# The passenger pigeon. Vol. 70, No. 3 Fall 2008

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# The Passenger PIGEON

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THE PASSENGER PIGEON Vol. 70 No. 3 Fall 2008

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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 Assistant 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 131–132 of the Summer 2007 issue (Vol. 69, No. 2) or contact the Editors. As a general guide to style, use issues after Vol. 60, No. 1, 1998.



*Front Cover: This Green-breasted Mango made national birding headlines in September of 2007 by coming to the home of Joan Salzberg near Beloit in Rock County. It is shown here by Scott Franke on its favorite perch in Joan's yard.*

## Reflections, and Thanks

I took a couple of hours off work yesterday afternoon to walk and birdwatch along the trails at a nearby lakefront county park near Madison. It was the first sunny—and almost warm—day in at least a week, and I couldn't resist getting outside for a while. I hoped to get a chance to see and hear some of the mid-April goings-on in the natural world. I was not disappointed. As soon as I arrived at the park, I could hear chorus frogs (first of the year for me), Northern Flickers, Song Sparrows, and Sandhill Cranes calling as if, I imagined, in welcome. Typical for this time of year, the ground was still pleasantly soggy underfoot, even flooded in several places. As I ventured further, I heard other, more subtle sounds: the chirps of swooping Tree Swallows, the slight rustle of earthworms under dry leaves (keeping several robins occupied), and the soft chip of a "Myrtle" Warbler or two. A chipmunk chattered before quickly disappearing down into its burrow. Other things were silent: the phoebe that sallied over the trail, Song and Fox Sparrows rummaging around on the grass trail, what seemed like a gazillion painted turtles warming up on half-submerged logs in the afternoon sun, a Hermit Thrush lifting and lowering its hydraulically (apparently) operated tail from its perch on a sapling branch, a Winter Wren scurrying into the darkness under a log, tree buds swelling.

How great this all was. There were buildings visible in the distance of course, the sounds of some cars and even a fishing boat motor. But not enough of these to spoil the appreciation of things non-human. The three-generation family that arrived to play in the park, and even a group of teenagers engaging in some kind of pseudo-military game seemed as inspired by the day as I was. During the course of my walk, I was glad to also notice 2 other birders. I didn't recognize them, but wondered if they are WSO members. If they aren't, they should be, I thought to myself (perhaps we should have a table with WSO membership brochures at every park in the state). As I have mentioned elsewhere in these columns, the need for organizations such as WSO will only grow steadily greater as this finite piece of ground called earth grows more challenged by pressures from our population growth and some of our economic activities. I strongly believe that a healthy WSO is an important piece of the puzzle that will keep our society striving to conserve bird populations and the habitats they depend on, and that will educate people on the value of these important ideas. To that end, I hope all of us as members work to see that WSO continues to grow into the future.

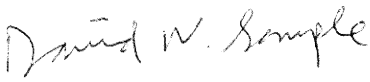
It is for these, and other reasons, that I have been honored to serve as WSO president for the last 2 years. I also have been humbled by working with the dedicated group of volunteers that is the WSO board of directors and committee chairs, many of whom have devoted lengthy years of service to our organization that dwarf my mere 4-year stint on the board. My sincere thanks to all of

them, but especially to the officers (Bettie Harriman, Christine Reel, Jane Dennis, and Jesse Peterson), without whom I would have been lost.

As an important part of my last missive here in *The Passenger Pigeon*, I would like to personally thank several individuals for their extraordinarily long service to WSO. These individuals "retired" from their positions during my tenure as president: Ken Lange, 27 years as winter field notes compiler; Tom Soulen, 25 years as summer field note compiler; Mark Peterson, 26 years as autumn field note compiler, and Jennifer Davis, 11 years as WSO webmaster; their collective service to WSO is greatly appreciated. Welcome also to the individuals who have stepped up to replace them—Kay Kavanagh, Randy Hoffman, Ted Gostomski, and Lennie Lichter, respectively. Thanks also to Wayne Rohde for his several years as Big Day compiler, and to Barb Morford after several years as Honey Creek committee chair; welcome to their replacements, Kim Kreitinger and Mike Mossman, respectively.

Finally, I would like to extend my best wishes to your next president, Jesse Peterson. I leave you in his able hands.

President



## Two Goodbyes with Many Thanks

With bittersweet feelings, Neil and I must report that two of the seasonal field note compilers for *The Passenger Pigeon* have decided to call it quits after many years of service. Tom Soulen compiled and wrote the Summer Season and "By the Wayside" for that season since 1982 through the 2007 season—25 years. In his letter of resignation, Tom noted that "I can say that despite the annual crunch time stresses and occasional frustrations, I have very much enjoyed the chance to work on these reports. I hope they have been useful to those who read them." Tom did most of this work while he was a full-time professor at the University of Minnesota. He retired from that task a few years ago, and now wishes to retire from the volunteer task so he can "spend more time on birding itself, which has taken a back seat too much in recent years." We totally understand and wish Tom many, many years of birding—but we will miss working with him once each year on "his" season and extend to him our deep appreciation for all his years of service to WSO and its members.

Mark Peterson, Fall Season compiler, also has decided that 26 years for putting together that season is long enough. As many of you know, Mark moved to Oklahoma a few years ago but agreed to continue covering the Fall season report for a "few more years." He is now becoming more involved with the birding community in that state and feels it is time to end his long period of service to WSO. You can read Mark's personal farewell to everyone at the end of the introductory section of his final Fall Season report in this issue of the Pigeon. Again, these Editors will miss working with Mark, but we understand his desire to move on to other activities. We extend our deep appreciation to Mark as well for all his long years of service to WSO and wish him all the best in learning the birds of Oklahoma as well as he knows Wisconsin birds.

We are most pleased to announce the new field note compilers for these two seasons. Randy Hoffman has volunteered to be the Summer compiler, in addition to continuing in his task of Bird Reports Coordinator, and Ted Gostomski has eagerly accepted the task of Fall season compiler. You will find the contact information for both of them inside the front cover of this issue of the Pigeon.

Bettie and Neil Harriman, Editors

Corrigenda for *The Passenger Pigeon* Fall 2007

** On page 368, Ryan Brady reported 225 Cackling Geese on 25 October, not 25.*
** The report of Western Grebe in Ashland County on page 370 was from Erik Bruhnke (not Brady and Oksiuta), who later retracted the report after realizing they were Horned Grebes.*

** On page 372, Erik Bruhnke's Willets were at Long Bridge, which is in Bayfield County, not Ashland County and Brady's Red Knot report was from Bayfield County, not Ashland.*
** In the Fall Season report, "Oksuita" should be Oksiuta*
** In "By the Wayside" on page 392, the date for the Black-legged Kittiwakes should be 10 November, not 11, and the last sentence of the kittiwake documentation should read: "The underside of the body was all white."*
** On page 399, the Pacific Loon (record #2006-050) should be from Bayfield County, not Ashland.*

Osprey by Dennis Malueg

# The 2007 Wisconsin Christmas Bird Counts

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November was mild with cold temperatures not arriving until late in the month. At the end of November, Wisconsin was free of snow but the lakes were freezing. Then, on the first of December (much like the year before when a blizzard struck on the same date), the state was hit by a storm that dropped better than a half foot of snow. This snow was followed by freezing rain that left an ice crust that remained through the count period. Unlike the previous year, when the blizzard of December first was replaced by record mild temperatures and a snow-free count period, this December seemed to produce an additional inch or two of snow every other day. By the end of the month a near record total of 30 inches of snow had fallen in the Milwaukee area with Madison also reporting a record or near record snow. In the history of the WSO Christmas Bird Counts (CBCs) there has never been such a contrast between succeeding counts. The 2006 Count was record mild and held hardly any snow. The 2007 Count posed an old fashioned Currier and Ives look. Through the period, Wisconsin was covered with deep snow and temperatures were cool.

It is a common belief that deep snow and frozen water will cause fewer species to be found. At the same time, what species do remain will be more concentrated and thus reported in higher than normal numbers. This was not absolutely obvious in 2007. Perhaps because the snow arrived so early, was then crusted with ice followed by layer after layer of fresh snow, those species that might have a tendency to migrate did so earlier than normal. This was most noticeable in open field species. During a typical snowy count, such species as the Horned Lark and the American Tree Sparrow would be expected to be found in large numbers along the plowed sides of roads. This year the Horned Lark was 15% below its 10-year average and the American Tree Sparrow was 25% below that average. More true to form, permanent residents that come to feeders showed remarkably high numbers. Mourning Doves, all the woodpeckers (except Red-headed), Tufted Titmouse, nuthatches and the Northern Cardinal were record or nearly record high.

Despite the snow and cold, an amazing 152 species were reported on count days. An additional three

species were reported during count weeks. Count week species were Killdeer (Kenosha and Racine), Field Sparrow (Hartford), and Rose-breasted Grosbeak (Kenosha). The 2006 Count, with its record mild weather, set a record high for species with 156. Other counts boasting 150 or more species are 1997 (153), 2001 (154), 2002 (150), and 2004 (154). Among the unusual species, there are two never before documented for the CBCs. Those two are Dunlin (Racine) and Townsend's Warbler (Fort Atkinson). The Dunlin was found in company with a Spotted Sandpiper and a Purple Sandpiper. Shorebirds, outside of Killdeer and Wilson's Snipe, are rare. This is a first for three such species to be found within a single count circle. The only other count for the Spotted Sandpiper was 1965 (Cooksville). The only other counts for the Purple Sandpiper were 1965 (Racine) and 2002 (Sheboygan). The report of the Townsend's Warbler (backed with a photograph) is but the third state record. The only other winter record is for 5–12 December 1993 in Milwaukee County by Melvina Ralston. With the addition of the Dunlin and the Townsend's Warbler, there are now 231 species reported on count days for the WSO CBCs.

Among other notable species reported on count days in 2007 are Harlequin Duck, all three scoters, Spruce Grouse, Common Loon, Pied-billed Grebe, Red-necked Grebe (Lake Geneva—only the 3rd year reported for the CBCs), Western Grebe (in company with the Red-necked Grebe at Lake Geneva and only the 6th year reported), American White Pelican (now found nearly yearly at Green Bay), Turkey Vulture (New Franken and Palmyra), Virginia Rail (Madison and Poynette), Sandhill Crane (but one individual at Montello), Snowy Owl (but two birds at New Franken), Black-backed Woodpecker, Eastern Phoebe (Poynette), Townsend's Solitaire (from seven counts!), Northern Mockingbird (Milwaukee), Brown Thrasher (Shawano), American Pipit (Racine), Savannah Sparrow (Burlington), Harris's Sparrow and Brewer's Blackbird (one individual at New Richmond).

## Location and Details of the Counts

The details of weather and participation for each count are reported in Table 1. There were 105 counts conducted in 2007. This matches the record high of 105 set in 2006. Other years with 100 or more counts are 2002 and 2003 (with 100 both years). No count was conducted in 2007 at Spruce and at Stockbridge. These absent counts were replaced by Hayward and La Farge, which have held counts in the past. Appreciation is extended to those compilers who resurrected seven former counts in 2006 and kept those counts alive in 2007. Remembrance is also given to Albert Roy Jr., who passed away on 23 September 2007. Roy had been the faithful compiler of the Bayfield Count since 1981.

In step with the harsh conditions of the count period, most counts reported fewer species than usual. Only 31 circles reported 50 or more species. This compares to 34 counts in 2006 and 40 in 2005. As usual, and again by a wide margin, Madison led the state in number of species with 85. The one other count reporting 70 or

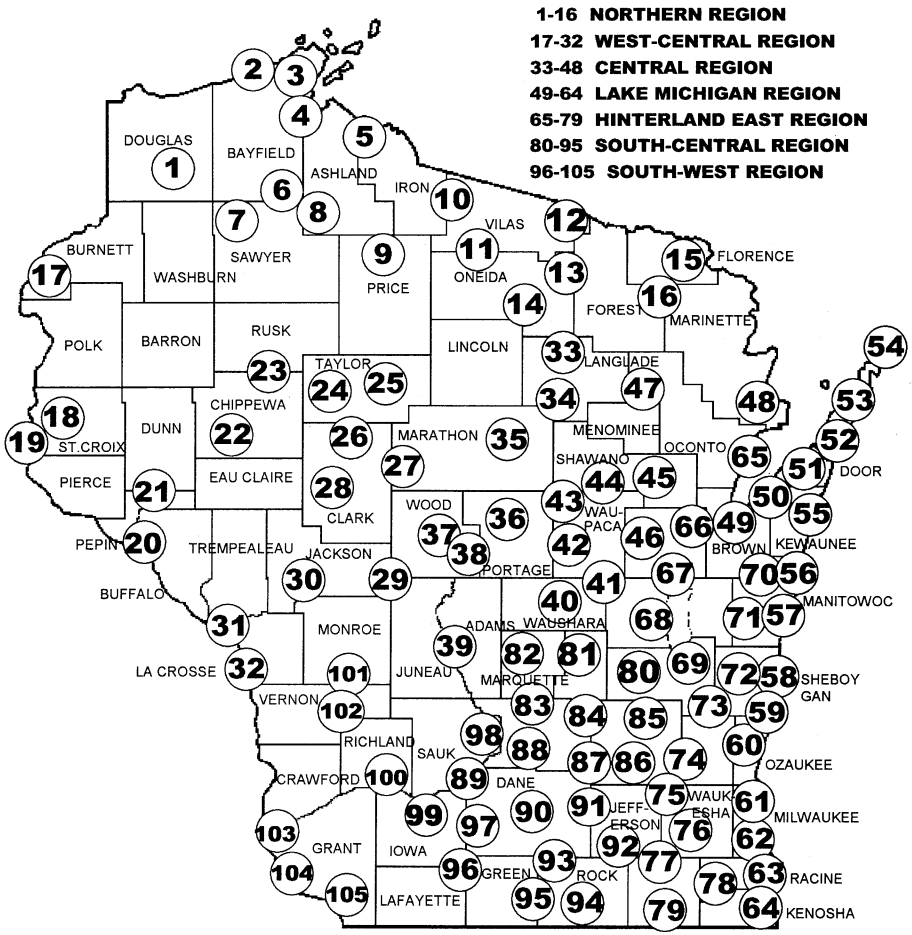


Figure 1. Locations of count circles in 2007.

better was Riveredge at 73. Milwaukee totaled 69, Appleton 68 and Green Lake 67. Not in step with the harsh conditions was the great effort of field birders and feeder watchers. The total of 644 feeders watched is a huge increase over the old high of 531 in 2000. The total of 1,479 field birders is surpassed only by the 1,502 in 2002. The only other count years with better than 1,400 field observers are 2003 (1,406) and 2006 (1,468). The total field party hours, although down 3% from the year before, are the fourth highest on record. Years with higher field party hours are 2002, 2003, and 2006. Owling hours were also the fourth highest, with the years 2001, 2003, and 2006 having greater participation. Again, these are great accomplishments considering the weather conditions.

The location of each count circle is shown in Figure 1. Count names can be matched with count numbers by looking at the alphabetical listing of counts in the first column of Table 1. Data from counts that include areas in

Table 1. Details of the 2007–2008 Wisconsin Christmas Bird Counts.

| Name of Count | Date | Sky | Snow Inches | Wind Dir. | Wind mph. | Temp. °F Low | Temp. °F High | Observers Feeder | Observers Field | Parties | Party Hours | Owling Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antigo (34) | 12/15 | Cloudy | 4–5 | Calm | 0 | 10 | 21 | 2 | 5 | 4 | 25.25 | 0.25 |
| Appleton (67) | 12/15 | Cloudy | 8 | NE–E | 5 | 12 | 24 | 14 | 26 | 17 | 85.00 | 1.50 |
| Armstrong Creek (16) | 12/18 | Clear | 6 | NW | 0–10 | 0 | 10 | 4 | 6 | 3 | 20.00 | 0.00 |
| Arpin (37) | 12/28 | Cloudy | 12 | WSW | 0–7 | 15 | 20 | 1 | 10 | 4 | 27.75 | 3.00 |
| Ashland (4) | 12/15 | Clear | 12–14 | WNW | 0–5 | –6 | 22 | 2 | 7 | 2 | 16.00 | 0.00 |
| Baraboo (98) | 12/27 | Cloudy | 15 | Variable | 5–15 | 30 | 39 | 20 | 17 | 8 | 60.25 | 5.50 |
| Bayfield (3) | 12/21 | Cloudy | 13 | Calm | 0 | 39 | 39 | 6 | 9 | 4 | 28.50 | 0.00 |
| Beloit (94) | 12/15 | Cloudy | 8 | Calm | 0 | 19 | 28 | 4 | 19 | 9 | 48.25 | 2.00 |
| Black River Falls (30) | 12/15 | Cloudy | 6 | Calm | 0 | 10 | 25 | 6 | 5 | 2 | 10.75 | 0.50 |
| Blanchardville (96) | 12/17 | Cloudy-Fog | 15–25 | W | 0–5 | 12 | 20 | 0 | 11 | 6 | 44.75 | 4.75 |
| Bridgeport (103) | 12/14 | Cloudy | 9–10 | N | 0–5 | 6 | 23 | 3 | 17 | 6 | 35.25 | 1.00 |
| Brodhead (95) | 12/17 | Cloudy-Clear | 8 | SW | 10–15 | 13 | 27 | 0 | 6 | 5 | 38.25 | 2.25 |
| Brussels (51) | 12/28 | Cloudy-Snow | 6 | E | 5–10 | 15 | 31 | 6 | 14 | 5 | 27.25 | 0.00 |
| Burlington (78) | 12/19 | Clear | 10 | SW | 0–5 | 22 | 34 | 0 | 7 | 4 | 33.00 | 3.00 |
| Cable (6) | 12/15 | Clear | 9–14 | S | 0–3 | –14 | 20 | 7 | 5 | 5 | 16.00 | 0.00 |
| Caroline (44) | 12/31 | Cloudy-Fog | 5–6 | Calm | 0 | 16 | 21 | 1 | 3 | 2 | 19.00 | 1.00 |
| Cassville (104) | 12/30 | Cloudy | 28–30 | E | 0–10 | 5 | 26 | 0 | 9 | 5 | 38.75 | 3.25 |
| Cedar Grove (59) | 12/17 | Cloudy-PCL | 6–18 | SW | 5–10 | 11 | 24 | 0 | 13 | 5 | 47.50 | 3.00 |
| Chippewa Falls (22) | 12/22 | Cloudy-Snow | 5 | Calm | 0 | 25 | 29 | 0 | 8 | 5 | 37.00 | 0.00 |
| Clam Lake (8) | 12/28 | Cloudy-Lt. Snow | 16–20 | E | 0–5 | 13 | 24 | 2 | 8 | 5 | 43.00 | 3.25 |
| Clyde (99) | 1/5 | Cloudy | 12 | SW | 5–15 | 40 | 46 | 1 | 10 | 7 | 47.00 | 1.25 |
| Columbus (87) | 1/5 | Cloudy | 8 | S | 5–20 | 36 | 39 | 6 | 13 | 7 | 40.75 | 2.00 |
| Cooksville (93) | 1/1 | Cloudy-Clear | 15 | NW | 15–20 | 10 | 22 | 3 | 7 | 4 | 29.00 | 2.00 |
| Durand (21) | 12/29 | Cloudy | 0 | Calm | 0 | 26 | 37 | 0 | 21 | 8 | 46.25 | 0.00 |
| Ephraim (53) | 12/15 | PCL-Clear | 6 | SE–N | 5–10 | 19 | 28 | 27 | 12 | 7 | 26.50 | 2.00 |
| Fifield (9) | 12/15 | Clear | 6 | SSW | 0–4 | –13 | 20 | 30 | 7 | 5 | 30.00 | 0.00 |
| Florence (15) | 1/3 | Cloudy | 6 | S | 5–15 | 2 | 25 | 16 | 13 | 7 | 53.75 | 3.00 |
| Fond du Lac (69) | 12/15 | Cloudy | 6 | NW | 1–3 | 15 | 28 | 0 | 4 | 4 | 27.25 | 3.00 |
| Fort Atkinson (92) | 12/22 | Cloudy-Fog | 10 | SE | 5–8 | 30 | 39 | 16 | 11 | 4 | 15.50 | 1.00 |
| Fremont (41) | 12/22 | Cloudy-Fog | 6–10 | Calm | 0 | 34 | 38 | 1 | 13 | 6 | 46.00 | 2.00 |
| Friendship (39) | 12/29 | Cloudy | 8–18 | W | 0–5 | 20 | 35 | 0 | 11 | 7 | 41.25 | 1.50 |
| Gilman (24) | 12/22 | Cloudy-Drizzle | 4–8 | SE–SW | 5 | 34 | 36 | 3 | 16 | 7 | 50.00 | 2.75 |
| Grantsburg (17) | 12/15 | Clear | 12 | S | 5–8 | –16 | 20 | 0 | 13 | 7 | 42.75 | 1.00 |
| Green Bay (49) | 12/15 | Cloudy | 5–8 | NW | 2–15 | 6 | 28 | 17 | 29 | 15 | 84.00 | 12.50 |
| Green Lake (81) | 12/29 | Cloudy | 8–12 | W | 5–10 | 24 | 31 | 0 | 15 | 8 | 44.50 | 4.75 |
| Gurney (5) | 12/15 | Clear | 0–5 | W | 0–5 | 2 | 20 | 1 | 8 | 5 | 20.00 | 0.00 |
| Hales Corners (62) | 12/15 | Cloudy-Snow | 4 | NE | 10–20 | 26 | 31 | 8 | 13 | 11 | 33.50 | 0.50 |
| Hartford (74) | 12/29 | Cloudy | 12 | E–SW | 0–10 | 22 | 27 | 1 | 10 | 6 | 47.00 | 0.00 |
| Hayward (7) | 12/15 | Clear | 9–14 | Variable | 0–3 | –14 | 20 | 6 | 4 | 4 | 11.00 | 0.00 |
| Herbster (2) | 12/18 | Cloudy | 9 | Calm | 0 | 15 | 23 | 12 | 6 | 4 | 17.00 | 0.00 |
| Holcombe (23) | 12/15 | Cloudy-Snow | ? | Calm | 0 | –7 | 19 | 0 | 9 | 6 | 31.50 | 0.00 |
| Horicon Marsh (85) | 12/15 | Cloudy | 15 | W | 0–10 | 26 | 31 | 0 | 9 | 4 | 22.50 | 4.50 |
| Hudson (19) | 1/1 | Clear | 6–10 | WNW | 5–20 | –5 | 5 | 0 | 11 | 5 | 31.00 | 2.25 |
| Hustisford (86) | 12/19 | PCL-Clear | 10 | W | 0–7 | 19 | 29 | 1 | 7 | 5 | 35.75 | 3.50 |
| Kenosha (64) | 12/15 | Cloudy | 6–8 | WNW | 6–16 | 15 | 28 | 0 | 2 | 2 | 14.00 | 0.00 |
| Kettle Moraine (73) | 12/22 | Cloudy-Fog | 12–14 | Calm | 0 | 35 | 39 | 2 | 6 | 5 | 31.00 | 3.50 |
| Kewaunee (55) | 12/30 | Cloudy | 4 | SW | 5–8 | 21 | 27 | 2 | 4 | 3 | 21.25 | 0.00 |
| Kickapoo Valley (101) | 12/27 | Cloudy-Clear | 12–15 | NW | 5–10 | 22 | 29 | 1 | 6 | 4 | 28.00 | 2.00 |
| La Crosse (32) | 12/15 | Cloudy | 4–8 | NE–N | 0–8 | 4 | 26 | 12 | 36 | 17 | 86.50 | 9.00 |
| La Farge (102) | 12/29 | Cloudy | 12 | E | 0–5 | 14 | 25 | 0 | 7 | 2 | 12.00 | 1.00 |
| Lake Geneva (79) | 12/29 | Cloudy | 6 | SW | 6–10 | 18 | 24 | 17 | 7 | 6 | 34.00 | 4.50 |
| Lakewood (47) | 12/29 | Cloudy | 12 | W | 0–10 | 10 | 28 | 2 | 12 | 5 | 28.00 | 0.00 |
| Madison (90) | 12/15 | Cloudy-Snow | 10 | N | 8 | 7 | 25 | 10 | **86** | **30** | **198.25** | 5.00 |
| Manitowish Waters (10) | 12/29 | Cloudy | 20+ | NW–SW | 1–10 | 15 | 20 | 8 | 12 | 5 | 26.50 | 1.50 |
| Meadow Valley (29) | 12/26 | Clear | 21 | NW | 1–10 | 10 | 35 | 0 | 10 | 5 | 45.00 | 3.00 |
| Medford (25) | 12/30 | ? | ? | ? | ? | ? | ? | 9 | 10 | 6 | 41.00 | 0.00 |
| Milwaukee (61) | 12/15 | Cloudy-Snow | 10 | NE | 10–28 | 21 | 31 | 13 | 63 | 20 | 103.75 | 1.75 |
| Minocqua (11) | 12/15 | PCL-Cloudy | 6–10 | Calm | 0 | –7 | 21 | 5 | 9 | 5 | 23.00 | 0.00 |
| Montello (82) | 12/14 | Clear | 12 | WNW–E | 5–10 | 5 | 16 | 5 | 13 | 4 | 38.50 | 5.50 |
| Mount Horeb (97) | 12/30 | Clear-Cloudy | 12 | S–SE | 7–8 | 2 | 24 | 31 | 58 | 27 | 122.00 | 5.75 |
| Nelson (20) | 1/4 | Clear-PCL | 4–12 | S | 0–12 | 20 | 35 | 0 | 15 | 8 | 46.00 | 2.00 |
| New Franken (50) | 12/16 | Clear-PCL | 5–8 | N | 5–20 | 12 | 23 | 33 | 20 | 17 | 45.00 | 5.00 |
| New Richmond (18) | 12/15 | Clear | 5 | Variable | 0–5 | –10 | 20 | 0 | 10 | 6 | 28.50 | 0.25 |
| Norske (43) | 12/22 | Cloudy-Fog | 5–6 | Calm | 0 | 28 | 36 | 1 | 4 | 4 | 19.00 | 1.50 |
| Oconomowoc (75) | 12/27 | Cloudy-Clear | 8 | NW | 0–10 | 29 | 31 | 2 | 30 | 11 | 73.50 | 3.00 |
| Oshkosh (68) | 12/15 | Cloudy | 10 | NE | 5–10 | 18 | 25 | 11 | 15 | 8 | 42.50 | 5.00 |
| Owen (26) | 1/1 | Clear–PCL | 12–18 | NW | 0–10 | –20 | 4 | 4 | 13 | 6 | 50.75 | 1.00 |
| Palmyra (77) | 12/29 | Cloudy | 4–10 | WSW | 3–7 | 20 | 30 | 2 | 16 | 9 | 67.00 | 5.75 |
| Pardeeville (83) | 12/21 | Cloudy-Fog | 5–10 | S–SE | 0–10 | 33 | 38 | 14 | 18 | 10 | 60.00 | 3.00 |
| Pensaukee (65) | 1/5 | Cloudy | 5–7 | SW | 3–12 | 24 | 29 | 2 | 1 | 1 | 10.00 | 1.00 |
| Peshtigo (48) | 12/16 | Clear-PC | 1–3 | SE | 0–15 | 12 | 22 | 1 | 4 | 2 | 13.50 | 1.50 |
| Phelps (12) | 12/15 | Cloudy | 7 | Calm | 0 | –7 | 22 | 4 | 8 | 5 | 22.00 | 0.00 |
| Platteville (105) | 12/18 | Cloudy | 11 | SE–S | 6–15 | 19 | 30 | 0 | 3 | 2 | 16.50 | 2.00 |
| Plymouth (72) | 12/22 | Cloudy-Fog | 2–3 | S | 0–9 | 35 | 38 | 4 | 10 | 5 | 22.00 | 2.00 |

