# The passenger pigeon. Vol. 57, No. 2 Summer 1995

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THE PASSENGER PIGEON
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Send all manuscripts and correspondence to the Editor; information for "Seasonal Field-Notes" should be sent to the Associate Editor or the appropriate Field-Note Compiler. Manuscripts that deal with information on birds in the State of Wisconsin, with ornithological topics of interest to WSO members, or with activities of the WSO will be considered for publication. All manuscripts submitted for possible publication should be typewritten, double-spaced, and on only one side of page-numbered typing paper. Illustrations should be submitted as photographs or good-quality drawings. Keep in mind that illustrations must remain legible when reduced to fit on a journal page. All English and scientific names of birds mentioned in manuscripts should follow *The A.O.U. Checklist of North American Birds (6th Edition)*. Use issues after Vol. 50, No. 1, 1988, as a general guide to style.

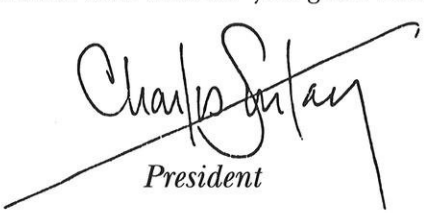
## Time of Change

Time has the unusual property of making things seem both fast and slow. As I end my tenure as President of the Society, the things that I have wanted to accomplish have made time stand still, yet the association with the talented people that run the many aspects of the Society have been just a fleeting moment like the first fresh breezes of spring. Tempting in nature and always intriguing in their manner, they carry out the myriad of duties that both challenge and nurture the interests and needs of the Society. This same encouragement and enlightened guidance was generously given to me, to which I am ever grateful.

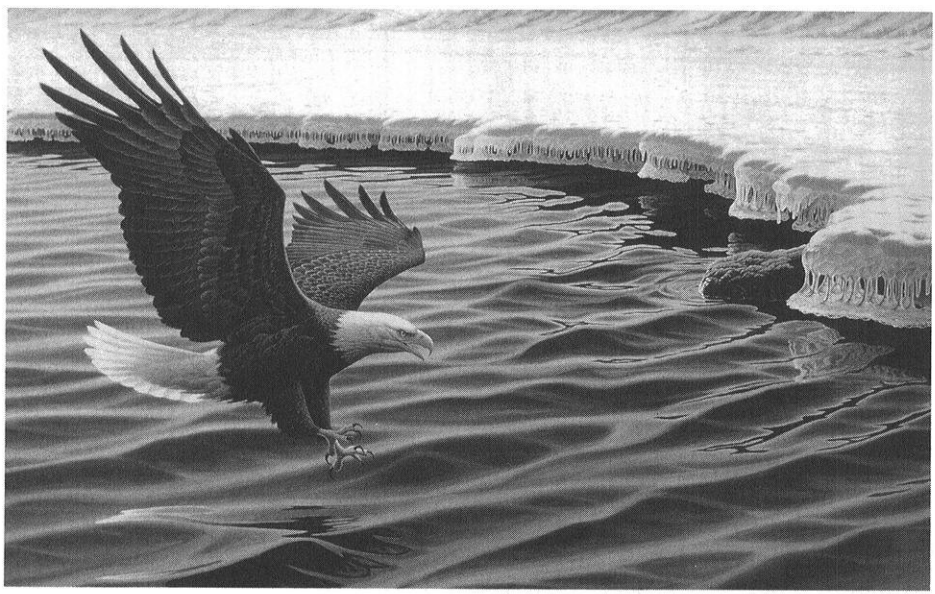
And, a special note to someone who has just retired from the Board to recognize the service of Carl Hayssen Jr. as Secretary of the Society. Carl has provided the Society with direction and scintillating insight that was always couched by his dry and oblique sense of humor. He offered his service and heart to the Society and we thank him for his time at the oar in this voyage. Thank you Carl.

The Society is now ready to receive its new President. Bettie Harriman is someone who can make the difficult seem easy and can make the impossible happen. With polish and grace, Bettie has the ability to nurture ideas and dreams and turn them into reality. This sense of purpose and direction will be used to lead the Society into its most energetic undertaking: The Breeding Bird Atlas/Wisconsin Edition. The ground work for the project has been completed and the challenge to the members has been given. This is a dream that can only happen if the membership practices active participation or aerobic birding of sorts, that will clear the mind and certainly sharpen the senses. Even though birding is a spectator sport, the health of the project is dependent on member participation and requires more than just spectators to complete the project.

If there ever was someone who started their term as President with both feet already out of the starting blocks, it is Bettie. Bettie is certainly up to speed as evidenced by her organization and hosting of the Grassland Birds Symposium on a very cold day in February. Although the weather was brutally cold, the reception for the Symposium was warm and generous due to Bettie's efforts. Therefore, as with that first fresh breath of spring, we welcome Bettie as the new President. The Society is in very good hands. And, to all, I bid a fond farewell and wish for you good birding.



*President*



Bald Eagle *by Thomas R. Schultz*

## Exciting Times

It is difficult to imagine a more exciting period in the life of the Wisconsin Society for Ornithology than now. WSO currently has more members than at any other time in its history. The finances of the organization are in excellent condition, even with more demands than usual on our resources. Attendance at recent annual conventions has been unusually high. More field trips are being conducted, within the state and beyond, and are continuing to be quite popular.

The *Badger Birder* has grown in size and frequency of publication under the editorship of Randy Hoffman, and will continue as a quality newsletter with the guidance of the new editor, Jennifer Nieland. Becky Isenring has continued to make the *Passenger Pigeon* the most admired state ornithological journal in the nation. As always when the publications are so good, the challenge exists to keep them at that excellent level. Jennifer and Becky both will need your help to meet the challenge. Please continue to contribute your news items and other interesting tidbits to Jennifer for the *Birder*, and your observations and articles to Becky for the *Pigeon*.

The Honey Creek Management Committee has been appointed and is getting started on the task of implementing the Management Plan created a couple of years ago. The problems involved with maintaining over 300 acres and a nature center are not simple or few, but the beauty of the area and its importance in preserving the Baraboo Hills ecosystem make it worth the effort.

Many of you mentioned on the last convention survey form that you would like a day, not during the migration and nesting season, devoted to presentations about birds. This past February WSO presented its first-ever such conference with the Grassland Birds Symposium. Your response far exceeded our expectations. It is gratifying to know that so many of our members are interested in learning more about birds and the conservation efforts needed for their benefit. It is likely that similar conferences will be held in the future.

While WSO activities in the conservation area are not as intense or focused as they have been at some times in the past, such as when WSO was working to get rid of DDT, we are actively involved with a number of issues currently of concern in the state and at the federal level. Conservation chair, Noel Cutright, provides information to you with his column in the *Birder*, and gives testimony to appropriate officials at hearings and by letter. The current political climate, as well as the ever-increasing demands on our natural resources, make attention to environmental issues unavoidable. The birds need your voice to speak for them on such items as reauthorization of the

Endangered Species Act, continuation of the Conservation Reserve Program, establishment of a crow season in Wisconsin, or moving the state parks to the Department of Tourism and away from the Department of Natural Resources.

The research aspects of WSO have never been greater than now. Our organization currently gives about $2000 per year in grants and scholarships for various bird-related research projects. This is the highest amount we've ever been able to provide for these awards. And even with the newest research effort, the Wisconsin Breeding Bird Atlas, WSO intends to continue to give the other research grants at the same level.

The most exciting, challenging, and largest research effort that WSO has ever attempted is just beginning with the Wisconsin Breeding Bird Atlas. This statewide, multi-year effort will require more money and more volunteers to complete than any other project we have ever undertaken. The volume of information to be discovered during the Atlas work is tremendous. The number of individuals learning how to conduct field work and gaining an insight into bird behavior is awesome. The amount of money needed to carry the Atlas to completion is daunting. If the Atlas project were the only work of WSO in the next two years, this would still be an exciting time to serve as your president.

All of these accomplishments have occurred during the leadership of Charles Sontag. Chuck's gentle, caring, and thoughtful nature has made it a pleasure to serve WSO during his term as president. As is his way, he gives all the credit to other members of the board for the society's successes, but it is his nurturing concern that has provided the climate which encourages others to do their best. It is with fond and pleasant memories, a heartfelt thanks, and a touch of sadness, that WSO bids farewell to Chuck as its president.

There is an old Chinese curse. "May you live in exciting times." WSO is indeed living in exciting times. Together, we will determine if these times prove to be a blessing or a curse for the organization, and more importantly, for the birds.

Since some of you might be wondering just who is this person who is the new president, let me tell you a bit about myself. While I enjoyed birds during my childhood, my real interest in them began when I took an ornithology course at UW-Oshkosh taught by Jack Kaspar. It gained strength with membership in the Oshkosh Bird Club, the Wisconsin Society for Ornithology, and the American Birding Association, and from associating with other active birders.

I have taught classes for UW-Oshkosh's Continuing Education Program in Beginning Bird-watching, worked for Wild Birds Unlimited when they had a store in Oshkosh, served as president, program vice president, and field trip chair for Oshkosh Bird Club, and participated in numerous bird counts and surveys.

I came to the WSO Board as Publicity Chair about four years ago, and continue to serve in that capacity. In 1990 I was the chair for the annual

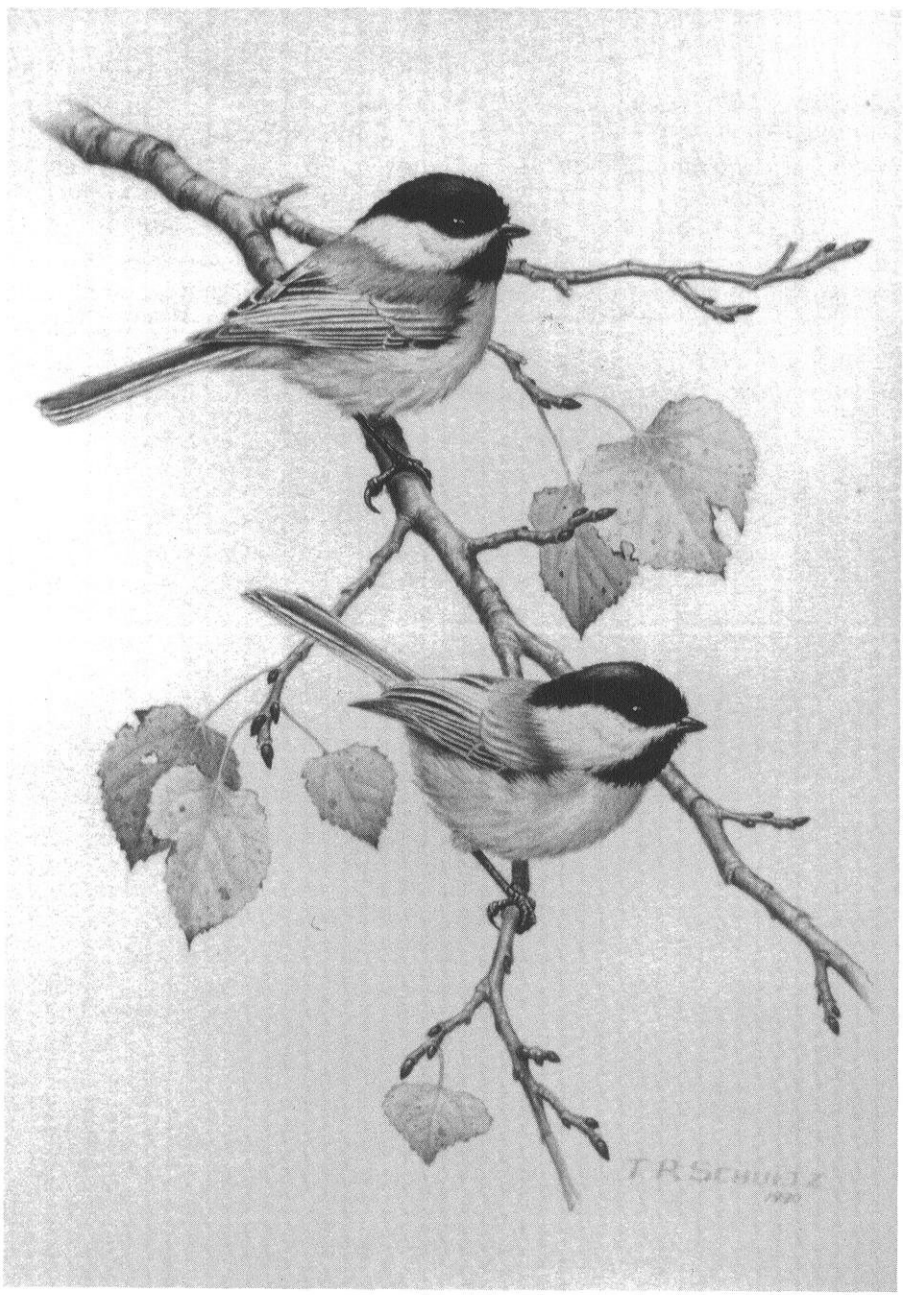
convention of WSO held in Oshkosh. While serving as WSO Vice President, I started helping with the organizing of the Wisconsin Breeding Bird Atlas effort, and am now the Atlas Director.

I've viewed birding as an intellectual challenge (all those calls and songs are definitely a challenge), I've been a lister (backyard, state, year, ABA area), I've worked for environmental causes (writing legislators, cutting buckthorn, contributing money), I've enjoyed the company of other birders (pre-convention field trips, bird tours to other places, board meetings), but mostly I have come to care about the creatures WSO is focused upon, the birds. I love to watch them interacting near my feeders, to hear them bring a soft spring morning to life, and to add a new one to one of my lists, but my deepest satisfaction comes in just knowing they are, and I hope, will continue to be.

I will do my best to serve you, WSO, and the birds well.

Bettie Harriman

*President*



Black-capped Chickadees *by Thomas R. Schultz*

# B.B.S. Equals Beleaguered Bobolinks and Sparrows

*The author uses data from the North American Breeding Bird Survey to demonstrate the decline in numbers of many grassland birds.*

***by Sam Robbins***

For about the past thirty years, the letters "BBS" have stood for the North American Breeding Bird Survey. This project was developed by the U.S. Fish and Wildlife Service in the early 1960s, was field tested in Maryland and Delaware in 1965, and was inaugurated in 1966 in all states east of the Mississippi River. By 1968, with the added cooperation of the Canadian Wildlife Service, the project spanned all of North America.

The BBS is intended to monitor population fluctuations for all breeding bird species—at least those that are likely to be detected near roadsides. Once-a-year coverage is now attempted in about 3700 transects, 70 of which are in Wisconsin. Figure 1 shows the approximate locations of these 70 routes. Each transect is 24.5 miles long, and consists of 50 3-minute look-and-listen stops.

Overall summaries of Wisconsin results at five-year intervals were published in *The Passenger Pigeon* through the first 15 years (Robbins 1971, 1977, 1982). A 26-year summary is now nearing completion. The paper presented here reports on trends in Wisconsin's grassland bird populations between 1966 and 1994. Table 1 lists 17 species for which data are sufficient to provide statistically reliable trends. Listed also are another 8 species for which data are too fragmentary.

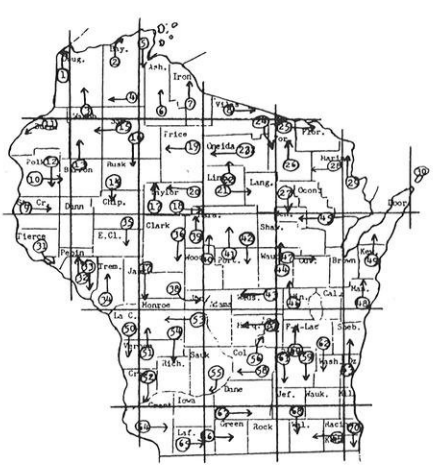


Figure 1. Locations of BBS transects.

Table 1. Grassland birds sampled by BBS.

| Adequately sampled | Inadequately sampled |
|---|---|
| Northern Harrier | Gray Partridge |
| Ring-necked Pheasant | Greater Prairie-Chicken |
| Killdeer | Sharp-tailed Grouse |
| Upland Sandpiper | Short-eared Owl |
| Horned Lark | Loggerhead Shrike |
| Sedge Wren | Lark Sparrow |
| Dickcissel | Le Conte's Sparrow |
| Clay-colored Sparrow | Lincoln's Sparrow |
| Field Sparrow | |
| Vesper Sparrow | |
| Savannah Sparrow | |
| Grasshopper Sparrow | |
| Henslow's Sparrow | |
| Bobolink | |
| Eastern Meadowlark | |
| Western Meadowlark | |
| Brewer's Blackbird | |

## Methods

A first step toward processing BBS data involves the calculation of the average number of individuals per transect per year for each species. This would be a simple procedure: adding the totals for all transects and dividing by the number of transects run that year. But there are complications. Occasionally the observer had gotten a late start, finished late, and thereby missed part of the morning song period. Delaying the date beyond the July 4 deadline also minimized the advantage of the June song period.

Now and then, when a second observer took over a route, it would become evident that one of the observers was missing the song of a given species. Inevitably transects were missed entirely in a given year. If the missed route had a high concentration of an uncommon species such as the Grasshopper Sparrow, the statewide average figure for that year would be distorted. National BBS statisticians have developed methods of minimizing these distortions. Through 1991 this involved reducing the composite total of usable transects from 1657 to 1579. Averages per year for each of our 17 grassland species are included in Figures 2–6.

A second step in data processing involves the calculation of the mean annual gain or loss for each species. Included in Figure 2 are the results of these calculations, as provided by statisticians at the Patuxent Environmental Science Center. One column shows long-term fluctuations over the full 1966–1991 period, and a second column shows short-term changes between 1982 and 1991. Calculations for 1992, 1993 and 1994 are not yet available.

## Results

One glance at the following figures for Wisconsin grassland species suggests that "BBS" might well stand for "Beleaguered Bobolinks and Sparrows." Western Meadowlarks and Dickcissels too. Figure 2 portrays the changes that have come over those members of the blackbird family that rely most heavily on grasslands. Notice that the vertical axis of this graph extends from 0 to 30, and that dots along the horizontal axis are based on averages for five-year intervals.

Bobolinks showed an increase in the late 1960s, peaking at 25 birds per transect per year in 1972. A consistent decline then set in, with an-

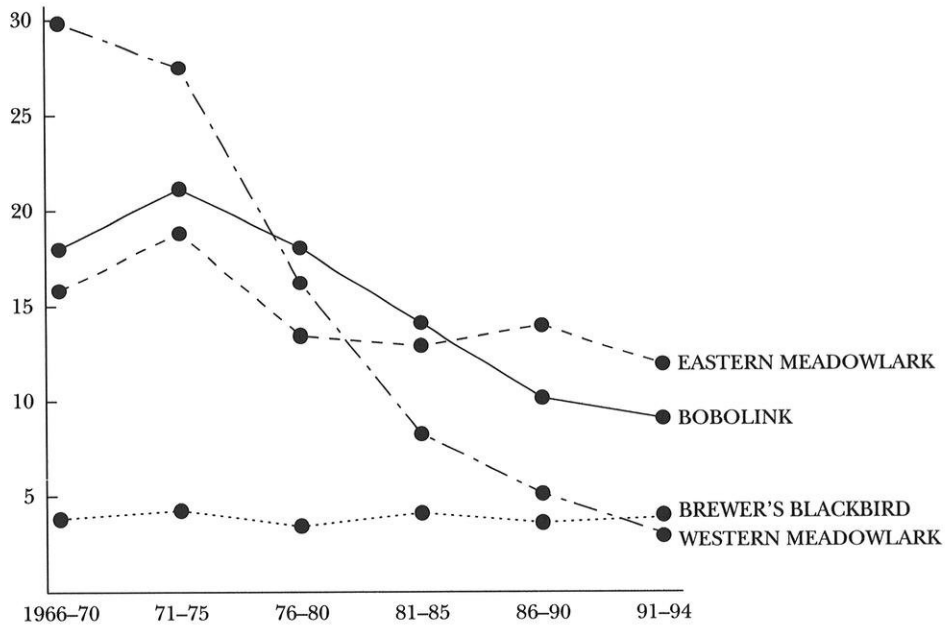



Figure 2. Average number of birds per transect per year for the period 1966–1994.

nual averages dropping below 10 in 1987. Numbers have leveled off since 1987, but there are no signs of recovery.

Like the Bobolink, the Eastern Meadowlark showed an increase in the late 1960s, peaking in 1972. A slight decline followed, with a sudden drop from 18 to 11 between 1976 and 1977. Numbers gradually recovered through 1991, but have declined modestly in the past three years.

Far more serious is the continued decline of the Western Meadowlark. In 1966 the average of 33 birds ranked this species among the top ten of the state's summer residents. The next ten years witnessed a modest decline to 25 in 1976. Then populations plummeted. By 1983 the average annual figure dropped below 10, and now stands around 3. Can it be that Wisconsin has lost over 90% of its Western Meadowlarks in less than 30 years?

The influences leading to the decline of the Meadowlarks have had no noticeable effect on the Brewer's Blackbird, whose range is restricted to the northern half of the state. Numbers have remained remarkably constant since the 1960s.

Numbers of Savannah Sparrows (Figure 3) have remained relatively stable, usually averaging 25–30 birds per transect per year. The one exception: a sharp drop after a peak of 41 in 1976. This bottomed out at 21 in 1979, and has been followed with a modest but steady recovery.

Vesper Sparrows declined alarmingly from a peak of 14 (1966) to a low of 5.5 (1985). Numbers have leveled off since 1985, but there has been no perceptible recovery.

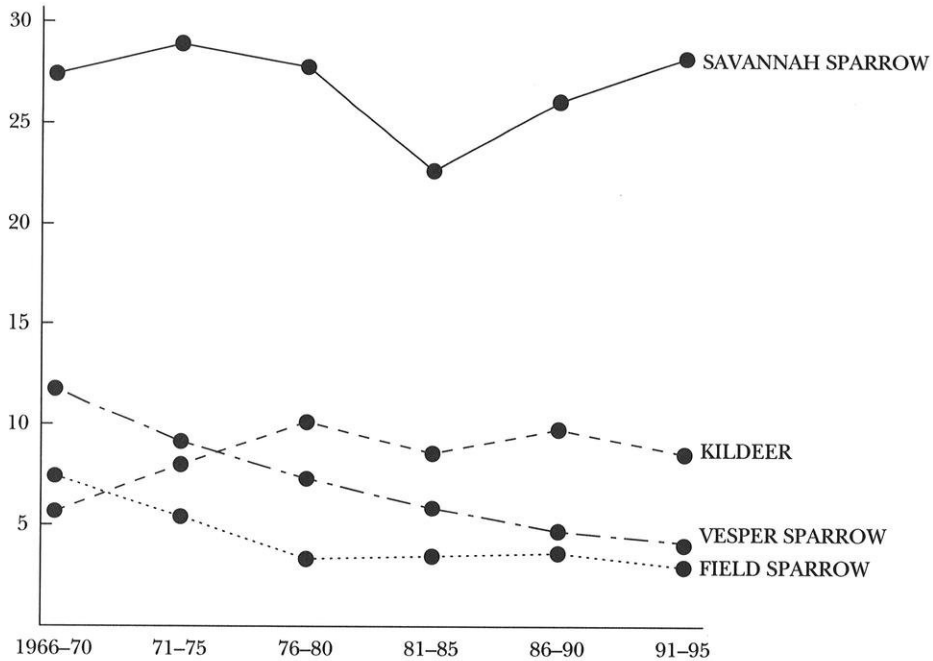



Figure 3. Average number of birds per transect per year for the period 1966–1994.

