **Frank J. Nicoletti, 3128 Valet Rd., Duluth, MN 55804; Steve Millard, 630 W. Laurel, Fergus Falls, MN 56537; Ben Yokel, 1812 Young Lake Rd., Melrude, MN 55766.**

LEAST TERN AT WHITEWATER WMA — On 16 May 1996, while conducting bird surveys for the Minnesota County Biological Survey, I was driving on state highway 74 through the Whitewater Wildlife Management Area in Winona County, when I saw a smallish, pale bird flying over the Dorman Pools. Initially, I thought that the bird might be a very pale Wilson's Phalarope because of its size and pointed wings. However, it just didn't look quite right. I slammed on the brakes, jumped out and tried to relocate the bird. When I found it again, about 60–70 meters distant, I was surprised to see that it was a Least Tern.

It was roughly half the size of a Forster's Tern (seen nearby a short time later), with grayish-white upperparts, white underparts, long pointed wings, and a forked tail. The crown was black with a white forehead and black line extending from the eye to the base of the yellowish-orange bill.

The tern circled around the pool briefly before disappearing from view. I carefully scanned all of the pools at Whitewater WMA and the Mississippi River at Weaver, but unfortunately, I failed to relocate the bird. **Steve Stucker, Minnesota DNR–MCBS, Box 25, 500 Lafayette Road, St. Paul, MN 55115.**

HOUSE FINCH REUSES NEST — On 12 May, 1997, as I walked next to the Music Building on the Concordia College campus in St. Paul, Ramsey County, a House Finch flew out from under an overhang jutting out from an unused entrance to the building. I was able to identify it because it landed in full view on some telephone wires about 50 feet away.

Wondering what the bird had been doing I checked and discovered a nest on the lip of a light fixture which was flush with the lower surface of the overhang. The finch was able to build a nest there because the glass plate and bulb had been broken out of the fixture.

The nest was a bit too high for me to reach, so I obtained a chair on which to stand. I carefully felt inside the nest and could feel two naked young birds.

On 20 May I observed one young bird perched on the edge of the nest in the morning. When I checked in the afternoon it was gone and the nest was empty. I presume it fledged. The other young bird either fledged also or was taken by a predator. I doubt the latter because a predator would likely have taken both young or at least caused the second young to flee the nest. In addition, the location of the nest was such that it would have been extremely difficult for any predator to reach.

On 28 May I noticed the adult female back on the nest. (I assume it was the same bird). However, I was busy and had no time to check the nest. Then on 3 May I checked and found four eggs.

On 6 June there were three eggs and one nestling. That morning two birds flew from the nest. I presumed one was the female parent. The other also looked like a female. I inferred that it might have been the (a) juvenile bird which the female raised in May. It is possible that it was a second adult female, but I never observed this again so I doubt it. By 2:20 P.M., that day there were two eggs and two nestlings.

Four nestlings were found in the nest on 11, 19, 20, 23, 25, 26, and 27 June. On the latter date I checked at 7:10 A.M. and 3:55 P.M.

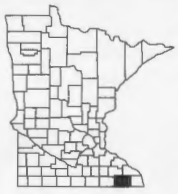
On 28 June at 1:23 P.M. the nest was empty. With 17 and 18 days as nestlings I presume the four all successfully fledged.

During both nesting periods the male House finch was frequently observed, often singing, in a nearby tree or on the telephone wires. On a few occasions he was also observed on the nest. Once he and the female were both on the nest.

It should be noted that the outside of the nest was very messy by the time of the

fledging of the second brood. **Robert Holtz, 668 Overlook Dr., Roseville, MN 55113.**

COWBIRD FLUSHES TANAGER FROM NEST — On 1 June 1997, in the northeast corner of Fillmore County, I observed strange behavior between a female Scarlet Tanager (*Piranga olivacea)* and a small group of Brown-headed Cowbirds (*Molothrus ater*). I was working as a nest searcher helping to gather data for a graduate student from the University of Minnesota for the summer. I was monitoring this particular Scarlet Tanager nest mid-morning on the first of June 1997, and had decided not to flush the female who was on the nest when I arrived. I knew this bird was just finishing laying her eggs or was just starting to incubate; I'd found the nest early in the building stage and monitored it regularly every three days.



After sitting down about 15 meters from the nest, I heard Brown-headed Cowbirds in the canopy nearby. I wanted to observe the Tanager for a few minutes in order to determine if she was laying or incubating. A few minutes after I sat down, I watched as a female cowbird flew down from the canopy to the Tanager nest and hit the female Tanager. The female Cowbird was followed by two others that I believe were males of the same species. The male Tanager flew over to the nest and was very agitated, chick-burring constantly. The female Tanager left the nest and flew to a tree nearby. The female Cowbird immediately left the nest area and flew to the canopy about ten meters from the nest. I left the area quickly hoping the Tanagers were not disturbed further by my distant presence.

This particular nest was low enough that with a pole and mirror I was able to see into it. At least two Cowbird chicks and at least one Tanager chick did eventually fledge from the nest. One Scarlet Tanager egg was found on the ground near the nest after the nest was empty. **Jenny Rukavina, 7531 Brighton St., Duluth, MN 55804.**

ANOTHER PRAIRIE WARBLER IN ANOKA COUNTY — On the morning of 18 May 1997, Greg Pietila and I were watching birds along Rice Creek, just east of state highway 65 in Fridley, Anoka County. It was one of those days warbler watchers live for, great numbers and variety, warblers everywhere along the paths. At about 7:30 A.M. Greg pointed out a warbler bobbing its tail in a small tree about 15 feet away, thinking that it might be our first Palm Warbler of the day. When we looked through our binoculars we saw that it was actually a male Prairie Warbler.

Over the next five minutes we watched the bird at close range, often in direct sunlight, and dutifully noted the following field marks. Yellowish, warbler-sized bird with a thin, black bill and black legs. Black line through the eye, and another black line angling down and back from the bill, the two lines forming an open triangle on the yellow face. Yellow underparts except for white undertail coverts and two or three rows of black streaks along each side. At the top of these streaks a thicker black mark or double mark on each side. Crown, nape and back olive-colored. Rows of very prominent, longitudinal, chestnut stripes on the back. Tail and wings dull, grayish-brown. Two faint, thin, white wing bars on each wing.

During this first observation the warbler sang frequently, as it did again an hour-and-a-half later when I watched it with Cole Foster and Joe Beck. The song consisted of a series of single, buzzy notes running upward, which I transcribed as "dzub dzub dzub dzub dzoo dzoo dzoo dzoo." At one point during the second observation the bird settled down and preened for five minutes or so, long enough for Joe to set up a

tripod and take some photographs. While preening, it spread its tail several times, revealing white tail spots on the outer three feathers.

At least three other birders saw the Prairie Warbler on the afternoon of the 18th, and Cole Foster saw it in the area through 21 May. **Steve Carlson, 3904 Xenwood Ave. S., Saint Louis Park, MN 55416.**

EURASIAN WIGEON IN LINCOLN COUNTY — On 19 April 1997, David Neitzel and I observed an adult drake Eurasian Wigeon in northwest Lincoln County. The drake was among a large gathering of American Wigeon, Gadwall and Lesser Scaup in a flooded field located one mile south and a half mile east of the Bohemian WMA near the border of Yellow Medicine County.

I initially spotted the Eurasian Wigeon from a distance of approximately 80 yards while scanning the ducks with a pair of 20x80 Celestrons. Being a drake in prime breeding plumage, it's identification was rather straightforward. By configuration it was similar to the surrounding American Wigeon. It's bright apricot-colored head, topped off by a golden yellow crown, was the first feature that caught my attention. Within moments of our arrival the ducks began to take flight (a common response to a suddenly stopped car). As it took off, I noted the Wigeon's distinctive silvery-gray sides and back.

After flying 100 yards or so, the ducks settled back down, at which point David Neitzel was also able to study the bird with his 20X Kowa scope. We watched it for ten minutes under a bright cloudless sky. Because of the distance and water depth, no leg bands or clipped toes could be discerned. The Wigeon appeared to be alert, very wary and in immaculate condition. **Paul E. Jantscher, 7415 Clinton Ave. S., Richfield, MN 55423.**

SAY'S PHOEBE IN GRAND MARAIS — On 9 September, 1997 while taking our two dogs on an outing on Coast Guard Point in Grand Marais, our attention was drawn to a flitting energetic bird fly-catching near the cluster of buildings and the yard area. The bird, moving constantly, perched on the chain link fence, posts, signs, building roofs, bare rocks and lawn. It flew into the large Mountain Ash tree west of the Coast Guard Building at least twice and once into a small balsam tree across a short stretch of water southwest of the building. It seemed always to be moving, tail flicking, changing directions, moving up and down, all flashing wings and tail between perches. We would lose sight of it as it darted around a building and then easily relocate it coming around the other side. We initially observed it as our two dogs actively romped around the buildings following us and later without the dogs as close as ten feet. It seemed quite tame, just busy catching insects, not fleeing from us.

As we first observed the flycatcher with binoculars we could see the orange-tinged under tail coverts contrasting with the solid black tail. We continued observing the bird for over 20 minutes noting the poorly defined buffy wingbars - the lower being most conspicuous, the upper barely discernible as a wingbar. The head was very dark, the back several shades lighter and the dark eyes often not visible against the dark head. The bill and legs were all dark. The chin and chest were a light gray-brown, the belly and under tail coverts an orange tan. In good light and when close the gray brown of the chin and chest seemed separate from the orange tan of the belly and not a continuum from an orange tinged chest to the orange tan belly. There seemed to be no orange in the chest and almost a line and then orange in the belly becoming most prominent in the under tail coverts.

Our observation was at about 2 P.M. and the observation was from every possible angle in relation to the sun, from above and below the bird and from distances often as close as ten feet. We both used 7x35 binoculars. Present in nearby brush south of the Coast Guard building parking lot were an Eastern Kingbird and an Empidonax flycatcher. This bird appeared to be intermediate in size between these two species. This bird looked in profile and size like the Eastern Phoebe, albeit a very hyperactive one. The bird did not vocalize during our observation.

We identified the bird as a Say's Phoebe initially based on the orange color on the belly and under tail coverts, the all dark bill, lack of eye markings (rings or stripes) and distinctive black tail. The bird was also reminiscent of the first Say's

The phoebe we identified in April of 1983 on the west side of the Grand Marais Harbor (***The Loon*** 55:90). **Ken and Molly Hoffman, 196 County Road 44, Grand Marais, Minnesota 55604.**

A ROCK WREN IN BLOOMINGTON — I first saw this wren on 5 May 1997 atop the stone wall near the back of the Minnesota Valley National Wildlife Refuge headquarters building in Bloomington, Hennepin County. It was a very large wren. It characteristicly "bobbed" up and down like a Winter Wren. I observed it from 20 feet or less for three minutes or longer with 8.5x44 Swift binoculars. Upperparts were gray-brown. There were five dark, transverse bars on the undertail coverts. The bill length was the width of the head and slightly down curved. There were faint breast streaks.

After losing sight of the bird momentarly, it was relocated after hearing its "ting-ting" call note. this call note has a metalic quality. No other wren is quite as large (except for Cactus Wren), and Carolina Wren is both smaller and more rufous-colored. **Tom Tustison, 1678 Ashland Ave., St. Paul, MN 55104.**

Rock Wren, 5 May 1997, Bloomington, Hennepin County. Photo by David Cahlander.

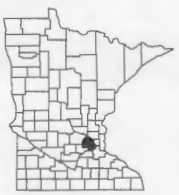
UNUSUAL NESTING OF HOUSE FINCHES — My wife and I left our little three-acre mini-wilderness a year ago and are now living in Covenant Manor, a comfortable retirement residence in Golden Valley, Hennepin County. Here we see very few birds but we do have a few House Finches along with House Sparrows coming to a feeder on our balcony. We found that House Finches were nesting in a number of hanging baskets here at the Manor which is not particularly unusual but there was one unusual nesting that we felt worthy of recording.

Alma and Frank Newcomb, residents in the Manor, had a circular basket about 15 inched across in which three pairs of House Finches built nests with the edges of two of the nests in close contact, while the third was on the farther side of the basket. The sequence of this odd occupation was that the first nest had young being fed when the second pair of birds built nest number two and began laying their eggs when pair number one had young about ready to fly. Soon after these birds left their nest, the third pair appeared and did not occupy the empty nest but proceeded to build the third nest in the basket and laid their eggs at about the time the number two brood was fledging. All three broods of young fledged successfully.

This situation indicated that these birds must have inherited no sense of territory they would normally defend — something most unusual in songbirds. I have seen Weaver Finches in Africa building hanging nests in colonies where the nests were quite close together and our Cliff Swallows will construct their mud nests with tubular entrances actually touching each other but I know of no North American songbirds building open nests so close together. I discussed this case with Dr. Frank McKinney, Minnesota s internationally known animal behaviorist, and he agreed that this was a unique occurrence in his experience.

Perhaps others have seen this happen. If so we would like to hear from them. **W.J. Breckenridge, 5800 St. Croix Ave. N. Apt. 511, Minneapolis, MN 55422.**

WEIRD COWBIRD — On 20 May 1998, I was visiting my parents in Golden Valley, a suburb of Minneapolis. While taking my morning walk I noticed a flurry of activity on the side view mirror of a car parked in a driveway. Looking closer, I observed a male cowbird that seemed to be enamored of himself clinging to the mirror. On further reflection (pun intended) I realized that he must be trying to rid his territory of the intruder in the mirror. He would perch on the mirror for a second, then flutter down in front of it, then back up to perch on top. I watched him for about five minutes of this continuous activity until finally I had to move on.



When I mentioned this experience to my father. W. J. Breckenridge, however, he seemed quite intrigued and suggested I write it up for ***The Loon***. I may have dismissed the experience, but when I went out two days later, I saw the same cowbird apparently attacking a different intruder in the side view mirror of another car parked across the street. I watched for a couple of minutes and finally decided the bird wasn't going anywhere soon. So I went back to my parents' apartment, got my camera and returned to the driveway, all of which took perhaps 10–15 minutes. To my surprise, the bird was still there. I took one picture of him, but unfortunately a dog next door began barking, and when I moved around to get a better angle, the cowbird flew.

Two things puzzled my father, however. First, he couldn't recall a bird fighting an image in that small a mirror. Second, cowbirds don't build their own nests, but still he seemed to be defending his territory. **Barbara Franklin, 5800 St. Croix Ave. N. Apt. 511, Minneapolis, MN 55422.**

In This Issue

Purpose of the M.O.U.

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 to promote the preservation of birdlife and its natural habitat.

To carry out these aims, we: publish a magazine, ***The Loon***, and a newsletter, *Minnesota Birding;* conduct field trips; encourage and sponsor the preservation of natural areas; and hold seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from members, affiliated clubs and special gifts. The MOU wishes to point out 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*** welcome submissions of articles, "Notes of Interest" and color or black & white photographs. Submissions should be typed, double-spaced and single-sided. Notes of Interest should be less than two pages. Photographs should be 5"x7". Whenever possible, please include a copy of your submission in any standard format on any 3 ½ inch computer disk.

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

The Loon

FALL 1998
VOLUME 70 – NUMBER 3

The Loon, Minnesota's journal of birds, is published quarterly by the **Minnesota Ornithologists' Union**, the statewide bird club. Anyone interested may join. All members receive our two publications: ***The Loon*** and *Minnesota Birding.*

MOU PERMANENT ADDRESS:
J.F. Bell Museum of Natural History
10 Church Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455–0104

EDITOR OF *The Loon:*
Anthony X. Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112. Published quarterly.

ASSOCIATE EDITORS OF *The Loon:*
Parker Backstrom, Karl Bardon, Kim Eckert, Bruce Fall, Robert B. Janssen, Warren Nelson, Peder Svingen, Harrison Tordoff, Nancy Weber.

EDITOR OF *Minnesota Birding:*
Jim Williams, 5239 Cranberry Lane, Webster, WI 54893. Published bi-monthly.

MEMBERSHIPS:
Yearly donations to join the MOU: Single: $20; Youth (through age 17) $15; Family $30; Supporting $50; Life $400. Canadian and Foreign Subscriptions $25. Also available are back issues of ***The Loon*** ($4 each ppd.) and checklists of Minnesota birds (minimum lots of 20 for $5 ppd.).

MINNESOTA BIRD REPORTS:
Statewide 612-780-8890
Duluth 218-525-5952

MOU E-MAIL ADDRESS:
mou@biosci.cbs.umn.edu

MOU INTERNET WEB SITE:
http://biosci.cbs.umn.edu/~mou/

MOU OFFICERS

PRESIDENT: Ann Kessen, 31145 Genesis Ave., Stacy MN 55079
MEMBERSHIP SECRETARY: Elizabeth Bell, 5868 Pioneer Rd S, St. Paul Park MN 55071
RECORDING SECRETARY: Al Batt, RR 1 Box 56A, Hartland MN 56042
TREASURER: Mark Citsay, 210 Mariner Way, Bayport MN 55003

MOU COMMITTEES AND CHAIRPERSONS

CONSERVATION COMMITTEE CHAIR: Robert Holtz, 668 Overlook Drive, Roseville MN 55113
ELECTRONIC COMMUNICATIONS: Paul Budde, 4612 Colfax Ave. S., Minneapolis MN 55409
MINNESOTA BIRDING NETWORK – *E-mail:* wncarols@winona.msus.edu
MINNESOTA ORNITHOLOGICAL RECORDS: Kim Eckert, 8255 Congdon Blvd., Duluth MN 55804
NOMINATIONS: Paul Egeland, 8633 Harrison Circle, Bloomington MN 55437
PAPER SESSION: Carrol Henderson, 640 119th Lane NE, Blaine MN 55434
RESEARCH/RECORDS: Karl Bardon,1430 – 100th Ave. NW, #212, Coon Rapids MN 55433
SAVALOJA MEMORIAL FUND: Kim Risen, P.O. Box 174, Morgan, MN 56266
SLIDE LIBRARY: Richard Sandve, 5101 Vincent Ave. S, Minneapolis MN 55410

AFFILIATED CLUBS OF THE MINNESOTA ORNITHOLOGISTS' UNION

AGASSIZ AUDUBON SOCIETY – *President:* Gladwin Lynne, 523 Montanna, Warren MN 56762
ALBERT LEA AUDUBON SOCIETY – *President:* Al Batt, Rt 1 Box 56A, Hartland MN 56042
AUDUBON CHAPTER OF MINNEAPOLIS – *President:* Mary Ellen Vetter, 2536 Brookdale Lane, Brooklyn Park MN 55444
AUSTIN AUDUBON CHAPTER – *President:* Richard Smaby, 601–17th St. SW, Austin MN 55912
BEE NAY-SHE COUNCIL – *President:* Hulda Lind, Rt. 2, Box 2980, Palisade MN 56469
CENTRAL MINNESOTA AUDUBON SOCIETY – *President:* John Peck, 12299 Sauk River Rd., St. Cloud MN 56301
COTTONWOOD COUNTY BIRD CLUB – *President:* Ernie Neufield, Box 53, Mountain Lake MN 56159
DULUTH AUDUBON SOCIETY – *President:* Bruce Munson, 219 Fairmont St., Duluth MN 55803
FARGO-MOORHEAD AUDUBON SOCIETY – *President:* Robert O'Connor, 1353 – 4th St. N, Fargo ND 58102
HIAWATHA VALLEY BIRD CLUB OF WINONA – *President:* Carol Schumacher, 1411 Skyline Dr., Winona MN 55987
JACKSON COUNTY BIRD CLUB – *President:* Mary Jo Christopherson, P.O. Box 806, Lakefield MN 56150
LAKES AREA BIRDING CLUB – *President:* Jim Holter, RR 2 Box 239, Detroit Lakes MN 56501
MANKATO BIRD CLUB – *President:* Cathie Atchley, 532 South Ave., North Mankato MN 56003
MINNEAPOLIS AUDUBON SOCIETY – *President:* Barb Galambos, 4375 Wooddale Ave. S, Minneapolis MN 55424
MN RIVER VALLEY AUDUBON CHAPTER – *President:* Lois Norrgard, 10368 Columbus Circle, Bloomington MN 55420
MISSISSIPPI HEADWATERS AUDUBON SOCIETY – *President:* Leon L. Johnson, 12769 Irvine Ave. NW, Bemidji MN 56601
RICE COUNTY BIRD CLUB – *President:* Dan Milbert, 22425 Dahle Ave., Faribault MN 55021
ROSEVILLE BIRD CLUB – *President:* Margaret E. Kehn, 988 W Country Road D, St. Paul MN 55112
SAINT PAUL AUDUBON SOCIETY – *President:* Dorothy Waltz, 2095 Delaware Ave., Mendota Heights MN 55118
SOUTHWEST MINNESOTA WARBLERS BIRD CLUB – *President:* Jackie Mayer, 418 N 5th St. Marshall MN 56258
ZUMBRO VALLEY AUDUBON SOCIETY – *President:* Joel Dunnette, 4526 County Road 3 SW, Byron MN 55920

ISSN 0024–645X

Effect of Fledge Site on Choice of Nest Site by Midwestern Peregrine Falcons

Harrison B. Tordoff, Mark S. Martell, and Patrick T. Redig

Worldwide, most Peregrine Falcons (*Falco peregrinus*) nest on cliffs. Before the DDT debacle of the 1950s, tree-nesting in cavities or stick nests built by other species was regular in parts of northern Europe and Australia but infrequent elsewhere. Some pairs nested on open knolls in huge bogs in northern Scandinavia. Some Peregrines nested on tall buildings in Europe, often cathedrals or castles. In North America, nesting on buildings in eastern cities by the original Peregrines was rare but has been increasing. Tree nesting pairs occurred in cliff-less areas, such as eastern Kansas and southern parts of the cornbelt states, but tree-nesters were quickly eliminated as the country was settled in the shoot-all-hawks era. It is usually assumed that adult Peregrines choose nest sites similar to the sites from which they fledge, but the data to test this assumption have not been previously available.

Peregrines in the newly restored population in North America show remarkable adaptability to a variety of nest sites, making it possible to test the influence of site of fledging (first flight from hack or nest site) on later choice of nest site by adult falcons. Nest sites in the Midwest can be grouped in four categories: cliffs, buildings, smokestacks, and bridges. Pairs on cliffs and bridges in the Midwest get no human help, although elsewhere in the United States, bridge nesting pairs often use nest boxes. Pairs on smokestacks require nest boxes. Pairs on buildings usually use nest boxes, but some nest in trays of gravel and some find suitable ledges or crannies without human assistance. The success of building pairs is usually enhanced when they use nest boxes.

Are these different sub-populations? Do cliff-reared falcons nest only on cliffs? Do young fledged from buildings nest only on buildings? Do adults move from one kind of nest site to another? Is the probability of such a move influenced by prior nesting success? To answer these questions, we tracked the choice of nest site by 188 Peregrines individually identified by their leg bands in the Midwestern United States, southeastern Manitoba, and the Lake Superior basin of Ontario (collectively, "the Midwest"). Just over half (55%) of these birds were captive reared and hacked to the wild; the rest (45%) were fledged from wild nests. Hacked birds and wild birds are lumped here because they seem to behave identically in their choice of nest sites, relative to the kind of site from which they fledged. For this analysis, only Peregrines individually identified at fledging and later at egg laying were included. Adults holding territories but not nesting were excluded.

One original goal of the Peregrine restoration program was to establish at least 40 territorial pairs in the Midwestern United States. Our best guess is that the pre-DDT population in our area was about 50 pairs south of the Canadian border, all nesting on cliffs. In 1998, 205 young were produced by 99 territorial pairs in the Midwest; 27 pairs were on cliffs, 43 on buildings, 18 on smokestacks, and 11 on bridges. The cliff pairs are all on cliffs around Lake Superior. Cliffs along the Mississippi River and its

Table 1. Effect of fledge site on choice of nest site by Peregrine Falcons in the Midwest, 1987–1998.

Females

Fledge site	Number of Birds	Nest site chosen by adults			
		Cliff	Building	Smokestack	Bridge
Cliff	12	6	3	2	1
Building	71	4	48	13	6
Smokestack	5	0	1	4	0
Bridge	0	0	0	0	0

Chi square = 31.72, df = 6, p = <0.005

Males

Fledge site	Number of Birds	Nest site chosen by adults			
		Cliff	Building	Smokestack	Bridge
Cliff	11	8	0	1	2
Building	76	0	63	12	1
Smokestack	3	0	0	2	1
Bridge	0	0	0	0	0

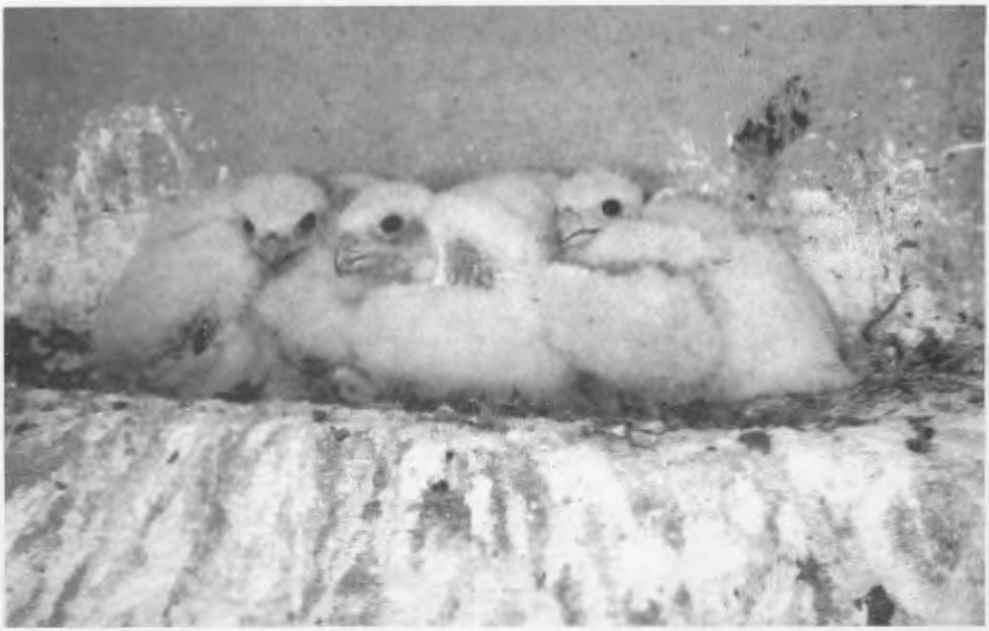
Chi square = 31.72, df = 6, p = <0.005

tributaries, a stronghold of the original population, remain unused by the new Peregrine population. Great Horned Owls (*Bubo virginianus*) disrupted eight Peregrine cliff-nesting attempts along the river in the 1980s. Peregrines have apparently not tried to nest on the river cliffs in the past decade. Can Peregrines be expected to re-occupy the river cliffs, given enough time? Can birds fledged from buildings or smokestacks be expected to be attracted to vacant cliffs? Should additional birds be released on the cliffs? These management questions require knowledge of the effect of fledging site on adult choice of nest site.

Although the sample from smokestacks is small and for bridges is zero (Table 1), it is still obvious that nest site selection by adults is strongly influenced by the site from which they fledged. The influence, however, is not absolute and is not irreversible.

Building, bridge, and smokestack sites are thoroughly intermingled in the Midwest, facilitating falcon traffic among them. However, the Peregrines on cliffs around Lake Superior are geographically somewhat isolated. Despite this, cliff-reared birds seem to move more readily to man-made structures than the reverse. All cliff nesters around Lake Superior migrate and, as they move south, will see tall man-made structures. In contrast, Peregrines nesting in corn-belt cities may seldom or never see cliffs; many are resident year-around and even those that migrate could easily reach the Gulf coast without seeing a cliff large enough to be attractive.

Females, which on average disperse about twice as far as males (354 km vs. 174 km, Tordoff and Redig, 1997, Journal of Raptor Research, 31(4); 339–346), are more flexible in choice of nest site than males. Of the 88 females in the sample, 30 (34%) chose nest sites different from their fledge sites. Of the 90 males, only



Young Peregrines at Mendota Bridge, Fort Snelling State Park, Dakota County, 5 June 1998. Photo by Mark S. Martell.

17 (19%) chose different nest sites. The shorter average dispersal distances for males should reduce their exposure to new areas and new kinds of potential nest sites, which may explain the greater tendency of males to choose nest sites like their fledge sites.

Pairs and individuals usually changed territories only after one or a series of unproductive nestings. After nesting, three pairs moved from buildings to bridges; one pair moved from a bridge to a building then back to the bridge; and one female moved from a smokestack to a building. Before nesting, one male moved from a cliff to a smokestack then to a building, where he finally nested.

The frequency of use of nest sites different from fledge sites and the amount of shifting of adults from one kind of site to another, although small, are enough to provide gene flow among the nest site groups sufficient to prevent the evolution of genetically distinct "nest-site populations". Further, this level of flexibility of choice of nest sites ensures that all categories of potential nest sites, including the river cliffs, will be explored as Peregrines in the Midwest reach carrying capacity and competition for territories becomes intense.

Acknowledgments

Peregrine Falcon restoration in the Midwest and adjacent parts of Canada was accomplished by the cooperative effort of hundreds of people. The subsequent monitoring of the population, which made possible this paper, was done by dozens of observers peering for hours through telescopes to read leg bands on usually uncooperative falcons. We thank all of these people for their enormously successful work.

Bell Museum of Natural History and Department of Ecology, Evolution, and Behavior, 1987 Upper Buford Circle (HBT); The Raptor Center, 1920 Fitch Avenue (MSM, PTR), University of Minnesota, St. Paul, Minnesota 55108.

Bird Population Trends in Minnesota and Northwestern Wisconsin Forests, 1991–1997

Rita Y. Hawrot, JoAnn M. Hanowski, Ann R. Lima, Gerald J. Niemi, and Lee Pfannmuller[1]

The status of forest birds has been the subject of considerable interest (Terborgh 1989). Long-term monitoring can be used to identify species at risk by providing information on abundance patterns. We previously summarized our results on bird population trends in the Chippewa and Superior National Forests (NF), Minnesota, after three years of monitoring (Hanowski and Niemi 1994). In both forests, the Gray Jay, Winter Wren, Nashville Warbler, and American Redstart increased significantly and the White-throated Sparrow and Red-eyed Vireo decreased significantly. We also looked at population trends of breeding birds in Minnesota and in Minnesota forested regions over the past 28 years using data from the North American Breeding Bird Survey (BBS), a continental monitoring program which uses roadside counts to sample breeding birds (Sauer *et al.* 1997, Niemi *et al.* 1995). Forty-two percent of the species (49 species) examined had no significant change in abundance, 36% (42 species) had significant increases, and 21% (25 species) had significant declines. Most species with declining trends could be grouped into three broad categories: species associated with forests, species of agricultural landscapes, and species associated with wetlands.

In 1997, we completed the seventh year of our forest breeding bird monitoring program. Since the program's initiation in 1991, we have added three study areas: the Chequamegon NF of northwestern and central Wisconsin, and Minnesota's St. Croix River Valley (St. Croix) in 1992; and southeastern Minnesota (Southeast) in 1995 (Figure 1). Northern Minnesota and northwestern Wisconsin are located in the southern boreal-northern hardwood forest border (Pastor and Mladenoff 1991). Much of the conifer forest has been converted to aspen and birch since the middle of the last century (Coffin and Pfannmuller 1988). The present landscape has fewer conifer stands and more deciduous stands such as aspen and birch (Green 1995). Southeastern Minnesota and central Wisconsin (southern-most extent of the Chequamegon) are part of the eastern deciduous forest. Forests in this region have been altered by agricultural development or urban growth (Coffin and Pfannmuller 1988). We currently are monitoring five study areas by conducting over 1600 habitat-specific point counts each breeding season (Howe *et al.* 1997). Our objectives are to: (1) identify species that have significant population trends for each study area; (2) identify species with significant population trends over the region; and (3) compare our results to trends from Minnesota BBSs.

Methods

The study design we used for the national forest study areas is described in

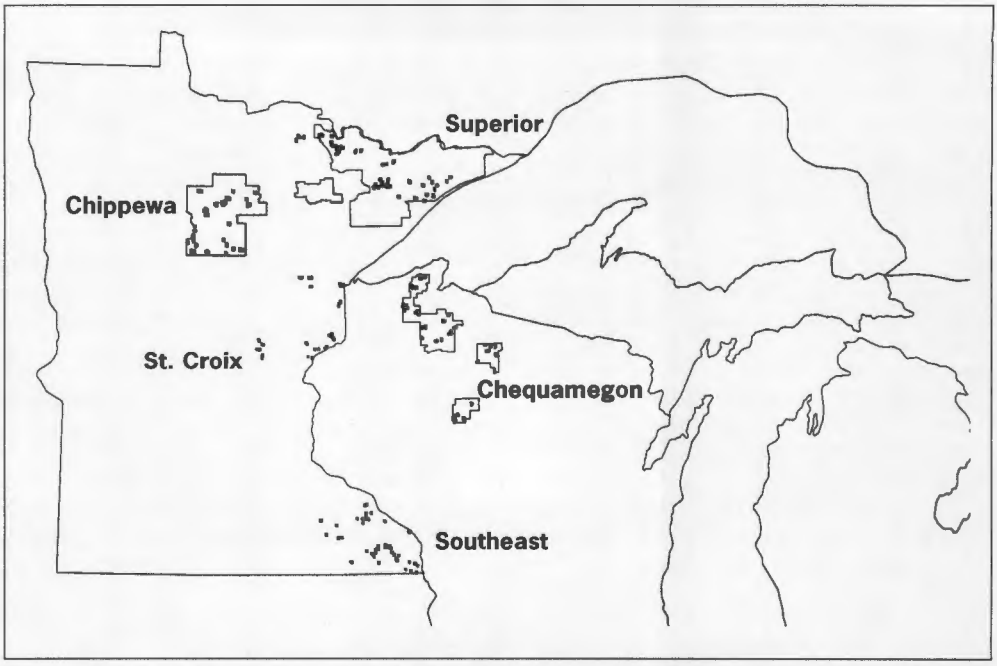


Figure 1. Locations of census points on the Superior, Chippewa, and the Chequamegon National Forests, and the St. Croix and the Southeast study areas.

Hanowski and Niemi (1995). The difference in the design between the national forests and the St. Croix and Southeast study areas is the sampling unit or area where bird surveys are conducted. The sampling unit for the three national forests is a forest stand of at least 40 acres (16 ha), the minimum size needed for three non-overlapping census points. Because the forest patches in the St. Croix and the Southeast are generally small (<40 acres), only one census point could be placed in each stand. For these study areas, a stand had to be at least ten acres (4 ha) in size. Totals of 133, 162, and 128 stands (1,269 census points) were surveyed in the Chippewa, Superior, and Chequamegon NFs, respectively. One-hundred seventy census points were surveyed in the St. Croix and 211 census points in the Southeast.

We used ten-minute point counts to survey birds from June through early July (see Hanowski and Niemi (1995) for details on methods and observer training). This method is most effective for detecting singing passerine species. Because point counts are conducted in June or early July, this method may underestimate the number of early nesting species that may not be singing as frequently. From 1991 to 1993, all birds heard or seen within 100 meters of the point count center were recorded. In 1994, we changed our methods to include all birds heard or seen from the census point so that our results could be compared with other monitoring programs in this region (Howe *et al.* 1997).

Relative abundance for each species was estimated using a method (least-square estimates of means) that accounts for missing values from sites that could not be sampled, (e.g., rain during point count). Only bird species that were observed on at least 10% of the stands in any year were included in the analyses. Fifty species in the Chippewa NF, 45 spe-

cies in the Superior NF, 49 species in the Chequamegon NF, 32 species in the St. Croix, and 38 species in the Southeast met this criteria. A repeated measures analysis of variance (ANOVA) was used to identify similarities and differences in bird abundance for each study area over the years of the monitoring program. The null hypothesis for each bird species and for number of individuals and number of species was that "no change is observed over time". We also completed a repeated measures ANOVA with data from the northern study areas (Chippewa, Superior, and Chequamegon NFs, and the St. Croix) combined to calculate a regional trend value for each bird species. Only one point count per stand was used in this analysis. Sixty species were included in the analysis based on the criteria previously described. For more details on statistical analyses, contact the authors.

Results

A total of 177 species was observed on one or more of the five study areas from 1991 to 1997. We observed 123 species in the Chippewa NF, 125 species in the Superior NF, 129 species in the Chequamegon NF, 110 species in the St. Croix, and 99 species in the Southeast. The Osprey, Bald Eagle, and Sharp-shinned Hawk were found exclusively in the Chippewa NF. Eight species were observed only in the Superior NF including the American White Pelican, Canvasback, Spruce Grouse, Ring-billed Gull, Herring Gull, Great Gray Owl, Northern Saw-whet Owl, and Rusty Blackbird. The Upland Sandpiper, European Starling, Dickcissel, Grasshopper Sparrow, and Western Meadowlark were found only in the Chequamegon NF. The Loggerhead Shrike was observed only in the St. Croix. Eleven species were found only in the Southeast including the Acadian Flycatcher, Barn Swallow, Tufted Titmouse, Cerulean Warbler, Prothonotary Warbler, Louisiana Waterthrush, Hooded Warbler, Yellow-breasted Chat, Bobolink, Orchard Oriole, and House Finch.

We only report population trends for bird species with statistically significant linear trends at the $p \leq 0.05$ level. Across all study areas, a total of 57 species had significant trends during the monitoring period: 31 species (54%) increased, 16 species (28%) decreased and 10 species (18%) increased or decreased in abundance in the study areas (Table 1). In the Chippewa NF, 15 species (75%) increased and five species (25%) decreased from 1991 to 1997. In the Superior NF, twenty-two species (79%) increased and six species (21%) declined from 1991 to 1997. In the Chequamegon NF, 26 species (90%) increased and 3 species (10%) decreased from 1992 to 1997. The St. Croix had nine species (64%) increase and five species (36%) decrease during 1992 to 1997. Two species (13%) increased from 1995 to 1997 in the Southeast and 14 species (87%) declined. Thirty-five species had significant regional trends: twenty-six species (74%) increased and nine species (26%) declined.

Species With Increasing Trends

The Ruffed Grouse, Northern Flicker, Great Crested Flycatcher, Blue Jay, American Crow, Veery, Swainson's Thrush, Hermit Thrush, American Robin, Ovenbird, Rose-breasted Grosbeak, and White-throated Sparrow were found to have increasing trends, likely due to our change in methods from a limited radius prior to 1995 to an unlimited radius in 1995 (Table 1). These species are either loud vocalizers or are found in open habitats where their songs carry for relatively long distances. We do not include these species in our results or discussion.

Three or more study areas. The Red-eyed Vireo and Yellow-rumped Warbler had increasing trends in four of the five study areas: the three national forests, the St. Croix, and regionally (Table 1). The Yellow-bellied Sapsucker increased in the Superior NF, Chequamegon NF, the St. Croix, and regionally. The Yellow-bellied Flycatcher and Magnolia Warbler increased in the three national forests and regionally, but were not abundant enough to test in the St. Croix. BBS data

Table 1. Bird population trends for the five study areas; the national forests and St. Croix combined (regional); and Minnesota Breeding Bird Survey (BBS). Years included in analysis are in parentheses. Arrows indicate degree and direction of change (single, p 0.05; double, p 0.01; triple, p< 0.001). Blanks indicate that the species was not abundant enough to test and NS indicates that the trend was not statistically significant.

Migratory status of species is given: NM = Neotropical migrant, CM = continental migrant, and PR = permanent resident.

		National Forest						
Species	Migratory Status	Chippewa (1991–97)	Superior (1991–97)	Chequamegon (1992–97)	St. Croix (1992–97)	Southeast (1992–97)	Regional (1991–97)	Minnesota BBS (1980–96)
Total individuals		↑↑↑	↑↑↑	↑↑↑	↑↑↑	↓↓↓	↑↑↑	
Total number of species		↑↑↑	↑↑↑	↑↑↑	↑↑	↓↓↓	↑↑↑	
Ring-necked Pheasant	PR					↓↓		NS
Ruffed Grouse	PR		NS	↑↑↑			↑↑↑	NS
Wild Turkey	PR					NS		
Mourning Dove	CM					NS		↓↓↓
Red-bellied Woodpecker	PR					↓↓↓		↑↑
Yellow-bellied Sapsucker	CM	NS	↑↑↑	↑↑↑	↑↑	NS	↑↑↑	NS
Downy Woodpecker	PR	↓↓				↓	↓	NS
Hairy Woodpecker	PR	NS	↓	NS		NS	NS	NS
Northern Flicker	CM	NS	NS	↑↑↑		↑↑↑	NS	↓↓↓
Pileated Woodpecker	PR					↓↓		NS
Eastern Wood-Pewee	NM	NS	NS	↑↑↑	NS	↓↓	↑↑↑	NS
Yellow-bellied Flycatcher	NM	↑	↑↑↑	↑↑↑			↑↑↑	
Alder Flycatcher	NM	NS	NS	↑↑↑			↑↑	NS
Least Flycatcher	NM	NS	NS	NS	↑↑↑		↑	NS
Great Crested Flycatcher	NM	NS		↑↑↑	NS	↓↓↓	NS	NS
Blue-headed Vireo	NM	↑↑↑	↑↑↑	NS			↑↑	NS
Yellow-throated Vireo	NM	NS		NS	NS	↓↓	NS	NS
Red-eyed Vireo	NM	↑↑	↑↑↑	↑↑	↑↑↑	↓	↑↑↑	↑
Gray Jay	PR	NS	↑				NS	NS
Blue Jay	PR	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↓	↑↑↑	NS
American Crow	CM	↑↑↑				NS		NS
Black-capped Chickadee	PR	NS	NS	NS	↓↓	NS	↓	NS
Red-breasted Nuthatch	PR	↑↑↑	↑↑↑	NS			↑↑↑	NS
White-breasted Nuthatch	PR	NS		NS	NS	↓↓↓	↓	NS
Brown Creeper	CM	NS	NS	↓↓↓	NS		↓↓↓	
House Wren	CM					NS		NS
Winter Wren	CM	↑↑↑	↑↑↑	NS			↑↑↑	NS
Golden-crowned Kinglet	CM	↓↓↓	↓↓				NS	
Ruby-crowned Kinglet	CM		NS				↓	NS
Blue-gray Gnatcatcher	NM					NS		
Veery	NM	NS	↑↑	↑↑↑	↑↑↑		↑↑↑	↓
Swainson's Thrush	NM	↑↑↑					↑↑	NS
Hermit Thrush	NM	↑↑↑	↑↑↑	↑↑↑	↑↑↑		↑↑↑	NS
Wood Thrush	NM			NS	↑↑	NS	↑↑	NS
American Robin	CM	↑↑↑	↑↑↑	↑↑↑	NS	NS	↑↑↑	NS
Gray Catbird	NM				NS	NS	NS	NS
Cedar Waxwing	CM	NS	NS				NS	NS
Blue-winged Warbler	NM					NS		
Golden-winged Warbler	NM	↑↑			NS		NS	↑↑↑
Nashville Warbler	NM	NS	↑↑↑	NS	↓↓		NS	NS
Northern Parula	NM	NS	NS	NS			↑	NS
Yellow Warbler	NM	NS					NS	NS
Chestnut-sided Warbler	NM	↑	↓	↑↑	NS		NS	NS

Table 1. Continued.

Species	Migratory Status	National Forest: Chippewa (1991-97)	Superior (1991-97)	Chequamegon (1992-97)	St. Croix (1992-97)	Southeast (1992-97)	Regional (1991-97)	Minnesota BBS (1980-96)
Magnolia Warbler	NM	↑↑	↑↑↑	↑↑			↑↑↑	↑
Cape May Warbler	NM		↑↑↑				NS	
Yellow-rumped Warbler	CM	↑↑	↑↑↑	↑↑↑	↑↑↑		↑↑↑	NS
Black-throated Green Warbler	NM	NS	NS	↑↑↑	↓		↑	NS
Blackburnian Warbler	NM	NS	↑↑↑	↑↑↑			↑↑↑	NS
Pine Warbler	NM	NS		NS			NS	↑↑
Black-and-white Warbler	NM	↑↑	↓	↓↓↓	NS		NS	NS
American Redstart	NM	↓↓	↑	NS		↑	↓	NS
Ovenbird	NM	NS	↑↑↑	↑↑↑	NS	NS	↑↑↑	NS
Northern Waterthrush	NM			↑↑↑			↑↑	NS
Connecticut Warbler	NM	NS					NS	NS
Mourning Warbler	NM	NS	NS	NS	↑		NS	NS
Common Yellowthroat	NM	NS	NS	NS	NS	NS	NS	NS
Canada Warbler	NM		↓↓	NS			NS	NS
Scarlet Tanager	NM	NS	NS	↑	NS	NS	NS	NS
Eastern Towhee	CM			↑↑		NS	↑	NS
Chipping Sparrow	NM	NS	↑↑	↑↑		NS	NS	NS
Field Sparrow	CM					NS		NS
Song Sparrow	CM	NS	NS	↑	NS	NS	NS	NS
Swamp Sparrow	CM	NS	NS	↑↑	NS		NS	↑↑↑
White-throated Sparrow	CM	↑	↑↑↑	↑↑↑	NS		↑↑↑	↑
Northern Cardinal	PR					↓↓		↑↑↑
Rose-breasted Grosbeak	NM	NS	NS	↑↑↑	NS	↓↓	↑↑↑	NS
Indigo Bunting	CM	NS		↓↓↓	↓↓	NS	↓↓↓	↓↓↓
Red-winged Blackbird	CM					NS		↓↓↓
Brown-headed Cowbird	CM	↓		NS	↓↓	↓↓↓	↓↓	NS
Baltimore Oriole	NM					NS		NS
Purple Finch	CM	↓↓↓	↓↓↓	NS			↓↓	NS
American Goldfinch	CM			NS		↓↓	NS	NS
Evening Grosbeak	PR		↑	NS			NS	NS

indicate that the Red-eyed Vireo and Magnolia Warbler are increasing.

Two study areas. The Red-breasted Nuthatch, Winter Wren, and Solitary Vireo had increasing trends in the Chippewa NF and Superior NF; the Blackburnian Warbler and Chipping Sparrow increased in the Superior NF and Chequamegon NF; the Chestnut-sided Warbler increased in the Chippewa NF and Chequamegon NF; and the American Redstart increased in the Superior NF and the Southeast (Table 1). The Red-breasted Nuthatch, Winter Wren, Solitary Vireo, and Blackburnian Warbler had regional increases (Table 1). All of these species had BBS trends that were not significantly increasing or decreasing (Table 1).

One study area. Eighteen species had significant increasing trends in one of the five study areas (Table 1). The Eastern Wood-Pewee, Alder Flycatcher, Least Flycatcher, Swainson's Thrush, Wood Thrush, Black-throated Green Warbler, Northern Waterthrush, and Rufous-sided Towhee also increased at the regional level (Table 1). The Golden-winged Warbler and Swamp Sparrow had increasing trends with BBS data (Table 1).

Species With Decreasing Trends.

