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The *Passenger* **PIGEON**



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Send all manuscripts and related correspondence to the Editors. Information for "Seasonal Field Notes" should be sent to the Bird Reports Coordinator (see inside back cover). Art work and questions about the art should be sent to the Associate Editor for art (see left column). Manuscripts that deal with Wisconsin birds, ornithological topics of interest to WSO members, and WSO activities are considered for publication. For detailed submission guidelines, see pages 3-5 of the Spring 2000 issue (Vol. 62, No. 1) or contact the Editors. As a general guide to style, use issues after Vol. 60, No. 1, 1998.

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Front Cover: This Great Gray Owl summering in northern Wisconsin was photographed by Ryan Brady.

New Appreciation

I've been a part of the WSO Board of Directors since 1987, as one its field trip co-chairs, and for the last couple of year as your President. I've always thought that the WSO board was blessed with volunteers that were dedicated to and excelled at their positions, but over these last two years my perspective has become clearer. Having to work with all the various board and committee members, I now can see why the WSO is one of the nation's finest ornithological organizations. Your board is truly dedicated to this organization and its members.

I've been equally impressed with our approximately 1500 members as well. Because you believe in what this organization is about and have a willingness to be an integral part, you have come forward to replace board/committee members who have retired. It is because of your support, involvement, and encouragement of WSO activities, that the board of directors so enthusiastically accomplishes its business.

I'd like to extend a thank you to Don Reel for volunteering to replace Joan Sommer as WSO's Bookstore Chair, upon Joan's retirement. Don and his wife Christine ran the bookstore prior to Joan and now Don returns to handle its duties himself. Joan ran our bookstore for several years, where she streamlined and reorganized how the bookstore was run. Joan passes along a job well done to Don. No doubt Don will continue to run an efficient bookstore and be available to meet your needs.

We have a new Bird Reports Coordinator as well. Randy Hoffman has replaced Wayne Rohde. Wayne redefined some of the aspects of this position and did a wonderful job. Randy has enthusiastically accepted this job and has begun working on the various tasks this position entails. We're all looking forward to reading his accounts in upcoming *Passenger Pigeons*.

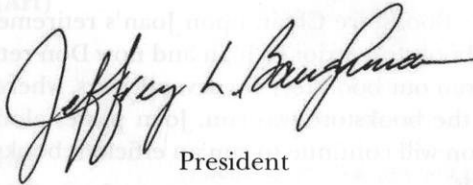
One of the items I mentioned in my first "President's Statement" was that I wanted to create an Annual Convention Committee. With the encouragement of the other board members I was able to coordinate a committee this past fall. At the present time, the committee consists of seven members; Scott Baughman, Christine Reel, Joan Sommer, Marilyn Bontly, Charley Gieger, Margaret Brasser, and me. Each of these members has volunteered to work on various tasks to make this year's convention a memorable one. This team personifies what WSO volunteers are all about. They are efficient, hard working, creative and awfully fun to work with.

The most recent addition to the WSO Board is a new Research Chair—Sheldon Cooper, Associate Professor of Biology and Microbiology at UW-Oshkosh. Dr. Cooper has been a WSO member for a number of years while teaching at UW-Stevens Point as well as Oshkosh and replaces Bob Howe as Research Chair. We again thank Bob for his 19 years of service to WSO in this position including his creation of the Nicolet Forest breeding bird surveys and initiation of the Wis-

consin Breeding Bird Atlas. We eagerly anticipate the research activities that Sheldon will provide for WSO members as we welcome him to the Board.

I appreciate all the help that other board members have given me these past two years. Again, as I mentioned in that first "Statement," I was just going to let them do their thing and WSO would prosper. End result, WSO is doing well and getting better. Special thank you: Dave Sample (VP), Jane Dennis (Secretary), Christine Reel (Treasurer), Bettie and Neil Harriman (PP Editors), Noel Cutright (Historian), Bill Mueller (Conservation), Jesse Peterson (Membership), Barb Duerksen (Youth Education), Ursula Peterson (Publicity), Jim Frank (Records), Daryl Tessen (Awards), Marietta Nowak (Education) Tom Schultz (Field Trips) and Randy Hoffman (BRC). These people faithfully attend our quarterly board meetings and do a great deal of work.

I hope that each of you communicates with these people letting them know you appreciate what they are doing. As board members we respect your ideas, comments, and suggestions for making WSO a better organization. In closing, I'd like to wish Dave Sample my best, I'm looking forward to having him as WSO's next President.

A handwritten signature in black ink that reads "Jeffrey L. Brangman". The signature is fluid and cursive, with the first name being the most prominent.

President

The Northern Owl Invasion in Wisconsin: 2004–2005

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ABSTRACT

The winter of 2004–2005 will be the benchmark from which all future winter owl invasions will be judged. Great Gray Owls, by their large size, conspicuous characteristics, and sheer numbers dominated the headlines. However, Northern Hawk Owls and Boreal Owls also arrived in high numbers, and in some cases, unusual locations. This paper is an attempt to assimilate any and all reasonably reliable Wisconsin owl records in order to document the size and extent of this unprecedented event. The Wisconsin invasion wasn't as well documented as that of Minnesota from the same time period, but we did collect enough data to give a reasonably accurate picture of the event.

INTRODUCTION

When a charismatic bird such as a Great Grey Owl (*Strix nebulosa*) or Northern Hawk Owl (*Surnia ulula*) graces our state with a winter visit, birders flock in from all over. In the late fall of 2004 the “warnings” of such

an invasion came from our neighbor to the west [Minnesota] as owls came south out of the boreal forest into the Western Great Lakes region. November and December 2004 brought reports of 10, 20, even 50 Great Gray Owls flying down the Lake Superior shoreline or even hunting in Duluth backyards. While Wisconsin never got the record numbers that northeast Minnesota observed, birders were soon overwhelmed by the numbers of Great Gray Owls seen in northwest Wisconsin and in outlying areas of the state. Lucky birders also were able to view a smaller number of Northern Hawk Owls and Boreal Owls (*Aegolius funereus*) as well.

The birder response was tremendous and the economic impact of the invasion was likely substantial. Birders from all over Wisconsin and the Midwest drove thousands of miles and spent thousands of dollars in local restaurants and hotels. This “once-in-a-lifetime” event attracted serious and casual birders alike to an area of the state that has a lot to offer for birders

in all seasons. If you did not have Great Gray Owl on your life list after the winter of 2004–2005 you had to be one of the unluckiest birders in the state!

This paper is an attempt to document the invasion of all three species of northern owls. We will cover the timing, distribution, population size, and economic impact of the northern owl invasion. The lack of birders in Burnett and Douglas Counties made documenting the actual extent of the Wisconsin invasion difficult and we welcome future additions or clarifications to this paper if birders have more information. The vast majority of owl reports that we used within this paper were not documented through the Wisconsin Society for Ornithology (WSO) Records Committee and thus we make no claims as to the accuracy of each and every sighting.

We accepted “probable” sightings as we were not conducting an official census, but rather documenting the likely size and distribution of this influx of northern owls. In addition, attempts to document the total numbers of birds in Wisconsin are difficult as these birds moved around on the landscape and obviously different sightings from different areas over the period of their stay in Wisconsin may be of the same bird. Creating a moving map of observations as owls moved within Wisconsin was a challenge. The authors strongly suggest that WSO, the Wisconsin Department of Natural Resources (WDNR), and other partners in Wisconsin make a greater effort in future invasion years to document these important events.

METHODS

Owl Records

Unlike Minnesota (Svingen and Nicoletti 2005, Svingen and Lind 2005), no systematic, organized effort was made to document the northern owl invasion in Wisconsin. The majority of the records for this paper were collected passively from a number of sources. These sources included Wisbirdnet, eBird (<http://www.ebird.org/content/>), WSO records, Naturemapping (<http://www.wisnatmap.org/>), WDNR staff, local wildlife rehabilitators, local residents, local newspapers, and personal observations of the authors.

Winter Population Estimates

Winter population estimates for each species were generated by pooling reports from birders. Report locations were separated by counties and then within counties separated into different time periods. Three counties, Douglas, Burnett, and Washburn, had sufficient sightings of Great Gray Owls to divide them by general locations or roads within each county. When several reports were from the same area and within the same time period, we took the highest value as the probable number of great grays present.

The first author conducted an extensive amount of owl banding in northwest Wisconsin and we had hoped that band recoveries from road-killed birds would allow us to conduct a mark-recapture analysis. However both the marking and recapture periods covered several months and birds were moving in and out of the area during the period sampled, making an estimate impossible. The authors rec-

ognize the limitations of this effort and encourage a pooled analysis of banding data across northeast Minnesota and northwest Wisconsin from the same time period to get a more rigorous population estimate.

Comparison to Previous Wisconsin Invasions

We compared the winter of 2004–05 to reports from previous invasion events documented in *The Passenger Pigeon*. Again, this comparison relies on volunteer reporting and volunteer banding with no set criteria for sampling effort and data gathering.

RESULTS

GREAT GRAY OWLS

Chronology and Distribution

Great Gray Owls began slowly arriving in Wisconsin in mid-November with peak numbers moving into Douglas County in early January. A second peak moved into Burnett County later in January and early February. Birds remained at high numbers in both counties through the month of March. The overall distribution of birds was largely concentrated in the extreme northwest portion of the state with over 90% of the individual sightings made in Burnett and Douglas Counties (Table 1). However, small numbers of birds did show up in Washburn and Polk Counties and individual birds were sighted as far away as Dane and Rock County. What follows is a narrative of the invasion by month.

November 2004—

The first Great Gray Owls of the in-

vasion were reported in Douglas County by Larry Semo on 16 November 2004 near Belden Swamp and Amnicon Lake. Four Great Gray Owls were seen on 16 November 2004 and a different great gray was reported from the northern portion of the county on 18 November. Since many birders were not alerted to the invasion in Wisconsin until December and most live more than three hours from Douglas County, it's hard to know how many birds were present in northwest Wisconsin in November.

December 2004—

Additional Great Gray Owls came into Wisconsin during December 2004. Numbers were still low with only six total reports. Of interest were single birds in Barron and Marathon Counties. While survey effort was probably minimal as compared to Minnesota, a number of birders (including the junior author) did spend time looking for owls in December. It's likely that the majority of the great grays did not arrive in Wisconsin until after the first of January. Wisconsin birders eager to see northern owls were traveling into Minnesota where reliable locations of owls were already well established.

1–15 January 2005—

Early January brought the first big push of Great Gray Owls into Wisconsin (Lange 2005). Hundreds of owls moved into and south of the city of Superior, including on Wisconsin Point. Over 109 individual great grays were reported during this period. Observers estimated over 200 of these owls in Superior within a short time frame (S. LaValley pers. comm.). Robbye Johnson reported 38 great grays

seen in Superior in one day, 10 January 2005. All Great Gray Owls reported during this period were in Douglas County.

16–31 January 2005—

Late January brought continued reports of great grays from Douglas County as well as the first sightings from Burnett County and a sighting 330 miles to the south in Columbia County. In total, 64 different Great Gray Owls were identified from over 86 reports. Great grays were concentrated in the northern and western portions of Douglas County along the Hwy 35 corridor. Very few sightings were received from east of Hwy 53 and the lack of birds to the east continued all winter.

1–15 February 2005—

Early February brought the next push of Great Gray Owls into the state. Douglas County still had at least 44 different great grays. Observers noted high numbers of great grays in Burnett County with at least 18 different birds. Large numbers of owls continued in Douglas County from Dairyland to Superior along Hwy 35. Single owls were also noted in Washburn and Barron Counties. Over 65 different Great Gray Owls from 105 reported birds were observed throughout the period.

16–28 February 2005—

High numbers of Great Gray Owls continued in Burnett (65+) and Douglas (49+) Counties with individual observers noting more than 20 owls in an afternoon of birding in either county. Birds were especially concentrated in the mixed woods and agricultural area east of Crex Meadows State Wildlife

Area along County Road D and along Hwy 35 north of Dairyland. The great grays continued in Columbia County and additional records came from Washburn (4), Dane (1), Columbia (1), La Crosse (1), Polk (1), Rock (1), and Sauk (1) Counties. The southernmost great grays drew hundreds of visitors and were well documented throughout their stay.

1–15 March 2005—

The Burnett County area near Crex Wildlife Area was now the most reliable location for great grays. However, one report of 20 along the Summit Trail and a scattering of reports up and down Hwy 35 show there were at least 31 Great Gray Owls still in Douglas County. Burnett County had at least 27 different great grays. Owls were being seen regularly along Hwy 70 (20+ from conversations with area residents) from Spooner to Grantsburg in Washburn and Burnett Counties but few records other than three road-kills were documented. A fourth road-kill occurred on county trunk highway A in Washburn County. Columbia, Dane, Dunn, Polk, and Sauk Counties each reported one Great Gray Owl.

16–31 March 2005—

The thrill of the owl invasion had worn off and fewer reports from birders came in. Many records were of road-killed birds. This may have been in part due to several calls for owl sightings within the WDNR, where dead owls were deposited. Possibly, owls that were still present were the most stressed and more susceptible to vehicular collisions. The request for records from WDNR personnel generated comments about “numerous

Great Gray Owls" but few actual written records. Reports of different great grays came from Douglas (28), Burnett (16), Washburn (3), Dane (1), Marathon (1), Polk (1), and Milwaukee (1 unconfirmed) Counties.

April 2005—

Washburn (2), Douglas (1), and Burnett (1) Counties had a few remaining great grays. The first reports of summering great grays started from Ashland/Apostle Islands (2) and Bayfield (2) Counties. The assumption is that most owls had moved back north. However, it's also possible that the snow melt allowed the owls to hunt in off-road areas and resulted in fewer overall sightings.

May 2005—

The one Great Gray Owl in northern Polk County (5 May) was from an area without previous summer sightings but suitable breeding habitat is likely present. The same is true for the 20 May great gray found in Washburn County. We have no way of knowing if these owls were too weak to move back north.

The Bayfield County Peninsula summer Great Gray Owls are well documented (Brady 2006). These owls showed up in late April on the Bayfield Peninsula and Apostle Islands and were likely blocked by Lake Superior in their northerly spring movement, turning east upon hitting the lake. There were no reports from these summer areas prior to snow melt.

Winter population estimate

Pooling data from sightings gave us a conservative estimate of 374 Great

Gray Owls in Wisconsin during the 2004–2005 invasion (Table 1).

In Wisconsin 71 Great Gray Owls were banded (50 Bacon; 20 Grosshuesch; 1 Richard) plus 3 foreign recoveries (banded earlier in the invasion in Minnesota). There were many areas with great gray sightings where no banding occurred, plus banding trips were often one-time visits and owls continuously moved about. You could easily surmise that these 74 banded individuals represented less than 25 percent of the Great Gray Owls in Wisconsin in 2005. This crudely equates to an estimate of 300 plus Great Gray Owls in Wisconsin.

Banding efforts also allowed us to make observations on the overall health of wintering birds and sex/age ratios. Great grays handled during banding were generally in good condition. They were heavy, without any prominent keel and appeared feisty and strong. There were few (only one or two accounts we found) great grays that died from starvation in contrast to past invasions when more dead owls were reported.

Road-killed Great Gray Owls

Road-killed Great Gray Owls also represent a subset of the total that moved into Wisconsin. Compiling the total number road killed has been more of a problem than what one might think. The sheer number of owls present made them "common" and lessened the attention that phone calls about dead owls got. Owls were tossed in the woods to get them off the roads! Few records were kept. Many injured owls made it to wildlife rehabilitators who provided information on

Table 1. Estimates of the number of northern owls entering Wisconsin during the winter of 2004–05 from reported observations. This is a minimum estimate of owl numbers.

County	Great Gray Owls*	Northern Hawk Owls**	Boreal Owls**
Douglas	260+	15	6+
Burnett	80+	3	2
Washburn	16	1	
Polk	5		
Dane	1		
Barron	3		
Columbia	1		
Marathon	2		
Dunn	1		
Sauk	1		
Rock	1		
La Crosse	1		
Ashland		1	1
Bayfield		1	
St. Croix		1	
Oneida		1	
Ozaukee		1	
Rusk			1
Milwaukee (unconfirmed)	1		
Totals	374+	24	10

*Minimum estimates from numerous sightings.

**Likely individual birds.

dead and released owls. We were able to document 39 road-killed or injured and released Great Gray Owls in Wisconsin (Figure 1).

Of the 50 Great Gray Owls the senior author banded, 46 were winter birds and of these, 3 were hit by vehicles near where banded; 1 was found dead in June near Sprague, Manitoba, and 1 was "hand caught" and released in June in Douglas County near where banded. This last bird was likely in poor condition. The three hit during the winter represent 7% of the winter birds the senior author banded. If the 7% road-kill estimate from the senior author's winter banding was extrapolated to the total found dead or injured we would come up with an estimate of 557 Great Gray Owls moving through Wisconsin. This is a crude mark-recapture estimate that would

likely be made much more powerful by pooling data with banding efforts from northeast Minnesota. However, it does suggest that our winter population estimate may be within the correct order of magnitude.

NORTHERN HAWK OWLS

Chronology and Distribution

Northern Hawk Owls are diurnal hunters and often perch conspicuously at the tops of trees during daylight hours. This made them easier to find by the average birder. In general, hawk owls were concentrated in the northwestern counties, similar to great grays. However; they were present in Ashland and Bayfield Counties during the winter season, unlike Great Gray Owls. Northern Hawk Owls arrived in November and December and stayed

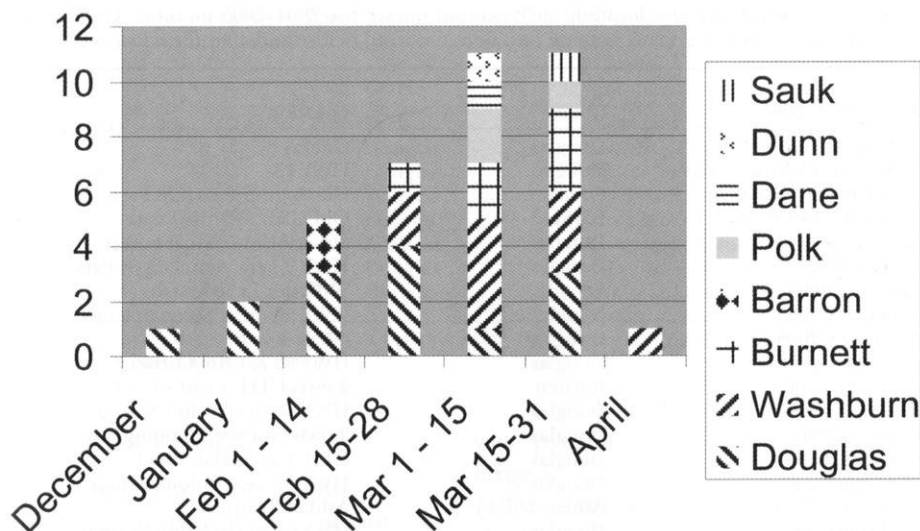


Figure 1. Road-killed Great Gray Owls by county in Wisconsin, winter 2004-05.

into late February in most locations. Hundreds of birders were able to view a cooperative hawk owl at Harrington Beach State Park in Ozaukee County from 21 December 2004-26 February 2005.

Winter Population Estimate

Northern Hawk Owls were not found in numbers anywhere approaching those of Great Gray Owls during this invasion. However, they were found in higher numbers than in most winters in Wisconsin. We compiled a minimum of 24 Northern Hawk Owls in eight counties in Wisconsin (Table 2). Presumably all but one went north in the late winter/spring. We have listed each general location, presumably each individual hawk owl, only once and these sites often represent numerous reports of that owl over a period of weeks. The date listed is generally the earliest we found for that owl, as most

of these owls were seen over a period of several weeks.

We were unable to make any substantial observations on overall health or sex/age ratios of the birds as only two Northern Hawk Owls were banded in Wisconsin. The senior author found commonly reported hawk owls to be difficult to find on "banding days." Their wide distribution and a limited number of banding days resulted in the low number of banded Northern Hawk Owls.

Northern Hawk Owls appear much less prone to being hit by vehicles than are Great Gray Owls. We only know of one hawk owl that was hit by a vehicle during this invasion year. The one injured hawk owl was rehabilitated and released in May 2005 at Nickerson Bog in Pine County, Minnesota.

BOREAL OWLS

Boreal Owls were the most difficult owl to document as they are the most

Table 2. Northern Hawk Owl locations in Wisconsin during the 2004–2005 invasion. The locations are somewhat general and many of these owls were observed before and after the dates in our table.

Dates (2004–2005)	County	Location
16 November 2004	Douglas	CTH A
26 Nov 04–23 January 05	Douglas	HWY 13
21 Dec 04–26 Feb 05	Ozaukee	Harrington Beach St Park
17 Dec 04–13 Feb 05	Bayfield	Old US 2 & Cross Road
January 2005	Douglas	Superior Municipal Forest
January 2005	Douglas	HWY 2 near Amnicon St Park
8 January 2005	Oneida	Thunder Lake Marsh
11 January 2005*	Douglas	HWY 53 near Solon Springs
11 January 2005	Douglas	CTHs B & E
21 January 2005	Douglas	HWY 35 & Cozy Corner
27 Jan–Feb 2005	Burnett	2 owls CTH A east of HWY 35
29 January 2005*	Douglas	HWY 53 near Solon Springs
February 2005	Douglas	2 owls "Nature Mapping"
February 2005	Douglas	CTH T near Dairyland
2 February 2005*	Douglas	HWY 53 near Solon Springs
3 February 2005	Ashland	Ashland Airport
7 February 2005*	Douglas	HWY 53 north Solon Springs
12 February 2005	Washburn	"Nature Mapping"
15 February 2005	Douglas	HWY 53 (Gordon & Minong)
18 February 2005	Douglas	HWY 13 at Brackett's Corner
5 March 2005	St. Croix	HWY 64 near CTH O
12 March 2005	Burnett	In Danbury
Total	8 Counties	24 Northern Hawk Owls

* There were at least 4 different Northern Hawk Owls on HWY 53 and these dates approximate when individual owls were counted.

nocturnal of the northern visitors. Their small size and preference for conifer perches also hampered observations. Small birds get less attention from the non-birding public than larger birds, so it is likely only birders would identify and report Boreal Owls. Even the "average Joe" could find and identify Great Gray Owls after seeing a picture in a newspaper or on television.

We know Boreal Owls came south, from banding efforts in Minnesota near Duluth (Dave Evans, pers comm.). Likely most of the Boreal Owls entering Wisconsin were restricted to northwest Wisconsin. Birders in Superior were successful in getting several Boreal Owls to respond to

electronic calls. Several were photographed in Wisconsin. There were 9 or 10 Boreal Owls with reasonable documentation reported in four counties (Table 3), but undoubtedly there were many more in Wisconsin.