The Field Sparrow, with somewhat different habitat preference, has also declined significantly. The annual average dropped from 7 to 4 by 1978, with only the slightest hint of recovery in the past 15 years.

In contrast with the declines shown in Figure 3, the Killdeer is one of the few open farmland species to show growth. The growth was steady from 6 to 10 during the 1966–1980 period, with numbers leveling off since 1980.

In figures 4 and 5, the top number on the vertical axis changes from 30 to about 5, the better to depict the fluctuations among our less numerous grassland species. For the Sedge Wren annual numbers vary more widely than for most other species. In general, populations appear stable.

Changes in numbers of Clay-colored Sparrows have also been minor. Annual averages dipped below 3 between 1978 and 1984, recovered, then dipped again from 1992 through 1994. Virtually all sightings are in the northern half of Wisconsin.

Two southern Wisconsin sparrows appear to be in real trouble. The Grasshopper Sparrow started with an average of 4 individuals per transect per year in the late 1960s. This figure dropped suddenly to 2 by 1973, and under 1 by 1979. A modest recovery brought the average to 2 from 1987 through 1991, followed again by a slight dip.

In the early years of BBS, the Henslow's Sparrow appeared on a few northern transects, and has been recorded on 49 of the 70 routes. No

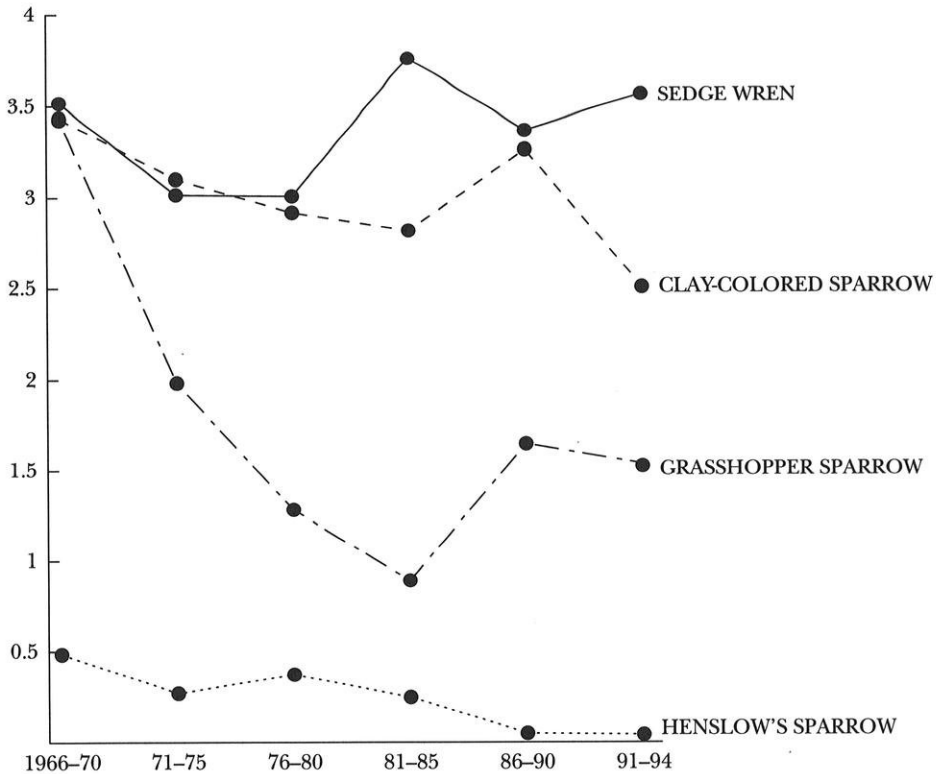



Figure 4. Average number of birds per transect per year for the period 1966–1994.

more. Since 1984 the composite total for any one year has been 7.

Some interesting contrasts appear in Figure 5. The Northern Harrier is at least holding its own, with a hint of an ever-so-slight increase since 1986. The picture of the Upland Sandpiper is one of steady decline of 50% or more. Numbers of Ring-necked Pheasants declined slightly after 1972, and followed with a precipitous drop from 1984 through 1990. A 1991–1994 recovery is encouraging. How many of these are established wild birds, and how many are survivors of plantings from the previous year, is anyone's guess. Horned Larks have increased noticeably from 4 (1968–1970) to 7 (1989–1994), with the largest increase coming at the same time Ring-necked Pheasant numbers were dropping.

The ups-and-downs show up even more vividly when one plots the average number of individuals per year on an annual basis, rather than by five-year intervals, as shown in Figure 6. Note especially the pattern for the Dickcissel. During the first three BBS years, this species was experiencing one of its highest population outbreaks of the twentieth century. The next expected high for this cyclic species would have been around 1972–1973, and a modest bulge

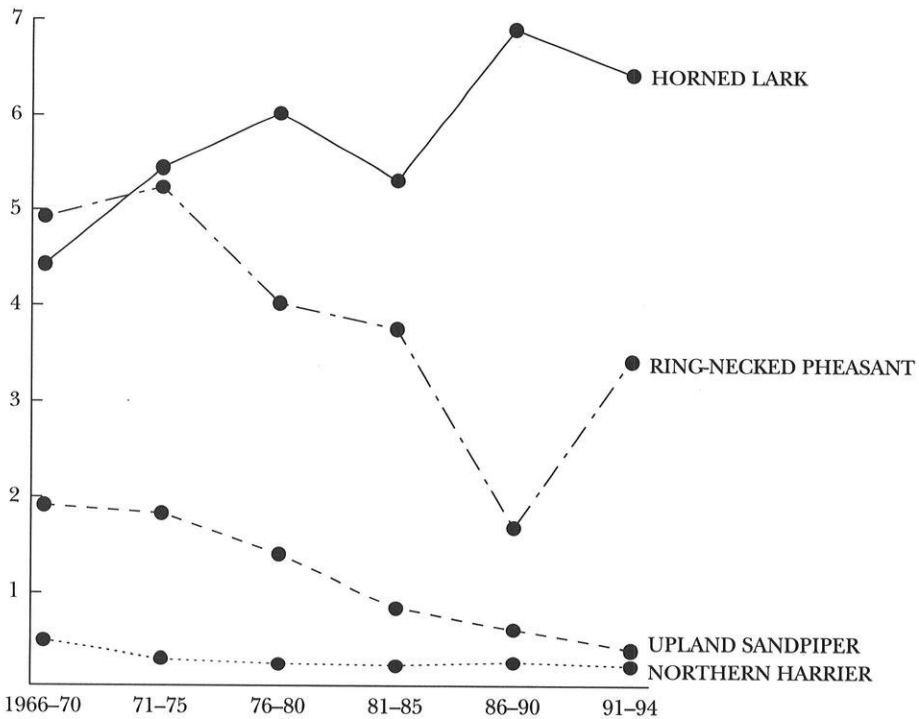



Figure 5. Average number of birds per transect per year for the period 1966–1994.

shows for that period. No sign of a six-year cyclic high followed. Instead, the bird went virtually unreported on any Wisconsin transect until 1987. Perhaps the rise shown for 1988 will prove to have been another cyclic high, but it has not lasted long. The Dickcissel is a scarce bird in all but the southwestern portion of the state.

The numbers quoted above all deal with statewide boundaries. Birds, however, respond much more to habitat features than to state lines. So BBS statisticians have redrawn the map of North America by a series of strata. Figure 7 shows that four of these strata intersect Wisconsin. (1) The Great Lakes Plain stratum (#16) encompasses southern Michigan, northern Indiana, and southeastern Wisconsin. (2) The Wisconsin Driftless region (#17) combines southwestern Wisconsin with southeastern Minnesota and northeastern Iowa. (3) The Great Lakes Transition area (#20) extends from central Minnesota across central Wisconsin to central Michigan. (4) The Spruce Hardwood Forest (#28) is an extensive tree-dominated territory stretching from Minnesota to Maine, crossing northern Wisconsin.

The right hand column in Table 2 lists the strata that are most seriously affected for each decreasing grassland species. Included are only the strata that touch some portion of Wisconsin, but the trends affect the complete strata—not just the Wis-

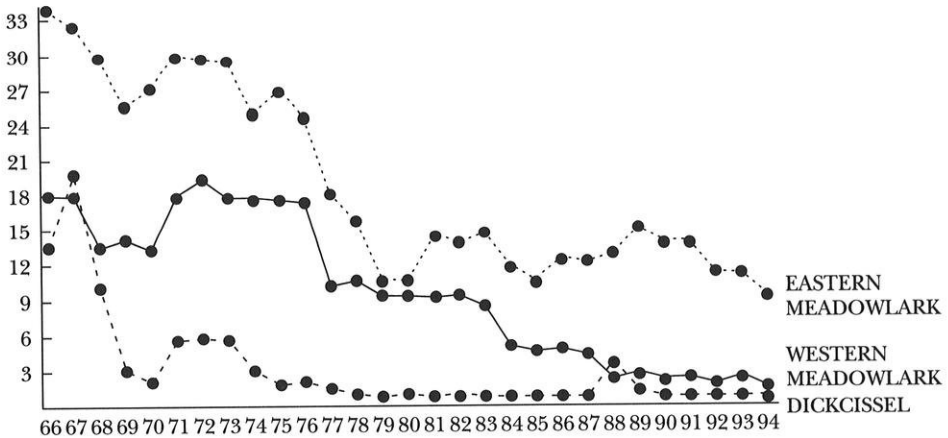



Figure 6. Average number of birds per transect per year for the period 1966–1994.

consin portion. All strata trends in this table are deemed statistically significant.

Table 2 deals with the measurement of trends, and the comparison of Wisconsin trends with those of other regions. Of the 17 species listed, the Savannah Sparrow is by far the most numerous. Read this species' information in this manner: It has been recorded on 69 of the state's transects (column 1), with an average of 51 transects per year (column 2), and an average of 27 individuals per transect per year (column 3). Between 1966 and 1991 there was an average annual loss of 1.9% (column 4), but a gain of 1.6% during the more limited 1982–91 period (column 5). The long-term decrease of 1.9% is estimated at the 99% probability level (***), while the short-term increase of 1.6% was measured as significant at the 90% level (*). In the Eastern region (1966–91) a decline was estimated at the 99% probability level (column 6). In the central region (column 7), as well as on the continent level (column 8), population levels showed little change. The decline was especially noticeable in strata 16 and 20 (column 9).

## Discussion

The purpose of the Breeding Bird Survey is to indicate what changes in populations have taken place over a given period of time. The explanations for the increases and decreases of grassland species lie beyond the scope of this project, and beyond the purview of this report.

It can be pointed out that the Ring-necked Pheasant is a non-migratory species. The Upland Sandpiper, Dickcissel and Bobolink are long-distance migrants. Most of the sparrows and blackbirds winter in the southern United States and northern Mexico. Severe weather in the southern United States during the winters of 1976–77 and 1977–78 may help explain the sudden drops in Eastern and Western Meadowlarks

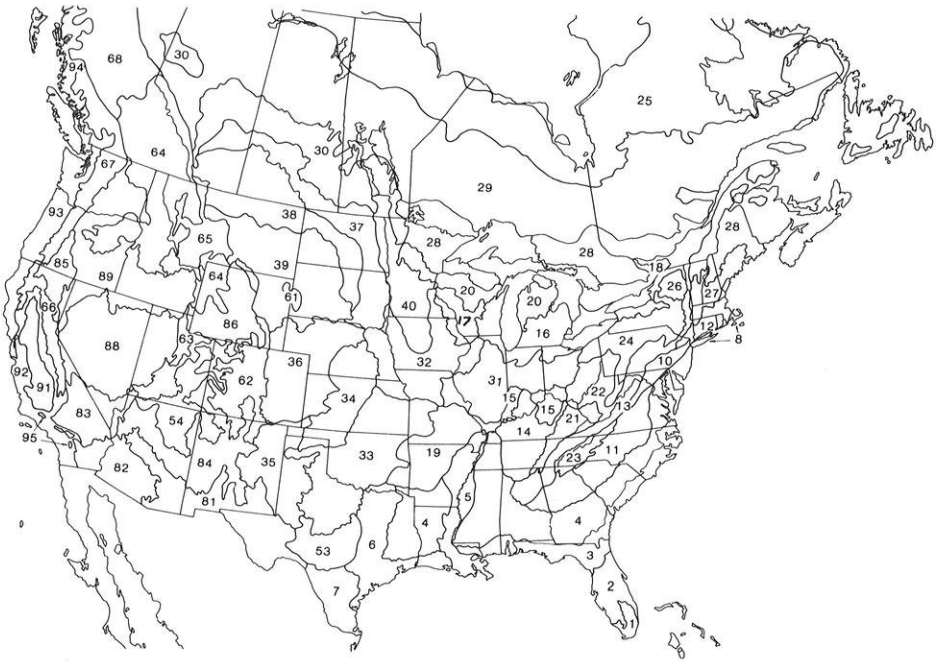


Figure 7. Breeding Bird Survey stratum boundaries. 16 Great Lakes Plain, 17 Wisconsin Driftless, 20 Great Lakes Transition, 28 Spruce Hardwood Forest.

Table 2. Comparison of trends between Wisconsin and the region.

| Species | No. routes (N = 70) | Mean no. of routes | Mean no. of birds per route | % Annual change in Wisconsin (1966–91) | % Annual change in Wisconsin (1982–91) | Eastern Region | Central Region | Continental Region | Affected strata |
|---|---|---|---|---|---|---|---|---|---|
| Northern Harrier | 56 | 11.1 | 0.27 | 1.7 | 3.5 | | −*** | | |
| Ring-necked Pheasant | 53 | 24.3 | 3.08 | −2.9** | −2.7 | −* | | −* | 16, 20 |
| Killdeer | 70 | 55.0 | 9.22 | 1.9*** | −0.2 | | | | 16, 17 |
| Upland Sandpiper | 44 | 13.7 | 0.85 | −1.7 | −2.7 | | +*** | +*** | 16, 28 |
| Horned Lark | 59 | 35.0 | 9.22 | 0.6 | 2.4 | | | | |
| Sedge Wren | 66 | 31.7 | 3.14 | 0.5 | 5.5 | +** | | +* | 20 |
| Dickcissel | 54 | 20.2 | 3.43 | −8.0 | 16.2** | −* | −** | −*** | 16, 17, 20 |
| Clay-colored Sparrow | 55 | 26.5 | 2.31 | −1.6 | 0.5 | | | −** | |
| Field Sparrow | 69 | 38.5 | 5.19 | −3.3*** | −0.3 | −*** | −*** | −*** | All |
| Vesper Sparrow | 67 | 44.3 | 7.88 | −4.7*** | −3.8** | −*** | | | All |
| Savannah Sparrow | 69 | 51.3 | 27.10 | −1.9*** | 1.6* | −*** | | | 16, 20 |
| Grasshopper Sparrow | 61 | 21.7 | 1.62 | −10.1 | −0.4 | −*** | −*** | −*** | 16, 17, 20 |
| Henslow's Sparrow | 51 | 7.2 | 0.21 | −0.1 | −7.5* | −*** | | −** | 16 |
| Bobolink | 68 | 52.0 | 15.11 | −2.9*** | −4.3*** | | −*** | −** | 16, 17 |
| Eastern Meadowlark | 66 | 50.3 | 14.26 | −2.2*** | −0.5 | −*** | | −*** | 16 |
| Western Meadowlark | 65 | 44.5 | 16.46 | −9.0*** | −9.6*** | −*** | | | 16, 17, 20 |
| Brewers Blackbird | 58 | 24.4 | 3.72 | 0.2 | −5.0*** | +** | +* | | 20 |

(Figure 6) and Savannah Sparrow (Figure 3).

There has been considerable speculation about the effect of the Conservation Reserve Program may have on grassland birds. Since its inception in 1985, CRP has resulted in the set-aside of over 700,000 Wisconsin acres that would have been used in crop production. If this should result in more suitable habitat for grassland birds, population gains would show up in the 1986–90 and 1991–94 intervals. Such gains seem corroborated for the Grasshopper Sparrow (Figure 4), Savannah Sparrow (Figure 3), Eastern Meadowlark (Figure 6) and Dickcissel (Figure 6). A substantial increase in Ring-necked Pheasants shows up in the 1991–94 period (Figure 5). No such gains are detected for the Bobolink, Western Meadowlark, or the Vesper, Field and Henslow's Sparrows.

## Summary

Two of Wisconsin's grassland species have reached perilously low levels. The composite annual totals of Henslow's Sparrows have been under 10 every year since 1985, while the Dickcissel total dropped to 5 in 1985 before making a modest recovery.

Declines in Bobolinks, Grasshopper Sparrows and Western Meadowlarks have been so substantial that composite annual totals in 1991–94 are less than half those of 1966–70. Of these, only the Grasshopper Sparrow has shown a modest recent recovery. Ring-necked Pheasant numbers were also halved by 1985, but have recovered substantially since then.

Steady but less precipitous declines are indicated for the Upland Sandpiper, Vesper and Field Sparrows. Since 1985 Vesper and Field Sparrow numbers appear to have stabilized.

For the Savannah Sparrow and Eastern Meadowlark there was a noticeable drop in the late 1970s. Gradual recovery since 1980 has brought populations back close to the 1966–75 level. The Northern Harrier appears to be recovering since the banning of DDT in the late 1960s.

Fluctuations have been relatively small for the Horned Lark, Sedge Wren, Clay-colored Sparrow and Brewer's Blackbird. The only grassland bird to have shown a significant increase in this 29-year BBS history in Wisconsin is the Killdeer.

## Acknowledgements

For data gathering I am grateful to the 130 plus observers who—year in and year out—were afield by 4:30 A.M. to run the state's 70 transects with remarkable consistency. Four observers who were afield in 1966 were still active participants in 1994. The list would be much longer had it not been for the inevitable aging process that reduces hearing capabilities.

For data processing I am indebted to the Wisconsin DNR research team of Paul Rasmussen, Dave Sample and Mike Mossman whose computer wizardry turns me green with envy. The calculations made by Bruce Peterjohn, Sam Droege, and others at the Patuxent Environmental Science Center were also of great help.

Sam Robbins
14 South Roby Road
Madison, Wisconsin

Cardinals *by Thomas R. Schultz*

# Agricultural Practices for the Birds

*The Agriculture Ecosystems Research Project looks at agricultural practices and policies and their potential to affect habitat quality for wildlife. The goal is to modify production agriculture systems so they are more beneficial to wildlife without reducing profitability for the landowner. An early goal of the Project was to focus on grassland songbirds. Results are presented.*

***by Laura K. Paine, Gerald A. Bartelt, Daniel J. Undersander, and Stanley A. Temple***

Since Europeans first settled in the Upper Midwest, Wisconsin's landscape has been transformed from native habitats into intensively managed crop fields. Land under cultivation now comprises 80 to 90% of total land area in the Midwest and agricultural crops now dominate a landscape that was originally prairie or oak savanna. In response to these habitat changes, many grassland wildlife species have suffered population declines. Grassland birds are particularly vulnerable to habitat disturbance during the nesting season and Breeding Bird Survey data reflect sharp declines that have occurred in their populations as agricultural activity intensified between the 1960s and 1990s (Figure 1).

The Wisconsin Department of Natural Resources and other public and private wildlife organizations have made efforts to preserve grassland habitats within the state, but only a small percentage of what once existed here can be purchased and maintained as undisturbed habitat. In contrast, agricultural practices


Figure 1. Western Meadowlark population declines in Wisconsin since 1966, based on unpublished U.S.F.W.S. Breeding Bird Survey data. Values are mean number of individuals observed per survey.

and policies have the potential to affect habitat quality on a much greater scale. An example of this is the Conservation Reserve Program, which has created over 700,000 acres of undisturbed habitat in Wisconsin since 1985. While CRP provides quality habitat by removing land from production—a more effective approach, with the potential to dramatically improve wildlife populations in Southern Wisconsin, would be to develop modifications to cropping systems so that cropped land could provide quality wildlife habitat as well as farm products. The challenge to develop this potential was the impetus for creation of the Agriculture Ecosystems Research Project.

## The Agriculture Ecosystems Project.

In 1989, Steve Miller of the Wisconsin Department of Natural Resources (DNR) Bureau of Wildlife Management and Don Field, Dean of the University of Wisconsin (UW) School of Natural Resources set in motion an effort to develop the potential of agricultural land as wildlife habitat. They recognized that a first step must be to take a broader view of agricultural sustainability—one which considers the wildlife habitat quality of the land we farm, in addition to such issues as pesticide use, water quality and soil erosion. Crop production should occur within the context of a functioning, complex ecosystem, with minimal inputs of non-renewable resources. If cropping systems can be maintained within a functioning ecosystem, it will, by definition, be able to support many wildlife species.

Thus, the goal of this new approach to habitat management is to modify production agriculture systems so they are more beneficial to wildlife without reducing profitability for the landowner. The framework developed to further these goals is the Agriculture Ecosystems Research Project. The project is guided by a steering committee consisting of representatives of a spectrum of stakeholders and interest groups. The committee meets two to three times per year and membership varies, depending on the projects being undertaken at any particular time. Core members of the group represent the UW Agronomy and Wildlife Ecology departments, the DNR Bureaus of Research and Wildlife Management, and the Department of Agriculture, Trade and Consumer Protection (DATCP) Sustainable Agriculture Program. Several private farmers are permanent members of the group. In addition to conducting research and developing farmer outreach projects, one of the goals of the group is to provide a forum for wildlife and agriculture interests to work together, to explore common goals and to develop an understanding of the many facets of these complex issues. Ultimately, we must make some fundamental changes in the way we approach wildlife management in the agricultural landscape, and we must change relationships between wildlife managers and agriculturists.

## Current Research

The group develops ideas for cropping system modifications that meet

three objectives: 1) improve wildlife habitat quality, 2) improve overall environmental quality, and 3) potential to be adopted by farmers practically and profitably. Using the resources available through the several agencies represented, we plan and conduct research to test these modifications with the eventual goal of making them available to the farming community. All studies have both a wildlife component and an agronomic component, so that benefits to wildlife can be documented and any effects on agronomic productivity can be quantified. The structure of the committee allows members of the various interest groups to work together, to share ideas, to learn from one another. We recognize that the success of the project is dependent on modifying attitudes as well as practices and the interaction among members of the group is an important mechanism for achieving this goal.

The committee considers a broad range of topics for potential research projects within the context of improving overall wildlife habitat quality. These projects have taken several forms, including traditional field experiments, demonstration projects, and participation in policy development.

An early goal of the Agriculture Ecosystems Project was to focus on grassland songbirds and their habitat requirements. A number of grassland bird species are among those wildlife groups whose populations in Wisconsin are declining rapidly (Table 1). Their traditional habitat coincides with the most intensively farmed areas of the state and their declines, in most cases, are related to the disturbance of these habitats. Grassland birds are a highly visible indicator of overall habitat health. The projects that we have undertaken to date share the common goal of improvement of nesting habitat quality for these species.