Two or more study areas. The Brown-headed Cowbird declined in three of the five study areas; the Chippewa NF, St. Croix, and the Southeast (Table 1). The Downy Woodpecker declined in the

Chippewa NF and the Southeast, the Golden-crowned Kinglet and Purple Finch declined in the Chippewa and Superior NF; the Black-and-white Warbler declined in the Superior and Chequamegon NF; and the Indigo Bunting declined in the Chequamegon NF and the St. Croix (Table 1). All species had declining regional trends with the exception of the Golden-crowned Kinglet and Black-and-white Warbler. The Indigo Bunting had a decreasing BBS trend.

One study area. Twelve of 20 species (>50%) that decreased in one study area were in the Southeast (Table 1). Species which declined only in the Southeast include the Ring-necked Pheasant, Red-bellied Woodpecker, Pileated Woodpecker, Eastern Wood-Pewee, Great Crested Flycatcher, Blue Jay, White-breasted Nuthatch, Yellow-throated Vireo, Red-eyed Vireo, Northern Cardinal, Rose-breasted Grosbeak, and American Goldfinch. The Black-capped Chickadee, White-breasted Nuthatch, Brown Creeper and American Redstart had decreasing regional trends. None of the species had significant decreasing BBS trends.

Discussion

Our monitoring data from 1991 to 1997 for the three national forests and St. Croix study area indicate that overall forest bird populations are increasing or relatively stable. The Southeast study area had many species declining only in that study area. However, these declines should be viewed with caution since these trends are based on a three-year period. At the regional level, overall forest bird populations are also increasing or stable. Our monitoring data were much better in detecting trends compared to Minnesota BBS data. We had 35 significant regional trends compared to only 13 significant trends with BBS data.

Results from studies conducted in the mid-Atlantic region of the United States suggest that some Neotropical migrants are declining (Robbins *et al.* 1989, Sauer and Droege 1992). However, we found more Neotropical migrants increased in abundance compared to continental migrants or permanent residents. A possible reason for the difference between our results and others may be due to dissimilarities between the two regions. Our study was conducted in the forests of the upper Great Lakes region that are largely intact and contiguous, in contrast to the more fragmented eastern deciduous forest. Continental migrants and permanent residents had twice as many declines in abundance as Neotropical migrants. The initiation of breeding for these species is controlled by regional weather patterns which may vary from year to year. Therefore, the number of singing males detected by points counts completed in June and early July would also vary accordingly.

Over half of the species that increased in abundance in two or more study areas are associated with coniferous habitats. The Yellow-bellied Flycatcher breeds in mature pine forest and lowland conifer habitats (Niemi *et al.* 1997). The Red-breasted Nuthatch is found in pine plantations, lowland coniferous forests, and aspen stands with a conifer component. This species also responds positively to subtle edges (upland coniferous to upland mixed forest) and may prefer a complex landscape mosaic with a variety of habitat patches (Hawrot and Niemi 1996). The Winter Wren prefers forests with dense understory, decaying deadfall and brush piles (where the species nests) such as cedar, black spruce, and upland mixed habitats (Niemi *et al.* 1997). The Solitary Vireo is found in mature forests such as pine plantations and spruce/tamarack bogs (personal data).

The Magnolia Warbler prefers intermediate stages of coniferous forest regeneration (i.e., pine plantations) and deciduous forests with a well-developed coniferous subcanopy layer (Niemi *et al.* 1997). The Yellow-rumped Warbler breeds in mature pine forests, lowland conifer habitats, and aspen stands with a conifer component (Niemi *et al.* 1997). The Blackburnian Warbler is associated with contiguous, mature coniferous forest such

as pine, hemlock, and spruce habitats. It also occurs in upland mixed habitat types (Niemi *et al.* 1997). The Chipping Sparrow is most abundant in mature and regenerating pine forests in our study areas (Niemi *et al.* 1997). The Golden-crowned Kinglet, a species that declined in abundance, breeds in mature coniferous habitats including black spruce, cedar, pine forests, and aspen stands with a conifer component (personal data).

Four species that increased in abundance are associated with deciduous habitats. The Yellow-bellied Sapsucker is a cavity nesting species that has a preference for mature aspen, paper birch, and maple stands (personal data) where it excavates a cavity in large trees, commonly aspen. The Red-eyed Vireo uses a wide range of forest types and age classes, but is found most abundantly in mature, upland deciduous forest (Hawrot and Niemi 1996). The Chestnut-sided Warbler and American Redstart are associated with early successional forests and open, mature forests with a well-developed deciduous understory (Hawrot and Niemi 1996). The Downy Woodpecker, a species that decreased in abundance, is found in mature maple, aspen, and red oak forests where it primarily excavates its nest cavity in deciduous trees. Due to these nesting requirements, the Downy Woodpecker is considered dependent on deciduous trees. A decline in suitable cavity trees (e.g., older deciduous trees with heart rot fungus), may cause declines in abundance for this species. Other bird species which use the woodpeckers cavities for nesting may be adversely impacted as well.

Three species that declined in two or more study areas breed in a variety of habitats. The Black-and-white Warbler breeds in mature upland deciduous and lowland coniferous forests as well as regenerating habitats (Niemi *et al.* 1997). The Indigo Bunting inhabits a variety of open and semi-open habitats and forests edges such as upland brush (Chequamegon NF) and mature pine, red oak, and maple forest edges (personal data). This species is common in fragmented forests throughout Minnesota and Wisconsin and may benefit from clearcut timber harvest. The Purple Finch uses a wide range of forest types and age classes including upland and lowland coniferous forests; and mature and regenerating deciduous stands (personal data). Amount of suitable habitat on its breeding ground would not likely be a limiting factor for these species. Declines may be due to changes occurring on their wintering grounds or along migration routes.

The Brown-headed Cowbird, the only species that declined in three study areas, is one of the most common species statewide in Minnesota (Green 1995). The Brown-headed Cowbird is a nest parasite that lays its eggs in the nest of host species (includes many Neotropical migrants). A decline in relative abundance would benefit forest birds that are vulnerable to parasitism. The cowbird is found in fragmented habitats and forest edges (personal data) and benefits from timber harvest. The trend in Minnesota since the 1930s and 1940s is the reduction in small rural farms with associated livestock, especially in the forested areas of the state. Therefore, the cowbird's decline may be due in part to limited areas of short grass habitat that provide feeding opportunities.

Regional Declines

Four of the nine species with regional declines, the American Redstart, Indigo Bunting, Brown-headed Cowbird, and Purple Finch, were discussed in the previous sections. Four of the remaining species, Downy Woodpecker, Black-capped Chickadee, White-breasted Nuthatch, and Brown Creeper use larger trees for nesting such as aspen, maple, and paper birch (personal data). Yet, Niemi *et al.* (1995) found the Downy Woodpecker, Black-capped Chickadee, and White-breasted Nuthatch increasing from 1966 to 1993. A decrease in the number of suitable cavity trees would adversely affect these species. The Ruby-crowned Kinglet requires mature coniferous forests to breed (personal data) and

responds positively to the amount of conifers in the landscape.

Acknowledgments

We would like to thank the following individuals for their perseverance in completing the bird surveys often in unpleasant weather and usually with plenty of bugs; Brad Bolduan, Christopher Brown, James Cameron, Brett Chapel, Darren Cohen, Dawn Doering, Kara Donohue, Joan Elias, Kathy Fleming, Craig Fosdick, Michele Grzenda, Mary Hammer, Cal Harth, Tom Jones, Brandon Martinson, Kent Montgomery, Carol Pearson, Jenny Rukavina, Thomas Savre, Karen Schitek, Lisa Schulte, Mike VanSteppen, Katie Weakland, John Wharton, and Heather Wilson. Funding for the monitoring program was provided by the Superior, Chippewa, and Chequamegon National Forests, North Central Experiment Station, and the Legislative Commission for Minnesota Resources. This is contribution number 230 of the Center for Water and the Environment of the Natural Resources Research Institute.

Literature Cited

Coffin, B. and L. Pfannmuller. 1988. Minnesota's endangered flora and fauna. University of Minnesota Press, Minneapolis, Minnesota.

Green, J.C. 1995. Birds and forests: A management and conservation guide. Minnesota Department of Natural Resources, St. Paul, Minnesota.

Hanowski, J.M. and G.J. Niemi. 1994. Breeding bird abundance patterns in the Chippewa and Superior National Forests from 1991 to 1993. ***The Loon*** 66:64–70.

_____ and G.J. Niemi. 1995. Experimental design considerations for establishing an off-road, habitat specific bird monitoring program using point counts, *in* Monitoring bird population trends by point counts. USDA For. Serv., Pacific Southwest Research Station. Gen. Tech. Rep. PSW-GTR-149.

Hawrot, R.Y. and G.J. Niemi. 1996. Effects of edge type and patch shape on avian communities in a mixed conifer-hardwood forest. The Auk 113(3):586–598.

Howe, R.W., G.J. Niemi, S.J. Lewis, and D.A. Welsh. 1997. A standard method for monitoring songbird populations in the Great Lakes region. The Passenger Pigeon 59(3):182–194.

Niemi, G., A. Lima, J. Hanowski, and L. Pfannmuller. 1995. Recent trends of breeding birds in Minnesota and Minnesota forested regions — 1966–1993. ***The Loon*** 67:191–201.

Niemi, G. J., J.M. Hanowski, A. R. Lima, T. Nicholls and N. Weiland. 1997. A critical analysis on the use of indicator species in management. Journal of Wildlife Management 61:1240–1252.

Pastor, J. and D.J. Mladenoff. 1991. The southern boreal–northern hardwood forest border, p 216–240, *in* A systems analysis of the global boreal forest. H.H. Shugart, R. Leemans, and G.B. Bonan, editors. Cambridge Univ. Press, Cambridge, England.

Robbins, C.S., J.R. Sauer, R.S. Greenberg, and S. Droege. 1989. Population declines in North American birds that migrate to the tropics. Proc. Natl. Aca. Sci. USA. 86(19):7658–7662.

Sauer, J.R., and S. Droege. 1992. Geographic patterns in population trends of Neotropical migrants in North America, p 266–342, *in* J.M. Hagan III and D.W. Johnson, eds. Ecology and conservation of Neotropical migrant landbirds. Smithsonian Press, Washington, DC.

_____, J.E. Hines, G. Gough, I. Thomas, and B.G. Peterjohn. 1997. The North American Breeding Bird Survey Results and Analysis. Version 96.3. Patuxent Wildlife Research Center, Laurel, Maryland.

Terborgh, J. 1989. Where have all the birds gone? Princeton University Press, Princeton, New Jersey.

Natural Resources Research Institute, 5013 Miller Trunk Highway, Duluth, MN 55811; [1]Minnesota Department of Natural Resources, 500 Lafayette Road, St. Paul, MN 55146.

The Winter Season
(1 December 1997 to 28 February 1998)

Karl Bardon

Most remarkable was the presence of two different Glaucous-winged Gulls on the North Shore of Lake Superior; there had been only one previous state record. Mild conditions resulted in a long list of overwintering species, highlighted by the state's first overwintering Black-crowned Night-Heron and Lincoln's Sparrow, both in northern Minnesota. The variety of birds present this season was epitomized by a record 73 species recorded on the Bloomington CBC.

After two winters of exceptional snow and cold, this season's balmy conditions were a welcome respite. The 158 species reported this season was the second highest ever, falling short of the record 162 species seen during the 1994–95 winter season (***The Loon*** 68:155). More exceptional were the record species counts on the Bloomington (73) and Excelsior (68) CBCs, far surpassing the previous record of 66 species, and attesting to the remarkable variety of birds present in the state this winter. As can be expected from mild winters such as this, many more lingering migrants were seen than normal, a long list of unusual overwintering birds was tallied, there was significant early migration observed in a number of species, and most irruptive species were seen in lower numbers than the previous two winters.

Highlights among the lingering waterbirds include Common Loons recorded in Otter Tail Co. and on the Duluth CBC, a mid-winter report of a Red-necked Grebe at Reads Landing, Wabasha Co., a Black-crowned Night-Heron at Black Dog Lake, Dakota Co., three late Black Scoters at Lake Calhoun, Hennepin Co., multiple reports of Ruddy Ducks with a peak of 23 at Lake Calhoun, and a record number of American Coots. The number of Trumpeter Swans overwintering at Fergus Falls, Otter Tail Co. and Monticello, Wright Co. continues to rise, and once again several Tundra Swans overwintered with the Trumpeters at Monticello.

Exceptional numbers of gulls were seen until early January, with most reports from the North Shore of Lake Superior and Black Dog Lake, Dakota Co. The Lesser Black-backed Gull at Lake City, Wabasha Co. was a first county record, the peak of eleven Thayer's Gulls at Black Dog Lake was a new high count, and the two Glaucous-winged Gulls reported from Duluth-Superior and Grand Marais were only the second and third state records. The reports of Lesser Black-backed, Great Black-backed, and Iceland Gulls foreshadow upcoming regular status for these species; the Lesser Black-backed Gull seen at Lake City, and the four Iceland Gulls continue a trend of more individuals reported from the Twin Cities than the North Shore.

Highlights among lingering landbirds include multiple Yellow-bellied Sapsuckers in January in Minneapolis, a record late Eastern Phoebe on the St. Paul CBC, Marsh Wrens in Hennepin Co. and on the Excelsior CBC, Ruby-crowned Kinglets in Washington Co. and on the Two Harbors CBC, multiple Yellow-rumped Warblers including a remarkable peak of five in Rice Co., a Common Yellowthroat at the

Bass Ponds, Hennepin Co., and two reports of Lincoln's Sparrows in Hennepin Co.

Many passerines which normally overwinter in small numbers were reported in record numbers. Most interesting was the exceptional number of Brown Creepers and Golden-crowned Kinglets throughout the state, with a greater number of Golden-crowned Kinglets in the north than the south. Red-breasted Nuthatches were also more widespread than ever before. As many as a dozen Hermit Thrushes were reported. Also of interest was the record number of American Crows and American Robins, highlighted by 10,000 crows seen in Rochester, Olmsted Co. (by far the highest count ever reported in the state) and 505 robins on the St. Paul (northeast suburban) CBC.

One of the key elements to any good winter report is to note which species successfully overwintered. Many individuals of many species often linger well into January (or even later), but then either move elsewhere or perish. Conversely, other individuals of some species begin local or migratory movements throughout February (or even earlier). As a result, it is often very difficult to determine true overwintering status of individual birds based on just a few observations, even in "mid-winter". In most instances, overwintering status means an individual bird has been seen throughout all three months of the winter. The Millard's observations in Fergus Falls, Otter Tail Co. are a shining tribute to this type of field work. The most interesting species documented successfully overwintering at this site include Pied-billed Grebe, Black-crowned Night-Heron, nine species of ducks, Sharp-shinned Hawk, Merlin (Richardson's race), American Coot, Red-headed Woodpecker, Varied Thrush, Spotted Towhee, and Chipping, Lincoln's, Swamp, White-throated, and White-crowned Sparrows. Both the Black-crowned Night-Heron and the Lincoln's Sparrow are the first confirmed overwintering records in the state, and the Spotted Towhee and Swamp Sparrow are the first overwintering records for the north.

Noteworthy overwintering reports from other areas of the state include Carolina Wrens in Rochester, Olmsted Co. and Bloomington, Hennepin Co., a Northern Mockingbird in Detroit Lakes, Becker Co., Eastern Towhee and Harris's Sparrows in Duluth, St. Louis Co., a mid-winter report of a Field Sparrow in Dakota Co., and record numbers of Song, Swamp and White-throated Sparrows. Most interesting was the adult male Barrow's Goldeneye overwintering at the Blue Lake treatment plant, Scott Co. for the third year in a row. This is the fourth year in a row that a male has overwintered in the Twin Cities area, underscoring this species' habit of returning to wintering sites year after year, but belying its true status as a casual vagrant. Of related interest was the Prairie Falcon wintering in Minneapolis for the third time in four years.

The number of northern owls reported was down considerably from the past two winters' invasions, with only average numbers of Great Gray and Northern Hawk Owls, and only one Boreal Owl report. The 56 Snowy Owl reports were actually above average; although few were reported from the northeast, many were seen in the west, highlighted by five on the Crookston CBC. Also of interest here is the very low number of Rough-legged Hawks and Northern Goshawks, and the lower than average number of Northern Shrikes.

The Fringillid ("winter") finch movement was somewhat mixed, with strong indications that many species moved south early, leaving fewer individuals in the state by mid-winter than areas farther south. This seemed particularly true with Common Redpolls, which were widespread but not in large numbers. A near record number of Hoary Redpolls was seen, but as usual few of them were documented. Purple Finches were very scarce. Red Crossbills were confined to the north, but White-winged Crossbills

were quite widespread, with a peak of over 150 as far south as Brown Co. Although there were more Evening Grosbeak reports from the south than usual, these reports were still meager, and the CBC total was exceptionally low.

Early migration of waterfowl, gulls, bluebirds, American Robins, Lapland Longspurs, and blackbirds was well underway during the last week of February. Most interesting among the reports of early migrants was an American Woodcock seen in Houston Co., the state's first February report.

Most species of waterfowl were reported returning in good numbers by 24-25 February, and many species established new record early dates. Although it is often difficult in late winter to distinguish early migrants from previously undiscovered overwintering individuals, it seems likely that most of the dates included in the species accounts this season represent bona fide migrants.

Herring Gulls began building along the St. Croix River near Hastings in early February, showing this species' potential for early migration when the weather is mild. Although Iceland, Thayer's, and Glaucous Gulls have recently been reported annually in southern Minnesota in spring, all three species were seen returning as spring migrants with the Herring Gulls in the latter part of February, which is over a month earlier than the previous earliest dates. Ring-billed Gulls also moved into southern Minnesota in large numbers in late February, and they established a record early arrival date in northern Minnesota when recorded in Otter Tail Co.

The format for this report is similar to previous winters. Overwintering status is noted first, followed by lingering individuals and then potential early migrants. The total number of counties is given for widespread permanent residents, and CBC totals are included for most species as well. In both cases, the number seen last year is given if it differed significantly from this year's. A total of 93 seasonal reports and 55 CBCs were submitted.

I would like to thank Paul Budde who compiled a list of observations from seasonal reports submitted electronically, Anthony Hertzel who compiled a list of sightings reported to the statewide rare bird alert, and Dennis Martin who coordinated the CBCs. **13073 Hastings St. NE, Blaine, MN 55449.**

KEY TO SEASONAL REPORTS

1. Species listed in upper case **(LEAST TERN)** indicate a Casual or Accidental occurrence in the state.
2. Dates listed in bold **(10/9)** indicate an occurrence either earlier, later or within the earliest or latest dates on file.
3. Counties listed in bold **(Aitkin)** indicate an unusual occurrence for that county.
4. Counties listed in underline **(Aitkin)** indicate a first county record.
5. Counties listed in italics *(Aitkin)* indicate a first county breeding record.
6. Brackets [ ] indicate a species for which there is reasonable doubt as to its origin or wildness.

The Season publishes reports of bird sightings from 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, request a report form from the Editor of *The Season*, Peder Svingen, 2602 E. 4th St., Duluth MN 55812.

Common Loon
Reported 12/11 Otter Tail SDM and on the Duluth CBC.

Pied-billed Grebe
Overwintered in Otter Tail SDM (second year in a row). The report **1/26** Cass *fide* AH may also represent overwintering. Lingering individuals noted 12/13 Olmsted CH, 12/21 Goodhue KB, and the Excelsior and St. Paul CBCs.

Red-necked Grebe
Reported 12/14 Hennepin (Lake Calhoun) mob, and **1/22** Wabasha (Read's Landing) TBr.

American White Pelican
An apparently flightless bird overwintered at Black Dog Lake, Dakota Co. mob. This species also continues to be reported in winter at Albert Lea, Freeborn Co., where one individual apparently overwintered. Two additional individuals were reported on the Winona CBC.

Double-crested Cormorant
One individual probably overwintered (reported through 2/7) along the Mississippi River in South St. Paul, Ramsey and Dakota counties BL, AH, JDa. Four were seen at Black Dog Lake, Dakota Co. as late as 1/1 (KB), and one remained until 1/24 (PJ).

Great Blue Heron
Overwintered along the Mississippi River near Pigs Eye Lake, South St. Paul, Ramsey Co. where up to five birds were seen on 1/19 (KB). Reported through early January in five additional south counties. Only north report was 12/3 Becker BBe. Potential early migrants included 2/4 Murray ND, 2/6 Washington TEB, and 2/28 Mower RRK. CBC total 15, nine of which were on the St. Paul CBC.

Black-crowned Night-Heron
Overwintered in Otter Tail (Fergus Falls) SDM (***The Loon*** 70:171–172). Also reported through **12/7** Dakota (Black Dog Lake) KB, TT, mob.

Greater White-fronted Goose
Earliest migrants on record reported **2/24** Olmsted (10) DA, BE.

Snow Goose
Four overwintered in Rochester, Olmsted Co. mob. Lingering individuals reported through early January in six additional south counties. Also reported 1/10 & 2/22 McLeod MB. Early migrants noted **2/24** Olmsted (8) DA, BE, **2/26** Washington (18) WL and 2/28 Waseca JSe.

Canada Goose
Reported from 50 counties throughout the state, with overwintering noted as far north as Virginia, St. Louis Co. NJ, and Grand Marais, Cook Co. (first time ever) KMH. Northward migration noted as early as 2/14 Murray ND. CBC total 107,481 including 55,000 at Lac Qui Parle and 30,000 at Rochester.

Mute Swan
One individual reported with eight Trumpeter Swans 2/13 **Becker** BBe.

[Trumpeter Swan]
As many as 250 overwintered at Monticello, Sherburne/Wright counties. Also overwintered at Fergus Falls, Otter Tail Co. where a record 129 were counted on an aerial survey *fide* SDM. Five birds reported 2/7 Chisago RH, but their wintering status at this site is unknown. The Monticello birds were entirely gone by 2/23, indicating an early northward migration. Apparent early migrants included 2/12 Becker (14) BBe, 2/14 Rice JL, 2/18 Anoka OJ, 2/21 Scott PJ, and 2/28 Rice (10) RJ.

Tundra Swan
Apparent overwintering birds were reported with the Trumpeter Swans at Monticello, Wright Co. on 1/14 (two birds) KB and 1/24 (three birds) RJ. Over 500 lingered 12/20 Houston PKL and 330 were on the Winona CBC. Five apparent early migrants reported 2/28 Olmsted DA, BE, CH. Additional reports 1/11 Olmsted, 2/14 Becker, and Rice (no date)

were more likely Trumpeter Swans (see above).

Wood Duck
Approximately 27 individuals reported from 13 south and 2 north counties, but overwintering not specifically noted by any observers. Early migrants noted **2/25** Houston (3) FL, **2/26** Dakota PJ, and **2/28** Waseca JSe. CBC total 14.

Gadwall
Overwintered in Scott where peak of 96 noted 1/1 (KB). Lingering birds noted 12/25 Hennepin SC, 1/1 Otter Tail SDM, and on the LaCrosse and Rochester CBCs. Early migrants noted 2/25 Olmsted DA, BE and Rice (7) RJ, 2/26 Anoka PKL. CBC total 85.

American Wigeon
One male probably overwintered between Black Dog Lake, Dakota Co. and the Blue Lake treatment plant, Scott Co. where reported through 1/24. Late migrants also reported 12/1 Washington TEB, 12/7 Otter Tail SDM, 12/7 Mower DSm, and on the Albert Lea CBC. Early migrants noted **2/24** Rice JL, 2/25 Dakota (pair) RJ, 2/26 Anoka PKL and Olmsted DA, BE. Peak 2/28 Hennepin (29) SC, PJ, DN.

American Black Duck
Reported from 14 eastern counties. CBC total only 73, the lowest since 1990–91 (117 l.y.).

Mallard
Reported from a record **53** counties throughout the state (41 l.y.). CBC total 24,126.

Northern Shoveler
Lingered at Lakes Calhoun and Harriet, Hennepin Co. until 12/23 with a peak of 110 on 12/11 (SC). Also reported 1/1 Scott RJ and 2/18 Dakota PJ.

Northern Pintail
Overwintered in Scott and Dakota counties. Late migrants noted 12/7 Otter Tail SDM, 12/14 Olmsted CH, 12/27 Hennepin SC, and the Duluth CBC. Early south **2/12** Houston FL, 2/23 Rice TBo, 2/24 Cottonwood ED. Early north (only date) **2/22** Otter Tail SDM.

Green-winged Teal
A flock of 27 overwintered at Black Dog Lake, Dakota Co. PJ, DN. Lingering birds reported 12/22 Ramsey KB and on the Morris CBC. Unusual was the report 2/5 Cook KMH. Early migrants noted **2/24** Olmsted DA, BE, **2/26** Murray ND.

Canvasback
Both a male and a female overwintered at the Blue Lake treatment plant, Scott Co. and Black Dog Lake, Dakota Co. Late migrants noted 12/1 Washington TEB, 12/6 Waseca JSe, and the Fergus Falls, Mankato and Willmar CBCs. Early migrants noted **2/22** Rice JLa, **2/25** Olmsted DA, BE, 2/26 Dakota (22) PJ. Peak 2/28 Houston (100) FL.

Redhead
Two males overwintered at the Blue Lake treatment plant, Scott Co. mob, and two birds also overwintered in Otter Tail (Fergus Falls) SDM. Late migrants 12/12 Clay CN, and the Afton, Excelsior (4), Fairmont, and Hastings CBCs. Early migrants 2/23 Dakota (pair) PJ and Washington (male) KB, 2/25 Olmsted DA, BE, 2/28 Houston FL.

Ring-necked Duck
One overwintered in Otter Tail SDM. Lingering December birds reported in seven counties. Also noted 1/31 Dakota PJ. Early migrants noted **2/20** Sherburne KB, **2/24** Rice JL, **2/25** (four counties).

Greater Scaup
Two carefully identified birds were watched 12/4–14 Hennepin KB, PBu, SC.

Lesser Scaup
Five overwintered at Blue Lake treatment plant, Scott Co. mob. The bird reported 2/8 Big Stone LE probably overwintered nearby in South Dakota. December mi-

grants noted in eleven counties including a CBC total of 76. Potential (and exceptional) early migrants **1/31** Dakota (11) PJ. Additional migrants **2/23** St. Louis (18 scaup, sp.) JN and Wright (7) KB, 2/24 Hennepin (7) SC and Rice JL, 2/25 Olmsted DA, BE. Peak 2/28 Houston (25) FL. CBC total 76.

Harlequin Duck
Two separate individuals reported on 12/9 from Tofte, Cook Co. and Split Rock Lighthouse, Lake Co. both *fide* KE. Also reported at Lake Minnetonka, Hennepin Co. on the Excelsior CBC.

Black Scoter
Only report: **12/1** Lake Calhoun, Hennepin Co. (3) KB.

Oldsquaw
Only reports: 12/3 Cook (150+) KB and the Grand Marais (68) CBC. Also reported 12/1 Dakota *fide* AH.

Bufflehead
Overwintered at the Blue Lake treatment plant, Scott Co. (6) mob, at Fergus Falls, Otter Tail Co. (1) SDM, and along the North Shore of Lake Superior. Late migrants noted 12/13 Hennepin SC, 12/19 Martin BBo, and on the Excelsior (9), LaCrosse and St. Paul NE CBCs. Early migrants noted **2/19** Dakota PJ, **2/26** Olmsted DA, BE. CBC total 30.

Common Goldeneye
Reported from 30 counties throughout the state. CBC total 1,165.

BARROW'S GOLDENEYE
For the third year in a row, an adult male overwintered at the Blue Lake treatment plant, Scott Co. mob. The same individual was reported 2/22–23 Black Dog Lake, Dakota Co. PJ.

Hooded Merganser
Overwintered in St. Louis, Otter Tail, Wadena, Scott and Dakota counties. Also reported mid-winter 1/11 Mower RRK, 1/31 Rice JL, and 2/8 Big Stone LE. Late migrants noted 12/13 Olmsted DA, BE, 12/20 Hennepin (5) TT, 12/21 Goodhue KB, and the Bemidji, Crookston and St. Paul CBCs. Early migrants noted **2/22** Dakota SC, PJ, 2/24 Hennepin (pair) SC, 2/27 Olmsted DA, BE, 2/28 Waseca JS. CBC total 30.

Common Merganser
Reported from 23 counties in all regions of the state except the Northwest. Peak 12/1 Lake Pepin, Goodhue and Wabasha counties (32,000; 20,000 of which were in Minnesota) KB. CBC total 1,814.

Red-breasted Merganser
Only reports: 12/2–4 Hennepin KB, SC, and the Duluth CBC.

Ruddy Duck
Unusual number lingered into December in seven counties, with latest 12/12 Clay CN, **12/23** Hennepin SC, **12/27** Rice JL and Dakota KB. Peak 12/11 Hennepin (23) SC. Early migrants noted **2/16** Dakota PJ, **2/23** Rice TBo, 2/27 Anoka KB.

Bald Eagle
Reported from 49 counties throughout the state (40 l.y.). CBC total a record **352** (326 l.y.).

Northern Harrier
Early migrants 2/25 Carver RJ, 2/26 Aitkin CB, 2/27 Anoka PKL, 2/28 Wabasha BL.

Sharp-shinned Hawk
As many as 58 reports from 20 counties. More overwintered than usual (eight February reports). The only north reports were from Otter Tail and Todd. CBC total 25.

Cooper's Hawk
Reported from 12 south counties (record 17 l.y.). More than 30 reports from throughout the season, including nine February reports. CBC total 11.

Northern Goshawk
Only six reports from five north counties. CBC total 1.

Red-shouldered Hawk
Approximately 14 individuals reported from 9 counties. Unusual were north reports 1/1–8 Otter Tail SDM and 2/12 Aitkin WN. CBC total 3.

Red-tailed Hawk
Reported from 36 south and 7 north counties. CBC total 397.

Rough-legged Hawk
Reported from 20 counties. The only reports in western regions were the Crookston and Lac Qui Parle CBCs. Reports after early January and before mid-February were entirely confined to six counties south and east of Hennepin. Early north 2/20 St. Louis NJ, 2/22 Wadena PBi, 2/24 Aitkin CB. CBC total 13 (23 l.y.).

Golden Eagle
At least six individuals reported. The only reports away from Houston and Winona were 1/7–8 Cook KMH and the Crookston CBC.

American Kestrel
Reported from 46 counties (28 l.y.) as far north as Clay and St. Louis. Overwintered as far north as Todd JSK. CBC total 89 (54 l.y.).

Merlin
Eighteen reports from fifteen counties in all regions except the Southwest and North Central. Richardson's race overwintered in Otter Tail SDM and another seen 1/24 Renville KB.

GYRFALCON
No reports.

Peregrine Falcon
Reported from Dakota, Hennepin, Olmsted, Ramsey and Washington.

Prairie Falcon
Overwintered in Minneapolis, Hennepin Co. mob.

Gray Partridge
Reported from nine counties in the south and west (28 l.y.). CBC total 85 (397 l.y.).

Red-shouldered Hawk, 26 January 1998, Bloomington, Hennepin County. Photo by Vija Kelly.

Ring-necked Pheasant
Reported from 38 counties in range. CBC total 288 (record 2,463 l.y.).

Ruffed Grouse
Reported from 30 counties in range. CBC total 244 (118 l.y., incorrectly published as 1,881).

Spruce Grouse
Numbers down in Lake *fide* KE. Also reported 1/17 Koochiching SDM, 2/21 Beltrami DJo, and the Beltrami Island (14) and Isabella (3) CBCs.

Sharp-tailed Grouse
Reported from Aitkin, Kanabec, Kittson, Koochiching and St. Louis. Peak 12/7 Aitkin (26) WN. CBC total 14.

Greater Prairie-Chicken
Only reports from Wilkin and the Crookston (22) CBC.

Wild Turkey
Reported from 29 south counties plus Becker in the north. CBC total 298 (744 l.y).

Northern Bobwhite
Reported 1/22 Houston (5) *fide* AH. First winter report since 1990–91. Also reported 12/19 Chippewa FE (wild?).

American Coot
Reported from a record **17** counties, but the only birds which overwintered were in Scott and Otter Tail. Early migrants noted 2/16 Dakota PJ, 2/24 Rice JL, 2/25 Olmsted DA, BE. CBC total 69.

Killdeer
Late migrant noted **12/14** Washington BL. Early migrants noted **2/22** Brown JSp (heard only), 2/25 Houston FL, 2/26 Mower *fide* AH, and 2/28 Rice RJ. An additional report was received from Dodge, but no date was included.

Common Snipe
All reports: 1/1–28 Hennepin mob, 1/17 Rice TBo, 2/21 St. Louis JN, 2/28 Houston FL, and the Excelsior and St. Paul NE CBCs.

American Woodcock
Record early migrant **2/28** Houston FL. First February report.

Ring-billed Gull
December reports from 13 counties with a CBC total of 575. Reported as late as 1/18 Dakota DN in the Twin Cities region, but none overwintered. Also lingered along the North Shore on the Duluth (2) and Two Harbors (1) CBCs. Many reports of early migrants in late February: earliest south **2/21** Goodhue (20) BL, **2/23** Washington KB, 2/25 Dakota RJ and Olmsted BBr. Record early north migrant **2/26** Otter Tail SDM (previous early north date was 3/10).

Herring Gull
Overwintered along the North Shore of Lake Superior. May have also overwintered in the Twin Cities (would be first time ever) since reported as late as 1/18 Dakota DN and as early as 1/31 Washington KB, but it is unknown if the same individuals remained throughout the season. The buildup of migrants on the St. Croix River at Point Douglas, Washington Co. steadily climbed from six birds on 1/31 to 100 on 2/16, and then 500 by 2/27 (KB). Unusually widespread in December, with a CBC total of 2,397. There were still 1,500 present 1/1 Dakota KB.

Thayer's Gull
Reported from the North Shore on the Duluth (1), Grand Marais (1), and Two Harbors (2) CBCs. Peak 12/27 Black Dog Lake, Dakota Co. (**11**) KB (record number). Last seen in Twin Cities region 1/5 Washington RJ. Record early migrants noted in Washington on **2/16** (first-winter) and **2/27** (adult) KB. Previous early south date 3/19 (***The Loon*** 68:29).

ICELAND GULL
Four individuals reported. One first-winter individual (see fall report) remained through 12/8 Cook (Grand Marais) mob. An adult present 12/11–**1/5** Dakota (Black Dog Lake) SC, KB, mob, was joined by a first-winter bird 12/22–**1/5** at this same location KB, mob. A third-winter bird was seen **2/18** Washington (Point Douglas, second county record) KB.

LESSER BLACK-BACKED GULL
Third-winter individual seen 12/1–2 **Wabasha** (Lake City) KB, RG, RJ.

GLAUCOUS-WINGED GULL
Second and third state records noted 12/1 **Cook** (first-winter bird in Grand Marais) PS and 12/13 **St. Louis** (second-winter bird in Duluth) KB, PS. The latter individual was first seen on 11/26 and thus represents the second Minnesota record.

Glaucous Gull
Present on the North Shore where up to

eleven noted 12/13 St. Louis (Duluth) KB. Up to four present in the Twin Cities region 1/1 Dakota (Black Dog Lake) KB, with record late birds noted **1/17** Washington BL and **1/24** Dakota PJ. Record early south migrants noted in Washington on **2/26** (first-winter) and **2/27** (two adults) KB. Previous early south date 3/12 (***The Loon*** 68:30).

GREAT BLACK-BACKED GULL
One first-winter individual present at Black Dog Lake, Dakota Co. died on 12/20 PBu, mob. Single first-winter birds were also noted 12/13 St. Louis Co. (Duluth) KB, PS, and on the Duluth and Two Harbors CBCs. The North Shore reports could involve the same individual.

Rock Dove
Reported from 84 counties throughout the state. CBC total 12,697.

Mourning Dove
Reported from 35 counties throughout the state. Overwintered as far north as Otter Tail, Aitkin and St. Louis. CBC total 872.

Eastern Screech-Owl
Reported from 13 counties as far north as Todd. CBC total 14.

Great Horned Owl
Reported from 42 counties throughout the state. CBC total 105.

Snowy Owl
Approximately 56 individuals reported throughout the state *fide* PS, but concentrated in the Northwest and West Central regions where a peak of five noted on the Crookston CBC. Numbers down in the Northeast with only two individuals present at Duluth *fide* KE.

Northern Hawk Owl
Five individuals reported from Aitkin, Koochiching, St. Louis and Lake.

Barred Owl
Reported from 26 counties throughout the state. CBC total 36.

Snowy Owl, 4 February 1998, Kanbec County. Photo by Craig Menze.

Great Gray Owl
Approximately 12 individuals reported from Aitkin, Koochiching, Lake, Roseau and St. Louis.

Long-eared Owl
Only reports: 1/1 Washington *fide* AH, 2/13 Dakota (injured) *fide* AH, and on the Bloomington, Rochester and Sax-Zim CBCs.

Short-eared Owl
Only report: 12/7 St. Louis *fide* KE.

Boreal Owl
Only report: 1/29 Lake (calling) *fide* SC.

Northern Saw-whet Owl
Nine individuals reported from Dakota, Houston, Rice, Scott, and St. Louis, including one bird calling on 2/7 at Itasca State Park *fide* AH.

Belted Kingfisher
Reported from a record **25** counties as far north as Otter Tail and Todd, where overwintered. CBC total 31.

Red-headed Woodpecker
Reported from 14 counties as far north as Otter Tail and Aitkin. Overwintering men-

Partial albino Black-capped Chickadee, 1 December 1997, Three Island Lake, Beltrami County. Photo by David Harrington.

tioned in Otter Tail, Houston and Anoka. CBC total 22.

Red-bellied Woodpecker
Reported from 48 counties throughout the state. CBC total 469.

Yellow-bellied Sapsucker
Three reports from Hennepin, including two individuals in Minneapolis last reported approximately 1/8 and 1/25 both *fide* AH, and one bird seen 1/19 TT.

Downy Woodpecker
Reported from 63 counties throughout the state. CBC total a record **2,371** (2,055 l.y.).

Hairy Woodpecker
Reported from 63 counties throughout the state. CBC total 953.

Three-toed Woodpecker
Seven individuals reported from Lake and St. Louis.

Black-backed Woodpecker
Twelve individuals reported from Aitkin, Clearwater, Hubbard, Itasca, Lake, Pine and St. Louis.

Northern Flicker
Reported from 22 south and 5 north counties. Overwintered in Otter Tail. Only four additional reports after early January, suggesting few birds overwintered. CBC total 44.

Pileated Woodpecker
Reported from 49 counties throughout the state. CBC total 222.

Eastern Phoebe
Record late individual reported **12/20** on the St. Paul CBC (***The Loon*** 70:168).

Northern Shrike
Reported from only 42 counties throughout the state (47 l.y.). CBC total 56. Although scarce throughout most of the state, good numbers were noted in Beltrami and Todd.

Gray Jay
Reported from 13 counties in range. CBC total 156.

Blue Jay
Reported from 86 counties throughout the state. CBC total 3,972 (5,248 l.y.).

Black-billed Magpie
Reported from 12 counties in range, including 12/11 Wilkin SDM. CBC total 41.

American Crow
Reported from a record **83** counties throughout the state. CBC total 13,347. Record number of **10,000** reported from Rochester, Olmsted Co. fide CH (date?).

Common Raven
Reported from 25 counties in range as far southeast as Chisago. CBC total 1,054 (686 l.y.).

Horned Lark
Reported from 65 counties in all regions except the Northeast (most reports since 1984). Interestingly, most reports were af-

ter early January, with comparatively few December reports. CBC total only 184. Previous winters with over 60 counties reported also included CBC totals of 1,000+ individuals (e.g., 1991 and 1986). Peak 2/8 Big Stone (1,250) LE.

Black-capped Chickadee
Reported from a record 86 counties throughout the state. CBC total 15,128 (11,019 l.y.).

Boreal Chickadee
Reported from seven counties in range. Peak 12/7 Aitkin (16) WN. CBC total 26.

Tufted Titmouse
Reported from Houston, Olmsted, Wabasha and Winona, plus the St. Paul CBC. CBC total 11.

Red-breasted Nuthatch
Common throughout the state. Reported from a record **60** counties (40 l.y.).

White-breasted Nuthatch
Reported from 66 counties throughout the state. CBC total 2,981.

Brown Creeper
Reported from a record **51** counties throughout the state (previous record 39 counties in 1996). CBC total 186. Early February reports as far north as Kittson, Koochiching and Lake suggest birds overwintered throughout the state.

Carolina Wren
Overwintered in Rochester, Olmsted Co. mob. Also seen in Rice and through 1/17 in Bloomington, Hennepin Co. mob.

Winter Wren
At least four individuals reported: 12/2–17 Hennepin (Cedar Lake) SC, through 1/19 Hennepin (Bass Ponds) TT, mob, 1/1 Scott (Shakopee) KB, JDa, and on the Excelsior (2) CBC.

Marsh Wren
Reported 12/13–**1/1** Hennepin (Bass Ponds) mob. Reported on the Excelsior

Carolina Wren, late February, 1998, Faribault, Rice County. Photo by Mrs. Dale Schneph.

CBC. Only three previous winter records.

Golden-crowned Kinglet
Reported from 21 counties in all regions except the West Central (most reports since 1983). Overwintered in Fillmore NO. Additional reports after mid-January which suggest overwintering include Lake, Washington, Olmsted, Scott, and Redwood. CBC total a record **45**, with 29 of the total individuals from the North (!).

Ruby-crowned Kinglet
Only reports: 12/7 Washington TEB, and the Two Harbors CBC.

Eastern Bluebird
Overwintered in Hennepin (Richardson Nature Center) mob. December and early January reports from seven additional counties, including a CBC total of 20 individuals. Reported as early as 2/15 Washington (2) TT, 2/16 Scott WM and Houston EMF, but these may represent overwintering birds since these locations had December reports as well. Additional possible early migrants noted 2/28 Wabasha (3) BL and Olmsted (6) CH.

Mountain Bluebird
Only report: 2/26 Freeborn (2) WL, second county record.

Townsend's Solitaire
Six individuals reported, including late December reports from **Sherburne** (Monticello) and Winona (Whitewater WMA), both *fide* AH. Noted 2/19–20 **Renville** CMa, mob, and the Wabasha and Duluth (2) CBCs, with one of the Duluth birds lingering until 1/8 *fide* KE.

Hermit Thrush
At least **twelve** individuals reported from eight south counties (a record number); many of these were noted in January and February, suggesting overwintering.

American Robin
Reported from 39 counties throughout the state (29 l.y.). CBC total a record **1,186** (796 l.y.), including 505 on the St. Paul NE CBC. Additional peak 2/20 Hennepin (211) TT. Many reports of early migrants 2/24–26.

Varied Thrush
Eight individuals reported. Overwintered in Otter Tail (Fergus Falls) SDM. Reported late December St. Louis (near Duluth) *fide* KE, late December–1/28 Becker (Lake Melissa) *fide* AH, 1/13 Wright (Buffalo) *fide* AH, 1/15–24 Morrison (Sullivan Lake) RJ (**two** birds seen 1/24), early February–2/14 Pine (Pine City) *fide* AH, CM, and 2/2–28 Nobles (Leota Township) ND.

Gray Catbird
Only reports 1/24 Anoka JH and 2/21–28 Dakota (away from feeders) TT.

Northern Mockingbird
Overwintered in Becker (Detroit Lakes) BBe. Also reported 2/7 Wabasha *fide* AH.

Brown Thrasher
Only one report (record ten individuals l.y.) 12/12 Hennepin *fide* AH.

European Starling
Reported from 85 counties throughout the state. CBC total 21,458 (14,622 l.y.).

Bohemian Waxwing
Reported from 18 north counties. CBC total 1,432, with only 75 at Duluth (lowest total in 20 years *fide* KE), but higher numbers elsewhere such as on the Bemidji (350), Crosby (231) and Two Harbors (210) CBCs.

Cedar Waxwing
Reported from 31 counties. The only North Central or Northeast report was on the Fond du Lac CBC. CBC total 1,087.

Yellow-rumped Warbler
Reported through 1/8 Rice TBo with a peak of **five** on 12/30. Reported in December and again on 2/16 at Rochester, Olmsted Co. mob. An additional bird was seen on the Mankato (count week) CBC.

Common Yellowthroat
Reported **12/13–15** Hennepin TT, JPo.

Spotted Towhee
Reported 12/21–1/3 Otter Tail (Fergus Falls) SDM (***The Loon*** 70:171–172).

Eastern Towhee
Overwintered in Duluth, St. Louis Co. *fide* KE. Also reported in early January in Ramsey BSt and 12/30–1/11 Washington *fide* AH.

American Tree Sparrow
Reported from 37 counties throughout the state. CBC total 2,277 (1,355 l.y.).

Chipping Sparrow
Overwintered in Otter Tail (Fergus Falls) SDM. Also reported 12/18–1/11 Hennepin SC and the Detroit Lakes CBC (***The Loon*** 70:171–172).

Field Sparrow
Reported **1/25–2/8** Dakota DBM, mob.

Fox Sparrow
Probably overwintered in Olmsted mob. Only additional reports were the Hastings CBC, and January sightings in Hennepin and Washington *fide* AH.

Song Sparrow
Reported from 17 counties (record 18

l.y.). CBC total a record **42**. Overwintered in St. Louis, Rice, Hennepin, Dakota and Fillmore.

Lincoln's Sparrow
Overwintered in Otter Tail (Fergus Falls) SDM (***The Loon*** 70:171–172). First overwintering report in the state. Also reported **12/4** Hennepin (downtown Minneapolis) TT and **12/30** Hennepin (Theodore Wirth Park) SC. Only four previous winter records.

Swamp Sparrow
Overwintered in Otter Tail SDM. As many as five individuals reported in Hennepin, at least one of which probably overwintered. Also reported 1/1 Winona JL, 1/22 Rice TBo, 1/31–2/7 Washington BL, and on the Faribault (2) and Winona (3) CBCs.

White-throated Sparrow
Reported from a record **23** counties (20 l.y.). Overwintering noted as far north as Otter Tail and Aitkin. Peak 1/5 Olmsted (30) AH. CBC total a record **87** (45 l.y.).

Harris's Sparrow
Three individuals reported from Duluth, St. Louis Co. mob, at least one of which overwintered. Also reported 2/19 Renville CMa and on the Lamberton, Mountain Lake and Owatonna CBCs.

White-crowned Sparrow
Only report: overwintered in Otter Tail (Fergus Falls) SDM.

Dark-eyed Junco
Reported from 59 counties throughout the state. CBC total 6,064.

Lapland Longspur
Reported from 13 counties as far north and west as Otter Tail. The only reports before mid-February were 1/30 Otter Tail CN, 1/13 Murray ND, 1/22 Freeborn ABa, and the Lac Qui Parle (1), Cottonwood (24) and Wabasha (43) CBCs (total 68). There were eight reports of mid to late February migrants, including a peak 2/17 Pipestone (1,000+) PKL.

Snow Bunting
Reported from 52 counties throughout the state. Peak 2/8 Big Stone (1,040) LE. CBC total 1,552 (4,931 l.y.).

Northern Cardinal
Reported from 45 counties throughout the state. CBC total 1,561, the lowest since 1986 (2,347 l.y.).