Banding efforts in northeast Minnesota strongly suggest that there were many more Boreal Owls in Wisconsin than detected by birders and documented in this paper. Frank Nicoletti and others banded at least 378 Boreal Owls north of Duluth, Minnesota in 2004–2005 (Owling.com:1/20/05 MN Owl Invasion Update). The corresponding sight records greatly paled in comparison.

Table 3. Boreal Owl locations in Wisconsin during the 2004–2005 invasion.

Date	County	Location
27 December	Rusk	Near Ladysmith
9 January	Douglas	Dwight's Point, Superior
13 January	Douglas	Moccasin Mike Rd (unconfirmed)
January	Douglas	Near Amnicon St Park
February	Burnett	Crex W.A., F & Town Hall Road
February	Ashland	Gus Smith home
Feb–March	Douglas	Steve La Valley home
14 February (?)	Douglas	St Croix Flow. (found dead)

Total of 4 counties; there were several unconfirmed reports of Boreal Owls calling from areas in Douglas County in May and June, 2005.

Road-kills of Boreal Owls

Only one dead Boreal Owl was reported from this winter season. It likely died from starvation.

DISCUSSION

Comparison to Past Invasions

Great Gray Owls—

From 1891 to 1965 there had been no documented observations of Great Gray Owls in Wisconsin (Follen 1987). Prior to 1891, great grays were reported as far south as Racine County (Hoy 1853 and Hoy 1885) and from Bayfield County in 1891 (Kumlien and Hollister 1903). Subsequent to Follen's (1987) paper, Robbins (1991) reported single Great Gray Owl records in 1934 and 1947–48. Through Don Follen's efforts, annual reports of great grays occurred from 1979–1983 (Follen 1985).

Beginning in the late 1960s, Wisconsin began to see somewhat regular northern owl invasions. Sam Robbins (1991) states, "Great Gray Owls made ornithological headlines in the winter of 1968–1969 when an unprecedented influx brought 7 birds to Wisconsin. . . ." Semo (1989) documented what

was previously thought to be the largest Great Gray Owl invasion (1988–1989) ever reported in Wisconsin. He estimated there were at least 42 different great grays in Wisconsin that winter in five counties. Following this invasion, Lange (1996) documented at least 35 great grays in 14 counties (1995–1996). Several were dead or reported as emaciated. They were even more widespread from March and April, 1996 when Great Gray Owls were reported from 19 counties (Erickson 1996). Only Bayfield County had May great gray sightings. That was followed by 70 plus great grays in 15 counties in 1996–1997 (Lange 1997). However, none were reported in Douglas County that winter. The winters of 1995–96 and 1996–97 were characterized by a lot of snow that may have pushed the owls farther south. In addition, variable small mammal abundance would also influence the distribution of owls.

Previous invasions paled in comparison to the total number of Great Gray Owls reported November 2004 to April 2005. We have documented 374 great grays from 13 Wisconsin counties. While this invasion did not exceed previous invasions in geographical extent, it did surpass all other

invasions in total numbers by at least an order of magnitude. What made this invasion especially unusual was the extremely large concentration of birds in a relatively small area within the state. Banding efforts in Wisconsin indicated that birds were healthy and eating well late into March 2005. Most great grays were seen in forest-agricultural transition areas and along the edges of large herbaceous/coniferous wetlands and presumably focusing on abundant meadow vole (*Microtus pennsylvanicus*) populations. It's possible that the invasion may have spread to a greater area of the state had vole populations been at the low point in their cycle. Once again the Great Gray Owl invasion did not extend to the western Upper Peninsula of Michigan or northeast Wisconsin. It's hard to know if the large-unbroken forests of this area provide fewer hunting opportunities or if Lake Superior acts as a barrier to dispersal. Counties in southern Wisconsin, where we have more active birders and where a northern owl would get more attention, were probably surveyed quite well. The "near north" counties like Washburn or Polk did not receive the search effort necessary to document owl numbers and probably hosted more birds than reported.

It is unclear as to why reports were lacking from the first half of the 20th century. Certainly there were fewer visitors and fewer birders to document these types of invasions. Many areas of northwest Wisconsin are very road-less and don't lend themselves to efficient winter owl searching. Nationally, increased documentation of winter invasions does correlate with increased popularity of birding and total birder effort (Bull and Duncan 1993). De-

spite the lack of birders, it seems unlikely that an invasion the size of 2004–2005 or 1995–1996 would have gone unnoticed. It's possible that changes in conditions on the breeding grounds and wintering grounds are affecting winter distribution and the likelihood of winter invasions. Great Gray Owl populations, like many other boreal birds, are not well monitored and thus it's difficult to make conclusions based on anecdotal evidence.

The number of Great Gray Owls banded in Wisconsin is another possible way to look at their abundance over time. However, the lack of banders and banding effort in northwest Wisconsin over the years will skew the results, favoring more recent years. Since 1984 when Don Follen, Jr. banded the first great gray in Wisconsin, the Banding Lab's records show that 113 Great Gray Owls have been banded in the state through April 2005 (Table 4). From banding records it was obvious great grays came into Wisconsin in the winters of 1995–1996 (7 banded) and 1996–1997 (15 banded). The 1988–89 invasion year was another big year for banding great grays with 14 banded. However, 65 great grays, or 58% of the total, were banded in the latest invasion. In the 21 winters covered by this period with some banding activity in northwest Wisconsin, there were more Great Gray Owls banded in each subsequent owl invasion.

It is hard to know what happened to the majority of great grays after April 2005. Brady (2006) discusses this issue in depth and we will not go into detail on this aspect of the invasion. However, note that three of 46 winter banded great grays were hit by vehicles one, seven, and fifteen days after

Table 4. Number of Great Gray Owls banded in Wisconsin by year.

Winter	No. Banded	% (of 113 total) that were banded in a given winter
1984–85	2	2
1987–88	5	4
1988–89	14	12
1989–90	1	1
1991–92	2	2
1992–93	1	1
1994–95	1	1
1995–96	7	6
1996–97	15	13
2004–05	65	57
Total	113	100%

The 11 omitted winters were seasons when no Great Gray Owls were netted and banded.

banding—the first two at the banding location and the last about three miles to the north. From a historical perspective, the Banding Lab provided us with 9 Great Gray Owl returns (up to January 2006, although we know of at least 4 more that have not made it into the Lab's database). Of the nine, eight were Wisconsin banded Great Gray Owls that were recovered in Wisconsin (6), Michigan (1), and Manitoba (1). The ninth great gray was banded in Minnesota in December 2004 and recovered (dead) in Wisconsin in February 2005. Five (55%) of the 9 returns were Great Gray Owls banded and recovered as part of the latest invasion event. And the 4 additional returns not yet in files are also part of this event. Of special interest is one bird the senior author banded in early March 2005 near Crex Wildlife Area that was recovered near Sprague, Manitoba, in June 2005, potentially demonstrating where some of the birds came from and documenting continued mortality after the birds moved back north.

In addition, Tom Erdman (pers. comm.) reported that Great Gray Owls

again nested in northern Forest County within the Nicolet National Forest. These great grays may be an isolated population not influenced by invasions from the north. See Brady (2006) for more on this phenomenon.

Northern Hawk Owls—

Northern Hawk Owls are reported in most winters when Great Gray Owls are present in Wisconsin. The 24 reported in 2004–2005 rank at the top of the list. In 1995–1996, Lange (1996) reported three hawk owls. For 1996–1997, Tessen (1997) reported it as the record year with eight hawk owls in Wisconsin. Widely distributed as usual, they were found in at least five counties (Lange 1997). Robbins (1991) also reported eight Northern Hawk Owls the winter of 1962–1963. He also reported on 10 or so from the late 1800s. That was followed by “60 years (that) produced but six records.” The 1962–1963 invasion was followed by almost annual visits from a few Hawk Owls. Will Northern Hawk Owls become a more regular winter visitor?

Northern Hawk Owls differed from

Great Gray Owls in that they were found further east in Wisconsin. During the winter of 2004–2005 hawk owls were found east to Bayfield and Ashland Counties as well as Thunder Lake Marsh Wildlife Area in Oneida County. The latter record is interesting because the junior author also observed a Northern Hawk Owl at that location calling in early April 2000.

Boreal Owls—

The winter we are reporting on was nothing special for Boreal Owl (9 or 10) records. When Boreal Owl reports increase for a winter it is often due to owls found dead, likely from starvation. We found only one dead Boreal Owl report for 2004–2005. In 1996–1997 there were 14 Boreal Owls found dead in Wisconsin (Lange 1997). In 1995–1996 Erickson (1996) and Lange (1996) reported six Boreal Owls from five counties and five were found dead. In 1996–1997 over 50 Boreal Owls from 12 counties were reported (Lange 1997). They were widely scattered across Wisconsin. Owl banding efforts increased the totals that year. Robbins (1991) reported only 37 Boreal Owls from Wisconsin over a number of years and only 12 of these were sight records. Others were collected or found dead (17) or captured in banding operations (8). Shea (1989) reported two found dead in March, 1989.

It appears there were abundant small mammals in northwest Wisconsin in 2004–2005, as few dead Boreal Owls were reported and a majority of other winter owls stayed in the northwest part of the state for most of the winter. This is in contrast to other winters when dead Boreal Owls are docu-

mented and great grays and hawk owls distribute themselves over a larger portion of the state. Because many previous records are of dead Boreal Owls and this “owl year” produced only one dead specimen, we cannot make any valid comparisons other than to say we are confident numerous Boreal Owls were in Wisconsin.

The big Boreal Owl years in Wisconsin were augmented by the number of Boreals banded that likely would not have been recorded by bird watchers. In 1996–1997 Lange (1997) reported over 50 Boreal Owls of which at least 29 were birds captured by banding. We did not request Boreal Owl banding data for Wisconsin from the Banding Lab, but analysis of such data might be the best way to track Boreal numbers. Increased banding effort for Boreal Owls in northern Wisconsin would greatly add to our knowledge of their numbers. An analysis of owl banding records for 2004–2005 and prior years may provide some answers to the annual abundance of Boreal Owls in Wisconsin.

RECREATIONAL RESPONSE AND POTENTIAL ECONOMIC IMPACTS

The number of trips that birders made to northwest Wisconsin was impressive. Some of these visits were stopovers on longer trips into Minnesota. Especially early in the invasion, your chances of seeing owls were better if you ventured into Minnesota. As Wisconsin sightings became more consistent, more birders spent time and money in Douglas and Burnett Counties, the two counties that benefited the most from owl watchers.

Photographers used this opportu-

nity to get pictures in abundance. Wherever there were owls there were cameras.

The senior author made nine banding trips to northwest Wisconsin, using \$45–\$50 for gas plus eating one or two meals each time and one overnight stay at a hotel. Birders certainly spent equal amounts of money each trip in their quest to find owls.

CONCLUSION

While not entirely in the owls' best interests (some mortality and lack of reproduction), such an invasion certainly added to the year's enjoyment. Birders came from all over to observe northern owls, many adding new life birds to their lists. The news media coverage of the owls likely increased the general public's awareness of wildlife. Northwest Wisconsin communities benefited from tourist dollars.

Owl reports were used to document the largest northern owl winter invasion into Wisconsin in recorded history. From individual reports that were separated into different owls as best we could, we came up with a minimum of 374 Great Gray Owls. Banding and dead owl reports were used to estimate the minimum number of great grays that came into Wisconsin. With various simple assumptions, we estimate Great Gray Owl numbers from 300 (% banded) to 557 (banded + road-kill). With LaValley's (pers. comm.) estimate of at least 200 Great Gray Owls in Superior at one time, we can assume the total number that entered Wisconsin far exceeded these 200. So, we estimate the actual number of great grays in Wisconsin ranged from 300 to 550,

with the authors favoring something closer to the higher number. The 374 great grays derived from sorting through sightings would certainly seem to be a minimum estimate as we were conservative in our efforts to avoid double counting. Also, one has to keep in mind our data were gathered primarily from road-side observations. If there were road-wary owls and owls that found suitable conditions for foraging away from roads, they would not have been counted.

Northern Hawk Owl numbers were probably reasonably close to the 24 birds documented; however, some were likely missed and thus the 24 should be considered a minimum. The information on Boreal Owls is very minimal and further demonstrates how difficult it can be to find these owls. An increased banding effort would appear the best approach to monitor Boreal Owls.

From the body condition of captured Great Gray Owls, there appeared to be abundant food for the owls in northwest Wisconsin. The fact that many owls stayed in the northwest part of the state also indicates small mammal numbers were high. Owl watchers found it was not uncommon to witness owls making successful plunges into the snow to capture a rodent. Some crusting of the snow in some areas did cause birds to move.

Each new "big owl year" seems to be getting larger with more owls entering Wisconsin. What does this mean? Are there more owls on their breeding grounds? Do the small mammal numbers fluctuate to greater extremes as the prey species decline periodically? Are more people looking for owls? Should we be looking at these northern visitors as "regular winter va-

grants?” We agree with Sam Robbins “that we must now revise the pre-1968 assumptions that this is a very rare winter wanderer to the northernmost counties” (Robbins 1991).

One of the things our effort here demonstrated is the lack of uniformity and effort in collecting data for events such as this that are outside of normal governmental agencies’ work plans and traditional survey work. Comparing the 2004–2005 winter to previous years’ records required dealing with estimates of varying accuracy as different degrees of “proof” were required. We certainly accepted most reports we were able to find. Standardized data collection with better location information would be beneficial. A central information gathering entity for such data is needed.

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The top of a pine tree works as a perch anytime of the year.



"I can't hear anything for these noisy aspen leaves."

Great Gray Owls in Northern Ashland and Bayfield Counties, Summer 2005

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ABSTRACT

Following the record irruption of winter 2004–2005, dozens of Great Gray Owls uncharacteristically spent the summer of 2005 on the Bayfield Peninsula and adjacent Apostle Islands in northern Wisconsin. Although the birds apparently did not breed, an evening's search amidst the warm and lush mid-summer landscape routinely produced three to five owls. In this article, I summarize this unusual situation by describing the timing, abundance, distribution, habitat, and behavior of Great Gray Owls inhabiting the area, with additional remarks on feather molt and band recoveries.

INTRODUCTION

Unless you've been "lost" on a mysterious island for the past year, you know that the winter of 2004–2005 featured an unprecedented irruption of northern owls into the western Great Lakes region, the scale of which is hardly imaginable except that most of us actually saw it with our own eyes. The superlatives are potentially endless but a simple comparison should suffice. On 1 February 1997, I thought

I had reached birding nirvana when my wife and I traveled to Aitkin County, Minnesota, and found 3 Northern Hawk Owls (*Surnia uhula*) and 3 Great Gray Owls (*Strix nebulosa*). Imagine my feelings, then, on 10 March 2005, when some friends and I again visited Aitkin and found 18 Northern Hawk Owls amid an astounding 160 great grays.

Indeed, the 2004–2005 irruption was like no other as thousands of Great Gray Owls and hundreds of Northern Hawk and Boreal Owls (*Aegolius funereus*) inundated Minnesota and Wisconsin. Such periodic movements of northern owls are well documented at three to five-year intervals and likely related to decreased availability of rodent prey in typical wintering areas farther north (Nero 1980, Bull and Duncan 1993, Duncan and Duncan 1998, Cheveau et al. 2004). Details of the 2004–2005 irruption are beyond the scope of this paper and discussed in detail elsewhere (Jones 2005, Lange 2005, Svingen and Nicoletti 2005, Svingen and Lind 2005, Bacon and Paulius 2006).

Great Gray Owls, in particular, invaded the north woods in mind-bog-

gling numbers with an estimated 5,225 individuals in Minnesota alone (Svingen and Lind 2005). Wisconsin hosted 300–550 Great Gray Owls (Bacon and Paulios 2006), primarily in Douglas and Burnett Counties but also as far south as Sauk, Columbia, Dane, and Rock Counties (Lange 2005, Bacon and Paulios 2006). Despite this massive incursion, not a single Great Gray Owl was reported in Ashland or Bayfield Counties during the winter, presumably because Lake Superior deflected southbound owls down Minnesota's North Shore and into the extreme northwestern corner of Wisconsin.

As winter regressed, however, the longer days and melting snows of spring allowed birds from the south to retreat northward. Energetically stressed after a long winter and again reluctant to cross the vast expanse of Lake Superior, large numbers of Great Gray Owls were funneled onto the Bayfield Peninsula and adjacent Apostle Islands during this northward journey, and many uncharacteristically remained here throughout the spring, summer, and fall of 2005. In this article, I summarize this unusual situation by describing the timing, abundance, distribution, habitat, and behavior of Great Gray Owls inhabiting the area, with additional remarks on feather molt and band recoveries.

METHODS

After hearing of none all winter, I began to receive reports of Great Gray Owls in northern Bayfield County in late April 2005 and more frequently throughout May. I immediately started to monitor the situation by searching

for owls two to three times per week, typically for three to four hours in late afternoon and evening but also throughout the day under overcast conditions. I conducted all searches by car and initially focused on areas with recent owl sightings, especially including Highway 13 from Red Cliff to Cornucopia and Bayfield County K, which loops north of Highway 13 toward Little Sand Bay. By season's end, I covered all accessible roads on the peninsula from the Red Cliff Indian Reservation west to Herbster and south to Star Route Road west of Bayfield. Keep in mind, however, that my survey effort was very informal and entirely volunteer.

In addition to personal observations, I documented sightings from the Wisconsin Birding Network, Red Cliff Indian Reservation, Apostle Islands National Lakeshore, and other local observers. These sources also provided information on injured and dead owls, which I incorporated into the database. Lastly, in late July, I organized a multi-pronged group effort to survey the entire peninsula in one evening. Six parties of two individuals each drove assigned roads from Herbster to Red Cliff to Washburn and documented all Great Gray Owls seen during a three-hour survey.

Estimating the total number of Great Gray Owls present through summer 2005 was difficult at best. Overall, I recorded every reported sighting from April through December into the database. Despite a multitude of sightings during this time, I arbitrarily decided to use only the month of July to estimate the number of Great Gray Owls present. Owls seemed to be moving around through June (pers. obs.; Svingen and Lind 2005), and I felt that by August

birds could easily have roamed far enough to be double-counted. In addition, personal commitments limited my survey efforts in all months except July. I mapped all July observations and determined an owl to be "new" if it was seen in conjunction with others or more than a mile from any previous sighting. Although far from scientifically sound, this is the best I could do. Even if some birds were counted twice, at least as many others likely were not detected or reported.

RESULTS

Timing and Abundance

Overall, I recorded 129 observations of Great Gray Owls on the Bayfield Peninsula and Apostle Islands during 2005. The first was reported near Cornucopia on 22 April 2005 and the last near Herbster on 30 November 2005. Over 89% (115) of these sightings stemmed from the mainland peninsula, while the islands accounted for the remaining 11% (14). The majority of birds (95%) were in Bayfield County but several island birds fell within Ashland County. Three of the 129 total observations involved dead birds. Two were killed in car collisions, including one on Madeline Island, and the third died in rehab of unknown causes.

The monthly breakdown of reports included: April (3), May (22), June (7), July (56), August (14), September (9), October (15), and November (3). Beware, though, that survey efforts varied greatly from month to month. In general, Great Gray Owls arrived in April, increased in May, and were prevalent through mid-October. As discussed later, owls became scarce or

difficult to find in late fall and winter with few sightings in November and none in December, despite some effort in searching. Several additional sightings were made in January 2006. All of the photographs appearing in this article were taken by the author in Bayfield County between mid-May and mid-August 2005.

Throughout the summer, an evening's search routinely produced three to five Great Gray Owls, regardless of light conditions or temperature. Amazingly, I saw at least one owl during each visit made from mid-May to mid-October. The maximum daily total seen by one party was eight, which occurred on 22 July. The six-party, group survey took place on 23 July and netted a disappointing 10 great grays. On a positive note, at least six of these (and perhaps as many as nine) were new birds.

Based only on the 56 observations during July, I estimate a conservative minimum of 31 Great Gray Owls in northern Ashland and Bayfield Counties during the month, which represents roughly 5 to 10% of the Great Gray Owls that spent the winter in Wisconsin (Bacon and Paulios 2006). Five of 31 owls were found on the Apostle Islands and the rest occupied the mainland. My counting technique was conservative and, without question, not all owls present in the study area were detected during these casual observations. Thus, I contend that *at least* 40–50 Great Gray Owls inhabited northern Ashland and Bayfield Counties during summer 2005.

Distribution and Habitat

Great Gray Owls were scattered across extreme northern portions of



Figure 1. Great Gray Owl hunting the open fields along Bayfield County K on 2 July 2005.

Bayfield County from Herbster to Red Cliff. With the exception of island birds, Lake Superior's south shore served as the northern limit. No owls were reported south of a line extending due west of the town of Washburn, and in fact, only two birds were found south of a line connecting the towns of Bayfield and Port Wing. Island observations included July reports of three birds on Madeline Island, one on Stockton Island, and one on Devil's Island. An amazing six Great Gray Owls were reported from Sand Island on 22 October 2005.

Though widely distributed, the majority of owls were found along the Highway 13 corridor from Herbster to Red Cliff and along Bayfield County K, which loops north of Highway 13 several miles west of Red Cliff. The roughly 12-mile loop formed by

County K and Highway 13 was especially good, hosting at least nine birds and likely more. Smaller concentrations were found about four miles east of Cornucopia along Happy Hollow Road and adjacent Pratt Road and on the Lenawee and Bark River Roads southeast of Herbster.

Within these areas, habitat use subjectively appeared to be general, as almost anywhere was fair game for finding owls. I observed most owls along edges of both upland and lowland forests hosting a mixture of northern hardwoods and conifers. Many birds focused hunting efforts on roadside ditches, while some worked other openings such as fields and clearcuts (Fig. 1). I found some owls within entirely hardwood forests, another actively hunting in pure pine (*Pinus* spp.) barrens, and another perched in



Figure 2. Great Gray Owl perched in fully leafed-out aspen tree on 26 July 2005.

early-successional aspens (*Populus* spp.). Overall, habitat use seemed very similar to that observed in Minnesota and Wisconsin during the winter's irruption and was hardly limited to tamarack (*Larix laricina*) or black spruce (*Picea mariana*) bogs typically associated with Great Gray Owls during the breeding season (Fig. 2).

Breeding

Despite the large numbers of Great Gray Owls in the area throughout the breeding season, there was no evidence that any nested or attempted to nest during summer 2005. I spent many dozens of hours searching for and observing owls and I detected no paired adults, prey transports, nests, downy young, or other evidence of breeding. I heard no vocalizations, in-

cluding territorial calls of adult birds or begging calls from young. Likewise, no signs of nesting were suggested among many sightings from other observers.

I made great efforts to age as many owls as possible. Every Great Gray Owl I observed before the onset of molt in mid-July (see Molt below) had multiple ages of flight feathers, indicating they were not hatched in summer 2004 or summer 2005. Hence, each owl was in at least its third year of life. All birds observed after mid-July had at least two generations of flight feathers, which is impossible for a bird hatched in summer 2005. Juveniles from 2005 would have shown one age/generation of flight feathers and retained juvenile down into at least August, as juveniles typically do not completely attain their adult contour

plumage until three months of age (Bull and Duncan 1993).