Table 1. Grassland bird species for whom breeding populations are known or suspected to be declining or especially restricted in Wisconsin.

| |
|---|
| Blue-winged Teal (*Anas discors*) |
| Bobolink (*Dolichonyx oryzivorus*) |
| Brewer's Blackbird (*Euphagus cyanocephalus*) |
| Dickcissel (*Spiza americana*) |
| Eastern Meadowlark (*Sialia sialis*) |
| Field Sparrow (*Spizella pusilla*) |
| Grasshopper Sparrow (*Ammodramus savannarum*) |
| Henslow's Sparrow (*Passerherbulus henslowii*) |
| Northern Harrier (*Circus cyaneus*) |
| Ring-necked Pheasant (*Phasianus colchicus*) |
| Savannah Sparrow (*Passerculus sandwichensis*) |
| Sedge Wren (*Cistothorus platensis*) |
| Upland Sandpiper (*Bartramia longicauda*) |
| Vesper Sparrow (*Pooecetes gramineus*) |
| Western Meadowlark (*Sturnella neglecta*) |

***The Matrix Project***—The first step in the project has been the creation of a data base of breeding biology and habitat requirements of each grassland songbird species. We developed a list of critical features including phenological factors such as nesting cycle length and territory size, as well as physical habitat characteristics (Table 2). Habitat characteristics include landscape scale features such as distance to water and importance of woody vegetation as well as nest site features such as vegetation density, the thickness of litter layer, and the presence or absence of bare ground. Relying on published literature and DNR research data, we have begun to de-

Table 2. Habitat features used in the matrix project. Grassland bird species preferences for each of these features are being defined, based on currently available information. Features marked with asterisks are those that have also been used in the cropping systems matrix.

| |
|---|
| Preferred habitat |
| Vegetation diversity |
| Woody vegetation |
| Distance to water |
| Territory Sizedefined. |
| Minimum area requirement |
| Range |
| Colonial |
| Number of broods per season |
| Nesting period |
| Nest cycle |
| Disturbance dates and types |
| Special habitat features |
| *Live vegetation: |
| Height-Density |
| Maximum Height |
| % Cover |
| *Standing residual vegetation: |
| Height-Density |
| Maximum Height |
| % Cover |
| *Litter layer: |
| Depth |
| % cover |
| Texture/type |
| *Exposed Soil: % |

velop a set of characteristics for each species.

The information organized in the database will be used in several contexts. Landscape scale requirements such as proximity of water or woody vegetation can be addressed within the context of broad based wildlife management projects such as the DNR's Glacial Habitat Restoration Area. Nest site features, such as vegetation structure, can be manipulated on a field by field basis, and these features provide a foundation for our research on cropping systems.

To compare a wide range of crop species with nesting requirements of grassland birds, a second database of crop characteristics was developed. Using techniques similar to those used for the avian data, we measured vegetative structure over the growing season for 31 common and alternative crops. Structural features measured include % cover, height-density, and maximum height of live vegetation, % cover and depth of residual vegetation, and % bare ground. By comparing the two databases in terms of these features, we can identify crops that meet a majority of the habitat requirements of one or more grassland bird species. The process also pinpoints weaknesses of the crop as wildlife habitat (e.g. lack of litter cover), and it is these weaknesses that can be considered for modification and are addressed in our research. Other cropping system features that are considered for modification include the timing and intensity of crop management activities such as tillage, application of sprays, and forage harvesting.

Once the methodology is developed for the avian matrix, it will be possible to create similar matrices for other grassland wildlife groups such as small mammals, herptiles, or invertebrates. Using this framework, we can compare the needs of a number of grassland species with the structure and production cycle of a wide range of crops. As work progresses on the matrix, we have begun to investigate several cropping systems which have potential for meeting the habitat needs of grassland songbirds and potentially other grassland wildlife groups. Our efforts in these areas are summarized below.

***Biomass Energy Crops***—Several states are considering development of renewable energy sources for transportation fuels and for power generation. Biomass energy crops, such as fast-growing trees and perennial grasses, are thought to be viable alternatives to fossil fuels for power production in Wisconsin. The benefits of using biomass as a fuel source are several, the most prominent of which is the reduction in greenhouse gas emissions. Because the plant material being used has removed carbon from the air in its growth process, when we burn biomass we are simply cycling atmospheric carbon rather than adding to it as is the case with combustion of fossil fuels. Recently, the Public Service Commission and several utilities have begun exploring the potential of these systems.

The Agriculture Ecosystems steering committee became involved in biomass energy development in Wisconsin because of the impact that energy crop production could have on the landscape. The scenario envisioned by many advocates of renewable energy production involves small regional power plants, fueled by locally grown biomass feedstocks, such as hybrid poplar (*Populus* spp.) or switchgrass (*Panicum virgatum* L.). Such a system has the potential to impact large tracts of land, and because production would be coordinated regionally to ensure a long-term, consistent supply of fuel, we are provided with an opportunity to develop a landscape scale plan for feedstock production. The Agriculture Ecosystems Committee was asked to develop ecological principles for the siting and management of these plantations.

Herbaceous energy crops (HEC) have the potential to provide a number of environmental benefits in addition to sequestering of carbon. In addition to being low-input crops with potential for erosion and water pollution control, HEC can provide a large amount of undisturbed nesting cover for grassland wildlife. Unlike forage crops, these crops are harvested only once in late fall, long after the nesting season. Herbaceous energy crops could provide a wildlife benefit similar to CRP acres, without the need for a government program.

Our paper, titled *Ecological and Socio-Economic Considerations for Biomass Energy Crop Production,* details some goals that should be considered by the energy industry. These guidelines use ecological vegetation communities as a basis for siting biomass plantations. Plantations of short rotation woody crops (SRWC), such as hybrid poplar, would be ecologically inappropriate in the southern part of the state, which has been a more open habitat and has historically been home to grassland communities. On the other hand, tree plantations, while greatly simplified compared to native forests, could serve an ecological purpose in the northern, forested areas of the state. Siting of SRWC plantations adjacent to native forests could buffer these areas from areas of human disturbance and could improve habitat quality for forest interior species.

Other suggestions included in the paper involve targeting environmentally sensitive crop land for plantations of herbaceous energy corps such as switchgrass. These deep-

rooted perennial species are produced with minimal inputs of agricultural chemicals (only nitrogen fertilizer is needed in most cases), and no disturbance of the soil after the establishment year. Highly erodible land in areas such as Southwestern Wisconsin would benefit from establishment of perennial herbaceous energy crops. Other applications might include growing HEC on wetland soils that have been drained for agricultural use. Over half of Wisconsin's wetlands have been drained, and a large percentage of these are planted annually to row crops. Ideally, these areas would be restored and no existing wetlands should be drained. However, if landowners must crop wetland soils, perennial, native plants that could be harvested as energy crops could provide a satisfactory compromise. Several native warm-season grasses have potential, as well as forbs, such as cupplant (*Silphium perfoliatum* L.). Herbaceous energy crops planted on drained wetlands could not only improve the condition of the land on which they are grown, but they could buffer adjacent waterbodies from runoff from upland crop fields.

In addition to detailing ecological considerations in the aforementioned paper, members of the Agriculture Ecosystems group have participated in several workshops and other activities within the state, providing an environmental perspective as the power industry works toward incorporating renewable energy sources into its long-term plans. As biomass energy production becomes a reality in Wisconsin, the Ag Ecosystems Project will involve itself in the process by developing management practices that enhance energy crop habitat value and by monitoring these plantations to ensure that their potential for providing quality wildlife habitat is achieved.

***Rotational Grazing***—Another cropping system which has potential to improve wildlife habitat quality is managed or rotational grazing. Rotational grazing is a system of forage production which relies on pasture vegetation for the bulk of the animals' nutritional needs. The animals are sent out to harvest their own feed rather than the farmer harvesting feed mechanically and bringing it to the stock, as is done in the standard confinement systems of livestock production. By confining the stock to a small section of pasture (a "paddock"), grazing the vegetation down evenly, and rotating the stock through a series of paddocks, the farmer can maximize the productivity of the pasture and provide his/her livestock with a continuous supply of high quality feed without the need to grow grain or alfalfa.

The potential for environmental improvement in this system lies in the fact that production of row crops and alfalfa is replaced by maintenance of the pasture sward. Fertilizer and pesticide inputs are minimized and the soil is protected year round by permanent sod.

For these reasons, the Agriculture Ecosystems group is interested in how conversion by farmers to a rotational grazing system will affect the quality of farmland habitat and whether this system holds potential for ground nesting birds. While the vegetation species mix in these cool-

season grass pastures differs from that of a prairie, the structural resemblance to the prairie habitat is great. Because of the potential of managed grazing to improve nesting habitat quality as well as overall environmental quality, we have devoted much of our energies in the past several years to studying these systems. Our research has taken two directions: 1) investigation of the use of managed grazing in riparian zones for sod improvement, and 2) a series of studies investigating grassland bird use of and nesting success in rotationally grazed pastures in Wisconsin.

***Livestock and Riparian Habitats***—Riparian areas not only provide habitat for many wetland species and a source of water for many more, but are vital to the overall health of our ecosystem. As concern over nonpoint source water pollution increases in Wisconsin, there has been increasing pressure for the reduction of runoff from agricultural land and the regulation of use of riparian areas on farms. Historically, livestock grazing of shoreline areas has resulted in degradation of riparian habitats and extensive runoff of sediment, manure and agricultural chemicals. These conditions resulted from the practice of confining livestock to areas of the farm, such as wetlands and steeply sloping ground, which are not useful for standard crop production. In contrast, these areas are likely to be maintained in healthy sod as part of a paddock system on a rotationally grazed farm. Many rotational graziers believe that a well-managed rotational grazing system can improve riparian habitats by improving sod structure and limiting incursion of brush and weeds.

Development of regulations for management of livestock in riparian areas is proceeding without the benefit of current data on grazing systems. The Agriculture Ecosystems group is in the process of planning a series of experiments comparing management alternatives such as vegetative buffer strips and rotational grazing. One goal will be to develop guidelines for environmentally sound use of these areas, so that riparian areas can be used productively by the landowner without jeopardizing watershed health.

***Grassland Birds and Grazing Systems***—Our first and largest research project to date has involved evaluating rotational grazing systems for the value as grassland bird nesting habitat. In 1993, we began a series of studies examining this issue. The goals of this research are to answer three questions: 1) What is the habitat quality of rotationally grazed pastures and are grassland birds successful at nesting in this habitat?, 2) What effect does cattle trampling have on nest survival? Does it vary with stocking rate or vegetation height?, and 3) Can we modify rotational grazing to improve habitat quality and nest survival, creating a "bird-friendly" system?

To answer these questions, we are studying grassland bird populations in several types of pasture systems in private farms (Table 3), as well as in a controlled experiment using simulated nests. For this on-going study, we are working with private livestock farmers in Southwestern Wisconsin and comparing grassland bird pop-

Table 3. On-farm research investigating grassland bird nesting patterns in several pasture systems in Southwestern Wisconsin.

| System | Stocking rate | Mowing | Year studied |
|---|---|---|---|
| Rotational | >50 Head/Acre | * | 1993 |
| Rotational | 15–25 Head/Acre | Some Hayed | 1994–95 |
| Continuous | >1 Head/Acre | * | 1993–95 |
| Continuous | <1 Head/Acre | * | 1993–95 |
| Ungrazed | * | Hayed | 1993–95 |
| Ungrazed | * | * | 1993 |

ulations in rotationally grazed and continuously grazed pastures.

It makes intuitive sense that a 200 acre pastured farm would provide more, higher quality habitat for ground nesting birds than 200 acres of corn, soybeans and alfalfa. We have data from DNR research and from our own work suggesting that several species of ground nesting birds breed in rotationally grazed pastures in Southern Wisconsin. One question that we need to answer is whether the grazing and grass growth cycles of a rotational grazing system mesh with the breeding cycles of the nesting birds. While the majority of a pasture systems is undisturbed at any one time, the length of time between grazing events in any one paddock is relatively short during the nesting season (Figure 2). The effect of cattle trampling becomes a critical factor in the survival of nests begun between grazing events because the cattle are likely to be returned to the paddock before the nest cycle is completed.

***Simulated Nest Study***—To quantify the effects of grazing animals on nest survival, we conducted a study comparing several cattle stocking densities: a dairy system, stocked at 24 head/acre and moved daily; a beef system, stocked at 6 head/acre and moved every 4 days; and a widely used, non-intensive system, stocked at 3 head/acre and rotated weekly. We used simulated nests, each consisting of three culled pheasant eggs. By using simulated nests, we were able to 1) avoid having to disturb natural nests, 2) avoid the labor-intensive process of locating natural nests, and 3) have an equal number of nests for each grazing treatment, to simplify the comparison among the stocking densities. From this study, we gained several insights:

1) The number of nests trampled per rotation was high (averaging 75% of 15 nests), and was the same

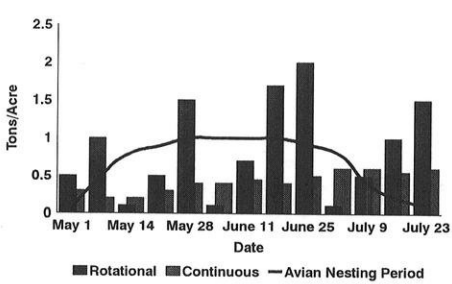



Figure 2. A comparison of avian nesting season and paddock grazing and vegetation growth cycles. The peak of the grassland bird nesting season coincides with a period of rapid grass growth, during which stock is brought into the paddock to graze every two to three weeks.

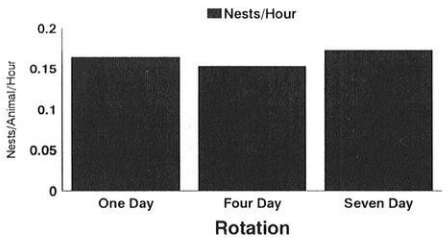



Figure 3. Cattle trampling rates. In a study using simulated ground nests, we found that nest trampling occurred at a constant rate per animal per hour, regardless of stocking rate or length of time the animals were on pasture.

for all treatments. In effect, one animal left on the pasture for ten days does as much damage as ten cattle on pasture for one day. Thus, it is best to use a high stocking density and reduce the amount of time that cattle are in the paddock, leaving it undisturbed for longer periods between grazing events.

2) Trampling occurs at a constant rate per animal per day (Figure 3).

3) Vegetation provides some protection from trampling at high stocking densities. That is, if the cattle are not allowed to graze as deeply into the vegetation canopy, fewer nests will be disturbed.

***On-farm Research***—In addition to the simulated nest study, we are collecting survival data on natural nests as part of the on-farm study. Nest trampling seems to occur at a much lower level under natural conditions than it did in our simulated nest study, but has an impact large enough to be cause for concern. In addition, there may be a relationship between cattle disturbance near the nest and subsequent abandonment. Further study of this relationship is necessary to verify these results.

Because of the potential impact of cattle disturbance on nesting pairs, we decided to develop a grazing system which employs some "bird-friendly" modifications (Figure 4). The centerpiece, both literally and figuratively of the bird friendly system is the concept of a nesting refuge, which is managed differently during the nesting season (Table 4). The refuge concept involves providing an area of 20 to 40 acres which is not disturbed between 15 May and 30 June, within a larger open, grassy area. Many graziers set aside such areas for any of several reasons. Grazing is deferred in groups of paddocks to allow a stockpile of forage to accumulate. The stockpiled forge is then cut for winter feed or fed during midsummer when grass growth has slowed. Some graziers allow groups of paddock to go to seed to thicken the sod or increase legume content. The goal of this effort is to create refuges that can serve both the grazier's production purposes and the needs of ground nesting birds.

Table 4. Creating a nesting refuge on rotationally grazed farms may improve nesting success for ground nesting species. Criteria used for nesting refuges are listed below.

| |
|---|
| 1) Twenty to 40 acres (up to 1/3 of total acreage) |
| 2) Locate away from wooded areas and buildings |
| 3) Graze lightly till May 15 |
| 4) Defer grazing between May 15 and July 1 |
| 5) Cut for hay or graze after July 1 |
| 6) Return refuge to rotational system through the end of the growing season |

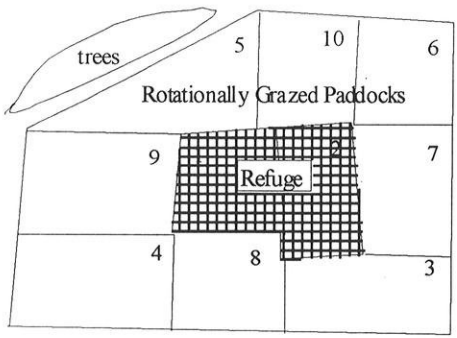



Figure 4. We developed and are testing a "bird-friendly" rotational grazing system, which involves setting aside a nesting refuge, during the period of peak nesting activity in early summer.

In 1994, we set up refuge areas on two farms in LaFayette and Iowa Counties and monitored avian activity both in the refuges and in adjacent rotationally grazed paddocks. In addition, we continued to monitor grassland bird populations in continuously grazed pastures on nearby farms. More seasons of data collection are needed before firm conclusions can be developed, but we have already gained some insight into the ecology of grazing systems.

We use nest searching and territory mapping to determine which species find suitable habitat for nesting on rotationally grazed farms and to determine their nesting success in these habitats. We have found that most of the species observed through censusing in 1993 are nesting in these pastures. The Savannah Sparrow is the most common species occurring in both continuous and rotational pastures in our study. Other commonly occurring species include Red-winged Blackbird, Eastern and Western Meadowlark, Bobolink, and Grasshopper Sparrow.

We recorded over 300 nesting pairs per 100 acres in refuges in 1994. Slightly fewer territories were observed in rotational paddocks and just over half this number were recorded for continuous pastures (Figure 5). We monitored over 140 nests during the 1994 season, with fewer than 15 of these occurring in continuously grazed pastures. Nest survival was low among the nests that we observed, with natural causes (predation and abandonment), cattle trampling, and mowing for winter feed accounting for roughly equivalent percentages in the rotational pastures. In refuge areas, nest survival was lower than we had hoped for because neither farmer was able to leave the refuge undisturbed for the entire 6 week period.

Figure 6 shows likely nest production in several types of production systems. A typical dairy farm in Wisconsin is likely to consist of similar acreages of alfalfa and corn, with a small area of continuously grazed pasture (perhaps 1/10 of what is shown in Figure 6). In contrast,

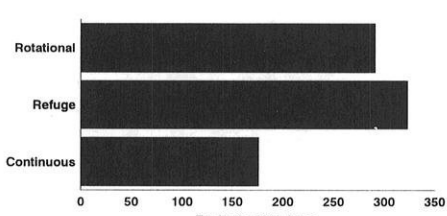



Figure 5. The number of territories observed per 100 acres was greatest for refuge areas. Rotational paddocks attracted slightly fewer nesting pairs. The fewest number of territories were found in continuously grazed pastures.

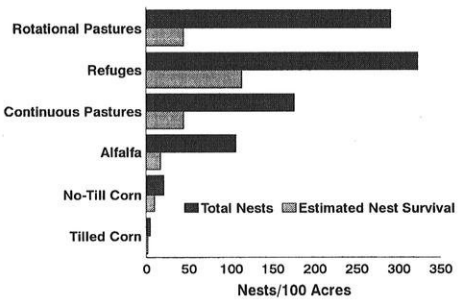



Figure 6. Estimated number of nests and nest survival per 100 acres on various types of crop land. A typical confinement-based dairy would consist of approximately 100 acres each of alfalfa and corn (or other grain), and 5 to 15 acres of continuously grazed pasture. On many rotationally grazed farms, little or no acreage is devoted to alfalfa or row crop production.

many rotationally grazed farms consist entirely of rotational pastures. While nest survival in these pastures is rather low, a rotationally grazed farm provides many more acres of appropriate habitat than a comparable, confinement-based livestock farm and has the potential to produce many more grassland bird nestlings. The refuge concept has the potential to significantly increase nest survival on rotationally grazed farms. The challenge we now face is to make the refuge concept fit into grazing systems. To do this, we are enlisting the help of Wisconsin's farmers.

In the final year of this study, we will work with cooperating farmers to develop strategies to manage pasture vegetation for the six-week refuge period. This effort exemplifies the function of the Agriculture Ecosystems Project—bringing together wildlife managers, agronomists, and farmers to develop compromises that create farming practices that function both as profitable cropping systems and as quality habitat for the wildlife that shares our land.

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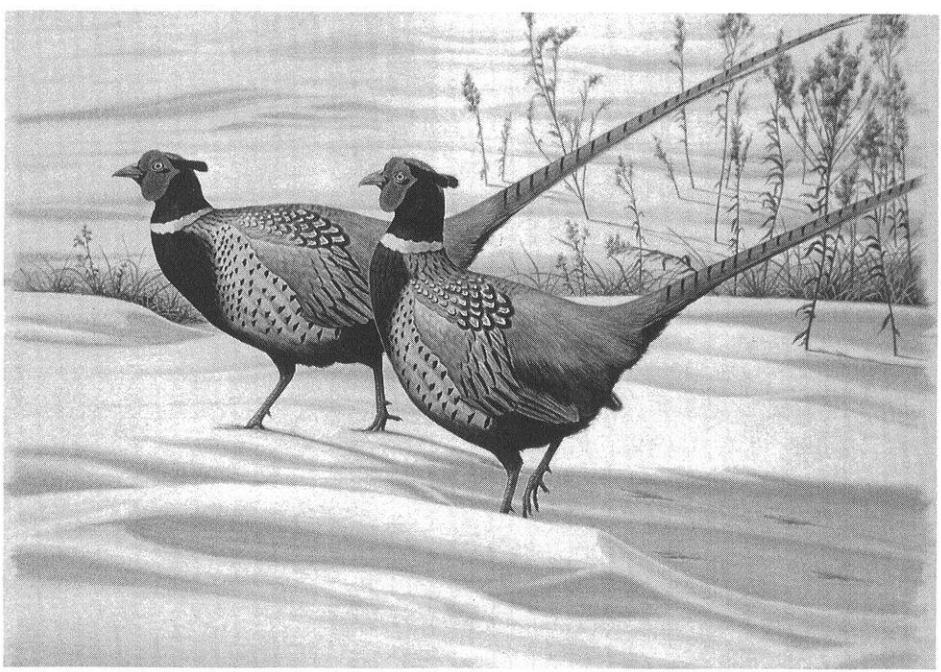

Pheasant Stamp Contest Entry—1992 *by Thomas R. Schultz*

# Bird Nest Densities in Managed Grasslands

*Songbird nest densities, in relationship to vegetation characteristics, are studied on one Waterfowl Production Area managed grassland.*

***by James O. Evrard and Bruce R. Bacon***

In recent years, some grassland bird species in North America have declined at an alarming rate. A number of these declining grassland species nest in Wisconsin including the Sedge Wren (*Cistothorus platensis*), Eastern Meadowlark (*Sturnella magna*) (Robbins et al. 1986), Bobolink (*Dolichonyx oryzivorus*), and Common Yellowthroat (*Geothlypis trichas*) (Sauer and Droege 1992, Thompson et al. 1993). The Bobolink, Common Yellowthroat, and Clay-colored Sparrow (*Spizella pallida*) were listed as species of special management concern by Thompson et al. (1993). Another neotropical migrant which nests in Wisconsin's grasslands, the Blue-winged Teal (*Anas discors*), has also declined recently (Andryk et al. 1991).

Reasons for these declines are not totally understood but loss of grassland habitat to intensive agriculture is suspected. Hayfields and pastures have been converted to row crops such as corn and soybeans. Increasing predator populations and loss of winter habitat may have also contributed to this decline.

In an attempt to counter these losses as they related to grassland-nesting ducks, the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources (WDNR) acquired wetlands and adjacent grassy uplands in northwestern Wisconsin for inclusion in Waterfowl Production Areas (WPAs). Funds used were generated from the sale of federal migratory bird hunting permits or "duck stamps," Wisconsin hunting licenses, and the federal excise tax on arms and ammunition known as the Pittman-Robertson Fund. Although Wisconsin WPAs were mostly federally owned, they were managed until very recently by the WDNR.