Red-winged Blackbird
Reported from 3 north and 25 south counties. Extent of overwintering unknown, with mid-winter peaks 1/9 Rice (30) TBo and 1/24 Renville (65) KB, and the CBC total was 513 (167 l.y.). There were 20 reports of migrants 2/24–28 (many observers noted hundreds of birds).

meadowlark, sp.
Reported 1/17 Todd PKL, 1/26 Houston FL and Otter Tail SDM, 2/28 Brown JSp, and the Grand Marais (count week) CBC.

Rusty Blackbird
Reported from eight south and three north counties. The non-CBC reports were 12/2 St. Louis PKL, 1/4–24 Otter Tail DST, 1/24 Renville KB, 2/1 Washington TT, and 2/26 Anoka PKL. CBC total 22.

Brewer's Blackbird
Only report: 2/28 Rice JL.

Common Grackle
Reported from 35 counties throughout the state. Many reports of early migrants 2/24–28. Peak 2/28 Dakota TT (300+). CBC total 134 (80 l.y.).

Brown-headed Cowbird
No reports.

Pine Grosbeak
Reported from 20 north counties (14 l.y.). Only south report on the Minneapolis CBC. CBC total 1,488 (607 l.y.).

Purple Finch
Reported from 8 north and 28 south counties. Scarce throughout the state and almost absent in the north after December.

House Finch
Reported from a record **52** counties throughout the state (43 l.y.), but CBC total only 2,392 (record 4,920 l.y.).

Red Crossbill
Reported from 11 north counties within the coniferous forest. Only south reports were the Mankato (3) and Wabasha (count week) CBCs. CBC total 66 (286 l.y.).

White-winged Crossbill
Reported from 17 north and 20 south counties (16 total counties l.y.). Peak unusually far south 12/1 Brown (150) JSp. CBC total 457 (1,547 l.y.).

Common Redpoll
Reported from 50 counties throughout the state (19 l.y.). Peak 2/8 Big Stone (400) LE. CBC total 4,568 (214 l.y.). A number of observers commented that numbers were down after late fall.

Hoary Redpoll
Reports of 25 individuals as far south as Hennepin and Washington (no reports l.y.). Only the following reports had adequate details: 2/2 Stearns MJ/DT, 2/8 Kittson KB, 2/8 Hennepin WW, 2/9 & 2/28 Beltrami DJo.

Pine Siskin
Reported from 46 counties throughout the state (36 l.y.). CBC total 967.

American Goldfinch
Reported from 53 counties throughout the state (record 53 l.y.). CBC total 2,825 (3,032 l.y.).

Evening Grosbeak
Reported from 12 north counties (15 l.y.). Also reported from the following south locations: 12/5 Stearns MJ/DT, 12/13 Hennepin RJ (observer's first sighting in this county since 1975), 1/8 Ramsey *fide* AH, and the Wild River and Excelsior (count week) CBCs. CBC total a low 637 (2,021 l.y.).

House Sparrow
Reported from 85 counties throughout the state. CBC total 21,572.

Contributors

BA	Betty Ammerman	THF	Tom & Helen Ferry	WL	William H. Longley
DA	Diane M. Anderson	LF	Lawrence W. Filter	OSL	Orvis & Sandy Lunke
KB	Karl Bardon	HJF	Herbert & Jeanette Fisher	CMa	Craig R. Mandel
ABa	Al Batt	EMF	Eugene & Marilynn Ford	WM	William Marengo
TEB	Tom & Elizabeth Bell	RJF	Randy & Jean Frederickson	DBM	Dennis & Barbara Martin
BBe	Betsy A. Beneke	CH	Clifford Hansen	MM	Marcus G. Martin
PBi	Paul J. Binek	AH	Anthony Hertzel	CM	Craig Menze
TBo	Tom F. Boevers	KMH	Ken & Molly Hoffman	SDM	Steve & Diane Millard
BBo	Brad Bolduan	RH	Robert E. Holtz	DN	David F. Neitzel
ABo	Al Bolduc	JH	James L. Howitz	BN	Bill Nelson
SBo	Shirley Bouchard	NJ	Nancy A. Jackson	WN	Warren Nelson
TBr	Terry P. Brashear	RJ	Robert B. Janssen	JN	Jeff R. Newman
WB	William L. Brown	PJ	Paul Jantscher	FN	Frank Nicoletti
BBr	Bill Bruins	DJe	Douglas Jenness	GN	Gary E. Nielsen
DBr	Diane Brudelie	DJo	Douglas P. Johnson	CN	Connie M. Norheim
PBu	Paul Budde	MJ/DT	Murdoch Johnson & Dianne Tuff	MRN	Michael R. North
CB	Cindy Butler			RO	Robert O'Connor
MB	Mike Butterfield	OJ	Oscar L. Johnson	KO	Ken Oulman
SC	Steve Carlson	BK	Byron R. Kinkade	NO	Nancy Overcott
JDa	Jeff Dains	RRK	Ron & Rose Kneeskern	PPa	Patricia Pagel
ND	Nelvina DeKam	SKo	Sarah Kohlbry	PP	Pam Perry
ED	Ed Duerksen	RK	Rich Kostecke	DMP	Daphne & Meyers Peterson
KE	Kim R. Eckert	JSK	John & Susan Kroll		
FE	Fred A. Eckhardt	PKL	Pat & Ken Lafond	JPo	Jim Pomplun
BE	Bob Ekblad	JLa	Jacob Langeslag	KRv	Kathryn A. Rivers
LE	Lane Ellwanger	FL	Fred Lesher	SS	Steven Schon
DEv	David Evans	SL	Sue Levy	RRS	Rick & Robyn Schroeder
ME	Molly Evans	BL	Bill Litkey	RbS	Robert Schroeder
AE	Audrey L. Evers	JL	Jon Little	RgS	Roger Schroeder

JSe	Julian P. Sellers	DV	Dan Versaw	MBW	Minn. Birding Weekends
DSm	Dick Smaby	JMW	John & Marlene Weber	MCBS	Minnesota County Biological Survey
RSm	Rolf C. Smeby	SWe	Steve Weston		
DBS	Drew & Becky Smith	KKW	Kristine & Kyle Wicklund	MDNR	Minnesota Department of Natural Resources
JSp	Jack Sprenger	TW	Terry P. Wiens		
FKS	Forest & Kirsten Strnad	SWi	Sylvia Winkelman	NRRI	Natural Resources Research Institute
PS	Peder Svingen	NWi	Ned Winters		
DST	Dan & Sandy Thimgan	WW	Warren Woessner	SPAS	St. Paul Audubon Society
TT	Tom Tustison	mob	many observers	USFWS	U.S. Fish & Wildlife Service

1997 Christmas Bird Count Summary

Location	Date	Compiler	Number of Participants	Total Species	Total Individuals
Afton	1/1/98	Helen Lien	19	28*	2,050*
Albert Lea	1/3/98	Al Batt	36	41	2,756
Aurora	12/20/97	Chuck Neil	7	22	803
Austin	12/21/97	Terry Dorsey	14	37	4,305
Baudette	1/3/98	Martin Kehoe	2	15	472
Beltrami Island	1/1/98	Martin Kehoe	3	11	71
Bemidji	12/20/97	Katherine Haws	15	30	1,611
Bloomington	12/20/97	Mark Ochs	45	73	12,945
Carlton-Cloquet	12/21/97	Larry Weber	10	25	1,197
Cedar Creek Bog	12/21/97	Helen Lien	5	32	631
Cottonwood	12/21/97	Paul Egeland	3	28	1,113
Crookston	12/20/97	Tom Feiro	4	30	1,245
Crosby	12/20/97	Jo Blanich	10	37	1,645
Detroit Lakes	12/20/97	Betsy Beneke	16	40	2,454
Duluth	12/20/97	Kim Eckert	62	60	7,793
East Grand Forks	12/21/97	David O. Lambeth		15*	278*
Excelsior	12/20/97	Dennis Martin	51	68	10,596
Fargo-Moorhead	12/20/97	Ron Nellermoe	18	33*	4,520*
Faribault	12/20/97	Forest V. Strnad	18	48	6,131
Fergus Falls	12/20/97	Steve Millard	20	46	12,357
Fairmont	12/20/97	Brad Bolduan	7	38	4,563
Fon du Lac	12/19/97	Bruce Carlson	8	17	150
Grand Marais	12/27/97	Jeff Kern	13	33	1,794
Grand Rapids	12/20/97	Janet Boe	21	26	1,162
Hastings	12/27/97	Roger Field	14	40*	6,805*
Hibbing	12/27/98	Janet Peterson	15	21	874
International Falls	12/20/97	Jim Schaberl	11	29	1,150
Isabella	1/3/98	Steve Wilson	21	18	533
Itasca State Park	12/27/97	Douglas P. Johnson	9	19*	574
La Crosse	12/20/98	Fred Lesher	34	41	10,032
Lac Qui Parle	12/27/97	Paul Egeland	10	40	56,070
Lamberton	12/19/97	Lee French	4	32	972
Le Sueur County	12/20/97	Wally Swanson		28	896
Little Falls	12/20/97	M. Johnson & D. Tuff	2	26	484
Long Prairie	1/1/98	John & Susan Kroll	21	35	2,459
Mankato	12/27/97	Merrill J. Frydendall	16	33	2,733
Marshall	12/20/97	Roger Schroeder	7	33	852
Minneapolis North	12/20/97	Mary Ellen Vetter	43	44	6,596
Morris	12/20/97	Donna Oglesby	5	24	3,557
Mt Lake-Windom	1/1/98	Edna Gerber	13	35	2,322
Northwest McLeod	12/20/97	Robert Schroeder	36	35	2,348
Owatonna	12/20/97	Darryl Hill	42	34	3,985
Rochester	12/20/97	David Squillace	33	58	37,104
Roseau	12/27/97	Betty Johnson	6	30	1,085
Sax-Zim	12/22/97	Mark Stensaas	7	27	1,032
Sherburne NWR	12/20/97	James R. Pasch	16	28	1,481
St. Paul	12/20/97	Fred Waltz	58	54	16,310
St. Paul NE	12/27/97	Gary Ash	35	49	8,398
Tamarac NWR	12/22/97	Lowell Deede	14	26	1,174
Two Harbors	12/22/97	Nicoletti & Niemuth	12	36	1,816
Wabasha	1/3/98	Jon Peterson	18	46	3,819
Warren	1/3/98	Gladwin Lynne	9	27	1,557
Wild River	12/20/97	Tom Anderson	22	42	2,493
Willmar	12/20/97	Randy Frederickson	29	34*	1,254*
Winona	12/20/97	Walter Carroll	41	60	5,808

*Includes only Minnesota portion of count.

Recent Status of the Henslow's Sparrow in Minnesota

Peder Svingen

Somewhat ironically, reports of the Henslow's Sparrow *(Ammodramus henslowii)* in Minnesota have increased since the release of "WatchList 1996" by Partners in Flight. This document listed Henslow's as a "highest priority species" throughout its North American range (*Field Notes* 50:129–134, 238–240). At about the same time, it was designated as *Endangered* in Minnesota (*Minnesota Birding* Vol. 33, No. 2, March–April 1996). Although reports have recently increased in Minnesota, most refer to sightings of only one or two birds in widely scattered locations, that are seen just once and not relocated.

This species generally nests in loose colonies of two–three pairs or more. It prefers weedy fields, meadows, or abandoned pastures with standing dead vegetation that inhibits growth of grass in the open areas used for feeding (Byers, C.J. Curson, and U. Olsson, 1995, *Sparrows and Buntings*, pp. 259–260).

In September 1998 the U. S. Fish and Wildlife Service denied a petition for listing under the Endangered Species Act; the Henslow's Sparrow has been retained as a *Species of Concern* which provides no legal protection. Details on this ruling and information about population trends can be found on the internet at web site:

http://www.fws.gov/r3pao/eco_serv/endangrd/lists/concern.html

Located in southeastern Winona County, O. L. Kipp State Park (recently renamed as Great River Bluffs State Park) has been described as the last stronghold for breeding Henslow's Sparrows in Minnesota. Accurate "baseline" data depends almost entirely on the 1987 nesting study by Lynelle Hanson which documented 13 males, 10 females and 5 young in the park (***The Loon*** 59:121–124). Despite extensive searching by the Minnesota County Biological Survey (MCBS) and others, there were no Henslow's reported from Kipp throughout 1992–95 except for up to three birds on 12 May 1994.

Data shown in Figure 1 were gleaned from surveys by the MCBS for 1993–98 and from seasonal reports. At least three males were assumed to be on territory at Kipp during 1988–90. The total number of individuals shown in Figure 1 for those three years must therefore be viewed with caution, since observers did not report actual numbers of Henslow's at O.L. Kipp until the 1990s when their decline had become obvious.

Henslow's Sparrow in 1996

Approximately ten active territories were located at O. L. Kipp State Park in 1996 (Ray Faber, *fide* MCBS) with scattered reports of at least five birds there through late June. Also in June of that year, Cole Foster located three Henslow's Sparrows on remnant prairie tracts in Clay County (***The Loon*** 69:49–50) and Tom Tustison found two singing males on the 15th in an ordinary-looking hayfield in Fish Lake Township, Chisago County. On 11 July, three singing males were found by the MCBS at Beaver Creek WMA in Fillmore County. Most unexpectedly, three more Henslow's were found by Kim Eckert *et al.* in mid-August at Miller Prairie West, an isolated 160 acre tract in east-central Traverse County. At the time, this was the highest annual total of Henslow's Sparrows reported since the

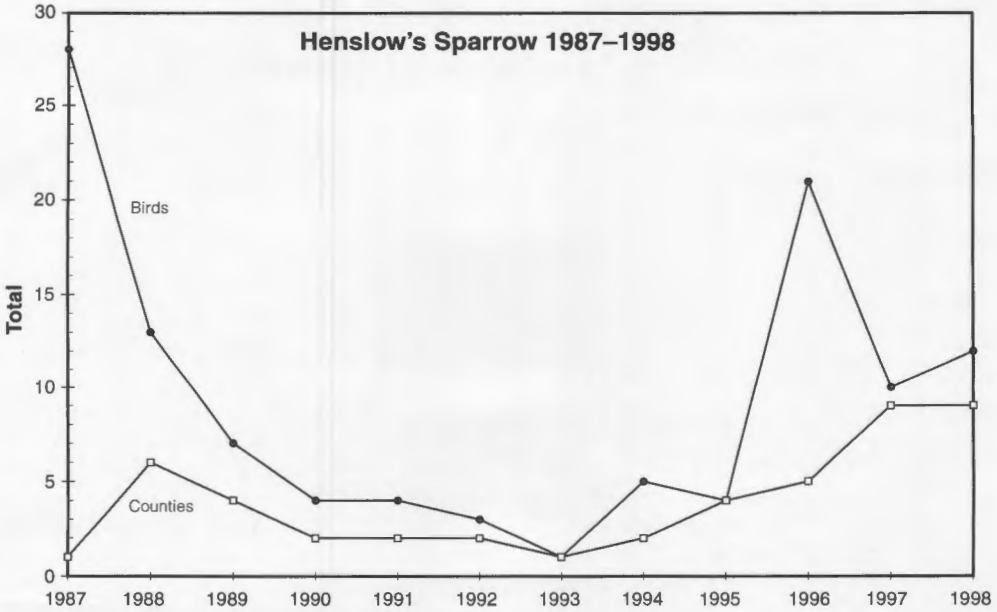


Figure 1. Annual occurrence (counties) and approximate number (see text) of Henslow's Sparrows in Minnesota.

late 1980s (Figure 1).

Henslow's Sparrow in 1997

Only one male returned to O. L. Kipp State Park in 1997 and remained on territory through mid-July. In late May, one was found again in Clay County, this time at the Blazing Star Prairie, but the summer season stole the show in 1997. Surveys by Steve Millard in Otter Tail and Wilkin, and Robert Janssen in Lac Qui Parle, found birds apparently on territory in these western counties. Previously unpublished records of single birds on 3 June at the Lawrence Unit, Minnesota Valley SRA in Scott County (first county record) and 17 June in Hennepin County were accepted by the MCBS. In addition, first county records were established for Kandiyohi and Renville.

Henslow's Sparrow in 1998

Several observers failed to locate Henslow's Sparrows at O. L. Kipp State Park in 1998 and the resident manager knew of no reports in either May or June (*fide* PS). Elsewhere in the state however, there has been an extraordinary number of reports. Data are preliminary as some records have not yet been submitted and others are unsubstantiated (dates, locations, observers, and even minimal details are lacking). Accurate totals are therefore undetermined for 1998 but reports have surfaced from at least nine counties! A single individual was reported 13 May at Afton State Park, Washington County. Additionally, written details and/or photographs have been submitted for up to three birds in Fillmore (Beaver Creek WMA), and single birds were documented in Brown (Stately Township, first county record), Clay (Bicentennial Prairie), Swift (near Appleton), and Wilkin (Rothsay WMA) counties.

I thank Steve Stucker, Minnesota DNR, for providing records from the MCBS and for adding comments which improved this article.

2602 E. Fourth St., Duluth, MN 55812–1533.

Proceedings of the Minnesota Ornithological Records Committee

Kim R. Eckert, MORC Chairman

There was a meeting of the Committee on 20 July 1998, and among the items on the agenda were discussions on three potential first state records, four recirculated records (i.e., those with inconclusive first-round vote totals), and nine records documented with photographs. Of these 16 records, 11 were found to be Acceptable:

- Eurasian Collared-Dove, 25 April – May 1998, Ortonville, Big Stone Co. (first state record #98-43, vote 10–0).
- "Brewster's"-type Warbler, 14 October 1997, Hoyt Lakes, St. Louis Co. (recirculated record #98-04, vote 5–2).
- Painted Bunting, 24 May 1995, Blaine, Anoka Co. (photo record #98-27, vote 7–0).
- Black-headed Grosbeak, 24 May 1997, Ulen, Clay Co. (photo record #98-28, vote 7–0.
- Iceland Gull, 2 November – 8 December 1997, Grand Marais, Cook Co. (photo record #98-29, vote 7–0).
- Glaucous-winged Gull, 26 November – 13 December 1997, Duluth, St. Louis Co. (photo record #98-30, vote 7–0).
- Scissor-tailed Flycatcher, 15 May 1998, near Randall, Morrison Co. (photo record #98-49, vote 7–0).
- Bewick's Wren, 21 May – June 1998, near Sherburne NWR, Sherburne Co. (photo record #98-56, vote 7–0).
- Eurasian Tree Sparrow, 6 June – July 1998, near Rollag, Clay Co. (photo record #98-61, vote 7–0).
- Black-bellied Whistling-Duck, 18 May – 22 June 1998, Summit Twp., Steele Co. (photo record #98-63, vote 7–0).
- Great Black-backed Gull (imm.), 13 December 1997, Duluth, St. Louis Co. (photo record #98-32, vote 7–0).

Four of the 16 records were found to be Unacceptable:

- Spot-breasted Oriole, 27 May 1998, Woodbury, Washington Co. (potential first state record #98-57, vote 0–10). The description of the bird only mentions its "orange head with the black mask and the very distinct black spots on the breast ...and white bars on its wings". For such an unusual species, which probably never has been recorded in the U.S. outside of Florida, much more thorough documentation would be necessary, (e.g., no description of the back, belly or tail is given). In addition, the description of white wing bars is inconsistent with this species, which actually has an orange wing bar along and a larger white wing patch.
- Curlew Sandpiper, 9 October 1997, near New Germany, Carver Co. (recirculated record #97-67, vote 1–6). Although the majority of the Committee initially voted to accept this record, it was reconsidered as two problems with the documentation were pointed out. First, the description of the rump/tail is inconsistent and contradictory: although the sketch and parts of the written documentation indicate the rump was white, the description also states in two places that the rump and tail were black. Second, the overall shape of the bird is described as slender and yellowlegs-like, which would fit a Stilt Sandpiper more than a Curlew Sandpiper; though the black legs would seem to preclude the former, there is the possibility of the legs actually being greenish and covered with mud to make them appear black. For such an unusual sighting (there is only one accepted Minnesota record), it was felt the documentation — though well-written by an experi-

enced observer — should not include any ambiguities.

• Sage Thrasher, 4 May 1997, Prior Lake Scott Co. (recirculated record #97-76, vote 1–6). The majority first voted to accept this record of two individuals, but after being reconsidered and discussed the description of both birds was found to be inadequate. Since bill shape and eye color were not described, and the underparts streaks are described as gray, the possibility of Curve-billed Thrasher is not precluded. Also, there is mention of "white outer feathers on their tails", although a Sage Thrasher's tail only has white corners. It was also felt very unlikely that two such individual vagrants would appear simultaneously at the same location during migration.

• Great Black-backed Gull (ad.), 6 February 1998, Duluth Twp., St. Louis Co. (recirculated record #98-20, vote 0–7). After reconsideration, the Committee felt the record was in doubt for several reasons: e.g., the observer had incorrectly assumed others had seen this bird and, therefore, did not carefully study it; it is unclear if other gulls were present for direct size comparison, which leaves the overall size of the gull in doubt; and the description is only written from memory nearly three months after the sighting.

There was one record among the 16 discussed at the meeting for which voting has not yet been completed; however, the documentation was sent to an authority on the species who recommended the record should be found Unacceptable: Broad-tailed Hummingbird, 30 May 1998, Winona, Winona Co. (potential first state record #98-60).

The following records were voted on by mail January – July 1998 and found to be Acceptable:

• Nelson's Sharp-tailed Sparrow, 17 May 1997, Winona, Winona Co. (record #98-02, vote 5–2).

• Ferruginous Hawk, 10 August 1997, McKinley Twp., Kittson Co. (record #98-03, vote 7–0).

• Laughing Gull, 29–30 November 1997, Grand Marais, Cook Co. (record #98-07, vote 7–0).

• Gyrfalcon, 21–27 November 1997, Minneapolis, Hennepin Co. (record #98-08, vote 5–2).

• Iceland Gull (ad.), 14 December 1997 – 5 January 1998, Black Dog L., Dakota Co. (record #98-09, vote 7–0).

• Great Black-backed Gull (imm.), 20 December 1997, Duluth, St. Louis Co. (record #98-10, vote 7–0).

• Iceland Gull (imm.), 22 December 1997 – 5 January 1998, Black Dog L. and Pine Bend landfill, Dakota Co. (record #98-11, vote 7–0).

• Sabine's Gull, 5 October 1996, near Frontenac, Goodhue Co. (record #98-12, vote 5–2).

• Pacific Loon, 6 September 1997, Duluth, St. Louis Co. (record #98-13, vote 6–1).

• American Woodcock, 28 February 1998, Wiscoy Twp., Winona Co. (record #98-14, vote 7–0).

• Iceland Gull, 18 February 1998, Point Douglas Park, Washington Co. (record #98-15, vote 6–1).

• Barrow's Goldeneye, 22–23 February 1998, Black Dog L., Dakota Co. (record #98-17, vote 7–0).

• Chipping Sparrow, 18 December 1997 – 11 January 1998, St. Louis Park, Hennepin Co. (record #98-18, vote 7–0).

• Chipping Sparrow, 20 December 1997 – 29 March 1998, Fergus Falls, Otter Tail Co. (record #98-19, vote 7–0).

• Gyrfalcon, 22 March 1998, Norway Twp., Kittson Co. (record #98-22, vote 7–0).

• California Gull, 5 April 1998, Thief River Falls, Pennington Co. (record #98-23, vote 7–0).

• Blue-winged Warbler, 20 April 1998, Northfield, Rice Co. (record #98-26, vote 7–0).

• Barrow's Goldeneye, 7 December 1997 – February 1998, Blue Lake sewage ponds, Scott Co. (record #98-31, vote 7–0).

• Iceland Gull (ad.), 13 March – 9 April 1998, various locations, Dakota Co. (record #98-35, vote 7–0).

• Iceland Gull, 13 March 1998, Red Wing, Goodhue Co. (record #98-36, vote

7–0).

• Iceland Gull (imm.), 27 March 1998, Pine Bend landfill, Dakota Co. (record #98-37, vote 7–0).

• Iceland Gull, 14 April 1998, Duluth, St. Louis Co. (record #98-38, vote 7–0).

• Great Black-backed Gull (imm.), 14 April – 30 May 1998, Duluth, St. Louis Co. (record #98-39, vote 7–0).

• Black-headed Gull, 18 April – 20 May 1998, Grover's L., Jackson Co. (record #98-40, vote 7–0).

• Great-tailed Grackle, 18 April – May 1998, Grover's L., Jackson Co. (record #98-41, vote 7–0, ***The Loon*** 70:183).

• Clark's Grebe, 8–10 May 1998, Boon L., Renville Co. (record #98-44, vote 7–0).

• Tricolored Heron, 9 May 1998, Louisville Swamp, Scott Co. (record #98-45, vote 7–0, ***The Loon*** 70:170–171).

• Western Tanager, 9 May 1998, Frontenac State Park, Goodhue Co. (record #98-46, vote 7–0).

• California Gull, 13 May 1998, Roseau, Roseau Co. (record #98-47, vote 7–0).

[• *Plegadis*, sp., 16 May 1998, Grover's L., Jackson Co. (record #98-50, vote 7–0; also see Unacceptable White-faced ibis record).]

• Say's Phoebe, 16 May 1998, Felton Prairie, Clay Co. (record #98-53, vote 7–0).

• Mississippi Kite, 17 May 1998, Agassiz N.W.R., Marshall Co. (record #98-54, vote 6–1).

• Golden Eagle, 21 May 1998, Minnesota Lake, Faribault Co. (record #98-55, vote 5–2).

• White-eyed Vireo, 28 May 1998, Afton State Park, Washington Co. (record #98-58, vote 5–2).

• Clark's Grebe, 15 June 1998, L. Osakis, Todd Co. (record #98-62, vote 7–0).

• Mississippi Kite, 29 June 1998, Solway Twp., St. Louis Co. (record #98-64, vote 7–0).

The following records were voted on by mail January – July 1998 and found to be Unacceptable:

• Red-eyed Vireo, 28 April 1997, near Hines, Beltrami Co. (record #98-01, vote 1–6). The observers were unaware that this record was unusually early and only provided documentation written from memory eight months after the sighting. Other than the red eye, no actual description of the bird was provided.

• Smith's Longspur, 2 November 1997, near Ashby, Otter Tail Co. (record #98-05, vote 1–6). The documentation by an observer unfamiliar with this species indicates the identification was based on "the black triangle on the head" and "the buff on the breast", but Laplands in basic plumage also have similar facial markings and are somewhat buffy on their underparts. In addition, the documentation is inconsistent as to the number of birds identified as Smith's: 8–10 individuals is indicated at first, but later the number is given as 25.

• Swainson's Hawk, 12 November 1997, Hovland, Cook Co. (record #98-06, vote 0–7). The entire description only includes mention of "light underside with dark head and dark band on bottom edge of wide tail", which is too incomplete to make an identification; such a description could fit several raptors. Also, the observer was unaware this species is unusual at this time and location and is also apparently inexperienced with raptor identification, claiming to have seen dark-morph Swainson's several times before in this area.

• Ross's Goose (blue morph), 7 April 1998, near Faribault, Rice Co. (record #98-24, vote 0–7). The description only includes mention that it was a dark goose, with a white face patch and white under the tail, in the wings and on the lower breast, and that it had an orange bill. However, there is no indication why this was not a blue-morph or intermediate-morph Snow Goose, a Greater White-fronted Goose, or some sort of exotic waterfowl. In addition, an orange bill is inconsistent with a Ross's Goose.

• Western Tanager, 18 April 1998, Reads Landing, Wabasha Co. (record #98-25, vote 3–4). Although a male Western Tanager in alternate plumage is difficult to confuse with anything else, the majority voted not to accept the documenta-

tion, which includes mention of a gray tail and gray wings which "had a checkered appearance between the pinion feathers and the shoulders". Although this bird may have been correctly identified, the described features seem inconsistent with Western Tanager and might possibly match a male Summer Tanager in molt.

• Green Heron, 24 February 1998, Edina, Hennepin Co. (record #98-34, vote 3–4). This bird may well have been correctly identified, but the description is very brief and incomplete: "small dark heron, gray blue back and a brown red neck". No indication is given as to how "small" it actually was, and the distinctive orange legs were not noted. Also, the observer's experience is not given, she did not know it was unusual, and no optics were used.

• Kentucky Warbler, 14 May 1998, Duluth Twp., St. Louis Co. (record #98-48, vote 2–5). The description does not preclude — and the observer did not consider — the possibilities of a Canada Warbler or an immature male Common Yellowthroat, both of which have face patterns resembling a Kentucky Warbler. Also, the non-secretive behavior of this bird would seem inconsistent with this species. In addition, the observer did not know the species is unusual in this part of the state, and the description of the bird was written from memory three weeks later.

• White-faced Ibis, 16 May 1998, Grover's L., Jackson Co. (record #98-50, vote 2–5). Although this flock of seven individuals was unanimously accepted as *Plegadis*, sp., and though it is likely all seven individuals were White-faced, the majority felt the documentation is not complete enough to indicate this. The only thing in the description indicating White-faced Ibis specifically is "the lighter area on the face"; however, it was felt such a description is too brief and vague, and it is unclear how many ibis faces were seen and were being described.

• Western Sandpiper, 16 May 1998, near Etter, Goodhue Co. (record #98-51, vote 2–5). The identification of these two individuals was based on their drooped bills, which are described as longer than some adjacent Semipalmated Sandpipers, and on some rufous color on their backs, wings and ear coverts. However, a Western Sandpiper is not rufous overall on its back and wings, as the description suggests; such color is basically limited to its scapulars, ear coverts and crown. At this time of year, a Western would have some obvious spotting or streaking on the underparts, but none is noted in the description. Finally, there is nothing in the documentation to preclude the possibility of these simply being Semipalmateds, since some individuals have longer and droopier bills than others.

• Black-headed Gull, 16 May 1998, near jct. of I–90 & Minn. Hwy. 86, Jackson Co. (record #98-52, vote 2–5). Although the identification of this flying gull may well have been correct, the majority felt the description was not thorough enough for a third state record. The identification was based entirely on the description of the underwing pattern: "dark underwing primaries and also the darker secondaries but not as dark as a Little Gull (except the primaries)". However, no mention is made of the Black-headed Gull's contrasting white outer primary, the secondaries on the underwing of this species are not dark, and the underwing pattern as described could fit either a Laughing or Little Gull. Except for the head being described as not being black, nothing else about the plumage is mentioned, the bill color was apparently not seen, and the overall size of the gull is unclear since nothing else was present for comparison.

Summary: 60 records voted on; 46 Acceptable (77%), 14 Unacceptable (23%).

The efforts of all those observers who document their reports of unusual species are appreciated, whether or not those records are accepted. Accordingly, the Committee acknowledges with thanks those who provided documentation for the records listed in this article: Karl Bardon (11 records), Al Bolduc, Jerry

Bonkoski, Terry Brashear, William Brown, Paul Budde, Dave Cahlander, Anne Capistrant, Steve Carlson (two records), Dawne Dougherty, Kim Eckert (seven records), Bob Ekblad, Lane Ellwanger, Audrey Evers, Bruce Fall, Colin Gjervold, Bernice Groebner, Jay Hamernick, Tony Hertzel (five records), Ken and Molly Hoffman, Bob Janssen (three records), Paul Jantscher, William Jeffries, Chuck Krulas, Fred Lesher (two records), Sue Levy (two records), Bill Litkey (two records), Sandra Lunke, Craig Mandel, Steve Millard, Steve Mortensen, Clem Nagel, David Neitzel, Carol Schumacher, Dave Sovereign, Paul Spreitzer, Forest Strnad, Peder Svingen (16 records), Steve Weston, Jim Williams.

8255 Congdon Blvd., Duluth, MN 55804.

Chronology of the Minnesota Bird List Since 1991

Robert B. Janssen

In ***The Loon*** 63:286 (Winter 1991) and ***The Loon*** 56:165–166 (Fall 1984) I listed those birds which had been added to (or deleted from) the Minnesota state list since the publication of Thomas S. Roberts' *The Birds of Minnesota* in 1936.

Since 1991, 13 additional species have been added with no deletions. This brings the total state list to 423 species as of 1 October 1998.

The 13 new species added to the Minnesota list are as follows:

Neotropic Cormorant — 16 July 1992
Painted Redstart — 30 September 1992
Common Ground-Dove — 16 October 1993
Curlew Sandpiper — 21 May 1994
Crested Caracara — 18 July 1994
Calliope Hummingbird — 2 November 1994
White Ibis — 13 May 1995
Glaucous-winged Gull — 19 October 1995
Rock Ptarmigan — 20 May 1996
Pygmy Nuthatch — 26 October 1996
Spotted Towhee — split in 1996
Bullock's Oriole — split in 1996
Eurasian Collared-Dove — 25 April 1998

It is interesting to note that once again 13 species have been added to the state list in approximately seven years. This is the same number that was added during the previous seven year period. Thus we are adding approxmiately two species per year to the state list. It should be noted, however, that two of these additions were the result of splits occurring as a result of action by the AOU Checklist Committee. Northern Oriole was split into Bullock's Oriole and Baltimore Oriole, and Rufous-sided Towhee was split into Spotted Towhee and Eastern Towhee.

It also should be noted that no new species were added to the state list in 1997. This has not occurred in over 20 years, and in 1998, the only new addition is an introduced species — the Eurasian Collared-Dove, which was introduced to the Western Hemisphere in the Bahamas in 1974 (see *American Birds*, 41:1370–1379). Thus, possibly, the law of diminishing returns is in action. Time will tell.

162 Lakeview Rd. E., Chanhassen, MN 55317.

BIRDING BY HINDSIGHT

A Second Look at Bird Identification Books

Kim R. Eckert

Now that November is upon us, who could care about bird identification? (In fact, who can even care about just getting up on some of these dismal days?) After all, on overcast days — which occur about 29 times in a typical November — it almost appears to start getting dark around noon, so there's no chance of birding after work. And on your day off, what's still around to look at anyway? Gulls . . .and immature ones at that! Unless you're lucky (and smart) enough to live far from the Twin Cities in northern Minnesota, where at least there's hope of an owl invasion or of winter finches at your feeder. It sometimes seems like any bird worth looking at went south weeks ago and won't be back for months.

My advice? While waiting for your favorite Christmas Bird Count to get organized, get your Christmas shopping done early and buy a few books on bird identification for all your birding friends and relatives. The advantage of doing this now is there will be time to study their content before you have to wrap them up and give them away. And the advantage of buying nothing but bird identification references is you get to stay home and avoid all that Twin Cities traffic, since, with only one exception, none of the stores has an adequate selection. (That one exception is the Blue Heron Bookshop in the Bell Museum of Natural History in Minneapolis.) You'll find the most complete selections via various mail-order places, and the best I've found is American Birding Association Sales.

More importantly than where you shop is what to buy, of course, and what follows are some suggestions of books which will help improve the identification skills of those on your shopping list — yourself included? In other words, these references advance beyond the basics found in your trusty field guide and address the same kinds of challenges I have tried to include in this series of "Hindsight" articles.

Not included here are other types of worthwhile identification references: e.g., articles in periodicals, audio and video tapes and CDs, etc. — these can be the subject of a future Hindsight article. Also not included are some excellent books on identification which have little or no bearing on Minnesota and vicinity. Though I'm sure, for example, the 123 species accounts in the *Kingfishers, Bee-Eaters, and Rollers* guide are all well done, Minnesota birders wouldn't need it to identify the next kingfisher they see lingering — up until the day before their local CBC takes place — along some half-frozen creek.

I. General Field Guides. Any casual birder who is not interested in anything more than straightforward identifications will do just fine with a Peterson or Robbins field guide (see the "Not Recommended" section below). But to have a chance at correctly identifying something more difficult, your choice of recommended guides narrows considerably.

National Geographic Society Field Guide to the Birds of North America, 2nd ed., Jon Dunn and Eirik Blom, consultants. Although no field guide has enough room between its covers to cover all the potential identification difficulties lurking out there, the Geographic guide is far more comprehensive than any of the others. It still has lots of room for improvement (for example, I've always disliked those sparrow plates), but a third edition is apparently in preparation and will hopefully include those needed improvements. (By the way, if you own the first edition of Geographic, it still works as well as the second; about the only obvious and visible difference is a better dowitcher plate in the latter edition.)

The Audubon Society Master Guide to Birding, 3 vol., John Farrand, Jr., editor. These three volumes will hardly fit in your pocket and may be unfamiliar to many birders, but they are worth the shelf space in your library as supplemental references. There is lots of identification information not found in Geographic (e.g., the descriptions of songs and call notes), and many of the photos are more useful than Geographic's paintings. Some species accounts are better than others, mostly due to inconsistent editing, and the guide's title may lead to confusion; three other references listed below also include the word "Audubon" in their titles.

National Audubon Society Master Guide to Birds, David Sibley. Though the scheduled publication date is reportedly two years off, it is not too early to start anticipating this guide's arrival. David Sibley is both an accomplished illustrator and writer, and many simply consider him the most skilled field identification expert in the U.S., so there is every reason to expect this guide to be in a class by itself. The proposed title, however, is unfortunate and certainly invites confusion with the other "Master Guide"; one also has to wonder what the National Audubon Society has to do with any of this, since this organization is only superficially involved with birds and their ID.

II. Specialized Identification Guides. With so many birds presenting potential identification difficulties, it is fortunate so many references on specific bird groups have appeared in recent years. Following are those which should prove especially useful in supplementing your Geographic field guide, and, unless otherwise noted, all are recommended.

A Field Guide to Advanced Birding, Kenn Kaufman. Part of the Peterson Field Guides Series and highly recommended. The author, long acknowledged as one of our top identification experts, includes 35 chapters on how to handle the most challenging ID problems we face. I found his coverage of jaegers, terns, hummingbirds and Empidonax flycatchers to be especially useful; it was disappointing, however, to find some groups excluded (e.g., Buteos, several shorebirds, Oporornis warblers, Ammodramus sparrows, longspurs, redpolls, and others).

Seabirds: An Identification Guide, Peter Harrison.

A Field Guide to Seabirds of the World, Peter Harrison.

Seabirds of the World, Jim Enticott and David Tipling. No, it's unlikely any penguins, shearwaters or storm-petrels will turn up in Minnesota any time soon, but these three guides also cover loons, grebes, phalaropes, jaegers, gulls and terns. And, no, I don't recommend buying all three; just one of them would be plenty. The last two are photographic guides, and the first is illustrated by Harrison's paintings.

Waterfowl: An Identification Guide to the Ducks, Geese, and Swans of the World, Steve Madge and Hilary Burn. Of the handful of guides specializing in waterfowl, this is the one to recommend. Its only shortcoming is the curious and confusing arrangement of many of the plates: for example, paintings for species A, B and C will appear from top to bottom on a page, while the facing page with captions and range maps might place species C, A and B from top to bottom.

A Field Guide to Hawks, William Clark and Brian Wheeler.

A Photographic Guide to North American Raptors, Brian Wheeler and William Clark.

Hawks in Flight, Pete Dunne, David Sibley and Clay Sutton. All three guides are recommended, since all birders can use all the help they can get with raptor identification. The first book, part of the Peterson Field Guide Series, is illustrated with color paintings (all are accurate, but many look stiff and unnatural) and some black-and-white photographs (which tend to be too small and "muddy"). A revised edition is reportedly in preparation. The second guide by the same authors has less text, but its many color photographs, which are a marked improvement over the illustrations in their first book, are definitely worth having in your library. And the third book, also with plans for a second edition, can be described as a field guide in only the broadest sense: there are many useful black-and-white photos and line drawings, while the ID information in the text is uniquely presented by holistic discussions rather than by analyses of plumage details.

Shorebirds: An Identification Guide, Peter Hayman, John Marchant and Tony Prater.

Shorebirds of the Pacific Northwest, Dennis Paulson.

Photographic Guide to the Shorebirds of the World, David Rosair and David Cottridge. Since shorebirds present almost as many difficulties as hawks for most birders, at least one of these three guides would definitely be a good idea. Most will probably find the first of these guides, with its comprehensive color plates and text, to be the most helpful. Paulson's guide, despite its title, is still entirely applicable in Minnesota. It includes a wealth of worthwhile identification information and is highly recommended. (The third book, with its large selection of photos, I have not yet used.)

Skuas and Jaegers: A Guide to the Skuas and Jaegers of the World, Klaus Olsen and Hans Larsson. If you frequently bird Duluth, the only place in Minnesota where jaegers occur with any frequency, this guide to a most difficult group would be helpful.

Gulls: A Guide to Identification, 2nd ed., P. J. Grant. This guide is a classic and should be required reading for anyone attempting to sort through a gull flock and pick out something different. It covers species found in both Europe and North America, and its collection of black-and-white photos is excellent. The only weakness is its treatment of western North American gulls, including Thayer's and California, is not as comprehensive as the other species.

Terns of Europe and North America, Klaus Malling and Hans Larsson. Though perhaps not as useful as Grant's *Gulls* guide, this book would still assist you to find and identify an Arctic or other vagrant tern. Note, however, that reviewers have found errors in this guide.

A Field Guide to Warblers of North America, Jon Dunn and Kimball Garrett.

Warblers of the Americas: An Identification Guide, Jon Curson. The first book, though part of the Peterson Field Guide Series, is much more than a field guide, as its 600+ pages attest. The text and color plates include thorough identification information on every plumage of every species, but complete information on

behavior, range, habitat and vocalizations also appears — and sometimes overwhelms, since it's often hard to find what you're looking for. It is still highly recommended, though, probably more so than Curson's guide, which is also well done and includes Central and South American species.

A Guide to the Identification and Natural History of the Sparrows of the United States and Canada, James Rising.

Sparrows and Buntings: An Identification Guide, Clive Byers, Urban Olsson and Jon Curson. Rising's book, though perhaps not as well known as the hawks or gulls or warblers guides, is probably just as valuable as any guide in this section. Its color plates alone make it worthwhile, especially when compared with the inadequate paintings in Geographic, and its treatment of the longspurs is also helpful. The second guide is part of the excellent Helm Identification Series from Britain, which includes some of the other guides in this section, but is probably not as helpful as Rising's book. (But at least it covers North American sparrows, unlike Clement's *Finches and Sparrows* book with its similar and misleading title — see the "Not Recommended" section below.)

III. Other References. While most of these are not primarily ID references, all include something worthwhile on identification. Note that some are out-of-date or out-of-print, and most birders will probably not find these as useful as those references in the previous section — with one obvious exception!

A Birder's Guide to Minnesota, 3rd ed., Kim Eckert. Though this is primarily a bird-finding guide, you will also find numerous identification hints in the species accounts — similar to those in this Hindsight series of articles. Note that a fourth edition is planned for 1999, though there will probably be relatively few additions to the ID information.

Birds in Minnesota, Robert Janssen. This standard reference on the range, season and relative abundance of Minnesota's birds includes nothing on identification, but awareness of a species' status is an essential aspect of accurate field identifications. Hopefully, a revised edition is pending, since this book's information is from 1987 and some of it is out-of-date.

The Birds of Canada, revised ed., W. Earl Godfrey. The color plates are probably better overall than those in any of the standard field guides, and the text includes lots of reliable identification information. The book's size and price probably make it more of a luxury than required reading for Minnesota birders.

The Western Bird Watcher, Kevin Zimmer. This book has been out-of-print for several years and most birders have probably never seen it, but this source of finding and identifying birds west of the Mississippi has some good ID information in chapters 4 and 5. A revised edition is reportedly planned.

Identification Guide to North American Birds, Peter Pyle. Despite the title, this is not a field identification book but a highly comprehensive banding manual for everything on the checklist from doves to weaver finches. However, the in-hand plumage features are often useful in the field, and this book is recommended for all serious birders.

A Manual for the Identification of the Birds of Minnesota and Neighboring States, Thomas Roberts. I'm not sure this is still in print, but the identification keys in Roberts' classic *The Birds of Minnesota* were reprinted in this separate volume. The ID information may be dated, but it is highly detailed and many consider it still surprisingly useful and accurate.

Birds of Europe, Lars Jonsson. Any birder will find it useful at times to have a European field guide in his or her library for occasional reference; there are several to choose from, but most experts

consider Jonsson's guide superior to the rest.

Birds for Real, Rich Stallcup. This curious and out-of-print book was an attempt by an acknowledged field identification expert to supplement and correct the popular but deeply flawed Robbins field guide (see the "Not Recommend" section below). The information is certainly accurate, useful and worth reading, but most of it probably appears in the *Geographic* guide.

Life Histories of North American Birds, 26 vol., Arthur Bent. The volumes in this classic set are all out-of-print, but it is worth picking up any you happen upon in a second-hand bookstore. They include some relevant identification material, mostly on songs and call notes and on juvenile plumages.

Audubon Water, Land and Western Bird Guides, 3 vol., Richard Pough. Published in the 1940s and 1950s, these volumes are long out-of-print and are hardly recommended for everyone. During their day, however, they were at least as good as Peterson's classic guide — and better in many ways, especially some of the color plates and the descriptions of behavior and songs and calls.

IV. Not Recommended. This final section is included since it is as helpful to know what to avoid as well as what to buy; all but one of these are field guides.

Field Guide to Birds East of the Rockies and *Field Guide to Western Birds,* Roger Tory Peterson.

Birds of North America, Chandler Robbins, Bertel Bruun and Herbert Zim.

All the Birds of North America, Jack Griggs.

Stokes Field Guide to Birds: Eastern Region and *Western Region,* Don and Lillian Stokes.

The Audubon Society Field Guide to North American Birds: Eastern Region and *Western Region,* John Bull and John Farrand, Jr. (Eastern); Miklos Udvardy (Western). As mentioned earlier, only the Geographic field guide comes close to being comprehensive and accurate enough in addressing the more difficult identifications. Accordingly, none of the five guides above can be recommended for anything other than basic IDs: they just contain too many oversimplifications and outright errors in their illustrations and texts. Any of the first three guides will probably work fine for casual birders, however. I have never examined the Stokes' photo guides, but, based on their recent superficial series on public television, I would be surprised if they were as useful as the other three. And, by all means, do not buy those deeply flawed and misguided *Audubon Society* photo guides.

Finches and Sparrows: An Identification Guide, Peter Clement. This book is great, except for its title. It's part of the Helm Identification Series from Britain, and it excludes North American sparrows. As mentioned earlier, Rising's sparrow guide is the one to buy.

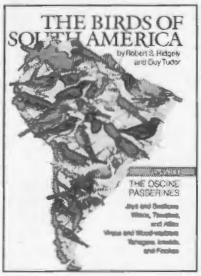
Birds of Minnesota Field Guide, Stan Tekiela. Here is another book with an unfortunate title, which implies there is more information here than it really has. The original concept was fine: to include only the more common Minnesota birds to simplify things for beginners. But the species here aren't nearly enough (far too many widespread birds are left out), while the inclusions of Trumpeter Swan, turkey, both yellowlegs, magpie, titmouse, Harris's Sparrow and Red Crossbill are inappropriate. Just as many misidentifications as correct ones will probably result. The text includes nothing original on anything within a Minnesota context, and the nesting information will be of little use to most beginners. The photos are all of good quality, but their arrangement by color is often flawed — e.g., Ospreys and Bald Eagles are classified as black-and-white birds; male Northern Harriers, male American

Kestrels, both yellowlegs, Chestnut-sided Warblers and juncos are allegedly brown; too many of the "gray" birds are not really gray, only one of the five "green" birds is mostly green, male redstarts are not mostly orange as stated, nor are female Red Crossbills or Baltimore Orioles mostly yellow. It is also strange that some bird names are misspelled, that parts of the index fall out of alphabetical order, and that adult Ring-billed Gulls are said to have black tails.