*(continued)*

Table 1. . (*continued*)

| Name of Count | Date | Sky | Snow Inches | Wind Dir. | Wind mph. | Temp. °F Low | Temp. °F High | Observers Feeder | Observers Field | Parties | Party Hours | Owling Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Poynette (88) | 12/29 | Cloudy | 10 | W–S | 5–10 | 22 | 26 | 20 | 23 | 11 | 61.75 | 2.00 |
| Racine (63) | 12/22 | Cloudy-Fog | 3–10 | SSE | 7–14 | 36 | 43 | 7 | 8 | 6 | 37.50 | 2.75 |
| Randolph (84) | 12/16 | Clear | 10 | NW | 0–10 | 12 | 21 | 8 | 13 | 6 | 41.75 | 3.00 |
| Rhinelander (14) | 12/15 | Cloudy | 6–10 | Calm | 0 | –7 | 21 | 18 | 4 | 4 | 34.50 | 9.25 |
| Richland Center (100) | 12/15 | Cloudy | 9 | W | 0–5 | 15 | 24 | 2 | 45 | 21 | 91.00 | 5.00 |
| Riveredge (60) | 12/15 | Cloudy-Snow | 10 | NE | 0–8 | 20 | 26 | **37** | 72 | 24 | 187.75 | **20.00** |
| Rosendale (80) | 12/23 | Cloudy-Snow | 8–14 | W–SW | 20–40 | 20 | 30 | 0 | 5 | 3 | 14.00 | 2.50 |
| Sauk City (89) | 12/29 | Cloudy | 10 | SW–S | 5–10 | 20 | 26 | 2 | 26 | 13 | 97.75 | 6.75 |
| Seymour (66) | 12/27 | Cloudy | 3–6 | WNW | 5–10 | 15 | 33 | 0 | 7 | 5 | 37.00 | 0.00 |
| Shawano (45) | 12/15 | Partly Cloudy | 4 | Calm | 0 | 14 | 28 | 29 | 6 | 4 | 27.00 | 1.00 |
| Sheboygan (58) | 12/29 | Clear-Cloudy | 12–14 | SW | 8–12 | 15 | 30 | 0 | 5 | 2 | 19.50 | 2.50 |
| Shiocton (46) | 12/14 | Clear | 7 | Calm | 0 | 9 | 19 | 3 | 14 | 7 | 40.00 | 0.00 |
| Solon Springs (1) | 12/15 | Clear-Cloudy | 12 | Calm | 0 | –16 | 12 | 1 | 8 | 4 | 24.00 | 0.00 |
| Spencer (27) | 12/16 | Cloudy | 6–10 | NW–SW | 5–10 | 11 | 22 | 3 | 13 | 7 | 57.75 | 4.75 |
| Stevens Point (36) | 12/15 | Cloudy-Lt .Snow | 8 | Calm | 0 | 4 | 22 | 2 | 27 | 8 | 58.50 | 3.00 |
| Sturgeon Bay (52) | 12/15 | Cloudy-Lt. Snow | 4–7 | NE | 5–10 | 16 | 26 | 23 | 26 | 15 | 86.75 | 6.50 |
| Summit Lake (33) | 12/19 | Cloudy-Fog | 10 | SE | 0–5 | 25 | 33 | 0 | 9 | 4 | 24.25 | 0.75 |
| Three Lakes (13) | 12/16 | Cloudy-Lt. Snow | 6 | Calm | 0 | –4 | 23 | 1 | 6 | 4 | 19.00 | 0.00 |
| Trempealeau (31) | 12/16 | Cloudy | 6 | W | 5–10 | 5 | 21 | 7 | 18 | 8 | 38.50 | 0.00 |
| Washington Island (54) | 12/29 | Clear | 6 | NW | 3–12 | 30 | 35 | 12 | 16 | 6 | 45.00 | 1.00 |
| Waterloo (91) | 12/18 | PCL-Clear | 12 | SW | 5–10 | 22 | 35 | 6 | 12 | 8 | 58.25 | 2.50 |
| Waukesha (76) | 12/15 | Cloudy-Lt. Snow | 8–18 | N–NE | 10–15 | 17 | 30 | 7 | 33 | 10 | 70.00 | 2.50 |
| Waupaca (42) | 12/17 | Cloudy | ? | SW | 0–2 | 5 | 23 | 1 | 5 | 5 | 34.00 | 1.50 |
| Wausau (35) | 12/15 | Cloudy | 8 | W | 0–10 | 9 | 15 | 4 | 20 | 9 | 47.00 | 1.00 |
| Wautoma (40) | 12/20 | Partly Cloudy | 4 | WNW | 0–12 | 24 | 38 | 12 | 8 | 5 | 36.25 | 3.00 |
| Willard (28) | 12/23 | Cloudy | 12–17 | SE | 5 | 13 | 20 | 2 | 14 | 6 | 42.25 | 2.00 |
| Wisconsin Rapids (38) | 12/15 | Cloudy | 8 | ENE–E | 0–5 | 12 | 24 | 4 | 12 | 8 | 40.00 | 1.00 |
| Woodland Dunes | | | | | | | | | | | | |
| NE (56) | 12/30 | Partly Cloudy | 9 | SW–S | 6–10 | 22 | 28 | 8 | 17 | 12 | 21.00 | 0.00 |
| NW (70) | 12/29 | Partly Cloudy | 9 | SW–S | 0–5 | 27 | 31 | 0 | 9 | 3 | 10.50 | 0.00 |
| SE (57) | 12/16 | Clear | 8–10 | NW–W | 12–15 | 19 | 22 | 3 | 10 | 8 | 22.50 | 0.00 |
| SW (71) | 12/15 | Cloudy-Snow | 6 | ENE | 0–5 | 26 | 26 | 0 | 3 | 3 | 14.00 | 0.00 |
| **TOTAL** | | | | | | | | **644** | **1,479** | **737** | **4383.25** | **243.50** |

**Bold lettering** within a count indicates the highest totals for the state.

other states show only the species and participation for the Wisconsin portion of the count. For details on count compilers and count centers, consult the Appendix.

## Summary of Species

Results from the 2007 counts are reported in Tables 2–9. Tables 2–8 show the more common species, while Table 9 shows the less common species (species seen on 14 or fewer counts). The common species have their counts divided into seven regions, each region having its own table. Table 8 includes the statewide number of individuals found for each common species and compares that total with the average total (adjusted for party hours) over the past 10 years.

**Geese and Swans**—With early snow crusted with ice remaining through the count period, geese were one of the bird groups most affected by the weather. Canada Geese were 90% below their 10-year average. Their total of 29,022 individuals was the smallest since 8,495 in 1985. Because of 100 Snow Geese at Cassville, this species had one of its better showings. Thanks to 93 Mute Swans reported from Washington Island, this invasive species had its second best showing in CBC history. Of the 601 Tundra Swans reported, 570 were from Madison. Of 286 Trumpeter Swans reported, 256 were from Hudson.

**Ducks**—Nearly every duck species, even the diving ducks of Lake Michigan, were below their 10-year averages. The Gadwall showed the greatest decrease, being 69% below average. The most numerous duck, the Mallard, had the second greatest decrease, being 47% below average. The number of individuals was the lowest since 1993 and, if measured by field party hours, the Mallard had its weakest count since 1983. As with last year, nearly all Northern Shovelers were found at Madison. In 2006, of 519 Shovelers reported, 516 came from Madison. In 2007, of 387 reported, 378 came from Madison. The Greater Scaup had its weakest totals since 1999. Of 6,169 individuals reported, 4,971 (or 81%) came from Milwaukee. A Harlequin Duck was found at Sheboygan, a Surf Scoter at Woodland Dunes SE, White-winged Scoters on three counts, and a Black Scoter at Milwaukee. This year all reported scoters were found only on Lake Michigan. Unlike the low numbers for other ducks, the Long-tailed Duck (5,967 over 5 counts) had its second best showing since 1974. Sheboygan reported 1,500 Long-tailed, Sturgeon Bay 2,400 and Woodland Dunes NE 2,024.

**Partridge through Quail**—As it ought to be in years with snow, species in this grouping did well. The Ring-necked Pheasant and the Wild Turkey did remarkably well. Pheasants were 185% above their 10-year average. The 1,507 individuals tallied are eclipsed only by the 1,593 in 1966 and the 2,145 in 1970. The Wild Turkey was 103% above its average. The 18,825 individuals reported are 53% above the previous high of 12,316 in 2003. Spruce Grouse were reported for the second consecutive year. This year, for the first time, this grouse was reported from more than one circle, being encountered at both Manitowish Waters and Phelps. The Sharp-tailed Grouse was found on four counts. This four matches the high in

Table 2. Number of each species in northern Wisconsin found on 15 or more counts.

| Species | Solon Springs 1 | Herbster 2 | Bayfield 3 | Ashland 4 | Gurney 5 | Hayward 6 | Cable 7 | Clam Lake 8 | Fifield 9 | Manitowish Waters 10 | Minocqua 11 | Phelps 12 | Three Lakes 13 | Rhinelander 14 | Florence 15 | Armstrong Creek 16 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | CW | 0 | 0 | 31 | 0 | 0 | 10 | 14 | 7 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | **64** |
| Gadwall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| American Black Duck | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **13** |
| Mallard | 0 | 0 | 1 | 36 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | **54** |
| Bufflehead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Common Goldeneye | 0 | 0 | 32 | 4 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **47** |
| Hooded Merganser | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| Common Merganser | 0 | 0 | 27 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | **32** |
| Red-breasted Merganser | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Ring-necked Pheasant | 0 | 0 | 0 | 2 | 11 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | **18** |
| Ruffed Grouse | 15 | CW | 12 | 7 | 10 | 29 | 17 | 8 | 12 | 4 | 2 | 8 | 7 | 12 | 11 | 5 | **159** |
| Wild Turkey | 7 | CW | 0 | 11 | 21 | 19 | CW | 2 | 36 | 0 | 0 | 9 | 0 | 127 | 246 | 80 | **558** |
| Great Blue Heron | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Bald Eagle | 5 | 12 | 26 | 12 | 8 | 5 | 6 | 1 | 6 | 6 | 8 | 2 | 2 | 13 | 8 | 2 | **122** |
| Northern Harrier | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Sharp-shinned Hawk | 0 | 0 | 0 | 0 | 0 | 0 | CW | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | **3** |
| Cooper's Hawk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **1** |
| Red-tailed Hawk | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | **4** |
| Rough-legged Hawk | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | **13** |
| American Kestrel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **1** |
| American Coot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Wilson's Snipe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Ring-billed Gull | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Herring Gull | 0 | 208 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **459** |
| Rock Pigeon | 9 | 86 | 22 | 279 | 0 | 3 | 0 | 0 | 101 | 0 | 20 | 25 | 16 | 53 | 135 | 97 | **846** |
| Mourning Dove | 1 | 34 | 52 | 73 | 26 | 0 | 8 | 0 | 90 | 52 | 52 | 9 | 2 | 201 | 425 | 69 | **1094** |
| Eastern Screech-Owl | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Great Horned Owl | 1 | CW | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | **10** |
| Barred Owl | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | **5** |
| Belted Kingfisher | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Red-headed Woodpecker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Red-bellied Woodpecker | CW | 0 | 1 | 0 | CW | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 5 | 2 | 2 | **16** |
| Yellow-bellied Sapsucker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Downy Woodpecker | 7 | 13 | 19 | 10 | 12 | 32 | 22 | 16 | 65 | 31 | 18 | 21 | 13 | 44 | 43 | 10 | **376** |
| Hairy Woodpecker | 5 | 14 | 14 | 12 | 12 | 41 | 15 | 26 | 45 | 50 | 14 | 22 | 13 | 36 | 45 | 6 | **370** |
| Northern Flicker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Pileated Woodpecker | CW | 6 | 7 | 1 | 2 | 8 | 9 | 6 | 7 | 6 | 12 | 12 | 15 | 15 | 8 | 2 | **116** |
| Northern Shrike | 0 | 2 | 2 | 7 | 1 | 2 | 0 | 4 | 1 | 1 | CW | 1 | 0 | 3 | 4 | 1 | **29** |
| Blue Jay | 36 | 6 | 114 | 56 | 39 | 88 | 37 | 24 | 41 | 29 | 23 | 22 | 2 | 23 | 93 | 17 | **650** |
| American Crow | 27 | 33 | 183 | 147 | 73 | 67 | 53 | 37 | 263 | 94 | 27 | 96 | 56 | 127 | 143 | 89 | **1515** |
| Common Raven | 28 | 11 | 42 | 8 | **115** | 33 | 27 | 68 | 25 | 20 | 11 | 53 | 7 | 2 | 110 | 39 | **599** |
| Horned Lark | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Black-capped Chickadee | 57 | 165 | 315 | 324 | 254 | 296 | 123 | 339 | 729 | 484 | 248 | 282 | 149 | 376 | 829 | 206 | **5176** |
| Tufted Titmouse | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Red-breasted Nuthatch | 15 | 7 | 29 | 13 | 7 | 53 | 9 | 20 | 67 | 66 | 46 | 44 | 33 | **74** | 61 | 11 | **555** |
| White-breasted Nuthatch | 7 | 24 | 38 | 18 | 16 | 50 | 27 | 13 | 56 | 61 | 46 | 23 | 9 | 60 | 62 | 18 | **528** |
| Brown Creeper | 0 | 0 | CW | 0 | 0 | 2 | 3 | 2 | 6 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | **18** |
| Golden-crowned Kinglet | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| Eastern Bluebird | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| American Robin | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | **3** |
| European Starling | 2 | 78 | 421 | 459 | 7 | 10 | 4 | 0 | 441 | 3 | 0 | 42 | 28 | 18 | 164 | 276 | **1953** |
| Cedar Waxwing | 0 | 0 | 0 | 0 | 0 | 0 | CW | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | **2** |
| American Tree Sparrow | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | **7** |
| Song Sparrow | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| White-throated Sparrow | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **4** |
| Dark-eyed Junco | 4 | 0 | 5 | 6 | 0 | 5 | 2 | 0 | 8 | 0 | 0 | 2 | 0 | 64 | 3 | 1 | **100** |
| Snow Bunting | 81 | 0 | 4 | 167 | 0 | 0 | 28 | 0 | 17 | 0 | 50 | 0 | 0 | 25 | 356 | 145 | **873** |
| Northern Cardinal | 0 | 0 | 3 | 8 | 2 | 1 | 3 | 2 | 8 | 0 | 0 | 1 | 0 | 15 | 5 | 5 | **53** |
| Red-winged Blackbird | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | **5** |
| Common Grackle | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| Brown-headed Cowbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Pine Grosbeak | 27 | 21 | 17 | 59 | 44 | 61 | 0 | 79 | 86 | 117 | 40 | 152 | 20 | 62 | 151 | 77 | **1013** |
| Purple Finch | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 4 | 0 | 0 | 0 | 0 | 9 | 18 | 0 | **40** |
| House Finch | 0 | 0 | CW | 19 | 0 | 0 | CW | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | **26** |
| Common Redpoll | 0 | 0 | 0 | 35 | 10 | CW | 0 | 36 | **315** | 239 | 70 | 9 | 0 | 178 | 106 | 24 | **1022** |
| Pine Siskin | 1 | CW | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 0 | CW | 0 | 0 | 27 | 6 | 0 | **43** |
| American Goldfinch | 32 | 16 | 32 | 38 | 8 | 41 | 47 | 15 | 88 | 20 | 39 | 9 | 0 | 61 | 120 | 18 | **584** |
| Evening Grosbeak | CW | 7 | CW | 0 | 7 | 44 | 2 | 0 | 2 | 24 | 0 | 86 | 58 | 4 | **106** | 98 | **438** |
| House Sparrow | 0 | 25 | 40 | 150 | 55 | 0 | 0 | 0 | 30 | 0 | 16 | 9 | 9 | 44 | 63 | 50 | **491** |
| **Total Species** | **23** | **21** | **33** | **39** | **26** | **27** | **24** | **24** | **36** | **24** | **24** | **27** | **22** | **42** | **32** | **29** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state