Behavior

Behavior of these summering Great Gray Owls was remarkably similar to that observed in Minnesota and Wisconsin during the winter of 2004–2005. Most birds were highly tolerant of human presence and rarely interacted with nearby owls or other birds. I observed no evidence of territory defense and occasionally found multiple birds hunting the same field or within 100 m of each other. Repeat sightings of presumably the same birds in nearly the same locations suggest some birds utilized a small area for foraging.

Diurnal activity was primarily crepuscular (dawn and dusk), although for some reason I more readily detected owls in late evening, particularly the last two to three hours of light, than in early morning. Great Gray Owls could be found throughout the day under overcast skies, presumably because of the darker and often cooler conditions. Though this species' plumage may make it unusually intolerant of summer heat (Bull and Duncan 1993), I occasionally observed birds hunting in bright sunshine and very warm temperatures. The summer of 2005 was particularly hot in the north woods with numerous days over 90°F. On such days, I frequently observed owls gular fluttering and drooping wings to expose their undersurfaces. Gular fluttering increases evaporative heat loss, while the underwing apteria (unfeathered areas between feather tracts) of adult Great Gray Owls also may help dissipate heat (Voous 1988). I also watched one owl

bathe three times over 20 minutes in water collected along a roadside ditch.

As in winter, Great Gray Owls perched on various structures. Many were on prominent branches of roadside trees about three to six meters off the ground, while some used street and highway signs, among other artificial structures, for hunting perches. Most unusual for me was the sight of birds adamantly plunging not into snow but rather lush patches of ferns and grasses. All observed prey captures involved small rodents, presumably voles (*Microtus* spp.), which the owls consumed quickly while still on the ground or soon after returning to an elevated perch.

Molt

A conspicuous difference from winter was the onset of active feather molt, first noted in three birds on 17 July. Molt was easily detected as the newly-grown, dark gray feathers strongly contrasted with older, worn, and brown feathers. As of mid-August, about one in three birds appeared to be actively molting. This molt commonly consisted of some flight feathers (especially the tertials), upperwing coverts, and back, breast, and belly feathers. Feathers on the head were apparently the last to be replaced. Molt of the outer secondaries and inner primaries was more difficult to assess in the field because these feathers are largely concealed on perched birds.

Unfortunately, my ability to monitor owls decreased greatly in late August through autumn and I received no molt data from any other observers. I saw one Great Gray Owl on 28 August and the bird was heavily molting. Both

birds I observed on 15 September had numerous new feathers. Of the five owls I found on 12 October, four birds had more than 75% new body feathers and several new remiges. The fifth had only molted a few back and upperwing covert feathers and no flight feathers. The final owl I observed on 30 November had molted approximately 50% of its head feathers, 50% back feathers, 80% breast feathers, all undertail coverts, some upperwing coverts, and one tertial. By season's end, I had not seen a single owl with any replaced tail feathers.

Banding and Recoveries

With the help of Minnesota's Dave Grosshuesch and Wisconsin's Bruce Bacon, we banded seven Great Gray Owls in only eight hours of effort during the month of July. Some birds were easy to capture as in winter, while others had no interest in the bait offered. All captured birds were adults in at least their third year of life and all subjectively appeared to be in good body condition based on keel assessment and body mass.

On 17 July 2005, Bruce and I captured a previously-banded owl along Highway 13 at Compton Road in Bayfield County. The bird was originally banded in December 2004 near Two Harbors, Minnesota (St. Louis County). On 9 June 2005, a banded owl was roadkilled along Bayfield County K 0.4 miles west of Peterson/Rowley Road. This bird was originally banded in January 2005 in Carlton County, Minnesota. Lastly, another banded Great Gray Owl was picked up for rehab (and later died) in early November along Highway 13 near the Red Cliff Fish Hatchery (Bay-

field County). This bird was originally banded in December 2004 near Duluth, Minnesota (St. Louis County). Given that nearly 600 Great Gray Owls were banded in Minnesota and Wisconsin during the winter 2004–2005 irruption (D. Grosshuesch, pers. comm.), other Ashland and Bayfield County owls likely possessed leg bands as well.

DISCUSSION

Summer 2005 Totals

The year 2005 saw an astounding number of Great Gray Owl observations in Wisconsin. In northern Ashland and Bayfield Counties, I documented 77 sightings of at least 31 individuals during the months of June, July, and August alone. Moreover, this individual total is probably an underestimate because my counting technique was rather conservative. Although some birds may have been tallied more than once, other birds presumed to be the same may have been different. For example, banding activities from winter and summer showed that some birds in nearly the exact same location over multiple days or weeks were different individuals (Svingen and Lind 2005; pers. obs.). Furthermore, the informal survey techniques used here are strongly biased toward roadside owls. The Bayfield Peninsula contains many isolated fields, edges, and other open areas that easily could have hosted undetected birds.

Within my study area, the Red Cliff Indian Reservation was likely home to more Great Gray Owls than documented. I did not survey this area as intensively as others for safety and privacy reasons, and managers on the

reservation did not wish to provide locations of sightings there. The Herbster area, with promising field and forest habitat south of town, also did not receive adequate attention because it was farthest from my home and thus cost me the most time and money to visit. I also spent no time surveying the Apostle Islands, which may have held more owls than those casually reported. Finally, the Sultz Swamp is a large acid peatland on the mainland peninsula about six miles from the lakeshore (Epstein et al. 1997). The swamp has extensive muskeg/open bog bordered by mature forest of black spruce. Inaccessible by car, I visited the location only once and found an easily-identified Great Gray Owl feather.

There also were multiple reports of Great Gray Owls outside of my study area during summer 2005. Two reports came from Port Wing (west of Herbster) and another from the Oulu area (Bayfield County). Both of these areas have habitats similar to the Bayfield Peninsula, are near the lakeshore, and likely hosted other owls. Additionally, at least five Great Gray Owls were reported in adjacent Douglas County during June and July. Given these sightings and other factors discussed above, I would estimate that at least 60 Great Gray Owls, and quite possibly more than 100, summered in Wisconsin during 2005. To give this some perspective, the highest state total for any *winter* season prior to 2004–2005 was 80+ individuals during the 1996–1997 irruption (Lange 1997, Tessen 1997).

Previous Summer Records

Previous summer sightings of Great Gray Owls in Wisconsin are somewhat

sporadic. According to Merkel (1989), only about 30 sightings from late March to September existed as of 1988. The 1990s saw an increase in observations with at least one Great Gray Owl reported to WSO every summer (June–July) from 1990–1997 with exception of 1993 (see various issues of the *Passenger Pigeon*). Sightings again became scarce with only one 1999 report during the period from 1998–2004. All summer observations in the last two decades stem from Forest, Ashland, Bayfield, and Douglas Counties.

Although regular summer sightings in Forest and Douglas Counties suggest resident pairs there, most summer observations of Great Gray Owls in northern Ashland and Bayfield Counties appear to be linked to winter irruptions in the western Great Lakes region. The last influx of summering great grays on the Bayfield Peninsula and Apostle Islands occurred in 1997 when at least four birds were found there, including one near Cornucopia, one west of Sand Bay, another on Devil's Island, the fourth on Outer Island, and several other unconfirmed island reports (Gostomski 1997). The winter of 1996–1997 featured only a moderate irruption in Minnesota (Svingen and Lind 2005) but a record irruption of at least 80 Great Gray Owls in 15 Wisconsin counties (Lange 1997, Tessen 1997). Because of the southern extent of the irruption, numerous birds were funneled onto the Bayfield Peninsula and Apostle Islands during their northward migration. Similarly, at least three Great Gray Owls were reported from the peninsula in summer 1996 (Gostomski 1997, Walters 1997) following an incursion of 35+ Great Gray Owls into 14 Wisconsin

sin counties during winter and spring 1995–1996 (Lange 1996, Watermolen 1996). The winter irruption of 2004–2005 was nearly identical in southern distribution but involved hundreds more owls (Lange 2005, Svingen and Lind 2005). Thus, many more individuals were concentrated on the peninsula and adjacent islands as described here.

In contrast, although nearly 400 hundred Great Gray Owls invaded Minnesota during the winter of 2000–2001, the irruption was focused in northern Minnesota (Svingen and Lind 2005) and only a few birds reached Wisconsin that year (Lange 2001). Consequently, there were few owls south of Lake Superior and none trapped there the following summer, hence the lack of summer reports in 2001. The same pattern held for the summer of 1992 when no Ashland or Bayfield County owls were reported following the previous winter's irruption that was also limited to northern Minnesota and brought only two birds to Douglas County, Wisconsin (Lange 1992). Great Gray Owls also were not observed on the Bayfield Peninsula or Apostle Islands in summer 1989. Although the winter of 1988–1989 hosted 42+ individuals in Wisconsin, most were in northwestern Douglas County (Semo 1989).

Despite this trend, state nesting records of Great Gray Owls appear, at best, only loosely related to irruptions. The first documented and confirmed breeding for Wisconsin occurred near Clam Lake in southern Ashland County in 1988 (Merkel 1989). Minnesota experienced no irruption in the winter of 1987–1988 (Svingen and Lind 2005) and observers reported no Great Gray Owls in Wisconsin that win-

ter (Lange 1988). Great Gray Owls nested at nearly the same location in 1993 following another non-irruption year (Merkel 1993). In 1990, an adult with three young on Stockton Island in northern Ashland County furnished another confirmed breeding record (Van Stappen 1991). Again this followed a winter with no Great Gray Owls detected in Wisconsin (Lange 1991) and no notable irruption in Minnesota (Svingen and Lind 2005). Perhaps the same birds attempted to nest on Stockton Island again in 1991 (Gostomski 1997). Finally, Great Gray Owls appear to breed regularly in Forest County, with nearly-annual summer observations and documented nestings in at least 1999 (Soulen 1999), 2000 (Smith 2000), and 2005 (T. Meyer, pers. comm.).

Meanwhile, only two probable breeding records occurred subsequent to regional winter irruptions, though both irruptions barely reached Wisconsin. Follen (1979) observed a family group with young six to eight weeks old in Douglas County in August 1978. This followed a moderate irruption into Minnesota with several owls in adjacent northwestern Wisconsin (Follen 1979). An adult female Great Gray Owl found dead in Marathon County on 4 May 1984 had a large brood patch and enlarged ova, indicating active laying condition (Follen 1984). Winter of 1983–1984 featured a moderate irruption into Minnesota but only one winter record for Wisconsin (Lange 1984).

Lack of Breeding in 2005

Consistent with the pattern outlined above, observers found no evidence that Great Gray Owls nested on the Bayfield Peninsula or Apostle Islands

in summer 2005. Although one or more pairs may have nested and simply went undetected, the amount of effort and wealth of observations render this unlikely. Females solely incubate eggs and brood young, so males must frequently deliver food to the nest (Bull and Duncan 1993). Such prey transports should have been at least occasionally visible. Moreover, nestlings give loud begging calls and retain some downy plumage up to several months after fledging (Bull and Duncan 1993).

The timing of arrival and typical breeding also do not coincide in the 2005 scenario (Fig. 3). Northward migration in the region was primarily in April and May (Svingen and Lind 2005) and birds were not detected in northern Ashland and Bayfield Counties until late April. Nesting owls generally incubate eggs during the month of April, have nestlings in May, fledge young in June, and linger near the nest site until August or September (Bull and Duncan 1993). Wisconsin's previous breeding records are consistent with this timetable. Winter hardships, possibly linked with an insufficient rebound in prey populations, likely forced Great Gray Owls to give up breeding in 2005 in favor of self survival and the chance to breed another year.

Lack of breeding in Wisconsin also is supported by the presence of summering but non-breeding Great Gray Owls in other states and provinces. Minnesota had a significant number of summer observations but no documented nestings in 2005 (Svingen and Lind 2005). Dr. James Duncan, a renowned Great Gray Owl researcher in Canada, also found no nesting Great Gray Owls in his study areas of

southeastern Manitoba and adjacent northern Minnesota (Svingen and Lind 2005). Even in traditional boreal breeding areas of Manitoba and Saskatchewan, none were known to breed in 2005 (Koes and Taylor 2005). The story was no different in Ontario, where multiple Great Gray Owls south of their normal provincial range also did not breed (Jones 2005).

Distribution and Habitat

Interestingly, the distribution of Great Gray Owls observed during summer 2005 appeared to be driven by geography rather than habitat. Generally a bird of dense, boreal forests, Great Gray Owls in central Canada and northern Minnesota prefer tamarack and black spruce bogs for breeding (Nero 1980, Bull and Duncan 1993), while northern wet-mesic forests dominated by black ash (*Fraxinus nigra*) may be important in some areas of Minnesota and Wisconsin (Merkel 1989). Such habitats are rather scarce in many areas of the Bayfield Peninsula and Apostle Islands, especially compared to northeastern Wisconsin and southern portions of Ashland, Bayfield, and Douglas Counties (Epstein et al. 1997). These other areas hosted few irruption-related owls. Rather, Great Gray Owls concentrated in less preferred breeding habitat on the Bayfield Peninsula and Apostle Islands because their reluctance to make long water crossings funneled them there. Apparently uninterested in breeding and thus not needing to find a nest site, owls were limited primarily by food and roost sites, which they sufficiently found in ample edge habitats and widespread northern mixed forests (Fig. 4).

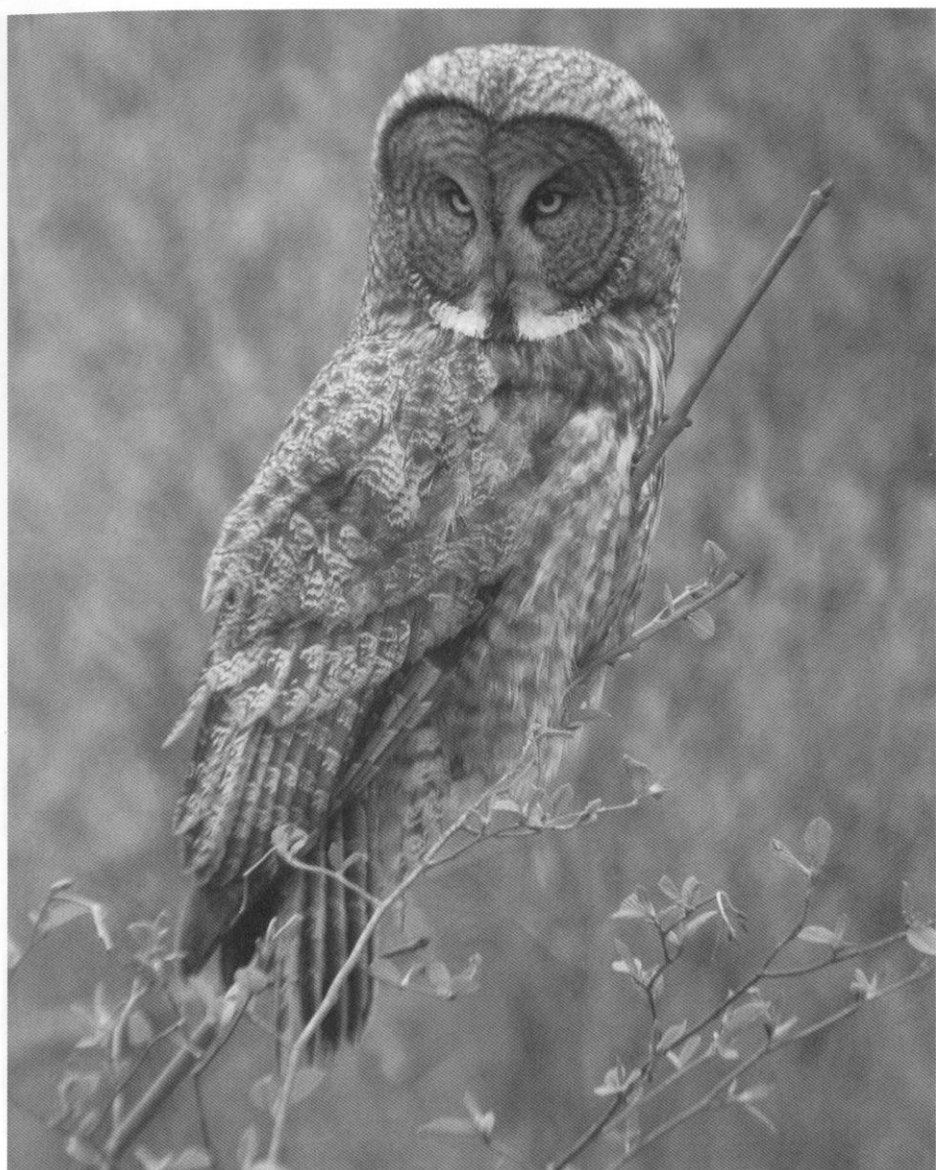


Figure 3. Great Gray Owl with the emerging leaves of spring on 18 May 2005.



Figure 4. Great Gray Owl enjoying the maple forest of Bayfield Peninsula on 7 June 2005.

Situation as of January 2006

From early May to mid-October, finding several Great Gray Owls per outing was not difficult (Fig. 5). However, since that time, using the same

search effort, finding one has become a challenge. In fact, six of seven attempts in late fall and winter of 2005 turned up no owls, unlike any effort from May to September. Three expla-



Figure 5. Great Gray Owl hunting edge of aspen forest on 23 July 2005.

nations seem plausible: 1) a massive die-off occurred; 2) the owls vacated the area; or, 3) they have changed habitats and/or behavior. A massive die-off seems unlikely because the birds appeared to fare very well through the summer and the weather of late fall and early winter was unusually mild with only minor snow cover. Great Gray Owls may be affected by

round worms, coccidiosis, and aspergillosis (Bull and Duncan 1993), however, and several second-hand but unconfirmed reports of dead owls that apparently were not starved or hit by motor vehicles are intriguing.

Another possibility is that Great Gray Owls have moved out of the areas in which they summered. This gains some support from a January 2006

bird found near Moquah (Bayfield County), about 10 miles south of any summer 2005 reports, and a possible bird in late January near Stevens Point (Portage County; M. Hodgson, pers. comm.). However, with Lake Superior to the north, owls from the Bayfield Peninsula and Apostle Islands must move in a southerly direction, which brings them closer to the Ashland area. This area is more populated and has a number of active birders, making it less likely that such a large and typically conspicuous raptor would go unnoticed. Moreover, on a regional level, Great Gray Owls have shown little to no movement in Michigan or Minnesota in winter 2005–2006.

Although some owls indeed may have left the area, I believe the third explanation to be most probable. Banding data from winter show that proportionately few Great Gray Owls starved during the irruption (Svingen and Lind 2005; D. Grosshuesch, pers. comm.), and the owls we banded this summer also appeared to be in good condition. This condition may have further improved in autumn after birds avoided the energetic demands of breeding and populations of small rodents potentially increased. Now in good health and experiencing a relatively mild and snow-free winter, owls may be unstressed and able to hunt almost exclusively at night as preferred (Bull and Duncan 1993). Additionally, and maybe not coincidentally, Great Gray Owls became more difficult to find in mid-October after most deciduous trees lost their leaves. The loss of cover may have forced owls to retreat to more coniferous habitats. Perhaps here they have found ample roosting sites and a woodland food supply made readily available by low snow

depths. These factors are at least partially supported by several Great Gray Owls recently observed on the peninsula at dusk, including one individual actively hunting in deep conifer-dominated woodlands, and an injured bird near Moquah with above average weight and excellent muscle mass (pers. obs.).

CONCLUSION

In his well-known book *Wisconsin Birdlife*, Sam Robbins (1991) describes the influx of seven Great Gray Owls to Wisconsin during the winter of 1968–1969 as a “spectacular invasion.” I can only imagine what he would have thought of 2005. In addition to the hundreds of Great Gray Owls that visited the state during winter, here I have documented numerous observations of at least 31 individuals during the summer months. I believe these observations support the notion that summer sightings of Great Gray Owls in northern Ashland and Bayfield Counties are largely related to the abundance and southern extent of region-wide winter irruptions of this species. Only when a significant number of owls reaches counties south of Douglas do these birds get funneled and trapped on the Bayfield Peninsula and adjacent Apostle Islands during spring and summer. Great Gray Owls may or may not breed in the summer following an irruption but Wisconsin records suggest that most breeding within the state is not directly linked to these periodic incursions. However, given that some Great Gray Owls may remain in northern Ashland and Bayfield Counties through the winter of 2005–2006, surveys for nesting owls in

spring and summer 2006 are highly encouraged.

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Many thanks to the other observers who kindly reported their sightings of Great Gray Owls. Bruce Bacon generously shared reports he gathered during the 2005 seasons and Dave Grosshuesch unselfishly provided data on Great Gray Owls in Minnesota. I am also indebted to my wife Stephanie for constantly supporting my stubborn and often financially-fruitless quest to understand the birds of northern Wisconsin.

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Great Gray Owl in Bayfield County on 18 May 2005.

2005 Western Great Lakes Region Owl Monitoring

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INTRODUCTION

There is increasing concern about the distribution, population status, and habitat loss for both diurnal and nocturnal raptors (Newton 1979, Gutierrez et al. 1984, Wellicome 1997, Takats et al. 2001). Birds of prey occupy the top of the food chain and may be susceptible to environmental toxins and contaminants, making them important to monitor as indicators of environmental health (Johnson 1987, James et al. 1995, Duncan and Kearns 1997, Francis and Bradstreet 1997). Further understanding of the distribution, relative abundance, and density of wildlife populations would be valuable to make sound management decisions (Mosher and Fuller 1996).

Currently, there is a paucity of abundance and population status information available for most owl species in the western Great Lakes region. Due to their nocturnal behavior and time of breeding, owls often go undetected using traditional avian population monitoring methods (e.g. Breeding Bird Survey routes, Breeding Bird Atlases, Christmas Bird Counts, and migration monitoring). Breeding Bird

Surveys and Breeding Bird Atlases are conducted in the morning, when few owls are vocal, and occur after the breeding season for most owl species in North America. Christmas Bird Counts are also done outside of the breeding season and may not detect resident owl species. Migration monitoring is presumably the best alternative method to monitor owl populations, but it may not be suitable for detecting all owl species, as well as determining reliable trends. Therefore, it would be beneficial to conduct a large-scale, long-term owl survey in the Western Great Lakes region to monitor owl populations.

In 2005, the Hawk Ridge Bird Observatory, in collaboration with the Natural Resources Research Institute, Minnesota Department of Natural Resources, and Wisconsin Department of Natural Resources, initiated a volunteer-based roadside owl survey to monitor owl populations in the western Great Lakes region. Standardized methods developed by existing owl surveys done in the United States and Canada were implemented to increase the North American owl monitoring effort in the future (Takats et al. 2001, Hodgman and Gallo 2004, Monfils

and Pearman 2004, Paulios 2005). The objectives of this survey are to: 1. understand the distribution and abundance of owl species in the region; 2. determine trends in the relative abundance of owls in the region; 3. determine if trends are comparable in surrounding areas and analyze whether these trends could be scaled up or down on the landscape; and 4. determine if there are habitat associations of owl species in the region.