By the way, if you're searching for a book for that favorite birder on your list who has almost everything, it sure would be nice to add the jaegers guide to my library!

8255 Congdon Blvd., Duluth, MN 55804.

BOOK REVIEWS



The Birds of South America Vol. I, The Oscine Passerines, by Robert S. Ridgely and Guy Tudor. 1989, University of Texas Press, 516 pages, 31 color plates. List $70.

The Birds of South America Vol. II, The Suboscine Passerines, by Robert S. Ridgely and Guy Tudor. 1994, University of Texas Press, 814 pages, 52 color plates. List $85.

These handsome volumes are the first two of a planned four volume project to present the entire avifauna of South America. With an avifauna that exceeds 3,100 species, this is no small undertaking.

South America has, by far, the world's largest avifauna and only one outdated reference to the continent as a whole exists; two of the most bird-rich countries in the world have no comprehensive guides at all (Peru and Ecuador); that the other reference to the continent's birdlife (*Guide to the Birds of South America* by Rodolphe Meyer de Schauensee, 1970), contains only the briefest species accounts that were based more on museum than field experience and is now hopelessly outdated; that the explosion of fieldwork in South America has resulted in many new species, a more complete picture of the distribution of South America's birdlife and vast increases in the knowledge of bird identification, vocalizations, behavior and ecology; and that this knowledge was often published in obscure journals in foreign languages (if published at all). Just a few points to illustrate that the need for such a project is larger even than the subject matter.

Both volumes follow the same format: introductory information, keys to terms, sections on the maps, biogeography, plate illustrations and conservation issues followed by the color plates and then the species accounts.

The introductory information gives the reader a good overview of South America's birdlife and the habitats, as well as a few of the problems involved with birding there. The detailed descriptions of the habitats may be one of the more valuable introductory sections and is extremely well done. Volume I's chapter on conservation issues affecting South America's birds is also important. This species-by-species treatment was a pioneering effort and deserved all the attention it received. The publication of *Threatened Birds of the Americas*, N.J. Collar, *et al*, 1992, in the interim between Volumes I and II, created a situation best described in the words of the authors of Volume II, "its (*Threatened Birds of the Americas*) appearance has virtually negated the need for the brief summary of endangered birds that we included in Volume I and which, for the sake of continuity, we will include here. ...we can only encourage those interested in learning more about the topic to delve further by obtaining their own copy of *Threatened Birds of the Americas*." I also encourage any birder seriously interested in birding throughout the Americas with an interest in learning about or finding the rare, restricted or little known species to obtain a copy of this fine book.

The color plates by Guy Tudor are, without exception, excellent! My only complaint is that not every species is illustrated. In fact, that may be the only drawback to this series. This topic is discussed at length in the introductory section regarding the plates. The authors make it known, in no uncertain terms, that it is not their intention to illustrate every species to be found in South America. Instead they are using the plates to make the observer familiar with the different genera of birds to be found in South America. They state, "A member of every genus and at least one member of every visually distinct group (within genera) have been illustrated, with some very minor exceptions". You are then referred to the text to help you conclusively identify each species. With their purpose regarding the plates outlined so clearly, and with the quality of each illustration being so high, I find the plates to be suited perfectly to the authors' purpose. Although I do wish so very much that some of the species that are not illustrated well (or at all) in other works on birds in South America would have been included. This is especially true for the birdlife of Peru and Ecuador.

The largest section of each volume is devoted to the species accounts, and it is these accounts that are responsible for this work's well earned reputation. The authors have distilled a great deal of the field work containing much of our recent knowledge on the birdlife of South America into an easy to read format.

Each account contains an accompanying map, which is a major achievement in itself. Most birders are not knowledgeable enough about the geography of South America to develop a clear picture of the range of a particular species from just a written description. A well illustrated range map does this easily. Although the maps cannot be considered the end-all as regards the status and distribution of South America's birdlife, they are a giant step above any other reference and provide the baseline for all future works anywhere on the continent.

The section on identification gives a detailed description that addresses the issues of sexual and racial variation. The usual format is to describe the adult male, then the adult female then subadult/immature/juvenile plumages when necessary. The descriptions of the well marked (noticeable in the field) races/subspecies is another very important facet of this work. The large number of species that have distinctly marked races complicates the field identification of birds in the tropics. Careful observation, combined with careful reading and use of

these references will allow birders to make many more correct identifications, as well as to make them aware of what population of a particular species they are observing. With the increased fieldwork being done in South America, combined with the general instability of ornithological systematics, the continued lumping/splitting of species is sure to continue. In the past, many birds observed in the field may not have been able to have been identified at all, and when an announced split/lump was received, most birders would not have known which races they may have seen. Now, with careful observation and record keeping, birders will have the ability to keep track of each "species" observed in South America.

Habitat and behavior are noted in detail. Information of general abundance, habitat preferences, behavior, and vocalizations is presented. It is this section that separates this work from Meyer de Schauensee's. Much of the recently gained knowledge of South America's birdlife is contained here. Succinctly worded and as complete as space allows, this is where you can really get to know South America's birds. The authors have not limited themselves to their own experience, but have made use of the information provided by many fine institutions, publications, and individuals from researchers to bird tour leaders.

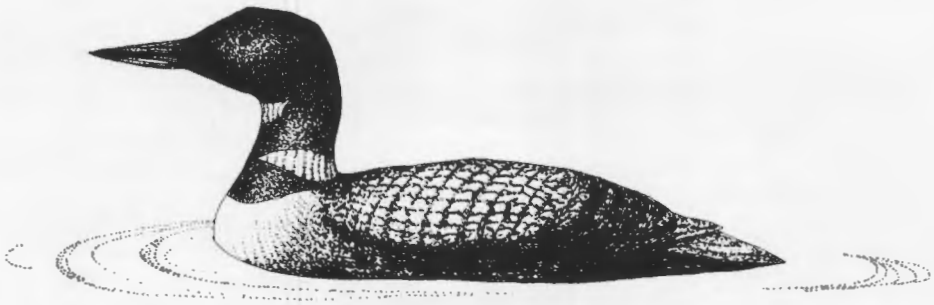
The section on range encapsulates each species status and distribution. Used in conjunction with the range map, bird students are offered as complete a picture as possible. Disjointed range, extralimital occurrence, normal elevation range, and seasonal distribution are all addressed.

Occasionally, there is an added section entitled "Note" which contains comments on taxonomy and nomenclature. For those species which are more or less undisputed, however, this section is omitted. I found this to be some of the more interesting reading in the book! Here you can often find very interesting tidbits on the taxonomic history of some species. Issues that need to be addressed by future fieldwork are often indicated, justification for treatment as a species or subspecies may be given, and an overall view of the ever-changing state of current tropical ornithological systematics can be seen. Some may find it a waste of space, I found it to be an interesting aside from the standard species account fare.

Volume I deals with the oscine passerines (jays, swallows, wrens, thrushes and allies, vireos, wood-warblers, tanagers, blackbirds and finches). Volume II deals with the suboscine passerines (ovenbirds, wood-creepers, antbirds, gnateaters, tapaculos, tyrant flycatchers, manakins and cotingas). And, as stated earlier, the plates do not attempt to show every species, but aim to show representatives of each genus. The authors remained true to their goals and their vision of what they wanted this project to look like. We can only hope that the forthcoming book on the birds of Ecuador by Ridgley and Greenfield will fill another large gap in the illustration of South America's birdlife. If it does, it will sit beside *The Birds of Columbia* by Hilty and Brown and *A Guide to the Birds of Venezuela* by De Schauensee and Phelps as authoritative guides to each region.

Although these books are in hardcover only, and thus rather expensive, the information that they contain more than offsets this drawback. I would certainly recommend these impressive books to any serious student of Neotropical birdlife. Birders who intend to bird in the more diverse areas of South America may find them to be absolutely necessary. I believe that the authors have achieved their stated goal, "Our intention was to create a 'field handbook', and an attractive book that presented new information in a relatively new way. Even if its four volumes must be left in the car or a hotel room, it will still serve its purpose. There simply are too many birds in South America to have all of them included in a superficial 'field guide'." Well said!

Kim Risen, P.O. Box 174, Morgan, MN 56266.



NOTES OF INTEREST

A DECEMBER EASTERN PHOEBE — As part of a Christmas Bird Count for the St. Paul Audubon Society on 20December 1997, Ernie D'Anjou, Miriam Luebke, and I made a stop near the entrance to the St. Paul Water Purification Plant which is about one quarter mile northeast of the intersection of Rice and Larpenteur. After checking the area and finding very little we returned to my car which I had parked near a ditch along the railroad track. Miriam spotted a White-breasted Nuthatch in a tree on the near side of the ditch. We each viewed it briefly with our binoculars and were about to leave when a bird flew up out of the ditch. It was only 40–50' in front of us and flew directly away from us to a tree on the far side of the ditch. Upon landing on a small branch it immediately began wagging its tail.

The bird was clearly seen as it was a sunny day. We were facing east at about 2:15 P.M. with the sun coming from somewhat behind us. It appeared to be an inch or two larger than a House Sparrow and had a grayish back. There was a hint of whitish wing bars on its fairly dark wings. When it flew a second time, to our right and slightly towards us, a dusty (drab) white breast and belly could be seen. There was no eye-ring and both the upper and lower mandibles were dark. No vocalizations were heard. Eastern Wood-Pewee was eliminated because the wing bars would have been more distinct, the lower mandible would have been a lighter color, and it does not wag its tail.

I assumed the phoebe was surviving on insects on or near the open water in the ditch from which it flew. The mild December weather was also a factor. On two follow-up visits the next week the phoebe was not found again. **Robert Holtz, 668 Overlook Dr., Roseville, MN 55113.**

NORTHERN SHRIKE TAKES A PINE GROSBEAK — Every winter we have Northern Shrikes that frequent our bird feeding area at the Tamarac National Wildlife Refuge headquarters in Becker County. Because the building has a long row of picture windows that look out into the yard, the entire staff has a good view of this area. Of course, we have window strikes on occasion, sometimes with the assistance of a shrike, which then will kill and carry off birds that have been stunned.

This past winter, Pine Grosbeaks came to our feeders nearly every day from mid-December through mid-March, which was a real treat.

Several times our staff debated about whether a Northern Shrike would be able to take a Pine Grosbeak, since they didn't seem to be very different in size. On 29 January 1998 we got our answer.

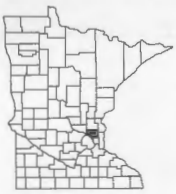
I was clearing my desk at the end of the day, when I heard several "thuds" against the windows. I looked out to see birds flying for cover, a shrike hovering just ten feet out from my window, and an adult, male Pine Grosbeak flopping around on the ground, no doubt having struck the window pretty hard. A Northern Shrike, wasting no time, flew in and landed on the ground within about 18 inches of the grosbeak. It hopped over and grabbed the grosbeak by the back of the neck, then again and again, until there was no more movement.

I hollered to our Forester, Cy Brock, to watch the drama, as we were the only ones left in the office. I had been standing still as we watched, but now felt compelled to move toward the window to get a closer look. The shrike must have seen my movement, but unwilling to leave without a meal, it grabbed the grosbeak and half hopping and half flying, dragged it 20 or 25 feet away from the building, further into the yard. It appeared to need a brief rest after the exertion, but within 30 seconds or so, began to reposition the grosbeak in its grasp.

As Cy and I watched in amazement, the shrike took off, carrying the grosbeak! It was an obvious effort and it never gained much height, but away it went, across the yard, down the hill and across the marsh into the woods.

I relayed the experience to Anthony Hertzel and he provided me with the following information. A Northern Shrike's average length is about 24 cm., and weight is 48–81 grams (average of 67). A male Pine Grosbeak's typical length is 20–25 cm. and weight is 42–62 grams. Not much difference! **Betsy Beneke, Park Ranger, Tamarac National Wildlife Refuge, HC 10 Box 145, Rochert MN 56578.**

BREEDING OF CANADA WARBLERS IN SOUTHERN MINNESOTA — From 21 June – 15 July 1997, two singing male Canada Warblers were present at Boot Lake Scientific and Natural Area (SNA), Anoka Co. Although these two birds maintained adjacent territories throughout the summer, and one male was repeatedly seen carrying food, no females were ever seen, and no nest could be found. However, because the swamp habitat of ferns, shrubs, and fallen trees is quite wet, extremely dense, and very difficult to get around in, I was never sure if the male who was seen carrying food actually had a nest or even a mate. Then, in June 1998, two males were again occupying territories within Boot Lake SNA at nearly identical locations as the previous year; once again, no females were ever seen despite multiple visits, and no nest was found. The possibility remains that these were both unmated males during both years, although it would seem unusual for an unmated male to repeatedly carry food.



On 27 June 1998, I discovered a pair of Canada Warblers on adjacent private land at Falls Creek SNA, Washington Co. Both the male and female were seen carrying food into a large brush pile at the base of a steep hillside. Because the habitat is considerably more open here than at Boot Lake, I was able to find the nest after only an hour or two of watching the birds; interestingly, the nest was not in the brush pile at all, but was instead built into the side of the nearly vertical hillside, and was virtually identical in appearance and placement to the many Wilson's Warbler nests I have previously seen in Alaska. The nest contained five young about five days old, and all the young were still present when I returned the next day to take photographs.

This represents the first documented breeding of the Canada Warbler in southern Minnesota. Because of late June observations of this species at Cedar Creek SNA,

Anoka Co. (which is adjacent to Boot Lake SNA) in 1978 and 1980, Janssen (1987) speculated that casual breeding may occur in this region. The dates of these observations were 23 and 30 June 1978, and 20 June 1980 (Howitz and Bosanko 1990); no breeding evidence was discovered. There was also a report from Goose Creek Natural Area, Chisago Co. during the summer of 1980, but no date was provided. Aside from the above observations, the following dates are the only published reports in southern Minnesota after 9 June: 11 June 1977 (Nicollet Co.), 15 June 1990 (Rice Co.), 21 June 1992 (Carver Co.), and 22 June 1977 (Hennepin Co.). These latter observations are considered the latest migration dates on record, which seems appropriate, since these observations are all from areas outside the boreal forest breeding habitat of Canada Warbler.

Both Boot Lake and Falls Creek SNAs (as well as portions of Cedar Creek Natural History Area) represent boreal forest outposts in southern Minnesota, isolated from more contiguous coniferous habitat in northern Minnesota, which extends as far southeast as Mille Lacs and Pine counties; the previous southernmost breeding record for Canada Warbler was from Onamia, Mille Lacs Co. (Green and Janssen 1975). Many boreal forest species are at their southernmost regular breeding range limit at these outposts, including Common Raven, Winter Wren, Golden-winged Warbler, Nashville Warbler, Black-and-white Warbler, Northern Waterthrush, and Purple Finch, so it is not too surprising to add Canada Warbler to this list, at least as a species which occasionally breeds this far south.

Literature cited

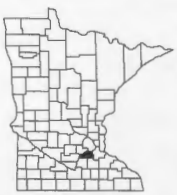
Green, J. C. and R. B. Janssen. 1975. Minnesota Birds: Where, When and How Many. University of Minnesota Press, Minneapolis, MN.

Janssen, R. B. 1987. Birds in Minnesota. University of Minnesota Press, Minneapolis, MN.

Howitz, J. L. and D. Bosanko. 1987. Birds of Cedar Creek, An Annotated Checklist of the Birds of the Cedar Creek Natural History Area. Revised 1990. Cedar Creek Natural History Area, Bethel, MN.

Karl Bardon, 13073 Hastings St. NE, Blaine, MN 55449.

TRICOLORED HERON AT LOUISVILLE SWAMP, SCOTT COUNTY — On 9 May 1998, I led a University College (University of Minnesota) ornithology class field trip to Louisville Swamp (Minnesota Valley National Wildlife Refuge), near Jordan in Scott Co. At about 8:30 A.M., while we were viewing birds from the Mazomani Trail on the north side of the lake, class member Tom Nelson pointed out a distant dark heron perched in a dead tree. With a spotting scope, I identified it as a Tricolored Heron *(Egretta tricolor)*. Within a few minutes, the heron flew toward us and landed in shallow water about 500 meters away, where it began foraging. We trained three 40x spotting scopes on it, and over the next 30 minutes all 17 of us were able to observe it well. Most class members contributed to or confirmed the field notes that I wrote as we watched it.



The heron was medium sized and very slender, perhaps half the bulk of a Great Blue Heron. It had a very long and slender ("snaky") neck, and a very long, thin, pale grayish-blue stiletto-shaped bill, which was proportionally longer and narrower than that of a Great Blue Heron. The body was blue-gray dorsally, but with buffy lower back/scapular plumes that covered the rump and tail. The head and neck were blue-gray, and the wings were even darker blue-gray. Conspicuous white head plumes extended from the nape and contrasted with the dark head and neck. The throat had a copper brown tinge, and there was a narrow whitish line from the throat down the

ventral side of the neck. The heron was white ventrally, including breast, belly, undertail coverts and leg feathering. Legs were greenish blue, with a yellowish cast. It foraged actively — walking quickly and even running for short distances.

After we had observed the heron for 30 minutes, a Bald Eagle flew overhead and flushed it, after which the heron continued flying off to the south and out of sight behind a wooded peninsula. At that time we noted that its underwing coverts were entirely white and continuous with the white belly, and contrasted sharply with the dark flight feathers. Twice within the next five days (10 May and 14 May), Susan Fall and I hiked the entire Mazomani Trail around the circumference of Louisville Swamp, but we were unable to relocate it. This is about the twelfth record of this southern heron for Minnesota; the most recent previous record was from Winona Co. in May 1992 (***The Loon*** 64:171–172). **Bruce A. Fall, 4300 29th Ave. S, Minneapolis, MN 55406.**

OVERWINTERING BIRDS IN OTTER TAIL COUNTY 1997–1998 — As exciting as

birding is during migration, there is something special about winter birding. Since species diversity is considerably lessened in winter, we appreciate those hardy individuals that remain with us through the most trying of seasons. Birders probably pay more attention to jays and chickadees in winter than at other times of the year. And when our common cold-weather residents are joined by tardy migrants and would-be overwinterers, our spirits soar with the hope that these birds may stay and survive until spring. That the majority don't make it is a testament to the severity of our weather and the inability of certain species to find food. Occasionally we're blessed with a winter that allows these rarities to remain with us and tough it out. Such was the case in Otter Tail County, and throughout Minnesota, during the winter of 1997–98.

The first notable bird discovered locally was an adult Red-shouldered Hawk. I found this bird along a quiet stretch of the Otter Tail River in Fergus Falls on 7 December 1997. The last of several sightings occurred on 8 January 1998. This is the first documented winter record of the species in this county.

On 20 December, while looking for a White-throated Sparrow in my yard on the Christmas Bird Count, I discovered a Chipping Sparrow. Both birds remained through the winter. There are several records of overwintering Chipping Sparrows in the state, but most are from more southerly counties.

White-throated Sparrows were scratching up a storm in several other yards and brush piles, and all seemed to come through just fine. Although not extremely unusual, this is the first winter in which White-throated Sparrows have been documented surviving through the entire season in our area. One group of five White-throateds occupied an area of dense brush piles and abundant weedy growth along a railroad and power line right-of-way. Spending the winter with them were two White-crowned, one Swamp, and one Lincoln's Sparrow. Dark-eyed Juncos were present all season, and American Tree Sparrows added to the mix in late winter. What a treat to have so many species of sparrows wintering together in one small area! The White-crowneds, Swamp, and Lincoln's were all winter firsts here. Lincoln's Sparrow is especially rare in Minnesota in winter, with only a few records.

Another species that came to light on our Christmas count was a male Spotted Towhee. Present in a local yard since November, it was last seen on 3 January. Towhees rarely survive winter in Minnesota, and this one was no exception. This was the second Spotted Towhee in Otter Tail County, and the first winter record. The first county record occurred in my yard in May, 1997.

In early January a male Varied Thrush appeared in the yard of MOU members Kris

and Kyle Wicklund in rural Otter Tail County. This reliable bird was seen regularly all winter.

Another documented first winter record for the county was an adult Red-headed Woodpecker. It came infrequently to a feeding station for corn, but spent most of its time in an open woodland containing numerous large, dead elms. These trees no doubt provided plenty of insects and a sheltered roost site.

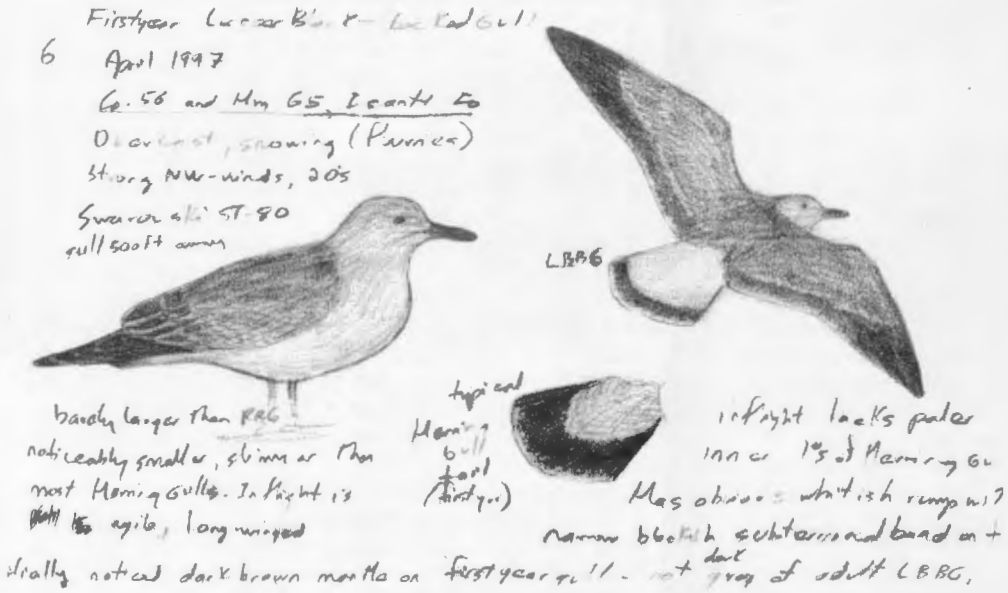
Possibly the most interesting and unusual record was an immature Black-crowned Night-Heron. In late November, MOU member Bryan Newman found this species along the river in Fergus Falls. It wasn't until 25 January that I relocated what was probably the same individual. It was subsequently seen several times, both perched and flying. One memorable sighting occurred when it perched on top of a small juniper on a brush-covered bank of the river with snow all around. Truly a bizarre winter sight! On another occasion, we canoed the river and found the heron roosting in dense brush that is only accessible by watercraft. This represents one of very few winter records for this species in the state, and probably the first for the northern half.

Instead of a handful of American Robins, we had dozens, possibly hundreds. Also present were meadowlark, Mourning Doves, and a couple of Northern Flickers. The doves may even have survived with all their toes intact!

What will the next El Niño bring? I can hardly wait. **Steve Millard, 630 W. Laurel, Fergus Falls, MN 56537.**

FIRST-YEAR LESSER BLACK-BACKED GULL IN ISANTI COUNTY — On 6 April 1997, a first-year Lesser Black-backed Gull was present in a field in Athens Township, Isanti Co., where it was observed feeding with numerous Ring-billed and a few Herring Gulls. I initially noticed this first-year gull because of the darker mantle color compared to first-year Herring Gulls also present. The mantle color was not the dark gray of typical second-year and older Lesser Black-backed Gulls, but definitely more brownish, although there may have been gray areas mixed in that were not visible to me because of the distance. The dark color of the mantle was more similar to the tertials and primaries than first-year Herring Gulls, giving much less contrast between the folded primaries, the tertials, and the mantle. In most first-spring Herring Gulls, the mantle is noticeably paler than the tertials and folded primaries, often appearing very pale grayish-white with fine mottling. In addition, the lightly streaked head of this gull contrasted noticeably with the dark brown mantle, and there was a distinct cut-off between the upper edge of the mantle and the lower neck. In most Herring Gulls, the mantle is so pale at the top that there is little contrast with the lower neck. The folded primaries were dark brownish-black.

In flight, I noticed that all the primaries and secondaries were uniformly dark, and that this bird therefore lacked the diagnostic paler inner primaries of first-year Herring Gulls. Also, in comparison to a first-year Herring Gull, the subterminal tail band was considerably thinner, slightly darker, more clean-cut, and contrasted more with the rump. The rump and basal portion of the tail were whitish. This bird looked remarkably different than a first-year Herring Gull in flight. Although this bird was larger than a Ring-billed Gull, it was noticeably smaller and slimmer than the Herring Gulls present. In flight, it was agile and long-winged. The bill was long, thin, and mostly blackish (perhaps with a slightly paler base), appearing overall smaller and darker than most first-spring Herring Gull's bills, although some first-spring Herring Gulls can show a mostly dark bill. Although this was my first sighting of a first-year Lesser Black-backed Gull, subsequent experience with young Lesser Black-backed Gulls on the East Coast completely confirmed the characters noted above.



Sketch of Lesser Black-backed Gull by Karl Bardon.

There are 29 records of Lesser Black-backed Gull in Minnesota (each individual counted as a different record), and this species has now been seen for 11 years in a row, but there are only two previous records of first-year Lesser Black-backed Gulls in Minnesota: 28 November 1987 at Grand Marais, Cook Co. (***The Loon*** 60:40–41), and 31 March – 1 April 1992 at the Shiely Gravel Pits, Washington Co. (***The Loon*** 64:127). This represents the first record from Isanti Co. **Karl Bardon, 13073 Hastings St. NE, Blaine, MN 55449.**

RUBY-THROATED HUMMINGBIRD OBSERVATIONS — On Sunday, 17 May 1998, from 6:45 to 7:45 A.M., in the backyard of the parsonage of the Lake Auburn Moravian Church in Victoria, Carver County, the following observation of a Ruby-throated Hummingbird was made:

There are four feeders in our back yard, two window-mounted and two hanging feeders. Hummingbird had been here about a week at this point. While having morning coffee and getting ready for church, my wife and I observed two male Ruby-throated Hummingbirds in a dispute over feeding territory. There were displays of the red throat patch as well as flight displays.

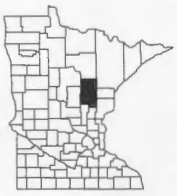
It appeared that the dominant bird was always higher than the less dominant. They would fly as well as perch in that fashion. This went on for about 40 minutes with neither bird giving in to the other.

I observed the more dominant lock talons with the other bird and beat it both with wings and beak. In that posture they fell to the ground outside our kitchen window. I went out to see if they were injured. Still locked together, they flew away a short distance, and the fight resumed over the same territory.

The next day, Monday, May 18, I observed the same aggression from my office window which faces the same territory. There is a feeder on the window of the office.

Again, they locked together and flew off, fighting. I noted this because it is a behavior and level of aggression in hummingbirds that I have not observed before. **The Rev. Franklin C. Jones, S.T.M., Pastor, 7460 Victoria Drive, Victoria MN.**

PROTHONOTARY WARBLER IN AITKIN COUNTY — On 29 August 1998, my husband, Steve, and I and Warren Nelson were birding on the north side of Mille Lacs Lake along Aitkin County Road 37 and stopped to watch warblers flying in and out of a very large oak tree approximately 60–70 feet high on the edge of the road and on the lake side of a large lawn. We saw a Prothonotary Warbler among the more than two dozen American Redstarts, seven other species of warblers, Red-eyed and Yellow-throated Vireos, Red-headed and Downy Woodpeckers and White-breasted Nuthatches. As we were walking toward the tree, the Prothonotary Warbler's brilliant yellow color first attracted our attention to it. Its movements appeared more sluggish than the other warblers and we had to watch at some length for it to appear from time to time. The dark eye was very prominent on the all golden-yellow head, the wings were blue-gray with no wingbars. A glimpse of the top of the head showed a hint of orange.



The weather was clear, temperature in the upper 70s and 5–10 mph northwest wind. When we returned to the spot from trying to contact Maurita Geertz, a Sharp-shinned Hawk flew across the road from the area of the tree and no birds could be seen. Maurita and Warren located the warbler the next morning in the same tree and were able to see some white on the undertail coverts. This white area was limited and the bird was thought to be a juvenile. Steve and I saw the warbler shortly thereafter for a few minutes until a Sharp-shinned Hawk chased a screaming Downy Woodpecker through the tree and all of the birds disappeared. Later in the day, the Prothonotary Warbler could not be relocated, but the many American Redstarts and several other warbler species had returned to the tree. The total warbler species in the same tree for the two days was 16, plus three vireo species, four woodpecker species, Least and Great Crested Flycatchers, Eastern Phoebe, Eastern Kingbird, Blue Jay, Black-capped Chickadee, White-breasted Nuthatch, Cedar Waxwing, Rose-breasted Grosbeak, Chipping Sparrow, and American Goldfinch.

There had been a good warbler movement through this area between Wealthwood and Malmo the previous week with hundreds being seen on 23 August by Warren and Bill Stauffer, and during the week by other observers. Bob Janssen's *Birds in Minnesota* states that Prothonotary Warbler is a summer resident of southeastern and east central regions along the Mississippi, Rum, Minnesota, and St. Croix Rivers, with fall migration from late July through late August. According to *County Occurrence of Minnesota Birds* (Janssen and Hertzel), there are no previous records for Aitkin County. This record would bring the Aitkin County official list to 300. **Jo Blanich, HC61 Box 46D-3, Deerwood, MN 56444.**

SAGE THRASHER IN ANOKA COUNTY — On Thursday afternoon, 1 May 1997, I stopped by the Anoka County airport in Blaine to look for Upland Sandpipers. As i turned a corner toward the south end of the airport property, a brownish bird flew up from the grass and into an adjacent willow bush. I thought that it was probably a thrush but stopped to be sure. To my surprise I saw it was a Sage Thrasher.

The bird was slimmer than a thrush with pale eyes, a relatively straight bill (for a thrasher), and light corners on the tail that showed up well when the bird was flushed. The breast was lightly marked with somewhat arrowhead-shaped spots.

I watched it for a few minutes and then left to make some calls to area birders. By about 4:00 P.M. Bob Janssen joined me and we watched together for a while as the thrasher flew from the bushes and back onto the grass. The bird stayed around for a few days, and the last time I saw it was on 4 May. **Jay Hamernick, 5894 Kitkerry, Shoreview, MN 55126.**

A CAROLINA WREN IN WINTER — I first noticed the Carolina Wren on 21 September, 1997 when it was feeding from a walnut feeder made from a birch log and wire mesh. The bird was clinging to the mesh while pecking at the nutmeats. I was so surprised because of its unique behavior and upright tail. When I stopped to watch and moved closer for a better look, it flew off into a brush pile.

During the next few weeks I would see it while I was filling my feeders or walking the dogs in the yard. It would feed at the peanut suet and nutmeat feeders and at the underside of the screen seed feeders. The weather was still mild and the bird appeared in good shape. The fact that it was singing in the yard in the mornings and afternoons suggested that it was a male.

As the weather got colder in the third week of October, I put a Peterson T-post on the ground with some mealworms in the seed groove. I purchased the mealworms at a local pet store for a very high price. I placed the mealworms in the groove and sat down in a lawn chair about twenty feet away. After a few minutes the bird came out of the nearest brush pile. He hopped around on the ground and then up on top of the log. It discovered the mealworms and ate most of them very quickly. He flitted back to the brush pile. I went back to the house and got more mealworms and filled the groove up again. This time, however, White-throated Sparrows, Northern Cardinals, Fox Sparrows, Song Sparrows, and Black-capped Chickadees ate all of the mealworms. When the wren returned to the log there weren't any worms left.

The next day I put the Peterson T-feeder back on the six-foot post, hoping that the ground feeders would not eat all of the mealworms before the wren could get them. For the next few days I filled the T-post three times a day with mealworms, but it was very difficult to deal with the snowy weather and the other bolder bird species that enjoyed feasting on the mealworms.

I looked at my copy of *Wild About Birds* to see what Carrol Henderson recommended for feeding mealworms. He suggested an enclosed blue bird feeder, so I went to the local birdseed store and bought a feeder with a plexiglas front and back. I removed the rear Plexiglas panel and, after drilling two 1-3/8 inch diameter holes, I screwed on a wooden back. I also drilled a 1-3/8 inch diameter hole in each side. The roof was hinged so it was easy to put mealworms inside the feeder. Although the ground was frozen, I was able to pound in a post to place the feeder close to the brush pile.

I had no sooner put the mealworms in the feeder and walked back to my lawn chair to sit down than the wren landed on the roof of the feeder and looked over the edge. He popped in a hole, ate several mealworms and left from a different hole with a mealworm in his beak. That evening, Red-breasted Nuthatches and chickadees also fed from the feeder.

Each day I put fresh mealworms in the feeder. There is no waste because the mealworms stay dry and if they don't get eaten one day, they will be eaten the next morning. At the rate the wren was eating I was buying mealworms by the thousands and fattening them on dry dog food in our furnace room.

In December, when the weather was dropping below zero at night, my husband made an enclosed feeder with a pyrex bowl heated with a water pipe heater tape.

Carolina Wren, 12 January 1998, Rochester, Olmsted County. Photo by Albert Kottke.

Before we put the feeder up, we tested the apparatus to see if the wren would go in the holes and would tolerate the heater cable and duct tape which held the cable against the bowl. When we placed the new feeder at a post close to the first feeder, the wren was so curious that he landed on the old feeder, hopped over to the new one, popped in a hole, and left with a mouth full of warm mealworms. The next day we moved the new feeder closer to a brush pile and two water drips. In this location, the feeder was visible from the kitchen window where I watch the birds most of the time.

During December and January I kept mealworms available at all times, replenishing the supply three times a day. The Carolina Wren fed out of both feeders but seemed to prefer the heated feeder when it was terribly cold. Some mornings when the temperature was below zero I would see him sitting in the heated bowl, eating worms from between his feet.

After Christmas my husband put a microphone up in the south yard so we could hear the Carolina Wren singing as the sun came up. He usually sang at first light, and on sunny days he also sang in the afternoon. On cloudy days he is quiet in the afternoon. Each day I saw or heard the bird singing so I was very optimistic about the his survival.

The wren survived the winter, and I am curious to see whether he will find a mate in the area and stay to raise a family. If he leaves for the summer, I am also curious to learn whether it will return to spend next winter with us. **Leslie Kottke, 801 – 9th Ave. SW, Rochester, MN 55902.**

AMERICAN COOT ROOSTS IN TREE — On 18 September 1997, around 4:00 P.M., I

took a photo of an American Coot in a small, dead American white cedar tree in Lake County. The bird was about ten feet up in the tree, though level with us because of the slope of the hill. A storm was moving in and light rain was falling at the time.

The bird was roosting on a limb close to the trunk of the tree. The tree was at the top of a step talus slope at the base of a shear cliff, 1/2 mile from Lake Superior. Steve Wilson and I disturbed the bird when we stopped to catch our breath on the climb up the slope.

American Coot, 18 September 1997, Lake County. Photo by Bob Djupstrom.

The bird clung clumsily to the branch with its toes as it repositioned itself to face away from us, walked out to the other side of the tree and the openness of the slope. As we started to talk, it moved away from the trunk and launched itself into the air, dropped from the tree, flapped furiously and took off flying down the slope about 30 to 40 yards or so to another tree canopy in which it landed.

We could only surmise that the bird was tired during its migration. With the lack of any calm, protected places to land on Lake Superior, it took refuge where it could; a north facing, sheltered cliff face with heavy vegetation. There was ample vertical height for a bird of this nature to launch itself out into the air, start flapping while dropping and begin flying when it decided to leave. **Bob Djupstrom, 3895 Cranbrook Dr., White Bear Lake, MN.**

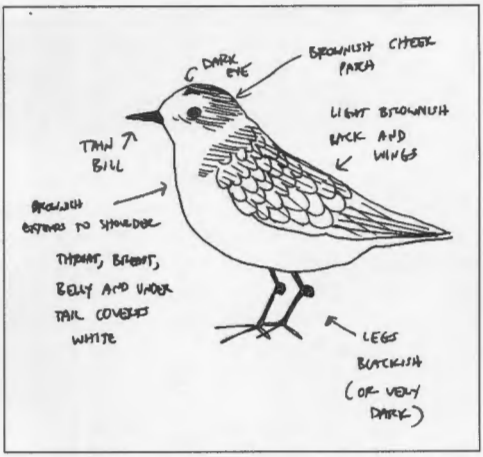
SNOWY PLOVER IN POLK COUNTY — At 8:10 P.M. on 16 August 1997, I was

scanning shorebirds at the Crookston sewage lagoons in Polk County, when I noticed a small bird in with a group of other sandpipers. This group included Killdeer (1), Semipalmated Plover, Greater Yellowlegs, Lesser Yellowlegs, Spotted Sandpiper, Least Sandpiper, Stilt Sandpiper and Red-necked Phalarope.

The bird in question was an obvious shorebird, and from its size, shape and behavior, a plover. Smaller than the nearby Semipalmated Plovers, the bird was originally viewed from the back with 8.5 X 44 binoculars. Previous experience with shorebirds at this location just prior to this observation indicated that the birds were restless and easily startled. I decided not to get out of the car and set up a scope.

In 30 minutes of observation I noted the following field marks: a small, round plover standing well away from the water. Body smaller than Semipalmated Plover; nearly neck-less; stood in an odd kind of crouch position. Small, brownish cap; light brown cheek patch extending out to slightly beneath the black eye; face, head, and neck otherwise white. There was a hint of a white collar, but the bird's unusual posture made this difficult to see. Bill very thin, blackish and longer than on Semipalmated. Throat, breast, belly and undertail white. Back and wings pale brownish,

lighter than Semipalmated but darker than what I expect for Piping Plover; back and wing feathers edged lighter. No breast band. Slight extension of brown from back blending into shoulder but stopping abruptly. Legs were dark, nearly black, and free of mud or vegetation. Moved very little; appeared sluggish. Initial identification was a juvenile Snow Plover, but after a review of the literature it appears possible that it could have been an adult female Snowy.



Sketch of Snowy Plover by Anthony Hertzel.

Snowy Plover is considered Accidental in Minnesota with only six previous records. These, according to Janssen's *Birds in Minnesota,* are 1 May 1976 in Lyon County, 24 April 1981 in Lac Qui Parle County, 11–18 July 1982 in Lake of the Woods County, 28 July 1983 in Lake of the Woods County, 30 June 1986 in Clay County and 15 May 1987 in Marshall County (see ***The Loon*** 48:115). An old sight record also exists from 16 June 1939 at Frontenac in Goodhue County, but since no written details were provided, this observation has never been accepted.

This represents the seventh record of Snowy Plover for Minnesota. **Anthony Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112.**

KING EIDER IN COOK COUNTY — While motoring along the shoreline of Lake Superior on 8 November 1997, Terry Brashear and I stopped to look and several ducks observed from the car. We first identified a few White-winged Scoters and Buffleheads, all of which appeared to be a few hundred yards out from the shore.

While I was viewing these birds through the scope, Terry spotted a duck that was much closer to the shore than the others, approximately one hundred yards out. After borrowing the scope to get a better look, he soon stated that he had a different looking duck and asked me to take a look at it. Looking through the scope I saw a large-looking diving duck that I immediately recognized as a female eider. We then both took turns examining the bird through the scope, while taking descriptive notes. Sketches of the bird were made as well.

The bird presented as a blocky-looking diving duck, colored in varying shades of chestnut brown and pale brown with small black marks or spots scattered through most of the plumage. The first noticed feature was its distinctive head and bill. The area of the crown to the nape had raised feathers which started at the bill and ran down to the back of the neck; extending down the sides of the head to the eyes and mid-neck, giving the head a very noticeable crested look. This crest stood out both in color and in relief to the face and cheeks, the cheeks being a pale reddish-brown, turning very light (buffy) in the lower area proximal to the bill and chin. The crested areas were a much darker reddish brown or chestnut color. There was a very noticeable whitish or buffy eye-ring, which appeared thicker above the eye. This eye-ring was followed by a pale line which separated the crest area from the cheeks and faded out as went down the neck. At the nape the crest stood out in a pronounced manner.

The bill was similar in shape to that of a scoter, but had an obvious extended area at the top which extended out into the crown. Where the bill met the crown the feathers appeared slightly bunched, giving the bird a sort bumped nose profile. The nostril was noted as being about midway between the tip of the bill and the back of the bill. The bill itself was grayish around the borders and appeared tan towards the center.

The breast was a pale chestnut in color, appearing lighter than the darker reddish brown of the flanks, although there was no abrupt division in color between breast and sides. The flanks appeared blotched with dark, blackish markings. These marks appeared as separated oblique angled dashes and spots, in three or more unconnected rows. When diving the bird would first extend its wings halfway out and then lunge up first before hitting the water head first. During these actions its wings could be readily observed. Dorsally they appeared dark brown on the coverts and black on the secondaries and primaries. There was a narrow white line between the coverts and the secondaries. The underside of the wings was not seen.

During initial observations the bird stayed almost in the same spot where we first sighted it. Periodically diving and moving very slowing. It was noted during this time that the bird had a generally erect posture, with its head level.

After making my initial field notes, which included sketches of the bird and observed characters, I returned to my car to get field guide material. Opening the National Geographic *Guide To The Birds Of North America* to the illustrations of eider ducks, I was struck by how much our duck resembled the female King Eider depicted in both color and shape. The shape of the head and bill matched very well to the illustrations of female King Eiders in both the Geographic and Peterson's *A field Guide to Western Birds*, although the colors shown in the Peterson guide appeared much darker than bird we were looking at off the beach. After reading Kim Eckert's description of a female King Eider in *A Birders Guide to Minnesota*, I felt secure enough to make a preliminary identification of our bird as a female King Eider.

When I returned to the beach Terry was just finishing his initial field notes and I informed him of my conclusions and rational. After comparing his field notes to the above field guides, Terry concurred that the eider we were viewing was female King Eider. We then compared field notes and found no appreciable conflicts in our observations. We continued observing the bird and taking notes, attempting find characters that would favor Common Eider. None were noted.

Realizing that a King Eider was an unusual find, at about 1:45 P.M. I drove to Grand Marais to make notification calls. Terry continued to observe the eider during my absence I returned at about 2:15 and resumed watching the eider as it dove swam and preened on the lake. During this time it was observed to come within inches of a female Common Merganser. The eider appeared to be about the length as the merganser, but was much bulkier. Terry left at about 2:30 to place more calls and I took over observing the bird. During this time the eider was approached by two White-winged Scoters and all three began to swim westward. The eider was larger in comparison to the scoters

At about 3:10 P.M. I lost sight of the bird after a dive. It was last seen a little south of Kimball Creek, not at all far from where we first encountered it. Terry returned about five minutes later but we could not relocate the bird.

Our observations were made with 8x42 Bouch & Lomb Elite binoculars, Minolta 7x35 binoculars and principally with a Kowa TSN–4 scope with 20 to 60 power zoom.

The winds were very calm, less than five mph with no noticeable chop on the lake. Temperature in mid to low 40s, no visible heat distortion. Sky: over cast, but fairly good light, sometimes bright Observations made 100 to 200 yards from shore. **Stephen J. Roman, 5335 Oxbow Pl. N., Champlin, MN 55316.**

SUMMER RECORD OF WHITE-CROWNED SPARROW — It was a beautiful summer evening — work, dinner and dishes finished. I sat down at our dining room table to do some reading. All the dining room windows were open, the songs of our usual yard birds drifting in to the house. It was then that I heard the classic "off-key" song of the White-crowned Sparrow.

White-crowned Sparrow, 25 June 1997, Warroad, Roseau County. Photo by Beth Siverhus.

These sparrows migrate through every spring in early and mid-May, and I am very familiar with their song. Walking outside, I tried to locate the sparrow, then thought it might be more effective to prompt it to locate me. Grabbing my camera and tape player, I sat in the box of our pickup truck, played the song of the White-crowned Sparrow, and waited. Within 20–30 seconds the sparrow came in chipping at me and flitting about in a balm of Gilead tree about 15 feet away. He flew back and forth between the tree, a large honeysuckle bush and an ash tree, all within 15–20 feet of where I was sitting. He was singing quite zealously. I continued to play the tape, trying to get him in position for a good photo opportunity. I took a few pictures, observing him for about an hour. This bird was unmistakably an adult male White-crowned Sparrow. He had a prominently streaked white and black crown, erect posture (really threw his head back when he sang!), yellowish bill and gray throat and breast.

On 25 June 1997, it was a fair, sunny morning and my White-crowned Sparrow friend is still in the yard, singing continuously. My work schedule allowed me to observe and photograph the bird for another hour or so. This time I sat on the front steps with a tape player and camera. He flew on to the branch of a large spruce tree, once again 10–15 feet away, and answered the bird on the tape. I heard him again when I came home at noon for lunch but by that evening, he had left the area.

I have feeders hanging from the spruce tree where he sat but at no time did I see him visit these feeders, filled with black oil sunflower seeds; also a "pigeon" mix I had thrown out on the ground just for this special visitor. **Beth Siverhus, 121 State Ave. SW, Warroad, MN 56763.**

PRAIRIE WARBLER IN GOODHUE COUNTY — We bird by ear as we ride our bikes on the Cannon River Trail, and an unfamiliar buzzy sound caught our attention as we were riding on 8 June 1997. It was singing in cedar trees beside the trail. Even though the habitat didn't seem ideal, and the song certainly wasn't part of my previous experience, I expected to find a find a Cerulean Warbler (we saw them on another part of the trail in deeper, deciduous woods every time we rode in May and June) — a Cerulean Warbler with a weird song. My husband, however, managed to see the bird, including the streaks on the side and the black lines on the face, before it flew. I caught only a brief glimpse of it, enough to be certain it wasn't a Cerulean, but not good enough to verify a Prairie Warbler.

Meanwhile, it continued its odd, buzzy song that rose (like a Cerulean) but had spaces among the buzzes, like a Cerulean with a thinner voice being strangled regularly and rhythmically.

While the bird was still singing we used a *Golden Field Guide* (lighter to carry than the *National Geographic*) and concluded that it must be a Prairie Warbler. Ergo, I decided I'd better get a good look at it. By then the bird had flown across the small ravine. So I set off into the poison ivy, crossed the ravine and scrambled up the other side where the bird was singing in another cedar tree. I saw the yellow breast and belly, the streaks on the side, the dark line through the eye, the dark crescent under the eye. I didn't see any streaking on the back (or don't remember). I watched until it flew, followed it to the next perch and watched it until it flew off and vanished. **Carole Brysky, 277 E. Morton, St. Paul, MN 55107**.

PRAIRIE WARBLER IN ANOKA COUNTY — On 18 May 1987 I observed a Prairie Warbler at Rice Creek in Fridely, Anoka County. The bird was warbler-sized with a thin, black bill and black legs. Yellow face. Black line through eye and another black line angling down and back from bill, the two lines forming an open triangle on the yellow face. Yellow underparts except for white undertail coverts and a couple of rows of black streaks along each side. At the top of these streaks a thicker black mark or double mark on each side. Crown, nape and back olive-colored. Rows of very prominent, longitudinal, chestnut stripes on the back. Tail and wings dull grayish-brown. Two faint, thin, white wingbars on each wing.