Management of the uplands consisted of planting cool- and warm-season grasses for nest cover and maintaining these grasslands primarily through the use of prescribed burning (Evrard and Lillie 1987).

The objective of this study was to determine densities of songbird

nests and the relationships between nest densities and vegetation characteristics in managed grasslands of 1 WPA in northwest Wisconsin.

## Study Area and Methods

The 196-ha (hectare) Erickson WPA is located just northeast of the city of New Richmond in St. Croix County. The WPA consists of a 36 ha Type V wetland (Shaw and Fredine 1956) and 3 smaller wetlands totaling 2 ha surrounded by 149 ha of grassland and 9 ha of oak (*Quercus* sp.) woodland. The 32 ha of grassland involved in this study was located in 4 adjacent fields in the extreme southwestern part of the WPA.

On 30 May 1984, 5 WDNR employees, aided by a crew of 21 students from the University of Wisconsin-Stevens Point led by Professors Vince Heig and Dave Potter, searched 24 ha of grassland for bird nests. The nest search was conducted on foot in 3 fields of planted nest cover.

On 12 and 13 June 1985, the WDNR crew, aided by a crew of 14 youths from the WDNR's Youth Conservation Camp stationed at the Crex Meadows Wildlife Area, foot searched the same 24 ha of the WPA plus an additional field of 8 ha of nest cover.

The nest searchers were spread 2–3 m apart in a line and methodically searched the cover in successive strips (Gates 1965). Each searcher was equipped with a wood stick 1–2 m in length which was used to bend and probe the vegetation to expose bird nests. When a nest was found, the line was halted until we could examine and identify the nest. Nest identification was based upon observing the female when she flushed from the nest or by using nest, egg, and/or nestling criteria of Harrison (1978). Nest success was not determined.

In addition, we searched the same cover in May and June of both years for duck and Ring-necked Pheasant (*Phasianus colchicus*) nests using a cable-chain drag (Higgens et al. 1969). The device was a heavy steel cable 80 m long stretched between 2 vehicles. Five loops of heavy chain were attached to the cable. As the nest cover was methodically searched in successive strips, egg laying and incubating ground-nesting female birds flushed from their nests when the device passed over them. When a female duck or pheasant flushed, we stopped the vehicles and searched the area to find the nest. Songbird nests were not located using this method. Eggs from ground nests were not harmed since the cable and chains were held above the nests by vegetation. However, bird nests in shrubs were occasionally disturbed by the cable-chain drag.

Three persons could search 50–100 ha of nest cover per day with the cable-chain drag compared to the 24–32 ha searched per day when searching on foot with a large crew of 19 to 28 persons. However, it was possible to find most nests in an area when searching on foot compared to finding only active nests with females present using the cable-chain drag.

In 1984, the nest cover was searched once with the cable-chain drag before it was searched on foot and in 1985, it was searched twice.

Nest cover was measured twice per

year, once in the spring just after snowmelt and again in late August and early September after the vegetation had ceased growing. Eight 100% visual obstruction readings (VORs), 4 in and 4 out (Robel et al. 1970), and 1 height and 1 litter depth measurement were taken at each of 10 points equally spaced on a diagonal line across the nest cover field.

During the second vegetation measurements, a 0.2 $m^2$ quadrant was used at each of the 10 points to determine plant species Importance Values or IV (sum of relative frequency and relative cover divided by 2) (after Curtis 1959).

We used the Epistat statistical package (Gustafson, T. L. 1984. 1705 Gattis School Road, Round Rock, TX 78664) to determine relationships between nest densities and vegetation using correlation analyses.

## Results and Discussion

Nests of 14 bird species were found in the 2 years (Table 1). The Red- winged Blackbird (*Agelaius phoeniceus*) was the most common nesting bird, comprising 59% of the 217 nests found. The Red-winged Blackbird was also the most numerous nesting bird in Illinois prairies (Westemeier and Buhnerkempe 1983) and in Iowa alfalfa fields (Frawley 1989).

In our study, the Clay-colored Sparrow was the second most abundant nesting bird with 13% of the nests found, followed by the Mallard (*Anas platyrhynchos*) with 10% and the Blue-winged Teal, 9% of the nests found. Three game species, the Ring-necked Pheasant, the Northern Shoveler (*Anas clypeata*) and the Green-winged Teal (*Anas crecca*), and 7 songbird species made up the remaining 9% of the bird nests found.

Of the 7 songbirds, the Mourning Dove (*Zenaida macroura*) and the American Robin (*Turdus migratorius*) normally nest in trees, not grasslands. However, we found the dove nest on the ground and the robin nest in a tall shrub.

The remaining 5 species, the Sedge Wren, Bobolink, Eastern Meadowlark, Common Yellowthroat, and the Savannah Sparrow (*Passerculus sandwichensis*) are species whose numbers have been declining and are of special management concern (Thompson et al. 1993).

In the nearby Amschler WPA, Johnson (1990), using spot mapping and transects (Christman 1984), recorded 5 songbird species in 3 study plots that totaled 12 ha. In addition, he observed another 6 species adjacent to the plots. The species in his study plots, Sedge Wren, Common Yellowthroat, Clay-colored Sparrow, Savannah Sparrow, and Bobolink, and 2 species adjacent to his plots, the Red-winged Blackbird and Eastern Meadowlark, were also found in our nest study.

Hoffman and Sample (1988) listed the Common Yellowthroat, Red-winged Blackbird, and Bobolink as being common in Wisconsin wet-mesic and wet prairies. The Savannah Sparrow was considered common in wet-mesic prairies but rare in wet prairies while the Eastern Meadowlark was uncommon in both prairie types. They listed the Sedge Wren as common and the Mallard and Blue-winged Teal as uncommon in wet prairies.

The Clay-colored Sparrow was not found in any grassland type (dry, dry-mesic, wet-mesic, wet prairies) examined in southern Wisconsin (Hoffman and Sample 1988, Sample and Hoffman 1989). However, it was common in pine and oak barrens and uncommon in sedge meadows habitat (Mossman et al. 1991, Mossman and Sample 1990) in northern Wisconsin. It reaches its greatest abundance in dense stands of low shrubs within grassy cover (Munson 1992).

The songbird nest densities we observed were minimum estimates since our single annual foot search occurred at one point in a long nesting season. Some early, late, and destroyed nests would have been missed as would the multiple nests of some bird species.

Our mean nest density of 3.9 per ha (range 1.0–8.3) (Table 1) compares to 3.6 nests/ha in Illinois prairie remnants (Westemeier and Buhnerkempe 1983) and 2.5 nests/ha in Iowa alfalfa fields (Frawley 1989).

There was wide variation in nest densities among bird species in the 4 fields in our study (Table 1). In 1984, nest density in Field FN was about 20% of that of Field SW. Densities in Field FNC was nearly twice that of Field FN. In 1985, the nest density in Field SWC was about half of that in Field SW while the low densities in Fields FN and FNC were approximately equal.

The variation in nest densities were due to the variation in the nest cover expressed as VORs and height measurements (Table 2). While spring measurements were lacking for Field SWC in 1984, the late summer measurements show that the vegetation cover in both Fields SW and SWC were taller and denser than in Fields FN and FNC. There was a strong correlation between bird nest density and summer VORs ($r = +0.895$, $t = 4.498$, 5 df, $P = 0.006$). On a species basis, significant correlations existed between summer VORs and Red- winged Blackbird nest densities ($r = +0.905$, $t = 4.761$, 5 df, $P = 0.005$), Blue-winged Teal ($r = +0.838$, $t = 3.429$, 5 df, $P = 0.02$), and Mallard ($r = +0.745$, $t = 2.497$, 5 df, $P = 0.05$). The correlation between Mallard nest density and mean summer vegetation height was stronger ($r = +0.860$, $t = 3.777$, 5 df, $P = 0.01$). Mean VORs and height measurements were strongly related ($r = +0.860$, $t = 3.760$, 5 df, $P = 0.01$).

As the nesting cover became denser and taller, bird nest densities increased with the exception of the Eastern Meadowlark which preferred shorter, more open vegetation. There were negative correlations between meadowlark nest density and spring VORs ($r = -0.755$, $t = 2.577$, 5 df, $P = 0.05$) and summer VORs ($r = -0.959$, $t = 7.537$, 5 df, $P = 0.0006$).

There was also a relationship between total bird nest density and the importance of forbs in nest cover ($r = +0.750$, $t = 2.533$, 5 df, $P = 0.05$). Both Fields SW and SWC had greater nest densities than Fields FN and FNC (Table 1).

Forbs were more important than grasses (IV = .3537 and .3933) (Table 2) in Field SW but switch grass (*Panicum virgatum*) was the dominant species (IV >.2000) with goldenrods (*Solidago* sp.) and dandelion

Table 1. Bird nest densities (nests/ha) in managed grasslands, Erickson WPA, 1984–85.

| Species | Field SM | Field SWC | Field FN | Field FNC |
|---|---|---|---|---|
| 1984 | | | | |
| Mallard | 1.2 (10)[a] | —[b] | 0.1 (1) | 0.1 (1) |
| Blue-winged Teal | 0.9 (7) | — | 0.2 (2) | 0.2 (2) |
| Green-winged Teal | | — | | 0.1 (1) |
| Northern Shoveler | | — | 0.1 (1) | |
| Pheasant | 0.2 (2) | — | | |
| Mourning Dove | 0.1 (1) | — | | |
| Bobolink | | — | 0.1 (1) | |
| Eastern Meadowlark | | — | 0.1 (1) | 0.1 (1) |
| Red-winged Blackbird | 5.2 (42) | — | | 0.7 (6) |
| Common Yellowthroat | | — | | 0.1 (1) |
| Clay-colored Sparrow | 0.7 (6) | — | 0.7 (6) | 1.1 (9) |
| Unknown sparrow | | — | | 0.2 (2) |
| Total | 8.3 (67) | — | 1.5 (12) | 2.8 (23) |
| 1985 | | | | |
| Mallard | 1.1 (9) | | 0.1 (1) | |
| Blue-winged Teal | 0.4 (3) | 0.4 (3) | 0.1 (1) | 0.1 (1) |
| Sedge Wren | 0.4 (3) | 0.1 (1) | | |
| American Robin | | | | 0.1 (1) |
| Eastern Meadowlark | | | | 0.1 (1) |
| Red-winged Blackbird | 5.8 (47) | 3.1 (25) | 0.4 (3) | 0.6 (5) |
| Clay-colored Sparrow | 0.1 (1) | 0.4 (3) | 0.5 (4) | |
| Savannah Sparrow | | 0.2 (2) | | |
| Unknown sparrow | | 0.1 (1) | | |
| Total | 7.8 (63) | 4.3 (35) | 1.1 (9) | 1.0 (8) |

[a]Numbers in ( ) are nests found.
[b]Not searched in 1984.

(*Taraxacum officinale*) as subdominant species (IV >.1000) in 1984–85.

Grasses [bluegrasses (*Poa pratensis* and *P. compressa*), quack grass (*Agropyron repens*)] were more important (IV = .5796 and .4171) in Field SWC in 1984 and 1985 respectively. Switch grass and the goldenrods were codominants in 1985 with quack grass and dandelions as subdominants.

Grasses [bluegrasses, smooth brome grass (*Bromus inermis*), switch grass, and timothy] were very important (IV = .8689 and .6611) in Field FN in 1984 and 1985 respectively. In 1985, the bluegrasses were dominants and only switch grass was a subdominant.

Although forbs were more important than grasses (IV = .3511) in Field FNC in 1984, switch grass was the dominant species along with goldenrods, clovers (*Trifolium repens* and *T. pratense*), and thistles (*Circium* sp.). The following year, grasses (smooth brome grass, bluegrasses, and switch grass) became more important (IV = .8761) than forbs.

## Summary

Grassland habitat purchased and managed for duck production provided nesting habitat for other game species including the Ring-necked Pheasant and certain nongame songbirds. The Red-winged Blackbird was the most abundant nesting species in

Table 2. Mean 100% visual obstruction[a], height, litter depth (cm), and grass Importance Value[b] of vegetation in managed grassland, Erickson WPA, 1984–85.

| Year and season | SW | SWC | FN | FNC |
|---|---|---|---|---|
| Spring, 1984 | | | | |
| Visual obstruction | 23.3 | — | 6.8 | 6.4 |
| Height | 85.7 | — | 28.8 | 31.0 |
| Litter depth | 1.7 | — | 4.1 | 6.4 |
| Summer, 1984 | | | | |
| Visual obstruction | 75.0 | 76.8 | 47.4 | 33.8 |
| Height | 103.8 | 105.0 | 87.1 | 79.3 |
| Litter depth | 2.9 | 3.2 | 2.0 | 3.2 |
| Grass Importance Value | .3537 | .5796 | .8689 | .3511 |
| Spring, 1985 | | | | |
| Visual obstruction | 51.1 | 34.6 | 24.9 | 18.3 |
| Height | 92.8 | 93.6 | 73.7 | 73.1 |
| Litter depth | 4.1 | 3.0 | 3.5 | 5.9 |
| Summer, 1985 | | | | |
| Visual obstruction | 71.3 | 67.4 | 37.8 | 32.3 |
| Height | 95.9 | 93.0 | 68.8 | 75.3 |
| Litter depth | 3.3 | 2.0 | 2.8 | 4.6 |
| Grass Importance Value | .3933 | .4171 | .6611 | .8761 |

[a]Robel et al. 1970.
[b]Importance Value [(% frequency + % coverage)/2] after Curtis (1959).

the managed cover but a substantial number of Clay-colored Sparrow nests were also found. Other songbird nests found included the Sedge Wren, Eastern Meadowlark, Bobolink, and Common Yellowthroat, species recently showing alarming population declines in North America. Nesting Mallards, Blue-winged Teal, and Red-winged Blackbirds preferred taller, denser nesting cover dominated by forbs while Eastern Meadowlarks sought shorter, more open grassland for nesting.

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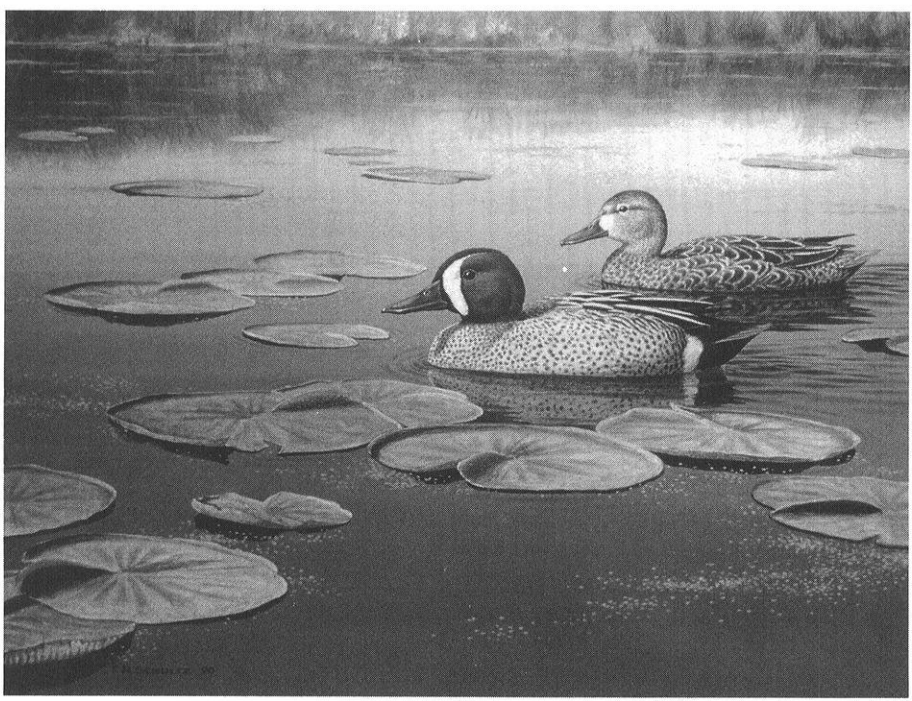

Blue-winged Teal *by Thomas R. Schultz*

# The Fall Season: 1994

*by Mark S. Peterson*

In a few years, nothing remarkable, either concerning the weather or the bird migration, will be remembered as setting the fall of 1994 apart from other fall periods during that time. The weather was warm, for the most part, and frequently wetter than normal, although not too much so. Many birds seemed to linger later than usual, especially the shorebirds and waterfowl.

August was warm with some wet periods. The high temperature was 96 in New Holstein on the 25th, while the low was 34 in Phillips on the 5th. Several large tornadoes made their way across the state on the evening of the 27th, the most noteworthy of these hitting the Big Flats area, flattening an area [bu12] mile wide and over 10 miles long. Schultz found 20 species of warblers in Ozaukee County on the 28th.

September had continued above normal temperatures and several periods of heavy rain. The Smiths reported 5.95″ of rain in Oconto County, while the Lukes reported 6.5″ in Door County during the month. A high temperature of 93 was reported in several locations between the 13th and 15th, while a low of 28 was reported at Harrison on the 2nd. Cowart reported a good hawk migration day in Ozaukee County on the 28th. Berner reported 17 species of warblers in Portage County on the 5th and 16 species on the 17th. In Dane County, Ashman found 16 species of warblers on the 3rd and 16 species on the 5th.

October was not as wet, but the temperatures were still above normal. The first killing frost was noted over most of the state on the 10th and 11th. A high of 82 was reported at Poplar on the 6th and a low of 16 was reported at Black River Falls on the 10th. Snow flurries were reported in the north between the 22nd and 24th. Cowart reported good hawk migration days in Ozaukee County on the 9th, 20th, 24th, and 25th. On the 9th, Tessen reported over 100 Sharp-shinned Hawks and over 45 Merlins per hour in Ozaukee County along Lake Michigan.

November was once again a mild month. Johnson reported that her

petunias did not freeze in Douglas County until a week before Thanksgiving. Hale reported that she picked raspberries in Jefferson County until a hard freeze on the 10th. A high temperature of 67 was reported in Beloit on the 3rd. Below zero temperatures did not reach Wisconsin in November of 1994. 1″ of snow was reported near Lake Superior on the 20th with up to 5″ in the central part of the state on the 27th and 28th. The Lukes reported that the barometer dropped to 28.85 in Door County on the 28th.

A total of 291 species were reported during the fall of 1994. Rarities included: Red-necked Grebes in Dane and Ozaukee Counties, Eared Grebes in Columbia, Dane, Manitowoc, and Milwaukee Counties, a Western Grebe in Sheboygan County, White Pelicans in Brown, Burnett, La Crosse, and Vernon Counties, Snowy Egrets in Brown and Milwaukee Counties, Little Blue Herons in Brown and Waupaca Counties, a Plegadis Ibis in Winnebago County, Trumpeter Swans in Burnett, Columbia, Dane, Jefferson, Marathon, and Polk Counties, Greater White-fronted Geese in Oconto and Winnebago Counties, Ross' Geese in Brown and Columbia Counties, Harlequin Ducks in Kewaunee and Ozaukee Counties, Swainson's Hawks in Ozaukee and Sheboygan Counties, Golden Eagles in Monroe, Oconto, Ozaukee, and Sheboygan Counties, a Gyrfalcon in Ozaukee County, Spruce Grouse in Vilas County, a King Rail in Columbia County, a Piping Plover in Dane County, American Avocets in Dane, Monroe, Sauk, and Sheboygan Counties, a Willet in Sheboygan County, a Whimbrel in Milwaukee County, Western Sandpipers in Dane and Manitowoc Counties, Purple Sandpipers in Milwaukee and Sheboygan Counties, Buff-breasted Sandpipers in Dane, Douglas, Manitowoc, and Racine Counties, a Little Gull in Kewaunee County, a Common Black-headed Gull in Milwaukee County, a Mew Gull in Ozaukee County, a California Gull in Sheboygan County, Thayer's Gulls in Douglas and Ozaukee Counties, Lesser Black-backed Gulls in Dane and Milwaukee Counties, a Great Black-backed Gull in Brown County, an Ivory Gull in Brown County, a Rufous Hummingbird in Washington County, a Three-toed Woodpecker in Sawyer County, Black-backed Woodpeckers in Douglas and Vilas Counties, Carolina Wrens in La Crosse and Sauk Counties, a Mountain Bluebird in Ozaukee County, Townsend's Solitaires in Sauk County, Varied Thrushes in Barron, St. Croix, Shawano, and Taylor Counties, a Northern Mockingbird in Ozaukee County, White-eyed Vireos in Jefferson, La Crosse, and Sauk Counties. Bell's Vireos in Dane and La Crosse Counties, Yellow-breasted Chats in Dane and Ozaukee Counties, and Sharp-tailed Sparrows in Milwaukee County.

## Reports
## (1 August–30 November 1994)

***Common Loon.***—Reported at the beginning of the period in Ashland, Bayfield, Burnett, Douglas, Oneida, Polk, and Vilas Counties. Hudick found 85 in Polk County on November 5. Found at the end of the period in Dane, Milwaukee, and Vilas Counties.

***Pied-billed Grebe.***—Found throughout the state at the beginning of the period. Hale

found 45 in Jefferson County on September 16. Reported at the end of the period in Columbia, Dane, Manitowoc, and Oneida Counties.

***Horned Grebe.***—First reported by Johnson in Douglas County on August 3. Domagalski found 122 in Ozaukee County on October 29. Reported at the end of the period in Dane County by Robbins.

***Red-necked Grebe.***—Reported on August 2 in Dane County by Robbins with 6 on August 29, and by Wood in Ozaukee County on October 29.

***Eared Grebe.***—First reported on August 22 in Dane County by Robbins and in Milwaukee County by Gustafson. Burcar found 3 in Dane County on August 31. Last reported by Tessen in Manitowoc County on October 9. Also reported during the period in Columbia County.

***Western Grebe.***—Reported by Berger in Sheboygan County on November 7.

***White Pelican.***—Reported by Hoefler in Burnett County on September 14 and 15, by J. Hansen in Brown County on September 16, by Dankert in La Crosse County from September 18 to October 7 and in Vernon County from September 30 to October 7, and 30 were found by Lesher in Vernon County on October 28.

***Double-crested Cormorant.***—Reported at the beginning of the period south to Monroe and Washington Counties. Berger reported 1375 in Sheboygan County on September 4. Found at the end of the period in Dane, Monroe, and Winnebago Counties.

***American Bittern.***—Found at the beginning of the period in Ashland, Bayfield, Burnett, Douglas, Ozaukee, and Price Counties. Last reported by Diehl in Milwaukee County on October 20.

***Least Bittern.***—First reported by Burcar in Dodge County on August 15. Last reported by Diehl in Milwaukee County on September 5.

***Great Blue Heron.***—Reported throughout the state at the beginning of the period. Ziebell found 22 in Winnebago County on October 1. Found at the end of the period in Kenosha County by Bishop.

***Great Egret.***—Found at the beginning of the period in La Crosse, Oconto, Polk, Washington, and Winnebago Counties. Domagalski found 24 in Washington County on August 7. Last reported on October 22 in La Crosse County by Dankert and in Dodge County by Robbins.

***Snowy Egret.***—First reported on September 12 in Brown County by J. Hansen. Last reported on November 6 in Milwaukee County by Domagalski, Gustafson, and Hall.

***Little Blue Heron.***—Reported on August 16 in Waupaca County by Tessen and on October 8 in Brown County by Baumann.

***Cattle Egret.***—The Smiths found 9 in Oconto County on August 13, and Tessen found one in Manitowoc County on October 9.