This report summarizes the results of the 2005 Western Great Lakes Region spring owl survey conducted in northern Minnesota and in Wisconsin, and briefly discusses a few recommendations and future perspectives.

METHODS

Standardized methods used in currently existing owl surveys were implemented in 2005 to conduct a volunteer-based survey in the Laurentian Forest Province of Minnesota and in Wisconsin. The use of standardized methods to monitor owl populations will provide comparable data throughout North America (Morrell et al. 1991, Takats et al. 2001).

Current Protocol

In both Minnesota and Wisconsin, each survey route consisted of 10 survey stations spaced ca. 1.6 km (1 mile) apart. A 2 minute "passive" listening period, documenting all owl species heard, was done at each designated survey station along the route. Playbacks were not used, given the logistical and standardization concerns with broadcast equipment.

At the start and finish of an owl survey route, the temperature, cloud

cover, precipitation level and type, and snow cover and depth were recorded. At each survey station, the time, wind speed, and noise level were recorded. Volunteers were asked to record each owl detected on the data sheet, including direction (azimuth bearing) and estimated distance in the following categories: (1) ≤ 100 m, (2) >100 m to 500 m, (3) >500 m to 1000 m, (4) >1000 to 1500 m, and (5) >1500 m. Additionally, volunteers were asked to record the time interval when each owl detected was heard (e.g. in first minute, in second minute, after 2 minutes). Volunteers were asked to conduct surveys on days with minimal wind (≤ 25 km/hr) and little or no precipitation.

Survey Timing

In Laurentian Forest Province of Minnesota—To test the seasonal variation in calling activity, volunteers were asked to survey their route once during three different survey periods: Period 1 = 12–20 March, Period 2 = 21 March–10 April, and Period 3 = 11–24 April. If a volunteer was unable to conduct a survey in each of the three periods, the volunteer was requested to conduct a survey in Period 2.

In Wisconsin—To test the seasonal variation in calling activity, volunteers were asked to survey their route during two different survey periods: Period 2 = 21 March–10 April, Period 3 = 11–24 April. If a volunteer was unable to conduct a survey in each of the periods, the volunteer was requested to conduct a survey in Period 2.

Surveys started at least one half-hour after sunset and finished when the volunteer completed the route(s). For volunteers conducting a survey in

more than one time period, it was recommended that the start time remain similar for each period, adjusting for the change in sunset and daylight savings time.

Route Selection

In Laurentian Forest Province of Minnesota—Owl surveys were conducted along currently existing randomized routes. The Minnesota DNR Frog/Toad survey routes were used as the base to conduct owl surveys. There are 52 Frog/Toad survey routes randomly located in a variety of habitat types in the Laurentian Forest Province of northern Minnesota. The start point for the owl survey route corresponded with the start point of the Frog/Toad route.

In Wisconsin—Owl surveys were conducted along currently existing randomized routes. Breeding Bird Survey (BBS) routes were used as the base to conduct owl surveys. There are approximately 92 active BBS routes located in a variety of habitat types throughout the state. The start point for the owl survey route corresponded with the start points of the BBS route.

In both states, survey routes were generally located along secondary roads. However, it was difficult to ascertain whether or not an owl survey route would be drivable in late winter/early spring, given that both Frog/Toad and BBS surveys occur during the late spring or summer. If a participant encountered an unplowed route, the survey was either postponed until a later date, altered in its direction, or eliminated.

Data Collection and Database Structure

Data collection—Volunteers were asked to record all owls detected, seen or heard, at each designated station along the route, keeping track of the direction and estimated distance for each owl. Additionally, participants were asked to document the time interval for each owl detected during the 2 minute listening period (e.g. first minute, second minute). The number of owls for each route was determined by eliminating any birds a participant detected from a previous station. Volunteers were requested to record other nocturnal species detected on survey routes, such as American Woodcock, Common Snipe, and Ruffed Grouse,

Database structure—Data collected by volunteers were computerized into a Microsoft Excel database system. The database includes a table for each of the following:

1. weather table;
2. owls/route table;
3. owl/station/weather table; and
4. additional species table.

RESULTS

Volunteer Participation

In 2005, 105 volunteers signed up to conduct owl surveys in northern Minnesota and in Wisconsin, with 81 participants (77%) surveying at least one route. In total, 131 survey routes were assigned to volunteers, with 51 in northern Minnesota and 80 in Wisconsin. In northern Minnesota, 37 volunteer teams returned data sheets for 43 routes. Thirty-two volunteer teams surveyed 1 route, 4 volunteer teams surveyed 2 routes, and 1 volunteer team

Table 1. Total number of individual owls recorded during Periods 1, 2, and 3 in Minnesota and Wisconsin compared to the number of routes for which each owl species was detected.

Owl Species	Northern Minnesota		Wisconsin	
	Individuals	Routes	Individuals	Routes
Barred Owl	46	15	30	15
Northern Saw-whet Owl	26	17	29	10
Great Horned Owl	19	11	20	11
Great Gray Owl	14	6	0	0
Long-eared Owl	4	4	4	4
Eastern Screech Owl	2	2	1	1
Boreal Owl	2	2	0	0
Unknown Owl	3	3	2	2

surveyed 3 routes. In Wisconsin, 44 volunteer teams returned data sheets for 55 routes in Wisconsin. Thirty-two volunteer teams surveyed 1 route, 10 volunteer teams surveyed 2 routes, and 1 volunteer team surveyed 3 routes.

In northern Minnesota, 20 routes were surveyed in one time period, 10 routes were surveyed once during each of 2 time periods, and 12 routes were surveyed once during each of the 3 time periods. One volunteer team surveyed 2 routes once in each of the 3 time periods. In Wisconsin, 36 routes were surveyed in one time period, and 19 routes were surveyed once during each of the 2 time periods. Six volunteer teams surveyed 2 routes once in each of the 2 time periods.

Owl Distribution and Abundance

In all, 205 owls of seven species (including 5 owls of an unknown species) were recorded on 67 routes, with 31 routes recording no owls (Table 1). The overall mean number of individual owls detected per route was 0.60 in Period 1, 1.44 in Period 2, and 1.53 in Period 3 (Note: Period 1 was only sur-

veyed in Minnesota). The top three owl species combined from northern Minnesota and in Wisconsin were Barred Owl, Northern Saw-whet Owl, and Great Horned Owl. The overall mean number of Barred Owls detected in Period 2 and 3 went up 39% from 0.46 to 0.76 owls/route. Also, the mean number of Northern Saw-whet Owls detected in Period 2 and 3 went up 32% from 0.36 to 0.53 owls/route. However, the overall mean number of Great Horned Owls detected in Period 2 and 3 went down 65% from 0.37 to 0.13 owls/route.

In Laurentian Forest Province of Minnesota—A total of 119 owls comprising 7 species were recorded during all survey periods (Table 2). The number of individuals detected ranged from 1 to 11 for routes that recorded owls, with 1 to 3 species. The mean number of owls/route went up 68% from Period 1 (0.60) to Period 2 (1.85), but the mean remained stable from Period 2 (1.85) to Period 3 (1.83), only going down by 1%.

Barred Owls and Northern Saw-whet Owls were detected throughout the Laurentian Forest Province of Minnesota. Great Horned Owls were

Table 2. Total and average number of owls detected per route for each survey period in northern Minnesota and Wisconsin.

Region	Survey Period	Routes ^a	Barred Owl		N. Saw-whet Owl		Great Horned Owl		Great Gray Owl		Long-eared Owl	
			Det. ^b	Mean ^c	Det.	Mean	Det.	Mean	Det.	Mean	Det.	Mean
Minnesota	1	20	4	0.20	2	0.10	1	0.05	4	0.20	1	0.05
	2	40	23	0.58	16	0.40	18	0.45	8	0.20	3	0.08
	3	18	19	1.06	9	0.50	2	0.11	2	0.11	—	—
	Subtotal	78	46	0.58	27	0.34	21	0.27	14	0.18	4	0.05
Wisconsin	2	54	20	0.37	18	0.33	17	0.31	—	—	3	0.06
	3	20	10	0.50	11	0.55	3	0.15	—	—	1	0.05
	Subtotal	74	30	0.41	29	0.39	20	0.27	—	—	4	0.05
Overall	1	20	4	0.2	2	0.10	1	0.05	4	0.2	1	0.05
	2	94	43	0.46	34	0.36	35	0.37	8	0.09	6	0.06
	3	38	29	0.76	20	0.53	5	0.13	2	0.05	1	0.03
	Total	152	76	0.50	56	0.37	41	0.27	14	0.09	8	0.05

^a Number of routes surveyed.

^b Number of owls detected.

^c Average number of owls detected per route surveyed.

Region	Survey Period	Routes	E. Screech Owl		Boreal Owl		Unknown Owl		Total	
			Det.	Mean	Det.	Mean	Det.	Mean	Det.	Mean
Minnesota	1	20	—	—	—	—	—	—	12	0.60
	2	40	2	0.05	2	0.05	2	0.05	74	1.85
	3	18	—	—	—	—	1	0.06	33	1.83
	Subtotal	79	2	0.03	2	0.03	3	0.04	119	1.51
Wisconsin	2	54	1	0.02	—	—	2	0.04	61	1.13
	3	20	—	—	—	—	—	—	25	1.25
	Subtotal	74	1	0.01	—	—	2	0.03	86	1.16
Overall	1	20	—	—	—	—	—	—	12	0.60
	2	94	3	0.03	2	0.02	4	0.04	135	1.44
	3	38	—	—	—	—	1	0.03	58	1.53
	Total	152	3	0.02	2	0.01	5	0.03	205	1.35

detected throughout much of the Laurentian Forest Province; however, they were not represented in Lake or Cook Counties. Of interest was the relatively large number of Great Gray Owls recorded (n=14) on routes in Cass, Beltrami, St. Louis, and Aitkin Counties. Eight of the 14 Great Gray Owls

detected were observed at or near a station. Four Great Gray Owls were observed in Period 1, 3 were observed and 5 heard in Period 2, and 1 was observed and 1 heard in Period 3. Additional owls of interest recorded this spring were 4 Long-eared Owls, 2 Eastern Screech Owls, and 2 Boreal Owls.

The Long-eared Owls were scattered throughout northern Minnesota. One Eastern Screech Owl was detected in the southcentral portion (Todd County) and one in the southeastern portion (Carlton County) of the Laurentian Forest Province. One Boreal Owl was detected in the central portion (Aitkin County) and one in the northeastern portion (Cook County) of the Laurentian Forest Province.

In Wisconsin—A total of 86 owls comprising 5 species were recorded during both survey periods (Table 2). The number of individuals detected ranged from 1 to 10 for routes that recorded owls, with 1 to 3 species. The mean number of owls/route increased by 10% from Period 2 (1.13) to Period 3 (1.25).

While Barred Owls were observed throughout the state, the majority of owls (70%) were detected in northern Wisconsin. All of the Northern Saw-whet Owls ($n=29$) were detected in northern Wisconsin. Great Horned Owls were evenly represented throughout the state. Additional owls of interest include 4 Long-eared Owls, with 2 detected in northern and southern Wisconsin, and one Eastern Screech Owl detected in southwestern Wisconsin (Crawford County).

Owl Distance and Direction

A summary of owls detected for northern Minnesota and in Wisconsin at estimated distance categories is included in Table 3. The majority of owls detected in Minnesota and Wisconsin was less than 1000 meters from a station. The most frequently estimated distance for owls was >100–500 meters (Category 2) in both states.

The direction for each owl detected in northern Minnesota and in Wisconsin is summarized in Figures 1 and 2. We asked participants to record the azimuth compass bearing for each owl detected; however, we did not include a compass in the instruction packet. Therefore, a number of participants recorded the compass heading (e.g. S, SW, WSW, etc.). The direction data summarized in Table 3 follow this system.

Additional Species

Volunteers were asked to record any additional species detected while conducting an owl survey (see Table 4). In northern Minnesota, 12 additional species were documented. The top four species detected were American Woodcock, Wilson's Snipe, Canada Goose, and Ruffed Grouse. In Wisconsin, 11 additional species were documented. The top four species detected were American Woodcock, Canada

Table 3. Summary of owls detected for each distance category in Minnesota and Wisconsin.

Distance Category	No. of Owls by Region	
	Minnesota	Wisconsin
1. ≤ 100 meters	10 (10%)	6 (8%)
2. > 100–500 meters	48 (48%)	43 (55%)
3. > 500–1000 meters	21 (21%)	23 (29%)
4. > 1000–1500 meters	14 (14%)	2 (3%)
5. > 1500 meters	6 (6%)	4 (5%)

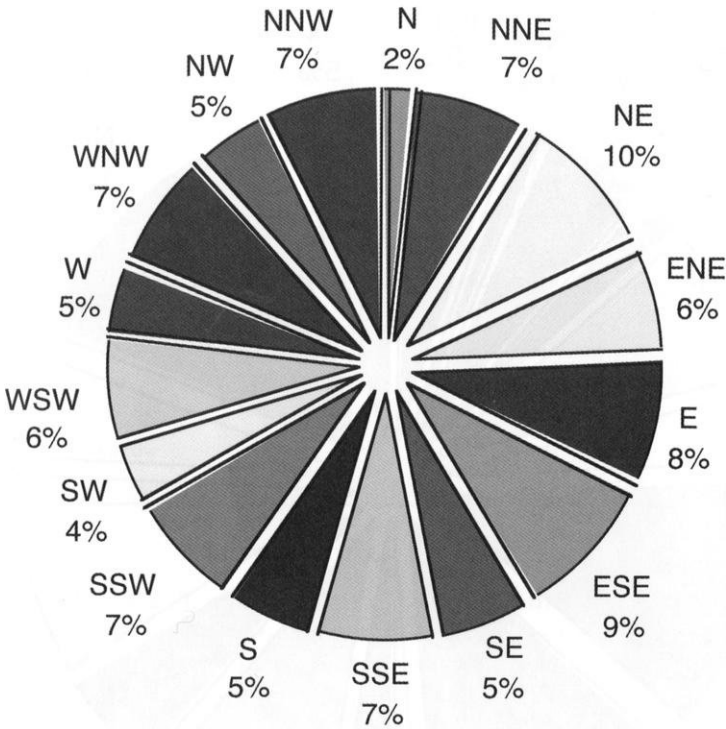


Figure 1. Summary of owls detected for each direction estimate in Minnesota. Numbers are the percentage of owls detected for each compass heading.

Goose, Ruffed Grouse, and Wilson’s Snipe.

DISCUSSION

Volunteer Participation

The large number of volunteer participants was a highlight for the first year of the owl survey. Of the 105 volunteers that signed up, 81 (77%) returned data sheets for 98 survey routes. It appears that volunteer interest in owl monitoring remains high, as people continue to inquire about conducting a survey next spring. In 2006, we will attempt to maintain or increase

volunteer participation by contacting past participants earlier, recruiting new volunteers, and providing pre-survey training.

Although most participants did not report any problems completing a survey, there were 4 cases when a survey route was closed due to an unplowed road. In 3 of the 4 cases, a volunteer was able to return at a later date to complete the survey. Additionally, there were 6 instances when a route was altered due to road conditions or high traffic noise. In 2006, we will attempt to alter routes hampered by

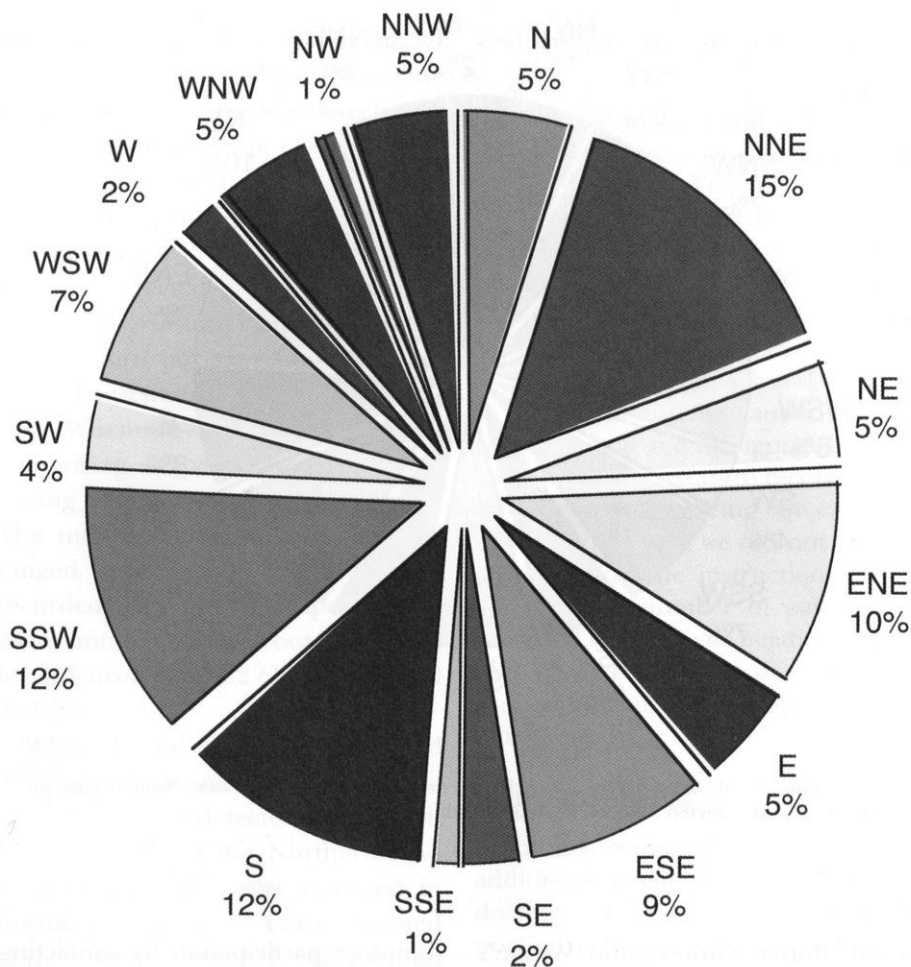


Figure 2. Summary of owls detected for each direction estimate in Wisconsin. Numbers are the percentage of owls detected for each compass heading.

poor road conditions or high traffic noise.

Owl Surveys

An encouraging outcome of the survey was the relatively large number of owls ($n=205$) and species ($n=7$) recorded on routes. An expected result was the respectable number of Barred Owls, Northern Saw-whet

Owls, and Great Horned Owls detected in both states. The preliminary results suggest enough data can be collected for these species to monitor abundance trends. However, because this was the first year of the survey no trend analysis could be done. A power analysis will be done to determine the number of routes needed to detect a 20, 30, and 50% decline in the num-

Table 4. Additional species recorded during owl surveys in Minnesota and Wisconsin.

Species	Minnesota	Wisconsin	Total
Common Loon	0	2	2
American Bittern	2	0	2
Great Blue Heron	0	1	1
Tundra Swan	0	1+	1+
Canada Goose	17+	14+	31+
Mallard	1	0	1
Ruffed Grouse	16	11	27
Sandhill Crane	7	1	8
Killdeer	2	3	5
American Woodcock	20	67+	87+
Wilson's Snipe	17+	11	28+
Winter Wren	2	0	2
American Robin	3	3+	6+
Hermit Thrush	1	1+	2+
White-throated Sparrow	2	0	2
Total	90+	115+	205+

ber of owls at the 2, 5, and 10 year interval. These results will provide the necessary information to increase the number of routes required in both states.

Also of interest were the detections of Great Gray Owls, Long-eared Owls, Eastern Screech Owls, and Boreal Owls. Although few individuals were recorded, this information will be useful in mapping distribution. Of particular interest was the number of Great Gray Owls ($n=14$) detected in Cass, Beltrami, St. Louis, and Aitkin Counties of Minnesota. The substantial irruption of Great Gray Owls in the winter of 2004/2005 presumably contributed to the large number of owls recorded on routes. In fact, it is possible that several owls may have been migrating north during the first two time periods. I am currently unaware of any Great Gray Owl nests found in Minnesota this year. In the future, it may be beneficial to conduct additional surveys to specifically target species of interest or Special Concern.

One of the goals of the survey was to collect seasonal data on calling activity for various species. Calling activity data will be used to determine if one survey period is adequate to detect all owl species of interest. In 2005, the overall mean number of Barred Owls and Northern Saw-whet Owls detected increased during each of the three time periods. These results may suggest that both species of owls may not be fully represented on their breeding territories until Period 3. Great Horned Owls increased from Period 1 to Period 2 and then declined from Period 2 to Period 3. These results may suggest Great Horned Owls have established their breeding territory by Period 2. However, there are currently not enough data for each species to conduct a reliable analysis.

In 2006, we will again be asking participants to conduct surveys in each of the three time periods. Provided enough data are collected, an analysis will be done to determine if one time period suffices to monitor abundance

trends of the owl species of interest. It may be necessary to conduct additional surveys, using a modified protocol, to specifically target rare species or species of Special Concern (e.g. Great Gray Owl, Long-eared Owl, Boreal Owl). This would be done to increase our understanding of their distribution and abundance. The modified protocol may include using playbacks to solicit responses or targeting specific habitat types.

In 2005, we asked volunteers to collect direction and distance estimates for each owl detected. Overall, there did not appear to be a bias in the direction of owls recorded in either state. The distance estimates showed that most owls were detected within 1000 meters of a station. The preliminary results of the distance estimates suggest the 1.6 km spacing between stations is adequate to avoid duplicate detections.

One concern is the reliability of direction and distance estimates. Although direction estimates can be reasonably determined, the distance estimate is a much more complicated and subjective measurement. These data will be crucial for conducting an analysis on habitat associations for different owl species in the future. By providing training to new volunteers and with additional experience of past participants, it may be possible to reduce the amount of variability in the distance estimate. In 2006, we will ask volunteers to include a confidence value for each distance estimate recorded. This information will help us understand how comfortable participants feel when recording a distance estimate.

Recommendations and Future Perspectives

1. We would like to increase the number of participants conducting surveys. To achieve this we will contact and recruit volunteers well in advance of the looming survey period.
2. If possible, we would like to provide volunteer training prior to surveys, which may help eliminate confusion about the protocol.
3. We are currently talking with staff from Bird Studies Canada about the possibility of integrating an on-line data entry system for volunteers. This will reduce the number of mailings, and it will make data access easier for volunteers.
4. To test nightly variation in calling activity of owls, volunteers may be asked to survey routes during one of three different nightly time intervals (Early = 0.5 hrs. after sunset to 22:00, Mid = 22:00 to 02:00, Late = 02:00 to 0.5 hrs. before sunrise). A matrix of time intervals and survey periods would be designed to determine when each volunteer should conduct a survey.
5. To improve the statistical power of trend analysis and habitat associations, there is a need to increase the number of survey routes available in both states. Therefore, in 2006, we will attempt to identify new routes. Additional survey routes will be randomly selected using the same methods to identify currently existing routes. In the future, we plan to include survey routes throughout Minnesota.
6. As future data continues to be collected, we will increase the amount of data analysis done on owl abun-

dance trends, habitat associations, and distribution.