During the first observation the bird seemed to bob its tail almost constantly. An hour-and-a-half later, when I watched it over a longer period of time, I don't recall it bobbinq its tail. During the second observation it settled down and preened for five minutes or so, spreading its tall several times to show white tail spots on the outer three tail feathers. The bird sang often, a series of single, buzzy notes running upwards, transcribed as "dzub dzub dzub dzub dzoo dzoo dzoo dzoo." The song was variable and didn't seem particularly loud, although it could be heard from some distance. **Steve Carlson, 3904 Xenwood Ave. S., St. Louis Park, MN 55416.**

YELLOW-THROATED WARBLER IN DAKOTA COUNTY — On 19 May 1997, while enjoying one of my best warbler days in recent memory, I was birding in Lebanon Hills Regional Park in Apple Valley, Dakota County, when I saw a single small bird flitting around in a stand of saplings near the edge of a small wetland area on the west side of Wheaton Pond. Upon getting a good look at this bird it was obvious that I was seeing a breeding plumaged male Yellow-throated Warbler.

The following field marks were observed by me at approximately 1:00 P.M., through Minolta 10x50 binoculars with bright sunlight from behind:

1) A warbler with a dark back that appeared bluish-gray in the bright sunlight.

2) A side view of the birds right side showed two white wing bars and a dark face patch with a touch of white behind the cheek and a white line above the eye.

3) From this view I could also see the undertail coverts were white and appeared unmarked. There was bold blackish streaking running along the birds side, just under the leading edge of the wing as it was folded at rest, but it did not extend onto the belly or chest.

4) The bird did present a full frontal look as it was scanning the tree branches and I was able to see a bright yellow throat patch which was unmarked. The bottom of

the throat patch ended in a distinct edge and I could see the white chest and belly feathers clearly.

5) From this view I could also see the black streaking that ran along its side and the black streaking that edged the yellow throat patch came together to form a distinct, right angled mark on each side of the birds throat.

Subsequent attempts to relocate the bird were not successful. **Roger Everhart, Environmental Science Instructor, School of Environmental Studies, Apple Valley, MN 55124.**

SECOND-WINTER CALIFORNIA GULL IN DAKOTA COUNTY — I noticed this bird on 16 August 1997 as it stood in a large flock of gulls (approximately 100–150 individuals) at a pit near the Pine Bend landfill in Inver Grove Heights. This pit is immediately west of the landfill and gulls frequently use it as a resting area between feeding trips to the dump. The flock consisted of mostly Ring-billeds with a few Herrings and one Franklin's Gull. While I was studying the flock, I noticed this bird and decided to compare its field marks to the other species present.

It was noticeably different on first impression because of its size, coloration, and bill color. I kept wanting to believe it was a Herring Gull, but after studying it and the other Herring Gulls I saw that it wasn't quite the same. Its size was larger than a Ring-billed Gull in side by side comparison, but smaller than any of the Herring Gulls, including a juvenile/first-winter bird. The head shape was rounded, peaking at the center of the head. This shape was different from the Ring-billed and Herrings in that they seemed to peak farther back on the head. The bird's head was streaked with brownish-gray on the crown and cheeks and down the neck. The face was white on the forehead and loral areas and also under the bill on the chin and throat. This pattern set off the eye which was entirely dark. This was not a problem of light conditions, as the Ring-billeds beside it clearly showed a yellow iris.

The bill was very unique on this bird with a distinctive coloration. It was a bright fleshy-pink with a very clean and clearly marked black tip. The black was on both the upper and lower mandibles. I recall thinking at the time that it reminded me of a first year Glaucous Gull's bill. The bill was also a bit longer than the Ring-billed's and thicker, giving a heavier appearance.

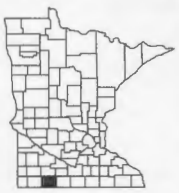
The sides of the chest of this bird were a mottled and blotchy light brownish-gray. The center of the chest was white, and this extended down to the belly. The legs were a bluish-gray. The bird's behavior consisted of standing still, walking (in profile and towards me), and at one point preening its rump and tail. During preening I could see that the tail was dark and that the rump was white with brownish-gray bars. This detail I felt was unique.

The upper parts were a mottled pattern of brownish-gray with dark flecks. The wings, lesser coverts, and median coverts continued the mottled pattern of the upper parts. The greater coverts formed a uniform gray bar. This was the grayest area of the bird. The secondaries remained hidden. The primaries were dark.

I did not have a field guide with me when I found this bird. I did have at least a half hour to study it and went over and over the bird looking for field marks and confirming in my mind what I was seeing.

When I returned home I checked a Minnesota checklist for what were the possibilities of a gull in this size range. I red descriptions of Herring, Lesser Black-backed, and California. Piecing together the field marks I concluded this was a California Gull in transition plumage between first-summer and second-winter. **Drew Smith, 3606 Widgeon Way, Eagan, MN 55123.**

GREAT-TAILED GRACKLES IN JACKSON COUNTY — In early April of 1998, there was a report of Great-tailed Grackles *(Quiscalus mexicanus)* in Dickinson County, Iowa, just south of the Minnesota state line. Accordingly, on 17 April 1998, Barb and Denny Martin and I decided to head down to Jackson County, which is adjacent to Dickinson County, to see if any Great-taileds might be there. Although our search on the 17th was unsuccessful, at sunset we did happen upon a marsh with a large number of blackbirds (mostly Yellow-headeds and Red-wingeds) which seemed to be roosting or nesting there. Because of the diminishing light conditions, we were unable to identify most of the birds present, but we were aware that Great-tailed Grackles often occurred in marshes in Iowa and Nebraska, and we decided to reinvestigate this site the next morning. This location is the northwestern part of Grover's Lake which lies on both sides of the Minnesota–Iowa state line: T101N, R36W, Section 33 (Jackson Co.) and T100N, R37W, Section 12 (Dickinson Co.).



On the morning of 18 April, we were joined by Frani Lowe, and the four of us returned to the Grover's Lake site about 7:00 A.M. Within minutes, we found our first Great-tailed Grackle on the Iowa side of the state line, and during the next couple hours we saw four to six individuals, mostly on the Iowa side, but at least two males and one female were eventually seen on the Minnesota side of the state line. The males were often singing from the marsh, as if on nesting territory, and two of the females were seen flying down into the marsh vegetation on the Iowa side as if building a nest with grassy material gathered from the lake shore. I was mostly observing the grackles through a 20X Kowa TSN–4 spotting scope, and our best view in Minnesota was at a distance of about 75–80 yards with the sun to our sides. Brief field notes were written during the observation without consulting any field guides:

"Two calls frequently heard: 1) a rising, querulous whistle; 2) a series of loud, sharp notes — 5–10 syllables. Both singing, displaying males and females with nest materials in cattail/bulrush marsh. Eye color white/yellow on both males and females. Size, especially in direct comparison with Yellow-headed Blackbirds, much larger (thicker) body and length. Brownish, rusty color on throat/breast area of females — unlike Common Grackle. Tail length and shape clearly longer and larger than any Common Grackle. Flat-headed profile. Display: heads thrown back all the way with bills pointed to rear. Uniform, glossy, purplish iridescence of males; no bronzy back color contrast."

These birds clearly were not Common Grackles *(Q. quiscula)*, and the remote possibility of these birds being Boat-tailed Grackles *(Q. major)* is precluded by the vocalizations described above which are not given by Boat-taileds. Also, there is no precedence for vagrant Boat-taileds wandering this far out of range, quite unlike Great-taileds which have been spreading north in recent years and which are now firmly established at several nearby locations in western Iowa and eastern Nebraska.

Several other observers were able to relocate these grackles at this same Grover's Lake location into May on both sides of the state line. No one, however, apparently observed any nest building on the Minnesota side, and it is not known if the nest building we observed in Iowa was ever completed or if eggs or young were ever seen. This site is the most northerly location in North America where Great-tailed Grackles have at least attempted to nest, and it is only a matter of time before Minnesota has its first nesting record. This Great-tailed Grackle record is only the third for Minnesota, with the previous records in Dakota County in June of 1982 (***The Loon*** 55:83–84) and in Rice County in April of 1993 (***The Loon*** 65:148–150). **Kim Eckert, 8255 Congdon Blvd., Duluth, MN 55804.**

In This Issue

Purpose of the M.O.U.

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 to promote the preservation of birdlife and its natural habitat.

To carry out these aims, we: publish a journal, ***The Loon***, and a newsletter, *Minnesota Birding;* conduct field trips; encourage and sponsor the preservation of natural areas; and hold seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from members, affiliated clubs and special gifts. The MOU wishes to point out 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*** welcome submissions of articles, "Notes of Interest" and color or black & white photographs. Submissions should be typed, double-spaced and single-sided. Notes of Interest should be less than two pages. Photographs should be 5"x7". Whenever possible, please include a copy of your submission in any standard format on any 3 ½ inch computer disk.

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

printed on recycled paper

The Loon

WINTER 1998–99
VOLUME 70 – NUMBER 4

The Loon, Minnesota's journal of birds, is published four times a year by the **Minnesota Ornithologists' Union**, the statewide bird club. Anyone interested may join. All members receive our two publications: ***The Loon*** and *Minnesota Birding.*

MOU PERMANENT ADDRESS:
J.F. Bell Museum of Natural History
10 Church Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455–0104

EDITOR OF *The Loon:*
Anthony X. Hertzel, 8461 Pleasant View Drive, Mounds View, MN 55112. Published quarterly.

ASSOCIATE EDITORS OF *The Loon:*
Karl Bardon, Kim Eckert, Bruce Fall, Robert B. Janssen, Fred Lesher, Warren Nelson, Peder Svingen, Harrison Tordoff, Nancy Weber.

EDITOR OF *Minnesota Birding:*
Jim Williams, 5239 Cranberry Lane, Webster, WI 54893. Published bi-monthly.

MEMBERSHIPS:
Yearly donations to join the MOU: Single: $20; Youth (through age 17) $15; Family $30; Supporting $50; Life $400. Canadian and Foreign Subscriptions $25. Also available are back issues of ***The Loon*** ($4 each ppd.) and checklists of Minnesota birds (minimum lots of 20 for $10 ppd.).

MINNESOTA BIRD REPORTS:
Statewide 612-780-8890
Duluth 218-525-5952

MOU E-MAIL ADDRESS:
mou@biosci.cbs.umn.edu

MOU INTERNET WEB SITE:
http://biosci.cbs.umn.edu/~mou

ISSN 0024–645X

Minnesota's First Harlequin Duck

Walter Breckenridge

Editor's Note: Dr. Breckenridge is Minnesota's most senior ornithologist and a nationally respected wildlife artist. He generously gave permission to reprint several of his paintings in this issue and also contributed a few short remembrances of his early days in Minnesota. Now in his 96th year, retired, and living in Minneapolis, he remains active in the birding community and continues to paint. This issue is dedicated to him.

On 10 April 1932, my roommate, John Turner and I were driving along the highway which parallels the North Shore of Lake Superior. We made frequent stops scanning the lake for any interesting ducks, gulls, terns, or other water birds that might be attracted by the huge expanse of water. Almost every bay had a fisherman's cabin with a sturdy rowboat pulled up on the shore, or perhaps still in action by their owners setting out nets for tulleby or other small lake fish.

On one particular bay we spotted several ducks we had assumed would be American Goldeneyes or possibly an Oldsquaw or two. One bird proved puzzling, however, and we sat down steadying our binoculars on our knees for better views.

It was a neutral brownish gray bird with an odd pattern of light spots about the head. A couple of species of scoters have light head markings but the arrangement appeared different on this bird. After checking our field guides we decided, without doubt, that this must be a female Harlequin Duck — a western species that had never been reported in Minnesota. We had no telescopic lenses for possible photography to provide proof of our observations and furthermore an actual specimen would be a valuable addition to the Museum's collections.

So we made plans to collect the bird with my 16 gauge shotgun which I carried just in case something rare, such as this, might come along. As a staff member of the Minnesota Museum of Natural History (now the J.F. Bell Museum), I had both state and federal collecting permits.

The situation looked favorable for collecting the bird since the mouth of the bay leading out to the big water of the lake was narrow enough for a shot if it should try to swim out. If we alarmed the bird it could easily fly out if it chose to do so. Hoping for success, we contacted the fisherman who agreed to let us use his small rowboat to enable John to attempt to herd the bird out into the lake without forcing it to take flight. In the meantime, I stationed myself in the narrow passage into the lake. As soon as I was properly concealed, I signaled John to begin rowing the boat slowly toward the duck. Fortunately, the bird was not seriously disturbed and simply began avoiding the boat by circling about in the bay. John persisted, however, and gradually the bird became convinced that it should swim out of its quiet little bay for the safer waters of the big lake. But it made the mistake of cruising too near to my point of land and I succeeded in making a clean kill of the duck.

I realized that it was not sportsmanlike to shoot a duck while it was sitting on the water but this was not a sporting event but a serious attempt to secure a valuable specimen for the Museum's scientific collections. So I felt justified in taking it in this manner. On bringing the specimen to the Museum later, I remember well that this was the first bird I ever delivered to my mentor, Dr. Roberts, that he did not immediately identify. **5800 St. Croix Ave. N. #511, Minneapolis, MN 55422.**

A Standard Method for Monitoring Songbird Populations in the Great Lakes Region

Robert W. Howe[1], Gerald J. Niemi[2], Stephen J. Lewis[3], and Daniel A. Welsh[4]

(Reprinted with permission from the Wisconsin Society for Ornithology. Originally published essentially in this form in the *Passenger Pigeon* 59(3):183–194.)

Introduction

More than one hundred scientific papers and several recent books (Ralph and Scott 1980, Koskimies *et al.* 1991, Bibby *et al.* 1992, Ralph *et al.* 1993, Ralph *et al.* 1995, Hamel *et al.* 1996) have addressed methods for sampling bird populations. Several standard procedures have been described and are widely used today. Kendeigh (1944) and Van Velzen (1972), for example, outlined "spot-map" methods for estimating breeding bird densities in local areas. Robbins (Robbins *et al.* 1986) introduced a more extensive method for monitoring bird populations; this procedure (a series of fifty three-minute roadside counts) has become the foundation for the North American Breeding Bird Survey, one of the most successful standardized bird monitoring programs in the world (Robbins *et al.* 1986, Peterjohn *et al.* 1995, Price *et al.* 1995).

Blondel *et al.* (1981) and Reynolds *et al.* (1980) described a rigorous method for sampling birds at a single point. Point counts are effective for sampling birds in specific habitats and at a given locality over a period of time. This method is particularly desirable because it is simple, quantitative, and requires relatively few subjective decisions by the observer, especially compared to the spot-map method. In an unlimited-radius point count, the observer simply counts all birds seen and heard from a given point during a fixed period of time. Because this procedure can be followed precisely at other times or at other places, unlimited-radius point counts are ideal for comparative studies. The North American Breeding Bird Survey employs short duration (three-minute) point counts; longer counts are desirable if one is interested in specific habitats or localities, because many resident species are not detected during three-minute counts (Buskirk and McDonald 1995, Dawson *et al.* 1995, Petit *et al.* 1995).

Recently, Ralph *et al.* (1995) formulated general standards for point counts based on contributions by numerous researchers. These standards include recommendations about count duration, spacing of census points, and other issues. Although these standards offer considerable detail, several elements are left to the discretion of the observer. Most importantly, count duration can be either five or ten minutes, depending on the travel time between points.

The purpose of this paper is to describe a very specific, standardized protocol for counting songbirds and other small diurnal bird species in the Great Lakes Region of northeastern North America and adjacent Canada. We follow the recommendations of Ralph *et al.* (1995), with several modifications to provide explicit directions for biologists in this region. We recognize that every method is burdened by problems or trade-offs (Mayfield 1981, Johnson 1995), but numerous benefits are gained by es-

tablishing a single, standardized method. Experience has shown that large sample sizes over broad geographic areas (and over long time periods) provide valuable information about bird populations, with equally valuable implications for conservation (Howe *et al.* 1996). Such data bases are possible when results from several or many sources can be combined.

The method described below is appropriate for many practical applications. We are particularly interested in establishing a standard for monitoring birds in forested habitats, but the methods also can be applied to other environments. Our primary goal is to provide guidelines for managers of public and private forests, parks, wildlife refuges, and nature reserves. We assume that long term monitoring of larger areas (e.g., states, ecoregions, continents) will be provided by the North American Breeding Bird Survey (Sauer and Droege 1996). More intensive studies at a local scale can provide complementary information about bird-habitat associations, site-specific population fluctuations, and landscape-specific distribution patterns. A standard method will help biologists design local studies and will facilitate the development of more extensive regional databases.

The method described below represents a variation of the standards proposed by Ralph *et al.* (1995). Specific details were developed during a series of workshops organized by Gerald Niemi at the Natural Resources Research Institute at the University of Minnesota-Duluth during 1992–94. Participants included biologists from academic institutions, public agencies, conservation organizations, and private consulting companies.

Standard Point Count Protocol

1. The standard method for sampling birds is an unlimited-radius, ten-minute point count. All birds seen or heard from a specific point are recorded during a ten minute period by a qualified observer.
2. A standard form with map (Figure 1) should be used to record data. This form requires the observer to estimate where each bird was *first encountered* (less than 50 m, 50–100 m, greater than 100 m) and when each bird was first encountered (during the first three minutes, next two minutes, or last five minutes of the census period). These details facilitate comparisons with other studies.
3. Birds flying over and not actively using the count area should be recorded separately as "flyovers." Forest raptors, swallows, and other species which are or appear to be hunting over the count area should be included with the main list of species (i.e., they should not be recorded as flyovers).
4. Whenever possible, sex and age (adult vs. juvenile) of each bird should be recorded. In particular, juvenile birds (e.g., recent fledglings) should be distinguished from adults in order to estimate the number of breeding pairs in the area.
5. Time of day, weather conditions, and exact locality in latitude/longitude or UTM coordinates, preferably determined from a global positioning system (GPS), should be recorded for each count locality.

Site Selection

1. Points should be located at least 250 m apart.
2. If habitat associations are an objective of the study, points should be located at least 125 m within the target habitat type. If habitat associations are not a major aim of the study, then points should be selected randomly within the area of interest.
3. Randomization can be achieved by identifying a list of potential sites, stratified (e.g., within subregions) or constrained (e.g., along roads) according to the objectives of the study. Point count localities subsequently should be selected randomly from the list of potential sites. If time is a major limitation, then a geographically stratified procedure can be employed which minimizes the time required to

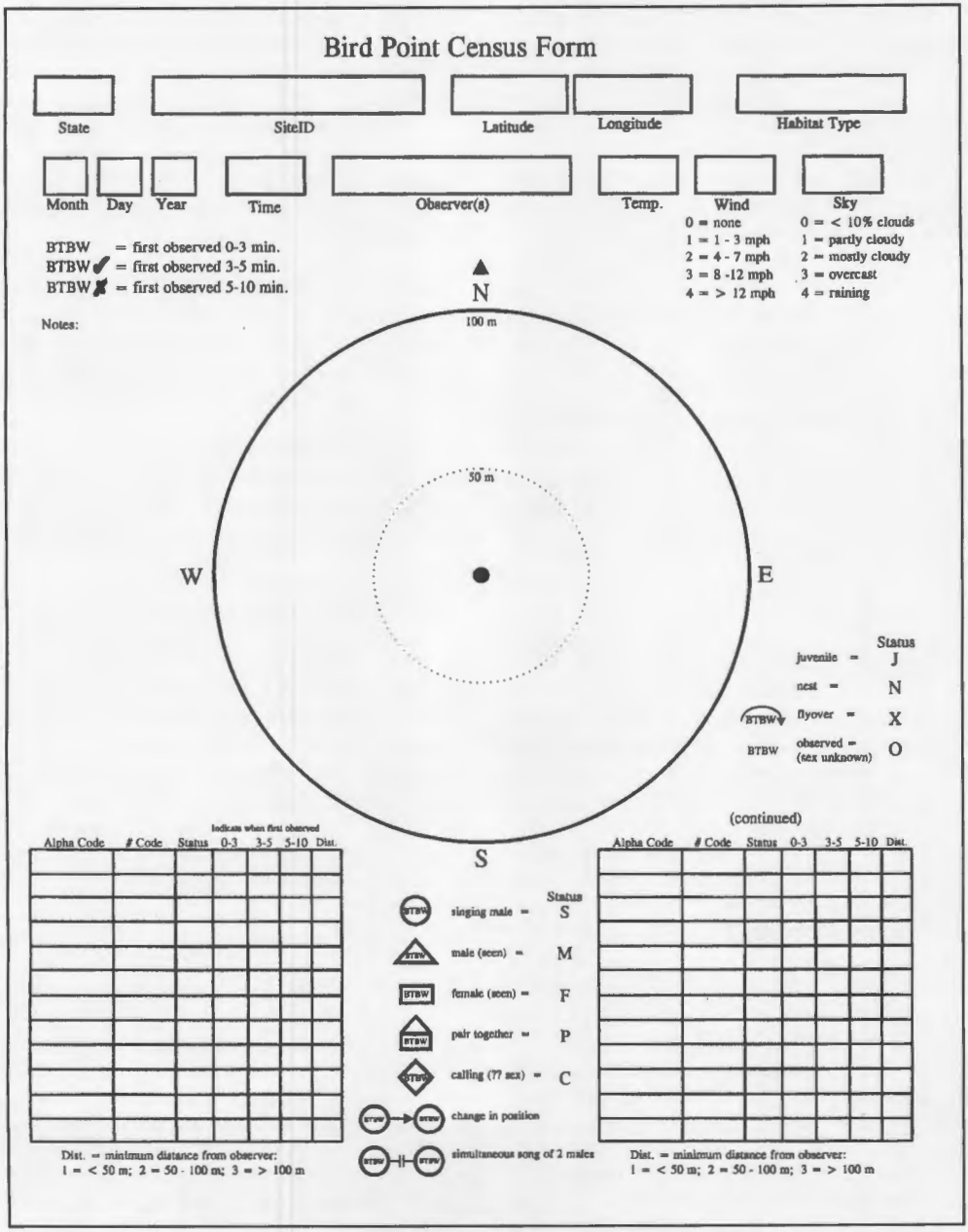


Figure 1. Sample data form for ten minute point counts. Although distance estimates are optional, observers are encouraged to estimate in which concentric circle (0–50 m=1; 50–100 m=2; >100 m=3) each bird is believed to occur. If many birds are present, field observations should be recorded on map and later transcribed to tables below (including #Code for each species, etc.)

go from one point to another (see Hanowski and Niemi 1994).

4. Because of the inherent variability among bird counts (even at the same point over time) a large sample size is required to provide meaningful results. A single observer can complete approximately 7–15 point counts in a single morning. Comparisons among areas or years will require a minimum sample size of 20–50 points, depending on the species or variable of interest. Much larger sample sizes will be needed if the study area is large and heterogeneous. Detailed comparisons among habitats and analysis of uncommon or rare species require hundreds of samples. A general rule of thumb is the following: the more variation among samples within groups (e.g., habitats) that are being compared, the larger will be the sample size needed to compare groups (Hamel *et al.* 1996).

Census Schedule

1. During the breeding season, counts should be conducted between one hour before sunrise and 9:30 A.M.
2. Unless short-term changes are an objective of the study, or if an objective is to thoroughly sample a specific area, each site should be visited only once during a given season, leaving more time to sample additional points. In other words, the site selection strategy should maximize the number of geographically distinct points sampled during a given year.
3. Counts should not be conducted when it is raining, during heavy fog, or when steady winds exceed 11–12 km/hr. As a rule of thumb, counting should be discontinued if an observer determines that conditions cause loss of detection of 10% or more of the birds present in the count area (Ralph *et al.* 1995).
4. Breeding season counts should be conducted no earlier than 1 June and should be completed no later than 15 July. However, if spring phenology is delayed or accelerated, slight adjustments to these dates may be acceptable.

Data Management

1. Data should be organized in a computerized database (e.g., Paradox), with each species at a single point representing a separate record or row.
2. Each record (Figure 2) should include the standardized 4-letter species code (Appendix), the corresponding numeric code (for error checking), the type of observation (singing male, female, juvenile, flyover, etc.), the number of individuals *first observed* during each time interval (0–3 minutes, 3–5 minutes, 5–10 minutes), and (optionally) the minimum distance from the observer (less than 50 m, 50–100 m, greater than 100 m).
3. A separate database (Figure 3) should be established to describe site characteristics (locality, habitat type, etc.). Additional databases can identify more detailed characteristics of each site (tree species composition, average canopy height, etc.) and characteristics of each species (e.g., common and scientific name, guild membership, etc.). Information can be shared among data bases as long as they are linked by one or more common data fields (e.g., site number and date, species code).

Habitat Description

A description of the habitat within 100 m of the census point should be recorded (Figure 4). Sampling efficiency can be maximized by recording habitat information after 9:30 A.M. or after the main avian nesting season (e.g., after mid-July). Minimum elements of the description include the following:

1. Habitat type(s) within 100 m according to a general scheme (Wisconsin Society for Ornithology 1995) or some other classification system relevant to the study (e.g., U.S. Forest Service *stand type*).

Figure 2. Database structure for recording point count results, with example from a sample count. Codes are described in Figure 1 and Appendix. Note that the nesting pair (P) of Golden-crowned Kinglets (GCKI) represents 2 individuals (= # Indiv.).

Site ID	Year	Date	Species Code	Species#	Status	0-3 min.	3-5 min.	5-10 min.	#Indiv.	Min. distance
308	1997	06/12/97	WIWR	7220	S	1		1	2	2
308	1997	06/12/97	REVI	6240	S	2	1		3	2
308	1997	06/12/97	REVI	6240	S	1			1	1
308	1997	06/12/97	BLBW	6620	M	1			1	1
308	1997	06/12/97	BLBW	6620	F	1			1	1
308	1997	06/12/97	GCKI	7480	P	1			2	1
308	1997	06/12/97	NAWA	6450	S		1		1	2
308	1997	06/12/97	CORA	4860	O	2			2	3
308	1997	06/12/97	GRAJ	4840	J	1	2		3	1

Figure 3. Data base structure for recording site details and conditions, with example from several sample point counts. Note that this data base can be related to the data base in Figure 2 by the common fields SiteID and Date. Latitude and longitude create an additional link to large scale GIS data bases. Habitat types are taken from Wisconsin Society for Ornithology (1995). For example, FLMs = Forested Lowland, Mixed conifer/hardwood, spruce dominated.

SiteID	Date	Observer	Time	Temp.	Wind	Sky	Habitat	Lat.	Long.
308	06/12/97	RWH	0611	56	0	1	FLMs	450736	882245
401	06/11/97	RWH	0648	58	0	1	SLMc	450713	881541
409	06/11/97	RWH	0713	61	1	1	SLCn	450722	881601
812	06/13/97	GJN	0601	72	2	0	FUHa	441230	891930
813	06/13/97	GJN	0638	72	2	0	FLHn	441256	891921

2. Dominant tree species (up to five) and their respective % cover.
3. Dominant shrub/sapling species and their respective % cover.
4. Tree density (# trees / 10 m radius).
5. Average canopy/vegetation height.
6. Average % cover of high canopy trees (dbh greater than 2.5 cm).
7. Average % cover of deciduous trees (relative to total canopy cover).
8. Average % cover of sub-canopy trees (dbh greater than 2.5 cm).
9. Average % cover of deciduous tree in sub-canopy (relative to total sub-canopy cover).
10. Average % cover of understory shrubs/saplings (dbh less than 2.5 cm).
11. Average % cover of deciduous shrubs/saplings.
12. Average % cover of non-woody ground vegetation.
13. Topography (flat, rolling, hillside, etc.).
14. Habitat heterogeneity (subjective scale).
15. Distance to road/opening.
16. Special features (rock outcrop, pond, grassy opening, etc.)

Estimation of habitat variables can be facilitated by measuring or estimating

Point Census Habitat Description

(Estimate habitat characteristics w/in 100 m of point)

State	SiteID	Year	Date	Habitat Type*

*see Wisconsin Society for Ornithology 1995 (Breeding Bird Atlas Handbook)

Topography	Aspect	Habitat Heterogeneity	Distance to Road/Opening	Road/Opening type
			1.	1.
			2.	2.

1 = flat lowland
2 = flat ridgetop
3 = gently rolling
4 = moderate slope
5 = steep slope

N = 1
S = 5
E = 4
W = 3

1 = uniform habitat type
2 = dominant habitat > 75%
3 = mixed 2 habitat types
4 = mixed 3 habitat types
5 = mixed > 3 habitat types

1 = logging road / trail
2 = gravel road
3 = secondary blacktop
4 = primary blacktop
5 = lake/river
6 = clearing

Tree Density (w/in 10 m radius)					Average Canopy Height
none	< 5 trees	6-20 trees	21-40 trees	> 40 trees	

Estimate w/in 10 m and adjust to reflect 100 m radius

If scattered trees, estimate average height of trees only

Layer	% cover	% deciduous
High canopy		
Sub-canopy		
Shrub/sapling		
Ground (non-woody)		**********

% deciduous = % of total cover (not % of area)

Special Features (w/in 100 m)			
1. pond		5. large opening(s)	
2. stream		6. snags	
3. open wetland		7. large downed logs	
4. small opening(s)		8. rock outcrop	

other feature(s):

Tree Species (> 2.5 cm dbh)	% Cover

Shrub/Sapling Species	% Cover

Figure 4. Sample Data form for habitat measurements.

within ten m and adjusting the result (up or down) to best represent the larger 100 m radius. More detailed vegetation sampling methods can be found in James and Shugart (1970).

Discussion

Additional details and recommendations can be found in Ralph *et al.* (1993, 1995). Our proposed method departs from the national recommendations by

advocating a ten-minute rather than a five-minute count. (The method of recording, however, enables five-minute or three-minute counts to be derived from the ten minute total.) Experience has shown that ten-minute counts yield significantly fewer zero values for species of interest and provide a more representative (although still incomplete) picture of birds using a local area. This consideration becomes important for uncommon species, which comprise the majority of species occurring in any region (Howe *et al.* 1996).

In the design of a sampling scheme, the objectives of the study must be clearly identified. These objectives will dictate choices among alternative strategies, such as the allocation of sampling points among habitat types, the number of points, etc. Randomized selection of sites must be given careful attention. One should avoid selecting sites because of desirable characteristics (e.g., nice trees, easy access), unless the area is of specific interest for the study's objectives. Any site selection procedure that does not include a random selection of sampling points from a larger pool of points will be perceived as potentially biased and violates a basic assumption of statistics. When in doubt about sampling design, consult a person who is experienced in statistical analysis or experimental design.

If the study seeks to relate bird observations to habitat information or to estimate bird densities directly, distances between birds and the census point should be recorded. Researchers should be aware, however, that estimation of distances (especially beyond 25 m) is very difficult even for experienced observers. Most forest songbirds move over relatively large areas (greater than 1 ha), and observations during a point count represent only a brief snapshot of the birds using the local habitat.

No single sampling strategy is optimal for all circumstances. The method described here, for example, is not adequate for raptors and many waterbirds. By standardizing the point count method, however, observers establish opportunities for comparisons with other local, habitat-based bird surveys (e.g., references in Ralph *et al.* 1995). Studies conducted in small geographic areas (where sample size is necessarily limited) can be analyzed in the context of other studies using the same, standardized method. Researchers in the Great Lakes Region have begun to compile an extensive regional database that is widely accessible and archived for long term studies. Information about contributing to and using this database can be obtained through the authors or from the Natural Resources Research Institute worldwide web site. Collaborative data analysis will help promote large scale and efficient strategies for the conservation of Great Lakes bird populations.

Acknowledgments

Funding for development of a regional bird database has been provided by the Great Lakes Protection Fund. Other important sources of funding or support to the authors during the development of a standard point count protocol include the U.S. Forest Service, U.S. Fish and Wildlife Service, Canadian Wildlife Service, Wisconsin Department of Natural Resources, University of Minnesota–Duluth, University of Wisconsin-Green Bay, and the Minnesota State Legislature, as recommended by the Legislative Commission on Minnesota Resources. We especially acknowledge the contributions of participants in the two workshops held in Duluth during 1992 and 1994. The habitat classification scheme used by the Wisconsin Breeding Bird Atlas and recommended here was developed by Michael Mossman of the Wisconsin Department of Natural Resources. This is contribution number 223 of the Center for Water and the Environment, Natural Resources Research Institute, University of Minnesota.

Literature Cited

Bibby, C.J., N.D. Burgess, and D.A. Hill. 1992. Bird census techniques. Academic Press, London.

Blondel, J., C. Ferry, and B. Frochet.

1981. Point counts with unlimited distance. Pp. 414–420 *in* Ralph, C.J. and J. M. Scott (eds.), Estimating numbers of terrestrial birds. Studies in Avian Biology 6.

Hamel, P.B., W.P. Smith, D.J. Twedt, J.R. Woehr, E. Morris, R.B. Hamilton, and R.J. Cooper. 1996. A land manager's guide to point counts of birds in the Southeast. Gen. Tech. Rep. 50–120. USDA Forest Service. 39 pp.

Hanowski, J.M. and G.J. Niemi. 1995. Experimental design considerations for establishing an off-road, habitat-specific bird monitoring program using point counts. Pp. 145–150 *in* Ralph, C.J., J.R. Sauer, and S. Droege (eds.), Monitoring bird Populations by point counts. Gen. Tech. Rep. PSW–GTR–149. Pacific Southwest Research Station, USDA Forest Service, Albany, CA. 187 pp.

Howe, R.W., G.J. Niemi, and J.R. Probst. 1996. Management of western Great Lakes forests for the conservation of Neotropical migratory birds. Pp. 144–167 *in* Thompson, III, F.R. (ed.), Management of Midwestern landscapes for the conservation of Neotropical migratory birds. North Central Forest Experiment Station General Technical Report NC–187. USDA Forest Service, St. Paul, MN.

James, F.C. and H.H. Shugart. 1970. A quantitative method of habitat description. Audubon Field Notes 24:727–736.

Johnson, D.H. 1995. Point counts of birds: what are we estimating? Pp. 117–124 *in* Ralph, C.J., J.R. Sauer, and S. Droege (eds.), Monitoring bird populations by point counts. Gen. Tech. Rep. PSW–GTR–149. Pacific Southwest Research Station, USDA Forest Service, Albany, CA. 187 pp.

Kendeigh, S.C. 1944. Measurement of bird populations. Ecological Monographs 14:67–106.

Koskimies, P. and R.A. Vaisanen. 1991. Monitoring bird populations. Zoological Museum, Finnish Museum of Natural History. University of Helsinki, Helsinki, Finland. 145 pp.

Mayfield, H.F. 1981. Problems in estimating population sizes through counts of singing males. Pp. 220–224 *in* Ralph, C.J. and J. M. Scott (eds.), Estimating numbers of terrestrial birds. Studies in Avian Biology 6.

Peterjohn, B.G., J.R. Sauer, and C.S. Robbins. 1995. Population trends from the North American Breeding Bird Survey. pp. 3–39 *in* Martin T.E., and D.M. Finch (eds.), Ecology and management of Neotropical migratory birds. Oxford University Press, New York. 489 pp.

Price, J., S. Droege, and A. Price. 1995. The summer atlas of North American birds. Academic Press, New York. 364 pp.

Ralph, C.J., G.R. Geupel, P. Pyle, T.E. Martin, and D.F. DeSante. 1993. Handbook of field methods for monitoring landbirds. U.S. Forest Service Gen. Tech. Rep. PSW–GTR–144. 41 pp.

Ralph, C.J., J.R. Sauer, and S. Droege (eds.). 1995. Monitoring bird populations by point counts. Gen. Tech. Rep. PSW–GTR–149. Pacific Southwest Research Station, USDA Forest Service, Albany, CA. 187 pp.

Ralph, C.J. and J. M. Scott (eds.). 1981. Estimating numbers of terrestrial birds. Studies in Avian Biology 6.

Reynolds, R.T., J.M. Scott, and R.A. Nussbaum. 1980. A variable circular-plot method for estimating bird numbers. Condor 82:309–313.

Robbins, C.S., D. Bystrak, and P.H. Geissler. 1986. The breeding bird survey: Its first fifteen years, 1965–1979. U.S. Fish and Wildlife Service, Resource Publication 157.

Sauer, J.R., and S. Droege. 1990. Survey designs and statistical methods for the estimation of avian population trends. U.S. Fish and Wildlife Service Biological Report 90(1).

U.S. Fish and Wildlife Service. 1994. Nongame bird population monitoring on National Wildlife Refuge System lands. Notice ARW/MBRB, Ft. Snelling, MN, April 1.

Van Velzen, W.T. 1972. Breeding-bird census instructions. American Birds

26(6):1007–1009.

Wisconsin Society for Ornithology. 1995. Wisconsin breeding bird atlas handbook. (Available through 1999 from Bettie Harriman, WBBA Director, 5188 Bittersweet Lane, Oshkosh, WI 54901. Also available on the internet at www.richter@uwgb.edu.)

Appendix. Standard alphabetic and numeric codes for common bird species of the western Great Lakes region. Codes are taken or derived from *North American Bird Banding Manual* (Environment Canada, Canadian Wildlife Service, US Fish and Wildlife Service, 1991).

Name	Species	Code	Name	Species	Code
Alder Flycatcher	ALFL	4661	Common Goldeneye	COGO	1510
American Bittern	AMBI	1900	Common Grackle	COGR	5110
American Black Duck	ABDU	1330	Common Loon	COLO	0070
American Coot	AMCO	2210	Common Merganser	COME	1290
American Crow	AMCR	4880	Common Nighthawk	CONI	4200
American Goldfinch	AMGO	5290	Common Raven	CORA	4860
American Green-winged Teal	AGWT	1390	Common Snipe	COSN	2300
American Kestrel	AMKE	3600	Common Yellowthroat	COYE	6810
American Redstart	AMRE	6870	Connecticut Warbler	CONW	6780
American Robin	AMRO	7610	Cooper's Hawk	COHA	3330
American Wigeon	AMWI	1370	Dickcissel	DICK	6040
American Woodcock	AMWO	2280	Double-crested Cormorant	DCCO	1200
Bald Eagle	BAEA	3520	Downy Woodpecker	DOWO	3940
Baltimore Oriole	BAOR	5070	Eastern Bluebird	EABL	7660
Barn Swallow	BARS	6130	Eastern Kingbird	EAKI	4440
Barred Owl	BAOW	3680	Eastern Meadowlark	EAME	5010
Bay-breasted Warbler	BBWA	6600	Eastern Phoebe	EAPH	4560
Belted Kingfisher	BEKI	3900	Eastern Screech-Owl	EASO	3730
Black-and-white Warbler	BAWW	6360	Eastern Wood-Pewee	EAWP	4610
Black-billed Cuckoo	BBCU	3880	European Starling	EUST	4930
Black-capped Chickadee	BCCH	7350	Evening Grosbeak	EVGR	5140
Black-crowned Night-Heron	BCNH	2020	Field Sparrow	FISP	5630
Black Tern	BLTE	0070	Golden-crowned Kinglet	GCKI	7480
Black-throated Blue Warbler	BTBW	6540	Golden-winged Warbler	GWWA	6420
Black-throated Green Warbler	BTNW	6670	Grasshopper Sparrow	GRSP	5460
Blackburnian Warbler	BLBW	6620	Gray Catbird	GRCA	7040
Blackpoll Warbler	BLPW	6610	Gray Jay	GRAJ	4840
Blue Jay	BLJA	4770	Great Blue Heron	GTBH	1940
Blue-winged Teal	BWTE	1400	Great Crested Flycatcher	GCFL	4520
Blue-winged Warbler	BWWA	6410	Great Horned Owl	GHOW	3750
Bobolink	BOBO	4940	Green-backed Heron	GNBH	2010
Boreal Chickadee	BOCH	7400	Hairy Woodpecker	HAWO	3930
Brewer's Blackbird	BRBL	5100	Hermit Thrush	HETH	7590
Broad-winged Hawk	BWHA	3430	Herring Gull	HERG	0510
Brown Creeper	BRCR	7260	Hooded Merganser	HOME	1310
Brown Thrasher	BRTH	7050	Horned Lark	HOLA	4740
Brown-headed Cowbird	BHCO	4950	House Finch	HOFI	5190
Canada Goose	CAGO	1720	House Sparrow	HOSP	6882
Canada Warbler	CAWA	6860	House Wren	HOWR	7210
Cape May Warbler	CMWA	6500	Indigo Bunting	INBU	5980
Cedar Waxwing	CEDW	6190	Killdeer	KILL	2730
Cerulean Warbler	CERW	6580	Least Bittern	LEBI	1910
Chestnut-sided Warbler	CSWA	6590	Least Flycatcher	LEFL	4670
Chimney Swift	CHSW	4230	LeConte's Sparrow	LCSP	5480
Chipping Sparrow	CHSP	5600	Lesser Scaup	LESC	1490
Clay-colored Sparrow	CCSP	5610	Lincoln's Sparrow	LISP	5830
Cliff Swallow	CLSW	6120	Long-eared Owl	LEOW	3660

Name	Species	Code	Name	Species	Code
Magnolia Warbler	MAWA	6570	Swainson's Thrush	SWTH	7580
Mallard	MALL	1320	Swamp Sparrow	SWSP	5840
Marsh Wren	MAWR	7250	Tennessee Warbler	TEWA	6470
Merlin	MERL	3570	Tree Swallow	TRES	6140
Mourning Dove	MODO	3160	Turkey Vulture	TUVU	3250
Mourning Warbler	MOWA	6790	Trumpeter Swan	TRUS	1810
Nashville Warbler	NAWA	6450	Unidentified Blackbird	UNBL	4999
Northern (Baltimore) Oriole	BAOR	5070	Unidentified Corvid	UNCR	4899
Northern Cardinal	NOCA	5930	Unidentified Cuckoo	UNCU	3889
Northern Goshawk	NOGO	3340	Unidentified Duck	UNDU	1399
Northern Harrier	NOHA	3310	Unidentified Finch	UNFI	5199
Northern Parula	NOPA	6480	Unidentified Flycatcher	UNFL	4599
Northern Rough-winged Swallow	RWSW	6170	Unidentified Hawk	UNHA	3499
Northern Saw-whet Owl	NSWO	3720	Unidentified Jay	UNJA	4799
Northern Waterthrush	NOWA	6750	Unidentified Meadowlark	UNME	5099
Olive-sided Flycatcher	OSFL	4590	Unidentified Nuthatch	UNNU	7299
Osprey	OSPR	3640	Unidentified Owl	UNOW	3799
Ovenbird	OVEN	6740	Unidentified Sparrow	UNSP	5599
Palm Warbler (Western)	WPWA	6720	Unidentified Species	UNID	9999
Philadelphia Vireo	PHVI	6260	Unidentified Swallow	UNSW	6179
Pied-billed Grebe	PBGR	0060	Unidentified Thrush	UNTH	7599
Pileated Woodpecker	PIWO	4050	Unidentified Vireo	UNVI	6299
Pine Siskin	PISI	5330	Unidentified Warbler	UNWA	6399
Pine Warbler	PIWA	6710	Unidentified Woodpecker	UNWO	3999
Purple Finch	PUFI	5170	Upland Sandpiper	UPSA	2610
Purple Martin	PUMA	6110	Veery	VEER	7560
Red-bellied Woodpecker	RBWO	4090	Vesper Sparrow	VESP	5400
Red-breasted Nuthatch	RBNU	7280	Virginia Rail	VIRA	2120
Red Crossbill	RECR	5210	Warbling Vireo	WAVI	6270
Red-eyed Vireo	REVI	6240	Western Kingbird	WEKI	4470
Red-headed Woodpecker	RHWO	4060	Western Palm Warbler	WPWA	6720
Red-shouldered Hawk	RSHA	3390	Whip-poor-will	WPWI	4170
Red-tailed Hawk	RTHA	3370	White-breasted Nuthatch	WBNU	7270
Red-winged Blackbird	RWBL	4980	White-throated Sparrow	WTSP	5580
Ring-necked Pheasant	RNPH	4175	White-winged Crossbill	WWCR	5220
Ring-necked Duck	RNDU	1500	Wild Turkey	WITU	4160
Rose-breasted Grosbeak	RBGR	5950	Wilson's Warbler	WIWA	6850
Ruby-crowned Kinglet	RCKI	7490	Willow Flycatcher	WIFL	4660
Ruby-throated Hummingbird	RTHU	4280	Winter Wren	WIWR	7220
Ruffed Grouse	RUGR	4150	Wood Duck	WODU	1440
Rufous-sided Towhee	RSTO	5870	Wood Thrush	WOTH	7550
Sandhill Crane	SACR	2060	Yellow-bellied Sapsucker	YBSA	4020
Savannah Sparrow	SAVS	5420	Yellow-bellied Flycatcher	YBFL	4630
Scarlet Tanager	SCTA	6080	Yellow-billed Cuckoo	YBCU	3870
Sedge Wren	SEWR	7240	Yellow-breasted Chat	YBCH	6830
Sharp-shinned Hawk	SSHA	3320	Yellow-headed Blackbird	YHBL	4970
Slate-colored (Dark-eyed) Junco	SCJU	5670	Yellow Rail	YERA	2150
Solitary Sandpiper	SOSA	2560	Yellow-rumped (Myrtle) Warbler	MYWA	6550
Solitary Vireo	SOVI	6290	Yellow-shafted Flicker	YSFL	4120
Song Sparrow	SOSP	5810	Yellow-throated Vireo	YTVI	6280
Sora	SORA	2140	Yellow Warbler	YWAR	6520
Spotted Sandpiper	SPSA	2630			

[1]Department of Natural and Applied Sciences, University of Wisconsin-Green Bay, Green Bay, WI 54311–7001; [2]Natural Resources Research Institute, Department of Biology, University of Minnesota–Duluth, 5013 Miller Trunk Hwy, Duluth, MN 55811; [3]U.S. Fish and Wildlife Service, Federal Bldg., 1 Federal Dr., Fort. Snelling, MN 55111–4056; [4]Canadian Forest Service, 580 Booth St., 7th Floor, Ottawa, ON K1A 0E4.

Capturing Red River Cranes

Walter Breckenridge

One of my early assignments as a staff member of the Minnesota Museum of Natural History was checking the native bird species in areas where Dr. Roberts felt his data was scanty. On one of these trips I was reporting on the fall flight of the Lesser Sandhill Cranes in the Red River Valley in northwestern Minnesota. By driving along side roads I was able to approach within easy binocular range to count flocks of feeding cranes.

When I spotted only two cranes stalking about by themselves I became suspicious and studied their actions carefully to find that both had injured wings and were unable to fly. Probably some unsportsman-like shooters had taken long range shots that injured these birds which prevented them from taking off with their migrating flocks. It also was possible that they had flown into power wires. Whatever was the cause of their plight, the fact remained that if I left them alone in their condition they probably sooner or later would become food for the coyotes that were common in the area.