***Green-backed Heron.***—Reported at the beginning of the period throughout the state. Nussbaum found 25 in Waushara County on August 18. Last reported by Domagalski in Milwaukee County on October 16.

***Black-crowned Night-Heron.***—Found at the beginning of the period in Door, Manitowoc, Shawano, and Winnebago Counties. Tessen found 30 in Dodge County on August 18. Last reported by Ziebell in Winnebago County on November 12.

***Plegadis Ibis.***—Ziebell found one in Winnebago County on October 1 and 2. This record was accepted by the Records Committee. See "By the Wayside."

***Tundra Swan.***—Reported from the beginning of the period to August 12 in Dane County by E. Hansen. The next report was by Johnson in Douglas County on October 20. The U.S. Department of the Interior reported 3450 in La Crosse County on November 9. Found at the end of the period in Ashland, Bayfield, Columbia, Dane, La Crosse, Oconto, and Vernon Counties.

***Trumpeter Swan.***—Reported at the beginning of the period in Burnett and Polk Counties. Carlsen found 7 in Burnett County on October 22. Found at the end of the period in Burnett County by Hoefler. Also reported during the period in Columbia, Dane, Jefferson, and Marathon Counties.

***Mute Swan.***—Found at the beginning of the period in Ashland, Bayfield, Dane, Portage, and Washington Counties. Verch found 7 in Ashland and Bayfield Counties on October 16. Reported at the end of the period in Dane and Portage Counties.

***Greater White-fronted Goose.***—Reported by Nussbaum in Winnebago County from September 10 to the end of the period and by the Smiths in Oconto County on October 8.

***Snow Goose.***—First reported by Tessen in Outagamie County on September 17. Ashman found 175 in Columbia County on November 6. Reported at the end of the period by Burcar in Columbia County.

***Ross' Goose.***—Reported by Burcar in Columbia County on October 13, by Bontly in Columbia County on October 22, and by Baumann in Brown County on November 25 and 26.

***Canada Goose.***—Found throughout the state at the beginning of the period. A peak of 125,000 was reported in Horicon National Wildlife Refuge in mid-November. Reported at the end of the period north to Burnett, Douglas, and Door Counties.

***Wood Duck.***—Found throughout the state at the beginning of the period. Berner found 136 in Portage County on October 20. Reported at the end of the period in Columbia and Sauk Counties by Burcar.

***Green-winged Teal.***—Found at the beginning of the period in scattered areas throughout the state. Ashman found 300 in Columbia County on November 14. Reported at the end of the period in Dane, Milwaukee, and Sauk Counties.

***American Black Duck.***—Reported at the beginning of the period in Ashland, Bayfield, Manitowoc, Oneida, Portage, and Winnebago Counties. Verch found 50 in Ashland and Bayfield Counties on November 1. Found at the end of the period north to Oneida and Oconto Counties.

***Mallard.***—Found throughout the state during the period. The U.S. Department of Interior staff found 3870 in La Crosse County on November 15.

***Northern Pintail.***—Reported at the beginning of the period in Burnett and Winnebago Counties. Kuecherer found 1500 in Monroe County on October 27. Reported at the end of the period in Portage County by Berner.

***Blue-winged Teal.***—Found throughout the state at the beginning of the period. Ashman found 250 in Dane County on August 28. Reported at the end of the period in Dane County by Burcar.

***Northern Shoveler.***—Reported at the beginning of the period in Ashland and Bayfield Counties by Verch. The U.S. Department of Interior staff found 135 in Trempeleau County on November 9. Found at the end of the period in Dane, La Crosse, and Winnebago Counties.

***Gadwall.***—Reported at the beginning of the period in Burnett County by Hoefler. The U.S. Department of Interior staff found 2130 in La Crosse County on November 1. Found at the end of the period in Dane, Milwaukee, Ozaukee, Sauk, Washington, and Winnebago Counties.

***American Wigeon.***—Reported at the beginning of the period in Burnett and Douglas Counties. The U.S. Department of Interior staff found 350 in La Crosse County on November 1. Reported at the end of the period in Columbia and Dane Counties.

***Canvasback.***—First reported by Domagalski in Milwaukee County on September 25. The U.S. Department of Interior staff found 145,000 in pool 9 of the Upper Mississippi Wildlife Refuge on November 15. Reported at the end of the period in Dane, Jefferson, La Crosse, Milwaukee, and Winnebago Counties.

***Redhead.***—Found at the beginning of the period in Columbia and Dane Counties.

The U.S. Department of Interior staff found 575 in La Crosse County on November 1. Found at the end of the period in Columbia, La Crosse, Milwaukee, Oconto, Ozaukee, and Winnebago Counties.

***Ring-necked Duck.***—Found at the beginning of the period in Burnett, Douglas, and Shawano Counties. The U.S. Department of Interior staff found 5760 in La Crosse County on November 9. Found at the end of the period in Columbia, Dane, Milwaukee, Washington, and Winnebago Counties.

***Greater Scaup.***—First reported by Domagalski in Ozaukee County on September 24. The Brassers found 2000 in Sheboygan County on October 14. Reported at the end of the period in scattered areas throughout the state.

***Lesser Scaup.***—First reported on September 17 in Milwaukee County by Domagalski and Strelka. Parsons found 500 in Walworth County on November 6. Found in scattered areas throughout the state at the end of the period.

***Scaup Sp..***—The U.S. Department of Interior staff found 65,000 in the Upper Mississippi Wildlife Refuge on November 15. Total divers found on that day were 334,000.

***Harlequin Duck.***—Reported by Wood in Ozaukee County on November 26 and by Regan in Kewaunee County on November 28.

***Oldsquaw.***—First reported by Tessen in Ozaukee County on October 20. Found at the end of the period in Ozaukee, Milwaukee, and Winnebago Counties.

***Black Scoter.***—First reported by Tessen in Ozaukee County on October 9. Wood found 8 in Ozaukee County on November 26. Found at the end of the period in Ozaukee County by Uttech.

***Surf Scoter.***—First reported by J. Hansen in Kewaunee County on October 4. Wood found 11 in Ozaukee County on November 26. Reported at the end of the period in Ozaukee and Milwaukee Counties.

***White-winged Scoter.***—First reported by Stover in Door County on September 23. Tessen found 165 in Ozaukee County on October 9. Found at the end of the period in Ozaukee County by Uttech.

***Common Goldeneye.***—Reported at the beginning of the period in Door County by the Lukes. Sontag found 256 in Manitowoc County on November 30. Found at the end of the period in scattered areas throughout the state.

***Bufflehead.***—First reported by Sontag in Manitowoc County on August 15. Domagalski found 300 in Milwaukee County on November 13. Found in scattered areas throughout the state at the end of the period.

***Hooded Merganser.***—Reported at the beginning of the period in Burnett, Douglas, La Crosse, Manitowoc, Milwaukee, Portage, and Vernon Counties. Ashman found 90 in Dane County on November 25. Found in scattered areas throughout the state at the end of the period.

***Common Merganser.***—Found at the beginning of the period in Douglas and Price Counties. J. Baughman found 350 in Vilas County on November 24. Found in scattered areas throughout the state at the end of the period.

***Red-breasted Merganser.***—Reported at the beginning of the period in Ashland, Bayfield, and Door Counties. Tessen found 500 in Ozaukee County on October 29. Found at the end of the period in Door, Manitowoc, Milwaukee, Ozaukee, and Winnebago Counties.

***Ruddy Duck.***—Found at the beginning of the period in columbia and Dane Counties. Ashman found 70 in Columbia County on October 30. Found at the end of the period in Milwaukee, Washington, and Winnebago Counties.

***Turkey Vulture.***—Found throughout the state at the beginning of the period. Cowart found 130 in Ozaukee County on September 28. Reported at the end of the period in Sauk and Sheboygan Counties.

***Osprey.***—Reported at the beginning of the period south to Portage and Manitowoc

Counties. Berger found 38 in Sheboygan County on September 8. Last reported by Diehl in Milwaukee County on November 26.

***Bald Eagle.***—Found at the beginning of the period south to Pierce, Richland, Dane, and Outagamie Counties. Hudick found 12 in Polk County on November 21 and the La Valleys found 12 in Douglas County on November 22. Found in scattered areas throughout the state at the end of the period.

***Northern Harrier.***—Found throughout the state at the beginning of the period. Cowart found 81 in Ozaukee County on October 20. Reported at the end of the period in Burnett, Monroe, and Washington Counties.

***Sharp-shinned Hawk.***—Reported at the beginning of the period south to Polk, Marathon, Oconto, and Door Counties. Berger found 1052 in Sheboygan County on October 25. Found at the end of the period in Door, Outagamie, Ozaukee, Polk, and Walworth Counties.

***Cooper's Hawk.***—Found at the beginning of the period in scattered areas throughout the state. Berger found 27 in Sheboygan County on October 9. Reported at the end of the period north to Outagamie and Door Counties.

***Northern Goshawk.***—Reported at the beginning of the period in Ashland, Bayfield, Door, and Langlade Counties. Found at the end of the period in Door, Langlade, and Sheboygan Counties.

***Red-shouldered Hawk.***—Reported at the beginning of the period in Door, Dunn, Monroe, Outagamie, Polk, Portage, and Washington Counties. Found by Raile and the end of the period in Dunn County.

***Broad-winged Hawk.***—Found at the beginning of the period south to Dane County. Cowart found 378 in Ozaukee County on September 28. Last reported by the La Valleys in Douglas County on October 16.

***Swainson's Hawk.***—First reported on September 28 in Ozaukee County by Cowart, Gustafson, and Domagalski. Last reported on October 25 in Ozaukee County by Cowart and Uttech and in Sheboygan County by Berger.

***Red-tailed Hawk.***—Found throughout the state at the beginning of the period. Cowart found 487 in Ozaukee County on October 25. Reported at the end of the period north to Burnett, Douglas, Marathon, Oconto, and Door Counties.

***Rough-legged Hawk.***—First reported by Ott in Marathon County on September 17. Berner found 6 in Portage County on November 10. Reported at the end of the period south to Monroe, Dane, and Winnebago Counties.

***Golden Eagle.***—Reported by Erdman in Oconto County on October 9, by Cowart in Ozaukee County on October 25, by Berger in Sheboygan County on October 25, and by Kuecherer in Monroe County from October 30 to the end of the period.

***American Kestrel.***—Found throughout the state at the beginning of the period. Cowart found 29 in Ozaukee County on October 9. Reported at the end of the period north to Pierce and Marathon Counties.

***Merlin.***—Reported at the beginning of the period in Ashland, Bayfield, Door, and Douglas Counties. Cowart found 154 in Ozaukee County on October 19. Last reported by Ashman in Dane County on November 24.

***Peregrine Falcon.***—Found at the beginning of the period in Douglas and Milwaukee Counties. Cowart found 8 in Ozaukee County on October 20. Reported at the end of the period in Milwaukee County by Diehl.

***Gyrfalcon.***—Cowart saw one in Ozaukee County on October 20. This record was accepted by the Records Committee. See "By the Wayside."

***Gray Partridge.***—Reported during the period in Columbia, Dane, Iowa, Oconto, and Ozaukee Counties. Robbins found 17 in Columbia County on August 12.

***Ring-necked Pheasant.***—Reported during the period north to Burnett, Marathon, Oconto, and Door Counties. Ziebell found 3 in Winnebago County on October 17.

***Spruce Grouse.***—Reported in Vilas

County on October 6 by J. Baughman and on November 25 by Nussbaum.

***Ruffed Grouse.***—Found during the period south to Richland and Dane Counties. Berner found 9 in Portage County on September 8.

***Greater Prairie-Chicken.***—Reported by Berner in Portage County on November 27.

***Sharp-tailed Grouse.***—Found throughout the period in Burnett County by Hoefler, on September 27 in Douglas County by Johnson, and on October 25 in Vilas County by J. Baughman.

***Wild Turkey.***—Reported during the period north to Burnett, Shawano, and Door Counties. The Lukes found 20 in Door County on October 7.

***Northern Bobwhite.***—Found during the period in Columbia, Dane, Ozaukee, and Richland Counties. Duerksen found 3 in Richland County on September 4.

***King Rail.***—Reported by Tessen in Columbia County on August 18.

***Virginia Rail.***—Found at the beginning of the period in Ashland, Bayfield, Burnett, Columbia, Dane, and Washington Counties. Last reported by Diehl in Dodge County on October 16.

***Sora.***—Found in scattered areas throughout the state at the beginning of the period. McDaniel found 6 in La Fayette County on September 6. Last reported by Strelka in Waukesha County on September 26.

***Common Moorhen.***—Reported at the beginning of the period in Columbia, Dane, La Crosse, and Oconto Counties. Parsons found 33 in Walworth County on October 1. Last reported by Ashman in Dane County on October 30.

***American Coot.***—Found at the beginning of the period in Columbia, Dane, Washington, and Winnebago Counties. Hoefler found over 5000 in Burnett County on October 13. Reported at the end of the period north to Sauk, Columbia, Winnebago, and Manitowoc Counties.

***Sandhill Crane.***—Reported at the beginning of the period north to Burnett, Langlade, and Door Counties. Hoefler found over 2900 in Burnett County on October 27. Found by Robbins in Dane County at the end of the period.

***Black-bellied Plover.***—First reported by Ott in Marathon County on August 7. Last reported by Ashman in Columbia County on November 6 when 6 were found.

***American Golden Plover.***—First reported on August 19 in Dane County by Burcar and Hansen. Burcar found 245 in Dane County on September 13. Last reported by Ashman in Dane County on November 14.

***Semipalmated Plover.***—Reported at the beginning of the period in Dane and Milwaukee Counties. The Smiths found 10 in Oconto County on August 21. Last reported by Sontag in Manitowoc County on October 19.

***Piping Plover.***—Reported in Dane County on August 12 by Burcar and Robbins and on August 14 by Ashman.

***Killdeer.***—Found throughout the state at the beginning of the period. Domagalski found 246 in Washington County on August 4. Last reported on November 19 by Burcar in Columbia and Dane Counties.

***American Avocet.***—First reported by Nussbaum in Sauk County on August 13. Domagalski found 12 in Milwaukee County on October 9. Last reported on October 23 in Milwaukee County by Domagalski and in Sheboygan County by Berger. Also reported during the period in Dane and Monroe Counties.

***Greater Yellowlegs.***—Reported at the beginning of the period in Burnett, Dane, Douglas, Milwaukee, Shawano, And Washington Counties. Ashman found 25 in Columbia County on November 6. Last reported by Burcar in Columbia County on November 16.

***Lesser Yellowlegs.***—Found in scattered areas throughout the state at the beginning

of the period. Ashman found 110 in Dane County on August 14. Last reported by Burcar in Columbia County on November 18.

***Solitary Sandpiper.***—Reported in scattered areas throughout the state at the beginning of the period. Ashman found 7 in Dane County on August 13. Last reported by Strelka in Waukesha County on October 12.

***Willet.***—Reported by Berger in Sheboygan County on September 9.

***Spotted Sandpiper.***—Found throughout the state at the beginning of the period. Ashman found 13 in Dane County on August 17. Last reported by J. Hansen in Brown County on October 18.

***Upland Sandpiper.***—Reported at the beginning of the period in Ashland, Bayfield, Burnett, and Door Counties. Last reported by Schultz in Racine County on August 27.

***Whimbrel.***—Reported by Domagalski in Milwaukee County on August 14.

***Ruddy Turnstone.***—Reported by Sontag in Manitowoc County from the beginning of the period to September 23 with 7 being present on September 7.

***Red Knot.***—First reported by Gustafson in Milwaukee County on August 23. Last reported by Domagalski in Milwaukee County on September 24. Also reported in Marathon County.

***Sanderling.***—Found at the beginning of the period in Manitowoc n Winnebago Counties. DomAgalski found 52 in Milwaukee County on October 1. Last reported by Verch in Ashland and Bayfield Counties on October 25.

***Semipalmated Sandpiper.***—Reported at the beginning of the period in Columbia, Dane, Douglas, and Manitowoc Counties. Ashman found 52 in Dane County on August 17. Last reported by Uttech in Ozaukee County on September 30.

***Western Sandpiper.***—Reported by E. Hansen in Dane County on September 6 and by Sontag in Manitowoc County on September 29.

***Least Sandpiper.***—Found in scattered areas throughout the state at the beginning of the period. Ashman found 75 in Dane County on August 13. Last reported in Columbia County by Burcar on November 18.

***White-rumped Sandpiper.***—First reported by Ott in Marathon County on August 6. Last reported by Kuecherer in Monroe County on September 19.

***Baird's Sandpiper.***—Reported at the beginning of the period in Dane County by Ashman and E. Hansen. E. Hansen found 13 in Dane County on August 8. Last reported by Robbins in Columbia County on November 12.

***Pectoral Sandpiper.***—Reported at the beginning of the period in Columbia, Dane, Milwaukee, Shawano, and Washington Counties. E. Hansen found 138 in Dane County on August 2. Last reported by Sontag in Manitowoc County on November 24.

***Purple Sandpiper.***—Reported by Schwartz in Milwaukee County on August 30 and by Wood in Sheboygan County on November 26. These reports were both accepted by the Records Committee. See "By the Wayside.'

***Dunlin.***—First reported by Ziebell in Winnebago County on August 29. Ashman found 7 in Columbia County on November 6. Last reported by Burcar in Columbia County on November 19.

***Stilt Sandpiper.***—Found at the beginning of the period in Columbia and Dane Counties. Ashman found 15 in Dane County on September 5. Last reported by Burcar in Dane County on October 4.

***Buff-breasted Sandpiper.***—First reported by Burcar in Dane County on August 19. Schultz found 5 in Racine County on August 27. Last reported by Burcar in Dane County on September 9. Also reported during the period in Douglas and Manitowoc Counties.

***Short-billed Dowitcher.***—Reported at the beginning of the period in Dane and Milwaukee Counties. E. Hansen found 14 in Dane County on August 14. Last reported by Diehl in Dodge County on October 16.

***Long-billed Dowitcher.***—First reported by Tessen in Dane County on August 18. Last reported by Burcar in Dodge County on October 20.

***Dowitcher Sp..***—Reported by Robbins in Dodge County on October 22.

***Common Snipe.***—Reported at the beginning of the period south to Polk, Shawano, and Door Counties. Ashman found 52 in Columbia County on November 12. Last reported on November 19 in Columbia County by Burcar and in Ozaukee County by the U.W. Milwaukee Field Station staff.

***American Woodcock.***—Reported at the beginning of the period south to Washington and Ozaukee Counties. Domagalski found 8 in Washington County on August 6. Last reported by Duerksen in Richland County on November 12.

***Wilson's Phalarope.***—First reported by the Smiths in Oconto County on August 14. Diehl found 5 in Milwaukee County on September 21, which were the latest reported.

***Red-necked Phalarope.***—First reported on August 13 in Dane County by Ashman and in Marathon County by Ott. E. Hansen found 10 in Dane County on August 28. Last reported in Dane County on September 5 by Ashman and E. Hansen.

***Franklin's Gull.***—Reported in Dane County by Burcar on August 19, by Gustafson on August 22, and by Burcar on October 27, and by Burcar in Columbia County on October 20.

***Little Gull.***—Reported by Regan in Kewaunee County on November 28 and 30.

***Common Black-headed Gull.***—Reported by Aune in Milwaukee County on November 22. This record was accepted by the Records Committee. See "By the Wayside."

***Bonaparte's Gull.***—Reported at the beginning of the period in Manitowoc and Sheboygan Counties. Verch found 56 in Ashland and Bayfield Counties on September 20. Reported at the end of the period in Milwaukee and Ozaukee Counties.

***Mew Gull.***—Boldt found one in Ozaukee County on November 9. This record was accepted by the Records Committee. See "By the Wayside."

***Ring-billed Gull.***—Found throughout the state during the period. Ashman found 1000 in Dane County on October 16.

***California Gull.***—Reported by S. Baughman in Sheboygan County on October 13. This report was accepted by the Records Committee. See "By the Wayside."

***Herring Gull.***—Reported during the period in scattered areas throughout the state. Ziebell found 400 in Winnebago County on September 2.

***Thayer's Gull.***—Reported by Wood in Ozaukee County on November 13. Schultz found a Thayer's/Iceland hybrid in Douglas County on October 27.

***Lesser Black-backed Gull.***—Reported in Dane County on September 24 by Santa Anna and from September 27 to the end of the period by Burcar, and by Mueller in Milwaukee County on October 21. These reports were accepted by the Records Committee. See "By the Wayside."

***Glaucous Gull.***—First reported by Cowart in Ozaukee County on September 6. Found at the end of the period in Douglas and Winnebago Counties.

***Great Black-backed Gull.***—Reported by Regan in Brown County on November 18.

***Ivory Gull.***—Baumann found one in Brown County on November 26. This report was accepted by the Records Committee. See "By the Wayside."

***Caspian Tern.***—Reported at the beginning of the period in Door, Douglas, Mani-

towoc, Milwaukee, and Sheboygan Counties. Sontag found 78 in Manitowoc County on August 18. Last reported by Domagalski in Ozaukee County on September 28.

***Common Tern.***—Found at the beginning of the period in Ashland, Bayfield, Douglas, Manitowoc, and Sheboygan Counties. Verch found 26 in Ashland and Bayfield Counties on September 20. Last reported by the Brassers in Sheboygan County on November 5.

***Forster's Tern.***—Reported at the beginning of the period in Manitowoc and Oconto Counties. Dankert found 6 in La Crosse County on August 9. Last reported by Tessen in Ozaukee County on October 29.

***Black Tern.***—Found in scattered areas throughout the state at the beginning of the period. Ashman found 11 in Dane County on August 2. Last reported by Robbins in Dane County on September 10.

***Rock Dove.***—Reported throughout the state during the period. The Smiths found 126 in Oconto County on October 30.

***Mourning Dove.***—Found throughout the state during the period. Parsons found 140 in Walworth County on September 3.

***Black-billed Cuckoo.***—Found at the beginning of the period in Ashland, Bayfield, Burnett, Door, Oconto, and Washington Counties. Last reported by Uttech in Ozaukee County on September 29.

***Yellow-billed Cuckoo.***—Reported at the beginning of the period by the Lukes in Door County. McDaniel found 4 in La Fayette County on September 1. Last reported by Dankert in La Crosse County on October 10.

***Eastern Screech-Owl.***—Found during the period in Brown, Dane, Milwaukee, Outagamie, Ozaukee, Richland, Walworth, Washington, and Winnebago Counties. Domagalski found 5 in Washington County on October 27.

***Great Horned Owl.***—Found throughout the state during the period. Diehl found 3 in Washington County on August 21 and the Smiths found 3 in Oconto County on October 25.

***Snowy Owl.***—No reports were received.

***Barred Owl.***—Reported during the period south to Iowa, Dane, Jefferson, Washington, and Ozaukee Counties. The U.W. Milwaukee Field Station staff found 3 in Ozaukee County on November 19.

***Long-eared Owl.***—First reported by Berger in Sheboygan County on September 29. Last reported by Richter in Vernon County on November 29.

***Short-eared Owl.***—First reported on October 23 in Milwaukee County by Mueller and in Ozaukee County by Cowart and Domagalski. Last reported by Tessen in Milwaukee County on November 3.

***Northern Saw-whet Owl.***—First reported by the Smiths in Oconto County on September 23. Jacobs reported 65 in Portage County on October 25. A total of 945 were caught at 3 sub-stations in Oconto County during the period. Last reported by Berger in Sheboygan County on November 26.

***Common Nighthawk.***—Found throughout the state at the beginning of the period. Pickering found over 2000 in Langlade County on August 22. Last reported by Dankert in Vernon County on October 10.