7. Lastly, it would be extremely valuable to include data about the prey base owls require to survive and produce young. Currently, limited small mammal data are available, but it may prove valuable to include such information when interpreting trend abundance and distribution data. In the future, it may be possible to work collaboratively with other resource organizations collecting such data.

ACKNOWLEDGMENTS

This project was funded by the Minnesota and Wisconsin Departments of Natural Resources. I would like to thank the individuals from the Hawk Ridge Bird Observatory, Natural Resources Research Institute, University of Minnesota-Duluth, Minnesota DNR, Wisconsin DNR, and Superior and Chippewa National Forest Service for participating in the initial meeting to discuss the need and feasibility of this project. Special thanks to Rich Baker and Yvette Monstad, of the Minnesota DNR, for helping with volunteer recruitment and providing data on survey routes. Also, special thanks to Andy Paulios, of the Wisconsin DNR, for helping with volunteer recruitment and sharing his enthusiastic encouragement in this project. I would like to thank Kim Eckert, Jim Lind, and Andy Paulios for providing valuable comments about the survey protocol.

Most importantly, I would like to thank the volunteers that made this project a huge success. Participants deserve special thanks for generously do-

ing their time and money driving many miles to conduct owl surveys. The amount of energy and enthusiasm volunteers expressed about owls in the region was amazing, and it will surely help with the continuation of this project. Thanks for your dedication in providing valuable information about owls in the western Great Lakes region.

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Summer portrait of a Great Gray Owl.

Wisconsin Big Day Counts: 2005

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While perusing the pages of Christopher Leahy's *The Bird-watcher's Companion* one recent, cold winter night (an occasional practice of mine when cabin fever strikes, and I find myself yearning for the warm, warbler-watching days of May), I came across some statistics concerning the demographics of birders. Not surprisingly, the competitive nature of birding was mentioned on the same page that spoke of birding as "a strongly male-dominated activity" . . . "the most adept" of whom "often begin as pre-adolescent boys" (cf. p. 97 in the 1982 edition).

I have no reason to dispute the above assertion; nor do I wish to precipitate a war between the sexes by citing it. Thankfully, both men and women, boys and girls, can enjoy the sport of birding. And judging from any number of WSO field trips, it's clear that both genders do, in fact, delight in birding for quite a variety of reasons. Nevertheless, a glance at the reports of Big Day Counts—including calendar 2005—reveals that when it comes to the numbers game, the guys continue to outnumber the gals. And I'm quite happy to leave it to others to assess why this is so!

THE COUNTS

Randy Hoffman, Al Shea, and Quentin Yoerger worked their magic to tally the highest number of species during the course of one day (21 May) in 2005 (for the record, 202), on what they regarded as a "slow migration day" with "only a few chips at night."

Their route took in the Mud Lake Wildlife Area, Grand River Marsh, Comstock Bog, Buena Vista Grassland, Cranmoor Bogs, Bear Bluff Bogs, Necedah National Wildlife Refuge, Devil's Lake State Park, Baxter's Hollow, Arlington Prairie Ponds and Horicon Marsh.

Highlights of the day were Sharp-tailed Grouse on Ball Road, Hudsonian Godwit on Schumacker Road, Common Terns in plowed fields near Crystal Lake, Long-eared Owl in central Marquette County, Le Conte's Sparrows on Ball Road, Carolina Wren at Devil's Lake, Water Pipit at Buena Vista, Worm-eating, Hooded, and Kentucky Warblers at Baxter's Hollow, Harris's Sparrow at Bear Bluff Bog, and Pine Siskins at a feeder in Mather. Big misses, on the other hand, were American Wigeon, Northern Pintail, Cooper's Hawk, Blue-headed Vireo,

Black-throated Green Warbler, Northern Waterthrush, and White-crowned Sparrow.

Mike Ramsden, Wayne Rohde, and Quentin Yoerger teamed up for a 156 species day, covering Green, Dane, Sauk, Columbia, Dodge, and Fond du Lac Counties on 18 May. The prize find of their day was a Piping Plover, discovered in the middle of Hwy. 49, just before dusk, at Horicon Marsh. They also enjoyed good looks at a pair of Bell's Vireos at Cadiz Springs State Park in Green County and found Bald Eagle, Northern Bobwhite, Hooded Warbler, and Louisiana Waterthrush.

Jim Frank took in Ozaukee and Milwaukee Counties on 14 May, enroute to a 144 species day. Horned Grebe, Harlequin Duck, Surf Scoter, Merlin, Thayer's, Iceland, Lesser Black-backed and Glaucous Gulls, and Orange-crowned Warbler topped the day's finds.

Scott Diehl joined **Jim Frank** for a Big Day that incorporated Ozaukee and Dodge Counties on 22 May. Among the day's 134 species were Bald Eagle, Common Moorhen, Thayer's Gull, Philadelphia Vireo, and Orchard Oriole.

Daryl Tessen embarked on three Big Day Counts—each characterized as an “unplanned Big Day.” The first, on 6 May, netted 112 species—all at Horicon during the Horicon Marsh Festival. Finds included Bald Eagle, Black-bellied Plover, American Golden-plover, American Avocet, Reeve, and Orange-crowned Warbler. The second, on 10 May, upped the species total to 117, as Daryl expanded his search area to include Grassy Lake, the Mud Lake Wildlife Area, the A&W ponds, and Baxter's Hollow. Specialties observed were Snowy Egret, Bald Eagle,

Eurasian Collared-Dove, Philadelphia Vireo, American Pipit (30), Prothonotary, Hooded and Canada Warblers, Lapland Longspur (50), and Orchard Oriole. Daryl's final count was his best, at 121 species on 14 May, at which time he located Black-throated Blue Warbler, and Henslow's and Harris's Sparrows.

Marty Evanson found 120 species in Dane and Columbia Counties on 14 May. Highlights included Willet (3), Long-billed Dowitcher, Cerulean Warbler, and Orchard Oriole.

LATE REPORTED 2004 BIG DAYS

Two additional 2004 counts were received after the publication deadline for 2004 Big Days. **Jim Baughman** and **Jeff Baughman** covered Vilas County on 28 May 2004, at which time they found 142 species. Species of special note were Rough-legged Hawk, Merlin, Yellow Rail, Northern Saw-whet Owl, Whip-poor-will, Olive-sided and Yellow-bellied Flycatchers, Philadelphia Vireo, Boreal Chickadee, American Pipit, and Connecticut Warbler. **Jerry & Karen Smith** took in Oconto County, and also traveled to Horicon Marsh and Sheboygan on 4 July. They located 136 species, including Red-necked Grebe, Snowy Egret, Tricolored Heron, Red-shouldered Hawk, Great Black-backed Gull, Henslow's Sparrow, and Orchard Oriole.

What are we to conclude from the eight counts (that's right: only eight Big Day Counts were reported for 2005!)? Are the competitive juices of Wisconsin's birders beginning to wane? Beats me. That's what the numbers might suggest. But regardless of the numbers game, it's certainly good

to report that birding is alive and well in Wisconsin, and that countless birders thrill to the simple delights that birds and birding bring.

THE RULES

Then again, if competitive birding is your thing, whether in the prime month of May, or at any other time of the year, please keep in mind these simple guidelines:

- The count must be taken within a 24-hour calendar day (midnight to midnight).
- The count must be taken within the state boundaries, but it may cover as many parts of Wisconsin as birders can reach in the time limit.
- All participants must be within direct conversational contact at all times during the birding and traveling periods. This excludes meal and rest stops if birding is not conducted during those times. This limits the number of parties involved to one, and participants to that number safely and comfortably contained in one vehicle.
- Areas can be revisited during the day.
- The same areas may be covered on different Big Day counts.
- No fees are involved in conducting the counts.
- Be sure to drive safely. Sleep deprivation is characteristic of those engaging in Big Days, and drivers and passengers alike are urged to use great caution while driving.
- Counting individual birds is optional.
- Please note that there is no special Big Day form. Standard checklists, such as WSO's *Wisconsin Birds—Field Checklist*, may be used.
- It is critical that all unusual species—whether they are early or late sightings, or rare species—be completely documented. Reports of rarities are subject to review by the WSO Records Committee.
- Completed Big Day results should be sent to Wayne Rohde no later than 15 January (e.g., results of 2006 counts, which may be held during **any month** of the year, are due by 15 January 2007) for inclusion in *The Passenger Pigeon*.



Great Gray Owl sitting in a birch tree.

50 Years Ago in *The Passenger Pigeon*

Because of the influx of Snowy Owls into the state during winter 2005–6, the following *By The Wayside* caught my eye. “During the week of Mar. 6, 1955, a snowy owl was found roosting in a silo on a farm east of Beloit. Dr. Carl Welty of Beloit College was called to identify the bird, and to band it. The farmer originally wanted to kill the bird and have it mounted for the local F.F.A. Dr. Welty talked him out of this by explaining the bird was valuable and by trading a mounted great horned owl from the college collection for the snowy owl. The owl spent the rest of the week at the college living on a diet of raw liver. This period at the college gave most of the members of the Ned Hollister Bird Club an opportunity to observe the bird at close range. The owl was released on Sunday, March 13, at which time we were able to obtain some fine close up photographs.—Harold G. Liebherr, Beloit.”

This issue also contained a note documenting the first Louisiana (Tricolored) Heron for Wisconsin. Mr. and Mrs. Walter Pierce observed the bird along Burnett’s Ditch in Horicon Marsh on September 19, 1955. Long-time Racine birder, Ed Prins, returned with Mrs. Pierce on September 20, and he obtained some colored movies. Mrs. Pierce writes, “Before returning to Racine, we looked up Mr. Poulter, Horicon’s renowned bird photographer, who projected a slide of the Louisiana Heron which he had taken in Florida. This looked more like our bird than any pictures in the books.” The bird was never re-located.

Bill Foster presents the results of 224 birders who participated on the 37 Christmas Bird Counts in Wisconsin in 1955. Interestingly, there were no counts north from a line running from the counties of Kewaunee through Shawano, Langlade, northern Lincoln, northern Price, Sawyer, Washburn, and Burnett. For the winter 2004–5 CBC period, there were 22 counts for this northern region of the state.

(Excerpts from Vol. 18(1), 1956)

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Great Gray Owl in the hot sun of summer.

The Summer Season: 2005

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The number of contributors who provide information on weather unfortunately continues to dwindle. There was some agreement among them in general, if not always in details, about some of the weather during the summer of 2005. Ashman said it was hot and dry in Dane County during June and July, with 9 days of 90 or above, with many more days in the mid- to high 80s. There was very little rain through mid-July, but most of “the drought-like conditions in the Madison area” ended when 3 inches of rain fell in the last 2 weeks of July. He found many fewer waterfowl than he does typically; several “usual” ponds had very low water.

Further north, in Portage County, Berner found conditions to be less severe. June was mild, with 5 inches of rain through mid-June and 0.1 inch thereafter. Temperatures 9–17 July were in the 90s, otherwise were unusually mild. There was no rain through 22 July, with 2.7 inches thereafter.

In Jefferson County, not that far east of Madison, the temperatures Hale experienced sound much like what Ashman described. June was hot, with 24 days of 80 or above and 5 days in the 90s. Precipitation for the month totaled over 3 inches, but most of that

came on 5 June. July continued very hot and sunny, with 22 days above 80 and 4 above 90. Although there was 4.4 inches of rain, sun and hot temperatures helped moisture disappear, and it seemed dry.

In Columbia County, the Schwalbes characterized June as hot, with 24 days of 80 or above and 3 days above 90. June precipitation was well scattered, with no appreciable rain 15–23 June and 2.4 in. total. July began drier, with only 0.6 inch through 19 July, followed by nearly 4.5 inches 20–26 July, bringing the month’s total to 5 inches.

Tessen had this to say about the last 10 days of June, when he was birding in various localities: “Then came the hot, humid, and extremely dry weather. It was too hot to bird most of the time.” (This from someone who is such an indefatigable birder!) He also commented on excellent habitat that existed then in various parts of Horicon Marsh, where one could find thousands of shorebirds, at least into the second half of July, until “desperately needed rain hit the area. Good-bye habitat. As the season ends we are still in a severe drought, despite the 1–5 inches that we got late in the month.”

Other drought-ending rain came



courtesy of afternoon thunderstorms in Racine County on 23 July. Fitzgerald observed that those storms transformed a pond there that had been dry for over a month into excellent shorebird habitat.

Observers recorded 260 species during the season, somewhat higher than totals of the past few summers. The account that follows gives details on 166 of them. An additional 77 species that are not mentioned were common and widespread enough to be reported

from more than 25 counties. The remaining 17 species, generally noted in 10–25 counties, are listed here, along with the number of counties in which each was recorded: Common Loon (23), American Bittern (13), Green Heron (24), Mute Swan (13), Green-winged Teal (14), Lesser Scaup (12), Virginia Rail (17), Sora (15), American Coot (13), Wilson's Snipe (17), American Woodcock (15), Great Horned Owl (18), Barred Owl (21), Whip-poor-will (21), Horned Lark

(24), Golden-winged Warbler (13), and Brewer's Blackbird (20).

With respect to a few species, special comment on numbers of individuals is warranted. One that might interest those who witnessed (or even just were aware of) the July gathering of Little Blue Herons in the Bong State Recreation Area is a rather remarkable "explosion" of these that occurred about 50 years ago. In the early 1950s, for reasons that may not be completely understood, extensive post-breeding wandering brought large numbers to our part of the country. Some Wisconsin birders, especially in what must have been an especially suitable roosting area in Dodge County, could see these herons as dusk approached in numbers estimated to be as high as 200–300 or more. This phenomenon was not long-lived, but at least for a few years after some "peak," it was not at all unusual to find at least small numbers of this species in a variety of locations where they had been seen little if at all before (or in which they may not have been seen since).

For a few weeks this summer, during a major drawdown before drought-ending rains, people with special interest in shorebirds had a great opportunity to see large numbers of some species in several areas in Horicon Marsh. Even when fall migration was barely beginning, one could see hundreds of each of several individual species, especially both yellowlegs and several peeps. The main difficulty was the fact that in some locations, the birds were far enough away so that one needed a lot of patience, a good scope, and a lack of heat waves in order to have a satisfying experience. In the context of Horicon Marsh, Thiessen adds a dimension of birding

there he really appreciated, saying that "it was neat to see 230 Great Egrets from one spot on Hy 49." Common Moorhens were also common there, and they saw 15 Virginia Rails.

Although it can't compete in terms of shorebird numbers, Idzikowski stated as of 12 July that the Milwaukee Coast Guard Impoundment was "having its best wader show in 12 years with excellent mudflats brought to us by our deficit of rain." He made other observations about the pattern of early migration, noting this on 19 July: "We've had some solid dates for the onset of post-breeding events this year in SE Wisconsin including an arrival date of 27 June for a wave of mixed shorebirds. Last night following yesterday's cold front passage the first "fall" nocturnal passerine flight occurred over the entire state with the heaviest movement at Duluth-Superior and along the Mississippi River." Evidence of this passerine movement came in the form of reports by at least 4 observers of their first migrating warblers (of over a half dozen individuals of 5 non-resident species) within the next couple days. This close correlation is striking, as is the earliness of this movement in the season.

Ryan Brady provides a vivid demonstration of how even in the summer, repeated visits to good habitat can yield quite an amazing variety of waterfowl. His tally of this summer's species in the Ashland/Bayfield area included Canada Goose, all 3 species of swans, all 9 puddle ducks, 7 divers, and all 3 mergansers (missing only the sea ducks and Ruddy Duck). Numbers of the different species ranged from one or two up to a dozen or more. Some were present for the entire period or a

major part of it, others only for one or two days.

This summer produced a second Portage County breeding record of the Blue-headed Vireo, when Berner observed one feeding a fledgling in the Dewey Conifer Bog. What underscores the rather unusual character of parts of this county is the fact that breeding of this "northern" species (and the presence of at least half a dozen other such breeders in this same bog—see details in the species account) occurred not all that far from the place where Acadian Flycatchers fledged young from 2 nests this year, one early and one late. Among other "southern" species, Berner observed a male Cerulean Warbler tending a fledgling for a second county nesting record, and for the third year in succession, a Hooded Warbler nested.

Berner also commented on some possibly habitat-related events. There were at least 4 Purple Martin colonies in the Stevens Point area in 2000, but now there are none. And whereas not long ago he might have been able to show someone 1–2 Sharp-shinned Hawk nests fairly easily, for several years he has not been able to find any. The number of Wood Duck broods has gone down dramatically in the Plover River corridor that divides the urban portions of the area. Finally, although he doesn't claim it's related to habitat, he observed that there were two species that were notably absent this year: Ruffed Grouse and Great Crested Flycatcher. In contrast, there were two species that were "everywhere this summer": Veery and Nashville Warbler.

On another topic, those who are curious about how many Great Gray

Owls may have lingered this summer in Wisconsin should read about Ryan Brady's owl survey in the Reports section of this summary and his article on pages 19–34.

Observers located a large number of rarities during the season. Among these, three species are worthy of special note. A Boreal Owl heard by Robbye Johnson in Douglas County provides Wisconsin's first summer record. A Mississippi Kite that spent a major part of a day in Janesville, found first by Richard Smallwood-Roberts and seen subsequently by Sean Fitzgerald, provides only the sixth summer record of this species in Wisconsin (although strange as it may seem, there also were single records in the summers of both 2003 and 2004). Finally in this category, the up to 4 Kirtland's Warblers that Janine Polk located in Jackson County represent a species that has been found only rarely in Wisconsin and likely would be apt to be discovered in the future largely only by accident (or by information passed on by someone else who found one) or via the kind of extensive and well-planned search that Polk carried out.

Although considerably less rare, a number of additional species, some out of season, helped to make this an interesting summer season: Red-necked and Western Grebes, Snowy Egret, Little Blue Heron, Tricolored Heron, Yellow-crowned Night-Heron, Northern Goshawk, Yellow and King Rails, American Avocet, Willet, Hudsonian and Marbled Godwits, Buff-breasted Sandpiper, Red-necked Phalarope, Laughing, Thayer's, and Lesser Black-backed Gulls, Eurasian Collared-Dove, Loggerhead Shrike, White-eyed and Bell's Vireos, Carolina Wren, Northern Mockingbird, Yellow-

throated, Prairie, and Worm-eating Warblers, Yellow-breasted Chat, and Le Conte's, Nelson's Sharp-tailed, and White-crowned Sparrows.

Events of this season prompt me to call attention to what I am calling a "might have been" category with respect to records of rarities. We normally expect that reports that are published, if they deal with rare species, will have been reviewed by the Records Committee and accepted prior to publication. What prompts me to express these thoughts in the context of this particular season is the fact that we had information about records of both Golden Eagles and a Chuck-will's-widow, but we could publish nothing about any of the birds reported. Wisconsin BirdNet e-mail messages about a Golden Eagle being seen in the Horicon Marsh area elicited e-mails from several people who reported seeing Golden Eagles in other areas, but despite Bob Domagalski's plea for people to provide careful documentation (since there was but a single accepted summer Wisconsin record, documented in an exemplary account by John Bielefeldt and Terri Beth Peters, who saw that bird in June 2001), none of these other observers submitted anything. There was a very brief report from someone who had seen eagles at Horicon, but the details it provided pale by comparison with the 2001 account.

It's quite possible that the only individuals claiming hearing a bird in Vernon County did in fact hear one, but one individual submitted no details (just referring to it in a few e-mails), and the conditions under which the other person heard the bird (which was quite distant) did not permit a de-

scription that could adequately distinguish it from a Whip-poor-will.

Information in the following summary came primarily via formal reports submitted by 55 observers. Further information was taken from e-mail messages sent via the Wisconsin BirdNet by an additional 59 individuals. The names of all those submitting information via formal forms and/or providing information that we used via e-mails they had sent are listed in the Contributors and Cited Observers section. The information provided via this enlarged pool of observers led to our being able to include at least some reports from all the state's counties except Buffalo, Calumet, Pepin, Pierce, Price, and Waushara.

REPORTS

(1 JUNE—31 JULY 2005)

Trumpeter Swan—Reported from Ashland/Bayfield (Brady), Burnett (Semo), Dodge (Schwartz, Stutz, Tessen, Thiessen), Vilas (J. Baughman), and Wood (Fitzgerald, Prestby) Counties.

Tundra Swan—Brady photographed one 5–7 June in Ashland/Bayfield County.

Gadwall—Noted in June in Ashland/Bayfield, Dodge, Fond du Lac, Oconto, Oneida, Walworth, and Winnebago Counties.

American Wigeon—Observed only in Ashland/Bayfield (Brady, Fitzgerald) and Door (the Lukes) Counties.

American Black Duck—Noted in more counties (9) than in the past few summers: Ashland, Bayfield, Door, Douglas, Florence, Fond du Lac, Marinette, Sheboygan, and Winnebago.

Northern Shoveler—Reported from Ashland/Bayfield, Burnett, Chippewa, Dodge, Dunn, Fond du Lac, Manitowoc, Milwaukee, and Winnebago Counties.

Northern Pintail—Cutright, Fitzgerald, and Prestby saw a female with 4 young in Fond

du Lac Co. on 6 June, and Brady found one in Bayfield Co. on 21 July.

Canvasback—Noted in these counties between early June and mid-July: Ashland/Bayfield (Brady), Dane (Ashman), Ozaukee (Frank), and Walworth (Fitzgerald).

Redhead—Observed in Ashland/Bayfield, Burnett, Dodge, Fond du Lac, and Winnebago Counties.

Ring-necked Duck—Present in these counties: Ashland/Bayfield, Burnett, Douglas, Juneau, Vilas, and Wood.

Greater Scaup—Noted in more counties than usual: Ashland/Bayfield, Douglas, Oconto, Sheboygan, and Winnebago.

Bufflehead—Two reports, from Ashland/Bayfield Co. 1–16 June (Brady) and Manitowoc Co. 26–27 June (Sontag).

Common Goldeneye—Observed in these counties: Ashland/Bayfield (Brady, Fitzgerald), Door (the Lukes), and Manitowoc (Sontag).

Common Merganser—Reported from Ashland/Bayfield, Door, Florence, Oconto, Vilas, and Winnebago Counties.

Red-breasted Merganser—There were June reports from Ashland/Bayfield, Door, Green Lake, and Ozaukee Counties.

Ruddy Duck—Yoerger saw 8 young in Rock Co. Noted also in Burnett, Dane, Dodge, Fond du Lac, Green Lake, and Winnebago Counties.

Gray Partridge—None were reported this season.