Table 3. Number of each species in west-central Wisconsin found on 15 or more counts.

| Species | Grantsburg 17 | New Richmond 18 | Hudson 19 | Nelson 20 | Durand 21 | Chippewa Falls 22 | Holcombe 23 | Gilman 24 | Medford 25 | Owen 26 | Spencer 27 | Willard 28 | Meadow Valley 29 | Black River Falls 30 | Trempealeau 31 | La Crosse 32 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 75 | 2046 | 1644 | 174 | 0 | 562 | 4 | 0 | 10 | 0 | 0 | 0 | 29 | 0 | 10 | 7 | **4561** |
| Gadwall | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | **18** |
| American Black Duck | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 5 | CW | **13** |
| Mallard | 11 | 381 | 316 | 0 | 25 | 141 | 0 | 3 | 333 | 0 | 0 | 0 | 0 | 0 | 181 | 261 | **1652** |
| Bufflehead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Common Goldeneye | 0 | 0 | 80 | 98 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | **213** |
| Hooded Merganser | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **4** |
| Red-breasted Merganser | 0 | 0 | CW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Common Merganser | 0 | 0 | 1500 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | **1588** |
| Ring-necked Pheasant | 99 | 48 | 17 | 4 | 54 | 26 | 0 | 37 | 27 | 14 | 9 | 3 | 1 | 2 | 5 | 0 | **346** |
| Ruffed Grouse | 2 | 0 | 0 | 0 | 2 | 1 | 12 | **45** | 8 | 7 | 9 | 4 | 14 | 1 | 0 | 0 | **105** |
| Wild Turkey | 34 | 103 | 194 | 469 | 482 | 132 | 73 | 150 | 321 | 242 | 443 | 432 | 50 | 167 | 100 | 188 | **3580** |
| Great Blue Heron | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **1** |
| Bald Eagle | 10 | 18 | 14 | 99 | 14 | 6 | 2 | 8 | 4 | 3 | 5 | 6 | 3 | 2 | 36 | 32 | **262** |
| Northern Harrier | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Sharp-shinned Hawk | 0 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 1 | 2 | 4 | 0 | 1 | 0 | 1 | 4 | **21** |
| Cooper's Hawk | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 6 | 2 | 1 | 0 | 2 | 5 | **24** |
| Red-tailed Hawk | 9 | 27 | 15 | 44 | 37 | 14 | 7 | 4 | 4 | 40 | 39 | 7 | 2 | 0 | 22 | 42 | **313** |
| Rough-legged Hawk | 7 | 2 | 0 | 7 | 12 | 2 | 1 | 1 | 3 | 4 | 8 | 11 | 3 | 7 | 8 | 5 | **81** |
| American Kestrel | 1 | 0 | 0 | 7 | 6 | 0 | 3 | 0 | 0 | 3 | 11 | 2 | 1 | 0 | 1 | 8 | **43** |
| American Coot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Wilson's Snipe | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Ring-billed Gull | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Herring Gull | 0 | 0 | CW | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **11** |
| Rock Pigeon | 111 | 507 | 187 | 463 | 687 | 323 | 400 | 517 | 424 | 251 | 858 | 656 | 2 | 153 | 243 | 582 | **6364** |
| Mourning Dove | 30 | 61 | 1 | 85 | 167 | 183 | 197 | 77 | 276 | 331 | 519 | 465 | 63 | 51 | 152 | 364 | **3022** |
| Eastern Screech-Owl | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | **4** |
| Great Horned Owl | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 11 | 2 | 1 | 2 | 3 | **32** |
| Barred Owl | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 2 | 4 | 0 | 1 | 1 | 3 | 4 | **22** |
| Belted Kingfisher | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 6 | **14** |
| Red-headed Woodpecker | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | **4** |
| Red-bellied Woodpecker | 3 | 14 | 12 | 24 | 38 | 17 | 10 | 6 | 12 | 24 | 22 | 20 | 6 | 15 | 27 | 41 | **291** |
| Yellow-bellied Sapsucker | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| Downy Woodpecker | 21 | 34 | 29 | 60 | 86 | 36 | 42 | 49 | 33 | 110 | 93 | 74 | 15 | 21 | 54 | 117 | **874** |
| Hairy Woodpecker | 15 | 14 | 8 | 13 | 15 | 12 | 22 | 35 | 36 | 52 | 41 | 27 | 12 | 11 | 34 | 34 | **381** |
| Northern Flicker | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | CW | 3 | 3 | **11** |
| Pileated Woodpecker | 2 | 2 | 7 | 10 | 9 | 4 | 0 | 13 | 3 | 3 | 7 | 5 | 10 | 4 | 4 | 10 | **93** |
| Northern Shrike | 8 | 3 | 3 | 4 | 12 | 3 | 6 | 10 | 7 | 9 | **22** | 18 | 9 | 0 | 3 | 4 | **121** |
| Blue Jay | 106 | 64 | 54 | 166 | 300 | 168 | 152 | 105 | 93 | 208 | 126 | 456 | 406 | 106 | 145 | 128 | **2783** |
| American Crow | 177 | 711 | 636 | 543 | 1225 | 401 | 186 | 154 | 960 | 380 | 510 | 538 | 127 | 45 | 223 | 285 | **7101** |
| Common Raven | 2 | 0 | 0 | 1 | 2 | 2 | 13 | 59 | 15 | 10 | 2 | 15 | 15 | 5 | 5 | 0 | **146** |
| Horned Lark | 0 | 6 | 0 | 9 | 167 | 33 | 0 | 0 | 0 | 12 | 32 | 2 | 0 | 0 | CW | 0 | **261** |
| Black-capped Chickadee | 219 | 168 | 178 | 388 | 267 | 242 | 365 | 749 | 765 | 847 | 502 | 535 | 206 | 124 | 126 | 439 | **6120** |
| Tufted Titmouse | 0 | 0 | 0 | 5 | 4 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 18 | 64 | **107** |
| Red-breasted Nuthatch | 6 | 7 | 8 | 19 | 21 | 10 | 11 | 22 | 31 | 26 | 17 | 24 | 25 | 58 | 15 | 11 | **311** |
| White-breasted Nuthatch | 28 | 20 | 23 | 86 | 50 | 38 | 40 | 62 | 79 | 95 | 86 | 72 | 34 | 28 | 65 | 137 | **943** |
| Brown Creeper | 0 | 0 | CW | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11 | **15** |
| Golden-crowned Kinglet | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Eastern Bluebird | 0 | 0 | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 15 | **46** |
| American Robin | 0 | 47 | **694** | 24 | 55 | 21 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 1 | 50 | 71 | **969** |
| European Starling | 377 | 117 | 274 | 767 | 914 | 799 | 556 | 1000 | 1201 | 645 | 950 | 970 | 16 | 19 | 772 | 574 | **9951** |
| Cedar Waxwing | 0 | 33 | 196 | 0 | 8 | 12 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 47 | 34 | **333** |
| American Tree Sparrow | 87 | 152 | 37 | 218 | 233 | 27 | 37 | 73 | 14 | 25 | 176 | 50 | 30 | 40 | 367 | 178 | **1744** |
| Song Sparrow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | **4** |
| White-throated Sparrow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | **2** |
| Dark-eyed Junco | 37 | 183 | 126 | 966 | 598 | 172 | 55 | 16 | 39 | 33 | 152 | 170 | 49 | 348 | 602 | 598 | **4144** |
| Snow Bunting | 166 | 72 | 0 | 0 | 0 | 0 | 0 | 130 | 372 | 3 | 403 | 95 | 109 | 0 | 0 | 0 | **1350** |
| Northern Cardinal | 16 | 59 | 49 | 88 | 88 | 41 | 23 | 26 | 52 | 45 | 92 | 76 | 3 | 31 | 167 | 254 | **1110** |
| Red-winged Blackbird | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **110** | **117** |
| Common Grackle | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Brown-headed Cowbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **1** |
| Pine Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 71 | 16 | 1 | 2 | 3 | 0 | 0 | 0 | **98** |
| Purple Finch | 0 | 10 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 21 | 7 | 25 | 10 | **88** |
| House Finch | 0 | 13 | 67 | 35 | 35 | 53 | 0 | 5 | 22 | 35 | 39 | 24 | 0 | 0 | 27 | 110 | **465** |
| Common Redpoll | 32 | 0 | 0 | 0 | 0 | 0 | 55 | 110 | 199 | 47 | 24 | 21 | 4 | 0 | 0 | 1 | **493** |
| Pine Siskin | 0 | 0 | 0 | 17 | 0 | 0 | 10 | 5 | 0 | 0 | 0 | 13 | 0 | 0 | 10 | 2 | **57** |
| American Goldfinch | 65 | 65 | 35 | 167 | 210 | 128 | 116 | 84 | 167 | 228 | 197 | 405 | 31 | 45 | 69 | 269 | **2281** |
| Evening Grosbeak | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **37** |
| House Sparrow | 381 | 138 | 90 | 426 | 519 | 264 | 618 | 582 | 351 | 551 | 1332 | 406 | 11 | 0 | 544 | 649 | **6862** |
| **Total Species** | **36** | **40** | **39** | **49** | **36** | **38** | **34** | **38** | **40** | **34** | **41** | **38** | **39** | **26** | **50** | **56** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 4. Number of each species in central Wisconsin found on 15 or more counts.

| Species | Summit Lake 33 | Antigo 34 | Wausau 35 | Stevens Point 36 | Arpin 37 | Wisc. Rapids 38 | Friendship 39 | Wautoma 40 | Fremont 41 | Waupaca 42 | Norske 43 | Caroline 44 | Shawano 45 | Shiocton 46 | Lakewood 47 | Peshtigo 48 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 0 | 0 | 0 | 12 | 0 | 128 | 313 | 359 | 9 | 161 | 3 | 2 | 69 | 2 | 0 | 0 | **1058** |
| Gadwall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| American Black Duck | 0 | 0 | 20 | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 2 | 0 | 1 | 0 | 0 | **29** |
| Mallard | 0 | 0 | 304 | 843 | 0 | 645 | 19 | 239 | 43 | 86 | 13 | 125 | 194 | 36 | 0 | 0 | **2547** |
| Bufflehead | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **20** |
| Common Goldeneye | 0 | 0 | 0 | 257 | 0 | 160 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | **426** |
| Hooded Merganser | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Common Merganser | 0 | 0 | 4 | 0 | 0 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **22** |
| Red-breasted Merganser | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Ring-necked Pheasant | 0 | 0 | 0 | 2 | 3 | 3 | 0 | 0 | 15 | 2 | 1 | 1 | 19 | 5 | 0 | 2 | **53** |
| Ruffed Grouse | 15 | 12 | 1 | 0 | 3 | 1 | 1 | 3 | 0 | 0 | 1 | 1 | 4 | 0 | 1 | 8 | **51** |
| Wild Turkey | 23 | 72 | 293 | 163 | 172 | 102 | 78 | 294 | 63 | 326 | 43 | 171 | 628 | 427 | 88 | 119 | **3062** |
| Great Blue Heron | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **1** |
| Bald Eagle | 1 | 4 | 4 | 16 | 3 | 4 | 3 | 3 | 4 | 7 | 1 | 4 | 17 | 6 | 4 | 3 | **84** |
| Northern Harrier | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | **4** |
| Sharp-shinned Hawk | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | **13** |
| Cooper's Hawk | 0 | 0 | 2 | 5 | 2 | 0 | 1 | 2 | 4 | 1 | 0 | 0 | 1 | 3 | 0 | 2 | **23** |
| Red-tailed Hawk | 1 | 3 | 13 | 22 | 29 | 10 | 6 | 21 | 25 | 24 | 2 | 11 | 10 | 54 | 0 | 10 | **241** |
| Rough-legged Hawk | 0 | 2 | 4 | 1 | 6 | 0 | 1 | 4 | 6 | 7 | 1 | 5 | 12 | 4 | 0 | 10 | **63** |
| American Kestrel | 0 | 1 | 0 | 3 | 11 | 0 | 1 | 0 | 18 | 2 | 1 | 2 | 5 | 18 | 0 | 4 | **66** |
| American Coot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Wilson's Snipe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **4** | 0 | 0 | **5** |
| Ring-billed Gull | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Herring Gull | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Rock Pigeon | 92 | 180 | 365 | 367 | 430 | 372 | 46 | 118 | 757 | 368 | 176 | 535 | 600 | 1074 | 42 | 355 | **5877** |
| Mourning Dove | 158 | 128 | 456 | 456 | 154 | 234 | 51 | 330 | 1484 | 238 | 44 | 364 | 493 | 452 | 92 | 303 | **5437** |
| Eastern Screech-Owl | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | **4** |
| Great Horned Owl | 1 | 1 | 0 | 5 | CW | 1 | 2 | 2 | 3 | 3 | 1 | 2 | 4 | 2 | 0 | 1 | **28** |
| Barred Owl | 1 | 0 | 0 | 7 | 0 | CW | 0 | 2 | 0 | 2 | 1 | 1 | 5 | 0 | 0 | 1 | **20** |
| Belted Kingfisher | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | **11** |
| Red-headed Woodpecker | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | **7** | 0 | 0 | 0 | **13** |
| Red-bellied Woodpecker | 1 | CW | 7 | 29 | 6 | 8 | 9 | 37 | 32 | 19 | 5 | 5 | 13 | 25 | 1 | 18 | **215** |
| Yellow-belled Sapsucker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Downy Woodpecker | 12 | 9 | 40 | 73 | 20 | 20 | 19 | 61 | 88 | 50 | 16 | 28 | 75 | 52 | 27 | 25 | **615** |
| Hairy Woodpecker | 18 | 4 | 20 | 50 | 9 | 11 | 9 | 16 | 27 | 25 | 11 | 16 | 36 | 12 | 28 | 14 | **306** |
| Northern Flicker | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | 18 | 4 | 1 | 2 | 4 | 4 | 1 | 1 | **41** |
| Pileated Woodpecker | 4 | 2 | 7 | 22 | 3 | 3 | 3 | 15 | 12 | 6 | 1 | 3 | 12 | 3 | 2 | 3 | **101** |
| Northern Shrike | 2 | 4 | 5 | 7 | 5 | 1 | 1 | 6 | 4 | 4 | 1 | 2 | 1 | 3 | 2 | 3 | **51** |
| Blue Jay | 19 | 17 | 91 | 274 | 180 | 165 | 222 | 336 | 276 | 185 | 42 | 76 | 214 | 126 | 28 | 82 | **2333** |
| American Crow | 143 | 154 | 374 | 396 | 297 | 120 | 172 | 556 | 389 | 374 | 115 | 225 | 278 | 342 | 112 | 113 | **4160** |
| Common Raven | 20 | 9 | 2 | 9 | 1 | 1 | 12 | 1 | 4 | 5 | 2 | 8 | 19 | 4 | 11 | 14 | **122** |
| Horned Lark | 0 | 0 | 4 | 0 | 15 | 0 | 0 | 0 | 202 | 0 | 2 | 0 | 8 | 76 | 0 | 0 | **307** |
| Black-capped Chickadee | 227 | 117 | 340 | 577 | 82 | 141 | 139 | 258 | 736 | 224 | 41 | 99 | 229 | 282 | 398 | 126 | **4016** |
| Tufted Titmouse | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | **10** |
| Red-breasted Nuthatch | 10 | 4 | 26 | 65 | 0 | 25 | 10 | 38 | 60 | 35 | 22 | 11 | 30 | 6 | 29 | 13 | **384** |
| White-breasted Nuthatch | 27 | 4 | 39 | 115 | 19 | 10 | 35 | 50 | 128 | 60 | 18 | 17 | 42 | 48 | 53 | 24 | **689** |
| Brown Creeper | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | **11** |
| Golden-crowned Kinglet | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 8 | 0 | 0 | 0 | **10** |
| Eastern Bluebird | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 38 | 12 | 2 | 0 | 0 | 31 | 0 | 0 | **90** |
| American Robin | 0 | 0 | 13 | 20 | 4 | 13 | 28 | 417 | 14 | 98 | 10 | 6 | 2 | 17 | 0 | 0 | **642** |
| European Starling | 292 | 151 | 222 | 961 | 281 | 2 | 173 | 2127 | 1500 | 922 | 235 | 349 | 373 | 1016 | 5 | 146 | **8755** |
| Cedar Waxwing | 0 | 0 | 86 | 120 | 0 | 2 | 185 | 218 | 102 | 61 | 12 | 0 | 30 | 0 | 0 | 0 | **816** |
| American Tree Sparrow | 1 | 12 | 84 | 184 | 94 | 1 | 4 | 91 | 580 | 307 | 125 | 46 | 140 | 169 | 0 | 45 | **1883** |
| Song Sparrow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | **15** |
| White-throated Sparrow | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | **4** |
| Dark-eyed Junco | 3 | 15 | 96 | 565 | 35 | 153 | 104 | 653 | 905 | 840 | 130 | 120 | 321 | 344 | 7 | 137 | **4428** |
| Snow Bunting | 57 | 222 | 79 | 138 | 220 | 140 | 0 | 0 | 151 | 80 | 126 | 18 | 281 | 77 | 230 | 0 | **1819** |
| Northern Cardinal | 1 | 18 | 65 | 105 | 27 | 28 | 13 | 68 | 171 | 66 | 20 | 21 | 80 | 53 | 4 | 11 | **751** |
| Red-winged Blackbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Common Grackle | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **3** |
| Brown-headed Cowbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | **1** |
| Pine Grosbeak | 51 | 2 | 36 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 17 | **247** | 0 | 60 | 3 | **430** |
| Purple Finch | 0 | 0 | 0 | 25 | 0 | 6 | 8 | 14 | 6 | 7 | 6 | 2 | 36 | 0 | 0 | 2 | **112** |
| House Finch | 0 | 2 | 102 | 169 | 10 | 10 | 4 | 37 | 149 | 20 | 2 | 21 | 155 | 218 | 0 | 4 | **903** |
| Common Redpoll | 109 | 31 | 81 | 0 | 0 | 0 | 0 | 0 | 8 | 3 | 0 | 115 | 19 | 4 | 50 | CW | **420** |
| Pine Siskin | 1 | 0 | 32 | 20 | 0 | 25 | 1 | 3 | 19 | 10 | 1 | 0 | 15 | 0 | 0 | 0 | **127** |
| American Goldfinch | 3 | 5 | 173 | 324 | 40 | 56 | 140 | 93 | 189 | 239 | 86 | 57 | 274 | 273 | 0 | 137 | **2089** |
| Evening Grosbeak | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **53** |
| House Sparrow | 182 | 142 | 399 | 647 | 240 | 44 | 95 | 42 | 1726 | 298 | 6 | 68 | 338 | 638 | 0 | 88 | 4953 |
| **Total Species** | **35** | **33** | **39** | **53** | **31** | **44** | **40** | **47** | **49** | **46** | **46** | **43** | **54** | **41** | **26** | **38** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 5. Number of each species along Lake Michigan in Wisconsin found on 15 or more counts.