Another alternative I considered was to capture them and place them in the Como Zoo where veterinarians might set their wings and later release them back into the wild. This I decided to do, not realizing that the doing was more of a task than I had anticipated. The cranes' wings were not functioning well but this was far from the fact with regard to their legs. My technique was to walk slowly, not directly toward one of the birds but in a broad spiral getting gradually closer hopefully without the bird detecting just how close I might be getting. I was sure, of course, that it would eventually take off at a run and I would simply have to outrun it. I was in top shape physically and I had been a 100 yard dash man in college. But I must admit that the birds also were in tip-top shape as far as their legs were concerned. Fortunately the level prairie was reasonably smooth (but not exactly a groomed cinder track) and I was really puffing by the time I caught up to within grabbing distance and only then did I run into trouble. First I tackled the pair of wings that would still flap vigorously and a wing that size could strike really painful blows. But while I was subduing the wings, the legs came into action with their long strong claws scratching at my arms, face, and neck. And the bird didn't hesitate taking a few telling jabs with its long neck and powerful beak. Here I could have used a helper to help me manage such an aggressive adversary but I did finally succeed in wrapping it all up in my arms. Then what do I do with my bundle? My car did not have a strong screen between the front and back seats as do the police cars so the only secure place I had was the trunk. Then the unlocking and opening of the trunk required another pair of hands. I can't remember just how I succeeded, but I finally did. The struggling bird almost escaped a couple of times before I eventually closed the trunk and took a huge sigh of relief.

Then there was the other injured bird to be considered. After taking a slight breather, I set out to repeat the act which, when completed, left me almost totally tuckered out but I was successful in subduing the second bird and squeezing it into the trunk without losing the first bird. Then I laid down flat on my back for a much needed extensive rest.

This was probably one of the most physically strenuous day's work I had ever put in but it gave me a tremendous feeling of success in my accomplishment. Further good feeling came from my having done a good turn for the cranes since I was then hoping that they could eventually be rehabilitated and released back into the wild. This, however, was not to be.

Because I felt much concerned about the well being of my captives, on the long 100 mile trip home, I opened the trunk partially several times to give them a bit of fresh air, but I dared not allow them any exercise to loosen up their cramped muscles. Immediately upon arrival back home I liberated them in my garage for the night before taking them to the Como Zoo. The birds survived but healed a bit crooked and they had to remain at the zoo as educational birds where they lived for several years on public display. **5800 St. Croix Ave. N. #511, Minneapolis, MN 55422.**

A First State Record Eurasian Collared-Dove

Kim R. Eckert

On 25 April 1998, Paul Egeland and I were driving through Ortonville in Big Stone County on our way south when we came upon a barricade at a closed bridge on the south side of town. As I consulted a map to find an alternate route, both Paul and I independently noticed a dove standing in the road across the bridge about 30 yards away, and it seemed to be feeding on some spilled grain. Although it didn't look quite right for a Mourning Dove, I momentarily forgot about it while looking at the map until Paul asked if I had seen it. We then both looked at it through binoculars, and I immediately exclaimed that it looked like a Eurasian Collared-Dove *(Streptopelia decaocto)!*

Although we both knew this species was spreading rapidly north and west in the U. S. and had a strong potential for turning up in Minnesota, the problem is this dove resembles the widely domesticated Ringed Turtle-Dove *(S. risoria)*. We then called it to the attention of Charlie Greenman, Bonnie Mulligan, Peter Neubeck and Dick Sandve, who had been following us in another vehicle, and we all studied it as carefully as possible during the few minutes it was present. The time was about 5:45 P.M., the sky was overcast with a light drizzle, and just after the bird flew off I wrote a brief description without consulting any references:

"Black collar with white edge above black on nape. Primaries almost black, much darker than rest of plumage, both at rest and in flight. Rest of plumage beige or sandy or grayish brown overall, not whitish or creamy. White corners on tail tip. Tail squared off, not pointed. Wary; first seen on ground when we were in vans; when we got out it walked out of sight behind bridge and then flew

out of sight (we never walked towards it). Overall size seemed larger than Mourning Dove (and chunkier), smaller than Rock Dove, but nothing present for comparison."

Although the standard North American field guides have little or no information on the Eurasian Collared-Dove, which has only become established in the U. S. in recent years, I had recently re-read the comprehensive article "The Eurasian Collared-Dove Arrives in the Americas" (*American Birds* 41:1370–1379). According to what I remembered from this article, our dove's dark and contrasting primaries (Ringed Turtle-Dove with less contrast between primaries and rest of plumage), the grayish brown overall plumage (more creamy white on turtle-dove), and its wariness (turtle-dove tamer and more approachable) all favored this being a collared-dove rather than a Ringed Turtle-Dove. However, I also remembered that two of the most important identification features were its call and its undertail pattern, but the bird was silent and we were unable to see the ventral tail surface.

Fortunately, 25 April was Saturday of the MOU's Salt Lake Weekend field trip, and on Sunday the 26th several other observers were able to see the bird when it reappeared at 10:30 A.M. At this time the light conditions had improved to a bright overcast, and I again wrote some field notes without consulting any references just after the dove flew off about 10:45 A.M.

"Primaries not as black-looking today but still much darker brown than rest of plumage (which still looked the same as yesterday — i.e., too dark for typical Ringed Turtle-Dove). Seen in direct comparison with male Common Grackle, the dove was about a half inch longer overall, and body was clearly chunkier and heavier than grackle. Tail seen in flight from above and tip with narrow white band on both outer thirds — inner third not white. Undertail coverts seen from side and below and were grayish, darker than primaries but not black. White edge to black nape bar still visible."

We now had additional evidence that this was indeed a first state record Eurasian Collared-Dove. First, its size appeared to be a bit larger than — or at least as large as — a Common Grackle. According to *The Birds of Europe* field guide by Lars Jonsson, the overall length of the collared-dove is 31–33 mm, about 12.5 inches, the same as the Geographic field guide's measurement for the grackle — and Geographic lists the turtle-dove as only 11 inches long. Second, its under tail coverts looked dark and grayish; on the turtle-dove, these coverts are more whitish.

During the next few weeks other observers were able to see this dove, but to my knowledge no one ever heard it vocalize. There were, however, two additional field marks noted by subsequent observers to support the identification. First, Lane Ellwanger's field notes of 3 May 1998 read as follows: "Basal third of undertail — strong black, from edge to edge, contrasting with white distal two-thirds of undertail... black was very dark from outermost edge to outermost edge." According to the *American Birds* article, this is a diagnostic feature precluding the turtle-dove, which from below has white outer webs on the basal half of the outer rectrices. And second, on the same day Dave Cahlander managed to photograph the spread upper surface of the wing, and it shows a "three-toned" pattern which is apparently diagnostic of the collared-dove: dark primaries / paler grayish-blue primary coverts and secondaries / tan or grayish brown secondary coverts and tertials. (See "Identifying the Eurasian Collared-Dove", *Birding* 20:311.)

The Eurasian Collared-Dove remained in Ortonville at least into mid-May, and there was an unconfirmed report of it being joined by a second collared-dove there, with this pair eventually building a nest which was reportedly abandoned in late May. However, at the time of this writing (3 July) I have seen no documentation of this second dove or of the nest.

Kim Eckert, 8255 Congdon Blvd., Duluth, MN 55804.

Harlequin Ducks. Painting by Walter Breckenridge.

The Spring Season
(1 March to 31 May 1998)

Dave Benson, Paul Budde, Wally Swanson, and Tom Tustison
Foreword by Peder Svingen

The quality of rarities this spring belied the general impression of a lackluster season. Passerine migration was poor but a ***Tricolored Heron****, a cooperative* ***White-faced Ibis****, and the state's fifth* ***Black-bellied Whistling-Duck*** *were all discovered in May. Among the many records of unusual larids were up to two* ***Black-headed Gulls*** *in Jackson County. An anticipated first state record of the* ***Eurasian Collared-Dove*** *and the relentless march of the* ***Great-tailed Grackle*** *into Minnesota were met with mixed excitement. Indisputably charming and most popular with observers was the* ***Bewick's Wren*** *that sang into July, following its initial discovery in late May.*

The most significant weather system this season passed through southern Minnesota in late March, spawning tornados and hail storms that killed or injured hundreds of birds, primarily waterfowl and raptors. Otherwise, generally unremarkable weather resulted in generally unremarkable migration. Passerines were suspected of direct overflight to their breeding grounds after encountering severe weather conditions to the south of Minnesota. The month of

May especially had many days of clear skies, no rain, and southerly winds.

Lake Superior produced several **Red-throated Loons** as usual but the **Pacific Loon** in Duluth was unexpected, since all but three previous occurrences on Lake Superior have been in fall. May records of the **Clark's Grebe** are becoming routine, even as the differentiation of this species from **Western Grebe** remains anything but so; individuals that are intermediate between Clark's and Western have been known to occur but are rarely documented as such in Minnesota. Compared to recent years, reports of the **Snowy Egret** were up significantly and stretched all the way to Kittson County! Only two **Little Blue Herons** were found. For five consecutive springs **Cattle Egrets** have remained relatively scarce compared to the excellent showing of spring 1993. In Meeker County, one **White-faced Ibis** was identified with certainty. The flock of seven *Plegadis* at "the Great-tailed Grackle spot" was probably this species as well, but prudently was found acceptable only at the genus level.

The single **Black-bellied Whistling-Duck** in Steele County appeared wary and presumably remained in the same slough for over a month; unfortunately, word did not get out to the birding community until late June. There has been a steady increase in extralimital reports throughout the 1990s (***The Loon*** 67:247–248) and its arrival date is congruent with May 1998 records in Iowa and Wisconsin. Based on reports from at least 13 counties this spring, the **Ross's Goose** is firmly established as a Regular species. Astute observers are providing high counts, locations, and dates for peak waterfowl migration. After the unusually warm winter of 1997–98, distinguishing early migrants from overwintering waterfowl becomes virtually impossible.

An adult **Mississippi Kite** flying over refuge headquarters at Agassiz NWR was most unexpected. Frank Nicoletti conducted the second spring census of raptor migration from 24 February – 29 May at Enger Tower in Duluth; highlights included a subadult Mississippi Kite, another **Red-shouldered Hawk** (one was seen last year in late May), an immature dark-morph **Broad-winged Hawk**, 16 dark-morph **Red-tailed Hawks**, and several **"Harlan's Hawks"** among the total of 7,795 raptors seen during 435.5 hours of counting on 87 dates.

Virginia Rails arrived much earlier than normal in several locations. Like last spring, only two reports of the **Common Moorhen** were received. Apart from the variety seen at Agassiz NWR and various first county records, shorebird migration was unremarkable. No **Piping Plovers** were detected as migrants; the only report was from their last known breeding site on Pine-Currys Island. The counts of 20 and 19 **American Avocets** are noteworthy; most of Minnesota's high counts occur during spring migration (***The Loon*** 70:11–20). Peak numbers of the **Wilson's Phalarope** in northwest Minnesota were somewhat encouraging.

At least two **Parasitic Jaegers** were seen off Park Point over a two week period in late May; although still expected only in fall, jaegers have now been reported in seven out of the past ten spring migrations. For the fifth consecutive spring, the **Little Gull** was not found in Duluth, where it formerly occurred regularly. The only report was from Minnesota Lake, where an adult had been seen one year earlier. One or two adult **Black-headed Gulls** were found in the general area where they have occurred on both sides of the Minnesota-Iowa border in the past (Kent and Dinsmore 1996, *Birds in Iowa*, p. 178). Several other unusual larids were found, including two **California Gulls** in the northwest region. The early movement of gulls noted by Bardon (see winter report) resulted in unusually high numbers of **Herring** and **Thayer's Gulls** in the Twin Cities area during March and into April, along with three **Iceland Gulls**. Another **Iceland Gull** and a first-year **Great Black-backed Gull** were both later than usual in Duluth. On the early side, a well-documented

Forster's Tern was found in Houston County on *28 March!*

The serendipitous discovery of Minnesota's first **Eurasian Collared-Dove** recalls the adage "chance favors the prepared mind." As the story goes, the observers stopped to orient themselves using a Big Stone County map and noticed an unusual-looking dove feeding on the ground! The North American population is expanding exponentially and more Minnesota records are a certainty. The apparent decline in numbers of **Short-eared Owls** noted last spring continued into 1998. Nocturnal surveys for calling **Boreal Owls** in northeastern Minnesota were disappointing.

For the second consecutive spring, a **Say's Phoebe** was discovered in Clay County. Although its status remains Casual in Minnesota, this species is a good candidate for nesting in western regions; it has nested in North Dakota as close as the city of Grand Forks (1994) and in rural Cass County (1990 and 1991). Nesting has never been confirmed in Minnesota, although it was suspected at Blue Mounds State Park in 1974 (***The Loon*** 47:13–15). The two **Scissor-tailed Flycatchers** were an unusual number for spring. The **Bewick's Wren** in Sherburne County attracted many observers during its eight week stay; the last state record (1990) was in the same county. The total of seven **Northern Mockingbirds** was identical to last spring's excellent showing.

Except for record early **Blue-winged**, **Black-throated Green**, and **Pine warblers**, plus several first county records, there were few noteworthy warblers. Only one **Summer Tanager** was reported; in recent years, the **Western Tanager** has actually been easier to find! The late April/early May migration pattern of the **Spotted Towhee** through the southwest region appears well established, but its status elsewhere in the state during spring migration remains poorly understood. The two **Field Sparrows** found along the North Shore were unexpected, as was the **Chestnut-collared Longspur** in northern St. Louis County. The small colony of **Great-tailed Grackles** straddling the Minnesota-Iowa border at Grover's Lake Wildlife Management Area in Jackson County is destined for infamy; the only two previous Minnesota records (June 1982 and April 1993) involved single birds. Continuing a pattern from the winter season, **White-winged Crossbills** persisted farther south than usual and **Hoary Redpolls** were widely reported but rarely documented.

Readers and contributors to "The Season" will have noticed that records of *Empidonax* flycatchers during spring and fall migration are generally not published unless the birds are vocalizing. This is a concerted effort to improve the accuracy of our database. Similar efforts are underway to minimize confusion among the *Catharus* thrushes in April and the *Troglodytes* wrens in early spring. Documentation will also be requested routinely for Regular species that may be difficult to identify and for those species with borderline Regular/Casual status in Minnesota. Regular species for which details are needed are shown in boldface type on the seasonal report form, and further instructions are given on the first page of the form. The compilers and editors want to include your records, so please document them!

Unconfirmed and Undocumented Reports: Mississippi Kite in Duluth, adult California Gull in Lac Qui Parle County, White-eyed Vireo in Hennepin County, Yellow-throated Warbler in Hennepin County, Worm-eating Warbler in Goodhue County. This section does not include records found Unacceptable by the Minnesota Ornithological Records Committee.

Temperature and Precipitation Summary: Temperatures in March were close to average except in northern regions where it was 2.4–2.9 degrees warmer than usual. April and May were both significantly warmer than normal in all nine districts, as reported by the Minnesota Extension Service and the State Climatol-

ogy Office. April was 4.0–6.6 degrees above normal throughout the northern and central regions, while the statewide average for May was 5.8 degrees above normal! Although April was slightly on the dry side, the rest of the season had near normal precipitation. The greatest departure from normal was in the northwest during May, where rainfall was about three inches above the long term average.

Acknowledgments: Frank Nicoletti provided a summary of the spring hawk watch in Duluth. Kim Eckert and Anthony Hertzel summarized reports called in to the MOU "hotlines" in Duluth and the Twin Cities, respectively. Median arrival and departure dates were calculated by Paul Budde.

2602 E. 4th St., Duluth, MN 55812.

KEY TO SEASONAL REPORTS

1. Species listed in upper case **(LEAST TERN)** indicate a Casual or Accidental occurrence in the state.
2. Dates listed in bold **(10/9)** indicate an occurrence either earlier, later or within the earliest or latest dates on file.
3. Counties listed in bold **(Aitkin)** indicate an unusual occurrence for that county.
4. Counties listed in underline **(Aitkin)** indicate a first county record.
5. Counties listed in italics *(Aitkin)* indicate a first county breeding record.
6. Brackets [ ] indicate a species for which there is reasonable doubt as to its origin or wildness.

The Season publishes reports of bird sightings from 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, request a report form from the Editor of *The Season*, Peder Svingen, 2602 E. 4th St., Duluth MN 55812.

Loons to Vultures

Red-throated Loon
All reports: 5/16–31 Duluth (max. 5) mob, 5/27 Cook KMH.

PACIFIC LOON
Only report: **5/30** St. Louis JLi, SLi, CM.

Common Loon
Reported from 24 south and 19 north counties. Early south 3/27 Ramsey KB. Early north 3/28 Duluth DKi. Peak 4/13 Duluth (68) FN.

Pied-billed Grebe
Reported from 57 counties. Early south **3/3** Rice TBo.

Horned Grebe
Reported from 40 counties. Peak 4/23 Washington (160) WL.

Red-necked Grebe
Reported from 29 counties. Peak 4/6 Hennepin (12) PBu.

Eared Grebe
Reported from seven south and four north counties. Numbers down in the west.

Western Grebe
Reported from 13 south and 7 north counties.

CLARK'S GREBE
Only report: 5/8–10 **Renville** (Boon Lake) KE *et al.*

American White Pelican
Reported from 47 counties. Unusual report: 4/13–5/17 Duluth (total 42, includ-

ing 12 on 4/24) FN *et al.*

Double-crested Cormorant
Reported from 47 counties. Peak 5/21 Faribault (200) FL.

American Bittern
Reported from 23 counties. Peak 5/9 Carlton (6) PS.

Least Bittern
Reported from three counties south and four counties north. Early north **5/15** Becker AH, PS.

Great Blue Heron
Reported from 63 counties.

Great Egret
Reported from 36 counties south and only 4 north counties. Early south 3/25 Dakota SWe, 3/26 Freeborn ABa (the twelve-year median early south date is 3/22). Early north **3/28** Douglas County KKW.

Snowy Egret
All reports: **4/19** Jackson (Heron Lake) KE, DBM, 4/24 Lac Qui Parle (Co. Rd. 5/24) ChM, 4/24 Big Stone (Lyseng Lake) KR, 5/10 Lac Qui Parle WM, 5/18 **Kittson** (Lake Bronson) AH, PS.

Little Blue Heron
All reports: 5/20–22 Olmsted (East Landfill Reservoir) BE *et al.*, 5/21 **Otter Tail** (Lake Alice) SDM.

TRICOLORED HERON
Reported 5/9 **Scott** (Louisville Swamp) BF (***The Loon*** 70:170–171).

Cattle Egret
Reported in low numbers from 11 counties south. Only north report: 5/15–16 Becker (1) AH, PS *et al.* Peak number 5/7 Kandiyohi (7) RJF.

Green Heron
Reported from 32 counties. Early north: **3/29** (second earliest date on record) Aitkin WN (twelve-year median early date north 5/4).

Black-crowned Night-Heron
Reported from only 10 counties.

Yellow-crowned Night-Heron
Only report: 5/25–31 Nicollet BBo.

WHITE-FACED IBIS
Only report: 5/7–8 **Meeker** RE, mob.

IBIS, sp?
Flock of seven *Plegadis*, all probable White-faced Ibises, found 5/16 Jackson (Grover's Lake WMA) RG, RJ.

Turkey Vulture
Reported from 54 counties. Early north 4/5 St. Louis SS (twelve-year median early date 4/2). Peak count 4/13 Duluth (158) FN.

Waterfowl

BLACK-BELLIED WHISTLING-DUCK
One individual first seen 5/18 **Steele** *fide* AH provided a fifth state record (***The Loon*** 70:244); it was finally relocated and documented by photograph in June.

Black-bellied Whistling-Duck, 22 June 1998, Summit Township, Steele County. Photo by Anthony Hertzel.

Greater White-fronted Goose
Reported from 15 counties. Peak counts 3/26 Lyon (**700+**) RgS, 4/7 Wilkin (470) KB. Delayed report of early migrants **2/28** Murray RgS (twelve-year median early date 3/10). Early north 3/29 Aitkin (100+).

Snow Goose
Reported from 23 counties. Peaks 3/29–4/2 Aitkin (1,000) WN, 3/26 Lyon (2,000) RgS, 4/6 Big Stone (2,500) KB. Late migrants 5/25 Rock (9) BSe, **5/31** Dakota (2) DBS.

Ross's Goose
Reported from at least 13 counties, including **3/21** LeSueur AH, 3/27 **Redwood** RJ, 3/27 **Sibley** (3) RJ, 4/1 **Lyon** (3) RgS, **5/13–18** Roseau PS, BSi, AH, **5/16** Marshall AH, PS, **5/26 Faribault** RJ, **5/27–29** Aitkin WN. In Brown, storms killed one and the specimen was salvaged for the Bell Museum of Natural History (MRN). All other reports: 4/4–11 Aitkin (different bird) WN, plus Cottonwood (2), Jackson (2), Lincoln (5), Olmsted (2).

Canada Goose
Reported from 72 counties. Peak count 3/1 Carver (5,000) DBM. The Minnesota DNR estimated the population is 140% above the long-term-average.

Mute Swan
No reports.

[Trumpeter Swan]
Reported from 17 counties. See winter report for dates of apparent migrants. Peak count 5/13 Becker (24 at Tamarac NWR) BBe.

Tundra Swan
Reported from 40 counties. Early south **3/1** Freeborn ABa. Early north 3/29 Wadena PBi and Aitkin WN. Peak counts 4/7 Wilkin (5,200) KB, 4/21 (total 8,000+ in four northwest counties) RJ.

Wood Duck
Reported from 66 counties. See Winter report for early migrant dates.

Gadwall
Reported from 47 counties. See Winter report for early migrant dates.

American Wigeon
Reported from 47 counties. See Winter report for early migrant dates.

American Black Duck
Reported from 17 counties.

Mallard
Reported from 74 counties across the state. Minnesota DNR estimated state population at 386,000, 87% above the long-term average.

Blue-winged Teal
Reported from throughout the state. Minnesota DNR estimated the state population at 175,000, 24% below the long-term average.

Cinnamon Teal
No reports.

Northern Shoveler
Reported from 57 counties. Early south 3/3 Hennepin (6) TT. Early north 3/27 Clay (2) CN. Peak count 4/18 Big Stone (2,000) PJ.

Northern Pintail
Reported from only 32 counties. Early south 3/6 Goodhue KB, 3/7 Hennepin SC, DN, TT, but see Winter report for early migrant dates. Peak 4/5 Roseau (500) PS.

Green-winged Teal
Reported from 49 counties. See Winter report for early migrant dates.

Canvasback
Reported from 49 counties. Peak count 3/28 along the Mississippi River in three SE counties (8,050) PJ, DN plus 6,500 in Wisconsin waters. Good migration also reported in western Minnesota; peak 4/3 Nobles (1,000+) KB. See Winter report for early migrant dates.

Canvasbacks. Painting by Walter Breckenridge.

Redhead
Reported from 51 counties. Apparent Canvasback X Redhead hybrid seen 4/19 Traverse (male) PJ. See Winter report for early migrant dates.

Ring-necked Duck
Reported from 58 counties. Peak 4/24 Aitkin (3,500) PJ. See Winter report for early migrant dates.

Greater Scaup
Reported from 28 counties. Early south 3/11 Scott PBu, 4/2 Wilkin KB.

Lesser Scaup
Reported from 62 counties across the state. See Winter report for early migrant dates.

Harlequin Duck
All reports: **3/2** Lake DV, 4/6 St. Louis *fide* KE, **4/12** **Lac Qui Parle** (female at Big Stone NWR) KR.

Surf Scoter
All reports: **4/24** **Big Stone** (Big Stone Lake) KR, 5/6 Hennepin (French Lake) SC, **5/29** St. Louis (Duluth) AH.

White-winged Scoter
All reports: 5/9 St. Louis SL, 5/16 Marshall (pair at Agassiz NWR) AH, PS, 5/17–18 **Pennington** AH, PS.

Black Scoter
All reports: **4/6** Cass/Itasca (Lake Winnibigoshish) PS, 5/14 St. Louis *fide* KE.

Oldsquaw
All reports: 4/10–11 Cook DBM, WM, 5/24 Cook (2) DN.

Bufflehead
Reported from 54 counties. See Winter report for early migrant dates.

Common Goldeneye
Reported from 51 counties.

BARROW'S GOLDENEYE
Male overwintered through 3/11 Scott mob.

Hooded Merganser
Reported from 51 counties. See winter report for early migrants.

Common Merganser
Reported from 53 counties. Peak count 3/1 Goodhue (650) KB.

Red-breasted Merganser
Reported from 38 counties.

Ruddy Duck
Reported from 44 counties. Early south 3/1 Hennepin TT (twelve-year median early date 3/12, but also see winter report). Early north 3/28 **Duluth** (3) mob. Peak 4/18 Big Stone (1,200) PJ.

Osprey to Falcons

Osprey
Reported from 35 counties. Early south 3/30 Rice JLa. Early north 4/4 Aitkin RJ. Peak 4/13 Duluth (12) FN.

MISSISSIPPI KITE
Only documented report: **5/17 Marshall** (Agassiz NWR) AH.

Bald Eagle
Reported from 52 counties. Peak 3/28 Duluth (438) FN.

Northern Harrier
Reported from 52 counties. See Winter report for early migrant dates.

Sharp-shinned Hawk
Reported from 40 counties. Peak 4/20 Duluth (162) FN.

Cooper's Hawk
Reported from 36 counties.

Northern Goshawk
Reported from three south and eight north counties. Late south 4/16 Olmsted CK.

Red-shouldered Hawk
Reported from ten south and eight north counties. Early north **3/8** Aitkin WN, (but see Winter report), 3/19 Otter Tail SDM, 3/20 Becker BBe. Other unusual records north: 4/4 Duluth FN, 5/17 **Marshall** (Warren) AH, PS.

Broad-winged Hawk
Reported from 22 south and 17 north counties. Early south 3/29 Kandiyohi RJF. Unusual record 4/19 Jackson RJ. Peak 5/5 Duluth (496) FN

Swainson's Hawk
Reported from 16 south and 2 north counties, including 4/20, 4/22, and 5/13 St. Louis FN.

Red-tailed Hawk
Reported from 61 counties. Unusual local concentration 3/28 Anoka (298) KB. Peak 4/10 Duluth (753) FN. Several observers noted large flights in southern Minnesota on 3/30, following a powerful storm. Seven "Harlan's Hawks" were reported 3/27–4/5, three of these from Duluth (FN).

Ferruginous Hawk
No documented records. **Note:** For all seasons, reports lacking details are not published.

Rough-legged Hawk
Reported from 27 counties. Peak 4/5 Roseau (10) PS. Late south 5/21 Faribault FL.

Golden Eagle
Reported from only five counties. Late south **5/21 Faribault** (adult) FL. Only 12 were reported from the spring raptor count in Duluth FN.

American Kestrel
Reported from 65 counties. Early north 3/23 Aitkin CB.

Merlin
Reported from 19 counties. Early south 3/

American Kestrel. Painting by Walter Breckenridge.

29 Hennepin SC. Early north 3/25 Lake DV.

GYRFALCON
Only report: 3/22 Kittson (Norway Twp.) PS.

Peregrine Falcon
Reported from 16 counties. Early north **3/23** St. Louis mob (twelve-year median early date north 4/17).

Prairie Falcon
No reports.

Partridges to Cranes

Gray Partridge
Reported from 21 south counties.

Ring-necked Pheasant
Reported from 38 south and 8 north

counties.

Ruffed Grouse
Reported from 9 in the south and 19 north counties.

Spruce Grouse
All reports: 5/29 Cook KMH, (no date) Lake JLi.

Sharp-tailed Grouse
All reports: 3/7 Aitkin WN, 3/21 Carlton *fide* AH, 5/9 Carlton PS, 5/18 Kittson and Marshall AH, PS, 5/22 Koochiching RJ, 5/25 St. Louis mob.

Greater Prairie-Chicken
All reports: 3/14 Clay RK, 4/19 Norman RJ and Wilkin SDM, and 5/24 Wadena (2) PBi.

Wild Turkey
Reported from 26 south counties, plus Otter Tail.

Northern Bobwhite
No reports except an apparent escape in Anoka County. Birds reported away from the SE are considered escapes or releases.

Yellow Rail
No reports.

Virginia Rail
Record early south **4/5** Anoka KB. Also seen **4/14** Hennepin PJ, 4/18 Fillmore CK and Jackson DBM. Early north **4/19** Beltrami DJo, 4/23 Kanabec CM, 5/17 Becker OJ and Cass EP.

Sora
Early south **4/4** Houston FL, 4/11 Hennepin DN, 4/13 Olmsted DA/BE. Early north 5/1 St. Louis JN, 5/3 Kanabec CM, 5/5 Becker FL.

Common Moorhen
All reports: 5/19 Winona CS, (no date) Wabasha AH.

American Coot
Early north 4/5 Douglas SWa, GrK, 4/8 Wadena PBi, 4/11 Becker CN. Unusual report of a "pure white coot" 4/18 Lac Qui Parle PJ. See Winter report for early south migrant dates.

Sandhill Crane
Early south **3/1** (record early date) Sherburne DoS, 3/25 Washington KB, 3/28 Wabasha PJ, DN. Early north 3/25 Crow Wing PP, 3/26 Todd JSK/SDu, 3/27 Cass WB. Peak count 4/11 Big Stone (280) LE.

Shorebirds

Black-bellied Plover
Early south 5/2 Carver and McLeod mob. Early north 5/16 Marshall and Norman AH, PS, 5/22 Koochiching RJ. Late south 5/26 Cottonwood ED. Peak count 5/18 Dakota (20) DBS.

American Golden-Plover
Early south 4/18 Jackson DBM, 4/25 Lac Qui Parle WM, TT, 5/4 Pipestone PS. Early north 5/16 Clay and Marshall AH, PS, 5/18 Lake of the Woods AH, PS. Late south 5/27 Olmsted CK. Peak counts 5/18 Dakota (30) DBS and 5/23 Clay (30) CK.

Semipalmated Plover
Early south 4/18 Lac Qui Parle PJ, 4/29 Swift RJ, 5/1 Lyon RgS. Early north 5/7 Clay CN, 5/10 St. Louis PS, 5/12 Kanabec CM. Late south 5/31 Murray DJe. Peak count 5/17 Marshall (**155** at Agassiz NWR) AH, PS.

Piping Plover
Only report: 5/18 Lake of the Woods (2) AH, PS.

Killdeer
Early north 3/23 St. Louis TW, 3/25 Carlton LW. See Winter report for early south migrant dates.

American Avocet
All reports: 4/18 Big Stone (1) TBr, 4/23 Kandiyohi (20) RJ, 4/24 Winona (19) CS, 4/26–5/2 Lyon (1) TGu, 4/30 Mower (1) RRK, and 5/7 Todd JSK/SDu; 5/9 Big Stone (2) TEB, RJ, **Meeker** (2) PBu, CO,

Semipalmated Plover, Hudsonian Godwits and Sanderling. Painting by Walter Breckenridge. Reproduced with permission from Ralph LaPlant, North Woods Images.

and **McLeod** (2) BL; 5/13 Marshall (one at Stephen) PS, 5/14–19 St. Louis (1) MH, 5/16–17 Marshall (two at Agassiz NWR) mob, 5/24 Clearwater ABo. Total of at least 54 avocets seen in 11 counties.

Greater Yellowlegs
Early south 3/28 Dakota TT, Goodhue BL, Houston DN, PJ, and Lyon RgS. Early north 4/19 Douglas SWa, GrK, 4/24 Clay RK, 4/25 Wadena PBi.

Lesser Yellowlegs
Early south 3/28 Big Stone LE, Dakota TT, and Lyon RgS. Early north **3/28** Crow Wing PP, 4/18 Aitkin CB and Kanabec CM. Peak number 5/11 Polk (90) PS.

Solitary Sandpiper
Early south 4/25 Lac Qui Parle TT, RJ, 4/28 Big Stone AH, and 4/30 Dakota TT. Early north 4/30 Lake DV and St. Louis JN, 5/3 Cass EP. Late south 5/31 Hennepin SC. FL reports encountering 200+ along the Mississippi River in Hubbard and Beltrami counties during a 5/4–12 canoe trip.

Willet
Early south 4/28 Big Stone AH, 4/29 Kandiyohi (13) RJF, and 5/3 Lac Qui Parle KE, PS. Also seen 5/7 **Faribault** (7) RG and 5/11 **Meeker** RbS. Early north 5/10 St. Louis PS, 5/16 **Crow Wing** PJ and Marshall AH, PS. Late south **5/26** Renville (2) CMa, **5/27** Hennepin TBr. Seasonal total approximately 38 birds in 16 counties.

Spotted Sandpiper
Early south 4/19 Washington DS, 4/25 Lac Qui Parle WM, 4/26 Rice JLa, JL. Early north 5/3 Cass EP and Kanabec CM.

Upland Sandpiper
Early south 4/25 Lac Qui Parle WM, RgS, 5/8 Blue Earth RbS, 5/15 Murray ND. Early north 5/8 Traverse RJ, 5/17 Marshall AH, PS.

Whimbrel
All reports: 5/16–18 St. Louis (28–30) mob, 5/20 **Jackson** (1) PS, 5/24 **Clearwater** (2) ABo, 5/28–30 St. Louis (max. 22) mob.

Hudsonian Godwit
Early south 4/25 Hennepin SWe and Lyon RgS, 5/11 Olmsted CK. Early north 5/13 Roseau PS, 5/16 St. Louis FN, 5/17 Marshall (peak of 8) AH, PS. Late south 5/20 Renville WM, 5/21 Dakota DBS.

Marbled Godwit
Early south 4/11 Lac Qui Parle BL, 4/18 Big Stone DN and **Fillmore** (1) CK. Early north 4/12 Polk DJo, 4/21 Red Lake RJ, 4/24 Clay RK.

Ruddy Turnstone
Early south 5/15 McLeod RbS, 5/19 Olmsted DA/BE, 5/24 Winona CS. Also seen 5/26 **Faribault** RJ. Early north 5/16 Marshall (6) AH, PS, 5/22 St. Louis GS.

Red Knot
All reports: **5/14** St. Louis (1) MH, SL, **5/16** Marshall (2) AH, PS, 5/30 St. Louis (1) mob.

Sanderling
Early south 5/4 Stearns KE, PS, 5/8 Lyon RgS. Early north 5/16 Marshall AH, PS, 5/23 St. Louis DN. Late south 5/30 Pope RJ. Peak count 5/30 St. Louis (50) mob.

Semipalmated Sandpiper
Early south 4/10 Lac Qui Parle SC, 5/3 Big Stone LE. Early north 5/18 Wilkin PBi, 5/22 St. Louis GS. Peak count 5/25 Big Stone (50) LE.

Least Sandpiper
Early south 4/15 Carver CM, 4/18 Lyon RgS, 4/25 Lac Qui Parle OJ. Early north 5/7 Clay CN, 5/10 Kanabec CM, 5/11 Polk PS. No counts of greater than 20 birds.

White-rumped Sandpiper
Early south 4/28 Big Stone AH, 5/1 Lyon RgS. Early north 5/13 Marshall and Roseau PS. Peak count 5/22 Rock (20) PS.

Baird's Sandpiper
Early south 4/18 Big Stone and Lac Qui

Parle DN, Lyon RgS. Early north 4/19 Traverse (**200**) PJ, 5/11 Polk PS, 5/14 Aitkin WN.

Pectoral Sandpiper
Early south 4/3 Jackson KB, 4/10 Lac Qui Parle SC and Olmsted CK. Early north 5/7 Clay CN, Todd JSK/SDu, 5/16 Marshall AH, PS.

Dunlin
Early south **4/3** (record early date) Jackson (1) KB, 4/25 Winona CK, 5/4 Nicollet DS. Early north 5/10 St. Louis PS, 5/11 Polk PS. Late south 5/31 Nicollet BBo. Peak count 5/16 Marshall (80) AH, PS.

Stilt Sandpiper
Early south 5/15 Stearns GS, many reports on 5/16. Only north report: 5/24 Clearwater ABo. Late south 5/20 Lac Qui Parle WM.

Buff-breasted Sandpiper
No reports.

Short-billed Dowitcher
Early south 5/8 Big Stone RJ, 5/10 Rice mob, 5/13 Stearns OJ. Early north 5/13 Roseau PS, 5/15 Becker AH, PS. Late south 5/24 Hennepin SC.

Long-billed Dowitcher
Early south 4/18 Jackson DBM, 5/15 Olmsted CK, 5/17 Dakota SWe. Only (?) north report 5/13 Marshall PS. Late south **5/23** Lincoln RgS.

Dowitcher, sp?
Unusual report **4/3** Jackson KB (most likely a Long-billed but would be record early for either species).

Common Snipe
Early south (exceptional dates, probably overwintered) 3/1 Dakota TT, 3/7 Hennepin DN. Early north **3/26** St. Louis JN, 4/5 Aitkin WN, 4/6 Kanabec CM.

American Woodcock
Early south 3/23 Carver RJ, 3/25 Fillmore NO and Rice TBo. Early north 3/26 Carlton LW, 3/27 Aitkin WN.

Wilson's Phalarope
Early south 4/24 Big Stone KR, 4/25 Lac Qui Parle RgS, 5/3 Mower RRK. Early north 5/9 Todd JSK/SDu, 5/11 Polk (162) PS, 5/13 Kittson (45) PS. Peak count 5/13 Roseau (386) PS. Unusual location 5/23–30 St. Louis (Duluth) mob.

Red-necked Phalarope
No reports.

Jaegers to Terns

Parasitic Jaeger
Many reports of one or two adult light-morph jaegers, all from St. Louis and presumably referring to the same individuals: **5/16** (Park Point) FN, 5/23 (Park Point) DN, 5/24 (Brighton Beach) TN and (Park Point) PS, 5/29 (Park Point) AH, PS, 5/30 (jaeger, sp?) mob. Two jaegers were reported off Wisconsin Point during this same time by Wisconsin birders.

Franklin's Gull
Early south 3/22 Dakota KB, 3/25 Murray ND, 3/26 Goodhue KB. Early north 4/5 Pennington PS, 4/13 **Lake** (adult) JLi, 4/26 Todd JSK/SDu. Unusual report 5/16–31 **St. Louis** (Duluth) mob.

Little Gull
Only report: 5/7 **Faribault** (adult at Minnesota Lake) RG. An adult was seen at this same location the previous May!

BLACK-HEADED GULL
Fourth state record, on the Jackson County side of Grover's Lake WMA (***The Loon*** 70:240–241). All acceptable reports were of one or two adults in alternate plumage and presumably referred to same individuals: 4/18 (1) KE *et al.*, 4/21 (2) JHa, 5/20 (1) PS.

Bonaparte's Gull
Early south 4/3 Jackson KB, 4/4 many reports. Early north 4/7 Douglas and Grant KB, 4/10 Becker BBe. Late south 5/23 Lincoln RgS.

Ring-billed Gull
Reported from 37 south and 21 north counties. Peak 3/25 Dakota (5,000) KB (fewer reports than in most springs).

CALIFORNIA GULL
All reports: 4/5 **Pennington** (Thief River Falls) PS, 5/13 **Roseau** (Roseau sewage lagoons) PS (***The Loon*** 70:245–246).

Herring Gull
Reported from 18 counties in the south. Unusually high numbers reported in the Twin Cities area for the spring; KB reported at least 1,000 individuals on 3/7 at Spring Lake and again on 4/9 at Pine Bend Landfill, both Dakota Co.

Thayer's Gull
Unusually large and record early south movement noted by KB from **3/1**–4/13 with about 15 identified in Washington, Goodhue, Ramsey, Dakota, Isanti, and Sherburne counties, and a peak of five individuals (four adults and one first-year) 4/6 Dakota (Pine Bend landfill). Also seen 3/29 Carver RJ and 4/5 Hennepin PBu.

ICELAND GULL
All reports: **3/13–4/9** Dakota (adult) mob, 3/13 Goodhue (different adult, Colville Park) KB, 3/27–28 Dakota (first-year at Pine Bend) KB, SC, 4/14 St. Louis (first-year) KB.

LESSER BLACK-BACKED GULL
All reports: **3/4–5** (record early date) **Ramsey** and Dakota (third-year) KB, RJ, **4/5** Isanti (adult, Athens Twp.) KB, 4/9 Dakota (different adult, plus a third-year at Pine Bend) KB, 4/14 St. Louis (8) KB.

Glaucous Gull
All reports: 3/1 Goodhue and Washington KB, 3/7–4/9 Dakota (min. 4) mob, 4/4 St. Louis TW, 4/14 St. Louis (8) KB, 4/26 St. Louis FN.

GREAT BLACK-BACKED GULL
All reports: 4/14 St. Louis (first-year) KB, apparently the same bird relocated **5/8** (PS, KSu) and then seen intermittently through at least **5/30** mob.

Caspian Tern
Early south **4/19** Cottonwood ED, 4/27 Carver MB, 5/9 Hennepin TT. Early north **4/28** Kanabec CM, 5/1 St. Louis JN, 5/6 Beltrami FL. Late south 5/31 Hennepin TT. Peak count 5/23 Duluth (16) PS.

Common Tern
Early south 5/8 Big Stone RJ, 5/9 Lincoln RgS and Dakota DBS. Early north 5/9 Aitkin CMG, 5/14 St. Louis TW, 5/16 Marshall (2) AH, PS. Late south 5/29 Anoka RH. Peak count 5/31 Duluth (110) PS.

Forster's Tern
Early south **3/28** (record early date) Houston PJ, DN, 4/13 many reports. Early north **4/12** (earliest north date) Otter Tail DST, 5/7 Becker BBe, 5/9 Todd JSK/SDu. Peak count 5/7 Hennepin (120) AH.

Black Tern
Early south 4/24 Isanti DMP, 5/3 Big Stone LE and Cottonwood ED. Early north 5/11 Polk PS, 5/12 Douglas SWa, GrK, 5/13 Cass EP.

Doves to Kingfishers

Rock Dove
Reported from 41 south and 18 north counties.

EURASIAN COLLARED-DOVE
First state record 4/25+ **Big Stone** (Ortonville) KE, PE, mob (***The Loon*** 70:199–200).

Mourning Dove
Reported from 40 south and 20 north counties.

Black-billed Cuckoo
Early south 5/9 Freeborn ABa, 5/10 Olmsted DA/BE, 5/14 Murray ND. Early north 5/18 Kanabec CM, 5/20 St. Louis TW.

Yellow-billed Cuckoo
Early south 5/16 Olmsted DA/BE, 5/17

Great Gray Owl. Painting by Walter Breckenridge.

Fillmore CK. Only north report 5/25 Todd. **Douglas** SDM.

Eastern Screech-Owl
Reported from seven south counties plus

Great Horned Owl
Reported from 23 south and 12 north counties.

Snowy Owl
All reports: 3/1 Hennepin NWi, 4/2 Clay *fide* SDM, early April Becker *fide* AH, (no date) St. Louis mob.

Northern Hawk Owl
Only report: 3/7–15 Lake mob.

Barred Owl
Reported from 14 south and 9 north counties.

Great Gray Owl
All reports: 4/4 St. Louis and Lake AH, 5/20 Lake of the Woods BSi, 5/30 St. Louis mob, plus all season in Aitkin WN and Lake DV.

Long-eared Owl
Many reports. Early south 3/28–4/17 Brown (2) BBo, 3/29 Hennepin SWe, 4/19 Lac Qui Parle FE. Early north 4/4 Lake AH and Roseau PS, 4/11 Cook (3) WM.

Short-eared Owl
Fewer reports than usual. Only date 4/11 Big Stone LE.

Boreal Owl
Spring surveys in NE Minnesota by Bill Lane found only ten birds on territory.

Northern Saw-whet Owl
All south reports: 3/2 Rice TBo, 3/20 McLeod RTF, 3/26–27 Hennepin mob. Early north 3/26 Aitkin CB, 3/28 Lake DV, 4/2 Crow Wing PP. FN reports 45 banded 3/28–4/17 in Lakewood Twp, St. Louis Co.

Common Nighthawk
Early south 4/20 Houston DS, 5/8 Rice TBo, 5/12 Ramsey TT. Early north 5/9 Wadena PBi, 5/11 Polk PS.

Whip-poor-will
Early south 4/15 Houston EMF, 4/28 Hennepin PN and Washington DS. Early north 5/7 Crow Wing PP, 5/12 Cook OSL, 5/17 Marshall PS.

Chimney Swift
Early south 4/25 Brown JSp, Goodhue BL, Jackson TT, Kandiyohi WM, and Rice JLa. Early north **4/12** Crow Wing RgS, 4/29 Otter Tail DST.

Ruby-throated Hummingbird
Early south 5/8 Houston EMF, 5/9 Brown JSp and Freeborn ABa. Early north **4/27** Becker BBe, 5/9 Becker BK and Hubbard HJF.

Belted Kingfisher
Early south (some of these birds may have overwintered) 3/1 Brown JSp, 3/3 Hennepin TT, and 3/4 Fillmore NO. Early north **3/10** (overwintered?) Douglas SWa, GrK, 3/24 St. Louis JN, and 3/26 Kanabec BA.

Woodpeckers to Flycatchers

Red-headed Woodpecker
Early south 4/4 Lac Qui Parle DN, 4/9 Houston EMF, 4/11 Yellow Medicine KB. Early north 4/10 Aitkin WN, 4/16 Morrison WB.

Red-bellied Woodpecker
Reported from 30 south and 7 north counties.

Yellow-bellied Sapsucker
Early south 3/15 Washington DN, 3/25 Fillmore NO, 4/1 Houston FL. Early north 3/28 Aitkin WN, 4/4 Cook KMH, 4/5 Douglas SWa, GrK.

Downy Woodpecker
Reported from 34 south and 19 north counties.

Hairy Woodpecker
Reported from 30 south and 20 north counties.

Three-toed Woodpecker
Only report: 4/11 Itasca (Big Fork) ABo.

Black-backed Woodpecker
All reports: 3/6 & 20 St. Louis KN, PT, 3/14 Lake AH, 3/19 Hubbard DJo, 5/9 Carlton PS, 5/15 Becker AH, PS, 5/19 Beltrami DJo, 5/30 Cook KMH.

Northern Flicker
Early south **3/4** (overwintered?) Fillmore NO, 3/14 Scott ABo, 3/25 Olmsted DA/BE. Early north 3/26 St. Louis JN, 4/6 Aitkin WN, 4/7 Cook KMH.

Pileated Woodpecker
Reported from 24 south and 17 north counties.

Olive-sided Flycatcher
Early south 5/9 Redwood KE and Brown JSp, CK, 5/16 Dakota DBS. Early north 5/16 Douglas SWa, GrK, 5/17 Otter Tail SDM and Marshall AH.

Eastern Wood-Pewee
Early south 5/9 Lyon RgS, 5/11 Olmsted CK, 5/12 Mower DSm. Early north 5/9 Todd JSK, 5/15 Aitkin WN, 5/16 Douglas SWa, GrK. **Note:** This species is a late spring migrant seldom appearing until before 5/8; April records will not be published without adequate written details.

Yellow-bellied Flycatcher
No south reports. All north reports: 5/25 St. Louis PS, 5/27 Cook KMH.

Acadian Flycatcher
All reports: 5/19–27 Hennepin (Elm Creek Park) SC, OJ, 5/19 Rice TBo, 5/25 Wabasha (Millville) BL, 5/30 (two at Murphy-Hanrahan Park) DN, mob.

Alder Flycatcher
All south reports: 5/20 Hennepin SC, Rice TBo, and Lac Qui Parle WM, 5/23 Hennepin PBu, 5/31 Hennepin (2) TT. All north reports: 5/22 Cook KMH, 5/24 Cass MRN, 5/25 St. Louis PS.