***Whip-poor-will.***—Reported at the beginning of the period in Door, Polk, Price and Washington Counties. Last reported by Burcar in Dane County on September 29.

***Chimney Swift.***—Found throughout the state at the beginning of the period. Berner found 330 in Portage County on September 12. Last reported by Parsons in Walworth County on October 13.

***Ruby-throated Hummingbird.***—Reported at the beginning of the period south to La Fayette, Dane, Washington, and Ozaukee Counties. 10 were seen at Little Suamico Ornithological Station on September 6. Last reported by the Lukes in Door County on November 7.

***Rufous Hummingbird.***—Reported in Washington County on August 9 by Domagalski and Korducki and on August 10 by Gustafson. These reports were accepted by the Records Committee. See "By the Wayside."

***Belted Kingfisher.***—Found throughout the state at the beginning of the period. Verch found 5 in Ashland and Bayfield Counties on September 27. Reported at the end of the period in Dane, La Fayette, and Monroe Counties.

***Red-headed Woodpecker.***—Found in scattered areas throughout the state at the beginning of the period. Tessen found 7 in Ozaukee County on October 9. Reported at the end of the period in Dane, Dunn, Monroe, Portage, and Sauk Counties.

***Red-bellied Woodpecker.***—Reported during the period north to Burnett, Oneida, and Door Counties. Ashman found 7 in Dane County on October 8.

***Yellow-bellied Sapsucker.***—Found at the beginning of the period south to La Crosse and Door Counties. Ashman found 5 in Dane County on October 8. Last reported by Burcar in Sauk County on November 19.

***Downy Woodpecker.***—Reported throughout the state during the period. Berner found 11 in Portage County on August 28.

***Hairy Woodpecker.***—Found throughout the state during the period. The Smiths found 5 in Oconto County on August 1 and Ashman found 5 in Dane County on September 3.

***Three-toed Woodpecker.***—Heim found on in Sawyer County on October 2. This report was accepted by the Records Committee. See "By the Wayside."

***Black-backed Woodpecker.***—Reported by the La Valleys in Douglas County on September 27 and November 19, by J. Baughman in Vilas County on November 3, and by Semo in Douglas County on November 19 and 22.

***Northern Flicker.***—Found throughout the state at the beginning of the period. Berner found 19 in Portage County on September 16. Reported at the end of the period in Dane County by Burcar.

***Pileated Woodpecker.***—Reported during the period south to Iowa and Dane Counties. Berner found 3 in Portage County on August 21.

***Olive-sided Flycatcher.***—First reported by Berner in Portage County on August 4. Last reported by Burcar in Dane County on September 6.

***Eastern Wood-Pewee.***—Found throughout the state at the beginning of the period. Berner found 13 in Portage County on September 3. Last reported by Burcar in Dane County on October 3.

***Yellow-bellied Flycatcher.***—Reported at the beginning of the period in Oneida County by Bowman. The U.W. Milwaukee Field Station staff found 3 in Ozaukee County on August 20 and Berner found 3 in Portage County on August 28. Last reported by Haseleu in Washburn County on September 11.

***Acadian Flycatcher.***—Reported at the beginning of the period in Dane and Washington Counties. Last reported by Burcar in Dane County on August 31.

***Alder Flycatcher.***—Found at the beginning of the period south to Dane, Washington, and Ozaukee Counties. Peterson found 4 in Shawano County on August 1. Last reported on August 27 at Little Suamico Ornithological Station.

***Willow Flycatcher.***—Reported at the beginning of the period in Dane, Ozaukee, Shawano, and Washington Counties. Last reported by Burcar in Dane County on September 19.

***Least Flycatcher.***—Found at the beginning of the period in scattered areas throughout the state. Berner found 5 in Portage County on August 25. Last reported by Lesher in Vernon County on September 25.

***Eastern Phoebe.***—Found throughout the state at the beginning of the period. Burcar found 18 in Dane County on October 9.

Last reported by Ashman in Dane County on October 29.

***Great Crested Flycatcher.***—Reported throughout the state at the beginning of the period. Ashman found 8 in Dane County on September 3. Last reported by Ashman in Dane County on September 25.

***Eastern Kingbird.***—Found throughout the state at the beginning of the period. The Smiths found 30 in Oconto County on August 21. Last reported by Burcar in Dane County on September 9.

***Horned Lark.***—Found in scattered areas throughout the state at the beginning of the period. Berner found 12 in Portage County on October 19 and Ziebell found 12 in Winnebago County on October 28. Reported at the end of the period in Burnett, Columbia, Dane, Pierce, and Winnebago Counties.

***Purple Martin.***—Found throughout the state at the beginning of the period. The Smiths found 2000 in Oconto County on September 5. Last reported by Ziebell in Winnebago County on September 13.

***Tree Swallow.***—Reported throughout the state at the beginning of the period. The Smiths found 6000 in Oconto County on September 5. Last reported on October 23 in Dane County by Burcar and in Ozaukee County by Uttech.

***Northern Rough-winged Swallow.***—Found throughout the state at the beginning of the period. Pickering found 12 in Langlade County on August 11. Last reported by Hudick in Polk County on September 10.

***Bank Swallow.***—Reported throughout the state at the beginning of the period. Ashman found 25 in Columbia County on August 7. Last reported by Ashman in Dane County on September 12.

***Cliff Swallow.***—Found throughout the state at the beginning of the period. Berner found 60 in Portage County on August 19. Last reported by Cowart in Ozaukee County on November 19.

***Barn Swallow.***—Found throughout the state at the beginning of the period. Domagalski found 990 in Ozaukee County on August 20. Last reported by the Smiths in Oconto County on October 30.

***Gray Jay.***—Reported during the period in Forest, Langlade, Price, and Vilas Counties. Peterson reported a maximum of 4 coming to a feeder in Langlade County during September and October.

***Blue Jay.***—Found throughout the state during the period. Over 300 were seen at Litle Suamico Ornithological Station on September 20 and also on September 28.

***American Crow.***—Found throughout the state during the period. Berner found 340 in Portage County on October 18.

***Common Raven.***—Reported during the period south to Polk, Portage, and Sheboygan Counties. The Lukes found 15 in Door County on October 23.

***Black-capped Chickadee.***—Found throughout the state during the period. Peterson found 56 in Shawano County on August 25.

***Boreal Chickadee.***—Reported during the period in Forest, Langlade, and Vilas Counties. Gustafson found 5 in Forest County on August 16.

***Tufted Titmouse.***—Found during the period in Dane, Iowa, Polk, and Sauk Counties.

***Red-breasted Nuthatch.***—Reported at the beginning of the period south to Washington and Milwaukee Counties. Berner found 20 in Portage County on November 3. Found throughout the state at the end of the period.

***White-breasted Nuthatch.***—Found throughout the state during the period. Peterson found 17 in Shawano County on November 5.

***Brown Creeper.***—Reported at the beginning of the period south to Portage and Outagamie Counties. Ashman found 7 in Dane

County on October 8. Reported at the end of the period north to Price and Vilas Counties.

***Carolina Wren.***—Reported on October 16 in La Crosse County by Dankert and Lesher and on November 19 in Sauk County by Burcar and Domagalski.

***House Wren.***—Found throughout the state at the beginning of the period. Berner found 12 in Portae County on August 14. Last reported by Burcar in Dane County on October 9.

***Winter Wren.***—Reported at the beginning of the period in Ashland, Bayfield, Door, Portage, and Vilas Counties. Ashman found 10 in Dane County on October 8. Reported at the end of the period in Manitowoc County by Sontag.

***Sedge Wren.***—Found throughout the state at the beginning of the period. Last reported by Burcar in Dane County on October 26.

***Marsh Wren.***—Found at the beginning of the period in scattered areas throughout the state. Ziebel found 6 in Winnebago County on October 2. Last reported on October 31 in Dane County by Ashman and in Ozaukee County by Uttech.

***Golden-crowned Kinglet.***—Reported at the beginning of the period in Douglas and Vilas Counties. Ashman found 60 in Dane County on October 8. Reported at the end of the period north to Portage, Winnebago, and Manitowoc Counties.

***Ruby-crowned Kinglet.***—Found at the beginning of the period in Ashland, Bayfield, Oneida, and Vilas Counties. Burcar found 40 in Dane County on October 9. Last reported by Bontly in Milwaukee County on November 8.

***Blue-gray Gnatcatcher.***—Reported at the beginning of the period in Dane, Door, La Crosse, Manitowoc, Polk, Shawano, and Washington Counties. Domagalski found 9 in Washington County on August 5. Last reported by Tessen in Sheboygan County on October 9.

***Eastern Bluebird.***—Found throughout the state at the beginning of the period. The Smiths found 285 at Little Suamico Ornithological Station in Oconto County on October 25. Last reported by Anderson and Petznick in Outagamie County on November 12.

***Mountain Bluebird.***—Hughes found one in Ozaukee County on October 29. The report was accepted by the Records Committee. See "By the Wayside."

***Townsend's Solitaire.***—Reported in Sauk County by Burcar on November 12 and 18, by Domagalski on November 18, and Wood found 3 on November 20.

***Veery.***—Found in scattered areas throughout the state at the beginning of the period. Berner found 100 in Portage County on September 16. Last reported at Little Suamico Ornithological Station on October 9.

***Gray-cheeked Thrush.***—First reported by the Smiths at Little Suamico Ornithological Station on August 29. The U.W. Milwaukee Field Station staff found 6 in Ozaukee County on September 10. Last reported by Mueller in Milwaukee County on October 14.

***Swainson's Thrush.***—First reported by Berner in Portage County on August 2. Berner found 500 in Portage County on September 16. Last reported on October 22 in Ozaukee County by the U.W. Milwaukee Field Station staff and in Portage County by Berner.

***Hermit Thrush.***—Reported at the beginning of the period in Ashland, Bayfield, Oneida, Shawano, and Vilas Counties. Berner found 35 in Portage County on October 9. Last reported by Bontly in Milwaukee County on November 14.

***Wood Thrush.***—Found at the beginning of the period in Ashland, Bayfield, Burnett, Dane, Shawano, and Washington Counties. Parsons found 4 in Walworth County on August 5. Last reported on October 16 in Milwaukee County by Domagalski and in Outagamie County by Anderson and Petznick.

***American Robin.***—Found throughout the state at the beginning of the period. Over 300 were found at Little Suamico Ornithological Station on October 20 and Pickering

found over 300 in Langlade County on October 24. Found in scattered areas throughout the state at the end of the period.

***Varied Thrush.***—Reported in Taylor County in Mid-November, in St. Croix County on November 19, in Barron County in Late November by Worden, and in Shawano County coming to a pile of corn near a deer stand from November 19 to 26 by Nespodzany.

***Gray Catbird.***—Found throughout the state at the beginning of the period. Ashman found 22 in Dane County on August 22. Last reported by Pickering in Langlade County on November 30.

***Northern Mockingbird.***—Reported in Ozaukee County by Domagalski on September 11 and by Uttech on September 12.

***Brown Thrasher.***—Found throughout the state at the beginning of the period. Ashman found 8 in Dane County on September 19. Last reported by Erdman at Little Suamico Ornithological Station on November 9.

***American Pipit.***—First reported by E. Hansen in Dane County on September 9. Burcar found 55 in Columbia County on November 19. Last reported on November 19 in Columbia County by Burcar and in Oconto County by the Smiths.

***Bohemian Waxwing.***—First reported on November 14 by Verch in Ashland and Bayfield Counties where 7 were present. Reported at the end of the period in Ashland, Bayfield, and Vilas Counties.

***Cedar Waxwing.***—Found throughout the state at the beginning of the period. Berger found 2460 in Sheboygan County on August 24. Reported at the end of the period north to Polk and Oneida Counties.

***Northern Shrike.***—First reported by Bontly in Milwaukee County on October 10. The Smiths found 3 in Oconto County on November 13. Found at the end of the period south to Dane and Ozaukee Counties.

***European Starling.***—Found throughout the state during the period. The Lukes found over 1000 in Door County on October 11.

***White-eyed Vireo.***—Reported by Robbins in Sauk County on August 2, by Dankert in La Crosse County for August 5 to 16, and by Hale in Jefferson County on September 8 and 9.

***Bell's Vireo.***—Reported from the beginning of the period to August 31 in Dane County by Robbins and on August 5 in La Crosse County by Dankert.

***Solitary Vireo.***—Found at the beginning of the period in Ashland, Bayfield, Shawano, and Vilas Counties. Burcar found 7 in Dane County on October 9. Last reported by the U.W. Milwaukee Field Station staff in Ozaukee County on October 22.

***Yellow-throated Vireo.***—Reported at the beginning of the period in scattered areas throughout the state. Berner found 5 in Portage County on September 5. Last reported by Richter in Monroe County on October 11.

***Warbling Vireo.***—Found in scattered areas throughout the state at the beginning of the period. Evanson found 4 in Dane County on August 15. Last reported by Burcar in Dane County on October 17.

***Philadelphia Vireo.***—First reported by Johnson in Douglas County on August 10. Schultz found 6 in Ozaukee County on September 17. Last reported by J. Baughman in Vilas County on October 25.

***Red-eyed Vireo.***—Found throughout the state at the beginning of the period. Schultz found 50 in Ozaukee County on August 28. Last reported by Burcar in Dane County on October 19.

***Blue-winged Warbler.***—Reported at the beginning of the period in Portage and Shawano Counties. Berner found 3 in Portage County on August 23. Last reported by Berner in Portage County on September 13.

***Golden-winged Warbler.***—Found at the beginning of the period in Ashland, Bayfield, Douglas, Polk, and Shawano Counties. Schultz found 8 in Ozaukee County on August 28.

Last reported by Uttech in Ozaukee County on September 26.

***Blue-Golden-winged Warbler Hybrid.***—Johnson found one in Douglas County on August 27.

***Tennessee Warbler.***—First reported by Robbins in Dane County on August 2. Berner found 45 in Portage County on September 20. Last reported by Burcar in Dane County on October 19.

***Orange-crowned Warbler.***—First reported by Johnson in Douglas County on August 10. Kuecherer found 6 in Monroe County on October 11. Last reported by Domagalski in Milwaukee County on October 29.

***Nashville Warbler.***—Reported at the beginning of the period south to Shawano and Door Counties. Johnson found over 100 in Douglas County on August 10. Last reported by Tessen in Ozaukee County on October 20.

***Northern Parula.***—Reported at the beginning of the period in Ashland, Bayfield, Door, Douglas, and Vilas Counties. Berner found 5 in Portage County on September 5. Last reported on September 26 in Dane County by Ashman and in Winnebago County by Nussbaum.

***Yellow Warbler.***—Found throughout the state at the beginning of the period. Peterson found 5 in Shawano County on August 6. Last reported by the La Valleys in Douglas County on October 1.

***Chestnut-sided Warbler.***—Reported at the beginning of the period south to Shawano and Door Counties. Berner found 13 in Portage County on August 28. Last reported by Bontly in Milwaukee County on October 8.

***Magnolia Warbler.***—Found at the beginning of the period in Ashland, Bayfield, and Douglas Counties. Schultz found 60 in Ozaukee County on August 28. Last reported by Ziebell in Winnebago County on October 21.

***Cape May Warbler.***—First reported by Sontag in Manitowoc County on August 15. Domagalski found 23 in Ozaukee County on September 17. Last reported by Diehl in Milwaukee County on October 15.

***Black-throated Blue Warbler.***—Reported at the beginning of the period in Ashland and Bayfield Counties by Verch. Last reported by Gustafson in Ozaukee County on October 22.

***Yellow-rumped Warbler.***—Reported at the beginning of the period south to Portage and Door Counties. Berner found 75 in Portage County on October 9. Last reported by Ashman in Dane County on November 25.

***Black-throated Green Warbler.***—Found at the beginning of the period in Ashland, Bayfield, Door, and Vilas Counties. Peterson found 14 in Shawano County on August 19. Last reported on October 9 in Ozaukee County by Bontly and Tessen.

***Blackburnian Warbler.***—Reported at the beginning of the period in Ashland, Bayfield, and Vilas Counties. Schultz found 12 in Ozaukee County on August 28. Last reported by the Brassers in Sheboygan County on September 29.

***Pine Warbler.***—Reported at the beginning of the period south to Portage, Shawano, and Door Counties. Peterson found 10 in Shawano County on August 29. Last reported by Uttech in Ozaukee County on October 8.

***Palm Warbler.***—Found at the beginning of the period in Douglas and Vilas Counties. Carlsen found 20 in Pierce County on September 29. Last reported by Bontly in Milwaukee County on November 20.

***Bay-breasted Warbler.***—First reported by Berner in Portage County on August 4. Berner found 20 in Portage County on August 28. Last reported by Burcar in Dane County on October 3.

***Blackpoll Warbler.***—First reported by Berner in Portage County on August 21. Sontag found 22 in Manitowoc County on September 8. Last reported by Sontag in Manitowoc County on September 30.

***Black-and-white Warbler.***—Reported

at the beginning of the period south to Portage, Shawano, Oconto, and Door Counties. Schultz found 20 in Ozaukee County on August 28. Last reported by J. Hansen in Brown County on October 3.

***American Redstart.***—Found in scattered areas throughout the state at the beginning of the period. Schultz found 100 in Ozaukee County on August 28. Last reported by Ashman in Dane County on November 5.

***Prothonotary Warbler.***—Reported at the beginning of the period in Polk County by Hudick.

***Ovenbird.***—Reported at the beginning of the period south to Dane County. Schultz found 12 in Ozaukee County on August 28. Last reported by Anderson and Petznick in Outagamie County on October 15.

***Northern Waterthrush.***—Found at the beginning of the period in Ashland, Bayfield, Door, and Shawano Counties. Sontag found 3 in Manitowoc County on September 8. Last reported on October 7 in La Crosse County by Dankert, in Manitowoc County by Sontag, in Milwaukee County by bontly, and in Vernon County by Dankert.

***Louisiana Waterthrush.***—Found in Manitowoc County by Sontag on August 29 and September 8 and in Ozaukee County by Green on September 8.

***Connecticut Warbler.***—Found at the beginning of the period in Ashland, Bayfield, and Vilas Counties. Last reported by the Smiths in Oconto County on September 18.

***Mourning Warbler.***—Reported at the beginning of the period in Ashland, Bayfield, Douglas, Milwaukee, Portage, Shawano, and Vilas Counties. Peterson found 5 in Shawano County on August 25. Last reported by the Brassers in Sheboygan County on October 15.

***Common Yellowthroat.***—Found throughout the state at the beginning of the period. Berner found 20 in Portage County on August 7. Last reported by Tessen in Ozaukee County on October 20.

***Wilson's Warbler.***—First reported by the Smiths in Oconto County on August 14. Berner found 5 in Portage County on September 5. Last reported on September 29 in Milwaukee County by Bontly and in Waukesha County by Strelka.

***Canada Warbler.***—Reported at the beginning of the period in Ashland, Bayfield, Douglas, and Vilas Counties. Schultz found 10 in Ozaukee County on August 28. Last reported by Berner in Portage County on September 22.

***Yellow-breasted Chat.***—Reported in Ozaukee County by Domagalski on August 4 and by Uttech on August 4 and 6 and in Dane County by Robbins on September 9.

***Scarlet Tanager.***—Found in scattered areas throughout the state at the beginning of the period. Berner found 4 in Portage County on August 28. Last reported by Cowart in Milwaukee County on October 15.

***Northern Cardinal.***—Found throughout the state during the period. Ashman found 18 in Dane County on September 24 and Evanson found 18 in Dane County on November 26.

***Rose-breasted Grosbeak.***—Reported throughout the state at the beginning of the period. Ashman found 16 in Dane County on September 3. Last reported by Ashman in Dane County on October 15.

***Indigo Bunting.***—Found throughout the state at the beginning of the period. Peterson found 22 in Shawano County on August 1. Last reported by Robbins in Sauk County on October 11.

***Dickcissel.***—Reported by Ashman in Columbia County from the beginning of the period to August 21.

***Rufous-sided Towhee.***—Found in scattered areas throughout the state at the beginning of the period. Domagalski found 11 in Washington County on August 4. Last reported by Klein in Waushara County on November 29.

***American Tree Sparrow.***—First reported by Verch in Ashland and Bayfield

Counties on October 13. Berner found 30 in Portage County on November 16 and Ashman found 30 in Dane County on November 26. Found at the end of the period north to Burnett, Oconto, and Door Counties.

***Chipping Sparrow.***—Found throughout the state at the beginning of the period. Parsons found 75 in Walworth County on September 4. Last reported by Berner in Portage County on November 6.

***Clay-colored Sparrow.***—Reported at the beginning of the period south to Portage and Ozaukee Counties. Berner found 7 in Portage County on September 17. Last reported on October 15 in Milwaukee County by Cowart and Gustafson.

***Field Sparrow.***—Reported at the beginning of the period north to Burnett, Shawano, and Door Counties. Berner found 14 in Portage County on August 2. Last reported by Burcar in Iowa County on November 3.

***Vesper Sparrow.***—Found in scattered areas throughout the state at the beginning of the period. Berner found 11 in Portage County on August 6. Last reported by Domagalski in Washington County on October 27.

***Savannah Sparrow.***—Found throughout the state at the beginning of the period. Domagalski found 20 in Washington County on September 4. Last reported by Burcar in Iowa County on November 3.

***Grasshopper Sparrow.***—Reported at the beginning of the period in Door, Portage, and Shawano Counties. Last reported by J. Hansen in Brown County on September 22.

***Henslow's Sparrow.***—Reported at the beginning of the period in Shawano County by Peterson. Last reported by Kuecherer in Monroe County on October 11.

***LeConte's Sparrow.***—Found at the beginning of the period in Ashland, Bayfield, and Oconto Counties. Last reported by Burcar in Iowa County on November 3.

***Sharp-tailed Sparrow.***—In Milwaukee County Bontly found 3 on September 16, Domagalski and Gustafson found 1 on September 17, Domagalski found 4 on September 24, and Tessen found 1 on September 29.

***Fox Sparrow.***—First reported by Berner in Portage County on September 30. Berner found 28 in Portage County on October 31. Last reported by Nussbaum in Waushara County on November 30.

***Song Sparrow.***—Found throughout the state at the beginning of the period. Berner found 55 in Portage County on October 18. Reported at the end of the period in Dane, Milwaukee, and Washington Counties.

***Lincoln's Sparrow.***—Reported at the beginning of the period in Ashland, Bayfield, Douglas, Langlade, and Vilas Counties. Berner found 1 in Portage County on September 15. Last reported by Gustafson in Milwaukee County on October 22.

***Swamp Sparrow.***—Found throughout the state at the beginning of the period. Burcar found 300 in Dane County on October 9. Found at the end of the period in Dane County by Ashman.

***White-throated Sparrow.***—Reported at the beginning of the period south to Burnett, Price, Oconto, and Door Counties. Ashman found 425 in Dane County on October 8. Found at the end of the period in Dane and Milwaukee Counties.

***White-crowned Sparrow.***—First reported by J. Hansen in Brown County on September 12. Richter found 3 in Monroe County on September 21 and Berner found 3 in Portage County on October 12. Last reported on October 29 in Dane County by Ashman and in Milwaukee County by Domagalski.

***Harris' Sparrow.***—First reported by Tessen in Outagamie County on September 29. Verch found 3 in Ashland and Bayfield Counties on October 13. Last reported by Berner in Portage County on November 8.

***Dark-eyed Junco.***—Found at the beginning of the period in Douglas, Dunn, and Vilas Counties. Berner found 210 in Portage County on October 31. Reported at the end of the period throughout the state.