| Species | Green Bay 49 | New Franken 50 | Brus-sels 51 | Stur-geon Bay 52 | Eph-raim 53 | Wash-ington Island 54 | Ke-wau-nee 55 | Woodland Dunes NE 56 | Woodland Dunes SE 57 | She boygan 58 | Cedar Grove 59 | River-edge 60 | Mil-waukee 61 | Hales Cor-ners 62 | Racine 63 | Keno-sha 64 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 687 | 47 | 318 | 1896 | 62 | 6 | **2580** | 441 | 569 | 141 | 15 | 687 | 379 | 46 | 865 | 159 | **8898** |
| Gadwall | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 2 | 0 | 0 | 15 | 8 | 0 | CW | **33** |
| American Black Duck | **348** | 0 | 0 | 48 | 0 | 3 | 1 | 4 | 3 | 58 | 1 | 3 | 35 | 0 | 29 | 0 | **533** |
| Mallard | **2897** | 35 | 17 | 511 | 137 | 79 | 104 | 140 | 117 | 784 | 123 | 199 | 896 | 93 | 1077 | 88 | **7209** |
| Bufflehead | 0 | 0 | 0 | 142 | 55 | 96 | 22 | 3 | 11 | 66 | 40 | 72 | **498** | 34 | 41 | 48 | **1128** |
| Common Goldeneye | 158 | 0 | 4 | 338 | 107 | 124 | 135 | 32 | 390 | 806 | 483 | 12 | **1462** | 11 | 12 | 10 | **4084** |
| Hooded Merganser | 5 | 0 | 0 | CW | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 20 | 0 | 2 | 2 | **31** |
| Red-breasted Merganser | 6 | 0 | 0 | 35 | 6 | 22 | 5 | 1 | 8 | **813** | 29 | 8 | 155 | 14 | 1 | CW | **1103** |
| Common Merganser | 575 | 0 | 0 | 70 | 28 | 13 | 70 | 4 | 126 | 29 | 0 | 119 | 39 | 12 | 2 | 1 | **1088** |
| Ring-necked Pheasant | 2 | 49 | 4 | 8 | 0 | 1 | 13 | 10 | 0 | 0 | 46 | 16 | 0 | 0 | CW | CW | **149** |
| Ruffed Grouse | 2 | 0 | 1 | 6 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **12** |
| Wild Turkey | 230 | 338 | 659 | 526 | 124 | 42 | 225 | 134 | 38 | 22 | 64 | 521 | 31 | 0 | 0 | 0 | **2954** |
| Great Blue Heron | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 3 | 3 | CW | CW | 0 | **10** |
| Bald Eagle | 17 | 1 | 8 | 4 | 2 | 4 | 6 | 1 | 3 | 1 | 0 | CW | 0 | 0 | CW | 0 | **47** |
| Northern Harrier | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | CW | **8** |
| Sharp-shinned Hawk | 3 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | **5** | 2 | 0 | 2 | 1 | **21** |
| Cooper's Hawk | 14 | 5 | 4 | 3 | 3 | 0 | 2 | 0 | 4 | 4 | 5 | 16 | 16 | 3 | 1 | 1 | **81** |
| Red-tailed Hawk | 76 | 21 | 10 | 21 | 3 | 0 | 23 | 10 | 5 | 13 | 24 | 53 | 20 | 4 | 6 | 2 | **291** |
| Rough-legged Hawk | 1 | 1 | 18 | 10 | 1 | 2 | 6 | 1 | 1 | 0 | 9 | 7 | 0 | 0 | CW | 0 | **57** |
| American Kestrel | 14 | 10 | 4 | 0 | CW | 0 | 6 | 12 | 2 | 5 | 15 | **26** | 3 | 0 | 5 | 1 | **103** |
| American Coot | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 23 | 32 | 0 | 1 | 5 | **68** |
| Wilson's Snipe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | **1** |
| Ring-billed Gull | 50 | 1 | 0 | 38 | 23 | 0 | 0 | 0 | 6 | 33 | 9 | 77 | 310 | 139 | 93 | 14 | **793** |
| Herring Gull | 1833 | 4 | 120 | 48 | 18 | 253 | 418 | 630 | 361 | 65 | 213 | 24 | 1572 | 32 | 576 | 8 | **6175** |
| Rock Pigeon | 861 | 308 | 515 | 292 | 11 | 20 | 600 | 178 | 97 | 432 | 402 | 611 | 457 | 25 | 20 | 221 | **5050** |
| Mourning Dove | 1671 | 344 | 277 | 727 | 83 | 49 | 270 | 183 | 81 | 405 | 422 | 968 | 628 | 162 | 503 | 28 | **6801** |
| Eastern Screech-Owl | 7 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | CW | 1 | 0 | 20 | 2 | 0 | 4 | 0 | **38** |
| Great Horned Owl | 18 | 6 | 0 | 4 | 4 | 0 | 2 | 0 | 0 | 3 | 3 | **55** | 5 | 3 | 4 | CW | **107** |
| Barred Owl | 6 | 0 | 0 | CW | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **12** | 0 | 1 | 0 | 0 | **20** |
| Belted Kingfisher | 0 | 0 | CW | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 4 | 1 | 2 | 0 | **11** |
| Red-headed Woodpecker | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **6** |
| Red-bellied Woodpecker | 58 | 49 | 13 | 34 | 10 | 7 | 10 | 9 | 4 | 2 | 20 | 105 | 26 | 8 | 9 | 1 | **365** |
| Yellow-bellied Sapsucker | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **4** | 3 | 0 | 2 | CW | **10** |
| Downy Woodpecker | 90 | 118 | 16 | 68 | 30 | 26 | 20 | 30 | 13 | 13 | 37 | 253 | 108 | 26 | 19 | 2 | **869** |
| Hairy Woodpecker | 53 | 50 | 16 | 71 | 27 | 15 | 8 | 12 | 7 | 1 | 8 | **95** | 35 | 8 | 3 | 1 | **410** |
| Northern Flicker | 1 | 2 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 15 | 4 | 0 | 1 | 1 | **28** |
| Pileated Woodpecker | 3 | 4 | 0 | 24 | 12 | 3 | 4 | 3 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | **57** |
| Northern Shrike | 9 | 1 | 8 | 5 | CW | 0 | 2 | 2 | 2 | 3 | 10 | 13 | 5 | 4 | 1 | 0 | **65** |
| Blue Jay | 85 | 108 | 31 | 136 | 34 | 11 | 66 | 29 | 10 | 14 | 45 | 194 | 5 | 9 | 17 | 15 | **809** |
| American Crow | 241 | 175 | 558 | 618 | 220 | 66 | 254 | 166 | 110 | 88 | 181 | 693 | 132 | 20 | 35 | 24 | **3581** |
| Common Raven | 0 | 2 | CW | 25 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **43** |
| Horned Lark | 0 | 3 | 0 | 0 | 0 | 0 | 17 | 12 | 22 | 53 | 31 | 18 | 0 | 0 | CW | 7 | **163** |
| Black-capped Chickadee | 437 | 349 | 51 | 435 | 160 | 147 | 90 | 96 | 51 | 31 | 319 | **998** | 371 | 75 | 125 | 32 | **3767** |
| Tufted Titmouse | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **3** |
| Red-breasted Nuthatch | 57 | 37 | 5 | 48 | 20 | 24 | 3 | 12 | 4 | 3 | 20 | 38 | 22 | 5 | 7 | 1 | **306** |
| White-breasted Nuthatch | 129 | 106 | 13 | 62 | 14 | 23 | 8 | 15 | 21 | 4 | 55 | **255** | 65 | 20 | 19 | 6 | **815** |
| Brown Creeper | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 4 | 0 | 0 | 0 | **17** |
| Golden-crowned Kinglet | 0 | 0 | 0 | 8 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 7 | 0 | **24** |
| Eastern Bluebird | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 45 | 8 | 0 | 0 | **82** |
| American Robin | 121 | 0 | 6 | 14 | 0 | 0 | 1 | 1 | 0 | 30 | 1 | 67 | 370 | 28 | 34 | 3 | **676** |
| European Starling | 549 | 170 | 896 | 1436 | 83 | 25 | 2127 | 345 | 8 | 701 | 2544 | 1409 | 1018 | 388 | 1907 | 62 | **13,668** |
| Cedar Waxwing | 285 | 55 | 40 | 10 | 16 | 0 | 64 | 0 | 0 | 665 | 8 | 640 | **1046** | 85 | 177 | 3 | **3094** |
| American Tree Sparrow | 209 | 82 | 53 | 93 | 4 | 2 | 63 | 54 | 7 | 23 | 251 | 238 | 101 | 37 | 112 | 42 | **1371** |
| Song Sparrow | 1 | **25** | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 1 | 2 | 0 | **37** |
| White-throated Sparrow | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | **26** | 11 | 0 | 2 | **58** |
| Dark-eyed Junco | 487 | 377 | 45 | 391 | 75 | 15 | 127 | 131 | 45 | 47 | 344 | 1449 | 320 | 84 | 249 | 29 | **4215** |
| Snow Bunting | 300 | 224 | 49 | 255 | 34 | 0 | 0 | 0 | 0 | 11 | 85 | 3 | 0 | 0 | 0 | 187 | **1148** |
| Northern Cardinal | 216 | 112 | 27 | 103 | 32 | 27 | 23 | 45 | 26 | 28 | 102 | 643 | 237 | 102 | 97 | 19 | **1839** |
| Red-winged Blackbird | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | **9** |
| Common Grackle | 2 | 2 | 0 | 0 | **29** | 0 | 0 | 0 | 0 | 0 | 0 | CW | 0 | 0 | 0 | 1 | **34** |
| Brown-headed Cowbird | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | CW | **6** |
| Pine Grosbeak | 0 | 17 | 0 | 39 | 9 | 4 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **152** |
| Purple Finch | 6 | 29 | 33 | 28 | 0 | 2 | 1 | 5 | 0 | 0 | 2 | 17 | 0 | CW | 0 | 0 | **123** |
| House Finch | 496 | 187 | 44 | 151 | 6 | 0 | 38 | 23 | 51 | 157 | 141 | 353 | 191 | 40 | 41 | 4 | **1923** |
| Common Redpoll | 12 | 132 | 12 | 171 | 161 | 24 | 6 | 0 | CW | 0 | 1 | 21 | 4 | 4 | 0 | 0 | **548** |
| Pine Siskin | 47 | 1 | 10 | 52 | 32 | 30 | 0 | 0 | 1 | 0 | 0 | 10 | 14 | 0 | 0 | 0 | **197** |
| American Goldfinch | 691 | 463 | 127 | 476 | 128 | 20 | 115 | 143 | 31 | 131 | 223 | **910** | 356 | 53 | 183 | 20 | **4070** |
| Evening Grosbeak | 0 | 6 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **11** |
| House Sparrow | 1630 | 519 | 136 | 69 | 20 | 8 | 393 | 41 | 67 | 198 | 1317 | 741 | 806 | 136 | 395 | 27 | **6503** |
| **Total Species** | **66** | **64** | **38** | **58** | **52** | **48** | **46** | **48** | **46** | **51** | **46** | **73** | **69** | **40** | **50** | **42** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 6. Number of each species in hinterland east Wisconsin found on 15 or more counts.

| Species | Pen-saukee 65 | Sey-mour 66 | Apple-ton 67 | Osh-kosh 68 | Fond du Lac 69 | Woodland Dunes NW 70 | Woodland Dunes SW 71 | Ply-mouth 72 | Kettle Moraine 73 | Hart-ford 74 | Ocono-mowoc 75 | Wauk-esha 76 | Pal-myra 77 | Bur-lington 78 | Lake Geneva 79 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 7 | 0 | 1041 | 24 | 25 | 0 | 6 | 0 | 25 | 32 | 2356 | 93 | 227 | 904 | 974 | **5714** |
| Gadwall | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 16 | 0 | 3 | **34** |
| American Black Duck | 4 | 0 | 84 | 7 | 8 | 0 | 2 | 0 | 0 | 14 | 5 | 0 | 1 | 2 | 0 | **127** |
| Mallard | 88 | 0 | 2830 | 861 | 730 | 0 | 10 | 4 | 20 | 76 | 267 | 209 | 67 | 652 | 72 | **5886** |
| Bufflehead | 0 | 0 | 18 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 76 | **100** |
| Common Goldeneye | 0 | 0 | 1010 | 4 | 0 | 0 | 0 | 0 | 0 | 7 | 51 | 0 | 0 | 5 | 197 | **1274** |
| Hooded Merganser | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 7 | **29** |
| Red-breasted Merganser | 0 | 0 | CW | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | **24** |
| Common Merganser | 1 | 0 | 420 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1570 | **1997** |
| Ring-necked Pheasant | 9 | 1 | 14 | 12 | 5 | 1 | 1 | 13 | 31 | 3 | 5 | 7 | 0 | 27 | 9 | **138** |
| Ruffed Grouse | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **6** |
| Wild Turkey | 124 | 83 | 8 | 34 | 95 | 154 | 65 | 249 | 162 | 559 | 137 | 120 | 89 | 44 | 193 | **2116** |
| Great Blue Heron | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | **5** | 2 | 3 | **18** |
| Bald Eagle | 2 | 0 | 46 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | **58** |
| Northern Harrier | 0 | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | **11** |
| Sharp-shinned Hawk | 2 | 0 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 0 | 2 | 3 | 4 | **27** |
| Cooper's Hawk | 1 | 1 | 1 | 18 | 4 | 1 | 0 | 3 | 1 | 12 | 9 | 3 | 2 | 3 | 0 | **68** |
| Red-tailed Hawk | 5 | 40 | 95 | 35 | 15 | 7 | 3 | 4 | 4 | 72 | 54 | 18 | 45 | 42 | 43 | **482** |
| Rough-legged Hawk | 2 | 11 | 9 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 7 | 0 | 5 | 1 | 2 | **41** |
| American Kestrel | 1 | 18 | 24 | 13 | 5 | 5 | 3 | 6 | 7 | 13 | 10 | 0 | 4 | 5 | 3 | **117** |
| American Coot | 0 | 0 | 1 | CW | 1 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 20 | **71** |
| Wilson's Snipe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | **2** |
| Ring-billed Gull | 0 | 0 | 9 | 3 | 5 | 0 | 0 | CW | 0 | 1 | 77 | 41 | 0 | 1 | 112 | **249** |
| Herring Gull | 1 | 0 | **1960** | 1122 | 4 | 153 | 5 | 0 | 0 | 22 | 32 | 0 | 1 | 2 | 51 | **3353** |
| Rock Pigeon | 86 | 735 | 896 | 480 | 180 | 61 | 83 | 60 | 392 | 1064 | 748 | 32 | 189 | 362 | 139 | **5507** |
| Mourning Dove | 218 | 950 | **1913** | 957 | 189 | 198 | 150 | 158 | 463 | 525 | 667 | 165 | 259 | 345 | 163 | **7320** |
| Eastern Screech-Owl | CW | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 2 | 5 | 5 | 1 | **21** |
| Great Horned Owl | 2 | 2 | 8 | 4 | 13 | 2 | 0 | 2 | 2 | 2 | 1 | 13 | 8 | 1 | 8 | **68** |
| Barred Owl | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | **10** |
| Belted Kingfisher | CW | 0 | **7** | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 3 | 2 | 2 | **22** |
| Red-headed Woodpecker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **1** |
| Red-bellied Woodpecker | 5 | 12 | 31 | 31 | 14 | 6 | 8 | 10 | 20 | 26 | 36 | 20 | 36 | 27 | 23 | **305** |
| Yellow-bellied Sapsucker | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | CW | 0 | 1 | CW | 1 | 0 | **5** |
| Downy Woodpecker | 5 | 57 | 90 | 77 | 26 | 12 | 2 | 18 | 56 | 78 | 77 | 25 | 54 | 19 | 49 | **645** |
| Hairy Woodpecker | 3 | 12 | 35 | 29 | 5 | 16 | 6 | 7 | 16 | 17 | 28 | 11 | 25 | 4 | 15 | **229** |
| Northern Flicker | 1 | 0 | 3 | 2 | 4 | 2 | 1 | 7 | 11 | 8 | 5 | 3 | 3 | 4 | 2 | **56** |
| Pileated Woodpecker | 5 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 3 | 0 | 0 | **17** |
| Northern Shrike | 2 | 9 | 5 | 3 | 2 | 6 | 2 | 5 | 5 | 12 | 12 | 5 | 5 | 5 | 1 | **79** |
| Blue Jay | 30 | 78 | 80 | 122 | 46 | 23 | 16 | 23 | 107 | 105 | 133 | 32 | 73 | 64 | 43 | **975** |
| American Crow | 61 | 156 | 362 | 175 | 165 | 43 | 52 | 126 | 268 | 797 | 655 | 302 | 409 | 266 | 192 | **4029** |
| Common Raven | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **3** |
| Horned Lark | 0 | 118 | 89 | 12 | 8 | 0 | 16 | 0 | 9 | 155 | 53 | 0 | 125 | 36 | **310** | **931** |
| Black-capped Chickadee | 47 | 233 | 216 | 201 | 109 | 27 | 32 | 53 | 217 | 434 | 472 | 133 | 177 | 114 | 141 | **2606** |
| Tufted Titmouse | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 | **10** |
| Red-breasted Nuthatch | 2 | 3 | 33 | 26 | 5 | 3 | 0 | 2 | 31 | 18 | 10 | 14 | 6 | 4 | 16 | **173** |
| White-breasted Nuthatch | 10 | 30 | 80 | 88 | 21 | 10 | 12 | 18 | 64 | 81 | 91 | 40 | 43 | 28 | 49 | **665** |
| Brown Creeper | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 1 | 1 | 0 | **11** |
| Golden-crowned Kinglet | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 5 | **10** | 0 | **26** |
| Eastern Bluebird | 30 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 10 | 3 | 1 | 2 | 1 | 65 | 0 | **115** |
| American Robin | 23 | 6 | 121 | 95 | 21 | 4 | 0 | 1 | 19 | 21 | 39 | 301 | 77 | 40 | 11 | **779** |
| European Starling | 153 | 2359 | 3452 | 3205 | 506 | 12 | 47 | 208 | 949 | 2627 | 1200 | 168 | 236 | 1017 | 1159 | **17298** |
| Cedar Waxwing | 0 | 6 | 492 | 163 | 35 | 87 | 0 | 12 | 59 | 19 | 88 | 99 | 23 | 27 | 7 | **1117** |
| American Tree Sparrow | 134 | 87 | 157 | 512 | 88 | 22 | 115 | 108 | 292 | 264 | 261 | 46 | 84 | 149 | 255 | **2574** |
| Song Sparrow | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | CW | 9 | 3 | **21** |
| White-throated Sparrow | 0 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | CW | 2 | **22** |
| Dark-eyed Junco | 22 | 349 | 582 | 438 | 104 | 43 | 34 | 207 | 617 | 558 | 739 | 185 | 206 | 220 | 308 | **4612** |
| Snow Bunting | CW | 605 | **2014** | 241 | 0 | 0 | 7 | 7 | 0 | 52 | 142 | 0 | 51 | 22 | 287 | **3428** |
| Northern Cardinal | 27 | 26 | 229 | 165 | 57 | 42 | 24 | 171 | 178 | 156 | 324 | 200 | 179 | 82 | 138 | **1998** |
| Red-winged Blackbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 41 | 0 | **44** |
| Common Grackle | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Brown-headed Cowbird | 1 | 0 | 0 | CW | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | **29** | 12 | **44** |
| Pine Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Purple Finch | 7 | 0 | 3 | 2 | 0 | 1 | 0 | 0 | 5 | 0 | 11 | 6 | 26 | 0 | 18 | **79** |
| House Finch | 8 | 120 | 361 | 207 | 57 | 35 | 14 | 34 | 204 | 292 | 132 | 84 | 40 | 60 | 54 | **1702** |
| Common Redpoll | 0 | 28 | 2 | CW | 2 | 0 | 0 | 14 | 5 | 17 | 1 | 1 | 7 | 0 | 32 | **109** |
| Pine Siskin | 7 | 0 | 11 | 2 | 5 | 1 | 0 | CW | 0 | 0 | 0 | 0 | 6 | 0 | 20 | **52** |
| American Goldfinch | 72 | 54 | 358 | 231 | 148 | 93 | 38 | 209 | 304 | 347 | 209 | 143 | 98 | 78 | 378 | **2760** |
| Evening Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| House Sparrow | 135 | 1895 | 1365 | 1875 | 286 | 69 | 39 | 99 | 74 | 706 | 899 | 62 | 65 | 446 | 314 | **8329** |
| **Species Total** | **43** | **33** | **68** | **55** | **46** | **37** | **30** | **34** | **44** | **48** | **52** | **49** | **58** | **56** | **60** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 7. Number of each species in south-central Wisconsin found on 15 or more counts.