Willow Flycatcher
All reports: 5/19 Hennepin SC, 5/22 Dakota TT.

Least Flycatcher
Early south 5/6 Hennepin SC and Rice TBo, 5/9 Hennepin (4) TT. Early north 5/11 Cook KMH, 5/12 Douglas SWa, GrK, 5/15 Crow Wing PP. **Note**: Only records of singing or calling *Empidonax* flycatchers are published in this report. Please be sure to indicate this on the Seasonal Report form.

Eastern Phoebe
Early south 3/25 Rice TBo, 3/26 Rock ND and Houston KK. Early north **3/26** Aitkin WN, **3/28** Douglas SWa, GrK, 4/4 Roseau PS.

SAY'S PHOEBE
Only report: 5/16 Clay (Bicentennial Prairie) AH, PS.

Great Crested Flycatcher
Early south 5/8 Rice TBo and Ramsey TT, 5/9 Hennepin SC. Early north 5/8 Cook KMH, 5/10 Kanabec CM, 5/13 Kanabec BA.

Western Kingbird
Early south 5/9 Big Stone TEB and Hennepin PBu, 5/10 Big Stone RJ, MF. Early north 5/13 Roseau PS, 5/15 Wilkin GS, 5/16 Marshall PS. Unusual location: 5/30–31 St. Louis (Duluth) JLi *et al.*

Eastern Kingbird
Early south 4/18 Lyon RgS, 4/27 Yellow Medicine RgS, 5/2 Lincoln RgS. Early north **4/17** Itasca BN, 4/19 St. Louis AE, 4/29 Aitkin WN.

SCISSOR-TAILED FLYCATCHER
Two reports: 5/15 Morrison (near Randall) WB, 5/24 Carlton (near Eagle Lake) StM.

Shrikes to Swallows

Loggerhead Shrike
Early south 3/29–30 Olmsted (1) mob, 4/1 Jackson (Heron Lake) MJC, 4/2 Anoka (1) PKL. Only north reports: 4/24 Clay (Felton Prairie) RK, 5/23 Clay (location?) CK. Others were in Dakota (three locations), Goodhue, Houston, Jackson (Round Lake), Mower (max. 2), Sherburne, Swift (2), and Yellow Medicine. Approximate total of 21 individuals reported from 11 counties (27 in 12 counties last year). **Note**: Please give exact lo-

cations and numbers for all seasons (per instructions on Seasonal Report form) so that accurate numbers can be determined.

Northern Shrike
Late south 3/23 Cottonwood ED, 3/25 Rice JLa, and 3/26 Rock ND. Late north 4/11 Aitkin WN, 4/17 St. Louis TW, **4/27** (ties third latest date for the state) Cook KMH.

WHITE-EYED VIREO
Reported 5/28 Washington (Afton State Park, heard only) RJ.

Bell's Vireo
All reports: 5/19–22 **Lac Qui Parle** (second county record) WM, PS, 5/25 Dakota TT, 5/26 Blue Earth MF.

Yellow-throated Vireo
Early south 5/7 Brown JSp, 5/9 Brown CK. Early north 5/9 Todd PP and Aitkin WN, 5/10 Kanabec CM.

Blue-headed Vireo
Early south 5/1 Rice JL, 5/6 Washington RJ and Rice TBo. Early north 5/8 Otter Tail SDM, 5/9 Morrison MJ/DT, 5/10 Kanabec CM. Late south 5/16 Freeborn ABa, 5/23 Lincoln RgS, 5/31 Hennepin TT.

Warbling Vireo
Early south 5/2 Nicollet DS, 5/6 Rice TBo and Winona KK. Early north 5/10 Otter Tail SDM, 5/13 Becker BBe, 5/14 Morrison WB.

Philadelphia Vireo
Early south 5/8 Olmsted DA/BE, 5/13 Hennepin SC, 5/14 Hennepin TT. Early north 5/16 St. Louis AE, Cook KMH, and Lake DV. Late south 5/21 Rock PS, 5/23 Nicollet LF, 525 McLeod RbS.

Red-eyed Vireo
Early south 5/9 Olmsted DA/BE, 5/10 Stearns MJ/DT and Waseca LF. Early north 5/9 Morrison MJ/DT and Aitkin CMG, 5/13 Todd JSK.

Gray Jay
Reported throughout the normal range.

Blue Jay
Reported throughout the state.

Black-billed Magpie
Reported throughout the normal range.

American Crow
Reported throughout the state.

Common Raven
Reported throughout the normal range. Peak 3/23 St. Louis (110 at Duluth) FN.

Horned Lark
Reported throughout the state.

Purple Martin
Early south 4/3 Dakota DBS, 4/12 Washington DN, 4/13 Goodhue (2) BL. Early north 4/11 Aitkin CMG, 4/12 Becker BBe, CB, 4/19 Otter Tail GB.

Tree Swallow
Early south 3/25 Washington KB, 3/26 Martin DBr, 3/27 Rice TBo. Early north 4/4 Douglas KKW, 4/5 Douglas SWa, GrK, 4/7 Aitkin CMG.

Northern Rough-winged Swallow
Early south 4/16 Rice TBo, 4/17 Ramsey (3) TT, 4/17 Olmsted CK. Early north 4/20 Otter Tail SDM, 4/27 St. Louis AE.

Bank Swallow
Early south 4/20 Lyon RgS, 4/21 Rice TBo, 4/25 Big Stone WM. Early north 5/8 Aitkin WN, 5/9 Todd JSK, 5/13 Cass EP.

Cliff Swallow
Early south 4/25 Lac Qui Parle RgS, NWi, 4/26 Dakota TT. Early north **4/18** Wadena PBi, 5/2 Aitkin CB, 5/3 Beltrami DJo.

Barn Swallow
Early south 4/12 Waseca OJ, 4/13 Dakota DBS, 4/17 Nicollet LF. Early north 4/27 Todd JSK, 4/30 Lake DV, and 5/3 Becker BBe.

Chickadees to Gnatcatchers

Black-capped Chickadee
Reported throughout the state.

Boreal Chickadee
Reported throughout the normal range.

Tufted Titmouse
All reports: 4/4 Houston (2) FL, daily throughout the period Houston (1–3) EMF.

Red-breasted Nuthatch
Reported throughout the state.

White-breasted Nuthatch
Reported throughout the state.

Brown Creeper
Reported throughout the state.

Carolina Wren
All reports: beginning of the period to 3/27 (overwintered) Olmsted *fide* AH, 3/13 Rice TBo, 3/15 Hennepin (Bloomington) mob.

BEWICK'S WREN
Reported 5/21 through the end of the period Sherburne JH, mob.

House Wren
Early south 4/22 Rice TBo, 4/23 Houston KK, 4/25 Lac Qui Parle WM. Early north 5/2 Kanabec CM, 5/6 Aitkin WN, 5/7 Aitkin CMG. **Note**: There is potential confusion between this species and the Winter Wren in early April; the House Wren is generally a late April migrant in the south.

Winter Wren
Early south 3/1 (probably overwintered) Hennepin DZ, 3/22 (possibly overwintered) Hennepin TT, 3/28 Rice TBo and Olmsted AK, 4/1 Brown JSp. Early north 4/5 Aitkin WN, 4/6 Todd JSK, 4/8 Norman RJ.

Sedge Wren
Early south 4/25 Lac Qui Parle RgS, 5/6 Olmsted CK, 5/9 Rice TBo. Early north 5/5 Kanabec CM, 5/12 Aitkin WN, 5/13 Kittson PS.

Winter Wren, 28 March 1998, Rochester, Olmsted County. Photo by Albert Kottke.

Marsh Wren
Early south 4/25 Lyon RgS, 4/27 Carver RH, 5/3 Big Stone LE. Early north 5/8 Becker DJo, 5/17 Marshall PS and Lake DV.

Golden-crowned Kinglet
Early south 3/13 (overwintered?) Dakota DBS, 3/25 Rice TBo, 3/26 Hennepin SC. Early north 3/22 (possibly overwintered near Lancaster) Kittson PS, 3/29 Lake DV, 4/3 Cook KMH. Late south 4/17 Dakota TT, 4/18 Fillmore BBr, 4/19 Olmsted CH.

Ruby-crowned Kinglet
Early south 3/26 Olmsted DA/BE, 3/28 Rice TBo, 3/29 Murray ND. Early north 4/5 Becker BBe, Otter Tail SDM, and Douglas SWa, GrK, 4/6 Todd JSK. Late south 5/11 Hennepin OJ, 5/14 Hennepin SC, TT. It appears that both kinglet species moved through the south faster than usual.

Blue-gray Gnatcatcher
Early south **4/19** Scott ABo, 4/24 Brown JSp, 4/25 Lac Qui Parle RgS (also seen there 5/19 WM, 5/25 BS, LE). All north reports: 5/25 Douglas SDM, 5/9–20 Todd

JSK, 5/31 St. Louis (Duluth) DMe.

Bluebirds to Waxwings

Eastern Bluebird
Early south 3/1 Freeborn ABa and Rice TBo, 3/2 Houston (estimate of 20 at Reno) FL, but see Winter reaport for additional early migrants. Early north **3/3** (overwintered?) Otter Tail SDM, 3/14 Kanabec BA, 3/25 Becker BBe and Wadena PBi. Prior to 3/15 there were about 38 birds reported from nine counties (nearly all in the SE and south-central). Significant migratory movement did not begin statewide until approximately 3/25. **Note**: Please indicate overwintering if known, in order to distinguish these birds from migrants.

Mountain Bluebird
Only report: 4/5 Kittson (female) PS.

Townsend's Solitaire
One from the winter season seen 3/23 St. Louis (Duluth) ME.

Veery
Early south 5/6 Rice TBo, 5/9 Freeborn ABa, 5/12 Murray ND. Early north 5/11 Becker BBe, 5/13 Kanabec CM, 5/14 Carlton LW and Cass EP. **Note**: April observations of Veery, Gray-cheeked, and Swainson's Thrushes no longer will be published without documentation due to confusion with the Hermit Thrush.

Gray-cheeked Thrush
Early south 5/6 Rock ND, 5/7 Lac Qui Parle RJ, 5/8 Hennepin TT. Early north 5/10 Becker BBe, 5/12–13 Aitkin WN, 5/14 Hubbard OJ. Late south 5/13 Pope SDM, 5/15 (partial albino) Hennepin TT, 5/20 Olmsted DA/BE. Late north 5/25 (singing) St. Louis PS, 5/29 Otter Tail SDM, 5/30 (singing) St. Louis AH, PS.

Swainson's Thrush
Early south 5/7 Murray ND, 5/8 Lyon RgS, 5/9 Freeborn ABa. Early north 5/2 Aitkin WN, 5/10 Becker BBe, 5/12 Douglas SWa, GrK. Late south 5/25 Hennepin SC, 5/26 Ramsey TT, 5/28 McLeod RbS.

Hermit Thrush
Early south 3/27 Brown JSp, 3/30 Rice TBo, 4/2 Hennepin SC. Early north 4/4 Beltrami DJo, 4/5 Otter Tail SDM, 4/6 Morrison WB. Late south 5/2 Hennepin TT, 5/6 Hennepin SC, 5/8 Brown JSp. Unusual report: 3/1 (overwintered) Dakota TT.

Wood Thrush
Early south 5/8 Ramsey TT, 5/9 Brown CK and Olmsted DA/BE. Early north 5/13 Kanabec CM and Aitkin CB, 5/14 Carlton LW.

American Robin
Reported throughout the state.

Varied Thrush
All reports: 3/25–31 Hennepin (Medina) Elizabeth Weir *fide* AH, BSe, 3/1–**4/11** Cook (Hovland) OSL.

Gray Catbird
Early south 4/27 Cottonwood ED, 5/4 Hennepin RH, 5/6 Houston EMF. Early north **4/21** (second earliest north — overwintering?) St. Louis ME *et al.*, 5/3 Aitkin WN, 5/9 Todd JSK. All overwintering reports: 3/4 Hennepin (Old Cedar Avenue Bridge) SC, 3/7 Dakota (Eagan) TT, 4/1 (same bird as 3/4?) Hennepin BSe.

Northern Mockingbird
All reports: **4/24** Clay (Felton Prairie) RK, 4/30 **Houston** DS, 5/8 Otter Tail SDM, 5/11 Hennepin TT, 5/15 McLeod RbS, 5/15 Cook *fide* OSL, 5/18 Dakota *fide* AH.

Brown Thrasher
Early south 4/12 Hennepin TT, 4/13 Stearns MJ/DT and Rice TBo. Early north 4/23 Aitkin WN, 4/25 Wadena, 4/27 Kanabec CM.

European Starling
Reported throughout the state.

American Pipit
All reports: 4/2 (the 12-year median arrival date is 4/16 but this was the only

April report this year) Wilkin KB, 5/2 Lincoln RgS, 5/16 Freeborn ABa, 5/25 St. Louis PS.

Bohemian Waxwing
All reports: 3/7 Aitkin WN, 3/8 Lake DV, 3/28 St. Louis (860) JN, 3/29 St. Louis (2,875) JN, 3/30 St. Louis (125) JN, 4/2 Aitkin WN and St. Louis LW, 4/5 St. Louis TW. Peak 3/5 St. Louis (Duluth — **3,928**) FN. Total for the season at the spring hawk watch in Duluth (Enger Tower) 9,578 FN *et al.*

Cedar Waxwing
Reported throughout the state.

Warblers

Blue-winged Warbler
Early south **4/20** (earliest date on record) Rice CGj, 5/6 Houston EMF and Washington RJ. Only north report: **5/25 Douglas** (two males on territory at Lake Carlos State Park) SDM.

Golden-winged Warbler
Early south 5/6–7 Mower DSm, 5/9 Olmsted CK. Early north 5/13 Otter Tail SDM, Cass EP, and Aitkin CB, plus 5/15 Becker (about 20) PS.

Tennessee Warbler
Early south 5/6 Rice TBo, Olmsted (3) CK, and Washington RJ. Early north 5/9 Otter Tail GB, 5/10 Becker BBe, 5/11 Morrison WB.

Orange-crowned Warbler
Early south 4/23 Hennepin AH, 4/25 Lac Qui Parle WM, 4/26 Hennepin SC. Early north 5/6 Kanabec CM, 5/7 Hubbard DJo, 5/9 Otter Tail SDM. Late south 5/13 McLeod RbS, 5/16 Nicollet DN and Hennepin SC. Late north 5/14 Carlton LW and St. Louis TW, 5/15 Aitkin WN. **Note**: Very scarce this spring; TT reports first time missed in 15 years — RJ reports first time missed in 50 years!

Nashville Warbler
Early south 5/5 Hennepin SC, 5/6 Rice TBo and Mower DSm. Early north 5/2 Hubbard FL, 5/6 Cook KMH and Carlton LW.

Northern Parula
Early south **4/15** Hennepin BSe, 5/6 Rice TBo, 5/9 Brown CK. Early north 5/12 Cook KMH, 5/14 Cass (3) EP and Carlton LW. Late south 5/14 Hennepin SC, 5/17 Fillmore CK, 5/18 Chisago RH.

Yellow Warbler
Early south 5/3 Hennepin SC, 5/6 Carver RJ and Hennepin TT. Early north 5/9 Aitkin CMG, Wadena PBi and Morrison MJ/DT.

Chestnut-sided Warbler
Early south **5/3** Olmsted CK, 5/11 Freeborn ABa, 5/13 Hennepin SC. Early north 5/10 Becker BBe, 5/13 Cass EP and Carlton CB, LW.

Magnolia Warbler
Early south 5/11 Rice TBo, 5/13 Houston EMF and Hennepin SC. Early north 5/10 St. Louis AE, 5/12 St. Louis SS, 5/14 Kanabec CM. Late south 5/20 Brown JSp, 5/22 Murray ND, 5/31 Hennepin TT.

Cape May Warbler
Early south 5/8 Rice TBo, 5/10 Brown KE, 5/13 Hennepin (2) TT. Early north 5/12 St. Louis TW, 5/13 Cass EP and Kanabec CM. Late south 5/14 Hennepin SC, 5/16 Washington DS. **Note**: It appears that most of the migration passed through the south in just seven days!

Black-throated Blue Warbler
No reports south. All north reports: **5/11** Cook KMH, **5/16** Lake MSt, DV, 5/22 Cook MSt, 5/23 Lake (Tettegouche State Park) DN, 5/28 Cook (Gunflint Lake) KMH, 5/29 Cass (T145N, R30W, section 34) EP.

Yellow-rumped Warbler
Early south **3/28** Goodhue (location?) PJ, DN, **3/28** Goodhue (2 at Frontenac) BL, 4/2 Hennepin TT. Early north **3/31** St. Louis (Hoyt Lakes) AE, 4/8 St. Louis JN,

Blackburnian Warbler, American Redstart and Canada Warbler. Painting by Walter Breckenridge.

4/9 Aitkin WN. Late south 5/18 Chisago RH, 5/20 Hennepin SC, 5/23 Lincoln RgS.

Black-throated Green Warbler

Early south **4/25** (ties earliest date on record) Lac Qui Parle WM, 5/6 Hennepin SC and Brown JSp. Early north **4/28** Becker (2) BBe, 5/9 Carlton PS, 5/11 St. Louis AE, TW. Late south 5/17 Olmsted CH, 5/19 Hennepin SC, 5/26 McLeod RbS.

Blackburnian Warbler
Early south 5/6 Washington RJ, 5/10 Brown JSp, 5/13 Olmsted CH. Early north 5/9 Todd JSK, 5/11 Cook KMH, 5/12 St. Louis TW. Late south 5/17 Fillmore CK, 5/20 Rice TBo and Hennepin SC.

Pine Warbler
Early south **4/12** (earliest date on record) Anoka KB, 4/25 Winona (2) CK, 4/29 Hennepin TT. Early north 4/27 Becker BBe, 4/30 Beltrami DJo, 5/2 Hubbard FL and Carlton LW. Unusual south report 5/23 **Lincoln** (Ash Lake) RgS.

Palm Warbler
Early south 4/25 Olmsted CH, 4/26 Hennepin (2) SC, 4/26 Hennepin (3) TT. Early north **4/22** (second earliest north) Carlton LW, 4/30 St. Louis JN, 5/3 Otter Tail SDM. Late south 5/16 Hennepin PBu and Scott ABo, 5/18 Chisago RH.

Bay-breasted Warbler
Only reports south: 5/17 Olmsted DA/BE, 5/17 Hennepin SC. Early north 5/13 Cass (3) EP, 5/15 Aitkin WN, 5/16 Lake DV. Exceptionally scarce in the south.

Blackpoll Warbler
Early south 5/7 Big Stone RJ, 5/9 Hennepin TT, 5/11 McLeod RbS. Early north 5/11 Otter Tail SDM, 5/12 Beltrami DJo and Douglas SWa, GrK. Late south 5/21 Hennepin SC and Rock PS, 5/23 Rice JL. Late north 5/17 Marshall PS, 5/18 Kittson PS, 5/30 St. Louis PBu.

Cerulean Warbler
Early south 5/11 Olmsted CK, 5/15 Scott (6) BSe, 5/16 Nicollet. Also seen in Brown, Chisago, Houston, and Rice. No reports north.

Black-and-white Warbler
Early south 4/30 Freeborn ABa, 5/6 Murray and Rock ND. Early north 5/3 Aitkin WN and Becker BBe, 5/6 Todd JSK and Carlton LW.

American Redstart
Early south 5/6 Hennepin SC, 5/9 Cottonwood ED and Hennepin TT. Early north 5/10 Becker BBe and Carlton LW, 5/11 Beltrami DJo.

Prothonotary Warbler
Early south 5/9 Hennepin SC, 5/10 Scott ABo, 5/15 Pope SDM. Unusual south report 5/22 **Lac Qui Parle** AH, PS. Only north report 5/20 **Todd** SDu.

Worm-eating Warbler
No documented reports.

Ovenbird
Early south 5/5 Murray ND and Brown JSp, 5/6 Washington RJ. Early north 5/8 Todd JSK and Aitkin WN, 5/9 Carlton (3) PS.

Northern Waterthrush
Early south 4/26 Lyon RgS, 4/27 Olmsted CK and Cottonwood ED. Early north 5/8 Otter Tail SDM, 5/9 Otter Tail DST and Todd JSK.

Louisiana Waterthrush
All reports: 4/25 Houston (four singing males) mob, 4/26 Winona CK, 5/16 Hennepin (Wolsfeld Woods) WM.

Kentucky Warbler
All reports: 5/20 Scott (Louisville Swamp) AH, 5/25 Scott (Murphy-Hanrahan Park) BF, 5/25–30 Rice (Nerstrand Big Woods S. P.) TBo, mob.

Connecticut Warbler
All south reports: 5/13 Hennepin SC, 5/14 Hennepin TT, 5/25 Hennepin TT. Early north 5/16 Cass EP, 5/20 Aitkin WN, 5/25 St. Louis PS.

Mourning Warbler
Early south 5/12 Brown JSp and Hennepin TT, 5/15 Rice TBo. Early north 5/17 Carlton LW and Marshall AH, PS, 5/18 Cook KMH and St. Louis AE, TW. Late south 5/28 Brown JSp, 5/30 Scott DN.

Common Yellowthroat
Early south 5/8 Hennepin TT and Rice TBo, 5/9 five additional reports. Early

north **4/22** (ties earliest north date) Becker BBe, 5/12 Aitkin WN, 5/13 Cass EP.

Hooded Warbler
All reports: 5/15–31 Scott (Murphy-Hanrahan Park) BSe, mob.

Wilson's Warbler
Early south 5/9 Olmsted DA/BE, 5/11 McLeod RbS. Early north 5/13 Cass EP, 5/14 St. Louis TW, 5/15 Kanabec CM. Late south 5/31 Washington DN. Late north 5/30 St. Louis PBu, PS.

Canada Warbler
Early south 5/20 Hennepin SC and Rice TBo, 5/21 Rock PS. Early north 5/15 Cass EP, 5/16 Pine DS, 5/18 Aitkin CB and St. Louis FN. Late south 5/31 Hennepin TT.

Yellow-breasted Chat
Only report: 5/26 Rice RJ.

Tanagers to Snow Bunting

Summer Tanager
Only report: 5/9 Lyon (Camden S. P.) RgS.

Scarlet Tanager
Early south 5/10 Washington DN, 5/11 Hennepin TT, 5/12 Rice TBo. Early north 5/13 Cass EP, Kanabec CM, 5/14 Todd JSK.

WESTERN TANAGER
All reports: **4/27–5/1** Becker (Monson Lake) PBe, BBe, 5/9 Goodhue (Sand Point) DN.

Spotted Towhee
Only documented report: 5/4 Rock (Blue Mounds S. P.) KE, PS.

Eastern Towhee
Early south 4/5 Houston EMF, 4/22 Olmsted DA/BE, 4/25 Rice TBo. Early north **3/20** (overwintered?) St. Louis (Park Point) *fide* KE, 5/3 Wadena PBi, 5/23 Crow Wing PP. One had overwintered in Duluth, several miles northeast of the Park Point location; the 3/20 date would be the earliest on record for the state.

American Tree Sparrow
Late south 4/20 Washington DN, 4/24 Cottonwood ED, 4/26 Lyon RgS. Late north 4/24 Carlton LW, 4/25 St. Louis TW, 4/28 Cook KMH and St. Louis *fide* FN.

Chipping Sparrow
Early south 3/26 Rock ND, 3/31 Freeborn ABa, 4/3 McLeod RbS. Early north **4/5** Cook OSL and St. Louis SL, 4/12 Aitkin WN.

Clay-colored Sparrow
Early south **3/21** (earliest date in the state) Hennepin SC, 4/25 Jackson TT, 4/28 Stearns MJ/DT and Washington RJ. Early north **4/24** Clay RK, 4/29 Otter Tail SDM, 5/7 Kanabec CM.

Field Sparrow
Early south 3/29 Freeborn ABa, 4/7 Rice TBo, 4/9 Brown JSp and Olmsted DA/BE. Early north **4/10** (earliest north date) **Cook** (Taconite Harbor) mob, 4/23 Morrison WB, 5/1 **St. Louis** (Duluth) KE.

Vesper Sparrow
Early south 4/1 Dakota DBS, 4/2 Rice

Field Sparrow, 4 April 1998, Taconite Harbor, Cook County. Photo by Dennis Martin.

FKS, 4/3 Murray ND. Early north **4/5** Wadena PBi, 4/11 Otter Tail DST, 4/14 Morrison WB.

Lark Sparrow
Early south 4/26 **Pope** SDM, 5/1 Anoka RH, 5/3 Sherburne DJe. Early north 5/16 Clay AH, PS, 5/17 Marshall AH, PS, 5/29 Morrison WB. Also reported from Rock (Blue Mounds S. P.) on 5/21 by PS.

Savannah Sparrow
Early south **3/22** (second earliest date in the state) Olmsted DA/BE, 3/26 Freeborn ABa, 3/28 Dakota TT. Early north 4/13 St. Louis LW, 4/18 Aitkin SC and Wadena PBi.

Grasshopper Sparrow
Early south 5/3 Big Stone LE, 5/5 Dakota DBS, 5/7 Hennepin SC and Olmsted DA/BE. Early north 5/3 Otter Tail SDM, 5/9 Carlton PS, 5/13 Marshall (Nelson Park Twp.) PS.

Henslow's Sparrow
More reports than usual (***The Loon*** 70:153–154): 5/9–31 **Olmsted** (Chester Woods) mob, 5/9 Goodhue (Frontenac S. P.) *fide* AH, 5/13 Washington (Afton S. P.) RJ, 5/17 Fillmore CK. **Note:** None were reported from Great River Bluffs (formerly O. L. Kipp) S. P., Winona Co. and nearly all of the above were submitted without documentation.

LeConte's Sparrow
Only south report 5/19 Lac Qui Parle WM. Early north 5/3 Wadena PBi, 5/9 St. Louis SS, 5/10 Todd JSK.

Nelson's Sharp-tailed Sparrow
Early north **5/12** (earliest date north) **Douglas** (Solem Twp.) SWa, GrK, 5/23 Clay CK.

Fox Sparrow
Early south 3/1 Brown BBo, Dakota *fide* AH and Rice TBo, 3/20 Lyon RgS, 3/25 Mower RRK, and from seven additional counties on 3/26. Had the 3/1 birds been overwintering, or were they the vanguard of a major movement at the end of the month? Early north 3/30 St. Louis JN, 4/1 Aitkin CMG, 4/4 Itasca BN, St. Louis AE, CM. Late south 4/10 Hennepin PBu, 4/19 Olmsted BBr. Late north 4/17 Clay CN, 4/23 St. Louis FN.

Song Sparrow
Overwintered south in Hennepin TT. Early migrants south 3/21 Ramsey RJ, 3/26 Olmsted BBr. Early north 3/28 St. Louis JN, 3/29 Douglas SWa, GrK.

Lincoln's Sparrow
Early south 4/18 Martin DBM, 4/20 Jackson MJC, 4/22 Hennepin SC. Early north 5/4 Otter Tail SDM, 5/9 Kanabec CM, 5/14 Cook KMH and St. Louis TW. Late south 5/21 Hennepin SC.

Swamp Sparrow
Overwintered in Hennepin SC. Early south 3/15 (overwintering?) Lac Qui Parle FE, 3/18 (overwintering?) Fillmore BBr, 4/4 Houston FL, 4/7 Hennepin SC. Early north 4/14 Carlton LW, 4/18 Aitkin WN, 4/19 Beltrami DJo.

White-throated Sparrow
Presumably overwintering birds south in Houston EMF, Olmsted DA/BE, BBr and north in St. Louis JN. Early migrants south 3/22 Anoka MM, 3/28 Wabasha BBr, 4/5 Ramsey TT. Early north **3/22** Lake of the Woods PS, 3/28 St. Louis JN, SL. Late south 5/13 Houston EMF, 5/17 Hennepin SC, 5/20 Hennepin TT.

Harris's Sparrow
Presumably overwintering birds 3/1 Jackson MJC and another as late as 4/17 in St. Louis *fide* KE. Early south 4/12 Lac Qui Parle LE, 4/20 Lyon and Yellow Medicine RgS. Early north 4/30 Becker BK, 5/1 Todd JSK, 5/7 Otter Tail SDM. Late south 5/11 Brown JSp, 5/13 Olmsted CK, 5/15 Hennepin PBu. Late north 5/12 Douglas SWa, GrK, 5/17 Marshall AH, PS.

White-crowned Sparrow
Early south 4/25 Jackson MJC, 4/26 Lac Qui Parle FE and Pope SDM. Early north

4/30 St. Louis SL, 5/7 Becker BK, Cook OSL and Otter Tail SDM. Late south 5/16 Hennepin PBu, TT, 5/17 Mower RRK. Late north 5/18 Cook OSL, 5/25 Douglas SWa, GrK.

Dark-eyed Junco
Late south 5/2 Lyon RgS, **5/31** Rice TBo. JN reported an early wave of migrants 3/1–5, then none until 3/28. TW observed two major movements of migrants through St. Louis on 4/6 and 4/25. "Oregon" race individuals reported from Otter Tail DST, 3/28 Stearns MJ/DT, 3/1 and 4/1 Dakota DBS.

Lapland Longspur
Peak numbers 3/3 Clay (1,000) RK, 4/12 Big Stone (150) LE. Late south 4/18 Olmsted CH, 4/19 Jackson TT, 4/25 Big Stone WM. All other north reports: 4/5 Roseau PS, 4/22 Pennington RJ, 4/28 St. Louis *fide* FN, 5/5 St. Louis SL

Smith's Longspur
No reports for the fifth consecutive spring. Since this species winters in Oklahoma and Kansas, and is regularly found as far east as eastern Illinois in the spring, why do we see so few in Minnesota in this season?

Chestnut-collared Longspur
Early north 4/24 Clay (Felton) RK, 5/21 **St. Louis** (Cook sewage pond) RJ.

Snow Bunting
Late south 3/13 Mower RRK, 3/28 Olmsted CH, BBr. Late north 4/22 Lake DV.

Cardinals to Orioles

Northern Cardinal
Reported from 31 south counties and from Aitkin, Kanabec, Morrison, St. Louis and Todd in the north. Numbers continue to increase in the northeast (KE).

Rose-breasted Grosbeak
Early south 5/1 Anoka RH, 5/5 Carver RJ, Houston EMF and Rice TBo. Early north **4/27** Carlton SL, 5/1 Aitkin WN, 5/2 Todd JSK, 5/6 Kanabec CM.

Blue Grosbeak
All reports: 5/21 Rock PS, 5/24 Pipestone BL, 5/25 Rock BSe, 5/30 Murray ND.

Indigo Bunting
Early south 5/1 Stearns MJ/DT, 5/9 Houston EMF, Nicollet CK and Olmsted DA/BE. Early north 5/10 Crow Wing PP, 5/12 Aitkin CMG and Otter Tail GB.

Dickcissel
Early south 5/18 Chisago RH and Murray ND, 5/19 Olmsted DA/BE. Reports from eight south counties with birds spreading eastward earlier than usual.

Bobolink
Early south 5/7 Rice TBo and Nicollet MF, 5/8 Big Stone RJ. Early north 5/9 Aitkin WN, Cass WB, and Morrison MJ/DT.

Red-winged Blackbird
Reported throughout the state. Early north 3/9 Aitkin *fide* CB, 3/15 Otter Tail GB, 3/18 Kanabec BA.

Eastern Meadowlark
Early south 3/1 (overwintering?) Dakota BSe; migrants began showing up on 3/25 in Rice JLa, and in eight additional counties over the next three days. Early north 3/29 Aitkin WN and Carlton LW, 3/31 Kanabec CM.

Western Meadowlark
Early south 3/7 (overwintering?) Murray ND; migrants began showing up on 3/25 in McLeod MRN, and in eight other counties over the next three days.

Yellow-headed Blackbird
Early south 3/30 Lincoln and Lyon RgS, 4/11 Big Stone LE. Early north 4/5 Grant SWa, GrK, 4/17 Douglas SWa, GrK, 4/18 Wadena PBi.

Rusty Blackbird
Early south 3/2 Carver RJ and Rice TBo,

3/11 Lac Qui Parle FE. Early north 3/29 St. Louis DN, DS, 4/5 Becker BK and Otter Tail SDM. Late south 4/5 Big Stone LE, 4/8 Rice JL. Late north 4/8 Wadena PBi.

Brewer's Blackbird
Reported 2/28 through 3/1 Rice JL, JLa, 3/28 Goodhue DN, 4/1 Lyon RgS. Early north 4/7 Wilkin KB, 4/18 Wadena PBi, 4/20 Lake DV.

Common Grackle
Seen throughout the southern counties from the beginning of the period. Overwintered north through 3/11 St. Louis JN. Early migrants north 3/21 Aitkin WN, 3/25 Otter Tail SDM and St. Louis LW.

GREAT-TAILED GRACKLE
Third state record seen 4/18 through the end of the period in **Jackson** (Grover's Lake WMA). Initially, two males and one female were found north of the state line by KE and DBM (***The Loon*** 70:183). As many as six individuals were reported on the Minnesota side of this WMA by subsequent observers.

Brown-headed Cowbird
Early south 3/18 Lac Qui Parle FE, 3/20 Lyon RgS, 3/26 Hennepin SC. Early north 4/5 Wadena PBi, 4/6 Aitkin WN, 4/10 St. Louis TW.

Orchard Oriole
Early south 5/9 Lyon RgS, 5/13 Olmsted DA/BE, CH, CK, 5/14 Houston KK and Nicollet MF. All north reports: **5/10** Otter Tail GB, 5/17 Marshall AH, PS, 5/21 Wilkin SDM. Peak number 5/21 Rock (8) PS.

Baltimore Oriole
Early south 5/2 Hennepin TT, 5/6 Houston KK, Murray and Rock ND, and Washington TEB, RJ. Early north 5/8 Aitkin WN, Becker BK, and Otter Tail DST.

Finches to Old World Sparrows

Pine Grosbeak
Late north 3/22 Kittson PS, 4/5 Cook KMH.

Purple Finch
Late south 4/30 Houston EMF, 5/3 Dakota TT, 5/6 Hennepin SC.

House Finch
Reported throughout the state.

Red Crossbill
All reports: 3/1 Lake DV, 3/19 Hubbard DJo, 3/29 and 4/4 Aitkin WN, 4/13 Wadena ABo, 5/15 Becker AH, PS.

White-winged Crossbill
All south reports: 3/1 and 3/15 Dakota TT, 3/7 Brown JSp, 3/2–14 Olmsted BBr, CH, 4/1 Rice JL. All north reports: 3/1–16 Kanabec BA, 3/5 Aitkin CB, 3/29–4/1 Aitkin WN, late March Becker BBe, 5/27 St. Louis AE.

Common Redpoll
Late south 4/5 Anoka MM, 4/6 Hennepin DBM and Stearns MJ/DT. Late north 4/11 Cook KMH and St. Louis AE, 4/16 Todd JSK.

Hoary Redpoll
Only one documented south report: 3/28 Stearns MJ/DT. All north reports: 3/3 and 3/31 Beltrami DJo, 3/7–15 Aitkin WN, 3/11 St. Louis *fide* KE, 3/21 Crow Wing *fide* PP, 3/22 Lake of the Woods County (Baudette) PS, 3/23 Otter Tail (**3**) GB, 3/24 Aitkin CB, and 3/28 St. Louis (Duluth) RRS.

Pine Siskin
Reported from 14 south and 18 north counties.

American Goldfinch
Reported throughout the state.

Evening Grosbeak
Reported from 11 north counties.

House Sparrow
Reported throughout the state. KB found a surprising total of 225 birds in a single flock in Ramsey.

Contributors

BA	Betty Ammerman
DA	Diane M. Anderson
KB	Karl Bardon
ABa	Al Batt
GB	Gayle Beecher
TEB	Tom & Elizabeth Bell
PBe	Peg Benedict
BBe	Betsy A. Beneke
DBe	David R. Benson
PBi	Paul J. Binek
TBo	Tom F. Boevers
BBo	Brad Bolduan
ABo	Al Bolduc
DBo	Don A. Bolduc
TBr	Terry P. Brashear
WB	William L. Brown
BBr	Bill Bruins
DBr	Diane Brudelie
PBu	Paul Budde
CB	Cindy Butler
MB	Mike Butterfield
SC	Steve Carlson
MJC	Mary Jo Christopherson
GKC	Grace & Ken Covey
JDa	Jeff Dains
ND	Nelvina DeKam
ED	Ed Duerksen
SDu	Sue Durrant
KE	Kim R. Eckert
FE	Fred A. Eckhardt
PE	Paul Egeland
BE	Bob Ekblad
LE	Lane Ellwanger
RE	Ron A. Erpelding
DEv	David Evans
ME	Molly Evans
AE	Audrey L. Evers
BF	Bruce A. Fall
RTF	Roger & Tammy Field
LF	Lawrence W. Filter
HJF	Herbert & Jeanette Fisher
EMF	Eugene L. & Marilynn H. Ford
SF	Scott Foster
RJF	Randy & Jean Frederickson
MF	Merrill J. Frydendall
CMG	Clare & Maurita Geerts
CGj	Colin Gjervold
RG	Ray A. Glassel
DG	David Grossheusch
TGu	Tom Guttormsson
JHa	Jay E. Hamernick
CH	Clifford Hansen
MH	Mike Hendrickson
AH	Anthony Hertzel
JHo	John Hockema
KMH	Ken & Molly Hoffman
RH	Robert E. Holtz
JH	James L. Howitz
NJ	Nancy A. Jackson
RJ	Robert B. Janssen
PJ	Paul Jantscher
DJe	Douglas Jenness
DJo	Douglas P. Johnson
MJ/DT	Murdoch Johnson & Dianne Tuff
OJ	Oscar L. Johnson
JJ	Jeanie Joppru
GrK	Gretel Kiefer
DKi	Don Kienholz
BK	Byron R. Kinkade
KK	Karla Kinstler
RRK	Ron & Rose Kneeskern
SKo	Sarah Kohlbry
RK	Rich Kostecke
AK	Albert Kottke
JSK	John & Susan Kroll
CK	Chuck A. Krulas
DK	Dennis R. Kuecherer
PKL	Pat & Ken Lafond
JLa	Jacob Langeslag
TL	Tim Leahy
FL	Fred Lesher
SL	Sue Levy
JLi	Jim Lind
SLi	Sharon Lind
BL	Bill Litkey
JL	Jon Little
WL	William H. Longley
OSL	Orvis & Sandy Lunke
CMa	Craig R. Mandel
BMa	Brandy Mansfield
WM	William Marengo
DBM	Dennis & Barbara Martin
MM	Marcus G. Martin
CM	Craig Menze
DMe	Dennis Meyer
ChM	Chet Meyers
SDM	Steve & Diane Millard
DM	Darryl S. Moen
StM	Steve Morrison
DN	David F. Neitzel
BN	Bill Nelson
EN	Eric C. Nelson
WN	Warren Nelson
JN	Jeff R. Newman
FN	Frank Nicoletti
GN	Gary E. Nielsen
KN	Kate Niemuth
CN	Connie M. Norheim
MRN	Michael R. North
RO	Robert O'Connor
CO	Connie L. Osbeck
NO	Nancy Overcott
EP	Ethan Perry
PP	Pam Perry
DMP	Daphne & Meyers Peterson
KR	Kim W. Risen
KRv	Kathryn A. Rivers
JSc	John Schladweiler
SS	Steven Schon
RRS	Rick & Robyn Schroeder
RbS	Robert Schroeder
RgS	Roger Schroeder
CS	Carol A. Schumacher
BSe	Blaine Seeliger
JSe	Julian P. Sellers
CSe	Cathy Severin
GS	Gary Simonson
BSi	Beth Siverhus
DSm	Dick Smaby
RSm	Rolf C. Smeby
DBS	Drew & Becky Smith
DS	Dave P. Sovereign
JSp	Jack Sprenger
WSt	William Stauffer
MSf	Mike Steffes
JSt	Jeff Stephenson
FKS	Forest & Kirsten Strnad
DoS	Doug Stucki
KSu	Karen Sussman
PS	Peder Svingen
WS	Wally Swanson
BT	Bill Tefft
DST	Dan & Sandy Thimgan
PT	Pat Thomas
TT	Tom Tustison
DV	Dan Versaw
SWa	Stuart Wagenius
LW	Larry A. Weber
SWe	Steve Weston
KKW	Kristine & Kyle Wicklund
TW	Terry P. Wiens
SWi	Sylvia Winkelman
NWi	Ned Winters
mob	many observers
MBW	Minnesota Birding Weekends
MCBS	Minnesota County Biological Survey
MDNR	Minnesota Department of Natural Resources
NRRI	Natural Resources Research Institute
SPAS	St. Paul Audubon Society
USFWS	U. S. Fish & Wildlife Service

Greater Prairie-Chickens at Radisson South

Walter Breckenridge

This, of course, was many years ago. In fact it was in late April and early May, 1929, just three years after I arrived on my new job at the Minnesota Museum of Natural History (now the Bell Museum). My attention was first called to these birds by reports from some members of a very informal Bird Club including Gustav Swanson, Alden Risser, Charles Evans, and two brothers whose names I have forgotten.

I first made several trips to the area just east across the present Highway 100 from where the Radisson South Hotel now stands and found where a small group of male Greater Prairie-Chickens had established a booming grounds. There I set up my small, dome-shaped blind at a suitable place for photography and waited a couple of days for the birds to become accustomed to its presence. I then got up at two in the morning to drive my little Model T Ford roadster to the location of my blind and get set with my camera before the birds arrived at 4:15 A.M. The road (now state highway 100) that I took was a one lane, graveled surface one where I had to turn off and stop when I met another car. I parked just off the road with no fear of having it stolen or stripped since at that time we had never heard of any such vandalism.

The three or four Greater Prairie-Chickens arrived singly within a few minutes of each other and almost immediately began their booming calls which sounded like pronouncing the letter "M", in syllables like saying "Old Mul-doon" which came simultaneously with the erecting of the feather horns or pinnae and the inflating of the huge orange air sacs. These antics were enacted by each male bird while standing in the center of its territory perhaps fifteen to twenty yards across.

Occasionally a bird would see a neighbor intruding into his territory and it would dash over and put on a mock battle to repel the intrusion. Sometimes a female would appear on the grounds and move around selectively before mating with the male of her choice and immediately leaving the grounds. This competitive displaying slowed down later in the morning and stopped entirely before they left the grounds at about seven o'clock.

Once I heard a slight disturbance coming from on top of my blind which I guessed might have been a Vesper Sparrow but soon after, while studying the chickens' activities, I saw a Short-eared Owl fly off, having been perched within inches of my head. In fact, once a male Prairie-Chicken alighted on my blind where I could have tickled its orange air sac with my finger.

I will not describe here in detail the numerous different courting performances enacted by the birds since Dr. Roberts in his *Birds of Minnesota* has included two full pages of my field notes recorded during the four days of my observations from this most interesting blind.

I do not know how long this little remnant of our Prairie-Chicken population remained in this area. In later years. well into the 1940s, a much larger booming grounds existed in the Carlos Avery Wildlife Refuge a few miles north of the Twin Cities. Here, Dr. Roberts, Will Kilgore, and I would take the extension ornithology classes to see these early morning performances from a distance. I recall that on one of these occasions, a

Northern Harrier flew over the booming grounds and the courting birds either crouched flat on the ground or flew away. When a similar-sized Short-eared Owl flew over, the birds showed little or no concern over its presence.

It is very unfortunate that such interesting bird performances are no longer available locally for even very early rising bird enthusiasts to enjoy watching.

5800 St. Croix Ave. N #511, Minneapolis MN 55422.

Minnesota's First Yellow-throated Warbler Nest

Randy Frederickson

After five unsuccessful attempts at locating the Yellow-throated Warbler in Sibley State Park last spring, we resigned ourselves to thinking "it was great while it lasted." After all, this would be the 4th consecutive year of an evidently single male occupying the same territory, almost 200 miles beyond its normal range. This cooperative bird with its easily accessible territory was viewed by hundreds of birders from around the state. It had provided excellent viewing and almost constant serenading, in addition to the opportunity for new and renewed friendships that began by dialogues from behind binoculars. But not this year.

So it was with gleeful surprise that, while birding along a Sibley Park bike path with Ron Erpelding on 27 May 1997, I stumbled upon a Yellow-throated Warbler. Ron had wandered about 20 yards beyond me so I excitedly yelled, "Ron, Yellow-throated..." and if memory serves me correct, Ron was at my side before "warbler" was ever uttered. (This was/is a special bird for us here, in a county without much birding notoriety.)

The bird was foraging about 3–4 feet off the ground, directly in front of us; not where one would typically look for or find Yellow-throateds, which are known for their treetop antics. Following a good look, the bird disappeared behind about three leaves. After waiting, it became obvious that the two of us had somehow managed to completely miss its departure. I was griping to Ron about what caliber birders we were to lose this bird when he excitedly remarked, "I think I just saw it fly across the bike path; it looked like it had something in its mouth and was being chased by another warbler — maybe even another Yellow-throated." Despite searching we were unable to locate the bird again that evening.

Later that night, while reflecting on the Yellow-throated sighting, some questions intrigued me. I'd birded the area several times in past weeks and was familiar with the "chewy chewy chewy chew" of the male advertising its territory. How was it possible we hadn't heard this bird singing? Perhaps this male (was it even a male? Sexes are identical) didn't need to advertise. Maybe Ron did actually see two birds. Why wasn't the bird on its traditional territory? (But this area was close enough — about 300 meters from the normal area on Cedar Hill — to be the same bird.) The thought of finding a nesting pair began to haunt me.

Two days after the initial sighting, following some research and e-mail tips from Bruce Fall, I headed back to the park in an attempt to locate the birds and

Yellow-throated Warbler nest collected from Sibley State Park, Kandiyohi County. Photo by Randy Frederickson.

determine a possible territory where a nest might be located. After thoroughly searching the area where the bird had been seen two days previous, no evidence of the species was found. So I walked to the area where Ron had possibly seen the bird fly. Lake Andrew was only about 40 meters to the south, so I had a workable area to cover between the lake and bike path.

The many redstarts, Yellow Warblers, and Common Yellowthroats in this area kept me busy. Since the bird wasn't vocalizing the last time it was seen, I assumed it would need to be found visually. After spending about 30 minutes looking through the understory, shrubs, and medium-height trees, I decided to concentrate on the large cottonwoods along the lake. (Yellow-throateds often nest above 30 feet.) Almost immediately, I saw a bird that looked like a Yellow-throated Warbler, but it disappeared behind some leaves in the upper canopy before a positive ID could be made. Fighting the "warbler neck" syndrome, surveillance was kept on the area until a Yellow-throated Warbler proudly popped out in all her beauty. I indicate female because I had only watched the bird for about 10–15 seconds, when it accommodatingly flew to a lower branch in the cottonwood and landed in a nest. I was dumbfounded by my good fortune, knowing it could have taken several hours if not days to locate a potential nest.

The nest site was about 30–35 feet high, and about 8–10 feet from the trunk of the large cottonwood. The nest was located in the first split or fork of the branch; the smaller half of the fork was dead and without bark. The bird moved about in the nest as though she was still perhaps finishing the building process. From my vantage point the nest looked complete.