***Lapland Longspur.***—First reported by J. Baughman in Vilas County on September 18. Ziebell found 110 in Winnebago County on October 22. Found at the end of the period in Columbia County by Burcar.

***Snow Bunting.***—First reported by Johnson in Douglas County on September 20. Schultz found 200 in Douglas County on October 27. Reported at the end of the period in Burnett, Columbia, Pierce, and Winnebago Counties.

***Bobolink.***—Found at the beginning of the period in scattered areas throughout the state. Domagalski found 82 in Washington County on August 7. Last reported on September 15 in Dane County by Robbins and in Portage County by Berner.

***Red-winged Blackbird.***—Reported throughout the state at the beginning of the period. Ziebell found 8000 in Winnebago County on October 29. Found at the end of the period in Dane and Dodge Counties.

***Eastern Meadowlark.***—Found throughout the state at the beginning of the period. Ziebell found 14 in Winnebago County on September 21. Reported at the end of the period in Dunn County by Raile.

***Western Meadowlark.***—Reported at the beginning of the period east to Dane, Columbia, and Portage Counties. Berner found 4 in Portage County on August 16. Last reported by Robbins in Columbia County on October 21.

***Yellow-headed Blackbird.***—Reported at the beginning of the period east to Dane, Columbia, and Marathon Counties. Ashman found 6 in Dane County on August 21. Last reported by Ott in Marathon County on November 8.

***Rusty Blackbird.***—First reported by Burcar in Dane County on September 16. The Smiths found 45 in Oconto County on October 16. Last reported by the Smiths in Oconto County on November 20.

***Brewer's Blackbird.***—Reported at the beginning of the period in Ashland, Bayfield, Burnett, Douglas, Langlade, Price, and Vilas Counties. Diehl found 400 in Dodge County on September 25. Last reported by Ashman in Columbia County on November 12.

***Common Grackle.***—Found throughout the state at the beginning of the period. Domagalski found 4500 in Washington County on October 10. Reported at the end of the period in Dane and Winnebago Counties.

***Brown-headed Cowbird.***—Reported throughout the state at the beginning of the period. Ashman found 300 in Dane County on August 13. Last reported by Diehl in Milwaukee County on November 20.

***Northern Oriole.***—Found throughout the state at the beginning of the period. Johnson found 8 in Douglas County on August 10. Last reported by Burcar in Dane County on September 15.

***Pine Grosbeak.***—First reported by Johnson in Douglas County on October 4. Hardy reported a maximum of 30 in Price County between November 21 and 30. Reported at the end of the period in Ashland, Bayfield, Douglas, Price, and Vilas Counties.

***Purple Finch.***—Found at the beginning of the period south to Langlade, Oconto, and Door Counties. Berner found 21 in Portage County on October 31. Found in scattered areas throughout the state at the end of the period.

***House Finch.***—Found throughout the state during the period. Ashman found 300 in Dane County on September 23.

***Red Crossbill.***—Reported at the beginning of the period in Ashland and Bayfield Counties by Verch. Berger found 85 in Sheboygan County on October 29. Found at the end of the period in Douglas, Price, and Vilas Counties.

***White-winged Crossbill.***—First reported by Reardon in Forest County on August 7. Tessen found 20 in Ozaukee County on October 29. Found at the end of the period in Manitowoc County by Sontag.

***Common Redpoll.***—First reported by Berner in Portage County on November 2.

Pickering found 28 in Langlade County on November 30, which was the latest report.

***Pine Siskin.***—Found at the beginning of the period in Ashland, Bayfield, and Douglas Counties. Sontag found 12 in Manitowoc County on October 19. Reported at the end of the period in Ashland, Bayfield, Dane, Oconto, and Vilas Counties.

***American Goldfinch.***—Reported throughout the state during the period. Berner found 130 in Portage County on October 18.

***Evening Grosbeak.***—Reported at the beginning of the period in Ashland, Bayfield, Douglas, Oneida, Price, and Vilas Counties. Hardy reported a maximum of 75 in Price County. Found at the end of the period in Ashland, Bayfield, Douglas, Forest, Oneida, Price, and Vilas Counties.

***House Sparrow.***—Found throughout the state during the period. Evanson found 30 in Dane County on November 26.

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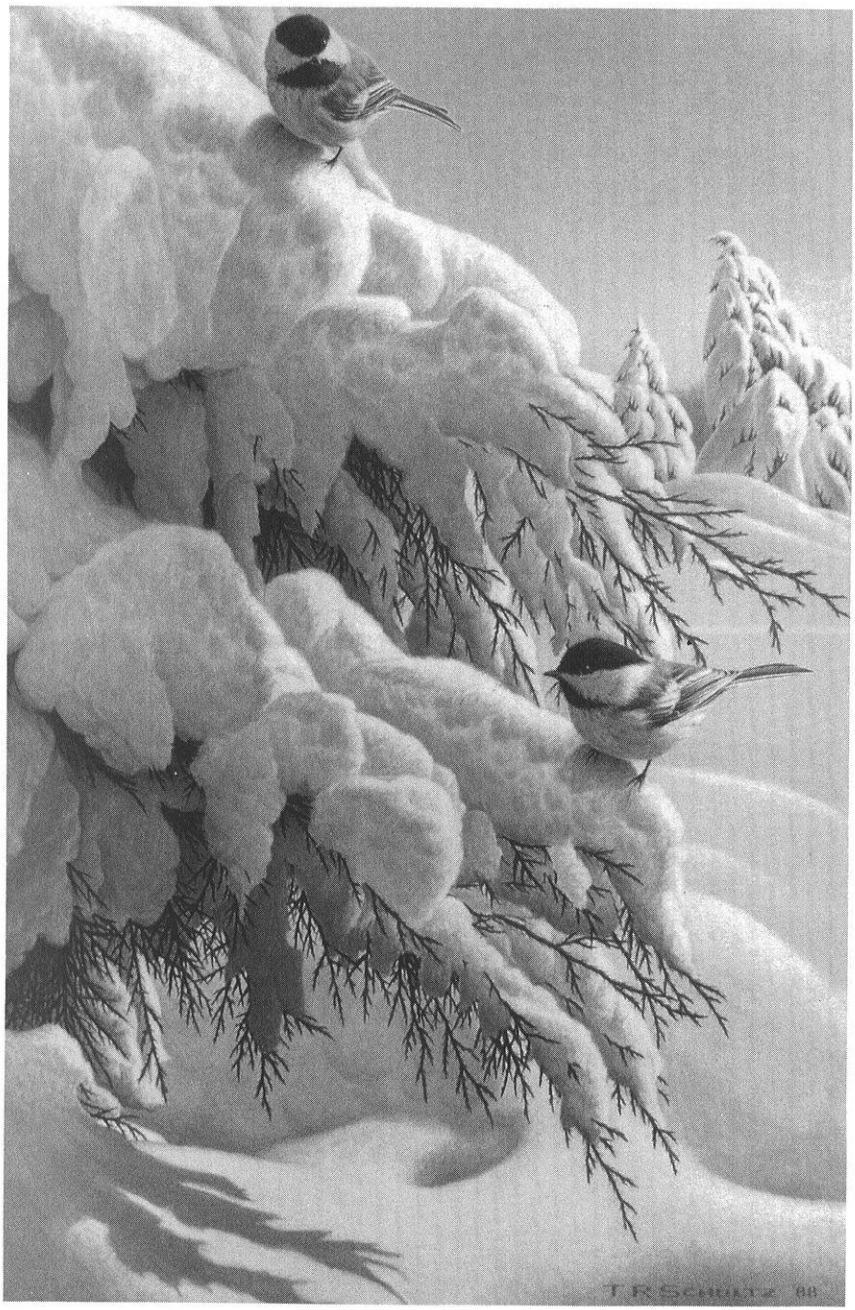

Snowy Morning *by Thomas R. Schultz*

# First Nest of White-eyed Vireo in Wisconsin

*An observation of special interest recounts Wisconsin's first documented nesting of White-eyed Vireo.*

***by Robert Adams and John Bielefeldt***

The White-eyed Vireo (*Vireo griseus*) has persistently been regarded as a rare bird in Wisconsin (Kumlien and Hollister 1903, Gromme 1963, Temple and Cary 1987), with most observations ascribed to spring migrants overflying their usual breeding range in more southerly states (Robbins 1991). Only tentative evidence of nesting exists for Wisconsin.

Mueller and Berger (1967) captured an adult and a presumed juvenile in Sheboygan County on 27 August 1962, and suspected that the species had bred locally after several captures in the same area in the preceding spring (Soulen 1962). When Martin (1972) subsequently tabulated more than 50 available records from the state, he found no additional breeding evidence except his own multiple sightings of two adults "carrying food . . . presumably to nestlings or fledglings" in Dane County in June 1967 (not 1972–contra Robbins 1991). E. Peartree netted an adult with a brood patch in Sauk County in June 1979 (Mossman and Lange 1982), but these and other recent summer reports have not yielded a confirmed nest in Wisconsin (Robbins 1991).

On 29 June 1988, as a male sang nearby, Adams and companions discovered a female White-eyed Vireo on a nest in the Kettle Moraine State Forest in Waukesha County (T6N R17E S34). Adults and nest were also observed at distances ≤ 2 m by Wilbur Riemer and Nancy and Harry Auchter. The sitting bird did not leave the nest and contents were unknown, but shell fragments were found below the empty nest a week later, when no adults were detected. Nest height was estimated at 0.6 m. Although not suitable for reproduction, photos by N. Auchter show that the nest was built in dogwood (probably gray dogwood) amid dense low vegetation including much raspberry or blackberry. Habitat in the surrounding area is lowland thicket dominated by common buckthorn and quaking aspen, with some slightly-elevated "islands" of drier woodland (mainly black oak, black cherry, and buckthorn).

Robbins (1991) described the habitat of this vireo in Wisconsin as upland carr—i.e., mid-successional

dryland thickets of shrubs and saplings. It seems, however, that lowland and lowland-edge sites may also provide usable habitat here (as in this nest) and elsewhere (Bent 1950). For example, the possible breeding record and other summer sightings in Dane County by Martin (1972) occurred in "riverbottom . . . willow [and willow-dogwood] thickets." We ourselves have unpublished summer observations (1–17 June) from alder-winterberry and dogwood-willow swamps with a few scattered tamarack (Waukesha County, 1983 and 1985, JB) as well as upland thickets in cutover oak woods (Jefferson County, 1983, JB) or abandoned fields and fencerows (Waukesha County, 1989, RA).

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# "By the Wayside"

*Rare species observed include Plegadis Ibis, Ross' Goose, Gyrfalcon, Purple Sandpiper, Common Black-headed Gull, Mew Gull, California Gull, Lesser Black-backed Gull, Ivory Gull, Rufous Hummingbird, Three-toed Woodpecker, and Mountain Bluebird.*

### PLEGADIS SPP.

***1 and 2 October 1994, Waukau Marsh, Winnebago County***—When this bird was first seen about ¼ mile away, it stood out as something different by the way it flew. Its flight resembled a cormorant's with several flops then a glide, flops, then glide. The bird was all dark with about equal amounts of body extending in front of the wings and extending behind the wings. However, the bird's flight was not heavy and laborious like a cormorant's, but light and graceful like a heron. As the bird flew closer and then overhead, the straight extended neck and long, dark, decurved bill were obvious. The bill was about 4 times the length of the head. The dark legs and feet trailed behind the short tail. The bird was completely dark brown/black except for a hint of white on the underside of the wings at the base of the primaries. The bird was slightly smaller than the Black-crowned Night-Herons that were also in the area. No white feathering was observed at the base of the bill. The exact species of Plegadis Ibis could not be determined by this observation.—*Thomas J. Ziebell*

### ROSS' GOOSE (*Chen rossii*)

***22 October 1994, Goose Pond, Columbia County***—I found the Ross' Goose at Goose Pond in Columbia County on Saturday, October 22 among hundreds of Canada Geese, 9 species of ducks, and other waterbirds. The Ross' Goose was smaller than the Canada Geese and all white, except for black wing tips which showed occasionally as the bird was viewed from the side. The bill was orangish-red and triangular-shaped; no "grin" line could be seen on the bill. Besides the difference in the bill between the Ross' and a Snow Goose, the Ross' Goose was overall a smaller bird with a shorter neck and more rounded head.—*Marilyn Bontly*

***13 October 1994, Goose Pond, Columbia County.***—When I first spotted this small white goose, I suspected that

this might be a Ross' Goose because of its size. Although there were no other Snow Geese around for comparison, the bird was so very much smaller than surrounding Canada Geese. The bird was about 300 yards away when I first observed it, so the bill was difficult to see. After about ten minutes, it flew to within 50 yards of me so that I could easily observe that the pink bill was short and stubby and had no black grinning patch on the lower mandible. I was also able to see the dark bumpy proximal portion of the bill. The head was small and the forehead was steep. On October 15 I again observed the bird at Goose Pond among a small flock of Snow Geese. The size comparison was quite noticeable and I noted the lack of the grinning patch.—*Kay Burcar*

***25 and 26 November 1994, Bay Beach Wildlife Sanctuary, Green Bay.***—On the first day of observation, although the head and bill were tucked in sleeping posture, I noted extremely small size compared to our Snow Geese. I noted the black primaries folded across its back. I went into the observation building to secure shelled corn to feed it and returning 2 minutes later found that the bird had disappeared and could not be relocated on land or water. On Saturday morning the 26th at 9 A.M. my wife Ida and I returned to check out late migrant ducks. This time the small white goose with black primaries was actively moving about for food. I approached the bird slowly tossing shelled corn as I approached it. It fed cautiously, but would retreat quickly out of the melee of other ducks and geese. Ida and I slowly moved along with the goose for about ½ hour noting the following characteristics: All white body, short in height and length (standing about 20 inches tall) small in comparison to adjacent larger Snow Geese, body almost Mallard sized. Neck short, head rounder in vertical and horizontal profile than Snow Geese. Wing primaries black-tipped like the white-phase Snow Geese. Bill short and although colored like Snow Geese, much shorter in length, upper mandible not extending as far back into the forehead as in Snow Geese. This small goose lacked the "smile" characteristic of the Snow Geese. Legs, although the same color as the Snow Geese were considerably shorter in length. The white belly and flank feathers did not extend down on the upper leg as far as on the adjacent Snow Geese.—*Ty Baumann*

### Gyrfalcon (*Falco rusticolus*)

***20 October 1994, Concordia University, Ozaukee County.***—With Dave Fallow from Madison and two excellent birders from Chicago watching a fine sharp-shin flight at Concordia University. Around 12:00, good numbers of harriers and red-tails started moving, many very high. Someone called attention to a buteo-sized bird moving at eye level out off the bluff. My initial impression was of some large, very light buteo, with a head which stuck out too far ahead of the shoulders and with conspicuously pointed wings, and it was not flapping. As it moved south, it began to soar upward and to circle. As we got a different angle, we could see that it was a very large falcon-long tail, heavy

body, very broad wings, which tapered evenly out. Because it was more into the bright sky now, a pattern was not noted. However, it was basically pale, medium gray overall. Whenever it would show the full wing against the bright sky, a pale area could be seen in the inner primaries/outer secondaries, and dark tips to outer rectrices were visible. The bird was in sight in my scope for 3–5 minutes as it circled, soaring higher and moving to the south. I watched it until it was totally out of sight and, during the entire time, the bird did not beat its wings even once, only letting the tips droop 3 or 4 times, as an eagle or osprey might. Interestingly, dates of 3 other gyrfalcon sightings over the past 11 years are October 18, 21, and 28.— *Bill Cowart*

### Purple Sandpiper (*Calidris maritima*)

***30 August 1994, Milwaukee Gun Club, Milwaukee.***—The weather was such that I wasn't planning to actively bird on my way home from work, but pulled into the gun club parking lot after spotting a lone dark duck hugging the rocks. A quick look, once stopped indicated it was a Mallard, but I got out to see if there were any shorebirds on the rocks. There were quite a few, mostly Semipalmated and Spotted Sandpipers. One bird stood out from the rest, however, and quickly drew my attention. Several things stood out, but most notably the very orangish legs, the color of which exactly matched the base of its bill, tapering to a black point. Also noticeable was a white eye ring and a very gray head and bib. Gray streaking along the sides faded rapidly into a white belly.

It had a very squat appearance. It seemed half again as big as the semipalms and was even noticeably bigger than the spotties. The bird's behavior also stood out; while the other sandpipers took flight with the crash of each wave against the rocks, this bird stood its ground, pausing only to shake off the spray as it continued to forage in the heavy deposits of algae that had been washed up on the rocks. I had a feeling then that the bird was a Purple Sandpiper, although I lack a lot of experience with the species, having seen only one previously several years ago at Sheboygan.—*Carl Schwartz*

***26 November 1994, Sheboygan.***—As I neared the end of the northernmost pier, I observed a chunky, round shorebird feeding in the puddles on the edge of the pier. Its relatively short legs and proportionately small head hinted of Purple Sandpiper, so I inched forward until I was within 8 feet, which was ideal viewing distance for my 7 ± 35 binoculars. The head, upper breast, back, and wings were all gray except for white edging on the lower two tiers of the wing coverts. Some irregular streaking extended downward a short distance from the gray upper breast to the white belly. The flanks were also streaked to the undertail coverts. The legs were bright yellowish-orange, and the proximal one-third of the bill was a dull orange, the distal end being black. A faint eyering was detected on the gray face. I had only five minutes to watch this bird before approaching people alarmed the bird and caused it to fly into the ma-

rina. I noted white striping on the upper surface of the wing as it flew, but did not get a good look at the tail or rump. I searched, but could not relocate this bird.—*Tom Wood*

### Common Black-headed Gull (*Larus ridibundus*)

***22 November 1994, Milwaukee Coast Guard Impoundment.***—The small gull was standing on a partly submerged tire in the shallow north end of the impoundment. It initially seemed to be an aberrant-looking first winter Bonaparte's Gull, but two very striking characteristics demanded closer scrutiny: 1) a very pale gray mantle that contrasted only minimally with the white parts of the plumage, gave the bird an unusual overall very pale appearance, and 2) the tips of the folded wings extended well beyond the tail by perhaps more than two inches. Further examination yielded the following observations: head, neck, and undersides mostly white; gray irregularly circular ear spot; mantle and upper wing extremely pale gray; edge of folded wings very sparsely mottled with grayish-black spots; tips of primaries grayish-black; a portion of a black terminal tail band was visible beneath the wingtips; dark eye; bill stouter and longer than Bonaparte's; bill length approximately equal to head length; lower mandible nearly straight but outer third of upper mandible curved downward to the tip; bill color: mottled with yellowish and gray on the basal half grading to solid black at the tip; legs and feet: pale yellowish, definitely not pink; while swimming, its seemingly disproportionately long neck, which was held very erect and the crossed wingtips, which were angled upward at about 30 degrees gave it an unusual, almost swaybacked appearance. In overall size it seemed slightly larger than some nearby Green-winged Teal and smaller than a pair of Greater Scaup. The bird did not fly during the observation. All of the distinguishing characteristics, which were observable, match those of a first-winter Common Black-headed Gull.—*Vern Aune*

### Mew Gull (*Larus canus*)

***9 November 1994, just north of Port Washington Harbor.***—When first seen, this gull was swimming among a large flock of Ring-billed Gulls. The dark mantle caught my attention first—as in other mews I've seen, a noticeable shade darker gray. Also noted were smaller size (an inch or two shorter in length when swimming), dark eye with much dark feathering on the head around and behind it, dirty though unmarked yellow bill, bill smaller and thinner than ring-billed, and a smaller more-rounded head. The gull did not fly during the observation.—*Brian Boldt*

### California Gull (*Larus californicus*)

***13 October 1994, North Point Park, Sheboygan.***—While observing about 100 gulls from the North Point Park area of Sheboygan, I encountered a bird I initially identified as an adult Thayer's Gull. The bird had a dark iris and seemed slightly smaller in size to the two Herring Gulls in the immediate vicinity. The mantle was slightly darker than the Herring

Gulls. I also noted the rounder-appearing head (pigeon-like). The leg coloration, however, was not consistent with a Thayer's Gull. The legs appeared to be a washed-out green or grayish-green. Thayer's Gulls have pink legs at all ages. The bird was in late summer/early winter plumage, similar to most of the Herring Gulls in the vicinity. Most of the gulls here were Ring-billed Gulls, so a size comparison with them was easy. This bird was definitely larger. The bill size was slightly smaller than the Herring Gulls, with the length being the same as the length of its head. The thickness was also noticeably less than the Herring Gulls, but greater than the ring-billed. The bill also had a two-toned spot about ⅔ of the way to the tip. The reddish spot was nearer the base, the black nearer the tip. The black spot was confined to the lower mandible with a slight wash to the upper. The bird never flew, so I did not observe the wing lining.—*Scott J. Baughman*

### Lesser Black-backed Gull (*Larus fuscus*)

***27 September 1994, Middleton Sod Farm, Dane County.***—As I was scoping a flock of about 200 Ring-billed Gulls that were resting on the sod field, I noted one gull that was slightly larger with a definitely darker mantle. The mantle was dark gray rather than black and the wing tips were black with only several white spots on the primaries. The legs were yellow. The bill was entirely yellow except for the red spot on the lower mandible close to the distal end. The bill was thicker than the bills of nearby Ring-billed Gulls, however, it was not as large as the bill of a Herring Gull that was perched quite close. The head, chest, and tail were mostly white and the eye appeared quite dark with a slightly lighter color around the iris. The wings extended further past the tail than on the Herring Gull and the body of this bird appeared slimmer than that of the larger Herring Gull. Both Herring and Ring-billed Gulls were sitting right next to this bird for easy comparison. I continued to watch this bird as the entire flock rose into flight for several minutes before they again perched on the grass less than 50 yards from me. In flight, the wings appeared uniformly dark gray and the wing tips were black.— *Kay Burcar*

***21 October 1994, Bradford Beach, Milwaukee County.***—This bird was perched near the water's edge on Bradford beach, along with several Ring-billed Gulls. When I first saw it, I was on the rocky point north of the beach and south of the old gun club site, looking south toward the beach. With the sun low in the east, I could see the dark mantle, which contrasted with the mantles of the Ring-billed Gulls standing nearby. After setting up the tripod and telescope, I could see that the dark mantle was slate gray, not black as in Great Black-backed Gulls, and that this bird had yellow legs and feet. I began to walk toward the bird. By the time I had narrowed the initial distance of approximately 200 meters to about 50 meters, all of the gulls had moved out into the lake, but not much more than 10–15 meters offshore. I approached to within approximately 25 meters, and again

noted the slate gray mantle, darker than that of the ring-bills, but nowhere near as dark as that of Great Black-backed Gulls. The bill of this bird was like that on a Herring Gull; fairly heavy and yellow. The body and overall length of this bird was approximately 4–5 inches longer than that of the nearby ring-bills; similar in size to that of Herring Gulls, though no Herring Gulls were present for comparison. This individual had a cleaner white head, breast, and belly. Several times during my approach, I had stopped to view the bird and noted again the yellow legs and feet, unlike the pink coloration of great black-backed adults. I believed I needed no further evidence to be certain that this was an adult Lesser Black-backed Gull.—*William P. Mueller*

***24 September 1994, Middleton Sod Farm, Dane County.***—On a whim, I decided to scan a flock of roughly 300 Ring-billed Gulls for something unusual. Using my car as a blind, I moved into the center of the group and eventually the birds stopped being bothered by the car, such that I was about 10–15 yards away from any one of the birds. I noticed a gull resting on the ground that possessed several characteristics distinct from either immature, mature, or winter Ring-billed Gulls. First, the gull in question (that was in breeding plumage that was turning into winter plumage) had a yellow bill with a red spot. Second, the back plumage of the gull in question was much darker gray than the plumage of the Ring-billed Gull or the plumage of a species with a bill that closely resembles the gull in question, the Herring Gull. Third, it was much larger than the Ring-billed Gulls. Finally, when the gull in question stood up, I noticed it had yellow legs. Thus, I determined it was a Lesser Black-backed Gull.—*Sonia Santa Anna*

**Ivory Gull (*Pugophila eburnea*)**

***26 November 1994, west shore of Green Bay, Brown County.***—Approximately 2 dozen gulls comprised of about an equal number of ring-billed and herring were sitting on the ice, swimming and flying in the immediate area. We observed what appeared to be a medium-sized gull approaching from the southwest into a strong northeast wind making slow headway. It was in completely white plumage. The bird was silhouetted against an extremely black sky (dark clouds illuminated by occasional bright sunlight). The all white bird against the black sky created a good contrast. The bird at times virtually stalled in the strong wind and continued to fly straight toward us dropping down to 15 feet over us. The bird turned and flew back past us a second time, lower about 15 yards distant, affording an excellent view of its back, wings, bill, and face. These are the characteristics we observed and recorded in our field notes: Bird close in size to Ring-billed Gulls also flying in the same binocular view. The bird's back, mantle, head, throat, flanks, and wings were pure white. The face had a light-brownish-gray coloration in a small patch extending from the front of the eye forward to the base of the bill. The eye was dark blending into the darker area in front of the eye.