| Species | Rosendale 80 | Green Lake 81 | Montello 82 | Pardeeville 83 | Randoph 84 | Horicon Marsh 85 | Hustisford 86 | Columbus 87 | Poynette 88 | Sauk City 89 | Madison 90 | Waterloo 91 | Fort Atkinson 92 | Cooksville 93 | Beloit 94 | Brodhead 95 | **Region Totals** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 0 | 1683 | 461 | 96 | 0 | 300 | 23 | 24 | 238 | 1326 | 2290 | 6 | 2 | 1031 | 566 | 44 | **8090** |
| Gadwall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | **239** | 2 | 0 | 21 | 0 | 0 | **265** |
| American Black Duck | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 8 | 14 | 12 | 21 | 6 | 0 | 5 | 5 | 0 | **79** |
| Mallard | 16 | 383 | 176 | 18 | 8 | 0 | 29 | 209 | 99 | 405 | 1656 | 632 | 55 | 735 | 405 | 0 | **4826** |
| Bufflehead | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 205 | 0 | 0 | 0 | 0 | 0 | **218** |
| Common Goldeneye | 0 | 98 | 0 | 10 | 0 | 0 | 0 | 0 | 32 | 193 | 553 | 0 | 0 | 11 | 58 | 0 | **955** |
| Hooded Merganser | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **120** | 0 | 0 | 1 | 2 | 0 | **151** |
| Common Merganser | 0 | 653 | 0 | 5 | 0 | 0 | 0 | 0 | 6 | 119 | **1697** | 0 | 0 | 5 | 19 | 0 | **2504** |
| Red-breasted Merganser | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 52 | 2 | 0 | 0 | 0 | 0 | 0 | **55** |
| Ring-necked Pheasant | 3 | 21 | 2 | 37 | 56 | 9 | 41 | 23 | **240** | 5 | 5 | 69 | 10 | 6 | 39 | 13 | **579** |
| Ruffed Grouse | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| Wild Turkey | 15 | 589 | 185 | 622 | 108 | 59 | 66 | 96 | 316 | 216 | 96 | 198 | 74 | 84 | 293 | 219 | **3236** |
| Great Blue Heron | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 1 | 3 | 0 | CW | 1 | **13** |
| Bald Eagle | 0 | 21 | 13 | 16 | 2 | 1 | 0 | 1 | 18 | 114 | 4 | 0 | 0 | 0 | 1 | 1 | **192** |
| Northern Harrier | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | **7** |
| Sharp-shinned Hawk | 0 | 0 | 3 | 2 | 2 | 1 | 0 | 1 | 3 | 1 | **5** | 2 | 0 | 3 | 0 | 1 | **24** |
| Cooper's Hawk | 0 | 4 | 2 | 7 | 4 | 2 | 6 | 1 | 6 | 6 | **21** | 7 | 10 | 3 | 18 | 2 | **99** |
| Red-tailed Hawk | 5 | 40 | 33 | 31 | 52 | 21 | 61 | 47 | 63 | 59 | 73 | 47 | 9 | 33 | 28 | 35 | **637** |
| Rough-legged Hawk | 0 | 3 | 9 | 1 | 6 | 6 | 1 | 4 | 26 | 19 | 7 | 2 | 0 | 4 | 1 | 16 | **105** |
| American Kestrel | 2 | 2 | 2 | 7 | 9 | 10 | 21 | 14 | 9 | 6 | 5 | 12 | 3 | 2 | 5 | 12 | **121** |
| American Coot | 0 | 50 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | **1178** | 0 | 0 | 2 | 0 | 0 | **1235** |
| Wilson's Snipe | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | **7** |
| Ring-billed Gull | 0 | 37 | 80 | 0 | 0 | 7 | 0 | 0 | 0 | 154 | **1702** | 0 | 1 | CW | 9 | 0 | **1990** |
| Herring Gull | 0 | 233 | 225 | 0 | 0 | 200 | 0 | 1 | 0 | 1615 | 559 | 0 | 2 | 0 | 7 | 0 | **2842** |
| Rock Pigeon | 25 | 307 | 174 | 469 | 905 | 159 | 999 | 716 | 389 | 427 | 333 | 664 | 130 | 38 | 505 | 189 | **6429** |
| Mourning Dove | 31 | 399 | 261 | 555 | 591 | 306 | 783 | 494 | 784 | 502 | 821 | 541 | 256 | 286 | 320 | 189 | **7119** |
| Eastern Screech-owl | 0 | 4 | 0 | 0 | 5 | 20 | 3 | 4 | 1 | 8 | **31** | 4 | 0 | 3 | 9 | 3 | **95** |
| Great Horned Owl | 1 | 7 | 6 | 3 | 7 | 15 | 10 | 3 | 4 | 6 | 15 | 9 | 1 | 3 | 9 | 2 | **101** |
| Barred Owl | 0 | 4 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 2 | 7 | 2 | 0 | 1 | 1 | 0 | **23** |
| Belted Kingfisher | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 2 | 2 | 5 | 2 | 3 | 1 | 1 | 2 | **26** |
| Red-headed Woodpecker | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | **1** |
| Red-bellied Woodpecker | 7 | 42 | 21 | 59 | 40 | 14 | 25 | 33 | 59 | 110 | 140 | 65 | 17 | 16 | 19 | 26 | **693** |
| Yellow-bellied Sapsucker | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | CW | 3 | 2 | CW | 0 | CW | 0 | 1 | **8** |
| Downy Woodpecker | 14 | 61 | 55 | 133 | 82 | 31 | 69 | 61 | 110 | 164 | 203 | 113 | 56 | 62 | 50 | 34 | **1298** |
| Hairy Woodpecker | 4 | 20 | 18 | 32 | 7 | 5 | 13 | 9 | 40 | 70 | 77 | 21 | 17 | 16 | 5 | 11 | **365** |
| Northern Flicker | 0 | 2 | 9 | **30** | 8 | 0 | 7 | 4 | 13 | 5 | 9 | 6 | 2 | 0 | 1 | 5 | **101** |
| Pileated Woodpecker | 0 | 2 | 11 | 7 | 0 | 0 | 0 | 0 | 7 | **40** | 1 | 0 | 0 | 0 | 0 | 0 | **68** |
| Northern Shrike | 0 | 7 | 6 | 6 | 5 | 3 | 10 | 7 | 12 | 9 | 13 | 4 | 0 | 4 | 3 | 4 | **93** |
| Blue Jay | 33 | 255 | 404 | 389 | 172 | 59 | 92 | 173 | 298 | 296 | 171 | 209 | 47 | 85 | 59 | 104 | **2846** |
| American Crow | 90 | 400 | 156 | 422 | 400 | 132 | 292 | 328 | 896 | 1008 | 789 | 655 | 165 | 209 | 271 | 196 | **6409** |
| Common Raven | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **8** |
| Horned Lark | 6 | CW | 6 | 0 | 23 | 5 | 108 | 210 | 22 | 6 | 30 | 94 | 6 | 179 | 82 | 30 | **807** |
| Black-capped Chickadee | 17 | 208 | 171 | 542 | 158 | 123 | 212 | 276 | 359 | 430 | 762 | 513 | 142 | 127 | 109 | 116 | **4265** |
| Tufted Titmouse | 0 | 5 | 2 | 35 | 2 | 0 | 0 | 1 | 54 | 70 | 18 | 16 | 6 | 7 | 9 | 6 | **231** |
| Red-breasted Nuthatch | 0 | 7 | 17 | 21 | 10 | 2 | 0 | 4 | 23 | 12 | 72 | 15 | 13 | 9 | 3 | 4 | **212** |
| White-breasted Nuthatch | 10 | 64 | 57 | 163 | 63 | 30 | 71 | 68 | 110 | 164 | 232 | 159 | 45 | 57 | 40 | 32 | **1365** |
| Brown Creeper | 0 | 1 | 1 | 2 | 0 | 0 | 7 | 0 | CW | 9 | **40** | 4 | 3 | 0 | 4 | 2 | **73** |
| Golden-crowned Kinglet | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | **11** |
| Eastern Bluebird | 0 | 12 | 25 | 53 | 13 | 0 | 3 | 0 | 50 | **81** | 3 | 0 | 0 | 0 | 3 | 4 | **247** |
| American Robin | 0 | 138 | 33 | 129 | 16 | 0 | 3 | 1 | 170 | 115 | 420 | 6 | 1 | 2 | 1 | 1 | **1036** |
| European Starling | 46 | 303 | 234 | 1076 | 2120 | 268 | 2188 | 2396 | 623 | 967 | 2775 | **4062** | 535 | 126 | 2373 | 956 | **21,048** |
| Cedar Waxwing | 0 | 167 | 53 | 0 | 12 | 0 | 0 | 0 | 160 | 62 | 723 | 7 | 1 | 0 | 0 | 43 | **1228** |
| American Tree Sparrow | 141 | 166 | 155 | 184 | 681 | 446 | 761 | 233 | 177 | 223 | 463 | **1359** | 125 | 52 | 39 | 453 | **5658** |
| Song Sparrow | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 14 | 5 | 0 | 1 | 5 | 4 | **39** |
| White-throated Sparrow | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 21 | 0 | 6 | 2 | 0 | 0 | **33** |
| Dark-eyed Junco | 137 | 627 | 956 | 1174 | 1212 | 256 | 842 | 717 | 933 | 727 | 1025 | 1111 | 271 | 205 | 390 | 574 | **11,157** |
| Snow Bunting | 32 | CW | 3 | 1 | 16 | 0 | 191 | 155 | CW | 4 | 3 | 138 | 0 | 33 | 96 | 3 | **665** |
| Northern Cardinal | 41 | 120 | 110 | 269 | 82 | 45 | 124 | 232 | 270 | 368 | 560 | 242 | 126 | 137 | 297 | 203 | **3226** |
| Red-winged Blackbird | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | **7** |
| Common Grackle | 0 | CW | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | **3** |
| Brown-headed Cowbird | 0 | 0 | 0 | 0 | 10 | 0 | 3 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | **22** |
| Pine Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| Purple Finch | 0 | 24 | 24 | 15 | 2 | 0 | 0 | 6 | 15 | 14 | **51** | 4 | 11 | 4 | 0 | 0 | **170** |
| House Finch | 12 | 65 | 38 | 189 | 318 | 94 | 220 | 153 | 170 | 166 | **639** | 303 | 85 | 248 | 136 | 36 | **2872** |
| Common Redpoll | 0 | 5 | 0 | 1 | 4 | 0 | 2 | 0 | 8 | 3 | 21 | 1 | 1 | 9 | 0 | 1 | **56** |
| Pine Siskin | 0 | 24 | 18 | 0 | 0 | 0 | 0 | 5 | 0 | 2 | **131** | 0 | 41 | 9 | 0 | 0 | **230** |
| American Goldfinch | 43 | 198 | 91 | 320 | 159 | 118 | 184 | 104 | 356 | 370 | 843 | 448 | 235 | 222 | 97 | 87 | **3875** |
| Evening Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| House Sparrow | 133 | 287 | 172 | 508 | **2370** | 511 | 1660 | 2121 | 695 | 602 | 1108 | 1877 | 168 | 333 | 552 | 830 | **13,927** |
| **Total Species** | **25** | **67** | **62** | **49** | **42** | **37** | **43** | **42** | **63** | **65** | **85** | **47** | **44** | **53** | **51** | **45** | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 8. Number of each species in southwestern Wisconsin found on 15 or more counts.

| Species | Blanchard-ville 96 | Mount Horeb 97 | Baraboo 98 | Clyde 99 | Rich-land Center 100 | Kick-apoo Valley 101 | La Farge 102 | Bridge-port 103 | Cass-ville 104 | Platt-ville 105 | Region Totals | Number of Counts | No. of Individ-uals | Percent Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada Goose | 1 | 49 | 402 | 9 | 34 | 11 | 40 | 79 | 12 | 0 | **637** | **77** | **29,022** | **-90%** |
| Gadwall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **1** | **18** | **351** | **-69%** |
| American Black Duck | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 12 | 0 | 0 | **15** | **43** | **809** | **-21%** |
| Mallard | 7 | 81 | 276 | 18 | 0 | 0 | 0 | 390 | 0 | 9 | **781** | **73** | **22,955** | **-47%** |
| Bufflehead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **22** | **1466** | **-41%** |
| Common Goldeneye | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | **51** | **42** | **7050** | **-32%** |
| Hooded Merganser | 0 | 0 | 0 | 0 | 0 | 0 | 0 | CW | 0 | 0 | **0** | **19** | **218** | **-6%** |
| Common Merganser | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **23** | **35** | **7254** | **-14%** |
| Red-breasted Merganser | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **19** | **1183** | **-12%** |
| Ring-necked Pheasant | 72 | 55 | 5 | 7 | 14 | 5 | 16 | 24 | 14 | 12 | **224** | **78** | **1507** | **+185%** |
| Ruffed Grouse | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **2** | **49** | **337** | **+3%** |
| Wild Turkey | 141 | 730 | 264 | 430 | **799** | 313 | 184 | 216 | 143 | 99 | **3319** | **96** | **18,825** | **+103%** |
| Great Blue Heron | 2 | 2 | 1 | 0 | 0 | 0 | 0 | CW | 0 | 0 | **5** | **25** | **48** | **-11%** |
| Bald Eagle | 7 | 3 | 30 | 6 | 64 | 6 | 9 | **231** | 111 | 5 | **472** | **87** | **1237** | **-3%** |
| Northern Harrier | 0 | 2 | 0 | 2 | **6** | 0 | 0 | 0 | 0 | 0 | **10** | **26** | **42** | **-81%** |
| Sharp-shinned Hawk | 4 | 3 | **5** | 1 | 3 | 2 | CW | 1 | 1 | 0 | **20** | **68** | **129** | **+28%** |
| Cooper's Hawk | 6 | 10 | 1 | 2 | 4 | 2 | 0 | 8 | 2 | 1 | **36** | **72** | **332** | **+44%** |
| Red-tailed Hawk | 61 | **118** | 57 | 36 | 83 | 51 | 28 | 44 | 64 | 23 | **565** | **89** | **2533** | **-6%** |
| Rough-legged Hawk | 9 | 22 | 15 | 13 | 20 | 5 | 1 | 34 | **68** | 10 | **197** | **79** | **557** | **-4%** |
| American Kestrel | 11 | 22 | 4 | 6 | 13 | 6 | 3 | 9 | 17 | 11 | **102** | **74** | **553** | **-30%** |
| American Coot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | **4** | **17** | **1378** | **-78%** |
| Wilson's Snipe | 0 | 0 | 2 | 0 | 1 | 2 | 3 | 2 | 0 | 0 | **10** | **17** | **27** | **-27%** |
| Ring-billed Gull | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2** | **29** | **3035** | **-77%** |
| Herring Gull | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **27** | **40** | **12,868** | **-45%** |
| Rock Pigeon | 128 | 577 | 174 | 36 | **1155** | 232 | 98 | 302 | 414 | 252 | **3368** | **100** | **33,441** | **-4%** |
| Mourning Dove | 256 | 734 | 315 | 49 | 336 | 112 | 99 | 213 | 183 | 27 | **2324** | **103** | **33,117** | **+69%** |
| Eastern Screech-Owl | 6 | 6 | 3 | 0 | 3 | 3 | CW | 2 | 4 | 10 | **37** | **42** | **199** | **-1%** |
| Great Horned Owl | 11 | 9 | 3 | 3 | 4 | 4 | 0 | 2 | 14 | 5 | **55** | **76** | **401** | **-5%** |
| Barred Owl | 1 | 3 | 4 | 4 | 7 | 0 | 2 | 1 | 1 | 1 | **24** | **51** | **124** | **+27%** |
| Belted Kingfisher | 2 | 2 | **7** | 3 | 1 | 0 | 2 | 1 | 4 | 0 | **22** | **48** | **106** | **-2%** |
| Red-headed Woodpecker | 1 | 0 | 0 | 0 | 0 | 1 | 0 | CW | 6 | 0 | **8** | **17** | **40** | **-48%** |
| Red-bellied Woodpecker | 107 | **149** | 69 | 36 | 88 | 68 | 14 | 78 | 97 | 19 | **725** | **96** | **2610** | **+36%** |
| Yellow-bellied Sapsucker | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | **2** | **19** | **28** | **+47%** |
| Downy Woodpecker | 95 | **254** | 123 | 29 | 142 | 46 | 6 | 64 | 84 | 23 | **866** | **105** | **5543** | **+12%** |
| Hairy Woodpecker | 40 | 67 | 34 | 14 | 43 | 15 | 2 | 20 | 24 | 8 | **267** | **105** | **2328** | **+30%** |
| Northern Flicker | 3 | 4 | 4 | 2 | 8 | 1 | 1 | 2 | 12 | 0 | **37** | **62** | **274** | **+38%** |
| Pileated Woodpecker | 5 | 18 | 15 | 7 | 15 | 7 | 5 | 6 | 9 | 5 | **92** | **78** | **544** | **+83%** |
| Northern Shrike | 6 | 9 | 12 | 5 | 1 | 3 | 3 | 1 | 7 | 0 | **47** | **94** | **485** | **+122%** |
| Blue Jay | 291 | 415 | 262 | 81 | **556** | 189 | 82 | 151 | 233 | 59 | **2319** | **105** | **12,715** | **+29%** |
| American Crow | 316 | 1133 | 485 | 458 | **1278** | 310 | 602 | 406 | 291 | 106 | **5385** | **105** | **32,180** | **-20%** |
| Common Raven | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **53** | **922** | **+9%** |
| Horned Lark | 67 | 116 | 51 | 21 | 13 | 84 | 0 | 76 | 160 | 19 | **607** | **55** | **3076** | **-15%** |
| Black-capped Chickadee | 262 | 632 | 446 | 186 | 411 | 199 | 80 | 297 | 247 | 48 | **2808** | **105** | **28,758** | **+3%** |
| Tufted Titmouse | 9 | **121** | 60 | 5 | 49 | 17 | 4 | 39 | 46 | 9 | **359** | **40** | **720** | **+45%** |
| Red-breasted Nuthatch | 14 | 25 | 33 | 5 | 8 | 2 | 1 | 5 | 5 | 0 | **98** | **100** | **2039** | **+33%** |
| White-breasted Nuthatch | 143 | 243 | 157 | 72 | 91 | 70 | 11 | 64 | 102 | 26 | **979** | **105** | **5984** | **+12%** |
| Brown Creeper | 1 | 2 | 2 | 3 | 1 | 0 | 0 | 4 | 15 | 0 | **28** | **47** | **173** | **-38%** |
| Golden-crowned Kinglet | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | **3** | **24** | **76** | **-70%** |
| Eastern Bluebird | 10 | 16 | 15 | 39 | 47 | 9 | 5 | 8 | 40 | 9 | **198** | **46** | **779** | **+253%** |
| American Robin | 1 | 108 | 10 | 1 | 125 | CW | 1 | 5 | 1 | 0 | **252** | **73** | **4357** | **+6%** |
| European Starling | 822 | 1099 | 424 | 720 | 2367 | 545 | 21 | 529 | 850 | 161 | **7538** | **103** | **80,211** | **-9%** |
| Cedar Waxwing | 81 | 41 | 24 | 5 | 125 | 0 | 0 | 118 | 4 | 0 | **398** | **59** | **6988** | **+37%** |
| American Tree Sparrow | 289 | 141 | 95 | 85 | 177 | 76 | 22 | 265 | 86 | 31 | **1267** | **90** | **14,604** | **-25%** |
| Song Sparrow | 14 | 11 | 1 | 1 | 7 | 1 | 0 | 0 | 13 | 10 | **58** | **39** | **175** | **-44%** |
| White-throated Sparrow | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 7 | 0 | **12** | **33** | **134** | **-35%** |
| Dark-eyed Junco | 942 | 924 | 591 | 403 | **2219** | 910 | 69 | 1180 | 653 | 191 | **8082** | **99** | **36,738** | **+3%** |
| Snow Bunting | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 11 | 1 | **21** | **65** | **9314** | **+31%** |
| Northern Cardinal | 375 | 478 | 202 | 117 | **733** | 236 | 70 | 256 | 389 | 71 | **2927** | **100** | **11,904** | **+44%** |
| Red-winged Blackbird | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | **7** | **24** | **190** | **-89%** |
| Common Grackle | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2** | **15** | **46** | **-78%** |
| Brown-headed Cowbird | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | **30** | **15** | **104** | **-84%** |
| Pine Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **35** | **1693** | **+211%** |
| Purple Finch | 8 | 23 | 21 | 11 | 5 | 7 | 42 | 2 | 27 | 8 | **154** | **62** | **766** | **-52%** |
| House Finch | 53 | 268 | 175 | 1 | 76 | 5 | 0 | 42 | 223 | 7 | **850** | **84** | **8741** | **-5%** |
| Common Redpoll | 1 | 23 | 3 | 0 | 68 | 1 | 0 | 77 | 0 | 0 | **173** | **66** | **2821** | **+3%** |
| Pine Siskin | 0 | 10 | 12 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | **33** | **47** | **739** | **-67%** |
| American Goldfinch | 474 | 694 | 485 | 175 | 445 | 212 | 106 | 372 | 220 | 21 | **3204** | **103** | **18,863** | **-1%** |
| Evening Grosbeak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **17** | **539** | **-41%** |
| House Sparrow | 1408 | 828 | 364 | 266 | 971 | 390 | 178 | 1132 | 1012 | 163 | **6712** | **98** | **47,777** | **-2%** |
| **Total Species** | **51** | **52** | **59** | **45** | **51** | **43** | **36** | **60** | **61** | **38** | | | | |

CW = Found within 3 days of the count day but not on the day of the count. **Bold lettering** within the counts indicates counts having the highest totals for the state.

Table 9. Species found on 14 or fewer counts.

| Species | Number of Counts | Number of Birds | Count and Number |
|---|---|---|---|
| Snow Goose | 2 | 114 | **Cassville 100**, New Franken 14, (Wautoma) |
| Cackling Goose | 5 | 48 | Baraboo 4, Cooksville 2, Poynette 12, **Sauk City 27**, Wautoma 3 |
| Mute Swan | 15 | 144 | Burlington 2, Ephraim 1, Fort Atkinson 2, Friendship 1, Green Lake 2, Lake Geneva 3, Madison 24, Oconomowoc 5, Randolph 1, Riveredge 1, Sauk City 1, Sturgeon Bay 6, **Washington Island 93**, Wautoma 1, Wisconsin Rapids 1 |
| Trumpeter Swan | 8 | 286 | (Bridgeport), Cassville 7, **Hudson 256**, Manitowish Waters 3, Nelson 8, New Richmond 2, Sauk City 1, Shawano 6, (Solon Springs), Stevens Point 3 |
| Tundra Swan | 7 | 601 | (Ephraim), **Madison 570**, New Frankin 8, Palmyra 11, Poynette 1, Trempealeau 2, Washington Island 8, Wautoma 1 |
| Wood Duck | 8 | 9 | Beloit 1, (Bridgeport), Brodhead 1, **Burlington 2**, Green Bay 1, Hartford 1, La Crosse 1, La Farge 1, Madison 1 |
| American Wigeon | 2 | 5 | **Ephraim 3**, Madison 2 |
| Northern Shoveler | 3 | 387 | Fond du Lac 3, **Madison 378**, Poynette 6 |
| Northern Pintail | 2 | 10 | Green Lake 2, **New Franken 8**, (Racine) |
| Green-winged Teal | 4 | 7 | Cooksville 1, Fond du Lac 1, Madison 1, **New Franken 4** |
| Canvasback | 10 | 70 | Appleton 2, Beloit 4, Bridgeport 14, Green Lake 3, (Kenosha), La Crosse 6, Lake Geneva 4, **Madison 29**, New Franken 2, Sheboygan Sturgeon Bay 4 |
| Redhead | 9 | 102 | Bridgeport 1, Green Lake 1, (Kenosha), Madison 2, **Milwaukee 88**, New Franken 1, Racine 2, Riveredge 4, Sheboygan 2, (Sturgeon Bay), Washington Island 1 |
| Ring-necked Duck | 6 | 21 | (Beloit), Bridgeport 2, (Hudson), Lake Geneva 3, Madison 6, Poynette 1, Riveredge 1, **Sheboygan 8**, (Trempealeau) |
| Greater Scaup | 12 | 6169 | Appleton 2, Bayfield 4, Cedar Grove 260, Ephraim 22, Green Lake 3, Hales Corners 113, (Kenosha), **Milwaukee 4971**, Racine 239, Riveredge 60, Sheboygan 455, Sturgeon Bay 33, Woodland Dunes SE 7 |
| Lesser Scaup | 10 | 349 | Appleton 13, Bridgeport 10, Green Bay 9, Green Lake 2, Hartford 9, Madison 44, **Milwaukee 243**, Oshkosh 2, Racine 12, (Trempealeau), Woodland Dunes SE 5 |
| Harlequin Duck | 1 | 1 | Sheboygan 1 |
| Surf Scoter | 1 | 1 | Woodland Dunes SE 1 |
| White-winged Scoter | 3 | 5 | Milwaukee 1, Sturgeon Bay 1, **Washington Island 3** |
| Black Scoter | 1 | 1 | Milwaukee 1 |
| Long-tailed Duck | 5 | 5967 | Cedar Grove 39, Ephraim 4, Sheboygan 1500, **Sturgeon Bay 2400**, Woodland Dunes NE 2024 |
| Ruddy Duck | 8 | 30 | Green Lake 8, Kenosha 2, Lake Geneva 2, **Madison 9**, Milwaukee 3, Poynette 3, (Racine), Riveredge 1, Sheboygan 2 |
| Gray Partridge | 4 | 45 | Cassville 5, Cedar Grove 9, Green Bay 14, **New Franken 17** |