Ruffed Grouse—Among the 13 counties yielding reports, the most southern were Iowa (Kavanagh) and Portage (Berner).

Spruce Grouse—None were observed this season.

Sharp-tailed Grouse—Present 2 July in Burnett Co. (Fitzgerald) and 22 July in Douglas Co. (Semo).

Greater Prairie-Chicken—Noted 5 and 6 June in Portage Co. (Fitzgerald, Prestby).

Northern Bobwhite—Reported from 14 counties, a few more than in the past few years:

Dane, Columbia, Dunn, Eau Claire, Green, Iowa, Kewaunee, Ozaukee, Richland, Rock, Sauk, Shawano, Waupaca, and Winnebago. Having occasional observations come from somewhat more northern localities reminds us that reasonable winters may enable this species to display temporary northern expansion of its range. Of course, considering the increased extent to which these birds are reared in private game farms, including in some northern localities, we also need to remember that some birds we hear (or see) may be local releases or escapees.

Horned Grebe—Brady found 2 birds on 5 June in Ashland/Bayfield Co.

Red-necked Grebe—Ziebell found 34 in Winnebago Co. 18 June. Nested in Burnett Co. (Semo). Also noted in Dane (A. Holschbach), Dodge (Fitzgerald), and Green Lake (Fitzgerald, Schwartz) Counties.

Western Grebe—Fitzgerald was surprised to find one 2 July at Crex Meadows, Burnett Co.

American White Pelican—June 18 and 19 counts numbered 316 and 450, respectively, in Winnebago (Ziebell) and Dodge (Frank) Counties. Over 150 were present in Oconto Co. 10 July (the Smiths). Observers found birds in an additional dozen counties; as many as 30–60 birds were present in several of them.

Least Bittern—Birds found nesting in the Ashland/Bayfield area (Brady) constitute the first known breeding there in over 30 years. Other summer records came from an additional 10 counties, all but Burnett and Douglas being in the southern third of the state.

Great Egret—Ziebell found 560 in Winnebago Co. 12 June, and several birders encountered sizable numbers in Horicon Marsh at various times. Observations in an additional 21 counties, mostly southern, generally yielded only a few birds each.

Snowy Egret—One lingered until 1 June in Ashland/Bayfield Co. (Brady). There were observations in Dodge Co. on 25 June and 23 July (Wood; 3 on the latter date) and 30 July (Michael) and in Brown Co. 1 July (Ott) and 5 July (Fitzgerald).

Little Blue Heron—Dixon's discovery of about a dozen immatures in the Bong State Recreation Area in Kenosha Co. 27 July provided a number of observers the chance to experience more of this species than they might have

seen in their lifetime, at least in Wisconsin. No less than 6 additional birders saw up to 14 birds there at least through the end of July. The season's other report, of an adult, came from Winnebago Co. 25 June (Tessen).

Tricolored Heron—A bird found by the Baumanns at the Bay Beach Sanctuary, Brown Co. on 25 June was seen subsequently by several others. Accepted by the Records Committee. See "By the Wayside."

Cattle Egret—Reports came from these counties: Winnebago 12–25 June (Bruce, Ziebell), and Brown 5 July and Kenosha 29 July (Fitzgerald).

Black-crowned Night-Heron—Ziebell counted 800 in Winnebago Co. on 12 July. Other reports came from Brown, Dane, Dodge, Door, Fond du Lac, Kenosha, La Crosse, Manitowoc, Milwaukee, Oconto, and Sheboygan Counties.

Yellow-crowned Night-Heron—The only report was of an adult seen well in Iowa Co. on 1 July (Fitzgerald).

Osprey—Noted in 24 widely scattered counties. Observers made more comments than usual about nesting, including more at southern locations.

Mississippi Kite—Prior to this year, there had been 13 summer records of this species in Wisconsin. Amazingly, a bird found in Rock Co. by Smallwood-Roberts 22 July and seen well later that day by Fitzgerald turned out to provide the third year in a row for such records. Accepted by the Records Committee. See "By the Wayside" for some of the excellent documentation provided for these observations.

Sharp-shinned Hawk—Most of the 15 reporting counties were in the northern part of the state.

Northern Goshawk—Noted in these counties: Ashland/Bayfield 9 June (Brady), Burnett 2 July (Fitzgerald), Door (the Lukes), and Florence 14–17 June (Prestby) and 7 July (Kavanagh).

Red-shouldered Hawk—Observers found them in the following 11 counties: Chippewa, Dunn, Eau Claire, Iowa, Outagamie, Polk, Portage, Sauk, St. Croix, Waupaca, and Wood.

Broad-winged Hawk—Of the 23 counties in which these were observed, the most south-

ern were Dane, Milwaukee, Sauk, and Waukesha.

Merlin—Among the 10 reporting counties, Manitowoc (Sontag) is the only one not in the northern half of the state.

Peregrine Falcon—Observed in these 7 counties: Dodge, Door, La Crosse, Manitowoc, Outagamie, Sheboygan, and Winnebago.

Yellow Rail—This sometimes elusive species was noted in Burnett Co. 8 June (Yoerger) and 2 July (Fitzgerald) and Marquette Co. 4 June (Thiessen).

King Rail—Summer reports of this species have become increasingly rare, with the last 15 years having yielded an average of something less than 2 per year. The exciting discovery of a breeding pair in Horicon Marsh, Dodge Co., on 25 June (Cutright, Schwartz, and 7 other members of the Riveredge Bird Club) fills a void in Wisconsin's Breeding Bird Atlas, which previously contained no such evidence of nesting. Accepted by the Records Committee. See "By the Wayside" for details. The Baumanns relocated a bird in this location on 2 July. The only other report came from Thiessen, who was listening for rails late in the evening of 4 June at Mud Lake, Columbia Co. Shortly after hearing a distant Sora, he tried a clapping method, hoping to hear other rails. A few attempts elicited calls, both of them close, from both a Virginia and a King Rail.

Common Moorhen—Noted in Burnett, Dodge, Fond du Lac, Juneau, Kenosha, Outagamie, Waukesha, and Winnebago Counties.

Black-bellied Plover—Reported only in Door County on 1 June (the Lukes).

Semipalmated Plover—Some birds lingered until 10 June in Florence Co. (Kavanagh) and 12 June in Dane Co. (Thiessen). The earliest reported southbound migrants showed up 5 June in Oconto Co. and 6 July in Milwaukee Co. (both Fitzgerald). Two weeks elapsed before the next arrivals appeared.

American Avocet—Michael found 2 in Dodge County on 24 July.

Greater Yellowlegs—It is difficult to be sure whether a bird in Dodge Co. 22 June was preparing to depart late or had arrived early (Frank), although no other observers reported any birds of this species during June. Birds that were obviously migrants appeared on 2 July in

Douglas Co. (Fitzgerald) and 3 July in Fond du Lac Co. (Stutz). Observers reported other arrivals during the next week to 10 days.

Lesser Yellowlegs—The latest obvious stragglers were in Sauk Co. 6 June (A. Holschbach), Milwaukee Co. 8 June (Frank), and Walworth Co. 10 June (Jacyna). The earliest obviously returning birds appeared in Portage Co. 2 July (Berner), Oconto Co. 3 July (the Smiths), Ashland/Bayfield Co. 4 July (Brady), and several additional counties within the next few days. A bird in Dodge Co. 22 June (Frank) doesn't fit easily into either group.

Solitary Sandpiper—Thiessen questioned whether a bird in Dane Co. 5 June might possibly be "northbound." A 15 June Racine Co. bird (Fitzgerald) poses a departing/arriving question. More obviously arriving birds appeared in 5 counties 1–6 July.

Willet—Noted in Ashland/Bayfield Co. 19 June (Brady), Milwaukee Co. 6 July (Fitzgerald), 12 July (Idzikowski), and 20 July (Prestby), Manitowoc Co. 20 July (Sontag), and Kenosha Co. 29 July (Fitzgerald).

Upland Sandpiper—Observed in these counties: Ashland/Bayfield, Burnett, Dane, Door, Douglas, Dunn, Grant, Green, Marinette, Oconto, Portage, and Walworth.

Hudsonian Godwit—Noted in Manitowoc Co. 22 June and 4 July (Sontag) and in Winnebago Co. 6 June (Knispel).

Marbled Godwit—Reported only from Kenosha Co., on 31 July (Fitzgerald).

Ruddy Turnstone—The only observations were in Winnebago Co. 1 June (Bruce) and Sheboygan Co. 5–6 June (Fitzgerald, Prestby).

Sanderling—Noted in Sheboygan Co. 5–6 June (Fitzgerald, Prestby), Marinette Co. 25 July (Kavanagh), and La Crosse Co. 26 July (Leshner).

Semipalmated Sandpiper—As usual, large numbers lingered well into June. Several counties still hosted birds for the few days beginning 8 June, the latest departing Ashland/Bayfield Co. by 13 June (Brady). Four birds appeared in Racine Co. 27 June, followed there by reinforcements 5 days later (Fitzgerald). Other birds returned to Dane Co. by 21 July (Ashman) and Dodge Co. by 23 July (Tessen).

Least Sandpiper—Still present in several locations in early June, latest in Florence Co. 10

June (Kavanagh) and Rock Co. 11 June (Yoerger). The earliest fall migrants appeared in Chippewa Co. 21 June (Polk), Dane Co. 22 June (Ashman), and Racine Co. 23 June (Fitzgerald).

White-rumped Sandpiper—There were early June reports from five counties, with later departure dates recorded for these counties: Ashland/Bayfield 15 June (Brady), Eau Claire 16 June (Polk), Dane (Ashman) and Manitowoc (Sontag) 22 June, and Chippewa 25 June (Polk). Also noted in Oconto Co. 5 July (Fitzgerald).

Baird's Sandpiper—There were early June departures from five counties, latest Dane Co. 14 June (Martin). Birds had appeared in these 3 counties by 4–6 July: Oneida, Oconto, and Fond du Lac (Fitzgerald), with no further reports until 23 July in Dodge Co. (Tessen) and St. Croix Co. (Persico).

Pectoral Sandpiper—Still present in St. Croix (Persico) and Winnebago (Knispel) Counties 4 June and Fond du Lac Co. (Fitzgerald) 5 June. The earliest return date reported was 27 June in Milwaukee Co. (Idzikowski), with the next not coming until 6 July (Dodge Co., Fitzgerald).

Dunlin—Only 3 reports: Manitowoc Co. through 1 June (Sontag), Sheboygan Co. 5 June (Fitzgerald), and Ashland/Bayfield Co. through 6 June (Brady).

Stilt Sandpiper—Noted in Oneida Co. 4 July (Fitzgerald) and by various observers in 5 additional counties 20–31 July. Tessen counted 12 in Dodge Co. on 23 July.

Buff-breasted Sandpiper—Fitzgerald found one on 23 July in Racine Co. The Records Committee decided that the earliness of this sighting warranted this becoming a new fall arrival record. The Baumanns, Fitzgerald, and Tessen saw a small group in Brown Co. on 31 July.

Short-billed Dowitcher—Reported from 12 counties from 4 July (Manitowoc Co., Sontag) to the end of the month. Idzikowski remarked that the bright breeding plumage of many birds in a group of 25 present in Milwaukee Co. 12 July afforded observers a great opportunity to study plumage details and subtleties, including some hints about comparisons between Short-billed and Long-billed Dowitchers. (In this regard, as this seasonal report has mentioned previously, again this year it was not unusual that no one provided any evidence, via

referring to either plumage characteristics or voice, to establish certainty about their identification of either dowitcher species.)

Long-billed Dowitcher—This year's only report came from Dodge Co. on 6 July (Fitzgerald).

Wilson's Phalarope—Noted in these 9 counties: Burnett, Dodge through most of the season (Frank), with 15 on 23 July (Tessen), Jefferson, Kenosha, Milwaukee, Portage through most of the season, with 6 present on 6 July (Bernier), Milwaukee, Walworth, and Winnebago.

Red-necked Phalarope—A bird was in Dodge Co. on 23 July (Tessen).

Laughing Gull—Birds were present in Racine Co. 28 June (Fitzgerald) and Manitowoc Co. 28–29 June (Sontag). See "By the Wayside."

Franklin's Gull—The only report this season came from Ashland/Bayfield Co., where Brady found up to 3 first summer birds 3–13 June.

Bonaparte's Gull—Present in Manitowoc Co. through 20 June, then not again until 20 July and after (Sontag). Noted also in La Crosse (Leshner) and Rock (Fitzgerald) Counties, plus 6 others bordering Lake Michigan or Lake Superior.

Thayer's Gull—Noted in Manitowoc Co. through 30 June (Sontag).

Lesser Black-backed Gull—Observed in Sheboygan Co. 5 June (Fitzgerald) and 6 June (Prestby), Manitowoc Co. 16 June (Sontag), and Racine Co. 28 June (Fitzgerald). See "By the Wayside."

Great Black-backed Gull—Present through the period in Door (the Lukes) and Sheboygan (the Brassers) Counties. Also reported from Ashland/Bayfield Counties 8 June (Brady fide Pam Dryer) and from Racine Co. 28 June (Fitzgerald).

Caspian Tern—Noted in 19 counties, 14 of them bordering Lake Michigan or Lake Superior. Most observers did not comment on numbers, but Evanson reported 70 in Kewaunee Co. on 23 July.

Common Tern—All 8 reporting counties bordered Lake Michigan or Lake Superior.

Brady estimated 135 to be present in Ashland/Bayfield Counties on 9 June.

Forster's Tern—Winnebago Co. was home to 154 of these on 18 June (Ziebell). Of the other 14 reporting counties, half are "inland," with the other half bordering one of the Great Lakes.

Black Tern—Noted in 20 counties representing various parts of the state. Good numbers were observed in some of these counties: 100 in Dodge (Tessen), 40–50 in Douglas (Prestby), and 75–100 adults in Trempealeau, plus several flightless young (Leshner). Paulios found 2 pairs plus young at Grassy Lake, Dane Co. on 16 July.

Eurasian Collared-Dove—Yoerger saw 2 birds at a location in Green Co. from which they have been reported for 2 years. Evanson saw a bird at close range in Patch Grove, Grant Co., noting its "black stripe at its back/neck line, its non-pointed tail feathers, whiter overall appearance and larger size than neighboring Mourning Doves."

Yellow-billed Cuckoo—Partly because several observers banded in multiple counties this season, this species was reported from considerably more counties (30) than has been the case in recent years. As might be expected, the majority of the counties were in the southern part of the state. There were reports from a modest number of "midsection" counties, but the only really northern county represented was Florence (Kavanagh).

Eastern Screech-Owl—There were more reports than in some years, with observations in these counties: Barron (Fitzgerald), Door (Weber), Grant (Romano), Walworth (Jacyna), and Winnebago (Bruce).

Great Gray Owl—Brady found 10 birds in Ashland/Bayfield Co. on 23 July. He spent considerable time trying to determine how many birds might be present in this area, following a winter that yielded so many observations in the state. His trips this summer routinely produced 3–5 individuals per evening. His exhaustive searching led him to report this: "I compiled 61 sightings on the Bayfield Peninsula and adjacent Apostle Islands." He also observed that "nearly all birds were in Bayfield County east of Herberster, west of Red Cliff, and north of Washburn." He said in addition: "Based on spatial and temporal clumping (and some banding), I can guarantee a conservative minimum of 28 different individuals. I would estimate there are at least

40–50 birds in the area. However, I have found no evidence of breeding whatsoever.”

Short-eared Owl—Fitzgerald found 2 birds in Portage Co., and Bruce also found this species in Winnebago Co. on 16 July.

Boreal Owl—Robby Johnson identified one by voice on 22 June in Douglas Co. Consult “By the Wayside” to read about her encounter with this species, for which this constitutes Wisconsin’s first summer record. Accepted by the Records Committee.

Northern Saw-whet Owl—Present in parts of the Chippewa/Dunn/Eau Claire Co. area (Polk).

Common Nighthawk—The snapshot of one summer season doesn’t let us evaluate easily the status of a species like this, about which there has been growing concern. This season’s submitted information doesn’t give us much that’s definitive to go on. Observers typically didn’t comment much, and although a few observers indicated that birds were present through the season, those people tended to live in northern counties. The 16 reporting counties are fewer than has been typical in recent years.

Red-headed Woodpecker—Reported from 30 counties, perhaps encouraging for a species of some concern. A few observers specifically noted instances where European Starlings have disrupted woodpecker nesting attempts.

Red-bellied Woodpecker—Among the 34 reporting counties, the most northern were Florence (Kavanagh), Marinette (Campbell), Oconto (the Smiths), and Washburn (Haseleu).

Yellow-bellied Sapsucker—Noted in 23 counties overall. As usual, most of the reporting counties were in the northern part of the state, although there were notable exceptions: Columbia (the Schwalbes), Grant (Evanson), Iowa (A. Holschbach), La Crosse (Thometz), and Sauk (Tessen).

Black-backed Woodpecker—Fitzgerald found birds in two counties (Douglas and Forest) 3–5 July.

Olive-sided Flycatcher—Still present in Dane Co. 1 June (Stutz) and Racine Co. 2 June (Fitzgerald). A bird in Burnett Co. 2 July might well have been a resident (Fitzgerald). The other reports came from 3 counties within normal range.

Yellow-bellied Flycatcher—Observers found late migrants in several southern counties, latest in Winnebago 10 June, (Bruce). Berner found 7 birds 16 June in Dewey Bog, Portage Co., where they are resident. Also reported from 8 additional counties within normal range.

Acadian Flycatcher—Reported in these 11 counties: Dane, Dunn, Grant, Iowa, Monroe, Portage, Richland, Rock, Sauk, Walworth, and Waukesha.

Alder Flycatcher—Among the 32 reporting counties, a few were southern ones: Dane, Iowa, Kenosha, Milwaukee, Sauk, Vernon, Walworth, and Waukesha.

Willow Flycatcher—Noted in 32 counties, including two northern ones: Oconto in the east (the Smiths) and Bayfield in the west (Klubertanz).

Loggerhead Shrike—The season’s only report consisted of 2 different birds in St. Croix Co. (Persico, 19 June and 30 July).

White-eyed Vireo—Given the greater number of sometimes “dependable” locations people have visited in recent years, it’s not surprising that this species was seen and/or heard by no less than 6 different observers in several locations in Dane, Green, and Rock Counties.

Bell’s Vireo—Seen and/or heard by at least 14 observers in these counties: Dane, Dunn, Green, Iowa, La Crosse, Richland, and Winnebago. Leshar obtained evidence of nesting in La Crosse County.

Yellow-throated Vireo—Among the 14 reporting counties, the most northern were Douglas (Fitzgerald, Semo), Florence, Forest and Marinette (Kavanagh), and Washburn (Haseleu).

Blue-headed Vireo—Among the 14 reporting counties, the only southern one was Waukesha (Gustafson, Szymczak), where this species has occurred with some frequency in recent years.

Philadelphia Vireo—Might a bird in Marinette Co. on 19 July (Campbell) have been an early migrant?

Gray Jay—Noted in Douglas, Forest, Oneida, and Vilas Counties.

Boreal Chickadee—Found in these counties: Ashland (Lind), Forest (Fitzgerald), and Vilas (J. Baughman, Fitzgerald).

Tufted Titmouse—Reported from 16 counties. Thomson found a family group, including one begging for food, in Adams Co. on 3 July. Moretti observed 3 young in her yard near the Kettle Moraine in Waukesha Co.

Red-breasted Nuthatch—The 25 counties in which this species was found included these five southern ones: Columbia, Milwaukee, Sauk, Washington, and Waukesha.

Brown Creeper—A. Holschbach found 5 in Sauk Co. 5 June. Also noted in Dane Co. 5 July (Yoerger) and in 8 additional counties.

Carolina Wren—Reported by at least 4 different people in Dane County (Martin, Stutz, Turk, and Yoerger). These reports probably were not of the same bird(s). One pair had been present for nearly a year, and at least one young was present on 3 June. Other birds were observed in Door (Stover), Eau Claire (Polk), Milwaukee (Bontly and Zehner), Ozaukee (Frank), and Sheboygan (the Heuers) Counties.

Winter Wren—Among the 18 reporting counties were these more southern ones: Grant (Prestby), Ozaukee (Frank), and Sauk (Heikkinen and Unson).

Golden-crowned Kinglet—In addition to 8 counties representing normal range, birds were reported from Dewey Bog, Portage Co. (4 on 16 June, Berner) and from Waukesha Co. (19 June, Szymczak). Fitzgerald found 4 fledged young in Forest Co. on 7 July.

Ruby-crowned Kinglet—Noted in Florence Co. 17 June (Kavanagh) and Forest Co. 17 July (Heikkinen and Unson).

Blue-gray Gnatcatcher—The most northern of the 25 reporting counties was Oconto (the Smiths).

Eastern Bluebird—It's not easy to assess how well this species is doing simply via the reports submitted for this seasonal summary, but birders reported them from 43 counties this year.

Swainson's Thrush—Reports came from Ashland/Bayfield Co. 6 July (Brady), Douglas Co. 3 July and Forest Co. 5 July (Fitzgerald), and Portage Co. 27 July (Berner).

Hermit Thrush—Brady counted 29 in Ashland/Bayfield Co. 6 July, and Berner found 14 in Portage Co. 28 July. Noted in 19 counties overall.

Wood Thrush—Reported from 35 counties, including a fair number of northern ones.

Northern Mockingbird—Observed in Dodge Co. 6 July (Fitzgerald), Florence Co. 10 July (Kavanagh), and Washburn Co. 19 June (Polk).

Blue-winged Warbler—Reported from 22 counties, Oconto being the most northern one (the Smiths).

Tennessee Warbler—Observers in 3 counties found this species 3–5 June. Birds had moved far enough south to reach Dane (Martin) and Portage (Berner and Schaufenbuel) Counties by 21 July, with birds appearing in several additional counties in the next 2 days. Fitzgerald reports an intriguing observation: he saw one well and heard it singing over a span of 10 minutes in Burnett Co. on 2 July.

Nashville Warbler—Stragglers remained in several counties as late as 7 June. Berner counted 20 in Portage Co. (Dewey Bog) on 16 June. Noted in 20 counties in all.

Northern Parula—Birds were still in Juneau Co. 5 June (Fitzgerald) and Wood Co. 6 June (Prestby). A bird in Milwaukee Co. 5 July is puzzling (Bontly). Present throughout the season in Chippewa Co. (Polk). Reported in 9 counties in normal range during the season.

Chestnut-sided Warbler—This warbler species typically is reported from a fairly large number of counties (27 this year). As is usual, the majority this season were observed in northern counties, but birds also were scattered among a good sampling of more southern counties.

Magnolia Warbler—Still in Manitowoc Co. 1 June (Sontag). Present throughout the season in Chippewa Co. (Polk). Reported from 8 counties in normal range during the season.

Cape May Warbler—Reported during the season from Florence, Forest, and Vilas Counties (Fitzgerald, Kavanagh, and Prestby).