The base and the greater length of the bill was also dark, the tip of the bill was yellow on both the upper and lower mandibles. On the first pass flying over us we observed the black legs and black feet. Each of the rectrice feathers had a faint spot of light brownish coloration suggesting the remnant of a terminal bar. The bird flew beyond us about 20 yards and landed on the open water in a number of Ring-billed Gulls. Herring Gulls also could be compared for size on the water. On several occasions the Ivory Gull proceeded to stretch its wings above its back in typical gull fashion. The bird then lifted off the water flying south along the shelving of shell ice about 50 feet over the water toward Sensiba Wildlife Area where we lost visual contact.—*Ty Baumann*

### Rufous Hummingbird
### (*Selasphorus rufus*)

***9 August 1994, Washington County.***—After an anxious 30 minute wait, the Rufous Hummingbird came in to the feeder. The bright rufous color was immediately obvious. The back was entirely reddish-brown, without any green markings. This color extended forward and covered the flanks. The chest and belly were white. With poor light, the gorget appeared dark, but as the bird turned and caught the light, the feathers were a brilliant red. The crown and wings were darker and duller than the back. A male Ruby-throated Hummingbird had been feeding just prior to this visit. The trilling sound produced by the wings of the Rufous Hummingbird was more audible than this other hummingbird. The pitch of the wing humming was higher and had a metallic quality, quite unlike the Ruby-throated Hummingbirds.—*Mark Korducki*

***9 August 1994, Washington County.***—I began watching the hummingbird feeder at 6:15 A.M. At exactly 6:30 A.M. a hummingbird that seemed larger than the male Ruby-throated Hummingbird, which was at the feeder previously, landed on a perch of the feeder. Even before it landed, I noticed a large amount of rufous coloring. It perched at the feeder for less than a minute, but offered an excellent side view. From the back of the head, along the entire back, and extending to the tip of the tail there was a bright orange-brown color. The wings, in this perched position, were emerald green surrounded by orange-brown of the back and a similar orange-brown color along the sides of the breast below the wing. There was a bright patch of white on the upper breast below the dark-colored throat patch. Although I watched the feeder until 7:00 A.M., I did not see the rufous again.—*Robert C. Domagalski*

***10 August 1994, Washington County.***—After receiving a call from Mark Korducki on August 9 of a confirmed Rufous Hummingbird coming to a feeder, my wife and I drove to the location after lunch, and began our vigil. Shortly after arriving, a hummingbird flew over us and landed in a mountain ash tree near the feeder. As it passed over us, I heard a high-pitched whine or trill from its wings. Moments later, a Ruby-throated Hummingbird landed

in the same tree, and the mystery hummingbird disappeared before I could get a look at it. The landing of the ruby-throated had distracted me, but I did notice the ruby-throated wingbeats produced a slightly lower sound, like a hum. No further observations occurred that day, and we left.

I returned the following morning and again began my watch. At 6:30 A.M., a hummingbird with a dark throat briefly stopped at the feeder. Because of the distance and clouds, I could not catch any color without binoculars, nor hear its wingbeat. Before I could raise my binoculars, a second hummingbird appeared, also with a dark throat and chased the first bird away. Then again at 6:47, I heard the same high whine of wingbeats I had heard the day before. I watched carefully and within a minute spotted two hummingbirds, one chasing the other. Quickly they turned and headed straight toward me. Both hummingbirds had dark throats, but the first bird was all rusty brown in color (slightly paler rusty below), while the second bird had the typical dark green head and back of a ruby-throated with paler greenish-white below. Both birds passed directly in front of me within 6 feet, so binoculars were not needed, nor did I have time to use them. The front bird (Rufous Hummingbird) again was noted to have a higher whine or trill to its wingbeat, compared to a lower hum or buzz from the ruby-throated male. The female ruby-throated, which was reported to also be in the area was not seen, but could not be confused with this male rufous with its dark throat, with some red-orange color, and overall rusty color.—*Dennis Gustafson*

### Three-toed Woodpecker (*Picoides tridactylus*)

***2 October 1994, Sawyer County.***—I observed a Three-toed Woodpecker on the morning of October 2, 1994 through binoculars from a distance of 15 feet. It was pecking on the main trunk of an old crabapple located on the north side of our house in Sawyer County. Our home is sited on an interlobate moraine, with a varied topography resulting in habitat diversity, from tamarack and black spruce bog to mixed forest with a strong boreal component in the valley behind our house, to mixed hardwoods on the ridges. The weather was overcast on that day and Helga Jackowiec and I observed the woodpecker from 8:30 until 9:00 A.M. and again at 10:30 A.M. The woodpecker was as large as a Hairy Woodpecker, with barring/flecking on the side below the wing, on the back, and also along the tail. The top of its head was a very dull golden color. The side of its head had a black patch with white lines on either side. It seemed tamer than a Hairy Woodpecker.—*Michael Heim*

### Mountain Bluebird (*Sialia currucoides*)

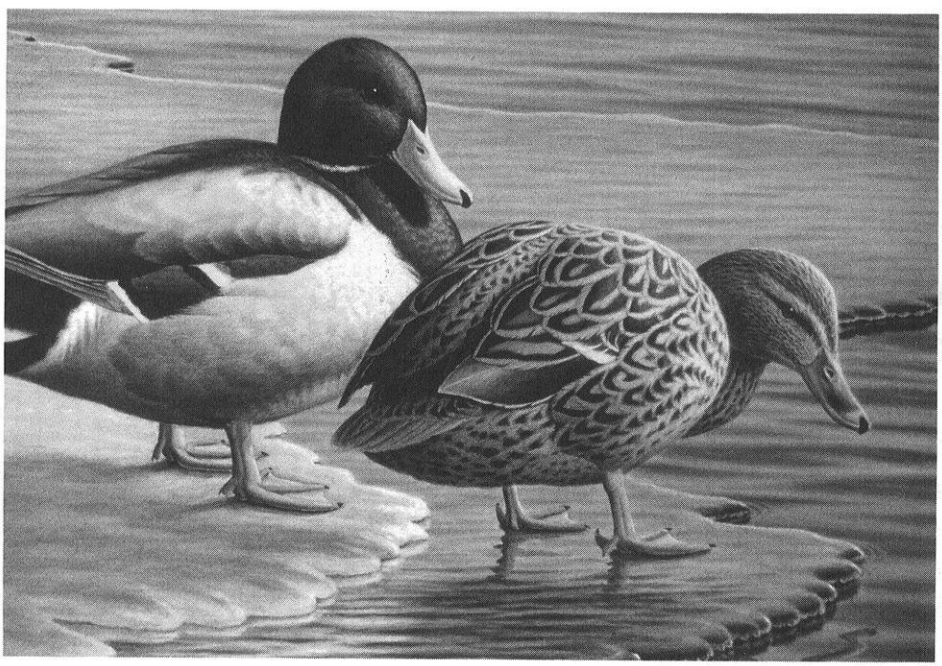
***29 October 1994, Lakeshore Drive, Ozaukee County.***—We were driving north on Lakeshore when we spotted the bird. The size and shape were that of a bluebird in general. From a distance, the bird appeared uniformly dull blue-gray. Upon closer inspection, the wings were a brighter

blue, the wing coverts being narrowly edged in white; the primaries were dark and similarly edged in white. The undertail coverts were unmarked and snowy-white. There was a narrow black malar stripe on the face. The bill was black and looked long and very thin. The eye was dark and encircled by a narrow white ring. The legs were dark. We did not hear the bird call or sing.

When we first spotted the bird, it was perched in a small tree next to the road. Although it did fly a couple of times, it did stay in the same area that we found it in. However, when we returned to the spot about an hour later, we could not relocate the bird. We did see a kestrel patrolling the area, so it's anybody's guess what happened to the bluebird.—*Robert D. Hughes*

## 50 Years Ago in *The Passenger Pigeon*

A recent increase in sightings of golden eagles in Wisconsin and elsewhere in the East apparently points toward an eastward range extension. A. W. Schorger reviews the status of the golden eagle in Wisconsin in this 1945 article by recounting both sight and specimen records. Schorger also recounts this information published by Herb Stoddard in 1917: "That this species nested in Sauk County prior to 1908, there can be no doubt. There was a deserted nest still in good shape of preservation on a sheltered ledge about 60+ above the ground, on the same bluff where the Duck Hawks were found breeding. . . . This nest was typical of the golden eagle, made principally of juniper limbs, some of which were one inch and a half in diameter. Mr. Bert Laws, who frequently saw the birds and described them to me, informed me that the nest was used for one or two seasons prior to 1908. Before that time they used a nest on an adjoining bluff, which was destroyed. I have seen specimens of the golden eagle on two occasions in the Baraboo Bluffs, in early summer." (Excerpts from Volume 7, 1945)



Wisconsin Duck Stamp Entry—1991 (First Runner Up) Mallard Pair *by Thomas R. Schultz*

# WSO Records Committee Report—Fall 1994

*The WSO Records Committee received 27 reports for review for the 1994 season. Of these, 21 were accepted for an acceptance rate of 78%.*

*by Jim Frank*

**ACCEPTED**

***Plegadis Ibis (sp.)***

#93–024 *Winnebago Co.;* Ziebell, 1, 2 October 1994.

This dark brown black bird was slightly smaller than night herons seen in flight in the area. It exhibited a straight, extended neck and a dark, decurved bill about 4 times the length of the head. Dark legs trailed behind the tail in flight. Without being in breeding plumage to demonstrate white feathering at the base of the bill or the lack of it—the identification of Glossy or White-faced Ibis was not possible.

***Ross' Goose***

#94–025 *Columbia Co.;* Burcar, 13 October 1994 and Bontly, 22 October 1994.

#94–026 *Brown Co.;* Baumann, 25, 26 October 1994.

These small white geese were strikingly smaller then the adjacent Canada Geese in Columbia Co. and adjacent Snow Geese in Brown Co. They had black wing tips (to distinguish them from domestic fowl) and short orange to pink bills. The heads were small with a rounded profile instead of an angular one. There was no evidence of a dark "grin patch" on the lower mandible.

***Gyrfalcon***

#94–028 *Ozaukee Co.;* Cowart, 20 October 1994.

The initial impression was of a large buteo approaching the Concordia hawk watch site along the bluff. As it began to soar and circle, pointed wing tips were apparent on the heavy-bodied, long-tailed, broad-winged bird. The overall color was medium gray and a pale area was noted in the inner primaries/outer secondaries. The falcon was not seen to flap once during the entire observation.

***Least Sandpiper***

#94–044 *Columbia Co.;* Burcar, 18 November 1994.

This shorebird was one-half the size of adjacent Killdeer with a rusty back and wings, straight, dark bill, lightly

streaked breast, and yellow legs to distinguish it from other peeps.

***Purple Sandpiper***

#94–030 *Milwaukee Co.;* Schwartz, 30 August 1994.

This "stocky," "short-legged" bird was dark gray on the head and upper breast, fading to gray streaking on its flanks and on to a white belly. The legs were bright orange as was the base of the bill. The distal portion of the bill was black. A white eyering was also noted. In addition, the overall size was felt to be half again larger than Spotted and Semipalmated Sandpipers in the area. Of note was the bird's indifference to the water spray created by waves pounding the rocks. The other sandpipers obviously retreated from this wave action. Though this date does not coincide with normal fall migration, this may have been a non-breeding individual.

#94–032 *Sheboygan Co.;* Wood, 26 November 1994.

All of the above field marks were noted. In addition, this bird took flight to demonstrate a white wing stripe.

***Common Black-headed Gull***

#94–033 *Milwaukee Co.;* Aune, 22 November 1994.

Like a first winter Bonaparte's Gull, this bird had a gray mantle, dark eye, dark "ear spot," gray-black spots on the folded wing, dark primary tips, and a dark tail band. The shade of gray on the mantle was lighter than on a Bonaparte's. The bill was determined to be longer and stouter than a Bonaparte's with decidedly different coloration. The proximal portion was mottled with yellow and gray, the distal tip was dark. Seen in a standing position, the legs were yellow instead of pink. Lastly, when seen in a swimming position, the wing tips seemed to extend up and back farther than expected and the neck appeared longer than that of a Bonaparte's Gull.

***Mew Gull***

#94–034 *Ozaukee Co.;* Boldt, 9 November 1994.

In direct comparison to Ring-billed Gulls, the slightly darker gray mantle was evident, as was the slightly smaller overall size. The dark eye had excessive dark smudging behind it. The yellow, unmarked bill was smaller than that of the ring-bills. Lastly, the head was smaller and rounder than the head of the Ring-billed Gulls.

***California Gull***

#94–035 *Sheboygan Co.;* Baughman, 13 October 1994.

Initial impressions of this bird suggested a Thayer's Gull due to the darker gray mantle than the adjacent Herring Gulls, the slightly smaller size, dark eye, and rounder head. The legs however, were green-gray instead of pink. Finally, the thinner bill was yellow with a red spot at the gonys, but a black mark was apparent immediately distal to the red spot instead of immediately proximal to it. Also noted was a size decidedly larger than the Ring-billed Gulls nearby.

This is Wisconsin's third record.

***Lesser Black-backed Gull***

#94–036 *Dane Co.;* Santa Anna, 24 September 1994; Burcar, 27 September 1994.

#94–037 *Milwaukee Co.;* Mueller, 21 October 1994.

Identification of these two adult birds was based on a decidedly darker gray mantle than adjacent Ring-billed

Gulls, body size noticeably larger than the ring-bills, but a bit smaller than a Herring Gull, and yellow legs. The primary wing tips were black, darker than the mantle's dark gray.

***Ivory Gull***

#94–038 *Brown Co.;* Baumann, 26 November 1994.

An all white gull, similar in size to a Ring-billed Gull was noted in flight. The only contrasting marks were a brown-gray facial patch between the dark eyes and the dark bill, as well as dark legs. The tip of the bill was yellow. Each flight feather was also noted to have a terminal dark spot.

***Rufous Hummingbird***

#94–040 *Washington Co.;* Korducki, Domagalski, 9 August 1994. Gustafson, 10 August 1994.

This hummingbird's back was entirely reddish-brown, lacking any green markings. The red-brown color extended forward onto the flanks, up onto the head, and back onto the tail. The throat gorget was dark to bright red depending on the light angle. White was noted on the breast and belly. Interestingly, two different observers on separate days described the sound of the wings as different, "more metallic," "higher pitched" than that of a Ruby-throated Hummingbird.

***Three-toed Woodpecker***

#94–041 *Sawyer Co.;* Heim, October 1994.

This Hairy Woodpecker-sized bird had barring on the flanks, back, and sides of the tail. The top of the head was dull gold. A black cheek patch was enclosed by white stripes on either side. The observer remarked at initial confusion in the identification because Peterson's field guide did not indicate any tail barring in the illustration. The eastern subspecies of the Three-toed Woodpecker has the tail barring on the edge of the tail, whereas the Rocky Mountain and northwestern subspecies have little or no barring.

***Mountain Bluebird***

#94–042 *Ozaukee Co.;* Hughes, 29 October 1994.

The size and shape of the bird suggested a bluebird, but it was overall gray in color. The wings were bright blue and the wing coverts were narrowly edged in white. On the face, a narrow, black malar stripe was noted. The bill was black and longer than anticipated for an Eastern Bluebird. Also noted in this detailed description was the relatively longer wings with tips almost reaching the tail tip.

***Le Conte's Sparrow***

#94–045 *Iowa Co.;* Burcar, 3 November 1994.

This "flat-headed" sparrow was in a Tree Sparrow flock, exhibiting an orange eyestripe, white center crown stripe on an otherwise dark crown, and a purplish-tinged collar. The buffy breast was finely streaked.

**NOT ACCEPTED**

***Ross' Goose***

#94–025 *Columbia Co.;* 21 October 1994.

Almost undoubtedly the observer saw the Ross' Goose at Goose Pond that has been documented by others. Unfortunately, the brevity of the description, consisting of a stubby bill, round head, and "no grin patch" leaves too much to be assumed. The

report did not suggest an overall size and color of the bird, color of the primaries, or general family of the bird being observed. To be consistent, the Records Committee evaluates each report on its own description, not the probability that this bird was the one others had seen nor the probability that certain traits were seen, but not mentioned.

***Wilson's Plover***

#94–029 *Dane Co.;* 16 August 1994.

The plover was described as intermediate in size between an adjacent Killdeer and an adjacent Semipalmated Plover, with a single breast band and a heavy, dark gray bill—thicker than the bill of a Killdeer. The back was grayer than that of the Killdeer or Semipalmated Plover. The eye was dark, but smaller than that of the Killdeer. Also noted was a broad white forehead, lacking the black forehead marking of the Killdeer. The legs were grayish instead of pinkish. Though in general, this description suggests a Wilson's Plover, there isn't a mention of whether the white forecrown was continuous with the white supercilium, a characteristic of a Wilson's Plover. In addition, the eye was described as smaller than that of the Killdeer; whereas, a Wilson's eye seems disproportionately large for its head. Since mention was not made of the presence or absence of primary and tail feathers, it is possible that this description could fit a young Killdeer. It also would be smaller than an adult Killdeer, have a single breast band, be grayer in back color, lack the black forecrown marking, and have a thicker bill, but smaller eye than an adult Killdeer. A few sightings of Wilson's Plovers are being made in the Midwest, so this species should be watched for, but this individual cannot be definitively identified from this information.

***Purple Sandpiper***

#94–031 *Columbia Co.;* 9 September 1994.

Three individuals were directed compared to Pectoral Sandpipers at a distance as close as 15 yards. Emphasis in the description was on a bicolored bill (orange base, black tip), suggesting that a pectoral would only exhibit an all black bill. Though many field guides suggest this in their color plates, photos in *Master Guide to Birding,* drawings in *Shorebirds* by Marchant, et al., and drawings in *Advanced Birding* by Kaufman demonstrate that pectorals can have varying degrees of bicolored bills. Emphasis in the description was also placed on the lack of the expected an abrupt end of the dark upper breast markings in the 3 birds. Again, there is variation; the abruptness being less in non-breeding and juvenile birds.

In spite of the directness of comparison, these birds were not described as having the chunky, short-legged stature of a Purple Sandpiper—the lack of contrast in this area suggests they might have been built similarly to the Pectoral Sandpipers. This was the initial assumption/impression of the observers before the bicolored bill was noted. Also of note is the loss of breeding plumage by Purple Sandpipers prior to southward migration, another point questioning the identification of these birds.

***Rufous Hummingbird***

#94–039 *Milwaukee Co.;* 23, 26 July 194.

Initially, this bird was described as exactly like the picture in the Peterson

Field Guide. A description should be in the observer's own words. It should relate what characteristics were noted that made the observer make the identification. The second day, the hummingbird was described as tiny, with a green back and light-colored throat. It was specifically mentioned that no reddish brown was seen on the bird. A dark brown or black stripe was noted at the base of the tail. The lack of reddish brown anywhere on the bird would be inconsistent with the identification of a Rufous Hummingbird. The description given is most consistent with a female or immature Ruby-throated Hummingbird.

***Harris' Sparrow***

#94–043 *Dane Co.;* 21 August 1994.

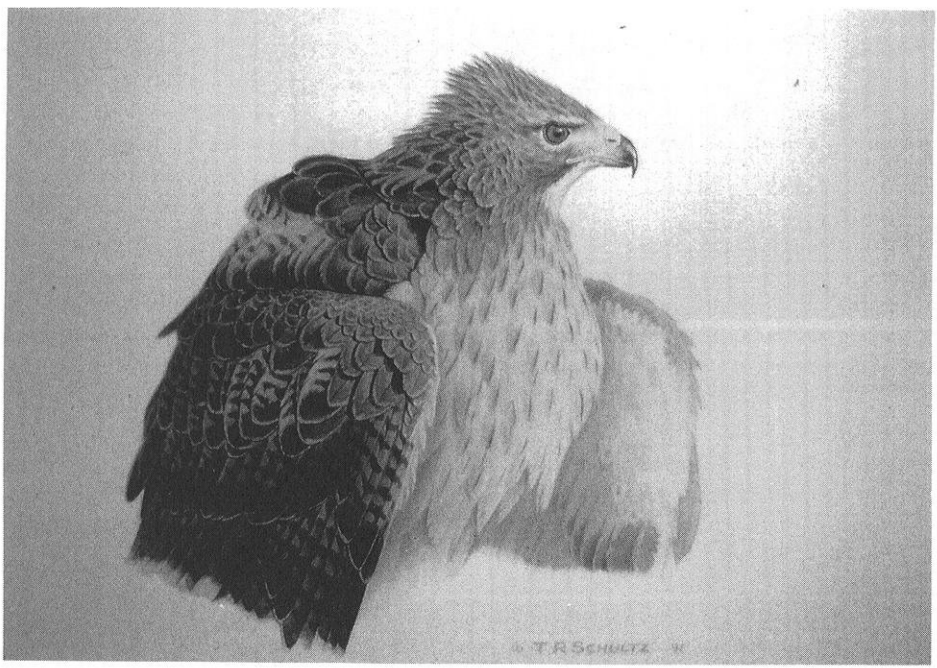
The sparrow in question appeared an inch longer than the House Sparrows it associated with. Noted were black streaks and speckles on the throat and a grayish cap. The back was streaked and the wings were mottled. The bill color was not discernible in the early morning light, but seemed grayish. since all plumages of Harris' Sparrow have pink bills, it would probably be noticeably lighter than the rest of the face coloring, not appearing grayish. Other than the size discrepancy, the winter male House Sparrow plumage could fit this description.

***Decision Delayed Pending Further Information***

#94–027 *Sheboygan Co.;* 25 October 1994.

A large, dark hawk was described with a white rump, white tail tip, and cinnamon wing patches. The bird was captured, photographed, and banded. The identification of the species is not in question. The origin of the bird—wild or escape is always a consideration in accepting such records. Further information and review of the photographs by the Records Committee are anticipated.

Jim Frank
WSO Records Committee, Chair




Red-tailed Hawk *by Thomas R. Schultz*

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