| | | | |
|---|---|---|---|
| Spruce Grouse | 2 | 3 | Manitowish Waters 1, **Phelps 2** |
| Sharp-tailed Grouse | 4 | 22 | Gilman 3, Grantsburg 5, **Holcombe 7**, **Solon Springs 7** |
| Gr. Prairie-Chicken | 2 | 11 | Arpin 3, **Spencer 8** |
| Northern Bobwhite | 7 | 30 | (Bridgeport), Brodhead 6, Green Lake 1, Kettle Moraine 2, Montello 2, **New Franken 9**, (Pardeeville), Riveredge 2, Sauk City 8 |
| Common Loon | 3 | 8 | **Cedar Grove 4**, Madison 2, Sheboygan 2 |
| Pied-billed Grebe | 1 | 1 | **Madison 1**, (Racine) |
| Horned Grebe | 3 | 5 | **Madison 3**, Milwaukee 1, Sauk City 1 |
| Red-necked Grebe | 1 | 1 | Lake Geneva 1 |
| Western Grebe | 1 | 1 | Lake Geneva 1 |
| Am. White Pelican | 1 | 11 | Green Bay 11 |
| Double-cr. Cormorant | 4 | 31 | Appleton 5, **Green Bay 21**, (Kenosha), Riveredge 1, Washington Island 4 |
| Turkey Vulture | 2 | 13 | New Franken 4, **Palmyra 9** |
| Northern Goshawk | 11 | 11 | (Appleton), Cable 1, Clam Lake 1, Florence 1, Gilman 1, (Gurney), Hustisford 1, Kickapoo Valley 1, Madison 1, Medford 1, Montello 1, Nelson 1, (Waupaca), Willard 1 |
| Red-shouldered Hawk | 11 | 17 | Cassville 1, Friendship 1, Hudson 1, Kewaunee 1, La Crosse 1, **Montello 3**, Nelson 2, New Richmond 1, **Sauk City 3**, Trempealeau 1, (Waukesha), Waupaca 2 |
| Golden Eagle | 7 | 13 | Bridgeport 2, Cassville 1, Grantsburg 1, Kickapoo Valley 3, Meadow Valley 1, **Nelson 4**, Poynette 1 |
| Merlin | 7 | 7 | Antigo 1, Clam Lake 1, Gurney 1, Palmyra 1, Riveredge 1, Sheboygan 1, Stevens Point 1 |
| Peregrine Falcon | 7 | 7 | Appleton 1, Green Bay 1, (Hales Corners), (Kenosha), Kewaunee 1, La Crosse 1, (Milwaukee), New Franken 1, Oshkosh 1, (Racine), Woodland Dunes SE 1 |
| Virginia Rail | 2 | 8 | Madison 4, Poynette 4 |
| Sandhill Crane | 1 | 1 | **Montello 1**, (Woodland Dunes SE) |
| Killdeer | 0 | 0 | (Kenosha), (Racine) |
| Spotted Sandpiper | 1 | 1 | Racine 1 |
| Purple Sandpiper | 1 | 1 | Racine 1 |
| Dunlin | 1 | 1 | Racine 1 |
| Thayer's Gull | 4 | 5 | **Appleton 2**, (Herbster), Milwaukee 1, Montello 1, (Racine), Sauk City 1 |
| Iceland Gull | 2 | 2 | **Milwaukee 1**, **Montello 1**, (Racine) |
| Lesser Black-backed Gull | 2 | 3 | Appleton 1, (Racine), **Sauk City 2** |
| Glaucous Gull | 10 | 28 | Appleton 3, Green Bay 1, Herbster 1, Kewaunee 6, Madison 1, Milwaukee 2, Montello 1, **Sheboygan 10**, Woodland Dunes NE 1, SE 2 |
| Great Black-backed Gull | 8 | 19 | Appleton 2, Herbster 1, Milwaukee 1, Montello 1, Oshkosh 1, (Racine), **Sheboygan 8**, Woodland Dunes NE 1, SE 4 |
| Eurasian Collared-Dove | 2 | 16 | Bridgeport 7, **Hales Corners 9** |
| Snowy Owl | 1 | 2 | **New Franken 2**, (Shawano) |

*(continued)*

Table 9. (*continued*)

| Species | Number of Counts | Number of Birds | Count and Number |
|---|---|---|---|
| Long-eared Owl | 7 | 10 | Baraboo 1, **Cassville 2**, Green Lake 1, Madison 1**, Milwaukee 2**, **Richland Center 2**, (Riveredge), Trempealeau 1, (Woodland Dunes SE) |
| Short-eared Owl | 3 | 5 | Baraboo 1, **Horicon Marsh 2**, **Shawano 2** |
| N. Saw-whet Owl | 9 | 13 | Antigo 1, Baraboo 2, Cassville 1, Green Lake 1, **Montello 3**, Mount Horeb 1, Riveredge 2, Wautoma 1, Woodland Dunes NW 1 |
| Black-backed Woodpecker | 1 | 2 | Summit Lake 2 |
| Eastern Phoebe | 1 | 1 | Poynette 1 |
| Gray Jay | 10 | 46 | Armstrong Creek 5, Cable 5, Clam Lake 11, Fifield 1, (Hayward), Manitowish Waters 4, **Phelps 9**, (Rhinelander), Shawano 1, Solon Springs 3, Summit Lake 5, Three Lakes 2 |
| Boreal Chickadee | 5 | 6 | Cable 1, Clam Lake 1, **Phelps 2**, Rhinelander 1, Three Lakes 1 |
| Carolina Wren | 13 | 19 | Baraboo 1, Bridgeport 1, Cassville 2, Green Bay 1, La Crosse 1, **Madison 4**, Milwaukee 1, Montello 1, (Pardeeville), Platteville 2, Randolph 1, Richland Center 1, Washington Island 2, Waukesha 1 |
| Winter Wren | 8 | 14 | (Baraboo), Blanchardville 1, **Cassville 4**, Clyde 1, Cooksville 2, Green Bay 1, Madison 3, Platteville 1, Trempealeau 1 |
| Townsend's Solitaire | 7 | 7 | Burlington 1, Ephraim 1, Green Lake 1, Kewaunee 1, La Crosse 1, Poynette 1, Wausau 1 |
| Hermit Thrush | 7 | 10 | Hustisford 1, La Crosse 1, Madison 1, **Milwaukee 3**, Riveredge 2, Washington Island 1, Waukesha 1 |
| Northern Mockingbird | 1 | 1 | (Chippewa Falls), **Milwaukee 1** |
| Brown Thrasher | 1 | 1 | **Shawano 1**, (Stevens Point) |
| American Pipit | 1 | 3 | Racine 3 |
| Bohemian Waxwing | 14 | 655 | Ashland 1, **Bayfield 190**, Fifield 25, Grantsburg 50, Meadow Valley 3, Medford 177, Minocqua 20, Peshtigo 18, Rhinelander 60, Richland Center 1, Shawano 7, Stevens Point 65, (Sturgeon Bay), Summit Lake 37, (Wausau), Willard 1 |
| Yellow-rumped Warbler | 3 | 7 | Green Bay 1, (Hales Corners), Kenosha 1, **Milwaukee 5** |
| Townsend's Warbler | 1 | 1 | Fort Atkinson 1 |
| Eastern Towhee | 5 | 6 | Bridgeport 1, Cooksville 1, Green Lake 1, La Crosse 1, **La Farge 2**, (Milwaukee) |
| Chipping Sparrow | 5 | 6 | Appleton 1, Baraboo 1, **New Franken 2**, Platteville 1, Stevens Point 1 |
| Field Sparrow | 0 | 0 | (Hartford) |
| Savannah Sparrow | 1 | 1 | Burlington 1 |
| Fox Sparrow | 14 | 39 | Appleton 6, Beloit 1, Burlington 1, Cooksville 1, Ephraim 1, Green Bay 2, **Madison 10**, Milwaukee 2, Oshkosh 1, Richland Center 3, Riveredge 6, Shiocton 3, (Trempealeau), Waukesha 1, Woodland Dunes NW 1 |
| Swamp Sparrow | 12 | 47 | Burlington 2, Cassville 7, Kenosha 8, **Madison 9**, Montello 1, New Franken 2, Plymouth 1, Poynette 2, Richland Center 6, Riveredge 6, Trempealeau 2, Waukesha 1 |
| Harris's Sparrow | 2 | 2 | Kenosha 1, Milwaukee 1 |
| White-crowned Sparrow | 9 | 23 | Beloit 2, Columbus 1, Green Bay 1, Lake Geneva 1, Medford 1, **New Franken 10**, Palmyra 2, Racine 4, Riveredge 1 |
| Lapland Longspur | 12 | 216 | Appleton 51, Beloit 1, Cassville 20, Cooksville 2, Fond du Lac 16, Fremont 32, Hartford 1, Milwaukee 1, **Oshkosh 80**, Palymyra 3, Rosendale 5, Waterloo 4 |
| Rose-breasted Grosbeak | 0 | 0 | (Kenosha) |
| Eastern Meadowlark | 3 | 9 | (Arpin), Beloit 1, **Cassville 7**, Riveredge 1 |
| meadowlark sp. | 4 | 5 | Palmyra 1, Sturgeon Bay 1, Waukesha 1, **Woodland Dunes NE 2** |
| Rusty Blackbird | 6 | 9 | Ashland 1, **Bridgeport 3**, Burlington 1, Palmyra 1, Pardeeville 2, Shiocton 1 |
| Brewer's Blackbird | 1 | 1 | New Richmond 1 |
| Red Crossbill | 3 | 61 | Nelson 13, Rhinelander 15, **Stevens Point 33** |
| White-winged Crossbill | 2 | 15 | Lakewood 7, **Shawano 8** |
| Hoary Redpoll | 4 | 5 | **Antigo 2**, Caroline 1, Ephraim1, Lakewood 1 |

Parentheses indicate species was seen within 3 days of the count but not on the day of the count. **Bold lettering** indicates counts having the highest totals for the state.

counts set in 1980 and 1989. Greater Prairie-Chickens fared less well, with only 11 birds found over 2 counts (Arpin and Spencer).

**Loons through Vultures**—Unlike the previous year when a record number of Red-throated Loons was found over a record number of counts (with 11 found at Sheboygan alone), there were no such loons in 2007. This is only the third count over the last nine on which a Red-throated was not reported. Eight Common Loons were found over three counts, the highest total being four at Cedar Grove. This is the first year in which as many as four grebe species have been reported. Lake Geneva had a Red-necked Grebe and a Western Grebe swimming in tandem. In the weeks following the count, thanks to the efforts of Wayne Rohde, many birders had an opportunity to view these two. This was merely the third count on which a Red-necked Grebe has been found. The other two are 1994 (Fond du Lac) and 2000 (Milwaukee). This is the sixth such year for the Western Grebe. The Western was reported from Milwaukee in 1951, 1952, and 1954. More recent finds are 1994 (Madison) and 1998 (Gurney). The two more common grebes, the Pied-billed and the Horned, were found in small numbers. Just one Pied-billed was noted (Madison), while only 5 Horned were spotted over three counts. This is a contrast to 2006 when a record 33 Horned Grebes were found over 5 counts. American White Pelicans have now been found at Green Bay in 5 of the last 6 counts. This year's total of 11 at Green Bay breaks the old high of 9 set at Green Bay last year. Many of these are perhaps injured birds that are not able to migrate. Previous to 1980, no Double-crested Cormorant had ever been found on the counts. This year's total (31 over 4 counts) marks the 26th year over the past 28 that cormorants have been reported. The missing years are 1982 and 1988. Despite the cold and snow, Turkey Vultures were found at New Franken and Palmyra. The 9 vultures at Palmyra match the single circle high of 9 set, also, at Palmyra in 2006.

**Hawks and Eagles**—The early snow and its continued depth caused many hawk numbers to be below their 10-year averages. The most dramatic declines involved the Northern Harrier and the American Kestrel. Northern Harriers were 81% below average. The total of 42 individuals is the lowest since 33 in 1995; the total of 26 counts on which this harrier appeared is the lowest since 25 in 1996. American Kestrels were 30% below the 10-year average. The 553 individuals is a stark contrast to the 1,038 appearing in the snow free count of 2006. Seemingly unbothered by weather conditions, both the Sharp-shinned and the Cooper's Hawk continued their nearly yearly increases. The Cooper's (332 over 72 counts) was record high in both individuals and counts and 44% above its 10-year average. The Sharp-shinned was 28% above its average. The 68 counts on which it was reported is record high, while the 129 individuals is outdone only by the 137 of 2005. Red-shouldered Hawks (17 over 11 counts) continued a recent trend of healthy early winter numbers. Ditto for Golden Eagles (13 over 7 counts). Four Golden Eagles were reported from Nelson.

**Rails through Shorebirds**—Virginia Rails were again heard at Madison and

Poynette. The early onset of winter caused just one Sandhill Crane to be found on a count day, that being at Montello. This contrasts to 1,250 cranes over 7 counts in the mild year of 2006. For the second year in a row, no Killdeer was noticed on a count day. Previous to this, Killdeer had been found every year since 1995. Wilson's Snipe were reported in nearly normal numbers. Outside of the Killdeer and the Wilson's Snipe, it is unusual for shorebirds to be found on the Wisconsin CBCs. The smattering of other shorebird records that do exist are as follows: yellowlegs (species) 1994 (Racine), Spotted Sandpiper 1965 (Cooksville), Red Knot 1948 (Milwaukee), Semipalmated Sandpiper 1968 (Racine), Pectoral Sandpiper 1976 (La Crosse), Purple Sandpiper 1965 (Racine) and 2002 (Sheboygan), plus some 6 American Woodcock reports that are still considered valid. In 2007 an unprecedented three shorebird species were found in one count, that being Racine. These three continued to be enjoyed by birders in the days following the 22 December count date. These three shorebirds are Spotted Sandpiper (second time on the CBCs), Purple Sandpiper (third time on the CBCs), and Dunlin (a new species for the Wisconsin CBCs).

**Gulls**—As can be expected in harsh winters, the two common winter gulls (Ring-billed and Herring) were well below normal numbers. The less winter-hardy Ring-billed was 77% below its 10-year average, while the Herring was 45% below average. Less common gulls (such as the Thayer's, Iceland, Lesser Black-backed, Glaucous, and Great Black-backed) were found in normal numbers. What was unusual about these less common gulls was how many were located away from Lake Michigan. Thayer's were reported from Appleton, Montello, and Sauk City. Only Milwaukee submitted a Thayer's along Lake Michigan. An Iceland was found at Montello (with one other at Milwaukee). The Lesser Black-backed (which is the most likely unusual gull to be sighted away from Lake Michigan) was found at Appleton and Sauk City (with none along Lake Michigan). Glaucous Gulls were noted at Appleton, Green Bay, Herbster, Madison, and Montello. The Great Black-backed was found at Appleton, Herbster, Montello, and Oshkosh. The best spot along Lake Michigan on the 2007 Count for finding unusual gulls was Milwaukee with 4 such species. But Milwaukee was matched (and all other locations along Lake Michigan outdone) by Appleton with four such species and Montello with another four.

**Doves**—The Mourning Dove continued its march to ever increasing winter numbers. In 2007, it made larger strides than ever before. Mourning Doves (33,117 over 103 counts) were 69% above their 10-year average. Its total of individuals was 33% over the previous high of 24,953 set in 2005. The 7.6 individuals reported per field party hour was also well above the previous high of 6.0 set in 2000 and 2005. For the first time in the history of the counts, the number of Mourning Doves nearly equaled the number of Rock Pigeons (33,117 to 33,441). Outside of the Rock Pigeon, only three species had more individuals in 2007 than this dove. Those three are European Starling, Dark-eyed Junco, and House Sparrow. Might the Mourning Dove some year

be competing with the Starling as the most abundant species on the CBCs? Although the Eurasian Collared-Dove was reported again at Bridgeport and Hales Corners, its numbers in recent years have not increased. The total of 16 individuals is the lowest since 2003 and the number of counts showing this dove has declined from 3 (in 2004 through 2006) to just 2 this year.

**Owls**—Of the three common owls, both the Eastern Screech-Owl and the Great Horned Owl were found in normal numbers while the Barred Owl was 27% above its 10-year average. This was not a year having an invasion of northern owl species, as no such owls were found. Even the Snowy Owl (two at New Franken) had its lowest totals since 1999, when none were located. After a record setting year in 2006 (with 50 over 18 counts), the Short-eared Owl had its poorest showing since 1994 (with just 5 birds found over 3 counts).

**Kingfisher**—Despite an early winter, Belted Kingfishers were found in numbers similar to past years.

**Woodpeckers**—All the woodpecker species had exceptional counts. As can be expected, the exception to being exceptional was the Red-headed Woodpecker. The Red-headed (with just 40 individuals) had one of its worst counts in history and was 48% below its ever decreasing 10-year average. Red-bellied Woodpeckers were record high in individuals and 36% above the 10-year average. Yellow-bellied Sapsuckers were 47% above average. The Downy Woodpecker was record high in individuals and 12% above its 10-year average. The Hairy Woodpecker was record high in individuals and 30% above its 10-year average. Northern Flickers (274 over 62 counts) were 38% above average. The number of counts reporting flickers was record high, replacing the old high of 60 in 2005. The number of individuals was surpassed only by the 394 recorded in 2005. Following this 394, the next high total of flickers was only 218 in 2006. Of all the woodpeckers, the Pileated (544 over 78 counts) had the greatest record shattering year. It was found in numbers 83% over its 10-year average and broke by wide margins any previous highs for counts and individuals. The previous high for individuals had been 432 set in 2006. Prior to this 432 in 2006, the record high had been but 341. Only 5 times in the history of the CBCs has the Pileated had numbers larger than 300. Those 5 counts have all come within the last 6 years. The only Black-backed Woodpeckers were from Summit Lake.

**Flycatchers through Raven**—An Eastern Phoebe documented (with photo) from Poynette is the 10th such phoebe recorded for the CBCs. Northern Shrikes (485 over 94 counts) appeared in unprecedented numbers. No previous year can approach the shrike totals of this count. The former high for individuals was 351 set in 1995. This 351, though 38% below the 485 of 2007, was 26% higher than the next high of 278 in 1985. The previous high for counts had been 79 in 2004. Twelve circles reported shrikes in double digits. The 22 found at Spencer are likely a single circle record. The 18 shrikes at Willard are also impressive. After having its worst showing in CBC history in 2006 (with just 1.5 found per field party hour), the Blue Jay made an impressive rebound. Over the last 5 years, Blue Jay numbers have had

sharp decreases followed by sharp increases. While the American Crow was 20% below its 10-year average, the Common Raven (922 over 53 counts) was 9% above average. The 53 counts on which ravens were found break the old record of 47 set in 2006. The number of individuals is surpassed only by the 977 of 1999.

**Lark**—Although snow cover should help in the finding of Horned Larks, this year's snow came so early and remained so deep that perhaps many larks departed before they could be counted. Even though lark numbers were down 15% from their 10-year average, that 10-year average is much enhanced by the unprecedented 10,764 larks found in 2000. In the history of the CBCs, the 3,076 Horned Larks reported in 2007 are the third highest total on record. Only 2000 (mentioned above) and 2005 (with 6,703) have had higher numbers.

**Chickadees, Titmouse, Nuthatches, and Creeper**—Both Black-capped and Boreal Chickadees were found in normal numbers. The Tufted Titmouse (720 over 40 counts) continued its history of increase with numbers that were 45% above the 10-year average. Although 33% above its 10-year average and widespread across the state (appearing in 100 of 105 circles), the Red-breasted Nuthatch (with 2,039 individuals) was below the record setting total of 3,027 in 2006. Following an impressive count in 2006, the Brown Creeper had its weakest totals since 2000.

**Wrens and Kinglets**—Both the Carolina Wren (19 over 13 counts) and the Winter Wren (14 over 8 counts) had solid totals. The Golden-crowned Kinglet (76 over 24 counts) had its weakest totals since 1985.

**Thrushes**—For the third consecutive count, Eastern Bluebirds have had numbers much higher than ever before. When 779 bluebirds were found over 54 counts in 2005, all previous numbers were insignificant in comparison. This was followed by 475 bluebirds over 29 counts in 2006. These numbers though not so high as those in 2005 had, in contrast to previous years, nothing near to them. Now, in 2007, the number of bluebirds reported is the exact number reported in 2005, that being 779. The number of circles reporting bluebirds was 46. This is a number not that distant from the 54 of 2005 but much above the old high of 20 that existed before 2005. The winter of 2007–2008 has been long. It might be wondered how well Eastern Bluebirds have fared through this and what numbers will show in coming counts. Not to be outdone by bluebirds, Townsend's Solitaires had a count no less remarkable. Solitaires are now nearly annual on the CBCs. Starting with 2000, they have been found every year other than 2003. That makes 7 out of 8 years. Before 2000, they were reported but 6 times in a span of over 60 years. None had ever been found previous to 1980. But, as well as Solitaires have done in recent times, they never showed on more than 2 counts in any given year. In 2007, Townsend's Solitaires were reported from seven circles and, from other information gathered, they were found in more locations than those noted in the counts. There has never been a winter similar to this for Solitaires. Among other thrushes, the Hermit Thrush and American Robin were found within normal ranges.

**Mockingbird through Waxwings**—A

Northern Mockingbird was spotted at Milwaukee and a Brown Thrasher at Shawano. Three American Pipits from Racine make this the 6th count in succession on which pipits have been found either on count days or during count weeks. The only other count in which multiple pipits were found was 2004, when four were reported at Madison. Cedar Waxwings (6,988 over 59 counts) marked their 9th consecutive strong count with numbers that were 37% above 10-year averages. The number of individuals is second only to the 7,119 of 2002. After a weak total of 6 individuals on 1 count in 2006, the Bohemian Waxwing rebounded with 655 individuals over 14 counts in 2007. The 14 counts on which Bohemians were found is second only to the 18 of 1983.