Black-throated Blue Warbler—Observed in these counties: Ashland/Bayfield, Door, Florence, Forest, Marinette, and Vilas (J. Baugh-

man, Brady, Fitzgerald, Kavanagh, Klubertanz, the Lukes, and Prestby).

Yellow-rumped Warbler—Lingered until 14 June in Manitowoc Co. (Sontag). Berner counted 9 on 28 June in the Dewey Bog, Portage Co. Among the more southern of the 19 reporting counties were Chippewa, Eau Claire, Jackson, Juneau, and Wood.

Black-throated Green Warbler—Stragglers could be found in several southern counties at least through 8–11 June. Was present through 11 July in Waukesha Co., where it sometimes summers (Gustafson). It's possible that birds observed in mid-June in Manitowoc (Sontag) and Sheboygan (S. Baughman) Counties may have remained there even later in the season. Occurred in 20 counties overall during the season.

Blackburnian Warbler—It is difficult to explain the presence of one of these in Milwaukee Co. on 22 June (Huf). Berner found 3 in the Dewey Bog in Portage Co. on 13 June, and on 6 June A. Holschbach found 4 in Sauk Co., where at least one has sometimes summered. Frank also reported this species in this location. Szymczak found one on 19 June in Waukesha Co., where one of these has summered previously. Also noted in Adams (Thomton) and Chippewa (Polk) Counties and in 10 counties representing normal range.

Yellow-throated Warbler—Several observers reported this species from Grant Co., where it has summered in recent years (Evanson, Prestby, and Wood). Also noted in Sauk Co. on 4 June (Wood) and in Sheboygan Co. on 16 June (S. Baughman).

Pine Warbler—Reported from 23 counties overall, including some central and southern ones where this species has been known to summer.

Kirtland's Warbler—It's been 7 years since this species was reliably reported in Wisconsin. Janine Polk undertook a major project to explore possibly suitable habitat in Jackson Co. in hopes of finding some. During the period 17–23 June she succeeded in locating what she thinks were at least 4 individuals. Consult "By the Wayside" to read excerpts of the account she wrote. She includes extensive documentation in the description of her experience. Accepted by the Records Committee. In addition, her records are included in this year's Michigan DNR comprehensive summary of the status of the Kirtland's Warbler, the only such records to

be included that come from a state other than Michigan.

Prairie Warbler—All this season's records derive from the bird(s) that spent time in Sheboygan County's Kohler-Andrae State Park. Frank's report from 2 June was the earliest received. A number of others followed, from S. Baughman, the Brassers, the Heuers, Heikkinen and Unson, and Wood.

Palm Warbler—Berner found 6 in Portage Co. (Dewey Bog) on 16 June. Other reports came from Bayfield Co. (Fitzgerald) and Taylor Co. (Kearns) and from observers who found this species throughout the season in Chippewa Co. (Polk), Douglas Co. (Johnson, Prestby, and Semo), and Vilas Co. (J. Baughman).

Bay-breasted Warbler—The only reports may be of early migrants: in Portage Co. on 22 July (Schaufenbuel) and Florence Co. on 25 July (Kavanagh).

Blackpoll Warbler—An early migrant appeared in Forest Co. on 17 July (Heikkinen and Unson).

Cerulean Warbler—Reported from 10 counties in all, mostly southern ones where this species typically summers. Prestby found over 10 in Grant Co.

Black-and-white Warbler—Most of the 21 reporting counties are more northern, but a few are distinctly southern, e.g. Lafayette (Evanson).

Prothonotary Warbler—Present in Outagamie Co. 3–12 June (Petznick). The other 8 reporting counties are ones we more likely associate with this species. Fitzgerald reported finding over a dozen in Grant Co. on 8 July.

Worm-eating Warbler—Reported 4 June (Wood) and 6 June (A. Holschbach) from Sauk Co., one of the more likely locations where one sometimes can find this species.

Northern Waterthrush—Noted in Ashland/Bayfield, Chippewa, Door, Florence, Forest, Marinette, Milwaukee (end of July), Oconto, Portage, and Taylor Counties.

Louisiana Waterthrush—All records came from Iowa (Fitzgerald, Kavanagh, and Romano) and Sauk (Fitzgerald and A. Holschbach) Counties.

Kentucky Warbler—Present in Milwaukee Co. 10–11 June (Bontly). All other reports came from Grant Co. (Evanson, Fitzgerald, and Prestby).

Connecticut Warbler—Reported from Burnett, Douglas, Forest, Marinette, and Vilas Counties.

Mourning Warbler—Still 4 present in Ozaukee Co. on 8 June (Frank). Noted in 19 counties overall, the majority of them central and northern.

Hooded Warbler—McDonald reported (via an e-mail) that Tom Bethell saw a pair of adults in the University Arboretum in Madison, Dane Co. in late June, and subsequently saw an adult carrying food. Other reports came from these counties: Portage, Rock, Sauk, Sheboygan, Walworth, and Waukesha.

Wilson's Warbler—Still present on 1 June in Manitowoc (Sontag) and Waukesha (Gustafson) Counties and on 2 June in Sheboygan Co. (Frank).

Canada Warbler—Still present in several southern counties into the first week of June. We may tend to expect most later reports to come from northern counties, but some mid-June records, e.g. in Manitowoc and Sauk Counties this year, may well represent residents. Noted in 14 counties in all during the season.

Yellow-breasted Chat—A good number of reports, from 7 counties in all. A bird in Bayfield Co. on 12 June, discovered by Oksiuta and seen subsequently by Brady, became one of Wisconsin's very few reports from a far northern county. Both these observers provided exemplary documentation. During the season, several excellent locations in Dane, Grant, Green, and Iowa Counties provided a number of observers with great chances to experience this species. There were single records of birds in Kenosha Co. on 18 June (Fitzgerald) and in Walworth Co. on 5 June (Jacyna).

Field Sparrow—Among the 34 counties from which these were reported, the most northern were Ashland/Bayfield, Douglas, Florence, Marinette, Oconto, and Vilas.

Lark Sparrow—Observers reported these in more counties than usual: Burnett, Dane, Douglas, Dunn, Eau Claire, Portage, and Sauk. McDowell noted several dozen on 7 July in the Spring Green Reserve in Sauk County.

Grasshopper Sparrow—Among the 22 reporting counties, the most northern were Bayfield and Burnett (Fitzgerald), Oconto (Tessen), and Taylor (Risch).

Henslow's Sparrow—Reported from 14 mostly southern counties. Berner noted 10 in Portage Co. on 9 July, and A. Holschbach found a like number in Columbia Co. on 13 June.

Le Conte's Sparrow—Brady heard 10 in Bayfield Co. on 21 July. Noted also in these counties: Burnett (Fitzgerald and Yoerger), Douglas (Johnson, Prestby and Semo), Oneida (Gustafson and Kavanagh), Taylor (Risch), and Wood (Fitzgerald).

Nelson's Sharp-tailed Sparrow—Found in Burnett Co. on 18 June (Yoerger) and 2 July (Fitzgerald).

Lincoln's Sparrow—Berner counted 17 in Dewey Bog, Portage Co. on 7 July. Weber heard one singing in Door Co. on 8 July. Other reports came from Burnett Co. on 26 June (Fitzgerald), Chippewa Co. (Polk), and 4 far northern counties.

White-throated Sparrow—In addition to observations in 10 solidly "northern" counties, a bird was in Manitowoc Co. on 20 June (J. Holschbach), and Berner found 20 in the northern flavored Dewey Bog in Portage Co. on 7 July. Other reports came from these additional counties: Burnett, Chippewa, Door, Eau Claire, Jackson, Juneau, and Taylor.

White-crowned Sparrow—Considering the very small number of summer reports of this species in Wisconsin, this summer's tally of 3 is quite remarkable, especially following on the heels of last summer's just as unexpected 3 sightings. This year's birds appeared in Milwaukee Co. the last week of June (Boldt), Oconto Co. from 18 July through the end of July (the Smiths), and Portage Co. 29 July (fide Whitmire).

Dark-eyed Junco—Reports from Ashland/Bayfield (Brady and Fitzgerald), Douglas (Johnson), Florence and Marinette (Kavanagh), Langlade (Heikkinen and Unson), and Vilas (J. Baughman) Counties are not surprising, but what do we make of one seen 5–6 June in Sauk County (Fitzgerald and Prestby)?

Northern Cardinal—No less than 5 of the 40 reporting counties are in the far northern tier.

Dickcissel—Noted in 29 counties overall, more than in the past few years. Numbers in most locations were modest, although a few observers reported as many as 30–100. Birds fledged young by 9 July in Columbia Co. (the Schwalbes). As one might expect, a number of reports came from southern and western counties, but birds reached some central and more northern counties as well: Chippewa, Clark, Douglas, Florence, Portage, Taylor, and Wau-paca.

Eastern Meadowlark—Reported from 41 counties, nearly 3 times the number reporting Westerns.

Western Meadowlark—This species was noted only in 14 counties (about the average number of counties from which this species has been reported in the past few years). A few observers who reported reasonable numbers of Easterns commented on their being able to find no Westerns, or perhaps only one. Evanson provided one at least partially encouraging piece of information: he surveyed Green County on 11 June and found 22 Westerns, compared to 33 Easterns. These results, plus those of a similar survey Evanson conducted in 2004, are the only ones reported in a number of years that contradict the dismal ratios of these 2 species that most of us have experienced recently.

Orchard Oriole—Reported from the amazing total of 22 counties. Birds were present for a major part of the season in a number of these. Nesting was noted in Manitowoc (Domagalski and J. Holschbach) and Walworth (Ford) Counties.

Purple Finch—Noted in 17 mostly northern counties. Unusual was its presence (with young!) in Racine Co. on 26 July (Fitzgerald).

Red Crossbill—Reported in Ashland (Brady and Lind), Bayfield (Brady and Fitzgerald), Douglas (Fitzgerald, Johnson, and Semo), and Vilas (J. Baughman) Counties.

White-winged Crossbill—Noted in Douglas (Fitzgerald, Johnson, and Prestby), Forest (Kavanagh), and Vilas (J. Baughman) Counties.

Pine Siskin—Noted throughout the season in 6 northern counties and for at least part of it in a few more. Also reported from Milwaukee Co. on 2 July (Zehner), Sauk Co. on 6 June (Putnam), and Washington Co. on 23 June (Diehl).

Evening Grosbeak—Observed in these counties: Ashland/Bayfield (Brady, adult feed-

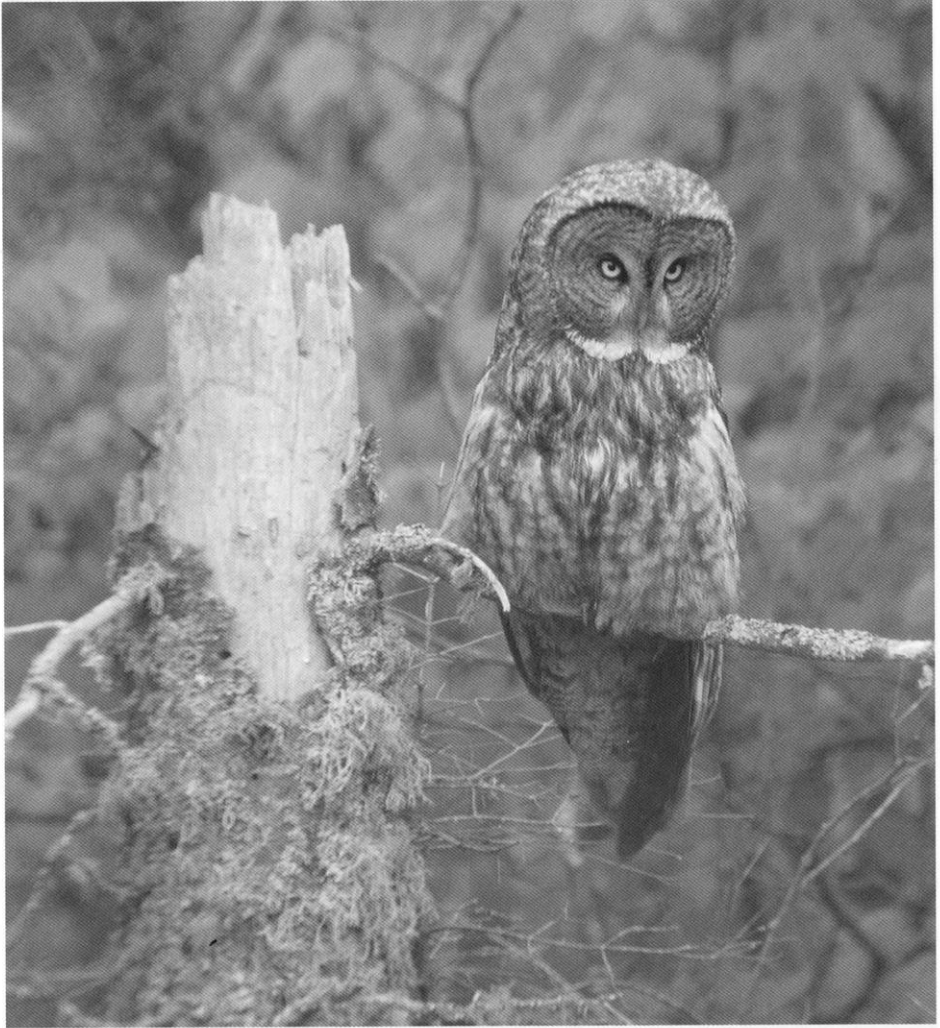
ing young on 21 July), Douglas (Fitzgerald, Johnson, Prestby, and Semo), Florence and Forest (Kavanagh), Oconto (the Smiths), and Vilas (J. Baughman and Fitzgerald).

CONTRIBUTORS AND CITED OBSERVERS

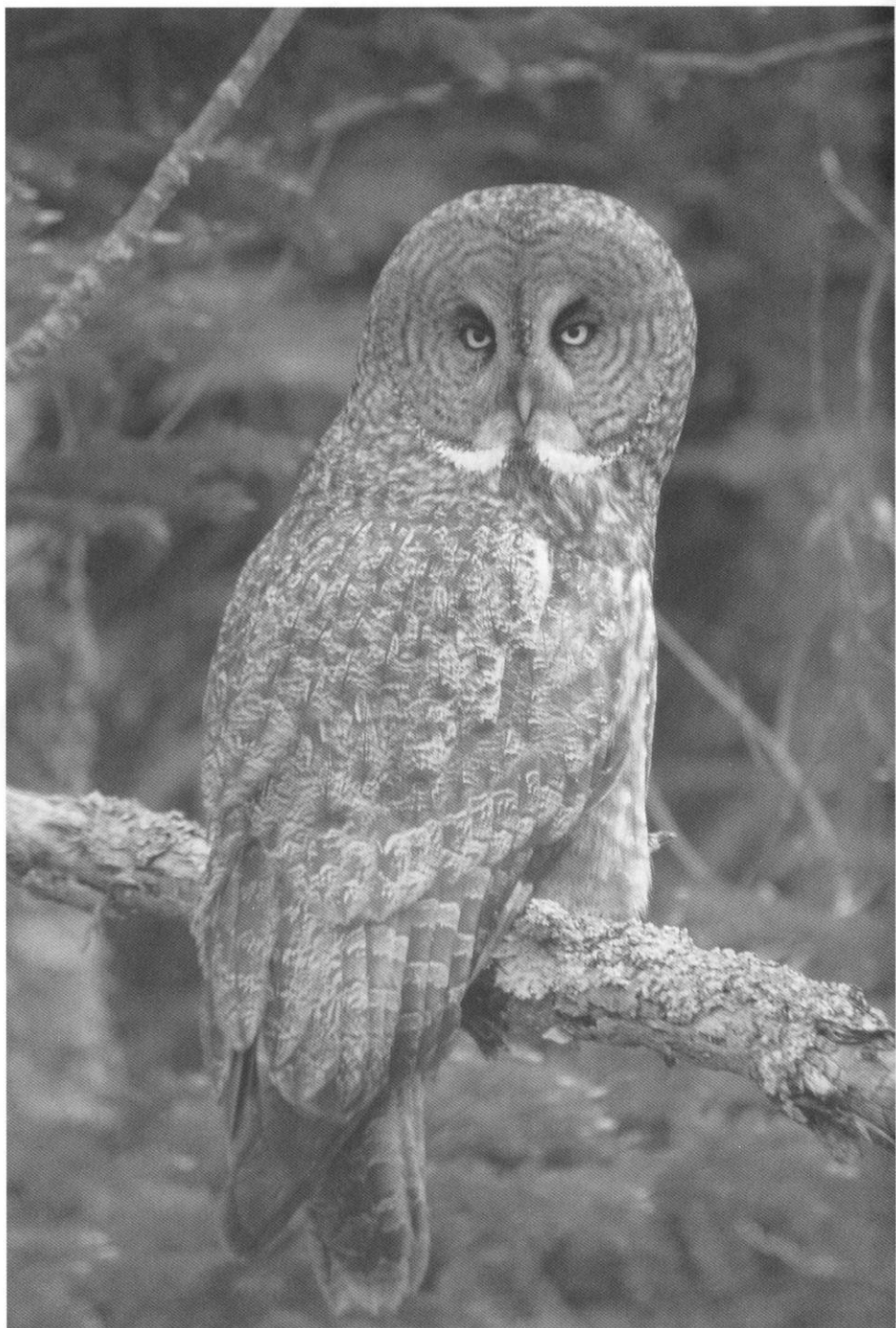
Betsy Acorn, Beth Arnott, Philip Ashman, Evelyn Batchelor, Ida and Ty Baumann, Jim Baughman, Scott Baughman, Murray Berner, Brian Boldt, Marilyn Bontly, Ryan Brady, Dave and Margaret Brasser, Bob Brigham, Paul Bruce, Joan Campbell, Jean Casper, Daryl Christensen, Seth Cutright, Karl David, Andrea Denninger, Scott Diehl, Raymond J. Dischler, John Dixon, Bob Domagalski, Barbara Duerksen, Laura Erickson, Marty Evanson, Sean Fitzgerald, Hilary Ford, Jim Frank, Claudia Giamati, Joan Grant, Jayne Gulbrand, Dennis Gustafson, Karen Etter Hale, Judy Haseleu, Chuck Heikkinen and Delia Unson, Jeanne and Curt Heuer, Dave Holmes, Aaron Holschbach, Jim Holschbach, Judith Huf, John Idzikowski, Dan Jackson, Joe Jacyna, Emily Johnson, Karen Johnson, Robby Johnson, Kay Kavanagh, Kevin Kearns, Mike Kirch, Tom Klubertanz, Roy Knispel, Fred Lesher, Lennie Lichter, Jim Lind (for the Natural Resources Research Institute), Steve Lubahn, Roy and Charlotte Lukes, Chester B. Martin, Mara McDonald, Mike McDowell, Bob McInroy, Tom Mertins, Larry Michael, Paula and Dan Minkebigge, Jim Mooney, Anne Moretti, Ross Mueller, Tim Oksiuta, Lynn Ott, Andy Paulios, Larry Persico, Kurt Petersen, Steven J. Petznick (for the Mosquito Hill Nature Center), Janine Polk, Tom Prestby, Michael Putnam, Pat Ready, Paul J. Risch, Wayne Rohde, John Romano, Joe Schaufen-

buel, Joan Schrunner, Paul and Glenna Schwalbe, Carl Schwartz, Greg Seegert, Larry Semo, Richard L. Smallwood-Roberts, Jerry and Karen Smith, Charles Sontag, Barbara Stover, Aaron Stutz, Andrea Szymczak, Daryl

Tessen, Steve Thiessen, Jon Thometz, John Thomson, Gary Turk, Tom Utech, Tim Vargo, Bradley Webb, Magill Weber, Rob Whitmire, Thomas C. Wood, Quentin Yoerger, Norma Zehner, Tom Ziebell



Great Gray Owls make use of snags too.



A good place for a Great Gray Owl to perch in summer or winter.

“By the Wayside”—Summer 2005

Species included in documentation this season were Western Grebe, Tricolored Heron, Yellow-crowned Night-Heron, Mississippi Kite, King Rail, Laughing Gull, Lesser Black-backed Gull, Boreal Owl, White-eyed Vireo, Yellow-throated Warbler, Kirtland's Warbler, Prairie Warbler, Worm-eating Warbler, and Yellow-breasted Chat.

WESTERN GREBE

(*Aechmophorus occidentalis*)

7 July 2005, Reisinger Lake, Crex Meadows Wildlife Area, Burnett County—A fairly large, long-necked diving bird was first noticed due to its white throat contrasting with a dark body and dark back of the neck. A greenish-yellow beak was visible and the head had a dark cap that covered the red eye and white that extended below the bill and up behind the eye into a sort of cheek patch. It was much larger than adjacent Pied-billed Grebes, Ring-necked Ducks, and Wood Ducks. The bird was diving actively and preening several times.—Sean Fitzgerald, Burlington, WI.

TRICOLORED HERON

(*Egretta tricolor*)

25 June 2005, Bay Beach Wildlife Sanctuary, Green Bay, Brown County—In the lagoon behind the Nature Center, this bird stood about 20" with a beautiful blue neck with head plumes and buff

back plumes; as it turned you could see the white underparts and white under the neck. Bill was yellowish as were the legs. Stood in water over its knees and waded around. Later flew to a log near the far bank.—Ty and Ida Baumann, Green Bay, WI.

YELLOW-CROWNED NIGHT-HERON

(*Nyctanassa violacea*)

1 July 2005, Arena boat landing, Iowa County—I was scanning the backwaters of the Wisconsin River from my car when I noticed this chunky, slate grey heron sitting on a fallen tree next to the water. I noted the light top of the head, mostly dark face with a white cheek patch and down below the red eye. The bird had a heavy all dark beak, fairly long yellow legs and a uniformly slate grey back and wings. When the bird was in flight I was able to note the entire foot extended beyond the tail and its entire back, tail, and wings were all dark grey.—Sean Fitzgerald, Burlington, WI.

MISSISSIPPI KITE
(*Ictinia mississippiensis*)

22 July 2005, intersection of Sherman and Richardson, City of Janesville, WI and surrounding neighborhood; also Janesville Sanitary Landfill (reclaimed) south of Black Bridge Road near the entrance, Rock County—The bird was a female by plumage, as it was overall light plain gray, including the head. No white head, no white secondaries on the wings (overall gray with sooty-black tips/edging to p1 through p10 not very dark), and a less than jet black tail, more sooty black in appearance. Black (sooty-black) "mask" apparent from lores to mid supercilium (just behind eye) slightly visible when wheeling and when observed capturing a dragonfly. Red eyes were not visible while the bird was in flight (entire observation period). I was able to observe the bird very, very well as it flew around the neighborhood and observed all field marks. The bird was also missing at least two flight feathers, either p1 and p2 or p1 and s1 in its right wing. I don't know whether they molt their flights distally (in to outermost) or proximally (innermost out both ways). It looked like p1 and p2 were missing. I don't have any banding data on them, as this species is not covered in Pyle or Merrill-Wood.