Now all I needed was to positively identify a second Yellow-throated to confirm there was indeed a pair. Fortune again was my friend, for no sooner had the female left the nest and returned to the upper canopy, than she was joined by her mate.

Although no one was present to share my excitement, readers can be assured there was much internal jubilation and satisfaction. I checked the time (8:15 P.M. on 29 May 1997) knowing this was a first attempted nesting in Minnesota.

Good fortunes evidently ended here, however, for when I returned the following week to take pictures of the nest and warblers, the birds did not materialize. There was no apparent damage to the nest, but in 45 minutes of observation, no Yellow-throateds were heard or seen. Following a vacation, I returned to the

nest site about ten days later and this time found some nesting material hanging loosely from the nest, and the nest itself was partially dislodged from its original location.

I contacted the Sibley Park manager about collecting the nest and showed him its location. The nest was collected several weeks later and has since been sent to the Bell Museum of Natural History for record purposes. **416 – 19th St. NW, Willmar, MN 56201.**

BIRDING BY HINDSIGHT

A Second Look at The Map

Kim R. Eckert

One of the first articles in this series on bird identification (***The Loon*** 67:40–44) addressed the topic of how several misidentifications could be avoided if birders would pay closer attention to the calendar. By being aware of when certain species occur and when they don't, you can often simplify the identification (ID) process. Closely related to this and just as important is to consider where you and the bird are, with this including not only the knowledge of species' ranges but also their habitats.

What follows, therefore, will not be a discussion of field marks of potentially confusing birds, as is typical of most of these Hindsight articles. Instead, this is intended to alert birders how knowledge of the range maps (and habitats) is often an essential aid in correctly identifying and effectively finding a wide variety of birds. Call it birding by geography or distribution, but the point here is how an atlas or road map — or even a tree identification book — will sometimes prove as useful as a field guide.

All lakes are not created equal. And maybe that's why this Land of Ten Thousand Lakes actually has two or three thousand more than advertised: some of the smaller ones apparently are not getting counted at all. In any event, when it comes to certain waterfowl, some lakes are certainly better than others.

For example, if you find yourself scrutinizing every loon you see in hopes of finding something other than a Common, you might consider limiting your search to a certain few lakes. To find a Red-throated, Lake Superior has far more records of this species than any other. Or, are you examining a loon you think just might be a Pacific? Take a second look and be prepared to rethink your ID unless you're on Lake Superior or Mille Lacs, the only places where Pacific Loons regularly show up each fall. (And note these same two lakes have hosted three of the four Yellow-billed Loon records in the state.)

Do you sometimes have trouble identifying scaup? (If not, you're a better birder

than I am!) But one thing to consider is that Lessers migrate everywhere throughout the state, so in most places the best policy is to assume you're not looking at a Greater. In most places, that is. Migrant Greater Scaup tend to use larger bodies of water — e.g., Lake Superior, Lake of the Woods, Mille Lacs, Lake Pepin and the rest of the lower Mississippi River — and avoid smaller and shallower wetlands which Lesser Scaup monopolize.

Some birders still have trouble separating female Common Mergansers from Red-breasteds. But in summer, at least, your worries are over once you consider that Superior is the only lake where Red-breasteds are normally found. Commons also predominate throughout the state during migration, especially in western Minnesota where Red-breasteds are relatively uncommon.

Another group of waterfowl to consider might be the swans. Though Mute Swan ID is a lot easier than trying to tell a Tundra from a Trumpeter, it's often very hard to tell how wild and "countable" it is for your list — and for the file of Minnesota bird records. One clue which might help you decide whether or not that Mute Swan you see looks "listless" is habitat: a Mute Swan in a park-like setting, especially if there are relatively tame waterfowl with it begging for a handout, would be less likely to appear on my list than one in a more natural wetland with some genuinely wild migrants as companions.

It would be easier to just call them all chicken-hawks. With so many diurnal raptors presenting ID difficulties to even seasoned birders, it's nice to know there are some geographical clues to indicate whether an ID you're struggling with is on the right track. Take the accipiters, for example. In summer, unless you are birding in the coniferous forest zone of northern Minnesota, odds are that accipiter you just saw is a Cooper's. In winter and migration, though Sharp-shinneds always outnumber Cooper's, in most places and in most years any truly large accipiter will more likely be a Cooper's rather than a Northern Goshawk: except in peak years of their ten-year cycle, don't expect to see a Goshawk south of the boreal forest.

Buteos can be just as hard to identify as accipiters, with Swainson's and Ferruginous hawks especially involved in many misidentifications. As far as the Swainson's is concerned, in eastern Minnesota they are not to be expected unless you are at Hawk Ridge in Duluth in September or in some few favored farmlands of southeastern Minnesota in summer. The Ferruginous is even more restricted geographically, since there are hardly any reliable identifications on record east of the counties bordering the Dakotas.

Most Minnesota birders are aware that any dark-looking eagle will almost always turn out to be an immature Bald Eagle, rather than a Golden. But there are a couple places to reliably find and safely identify a Golden Eagle: one would be during late fall at Hawk Ridge, the other in winter in the southeastern corner of the state. However, in this latter region don't search for them among the Bald Eagles along the Mississippi River, where many Goldens are reported but hardly any are correctly identified. The place to look is in the hills back away from the river, with Whitewater Wildlife Management Area probably the most consistent spot to find one.

One final and very specific geography lesson on raptors. Peregrines nest on ledges — on buildings, cliff faces, etc. They do not place their nests in spruce trees, which Merlins do all the time, and overly optimistic observers often report these as Peregrine nests.

Grousing about grouse. Complain if you will about how elusive gallinaceous birds can be, but it still won't help you find them. Perhaps the toughest of them all is the Spruce Grouse, and possibly contributing to this might be its misleading name. In this part of the continent this grouse is actually associated more with jack pines than with spruce, and it is

probably most plentiful in Minnesota in the seldom-birded jack pines of Beltrami Island State Forest in Lake of the Woods County.

Another distributional point to keep in mind is that Spruce Grouse, as well as almost all the gallinaceous birds, simply do not migrate. So, one reported south of where it should be probably represents a misidentification — Ruffed Grouse can act every bit as "tame" as a Spruce Grouse, by the way — or a bird escaped or released from a game farm. (There is a published 1982 Spruce Grouse record from southern Pine County, for example, that I still believe was either from a game farm or possibly misidentified.)

Sharp-tailed Grouse are similar in this regard, with out-of-range reports also probably the result of misidentifications — I've seen birders misidentify young pheasants as Sharp-taileds — or game farms. (And there are two recent documented Sharp-tailed Grouse reports from Wilkin and Rock counties that one has to wonder about in this regard.)

A couple other gallinaceous birds, though hardly presenting any ID problems, raise Mute Swan-like questions about listing. Wild Turkeys and Northern Bobwhites (and, for that matter, Chukars) can turn up anywhere in Minnesota, courtesy of game farms, sportsmen's clubs, and the like. No one would probably think much about a turkey or bobwhite up the Gunflint Trail, but what about a turkey in St. Cloud or a bobwhite in Rochester? The behavior of a questionable bird might be the best indicator, but beyond that I would hesitate to count any turkey unless it were south of the Twin Cities and east of Interstate 35 (probably a more conservative view than most birders have), and I doubt any bobwhite outside of Fillmore and Houston counties could be considered wild.

Uncommon Common Terns. Bird identification could certainly be simplified if bird names were more descriptive and less misleading. A case in point: Common Terns aren't as common in Minnesota as are Forster's, the species which predominates in summer and migration. So, as long as you're sure that tern in question isn't a Caspian or Black, you can usually start with the assumption that it's more likely a Forster's than a Common. Even during migration Commons are only infrequently seen, and most often only on the lakes at which they breed: i.e., Lake Superior, Mille Lacs, Leech Lake and Lake of the Woods.

Getting bogged down at feeders. Birders visiting northern Minnesota invariably hope to see Black-backed and Three-toed woodpeckers and some Boreal Chickadees, but they often spend time in pursuit of these birds in the wrong places. One of those places is at bird feeders, which in a way comprise a micro-habitat, but if you think you see one of these woodpeckers or chickadees at a feeder you'd better take a second look. For one thing, I have never heard of a Black-backed or Three-toed woodpecker coming to suet or any other kind of feeder — and I certainly would like to hear from anyone who has witnessed this! And, as far as Boreal Chickadees are concerned, they will visit suet feeders, but hardly ever do they come to seed feeders — only once or twice have I ever seen this.

Perhaps a more important habitat clue as you search for and try to identify these three species is to remember that they are almost invariably limited to coniferous trees. While they can be seen in an aspen or birch or other deciduous tree, it is usually not for very long and only when that tree is within or adjacent to a stand of conifers. Also note that if you're more interested in seeing a Three-toed Woodpecker than a Black-backed, be prepared to literally get bogged down. While Black-backeds can be found in almost any kind of coniferous stand, Three-toeds seem to prefer smaller and thinner trees, such as those in black spruce bogs.

The Least of my worries. It should

go without saying that range and habitat are essential factors to consider as you struggle to identify Empidonax flycatchers in summer, but some reminders here might be helpful and will hopefully not just repeat what everyone already knows. To begin with, Least Flycatchers can nest in virtually any wooded area anywhere in the state, usually in deciduous trees — about the only place I wouldn't expect one would be within the interior of a spruce, tamarack or cedar bog. Yellow-bellieds are in the coniferous forest zone of the northern third of Minnesota (and locally into east central Minnesota), almost always in woods predominated by spruce, tamarack, balsam fir or northern white cedar. Acadian Flycatchers are only local in a few larger tracts of deciduous woods in southeastern Minnesota from the Twin Cities south.

More interesting in their distributions and habitats are Alder and Willow flycatchers. Alders are generally widespread throughout the northern half of the state (and somewhat into east central Minnesota) in relatively open and deciduous woods — and usually not far from alders! Willow Flycatchers replace Alders in the southern half of the state (and locally into northwestern Minnesota), and they tend to be much more local than Alders and in wetter and more open areas. Where the two overlap in central and northwestern Minnesota, I would expect an Empid on the edge of an aspen stand to be an Alder (if not a Least, that is), and one in a wet thicket farther from trees to be a Willow.

On the whole, I'd rather be in Philadelphia range and habitat. W. C. Fields and his famous epitaph might come to mind as a birder anywhere in the boreal forest listens to Red-eyed Vireo songs which seem to be everywhere. How many of these songs might actually be coming from a Philadelphia Vireo, whose song is very similar and at times apparently identical? Since there are too many Red-eyeds singing out there, there isn't time to chase them all down for visual confirmation, but one thing to try is limit your search to one certain habitat.

Though there is much we still don't know about the Philadelphia's habitat, they appear to prefer birch trees over aspens, often in wetter areas with an alder understory. Red-eyed Vireos also use this same habitat, but this is where I'd pay particular attention to a song which sounds a bit higher and slower. As far as range is concerned, Philadelphia Vireos seem to be found consistent only along and near the North Shore of Lake Superior between Silver Bay and Grand Marais, but it seems likely they also occur locally elsewhere in the northern third of the state.

Confusing summer warblers. There may not be many of these, of course, at least not when compared to those in fall which give birders more difficulties. But there are a handful of warblers whose ranges or habitats can be of assistance as you try to figure out what you're seeing or hearing.

One example is the Pine Warbler, which has a quite atypical name: unlike most species, its name actually refers to something relevant! Pine Warblers are almost always found in pine trees, especially in summer but also in migration. So, if you find yourself in fall puzzling over one of those Blackpoll/Bay-breasted/Pine Warbler types, or in summer if you hear one of those frustrating Chipping Sparrow/junco/Palm & Pine warbler trills, if it's not in a pine it's probably not a Pine.

Since the song of the Black-throated Green Warbler is similar to the Black-throated Blue's, this latter species is sometimes reported erroneously as a result. Keep in mind, though, the Black-throated Blue's quite limited breeding range in the maple ridges along the North Shore in Lake and Cook counties (where Black-throated Greens also occur). Anywhere else, vote Green and don't think of the Blues.

While the Northern and Louisiana wa-

terthrush songs are relatively easy to separate, silent waterthrushes are quite another matter to ID. One obvious clue in summer would be the difference in their ranges, but this is often misunderstood. Louisianas are not limited to the southeastern corner of the state, since they have been found in the St. Croix River Valley well up into Pine County. Since this county mostly falls within the boreal forest zone, the false assumption is that Northerns would breed here. In truth, don't expect to find a Northern Waterthrush in summer until you get well north of Duluth.

Finally, are you still in search of Minnesota's two most highly sought warblers — the Connecticut and Mourning? Make sure you're looking in the right places. Connecticuts have a curious preference for two very different habitats: tamarack bogs and mature jack pines (or a mixed aspen-jack pine woods). Mournings, on the other hand, are found almost everywhere in the boreal forest as long as there are some deciduous trees and openings around — don't look for them in the forest interior, especially if that forest is predominantly coniferous.

Longshot longspurs. While migrant Lapland Longspurs can be encountered in pretty much any open area anywhere in the state, Minnesota birders are always hopeful of finding one of the other longspur species somewhere during migration. With only two records of the McCown's in this century, it's probably not worth much time looking for this one, but where does one start looking for a Chestnut-collared or Smith's?

During migration, the best strategy in regard to the Chestnut-collared is probably to not even try. Though easy enough to find in summer in the pastured grasslands of the Felton Prairie complex, this is one of those species hardly ever encountered as a migrant. (Several birds in Minnesota are curiously just that way for reasons unknown, appearing all of a sudden on their breeding grounds without seeming to stop much en route: e.g., Piping Plover, Upland Sandpiper, Marbled Godwit, Common Tern, Pine Warbler, Lark Sparrow and Brewer's Blackbird.)

Smith's Longspurs, however, can be regularly found in migration, at least in October in west central Minnesota, with places like Rothsay Wildlife Management Area or perhaps the Felton Prairie being especially productive. The key is to listen for their call notes in and over the right kind of field, since they have a strong preference for short grass — either pastures or mown hayfields. On the other hand, if you go to Rothsay or Felton and hear or see some longspurs in a plowed dirt field, they are more likely to be Laplands.

Birding meadows just for a lark. Visual identification of silent meadowlarks is one of the most difficult and underrated ID problems, especially in fall and winter when some useful facial plumage differences are obscured. But the range maps are often helpful in summer: Western Meadowlarks breed throughout the state except in Lake and Cook counties, while Easterns nest throughout the eastern half of Minnesota (a line drawn from Lake of the Woods to Albert Lea would be close to its western range limit). Therefore, anything west of that line, no matter what the time of year, should be a Western by default.

There remains, however, a broad area of overlap in the state, but here it helps to know the two meadowlarks tend to separate out by habitat. Look for Westerns in larger fields in flatlands less fragmented by trees, where big agriculture operations predominate. Easterns tend to prefer smaller fields in areas where there are more trees, often in clearings in a river valley, often in meadows and pastures with longer and wetter grass.

Improving rusty identification skills. I'm fond of telling other birders that the Rusty Blackbird is one of my favorite birds. This is because it's more colorful in fall than in spring or summer, unlike most birds; because females are

easier to identify than males (to separate them from female Brewer's, simply note the eye color); and because it has two good reasons for its name (which is two more than most birds have!), which refers both to its fall plumage and to its "rusty hinge" song.

Breeding range is also a good aid to Rusty vs. Brewer's ID, with Rusty Blackbirds limited to a few alder swamps in extreme northeastern Minnesota, and Brewer's occurring in edges, clearings and fields almost everywhere else in northern and central Minnesota. During migration, habitat differences are also important: look for Rustys in wetter, brushier and more wooded situations; Brewer's prefer drier and more open fields.

When to pine for crossbills. Many visiting birders to the boreal forests of northeastern Minnesota tend to call any conifer they see a pine tree, but the conifers which actually predominate in this part of the state are spruce, tamarack, balsam fir and northern white cedar. And a basic knowledge of tree identification is important when looking for crossbills: note that Red Crossbills are clearly partial to pines, while White-wingeds almost always prefer spruce and tamarack cones. Since crossbills are often first detected as they call in flight overhead, and since most birders still have trouble distinguishing their call notes, it helps to know what kind of forest you're in. (And if you need a White-winged Crossbill for your list, start pishing hard before they fly out of sight: White-wingeds are usually responsive — more so than Reds, by the way — and will often make a U-turn back to you.) **8255 Congdon Blvd., Duluth, MN 55804.**

BOOK REVIEWS

THE WOOD WARBLERS: AN INTRODUCTORY GUIDE, by Barth Schorre, 1998, University of Texas Press, 140 pages, 97 color plates. List paperback $17.95.

One could not make a strong case that the world needed another book introducing us to North American warblers. Warblers are well covered in print. Barth Schorre has, however, given us a volume of value, a handsome book that discusses 49 species of warblers in succinct, graceful text accompanied by very good photographs.

The photos deserve special mention. Most of them were taken by the author in his Rockport, Texas backyard. Mr. Schorre built a blind there, near a small pool of water, collecting these images over 20 years of waiting and watching. Photographs of birds when used to illustrate identification text almost always leave much to be desired; I have found few such books I would buy.

But these are good photos, showing, for the most part, the marks essential for determining identity. Most of the pictures were taken of birds at eye level, birds

close to the camera. You can SEE these birds.

The photos are accompanied by a short page of text for each species. Two or three well-written paragraphs give you as much information as you might care to have as an introduction to the species or as a pleasant reminder of the basic details of these birds — physical description, habitat needs, food and nesting information, distribution, and status.

The species accounts are preceded by a well-written introduction to the book and the birds, by remarks on the diminishment of warbler populations, on distribution, migration, attracting warblers to your yard, and some advice on identification. The text is brief in all cases, what you need to know but no more, clearly stated.

The book itself is well designed — like a warbler — slim and a pleasure to the eye. The entire project demonstrates knowledge and love of the birds, care to the job at hand, and consideration of the reader. **Jim Williams, 5239 Cranberry Lane, Webster WI 54893.**

HANDBOOK OF THE BIRDS OF THE WORLD, VOL. 4: Sandgrouse to Cuckoos. J. del Hoyo, A. Elliott, and J. Sargatal, editors. Lynx Edicions, Barcelona, Spain, 1997, 679 pp. $185.

These and future volumes are available from specialty bookstores or from the publisher: Lynx Edicions, Passeig de Gràcia, 12, 08007 Barcelona, Spain. For more information, inquiries may be sent via e-mail (lynx@hbw.com), or see the publisher's web page (http://www.hbw.com).

This fourth volume, part of a series projected to total twelve when completed, is once again a magnificent publication. Volume 4 treats six families in four orders: Pteroclidiformes (sandgrouse), Columbiformes (pigeons and doves), Psittaciformes (cockatoos and parrots), and Cuculiformes (turacos and cuckoos). These groups are treated by nine authors from throughout the world: L. F. Baptista, N. J. Collar, J. H. Haffer, H. M. Horblit, E. de Juana, R. B. Payne, I. Rowley, P. W. Trail, and D. A. Turner.

Together with the very informative and aesthetically pleasing artwork in plates and photographs are the now familiar long and detailed family accounts and succinct species accounts with range maps and subspecies-level treatment. More of the technical details of the volume are that the 70 color plates were painted by 18 artists; it contains the most species of any of the nonpasserine volumes (837); the global distribution of each species is portrayed in a multi-colored map; there are 236 photographs; and about 7,000 references are cited. This is the first volume in the series in which I've noticed a few typographical errors. But this does little to detract from the work and actually brings one to realize that the people behind this incredible effort are human after all.

This volume contains both the orders Columbiformes (pigeons and doves) and Psittaciformes (parrots and cockatoos), comprising the most popular groups of birds held in captivity as pets. For this reason alone I expect that this volume will outsell all others, and would strongly encourage owners of birds in these groups to obtain and read the family accounts of Columbidae and Psittacidae, as well as the species accounts matching their pet birds. The conservation accounts in both of these families also make for very interesting reading. Humans have caused extinction and endangerment among many species in both groups, but for different reasons and in different ways. Columbiformes have been particularly susceptible on islands, through exploitation for food and by the introduction of predators. Approximately 26% of the world's Psittaciformes are considered to be at risk of extinction, and habitat destruction and the pet trade have wreaked havoc. This group also shows evidence of multiple island extinctions over the past few centuries. — testimony again to the vulnerability of insular avifauna to human impacts on islands.

In a work generally so excellent, it is

somewhat surprising to find what first appeared to be an error in the table of contents. Pteroclidiformes and Pteroclididae are given as "Pterocliformes" and "Pteroclidae," respectively. In turning to the treatment of this group, however, the apparent error is repeated, meaning that it was a choice. Although other nomenclatural issues are discussed in the brief introduction, this one is not. On p. 30 one finds that "the family has frequently been given as Pteroclididae, but, while that variant spelling is not actually incorrect, the shorter form Pteroclidae has now been strongly recommended for general adoption." This is an inadequate discussion (with no reference given) for an apparent change in scientific nomenclature, and in a work generally so informative one would wish to see a better explanation. For example, it is misleading to suggest that there is a policy in scientific nomenclature to simply choose a shorter word.

Ultimately, this change reflects the fact that the genus Pteroclidurus Bonaparte was subsumed historically by the genus Pterocles Temminck. Our library here is inadequate to flesh out the full history of the jockeying of these two family names (e.g., which was proposed as familial or ordinal name first), but choosing one that doesn't reflect the terminology of some of the most widely used references (e.g., Peters' *et al. Birds of the World,* Harvard University Press 1931–1987; Cramp *et al.'s The Birds of the Western Palearctic*, Oxford University Press, 1977–1994) should have been more fully explained.

As with previous volumes, one runs out of superlatives to describe the quality of this volume's content. And I should point out that this is not just a superb reference. It also makes fascinating reading. I've never seen a Sandgrouse, but the detailed family account, with its accompanying photographs, makes me want to shake off winter and go see some strange new birds.

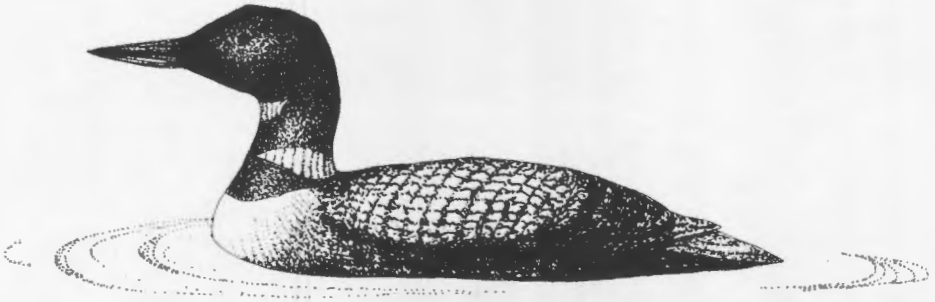
Quite aside from the meat of this volume is a splendid 14 page foreword by Jürgen Haffer entitled "Species Concepts and Species Limits in Ornithology." At first it was a little surprising to find this well illustrated review published here. But in retrospect it is fitting that the editors should include a detailed discussion of a subject so important to a work of this nature, which is founded upon the biological species concept and includes subspecies. Species concepts and species limits have been hotly discussed in the scientific literature for decades, and in ornithology this discussion has been particularly active during the past decade. This is an excellent review of the subject, and does an admirable job of covering species concepts and speciation in birds.

Opponents of the Biological Species Concept (BSC) will find in Haffer's review and in this volume examples of the subjectivity of this concept, and it remains true that the concept has weaknesses. But personally I find the most strongly promoted alternative — the Phylogenetic Species Concept (PSC) — to also suffer from subjectivity, and think that carrying it to its logical end, that all diagnosable lineages are full species, would mire us in an equally sticky quagmire of a different flavor. Thus, I fully support the editors' choice to present the birds of the world under the rubric of the BSC, as species and subspecies, and think that this well-illustrated series will assist us in redressing the excesses of lumping that inarguably occurred during the heyday of the BSC. Placing the limits of species in the inherently continuous process of differentiation will always be subjective. Fortunately, our constantly improving understanding of the speciation process will steadily move us closer to some middle ground where most ornithologists agree on most recognized species. Getting there will continue to generate interesting debate.

One third of the series is now completed — how does it stack up? The information and illustrative content greatly exceeds any other published effort on the birds of the world. This is done with style and publishing excellence, and, though they may seem at first to be expensive,

these volumes remain an excellent value. Further, the appearance of new volumes is regular, the quality remains extremely high, the price remains largely constant (a flier I received advertised that postage and handling were included), and the mass of the accumulating volumes is a shelf bender. Other details can be found in my reviews of the first three volumes (***The Loon*** 67:103–105, 69:217–218).

In sum, this volume displays the exceptionally high quality of the previous three and continues to enable me to give this series the highest recommendation to anyone who has a deep appreciation of birds. **Kevin Winker, University of Alaska Museum, 907 Yukon Drive, Fairbanks, AK 99775–6960.**



NOTES OF INTEREST

AN ADULT BLACK-HEADED GULL IN JACKSON COUNTY — On 18 April 1998, Barb Martin, Denny Martin, Frani Lowe, and I had just spotted some Great-tailed Grackles at the northwestern part of Grover's Lake along the Jackson County – Dickinson County (Iowa) line, when I observed a Black-headed Gull *(Larus ridibundus)*. The bird was an adult flying by itself from east to west about 75 yards away to the north of us, just within the Minnesota side of the state line, 0.4 mile east of Minnesota Highway 86. The time was about 7:00 A.M., the sun was to the east, and I was able to observe the gull for about ten seconds through 8x30 Swarovski binoculars before it disappeared behind a grove of trees. Although I called the other birders' attention to it, they were unable to see it as well as I did before it disappeared. About two hours later, after we were finished with our grackle observations, I wrote some field notes on what I had seen without consulting any field guides:

"Heard single, loud call note — hard to describe but unfamiliar and definitely unlike calls of either Bonaparte's or Franklin's. Looked up to see a "black-headed" gull flying by. At first I could see upper wing surface with Bonaparte's-like pattern: white wedge on outer primaries with rest of wings light gray and unmarked. But when bird banked I was surprised to see diagnostic under wing pattern of Black-headed Gull; blackish area on primaries except for clearly contrasting and easily seen white outer primary. Light and angle were such that this pattern was actual and not a false impression or artifact. Franklin's Gull seen after Black-headed Gull about five

Winter plumaged Black-headed Gull (right) with Ring-billed Gull, 26 October 1998, Jackson County, Minnesota-Iowa border. Photo by Anthony Hertzel.

minutes later — it seemed a bit smaller than the Black-headed (both seen at same distance and angle). Bill color, leg color and exact head color not seen. Hood appeared to be complete — eye crescents were visible."

Because of the diagnostic wing pattern, the identification of this adult gull was straightforward, even though I was unable to see its reddish bill color and dark brownish hood color or to determine its relative size, all of which would further serve to distinguish it from a Bonaparte's Gull. Fortunately, on 21 April, Jay Hamernick was able to find two adult Black-headed Gulls at the same location (presumably including the same individual I had seen), and he was able to see and document their reddish bills and a brownish hood on one of the birds, as well as their diagnostic wing patterns. Then on 20 May, also at Grover's Lake, Peder Svingen relocated a lone adult Black-headed Gull, and he also documented its reddish bill and brownish hood, in addition to its wing pattern. He also saw the gull in flight next to a Forster's Tern, and noted it was "obviously larger with a longer wing span and broader wings."

These observations represent only the fourth record for Minnesota, with the third record (possibly involving this same Grover's Lake individual?) in 1994 on the north side of nearby Spirit Lake (***The Loon*** 67:54–56). Curiously, the first two state records were also in Jackson County, in 1986 and 1987 (***The Loon*** 58:104–107). **Kim Eckert, 8255 Congdon Blvd., Duluth, MN 55804.**

Editor's Note: A Black-headed Gull which likely was one of the two birds mentioned above was seen in this same general area until 26 October 1998. (See photo.)

CAROLINA WRENS — Just before 8:30 A.M. on 28 July 1997, I began hearing an unfamiliar call coming from our backyard at short intervals, a fairly loud and musical, trilled "tcheeer." Stepping outside with binoculars, I spotted the calling bird about 20 feet away in a large pine — a Carolina Wren. I was only able to watch it for a minute or so before it flew, first into our neighbors' front yard and then out of sight toward the south.

The bird was sparrow-sized, long-tailed, and somewhat chunky. The upperparts were rusty-brown, the sides were heavily washed with rust, and the throat was white. It had a prominent white eye-stripe.

In the past ten years, I have seen Carolina Wrens in at least five different Hennepin County locations, but this was my first observation during the summer season (June–July). The species is rarely seen anywhere in Minnesota during this period. There are only three records of the Carolina Wren in the summer seasonal reports of *The Flicker* and ***The Loon*** from 1960 through 1996: 15 July – 12 August 1967, Hennepin County (one); 22 July – mid-August 1986, Olmsted County (pair); and 30 May through summer period 1992, Dakota County (one). **Steve Carlson, 3904 Xenwood Ave. S., St. Louis Park, MN 55416.**

In November of 1997, around Thanksgiving, while seated at our family room table, my husband spotted an unusual bird in our backyard, one we had never seen before. It was feeding off the ground under a hanging bird feeder. We thought it must be a wren because of the upright tail, but the only picture in our bird book that resembled it was a Carolina Wren.

I called the the MOU to see if it were possible for that bird to be here. When I described the white mark over the eye and the golden breast, they confirmed that it was a Carolina Wren. After the news got out on the bird hotline, we had lots of people come, hoping to get a glimpse of it. We couldn't predict when it would show up, so not everyone looking saw it.

I was put in touch with Leslie Kottke in Rochester who had a Carolina Wren as a regular visitor. From her, we found out about feeding it mealworms. She told us of a mail-order place from which we could purchase the worms, and also sent us plans for a bird feeder adapted for the wren. We attached suet to the side of our new feeder and also purchased a heated bird bath. The wren became a regular visitor after that.

We didn't always see it because we weren't watching, but the worms disappeared with regularity and we did see it often enough to know it was around. The glass side of the feeder permitted us to watch the wren with binoculars. It would go into the feeder and eat several worms at a time. Chickadees, on the other hand, seemed to fly in, get one worm, and take it up into a tree to eat. Later, we found out that the wren was showing up every day at a neighbor's backyard for the suet they hung there.

We often heard the bird's loud, melodic call, even if we didn't always spot it. After trimming shrubs this spring, we left a brush pile close to the feeder and noticed many birds in it besides the wren. Leslie Kottke advocates brush piles for the birds. In the last part of March, we left on a two-week trip. We left the worms with a neighbor, who saw that they were put out regularly. They did see the wren once during that time. When we returned, however, we found that it was no longer coming for the suet in our neighbor's yard. We have not seen it or heard its call since we got back. We really enjoyed the whole experience and hope the bird remembers and comes back next year. **Dorothy Bartels, 2500 W 110th St., Bloomington MN.**

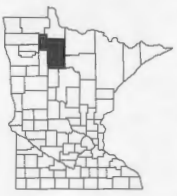
In January of 1998, my husband Dale and I began our third year in Minnesota. We retired here to be close to our daughter and her three children, we decided to buy a

house on the shore of a small lake in central Rice County. We spend every morning playing cards at our kitchen table, which is located behind our deck's glass doors. While we play, we watch our friends, the birds that visit our cafe on the deck. We also watch the "Minnesota Mafia," (squirrels to our neighbors) steal the seeds and suet from our many feeders.

One morning in January as I glanced at our extended family, I said, "What is that?" We get quite excited when we see a new species. My heart was pounding as I noted it had to be a wren — look how that arrogant little tail points to the sun. She was beautiful with her white head stripes, brown and beige body. After I reported her to the bird hot line, I got a call from Leslie Kottke from Rochester. She also had a Carolina Wren visiting her. Leslie was very helpful on how to care for "Spanky" and told me where I could order some mealworms. When our 2,000 worms arrived, I opened the box a bit too aggressively and the worms flew all over the kitchen. Fortunately, I had my tweezers handy to retrieve them. We took a wooden bird feeder with clear plastic removable sides, drilled a hole in the end, and placed a small measuring cupful of worms inside. Within minutes, Spanky was snooping around the feeder. She hopped to the hole and looked in. She vaulted in and joyfully consumed the new delicacy (if that's what you want to call worms).

She definitely has an alpha personality, as demonstrated many times when she charged at a Downy Woodpecker who happened to land on the suet table when she was there. When we placed a bird house next to the worm feeder, she turned her beak up in the air, refusing our "bed and breakfast" offering. However, she visits our buffet frequently every day. She has had five birders come to see her and she has cooperated by making her "curtain call" shortly after their arrival. **Jacquie Schnepf, Circle Lake, MN.**

AN UNIDENTIFIED JAEGER AT LOWER RED LAKE — Upper and Lower Red Lake have long been neglected birding areas. No one really thoroughly or regularly checks on the birds there, especially Lower Red Lake. However, my work regularly takes me there and I try to check for birds there as much as time and circumstances allow. I was not too surprised to find an extraordinary number of birds on 27 August 1998. Earlier in the day, I had seen many gulls, mostly Bonaparte's Gulls, so I went back after work at 11:00 A.M. I saw hundreds of gulls and started counting them in groups of, at first 25, and then 100. A light rain started; the skies were overcast but it was relatively light out.



The gulls were spread over a huge area, as far as the eye could see. Interspersed with them were many Ring-billed Gulls, and several terns were moving and feeding along the shore. When I got up to about 3,000 Bonaparte's Gulls, one of the Ring-billed Gulls flew up, chased by a very dark bird. I immediately thought "jaeger." The dark bird aggressively pursued the gull to the northeast, away from the shore. I saw relatively bright patches of white in the primaries. The bird was about the same size as the Ring-billed Gull and as it swooped down and up for a moment, even looked larger than the gull. From what I observed, the jaeger was uniformly dark; I could not discern any bill color, and the tail wasn't at an angle where I could tell if there were any extensions or not. The bird appeared to lunge at the nape or head of the Ring-billed Gull and drove it into the water, where both went out of sight.

I consulted my National Geographic guide, and decided I could not positively identify the bird as to species. Could this have been a Pomarine Jaeger? I continued to count the Bonaparte's Gulls and got up to 5,000, but there were probably many more. The jaeger did not reappear. **Douglas P. Johnson, 7203 Tall Pines Rd. NE, Bemidji, MN 56601.**

BLACK-BELLIED WHISTLING-DUCK IN STEELE COUNTY — In mid-June, a message was left on the Minnesota birding hotline that a Black-bellied Whistling-Duck first seen on 18 May 1998 by Anne Capistrant was still present in a wetland northeast of the junction of I–35 and Hwy. 30 in Steele County. Anthony Hertzel was able to find the wetland and confirm the identification on 21 June, (see photo on page 205).

The bird was alert, wary, unbanded, and flew a short distance without difficulty. It spent considerable time preening after bathing in the pond and was occasionally aggressive toward a nearby American Coot. It was a large, long-necked and long-legged duck. Its bill was long, spatulate, and bright pink with a pale gray tip. Its thick legs and feet were pale pink. A distinct whitish eye ring surrounded its dark eyes. The face, sides of the neck, and foreneck were grayish-tan, paler than the rest of the plumage; this paler area was sharply demarcated from its reddish-brown breast. A rufous-brown wash on its crown continued down the hindnape as a thin stripe. The back and folded wings appeared reddish-brown except for buff tones on the median coverts (often barely visible when the wings were folded). Brief views in flight showed an obvious white "wing stripe" formed by white greater coverts, contrasting with black flight feathers, and buff to reddish-brown median and lesser coverts. The rump and tail appeared black.

The bird was initially facing away from me and then flew a short distance to land in the water, so there was no opportunity to see its belly until it walked onto the grass and began preening. Then, its black belly and barred (black on white) undertail coverts were clearly seen through a spotting scope. Its tail looked short, but all of its plumage appeared to be in good condition. No vocalizations were heard. **Peder Svingen, 2603 E. 4th St., Duluth, MN 55812.**

Editor's note: In 1998, the Minnesota Ornithological Records Committee changed the status of Black-bellied Whistling-Duck from A_O (Accidental, origin uncertain) to A (Accidental) based in part on this record.

ADDITIONAL RECORDS OF THE CALIFORNIA GULL IN THE NORTHWEST — From 1975 when the California Gull (*Larus californicus*) was first found in Minnesota (***The Loon*** 47:130–131) through 1997, only two of the nineteen acceptable records for the state were from the Northwest Region. In North Dakota, they have nested as far east as Stump Lake (Stewart 1975, *Breeding Birds of North Dakota*, pages 146–147) and Lake Laretta in Nelson County (David Lambeth, pers. com.); the latter site is only about 50 miles west of Grand Forks.

In recent years this species has been regularly seen April–October at the Grand Forks sewage lagoons; representative peak seasonal counts there (published in the newsletter of the North Dakota Birding Society) in 1994 include 100 on 25 April, 40 on 14 July, and 33 on 6 September. The paucity of records for northwest Minnesota apparently reflects more than just a relative lack of observers; repeated searches of the East Grand Forks and Crookston sewage lagoons by myself and others over the past decade have failed to locate this species in Polk County, Minnesota, even when it was known to be present just across the state line.

During the spring of 1998, I was finally able to find two different California Gulls in northwest Minnesota; both were first county records and both were immatures associating with other larids at sewage lagoons.

First Pennington County record: During the evening of 5 April 1998, I watched several hundred gulls flying in to bathe, preen, and then congregate on a patch of ice at the Thief River Falls sewage lagoons. Among the many Ring-billed Gulls (*L.*

delawarensis) was a first-year Herring Gull (*L. argentatus*) standing next to a second-year California Gull. It was studied through a Kowa TSN-4 spotting scope for about 35 minutes total, although less than 30 seconds in flight.

The California Gull was intermediate in size between these two species, but closer to the size of the Ring-billeds. Its body shape looked elongated and slim. Its bill was distinctly two-toned, with a sharply demarcated dark tip and a dull greenish-gray base. The legs were pale greenish-gray, similar to the color on the base of its bill. The irides appeared dark. Its head was mostly white, with light brown streaking on the crown and nape. The gray feathering on its back looked slightly darker than the mantle shade of the adult Ring-billeds, but was also paler than the nearby adult Franklin's Gulls (*L. pipixcan*). The wing coverts were brownish with pale edging. The tertials were more brownish-gray and unmarked. Its folded primaries were solidly blackish. The tail also looked black except for a thin white edge along the sides, seen only while the gull was standing on the ice; this was not detected during brief in-flight views. Its tail looked entirely black in flight, contrasting with a whitish rump and upper tail coverts. The upper wing surface showed dark outer primaries and paler inner primaries. A single dark secondary bar was noted (although in flight views were limited, I remembered to specifically look for the double secondary bars which are mentioned in some field guides for first-year California Gulls). The gull's underparts were whitish except for light brown mottling and thick streaking along its flanks.

First Roseau County record: On 13 May 1998, I discovered a third-summer California Gull at the Roseau sewage lagoons. For over an hour, I watched it gleaning insects while it was swimming and briefly observed it several times in flight. There were about sixty Ring-billed Gulls, fifty Franklin's Gulls, and one adult Herring Gull for direct comparison.

It was larger than all Ring-billeds but smaller than the Herring Gull in overall size. Its mantle appeared one shade darker than the Ring-billeds at all times, but was also paler than the Franklin's Gulls. It was nearly in adult plumage except for brownish-gray tones on the tertials and at least some of the greater coverts; also, its folded primaries were all blackish and lacked the white apical marks of a fourth-year or adult bird. Its bill was thicker and less tapered compared to the Ring-billeds. The bill was yellowish in color with a red gonydeal spot and a black mark adjacent to and distal to this red spot; the black mark extended onto the upper mandible but I could not detect whether it formed a complete ring. The irides were definitely noted as dark brown in color but the legs were never seen since it was always swimming, standing in the grass, or briefly flying. Its head appeared larger and the eye proportionately larger compared to the Ring-billeds. The head, neck, breast, flanks and undertail coverts were pure white.

In flight, the black on the leading edge of the upper wing tip was much more extensive than on the trailing edge; it showed more extensive black on the underwing tip compared to adult Ring-billed Gull. There was a whitish subterminal bar visible on the ventral surface of the outermost primary, seen only on the underside of the opposite wing at rest. The tail was entirely white except for a faint, broken band.

These sightings bring the number of acceptable Minnesota records to 21 through 1998, 13 of which refer to adults. The total is about evenly split between late March–early June (10 records) and late July–November (11 records) with one of the latter lingering in Duluth through 15 December 1984, the latest date for the state. The earliest date is 30 March 1996 in Otter Tail County (***The Loon*** 68:177). There are now four early April records, all from western counties (Clay, Marshall, Pennington, Wilkin). The three May records are also from western counties (Pipestone, Roseau, Wilkin) which suggests a strategy for finding the California Gull in Minnesota during spring migration. There is no apparent pattern to the distribution of fall records

except that they generally occur where both gulls and gull-watchers congregate in the fall, such as Mille Lacs Lake (at least three records) and various lakes in the Twin Cities area (five records).

I thank Karl Bardon for providing a current compilation of all Minnesota records and David Lambeth for commenting on the status of California Gull in northeastern North Dakota. I thank them both for additional remarks which improved this note. **Peder Svingen, 2602 E. Fourth St., Duluth, MN 55812–1533.**

SONG MIMICRY IN CLAY-COLORED AND CHIPPING SPARROWS — On the morning of July 24, 1998 as I pulled into a parking lot in Bloomington, Hennepin County, I heard the distinctive song of a Clay-colored Sparrow. The bird was singing frequently a song I know well: 3–5 regularly-spaced buzzy notes, which are typical for this species. I had not seen Clay-coloreds in the neighborhood before, so I grabbed my binoculars and went to find it.

I found the bird fairly quickly. It was sitting atop a spruce tree, which was one in a clump of five such trees that bordered an empty field. I was surprised, however, to see that I was looking at a Chipping Sparrow. The bird showed a solid rusty red crown, gray nape, brown back with heavy dark streaking, and a forked tail. It had a distinctive supercilium of a pale cream or off-white color. The ear patch was not very distinctive. It blended rather smoothly with the upper throat and was not set off from it by dark feathering, as it is on a Clay-colored. In every respect it looked like a typical adult Chipping Sparrow. There was nothing to suggest that the bird I was watching was a hybrid, and there was no doubt as to which bird was singing the series of buzzy notes.

I described my observation to others to learn if they had ever heard song mimicry of this sort. Kim Eckert and Paul Lehman told me that they watched a Chipping Sparrow sing a perfect Clay-colored song in Jamestown, N.D. in June 1983, and Kim listened to a Clay-colored sing a Chipping song near Winnipeg, Manitoba during another summer. In May 1998 Allan Chartier and John O'Brien tracked down a Chipping Sparrow singing a Clay-colored song at the Whitefish Point Bird Observatory in the upper peninsula of Michigan. Back in June 1990 Rob Hilton watched a Clay-colored Sparrow sing the song of a Chipping Sparrow in southeastern Massachusetts. He was searching for a Clay-colored that had been reported from the area, and initially dismissed the bird he located without a look since he only heard a Chipping Sparrow.

Hybrids within the genus spizella occur, but not frequently. Both Chipping and Brewer's Sparrows have been known to breed with Clay-colored. Brett Walker of the University of Montana has recordings of Brewer's Sparrows singing a Chipping song. However, singing the song of another should not be taken, by itself, for evidence of hybridization. Bird song is learned, not inherited, among sparrows and most other songbirds. One reason sparrows might learn songs of neighbors is as an interspecific territorial defense. White-crowned Sparrows in California have been observed singing a Song Sparrow song. It is thought that they use the second song to exclude intruders of the other species on their territories. Luis Baptista, who has conducted some of the best studies on sparrow songs and dialects, calls this "swearing at the other bird in its own language."

Though I tried, I never refound the Chipping Sparrow singing the aberrant song. About the same time, however, all the Chipping Sparrows in the neighborhood, which had been actively singing since May, stopped doing so. We'll see if it returns next summer. Many thanks to all who shared with me over the internet their birding experiences of Chipping and Clay-colored Sparrows and bird song. **Paul Budde, 4612 Colfax Ave. S., Minneapolis, MN 55409.**

Index to Volume 70

Compiled by Anthony Hertzel and Ann Hertzel

This index lists the names of authors and the common names of birds found in the 1998 issues of *The Loon*

Index to Authors

Index to Species

Corrections to *The Loon*

Corrections to articles

Volume 69:

Change the location of the undated **Spotted Towhee** from Washington County to **Pine**, and add the date of 18 August 1995 (***The Loon*** 69:28).

Volume 70:

Change the date for the **Black-throated Sparrow** in Mower County from 6 December 1997 to 8 November 1997 (***The Loon*** 70:64).

In "Effect of Fledge Site on Choice of Nest Site by Midwestern Peregrine Falcons" change the chi-square value for males shown in Table 1 from 31.72 to 85.95 (***The Loon*** 70:127–129).

Corrections to "The Season"

Volume 65:

Add **Virginia Rail 4/3** (earliest date on record) Dakota KG to the Spring 1993 report (***The Loon*** 65:181).

Volume 66:

Delete the **American Redstart** in Hennepin County on 14 November 1993 (***The Loon*** 66:90).

Volume 68:

Add **LEAST TERN** 5/16 **Winona** SSt to the Spring 1996 report (***The Loon*** 68:201).

Volume 69:

Delete the **Cattle Egret** in Dakota County on 6 May 1997 (***The Loon*** 69:190).

Delete the **Wilson's Phalarope** in Carlton County on 19 April 1997 (***The Loon*** 69:196).

Add **Mute Swan** 6/9 Meeker ABo, DB to the Summer 1996 report (***The Loon*** 69:14).

Add **SABINE'S GULL** 10/5 **Goodhue** BL to the Fall 1996 report (***The Loon*** 69:75).

Delete DBS as observers for the **Marsh Wren** in Hennepin County on 27 March 1997 (***The Loon*** 69:201).

Delete the **Mountain Bluebird** in Mower County on 23 March 1997 (***The Loon*** 69:201).

Change the location of the **Yellow Warbler** on 5 May 1997 from Hennepin to Dakota County (***The Loon*** 69:204).

Add **BLACK-HEADED GROSBEAK** 5/24 Clay TBr to the Spring 1997 report (***The Loon*** 69:206).

Add **LAZULI BUNTING** 5/29 **Olmsted** mob to the Spring 1997 report (***The Loon*** 69:206).

Volume 70:

Add **Spruce Grouse** 9/10–11 Cook (Alpine Lake) FL to the Fall 1997 report (***The Loon*** 70:89).

In This Issue

Purpose of the M.O.U.

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 to promote the preservation of birdlife and its natural habitat.

To carry out these aims, we: publish a journal, ***The Loon***, and a newsletter, *Minnesota Birding;* conduct field trips; encourage and sponsor the preservation of natural areas; and hold seminars where research reports, unusual observations and conservation discussions are presented. We are supported by dues from members, affiliated clubs and special gifts. The MOU wishes to point out 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*** welcome submissions of articles, "Notes of Interest" and color or black & white photographs. Submissions should be typed, double-spaced and single-sided. Notes of Interest should be less than two pages. Photographs should be 5"x7". Whenever possible, please include a copy of your submission in any standard format on any 3 ½ inch computer disk.

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

printed on recycled paper