**Warblers**—In a year when only 7 Yellow-rumped Warblers were spotted over three counts, it was a pleasant surprise to have a Townsend's Warbler show at a feeder within the Fort Atkinson Circle. This is the third state record for a Townsend's and a first for the Wisconsin CBCs.

**Towhees and Sparrows**—Eastern Towhees made a strong showing with six found over 5 counts. This towhee has been reported every year (as a count day or count week species) since 1962. Despite snow cover, the American Tree Sparrow was 25% below its 10-year average. This might be due to the snow having arrived so early and remaining so deep that many tree sparrows left the state before the end of the count period. The other common winter sparrow, the Dark-eyed Junco, was reported in normal numbers. While some sparrows had low totals, such as the Song Sparrow being 44% below average and the White-throated Sparrow 35% below average, others did well. The Chipping Sparrow set record highs with 6 being documented over 5 counts. The previous highs had been 4 over 4 counts set in 2002. The Fox Sparrow (39 over 14 counts) was second in both counts and individuals only to 2005 (when 64 Fox Sparrows were found over 25 counts). A Savannah Sparrow was documented from Burlington. Harris's Sparrows were documented for both Kenosha and Milwaukee. This is only the third time that the Harris's has been found on multiple counts. The other such years were 1998 (found on three counts) and 1999 (found on two counts).

**Longspurs through Buntings**—A count that is good for Snow Buntings does not mean it is a good count for Lapland Longspurs. Their numbers do not fluctuate in unison. This was a strong count for Snow Buntings (9,314 over 65 counts). Their numbers were 31% above the 10-year average and the highest recorded since 10,255 in 2000. The only other year with more circles reporting Snow Buntings was also 2000 with 67. Contrasting to the Snow Bunting, the Lapland Longspur (216 over 12 counts) was 92% below its 10-year average. The number of individuals reported was the lowest since 28 in 1995. The number of counts reporting Longspurs was the lowest since 10 in 1997. Northern Cardinals, a common feeder species, broke by wide margins all previous records. The 11,904 individuals tabulated is 44% above the 10-year average, is well above the previous high of 9,424 set in 2005 and breaks the old record average of birds found per field party hour set in 2000.

**Blackbirds**—It might be assumed

that a count with thick snow is a year with few blackbirds. In years in which farm fields near marshes are covered with snow, blackbirds leave the state. Such an assumption proved true in 2007. The common blackbird species were down significantly from their 10-year averages, while less common species barely had a presence at all. Only one Brewer's Blackbird was documented, that being from New Richmond. After last year's count, in which no meadowlarks were recorded, it was nice to have Eastern Meadowlarks reported from 3 circles and meadowlark species from another 4. Seven Eastern Meadowlarks were found at Cassville.

**Finches**—There was a poor seed crop in the northern third of the state, causing what winter finches that might have entered the state to fly onward seeking better places. Although the Purple Finch and the Pine Siskin were found in counts scattered across the state, their total numbers were small. The Purple Finch (766 over 62 counts) was 52% below its 10-year average. The total of individuals was the least since 1993. The Pine Siskin (739 over 47 counts) was 67% below its average and had the lowest total of individuals since the counts of 2002 (235) and 1982 (169). Both the Purple Finch and the Pine Siskin were difficult to find in the Northern Region of the state. Of 16 counts in this Northern Region, 11 reported no Purple Finch or Pine Siskin. Both crossbill species had among their worst showings. The Red Crossbill was found on only three counts (Nelson, Rhinelander, and Stevens Point); the White-winged was found on only two counts (Lakewood and Shawano). The White-winged Crossbill had a total of but 15 individuals. The Evening Grosbeak (539 over 17 counts) improved over the 285 individuals on 16 counts of 2006 but was still 41% below its 10-year average. The American Goldfinch held normal numbers but was difficult to find in the northern third of the state. Of 16 counts in the Northern Region, only one of these (Florence with 120) found better than 100 Goldfinches. The one species in this grouping with strong numbers was the Pine Grosbeak (1,693 over 35 counts). Many counts in the northern third of the state reported this species. The number of individuals and the number of counts reporting Pine Grosbeaks was the best since 1997 (which had 2,183 individuals over 38 counts). The Common Redpoll had a peculiar year. During the nearly 70 year history of the WSO CBCs, the redpoll has had a pattern of being common in odd numbered count years and scarce in even numbered count years. One deviation from this pattern began in 1986. That year, which should have been a down year for redpolls, there was instead a large increase over the high number of the year before. This was followed by two years (1987 and 1988) with mild numbers of redpolls (neither high nor low). 1989 was then a high year (as would again fit the pattern). This same deviation has again taken place, starting with the year 2004. The year 2004, which should have been a down year, showed instead a great increase over the large number of 2003. This was followed by two years (2005 and 2006) with mild numbers of redpolls. Now in 2007, an odd numbered count year that should have a large number of redpolls, the numbers are indeed rather high (2,821 over 66 counts). If the past is an indication of the future,

the 2008 count should produce few redpolls. The 66 counts finding redpolls is record high. The only other years with 60 or more counts reporting redpolls are 1981 (63 out of 84 counts) and 1995 (64 out of 84 counts).

**House Sparrow**—Although improved over the numbers from 2006, the House Sparrow in 2007 was still below its 10-year average, thus continuing its slow decline within the state.

## Appendix

An alphabetical listing of the counts follows. This listing includes the location of the count center plus the name, address, telephone number, and email address of the compiler. For birders wanting to join a count, it is suggested they contact the count compiler. For those wanting to start a new count, they must first contact the state compiler whose address is located at the beginning of this article.

**Antigo** (34); Jct. of 45 and 7th Ave, Antigo; Nancy Richmond, N3480 County Road S, Antigo, WI 54409; 715. 623. 6850; stjpolar@newnorth.net. **Appleton** (67); Jct. Hwys. 47 and 125, Outagamie Co.; John Shillinglaw, 1952 Palisades Dr., Appleton, WI 54915; 920. 731. 4222; jashlaw@aol.com. **Armstrong Creek** (16); Dale Leitzke, 508 45th Ave., Menominee, MI 49858; 906. 863. 3163; spade@new.rr.com. **Arpin** (37); 1/2 mi. N of Jct. Hwy. C and Oak Rd., Wood Co.; Dennis Seevers, 5969 Butternut Rd., Arpin, WI 54410; 715. 569. 4260; rock-cut@sdaros.net. **Ashland** (4); Jct. Hwy. 2 and Sanborn Ave., Ashland; Dick Verch, 906 Ellis Ave., Ashland, WI 54806; 715. 682. 5453; dverch2@charter.net. **Baraboo** (98); Jct. City View Rd. and Hwy. A, Baraboo; Scott Swengel, 909 Birch St., Baraboo, WI 53913; 608. 356. 9543; swengel@naba.org. **Bayfield** (3); T 50 N, R 5 W, S-22; David A. Bratley; Box 518, Washburn, WI 54891; 715. 373. 2564. **Beloit** (94); Jct. Tracy and Eau Claire Rds., about two miles W of Rock Co. Airport; Brad Paulson, 15034 W. Carroll Rd., Brodhead, WI 53520; 608. 879. 2647; bpaulson@genencor.com. **Black River Falls** (30); Jct. Hwys. H and 54, Jackson Co.; Judy Allen, W12866 River Rd., Black River Falls, WI 54615; 608. 488. 4150; knothole@centurytel.net. **Blanchardville** (96); 2.5 miles SW of Blanchardville; David Willard, Bird Division, Field Museum of Natural History, 1400 S. Lake Shore Dr., Chicago, IL 60605; 312. 665. 7731; willard@fieldmuseum.org. **Bridgeport** (103); Hwy. 18 bridge over Wisconsin R.; Dennis Kirschbaum, 1505 E. Parrish St., Prairie du Chien, WI 53821; 608. 326. 2718; kad9801@centurytel.net. **Brodhead** (95); Jct. of Golf Course Rd. and Sugar River Trail, Green Co.; Quentin Yoerger, 6831 N. Francis Dr., Evansville, WI 53536; 608. 882. 6078; harrierqman@gmail.com. **Brussels** (51); Jct. Hwy. 57 and Stevenson Pier Rd., Door Co.; Charlotte Lukes, 3962 Hillside Rd., Egg Harbor, WI 54209; 920. 823. 2478; Rnclukes@mwwb.net. **Burlington** (78); Jct. Hwy. A and Crossway Rd., Racine Co.; John Bielefeldt, Box 283, Rochester, WI 53167; 262. 514. 2376; rafinesq@yahoo.com. **Cable** (6); Jct. Hwys. M and D, Bayfield Co.; Cully Shelton, Cable Natural History Museum, P.O. Box 416, Cable, WI 54821; 715. 798. 3890; cully@cablemuseum.org. **Caroline** (44); 2 miles W of Caroline; Jan

Hewitt, 1074 E. Paulson Rd., Iola, WI 54945; 715. 445. 2489. **Cassville** (104); Jct. Garden Prairie and Muskellunge Rds., Grant Co.; David Sikorski, 449 N. 39th St., Milwaukee, WI 53208; 414. 379. 9650; akela317@aol.com. **Cedar Grove** (59); Jct. Hwy. G and Palmer Rd., Sheboygan Co.; Tom Uttech, 4305 Hwy. O, Saukville, WI 53080; 262. 675. 6482; tuttech@wi.rr.com. **Chippewa Falls** (22); Jct. Hwys. 178 and S, Chippewa Co.; Charles A. Kemper, 727 Maple St., Chippewa Falls, WI 54729; 715. 723. 3815; charles kemper@sbcglobal.net. **Clam Lake** (8); 7 miles SE of Clam Lake; Keith Merkel, 11722 Robin Rd., Marshfield, WI 54449; 715. 384. 2383; keith.merkel@wick-mail.com. **Clyde** (99); Jct. Hwy. ZZ and Weaver Rd., Iowa Co.; Steve Greb, 1714 Labrador Rd., Oregon, WI 53575; 608. 835. 5266; steven.greb@wisconsin.gov. **Columbus** (87); Jct. Johnson and Jahnke Sts.(south of Columbus); Larry Michael, 713 Clinton St. Apt. 103, Horicon, WI 53032; 920. 485. 2936; lamichael@powerweb.net. **Cooksville** (93); Cooksville, Rock Co.; David and Anna Marie Huset, 242 W. Church St., Evansville, WI 53536; 608. 882. 5648; huset@att.net. **Durand** (21); Jct. Hwys. 25 and DD 3 miles N of Durand, Dunn Co.; Charles A. Kemper, 727 Maple St., Chippewa Falls, WI 54729; 715. 723. 3815; charleskemper@sbcglobal.net.**Ephraim** (53); Hwy. A 3 miles S of Jct. with Hwy. 42, Door Co.; Karen Newbern, P.O. Box 152, Baileys Harbor, WI 54202; 920. 839. 2802; karen@ridgesanctuary.org. **Fifield** (9); Fifield Post Office; Thomas Nicholls, W7283 Walnut St. P.O. Box 63, Fifield, WI 54524; 715. 762. 3076; nicho002@umn.edu. **Florence** (15); just NE of center of Section 19, Town of Commonwealth, Florence Co.; Kay Kavanagh, 801 Lakeview Dr., Niagara, WI 54151; 715. 589. 2299; kkav@uplogon.com. **Fond du Lac** (69); Jct. Tower and Cody Rds., Fond du Lac Co.; Jeff Baughman, W2640 Middle Road, Campbellsport, WI 53010; 920. 477. 2442; jbaughman@csd.k12.wi.us. **Fort Atkinson** (92); Jct. Hwy. K and Hackbarth Ave., Jefferson Co.; Richard Wanie, W5920 Lee Dr., Fort Atkinson, WI 53538; 920. 563. 6274; crwanie@compufort.com. **Fremont** (41); Jct. Hwys. I and HH 4 miles SW of Fremont; Carl Schwartz, 7239 N. Barnett Lane, Fox Point, WI 53217; 414. 224. 2877; cschwartz@journalsentinel.com. **Friendship** (39); Jct. 16th Ave. and F, Adams Co.; Jym Mooney, 2183 N 54th St., Milaukee, WI 53208; 414. 875. 6825; hopmoon@milwpc.com. **Gilman** (24); 1 mile W of Miller Dam, Taylor Co.; Janice Luepke, B-894 Eau Pleine Rd., Spencer, WI 54479; 715. 659. 3910; hawkowl1@verizon.net. **Grantsburg** (17); Jct. Hwys. 70 and 48 in Grantsburg; Dennis Allaman, 506 W. St. George Ave., Grantsburg, WI 54840; 715. 463. 2365; allaman@usa.net. **Green Bay** (49); Jct. Allouez and S. Webster Aves.; John Jacobs, 2373 Libal St., Green Bay, WI 54301; 920. 432. 2438; Jacobs-rs@yahoo.com. **Green Lake** (81); Jct. Hwy. J and Swamp Rd., Green Lake Co.; Thomas Schultz, N6104 Honeysuckle Lane, Green Lake, WI 54941; 920. 294. 3021; trschultz@centurytel.net. **Gurney** (5); Hwy. 169 in Gurney; Joan Elias, 11140 W. Edwards Rd., Saxon, WI 54559; 715. 893. 2358; joan-elias@nps.gov. **Hales Corners** (62); Jct. 27th St. and Rawson Ave., (Milwaukee Co. only); Mark Verhagen, 9701 W. College Ave., Franklin, WI 53123; 414. 425. 8550;

mark.verhagen@ces.uwex.edu. **Hartford** (74); Jct. Hwys. 60 and 83 in Hartford; Bob Domagalski, W140 N8508 Lilly Rd., Menomonee Falls, WI 53051; 262. 251. 6259; rcd10@att.net. **Hayward** (7); boat landing at Phipps near Hwy. 63, Sawyer Co.; Cully Shelton, Cable Natural History Museum, P.O. Box 416, Cable, WI 54821; 715. 798. 3890; cully@cablemuseum.org. **Herbster** (2) Hwy. 13, 1 mile W of Herbster; Phyllis Johnson, P.O. Box 249, Cornucopia, WI 54827; 715. 774. 3600. **Holcombe** (23); Chippewa-Rusk county line, 1 mile E of Hwy. 27; Charles A. Kemper, 727 Maple St., Chippewa Falls, WI 54729; 715. 723. 3815; charleskemper@sbcglobal.net. **Horicon Marsh** (85); Jct. Main Ditch and Main Dike in Refuge; Bill Volkert, DNR, N7725 Hwy. 28, Horicon, WI 53032; 920. 387. 7877; brchwood@thesurf.com. **Hudson** (19); Afton, MN; Joseph Merchak, 1723 Laurel Ave., Hudson, WI 54016; 715. 531. 0542; jmerchak@ci.invergrove-heights.mn.us. **Hustisford** (86); Jct. Hwys. CJ and M, just east of Clyman; Bob Domagalski, W140 N8508 Lilly Rd., Menomonee Falls, WI 53051; 262. 251. 6259; rcd10@att.net. **Kenosha** (64); Jct. Hwys. 158 and 104th Ave.(Kenosha Co. only); Ron Hoffmann, Box 886, Kenosha, WI 53141; 262. 654. 5854. **Kettle Moraine** (73); Hwy. DD, W of Auburn Lake, Fond du Lac Co.; Bill Volkert, W996 Birchwood Dr., Campbellsport, WI 53010; 920. 387. 7877; brchwood@thesurf.com. **Kewaunee** (55); Jct. Hwys. 42 and D, Kewaunee Co.; William Mueller, 1242 S. 45 St., Milwaukee, WI 53214; 414. 643. 7279; iltlawas@earthlink.net. **Kickapoo Valley** (101); Jct. Hwys. T and 131, Monroe Co.; Eric Epstein, 22505 Kensington Rd., Norwalk, WI 54648; 608. 823. 7837; tickcity@centurytel.net. **La Crosse** (32); La Crosse Courthouse; Dan Jackson, S2256 CTH K, Chaseburg, WI 54621; 608. 483. 2271; DanJackson@LBWhite.com. **La Farge** (102); La Farge, Vernon County; Cathy Pierce, E14214 County Road D, La Farge, WI 54639; 608. 625. 2084; cathy.pierce@organicvalley.com. **Lake Geneva** (79); Interlaken Lodge, Hwy. 50 (approx. 2 M east of Jct. with Hwy 67); Brian Kullman, 812 Geneva St., Lake Geneva, WI 53147; 262. 248. 8884; wbulg@sbcglobal.net. **Lakewood** (47); Jct. of Co. T and Star Lake Rd.; Jon Motquin, W2254 Raspberry Lane, Appleton, WI 54913; 920. 687. 1599; jmotquin@new.rr.com. **Madison** (90); State Capitol; Aaron Stutz, 2014 Martin St., Madison, WI 53713; 608. 294. 9618; agstutz@sbcglobal.net. **Manitowish Waters** (10); Jct. Hwys. 51 and W, Vilas Co.; John Bates, 4245 Hwy. 47, Mercer, WI 54547; 715. 476. 2828; Manitowish@centurytel.net. **Meadow Valley** (29); Jct. Jackson, Juneau and Wood cos.; Andy Paulios, 4622 Yahara Dr., McFarland, WI 53558; 608. 838. 1133; andypaulios@yahoo.com. **Medford** (25); 2.5 miles NE of Whittlesey, Taylor Co.; Susanne Adams, 850 N. 8th St., Medford, WI 54451; 715. 748. 4875, ext. 36; smadams@fs.fed.us. **Milwaukee** (61); Jct. Port Washington Rd. and Hampton Ave., Glendale; Marilyn Bontly, 901 E. Fairy Chasm Rd., Bayside, WI 53217; 414. 228. 0314; mbontly@wi.rr.com. **Minoqua** (11); Jct. Hwys. 70 and 51 in Minocqua, Oneida County; Guy David, P.O. Box 462, Lac Du Flambeau, WI 54538; 715. 588. 3694; bgdavid@earthlink.net. **Montello** (82); Harrisville, Marquette Co.; Daryl Christensen, P.O. Box 182, Montello,

WI 53949; 608. 296. 3068; gr8fish@palacenet.net. **Mount Horeb** (97); Jct. Hwys. 78 and Bus. 18/151, Mount Horeb; Kenneth Wood, P.O. Box 81, Black Earth, WI 53515; 608. 767. 3343; kwwood@wisc.edu. **Nelson** (20); 1 mile S of Jct. Hwys. I and D; Charles A. Kemper, 727 Maple St., Chippewa Falls, WI 54729; 715. 723. 3815; charleskempter@sbcglobal.net. **New Franken** (50); Jct. Hwys. P and SS, Brown County; Ed Houston, 2818 Sugarbush Ct., Green Bay, WI 54301; 920. 339. 3273; ezehouston@aol.com. **New Richmond** (18); 2 miles E of Boardman, St. Croix Co.; Joseph Merchak, 1723 Laurel Ave., Hudson, WI 54016; 715. 531. 0542; jmerchake@ci.invergrove-heights.mn.us. **Norske** (43); 1 mile E of Jct. Hwy P and Rustad Rd., Waupaca Co.; Jan Hewitt, 1074 E. Paulson Rd., Iola, WI 54945; 715. 445. 2489. **Oconomowoc** (75); Hwy 67, 2 miles N of Oconomowoc; Larry Michael, 713 Clinton St. Apt. 103, Horicon, WI 53032; 920. 485. 2936; lamichael@powerweb.net. **Oshkosh** (68); Jct. Hwys. 21 and 41 in Oshkosh; Thomas Ziebell, 1638 White Swan Dr., Oshkosh, WI 54901; 920. 235. 0326; cziebell@new.rr.com. **Owen** (26); Hwy. D 2.5 miles N of Hwy. 29, Clark Co.; Gayle Davis, N 1503 Putnam Dr., Owne, WI 54460; 715. 229. 2022; humnbrd@peoplepc.com. **Palmyra** (77); 0.5 miles N of Jct. Hwy 20 and Nelson Rd., Walworth Co.; Eric Howe, N9564 Nature Rd., Eagle, WI 53119; 262. 594. 5853; info@hoyaudubon.org. **Pardeeville** (83); north end of access road that comes from Monthey Rd. into the south side of French Creek Wildlife Area, Columbia Co.; Paul and Glenna Schwalbe, 203 Breezy Point Dr., Pardeeville, WI 53954; 608. 429. 4365; pschwalbe@jvlnet.com. **Pensaukee** (65); Pensaukee; Thomas Erdman, 4094 Hwy. S, Rte. 2, Oconto, WI 54153; 920. 465. 2713; erdmant@uwgb.edu. **Peshtigo** (48); Harmony Corners, Marinette Co.; Barb Bereza, N3175 County RW, Peshtigo, WI 54157; 715. 582. 0884. **Phelps** (12); Jct. FR 2199 and FR 2533, 2 miles SW of Phelps; Bill Reardon, 1700 Open Acres Ln., Eagle River, WI 54521; 715. 479. 8055; breardon@nnex.net. **Platteville** (105); Cornelia on Ct. O, Grant Co.; Karl and Dorthy Legler, 429 Franklin St., Sauk City, WI 53583; 608. 643. 4926; karlndot@chorus.net. **Plymouth** (72); Jct. Hwys. 23 and C, Sheboygan Co.; Robert Brigham, 851 Chaplin Ct., Plymouth, WI 53073; 920. 892. 7716; rbrigham@wi.rr.com. **Poynette** (88); Jct. Hwys. 51 and CS; Mark and Sue Martin, W7503 Kampen Rd., Arlington, WI 53911; 608. 635. 4160; goosep@chorus.net. **Racine** (63); Hwy. H 0.5 miles S of Hwy. K (Racine Co. only); Eric Howe, N9564 Nature Rd., Eagle, WI 53119; 262. 594. 5853; cbc@hoyaudubon.org. **Randolph** (84); Hwy. P midway between Cambria and Randolph, Columbia Co.; Larry Michael, 713 Clinton St. Apt. 103, Horicon, WI 53032; 920. 485. 2936; lamichael@powerweb.net. **Rhinelander** (14); Rhinelander; Vanessa Haese-Lehman, 333 E. Rives St., Rhinelander, WI 54501; 715. 369. 3708; vhaeselehman@printpack.com. **Richland Center** (100); Jct. Hwys. O and TB SE of Richland Center; Robert Hirschy, University of Wisconsin Center-Richland, 1200 Hwy. 14 West, Richland Center, WI 53581; 608. 647. 3042; robert.hirschy@uwc.edu. **Riveredge** (60); Jct. Hwy. 33 and Lakeland School Rd., Ozaukee Co.; Mary Hollebeck, c/o Riveredge Nature Center,