The bird was "kiting" or wheeling around the neighborhood, catching dragonflies with its bill. It was first observed to the West of my house flying straight North. When in line with my house, about 100 feet away, it started wheeling. In ten minutes, the bird flew around the neighborhood wheeling and gliding several times, even 50 feet directly overhead.—Richard L. Smallwood-Roberts, Janesville, WI.

22 July 2005, Janesville Landfill, Black Bridge Road, Rock County—I spent almost an hour searching the neighborhood the kite had been reported in without any luck. I had mostly given up hope when I observed a small, dark, falconlike raptor soaring near some Turkey Vultures. I noted a uniform dark grey body, and a slightly darker grey tail. The underwings were the same color grey as the body. I also observed darker patches around the eyes when the bird banked, but I didn't notice a lighter head or lighter secondaries (indicating that this bird was probably a female). The bird appeared to be moulting a flight feather on its right wing near the transition between the secondaries and the primaries. The outermost primaries were noticeably shorter than the rest of the primaries. The bird was similar in size to a small Cooper's Hawk but had a much more falconlike appearance because of the pointed wings.—Sean Fitzgerald, Burlington, WI.

KING RAIL (*Rallus elegans*)

25 June 2005, Old Marsh Road (Old 49), 0.25 mile out on the north side of the road, east of the first main ditch, Horicon Marsh, Dodge County—This large sized rail was about the size of an American Coot, but longer looking and different shaped than coot. It was two times larger than Virginia Rail. The young were black and small, still fluffy. On the adult there was orange down sides of neck and side of body. Back half of the body had white and black up and down stripes. Top and side of back and wings were orange with black spots. It had a very short tail and black and white undertail coverts. A large,

light yellow bill that would be about 2 times longer than the head from base of bill to back of head. Brown on top of neck and head. Thick but light colored legs and thick, wide feet. At one time I saw two adults, one chasing the other. The young were all black but half the size of adults. Adult would walk around and run between cattails and open areas. It would catch food and feed to young. I believe 3 of them would run around behind adult, feed from adult and/or try to feed by themselves.—*Seth Cutright, West Bend, WI.*

LAUGHING GULL (*Larus atricilla*)

28 June 2005, Carre-Hogle Park, Racine County—I was scoping the breakwall for gulls when this dark hooded gull caught my eye. The bird had a red beak, white eye arcs, and an all black hood. The mantle was a much darker grey than on adjacent Ring-billed Gulls. The legs were dark, and while resting, the bird's primaries appeared to be almost all dark (very small white primary tips were present but were barely discernible). The bird raised its wings once and I saw extensive dark underwings. The bird was slightly smaller than adjacent Ring-billed Gulls.—*Sean Fitzgerald, Burlington, WI.*

28 June 2005, Harbor containment area, Manitowoc, Manitowoc County—An adult bird in summer nonbreeding plumage was found on the lakeshore standing with a large group of Ring-billed Gulls and a few Herring Gulls. Several years ago, a summering bird was found occupying the same site, so it was hopeful this individual would do likewise. This did not happen, unfortunately. The bird was

slightly smaller than the Ring-billed Gulls in the immediate area. The "hood" already was invaded by white. The bill was large and gull-like, unlike the smaller bill of the Franklin's Gull. The tail was white and unmarked. The bill was also dark, not the reddish of a breeding bird. The primaries were black and unmarked, and the mantle and wings were very dark gray. The feet were dark. The next day, a subadult bird was found flying in the area of the harbor, but that was its only sighting.—*Charles Sontag, Manitowoc, WI.*

LESSER BLACK-BACKED GULL (*Larus fuscus*)

5 June 2005, North Point, Sheboygan County—A third-year dark mantled gull flew in and joined Herring Gulls perched right in front of us. I took out the camera and noted the following while photographing it: red orbital ring, white iris, yellow base of beak with red spot on lower mandible and dark on the end of the beak with another small yellow spot at the tip of the lower mandible. The wings had retained brownish feathers while the nape was a dark grey. The primaries were all dark and the tail had dark tail feathers out on the outer edges of both sides of the tail with all white central tail feathers. The bird was slightly smaller than adjacent Herring Gulls and had yellow feet.—*Sean Fitzgerald, Burlington, WI.*

16 June 2005, Harbor containment area, Manitowoc, Manitowoc County—A black-backed gull was easily found standing on shoreline structures in the company of Herring and Ring-billed Gulls. The bird was obviously smaller

than the Herring Gulls (about 4 in.) and larger than the Ring-billed Gulls. The back/mantle were dark gray with the primaries black. The tail and head were white and unmarked. The feet were yellow/gray, not yellow as expected, and the large red mark on the lower mandible was not as extensive as it "should be." These irregularities were puzzling. But, the size, smaller bill, and lack of other field marks important to the very rare black-headed gulls make this a Lesser Black-backed Gull.—*Charles Sontag, Manitowoc, WI.*

BOREAL OWL (*Aegolius funereus*)

22 June 2005, (between 2 AM and 3:30 AM), Western edge of Douglas County, near Black Lake—The bird was heard on a calm, clear night (with ground fog and close to full moonlight) in a large bog with mixed hardwoods, black spruce, and an "island" of large popple (*Populus tremuloides*), a tree used by Boreal Owls for nesting. It made a saw-whet-like call, but not as bell tone, deeper in pitch. Saw-whet Owls will do a rising call when territorial, but pitch and cadence is very different. [The call of this bird] was similar to snipe wing noise, but these were clear, sharp-edged hoots, unlike snipe. Too low pitched to whistle back at them (it).

I spent lots of time calling for Boreals this winter and spring with a CD that had male/female calls on it, sometimes getting an answer.—*Robbye Johnson, Superior, WI.*

WHITE-EYED VIREO (*Vireo griseus*)

12 June 2005, Sugar River Trail, Green County—I saw two of this species (a

probable pair) in a bush only 20 feet from the trail. One of the birds flew to an open branch and called for about three minutes. At this time I was able to see the yellow sides, eyering and lores, and a yellow patch on the forehead. The throat was white and the bird had two white wing bars on the grayish wings. With the 10× binoculars I was able to see the white iris.—*Thomas C. Wood, Menomonee Falls, WI.*

1 July 2005, Hurd Road, Rock County—It was this bird's distinctive call that led me to it (get-a-beer-chek). It was associating with a few chickadees and I noted yellow "spectacles," white iris, grey throat and nape, short grey beak, yellow flanks, and green grey back of this small vireo. The two wing bars were white on an otherwise mostly dark wing.—*Sean Fitzgerald, Burlington, WI.*

YELLOW-THROATED WARBLER (*Dendroica dominica*)

2 June 2005, Wyalusing State Park, Grant County—The Yellow-throated Warbler began singing from a pine directly behind my campsite, it was at the top of the approximately 24 foot pine and fully illuminated by the morning sun. Since the bird was only about 25 yards away, it was an excellent look. I saw the bright yellow throat, white belly with irregular black streaks on the side, black face patch which extended from the eye down the edge of the throat in a roughly triangular shape, and a white, thick supercilium. The crown was very dark gray (almost black) and the bird had two white wing bars.—*Thomas C. Wood, Menomonee Falls, WI.*

11 June 2005, Wyalusing State Park,

Grant County—Walking on the Turkey Hollow Trail from the Homestead Campground, I heard the call of a Yellow-throated Warbler. Scanning the tops of the tall pines I found a small warbler-sized bird and a look through my binocs revealed that it was a Yellow-throated Warbler. It sat on the same branch and sang for about 30 seconds. The bird had blue-black back and wings, with white marks in the wings, a white cheek, line over the eye, and mark under the eye, and, of course, an obvious yellow throat.—*Tom Prestby, Wauwatosa, WI.*

KIRTLAND'S WARBLER
(*Dendroica kirtlandii*)

17–23 June 2005, Various areas in Jackson County—On 16 June I drove extensively through Jackson County and part of Wood County . . . much later in the day . . . I finally located a couple likely-looking spots (stands of short to medium height jack pine) in Jackson County. I returned the next morning, and after checking out one of the areas and finding nothing unusual, I continued to the other area and drove in . . . along a logging track. As has often been the case in the past when I've found this species, as soon as I stopped the car and got out I could hear a Kirtland's Warbler singing. The bird was about 0.25 mile away, and as I walked toward it I realized there were actually two males singing back and forth at each other. They were in some medium-short red pines (mixed with oak and jack pine) near jack pines of about the same height and immediately adjacent to an open grassy area with scattered jack pines and oaks. One bird, the more persistent singer,

had a very typical song that might be described as follows: three or four lower-pitched and slightly accelerating "chirps," followed by two higher-pitched ones, and ending with two chirps at an intermediate pitch. The song was quite low-pitched for a warbler, and, as always, fairly loud, which is a good thing for those of us surveying for this species. The second bird's song was sometimes similar to the first, but in general more variable, and was often shorter or truncated. This bird didn't sing persistently, and moved around quite a bit more than the other bird. Often the two birds seemed to be challenging each other at an invisible boundary line perpendicular to the edge of the red pines . . . When I left the area at about 11:15 I could still hear the first bird singing.

I arrived on site early the next morning (17 June) and immediately heard the first bird. Camcorder in hand this time, I ventured into the pines, and for about 1–1.5 hours watched, and when the opportunity presented itself, recorded the bird that had been the more persistent singer the day before. It was in the same location, but the other bird had apparently left the area. There was absolutely no evidence of breeding; as on the previous day, this bird sang loudly and continuously long after the other species in the area were primarily occupied with feeding their young. It was on the large side for a warbler, and was medium blue-gray above (a little darker on wings and tail) with black streaks on the back, obscure light wing bars, black streaking on the sides of the breast, and indistinct dark streaks on the flanks. Black feathering through the lores extended a little behind the eyes and along the sides of

the throat, giving the bird a semi-masked appearance. The light yellow color of the throat, breast, and belly indicated first year breeding plumage. Other characteristics included occasional tail-wagging, broken white eye rings, dark bill, and dark legs without bands.

[Polk re-visited the site again on the morning of 22 June, and, finding no birds, went to another potential site a few miles away. She heard a bird and saw it, determining that it "was in full adult plumage (same general description as the first bird but bright yellow below with strong, well-defined black flank streaks), and had a distinctive song with only one 'chirp' at the end."] She stated: "The song, which was repeated numerous times and never varied, was obviously different from the songs of the first two birds, so I feel confident in calling this bird a third and unique individual. I watched and recorded it for over an hour. Like bird #1, it was unbanded."—*Janine Polk, Eau Claire, WI.*

[Polk wrote quite a bit more about her project. A final morning gave her a look at a first year male (pale yellow underneath, indistinct flank streaking). Its song was not sufficiently either like or different from those of the other birds she encountered, although it is possible that it might have been one of them (since she did not see them all), letting her know that she had located 3 birds for sure, possibly 4. This overall experience moved her to "put in a plug for management of this species in Wisconsin," and she gave well-supported rationale and made specific suggestions about how it might be done.]

PRAIRIE WARBLER
(*Dendroica discolor*)

5 June 2005, Kohler-Andrae State Park, Sheboygan County—It had yellow underparts with black streaks on the sides below the wings. The back was an olive green and due to excellent lighting (the sun was at my back) the purplish streaks on the back were highly visible. The face was yellow with a black eye-line and a black crescent patch below the eye.—*Thomas C. Wood, Menomonee Falls, WI.*

17 June 2005, Kohler-Andrae State Park, Sheboygan County—This bird had a bright yellow body and side of face; darker yellowish-brown wings, back, and top of head; and two dark black streaks going down side of body. From the end of the under-tail coverts to the tip of the tail was white. There were a few rufous or orange-ish streaks on upper back. It had black legs and bill with a thin black line going from the bill, through the eye to cheek, side of face, and then back down undereye to bill. The undertail coverts were light yellowish-white.—*Seth Cutright, West Bend, WI.*

WORM-EATING WARBLER
(*Helmitheros vermivorus*)

6 June 2005, Hemlock Draw, Natural Bridge State Park, Sauk County—This bird was first heard singing several times quite high in the canopy before I was able to locate it. The call was a dry Chipping Sparrow-like call, and it was singing very infrequently, once every few minutes. Once I found the bird the views were brief, but the look was diagnostic. This warbler had a buffy underside and was brownish

overall above. The most noticeable marking were the dark stripes on the head. The wings and tail were unmarked and the bill was a slender type typical of a warbler. Although the bird was heard for over half an hour, it was only seen for about 30 seconds at a distance of about 50 yards.—*Aaron Holschbach, Arena, WI.*

YELLOW-BREASTED CHAT
(*Icteria virens*)

*12 June 2005, Forest Road 406, in the Moquah Barrens in Bayfield County—*When I first sighted the grayish backed bird it was facing away from me and appeared to be slightly smaller

than a robin, but a little bulkier than a Baltimore Oriole. It quartered toward me and I could immediately see the grayish back and tail contrasting with the bright yellow throat, a broad white line above the eye toward the beak, and white undertail coverts. The side of the belly appeared to be a very light gray near the tail. I also noticed that the bill was heavier than that of a robin and not nearly as pointed. After . . . a few minutes the bird gave me a frontal view for over 30 seconds. I could then see the white "spectacles," the bright yellow throat, changing to a duller yellow on the breast, grey legs and feet.—*Tim Oksiuta, Ashland, WI.*



Great Gray Owl peeking from the maple leaves.

WSO Records Committee Report: Summer 2005

Jim Frank

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The WSO Records Committee reviewed 8 records of 7 species for the summer 2005 season, accepting 7 of them.

In addition, reports of a spring 2005 Glaucous-winged Gull, a 2001 Slaty-backed Gull, and a summer 1972 Ivory Gull are discussed. The addition of a Slaty-backed Gull to Wisconsin's list pushes the total to 426 species.

ACCEPTED

Tricolored Heron—

#2005-051 Brown Co., 25 June 2005,
Baumann, Baumann

This night-heron-sized bird was blue-purple in color on the head, upper breast, wings, and back. A contrasting white front of the neck, lower breast, and belly were also described. The legs and bill were yellowish. Buff feathering was evident over the back; white plumes from the head.

Mississippi Kite—

#2005-058 Rock Co., 22 July 2005,
Smallwood-Roberts,
Fitzgerald.

This medium-sized, falcon-shaped bird had a gray head and breast. The wings though pointed, were wider than anticipated for a falcon and uniformly gray. The outermost primary was decidedly shorter than the rest of the primaries. A dark patch across the eye was noted. The tail was sooty black and held slightly flared. The absence of white in the secondaries as well as the head suggest a female was observed.

King Rail—

#2005-059 Dodge Co., 25 June 2005, S.
Cutright.

This coot-sized rail was orange on its flanks and sides of the neck. The back was striped, the tail stubby, and the yellowish bill was about twice as long as the head. Three half-sized, black fluffy young were following the adult bird around, periodically being fed.

This observation was submitted as documentation of nesting of a King

Rail in Wisconsin, a status not confirmed for this species during the recent Breeding Bird Atlas.

Buff-breasted Sandpiper—

#2005-060 Racine Co., 23 July 2005,
Fitzgerald.

A medium-sized, brownish sandpiper was observed on a flooded grassy area among Killdeer and a few Pectoral Sandpipers. The brown of the breast extended to and included the belly. A short, dark bill and dark eye were situated on an otherwise pale brown face. The wings and back had a scaly pattern to the brown feathering rather than stripes. Proportionately longer yellow legs were also observed. When observed when the bird was preening, the rump was dark in color rather than showing any white.

Boreal Owl—

#2005-061 Douglas Co., 22 June 2005,
R. Johnson.

At 2–3 a.m. in a bog area, several series of saw-whet-like hoots were heard. The pitch was lower than a Northern Saw-whet Owl, the first 4 hoots slowly climbed the scale, with the remaining 6–7 hoots finishing at the same pitch. Though the cadence reminded the observer of a snipe winnow, the notes were hoots rather than the “windy” sound of a snipe.

Kirtland's Warbler—

#2005-062 Jackson Co., 17–23 June
2005, Polk.

A large warbler was described as having a dark gray back and wings with black streaks on the back. The light yellow throat, breast, and belly were accented by black streaks on the side of the breast. The lores were black creating a bit of a masked appearance. A

broken white eyering and intermittent tail-wagging were also noted.

A total of three, and probably four individual males were heard singing and subsequently seen in this general area.

RECORD NOT ACCEPTED

Chuck-wills'-widow—

#2005-034 Vernon Co., 11 June 2005.

The song of this bird was simply described as a “chuck-will's-widow” call, without elucidating the individual notes and their relative pitch and intensity. No comparison was presented to the Whip-poor-will's song.

This report was from the area previously reported to have a Chuck-will's-widow last year as well as again in May of this year.

PRIOR RECORDS ACCEPTED

Glaucous-winged Gull—

#2005-053 Douglas Co., 26 March
2005, R. Johnson, Putz
(photo).

This gull was larger than adjacent Herring Gulls, with a bulkier body and a shorter primary extension in the folded wing. The mantle was pale gray, with the primary tips lacking any black markings, instead being a shade of gray almost identical to the mantle color (Fig. 1). The yellow bill was relatively large with a bulbous tip. The head wasn't as round/dome-shaped as some field guides suggest, but appeared to be within the range of shape/contour found in many photographs.

The only controversy regarding this sighting is in the question of hybridization. The species is known to hybridize



Figure 1. Glaucous-winged Gull, 26 March 2005, R. Johnson and S. Putz.

with Western Gulls, Glaucous Gulls, and Herring Gulls in various parts of its range. The lack of black in the primary tips, nor whitening of the primary tips fail to support the hybridization theory regarding many of the eastern North American vagrant Glaucous-winged Gulls. Alaskan birds apparently are less prone to hybridize and some gull experts feel that is the origin of birds such as this individual.

This is Wisconsin's fourth accepted record for this species, all in the past 10 years.

Slaty-backed Gull—

#2001-098 Milwaukee Co., 13 November 2001, Boldt (photo).

This gull was noted to be larger than adjacent Herring Gulls with a very dark gray mantle and pink legs (Fig 2).

The brown streaking on the head and neck was much heavier than anticipated for any Herring or Greater Black-backed Gull. Gray smudging was noted extensively around the eye. Though the bill was heavier than the Herring Gull's bills, there wasn't any significant gonydeal angle nor bulbous tip, characteristics expected in other large dark-mantled species. The color of the bill appeared to grade from flesh at the base to yellow distally with a reddish gonydeal spot. The white trailing edge of the wings, particularly along the secondaries was very broad (Fig 3). A Slaty-backed Gull should have subterminal white spots across the 6th through the 8th primaries, but this wasn't readily apparent. Instead, these areas had gray spots with an edge of white to them. Thus



Figure 2. Slaty-backed Gull with Herring Gulls, 13 November 2001, Brian Boldt.

the “string of pearls” effect is present, in the range of variation for the species, although not classically prominent.

The photos have been reviewed by numerous experienced birders from around the country, all drawing the same conclusion. No other species or hybrid can account for the characteristics observed in this bird except a Slaty-backed Gull. This Wisconsin’s 426th species for the state list.

PRIOR RECORD REMOVED

Ivory Gull—

Dodge Co., 24 July 1972.

This report was from an era preceding the creation of Wisconsin’s Bird

Records Committee, and thus did not undergo the review reports of the past quarter century have. The only reports of this species in North America are from November to March, with an exception of a summer report from Hudson Bay. The report of an Ivory Gull in mid summer in the middle of North America at that time was unprecedented and remains unmatched. It is a single observer report without photographic evidence to support it. Under accepted guidelines, reports of new species to the state list made by lone observers without photographic evidence are normally assigned a “hypothetical status” if accepted by a Records Committee review.

In reviewing the information pub-



Figure 3. Slaty-backed Gull on 13 November 2001 by Brian Boldt.

lished about this sighting prior to considering what the status should be of this record, several questions arose. The bird's tern-like flight and long black bill seemed inconsistent with what should have been small gull-like flight and a yellowish bill. This bird was otherwise entirely white. An adult Ivory Gull would not have an entirely black bill.

Another bit of information considered was a description of a 2004 late July sighting in Dodge Co., at the site of the 1972 report, of what is presumed to have been a leucistic Forster's Tern. It was entirely white

with the exception of a couple black flecks in front of the eye and a black bill. It flew like and with Forster's Terns, but appeared rather ghostly without any gray to the mantle or primaries and with only a hint of the black face mask.

With evidence inconsistent with the bird's Ivory Gull identity, with an improbable, but possible alternate identity (at least as plausible if not more so than this unprecedented summer report of an adult Ivory Gull), it appears appropriate to remove this report from the historical record.

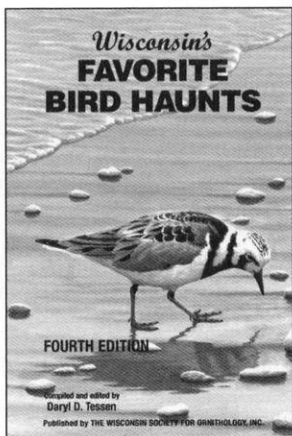


Great Gray Owl listening for prey.

ABOUT THE ARTIST

All the photographs in this issue (except for Record's photos) are of the Great Gray Owls that summered in Bayfield and Ashland Counties in 2005, following the huge invasion by these owls in the winter of 2004–2005. All of these photographs were taken by Ryan Brady, author of the article in this issue about these summering great grays. Ryan obtained his B.S. from Northland College in Ashland, and worked as a paid field observer on the Wisconsin Breeding Bird Atlas project while a student. He then obtained his

M.S. in Raptor Biology from Boise State University in Idaho, returning to Ashland upon completion of his degree. While in the Ashland area he started the Chequamegon Bay Hawkwatch to survey spring hawk migration as it passed by the Northern Great Lakes Visitor Center near Ashland. An article on "Observations of Uncommon Raptors at Chequamegon Bay Hawkwatch, 1999–2004" can be found in Volume 66, No. 4 of *The Passenger Pigeon*.



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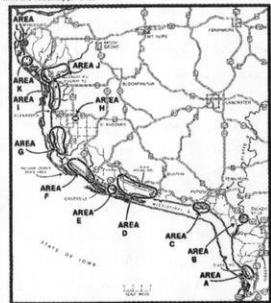
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Grant County is a mixture of what nature has to offer. The county is bounded on the north by the Wisconsin River, and on the west by the Mississippi River. Low-lying bluffs reach up from the river valleys of these two ancient bodies of water to reveal uplands that include agricultural fields and wood lots. Many smaller streams flow to these two rivers from these uplands. It is this variety of habitats found here, associated with the biological features, that will provide the reader a mix of habitats and birds to enjoy.

There are several major locations for feeding the majority of species in western Grant County. They include two state parks, Washburn (opposite article) and Nelson Dewey, the Potosi boat landing, Potosi River bottoms, the Cassville area and the cross-hills. Hills and valleys that border and intersect the Mississippi River.



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