P.O. Box 26, Newburg, WI 53060; 800. 287. 8098; maryh@riveredge.us. **Rosendale** (80); 2.5 miles S of junc. of Hwys. 23 and 26, Fond du Lac Co.; Seth Cutright, 3352 Knollwood Rd., West Bend, WI 53095; 262. 675. 2443; ferruginous.hawk82@gmail.com. **Sauk City** (89); 2.5 miles SE of Witwen, Sauk Co.; Karl and Dorothy Legler, 429 Franklin St., Sauk City, WI 53583; 608. 643. 4926; karlndot@chorus.net. **Seymour** (66); Jct. Hwy. C and Culbertson Rd., Outagamie Co.; Kevin Kearns, 1215 Glenayre Dr., Neenah, WI 54956; 920. 886. 0833; dkkearns@new.rr.com. **Shawano** (45); 3 miles N of Lunds, Shawano Co.; Tim Ewing, W5646 Lindsten Rd., Shioction, WI 54170; 715. 758. 6999; nnc1@tds.net. **Sheboygan** (58); Jct. 10th St. and Erie Ave., Sheboygan; Scott Baughman, 3043 Rolling Meadows Dr., Sheboygan, WI 53083; 920. 457. 5574; baughman@charter.net. **Shiocton** (46); Jct. Hwys. M and 54, Outagamie Co.; Steven Petznick, Mosquito Hill Nature Center, N3880 Rogers Rd., New London, WI 54961; 920. 779. 6433; petznisj@co.outagamie.wi.us. **Solon Springs** (1); Jct. Hanson and Hruska Rds., Douglas Co.; Nancy Raffetto, 7106 S. Steele Lake Rd, Lake Nebagamon, WI 54849; 715. 374. 3007; Raffetto@wisc.edu. **Spencer** (27); Jct. Hwys. F and 153, Marathon Co.; Janice Luepke, B-894 Eau Pleine Rd., Spencer, WI 54479; 715. 659. 3910; hawkowl1@verizon.net. **Stevens Point** (36); Old Main Bldg., U.W.-Stevens Point; Nancy Stevenson, 1890 Red Pine Ln., Stevens Point, WI 54481; 715. 341. 0084; gypsysgma@yahoo.com. **Stockbridge** (no count taken in 2007); 3 miles SE of Stockbridge; Carroll Rudy, W3866 Hwy. H, Chilton, WI 53014; 920. 849. 9021; mcrudy@dotnet.com. **Sturgeon Bay** (52); Jct. Hwys. 57 and P, Door Co.; Charlotte Lukes, 3962 Hillside Rd., Egg Harbor, WI 54209; 920. 823. 2478; Rnclukes@mwwb.net. **Summit Lake** (33); Jct. of Fritzgerald Dam Rd. and T, Langlade Co.; Joan Campbell, N2995 Shore Dr., Marinette, WI 54143; 715. 732. 1277; d0dobird2002@yahoo.com. **Three Lakes** (13); 6 miles E of Three Lakes; Bill Reardon, 1700 Open Acres Ln., Eagle River, WI 54521; 715. 479. 8055; breardon@nnex.net. **Trempealeau** (31); Jct. Hwy. K and Fremont St., Trempealeau; Al Wernecke, 23787 Trail View Lane, Trempealeau, WI 54661; 608. 534. 6330; ajja701@triwest.net. **Washington Island** (54); Washington Island; Ursula Petersen, 3112 Sunnyside St., Stoughton, WI 53589; 608. 873. 0294; buboarcto@aol.com. **Waterloo** (91); Jct. of Hwys. O and B on Jefferson/Dane county line, 5 miles west of Lake Mills; Bob Domagalski, W140 N8508 Lilly Rd., Menomonee Falls, WI 53051; 262. 251. 6259; rcd10@att.net. **Waukesha** (76); Jct. Hwy. D and Brookhill Rd., Waukesha Co.; Walter Hahn, 213 W. Newhall Ave., Waukesha, WI 53186; 262. 547. 1004. **Waupaca** (42); Jct. Hwy. 49 & Smokey Valley Rd, Waupaca Co.; Jan Hewitt, 1074 E. Paulson Rd., Iola, WI 54945; 715-445-2489. **Wausau** (35); Jct. Grand Ave. and Thomas St., Wausau; Jane Raymond-Wood, 1417 Skyline Lane, Wausau, WI 54403; 715. 845. 3969; tjwood@dwave.net. **Wautoma** (40); Mount Morris, Waushara Co.; Chip Hutler, W6378 Cty. Rd. YY, Neshkoro, WI 54960; 920. 293. 4500; clhutler@wildblue.net. **Willard** (28); 1 mile E and 1.5 miles S of Willard, Clark Co.; Janice Luepke, B-894 Eau Pleine Rd., Spencer, WI 54479; 715. 659. 3910;

hawkowl1@verizon.net. **Wisconsin Rapids** (38); Wisconsin Rapids Airport; Darwin Tiede, 2809 Schaefer Circle, Appleton, WI 54915; 920. 997. 9418; ctiede@new.rr.com. **Woodland Dunes NE** (56); Mishicot; **NW** (70); Menchalville; **SE** (57); 2 mi. S of Newtonburg; **SW** (71); 3 miles W of St. Nazianz on Hwy. C; all counts only in Manitowoc Co.; Bernard Brouchoud, Woodland Dunes Nature Center, P.O. Box 486, Two Rivers, WI 54241; 920. 793. 4007; woodlanddunes@lakefield.net.

White-crowned Sparrow by Jack Bartholmai

Baltimore Oriole by Dennis Malueg

# Cyclic Irruptions of Northern Goshawks at Cedar Grove, Wisconsin, 1951–2004


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**ABSTRACT**

*We counted and trapped migrating Northern Goshawks* (Accipiter gentilis), *[hereafter goshawks], at Cedar Grove, Wisconsin, in the autumns of 1951 through 2004. No overall trend in number of migrants was evident, but four irruptions of adults occurred in 1962–1963, 1972–1973, 1982–1983, and 1992–1993. The number of goshawks seen in the first year of each irruption was greater than in the second year. In non-irruption years birds were mostly juveniles and more males than females were captured. More goshawks were seen in 1972 and 1982 than in 1962 and 1992. Significantly more adult females than adult males were trapped in the 1960s and early 1970s; this may represent the population as well. Significantly more adult males than adult females were captured in 1982, possibly because of higher female mortality or the failure of some females to migrate. Many individuals in the*

*irruption of 1972-1973 apparently came from western Canada, as far west as Alberta. Irruptions of goshawks coincide with peaks in lynx (*Lynx canadensis*) populations and with crashes in snowshoe hare* (Lepus americanus) *populations in Canada.*

## Introduction

Northern Goshawks (*Accipiter gentilis*) are partial migrants with only a small portion of the population migrating in most years (Squires and Reynolds 1997). Most migrants are juveniles (Mueller and Berger 1967a; Sibley 1993). Occasional irruptions of large numbers occur in the eastern United States. These irruptions are dominated by adults (Fleming 1907, Deane 1907). Irruptions occur at approximately ten-year intervals and one to two years after peaks in snowshoe hare (*Lepus americanus*) populations (Spiers 1939). Major irruptions of goshawks in Toronto, Ontario, occurred in 1886–1887, 1896–1897, 1906–1907, 1926–1927 and 1935–1936 (Spiers 1939). Apparently no irruptions occurred in North America in the 1940s or 1950s (Keith and Rusch 1986). Ruffed Grouse (*Bonasa umbellus*) and snowshoe hare are important prey for goshawks (Storer 1966). Ruffed Grouse populations usually peak within one or two years of those of snowshoe hares (Keith 1963). Irruptions of goshawks in 1962 and 1972 correlated with population crashes of Ruffed Grouse and snowshoe hare (Mueller and Berger 1967, Mueller et al. 1977).

We began observing and trapping migrating hawks east of Cedar Grove, Wisconsin, in 1951. From 1951 through 2004, we saw 1,781 goshawks and trapped 1,094 (61%). Mueller et al. (2001) summarized migrations of raptors during 1951–1999. We present evidence from four ten-year periodic irruptions of goshawks and the lack of irruptions before and after. We look at changes in age and sex ratios, timing of migration, and variation in condition of the birds. We also examine the distribution of recoveries of banded birds, particularly on the origins of birds in irruption years.

## Methods

We counted, and attempted to trap, migrating hawks at the Cedar Grove Ornithological Station on the western shore of Lake Michigan, 70 km north of Milwaukee, Wisconsin. The number of observation days per autumn was 82.6 ± 26.03. We usually watched for migrants from before sunrise until after sunset, although on days with little or no migration our observations occasionally became sporadic, particularly in the 1950s and 1960s. We suspended observations completely only during continuous rain or dense fog. We conducted observations from spacious and comfortable blinds, which offered an extensive view to the north, west, and east. Although many observers were involved in this study, all were closely supervised by at least one of the authors. Berger was present at the station for 53 of the 54 years, H. Mueller for 40, and N. Mueller and Kaspar for 29.

Birds in juvenal plumage (less than one year old) were characterized as juveniles or Hatching Year (HY). Birds in basic plumage with feathers remaining from the juvenal plumage

were aged as SY (Second Year), and birds with two generations of basic feathers were aged as ASY (After Second Year). Insufficient samples and no differences between the two groups led us to combine SY and ASY into adults for some analyses. We used a modification of Mueller et al. (1976) based on a larger sample to sex trapped hawks. Juveniles were sexed as males if they had a tail length of < 255mm and as females if longer. Similar criteria for SY are 247mm; for ASY 246mm.

We determined masses of trapped birds to the nearest g on triple-beam or electronic balances. Not all birds were weighed; on one day, birds were trapped too rapidly to permit processing. Mass is in part a function of muscle mass and fat deposits and thus reflects the condition of a bird. Volume, and hence mass, are proportional to the cube of a linear dimension. An index of the condition of birds was calculated by dividing the mass by the cube of wing chord and multiplying the result by 100,000.

We used SYSTAT (Wilkinson 1989) on a Macintosh computer for statistical analysis except for the binomial test, which follows Siegel and Castellan (1988). The large sample z tests for parallelism, and common intercept of regressions follows Kleinbaum and Kupper (1978). Unless otherwise stated, the level of significance was $P < 0.05$. For tests involving 2 × 2 tables, statistical significance is simply stated; the Fisher exact test was used when N < 40 or when the value in a cell was < 5, and chi-square, with Yates correction, for other 2 × 2 comparisons.

## RESULTS

### Irruptions at Cedar Grove?

There was no overall linear trend in numbers of goshawks seen per day 1951–1999 (Mueller et al. 2001) or in the number relative to the total of raptors ($r = 0.03$, $P = 0.85$). From 1951 through 2004, 95% of goshawks observed were seen between 5 October and 10 December, the interval we used for comparisons among years. The number of goshawks seen per year differed considerably among years (Fig. 1A) and an autoregressive time series analysis indicated peaks in occurrence at ten-year intervals (P = 0.006). The highest peaks were in 1972 and 1982. Weather conditions, particularly wind direction and velocity, strongly influence migration of raptors at Cedar Grove (Mueller and Berger 1961, 1967b): for example, the number of Sharp-shinned Hawks (*Accipiter striatus*) seen per observation day in 1951–1999 ranged from 11.3 to 91.5 (Mueller et al. 2001). When comparing only two years it is probably best to use the numbers of individuals of a species relative to the numbers of individuals of all raptors seen, under the assumption that all species are similarly influenced by weather. The number of goshawks seen relative to the number of individuals of other species of raptors did not differ significantly between 1972 and 1982, but it was significantly greater in each of these two years ($P < 0.001$) than in 1962 and 1992 (Fig. 1B).

### Age and sex ratios?

The distribution of adults trapped shows a ten-year periodicity (autoregressive time series analysis, $P = 0.008$)

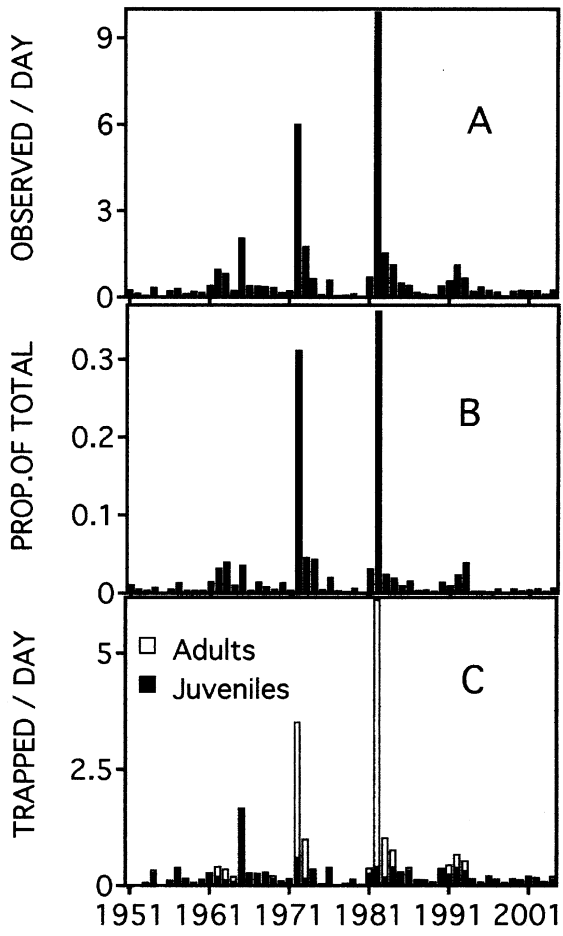


Figure 1. (A) Number of Northern Goshawks seen per day of observation from 5 October through 10 December. (B) Northern Goshawks as a proportion of all hawks observed. (C) Number of adult and juvenile Northern Goshawks trapped.

but the distribution of juveniles shows no periodicity (Fig. 1C). The most pronounced peaks of adults occurred in 1982 and 1972 followed by unusual numbers in 1983 and 1973. Smaller peaks occurred in 1962–1963 and 1992–1993. The peak years for adults also had more than the usual number of juveniles. More juvenile goshawks were trapped per day in 1962, 1972, 1982 and 1992 (mean = 0.37) than in the other years (mean = 0.18, $P < 0.001$).

There was an increase in ASY relative to SY between each of the irruption years 1962, 1972, 1982 and 1992 but only the increase between 1972 and 1982 was statistically significant ($P < 0.001$, Table 1). The pattern in the second year of the irruption (1963, 1973, 1983 and 1993) was not consistent: an increase through 1983,

Table 1. Number of Goshawks trapped at Cedar Grove. Code for headings of columns: HY = Hatching Year, SY = Second Year, ASY = After Second Year, M = male, F = female

| YEAR | HYM | HYF | SYM | SYF | ASYM | ASYF |
|---|---|---|---|---|---|---|
| 1951–61 | 20 | 11 | 0 | 1 | 0 | 1 |
| 1962 | 7 | 4 | 2 | 6 | 0 | 1 |
| 1963 | 5 | 2 | 0 | 2 | 6 | 5 |
| 1964–71 | 50 | 22 | 1 | 6 | 1 | 2 |
| 1972 | 11 | 9 | 21 | 31 | 13 | 29 |
| 1973 | 3 | 4 | 1 | 2 | 14 | 21 |
| 1974–81 | 35 | 16 | 3 | 4 | 1 | 1 |
| 1982 | 13 | 12 | 59 | 40 | 143 | 108 |
| 1983 | 6 | 3 | 2 | 0 | 20 | 19 |
| 1984–91 | 68 | 32 | 7 | 4 | 16 | 10 |
| 1992 | 16 | 4 | 1 | 0 | 4 | 9 |
| 1993 | 13 | 5 | 3 | 1 | 6 | 2 |
| 1994–04 | 45 | 22 | 0 | 3 | 1 | 1 |

but a significant decrease between 1983 and 1993. In the non-irruption years (1951–1961, 1964–1971, 1974–1981, 1984–1991, 1994–2004) the only notable change is a significant increase in ASY relative to SY between 1974-1981 and 1984-1991.

Data on reproduction and mortality (Squires and Reynolds 1997) suggest that no more than two young per pair survive until fall migration. A 1:1 age ratio occurred in one year, more juveniles than adults were trapped in 42 years (significantly more in 1961, 1965, 1976, 1985, 1986, 1988, 1990, 1996, 2000, and 2002), and more adults than juveniles in only seven years (significantly more in 1972, 1973, 1982 and 1983, binomial test, $P < 0.05$).

Calculations based on the mortality data in Squires and Reynolds (1997) suggest that the adults would be 23% SY and 67% ASY in a steady state population. More than 23% SY were trapped in 18 years (significantly more in 1962 and 1972) and more than 67% ASY were trapped in 10 years (significantly more only in 1983).

The overall sex ratio in juveniles was 66 males to 34 females, which differs from 1:1 (binomial test, $P < 0.001$). We captured significantly more juvenile males than juvenile females in 1964–1971 and 1974–1981, 1984–1991, 1994–2004 (binomial test, $P < 0.05$), but not during 1951–1961 (Table 1). The sex ratio of juveniles was male-biased in 1992 and 1993 ($P < 0.05$), but did not differ from unity in 1962, 1963, 1972, 1973, 1982 and 1983. The number of juveniles trapped in 1972 (20) and 1982 (25) exceeded that of all but 1965, 1984 and 1992, yet the sex ratio in 1972 and 1982 did not differ significantly from unity.

The overall sex ratio in SY and for ASY was 51:49. There were significantly more (binomial test, $P < 0.01$) SY females than SY males in 1951–1971, and more ASY females than ASY males in 1972 (Table 1, $P < 0.01$). The sex ratio was significantly reversed in 1982 with more males than females (SY, $P < 0.05$, and ASY, $P$

Table 2. Median dates of Northern Goshawk occurrence in fall at Cedar Grove, Wisconsin. Code for headings of columns: HY = Hatching Year, SY = Second Year, ASY = After Second Year, M = male, F = female

| YEAR | HYM | HYF | SYM | SYF | ASYM | ASYF |
|---|---|---|---|---|---|---|
| 1951–61 | 10/24 | 10/26 | | 11/5 | | 11/8 |
| 1962 | 11/3 | 11/10 | 11/23 | 11/18 | 10/18 | 12/5 |
| 1963 | 10/14 | 11/20 | 11/18 | 12/2 | 11/13 | 11/13 |
| 1964–71 | 10/24 | 10/26 | 11/14 | 11/17 | 11/17 | 11/6 |
| 1972 | 10/17 | 10/15 | 10/17 | 10/17 | 10/16 | 10/17 |
| 1973 | 11/9 | 11/28 | 11/28 | 11/3 | 11/7 | 11/6 |
| 1974–81 | 10/29 | 10/30 | 10/23 | 11/10 | 11/16 | 11/14 |
| 1982 | 11/6 | 10/25 | 11/5 | 11/5 | 11/3 | 11/7 |
| 1983 | 10/25 | 10/30 | 10/21 | | 10/27 | 10/28 |
| 1984–91 | 11/2 | 10/25 | 11/22 | 11/16 | 11/4 | 11/16 |
| 1992 | 10/19 | 10/20 | 10/27 | | 11/2 | 11/3 |
| 1993 | 11/13 | 11/19 | 11/7 | 10/9 | 11/8 | 11/10 |
| 1994–04 | 10/29 | 10/25 | | 11/1 | 11/4 | 11/1 |

$< 0.05$). After 1982 the sex ratio of adults (63 males: 51 females, SY and ASY combined) did not differ from unity but differed from that of 1951–1971 (15: 27, $P < 0.05$).

**Timing of migration?**

Over all 54 years, adults were captured later than juveniles (both ASY and SY, Mann-Whitney U, $P < 0.001$). ASY females migrated later than ASY males ($P = 0.007$) but there were no significant differences between the sexes in HY ($P > 0.60$) or SY ($P > 0.80$). There was no significant difference in the timing of juveniles of either sex between the years shown in Table 2. ASY and SY of both sexes migrated earlier in 1972 than in 1982 ($P < 0.001$). ASY females migrated significantly later than ASY males in 1982 ($P = 0.001$), only marginally later in 1972 ($P = 0.080$) and 1984–2004 ($P = 0.058$), but there was no difference in 1951–1971 ($P > 0.50$).

Differences in timing between 1972 and 1982 may be at least partially the result of weather conditions that influenced the migration of raptors. The number of goshawks observed relative to the number of individuals of other species of raptors in the first quarter of the season (5 through 21 October) was significantly greater in 1972 than 1982 (Fig. 2, $P < 0.001$). There was no significant difference between the two years in the middle two quarters, but in the final quarter (25 November–10 December) the number of goshawks observed relative to the number of individuals of other species was greater in 1982 than 1972 ($P = 0.043$). More than 75% of all goshawks observed in either year were seen in the first two quarters 1972 and 1982. The difference in timing is largely the result of 75% of all goshawks seen in the first quarter in 1972, when good numbers of other species were seen in both 1972 and 1982 and 72% of all goshawks seen in 1982 in the second quarter when many raptors of others species were observed in 1982, but few in 1972 (Fig. 2).

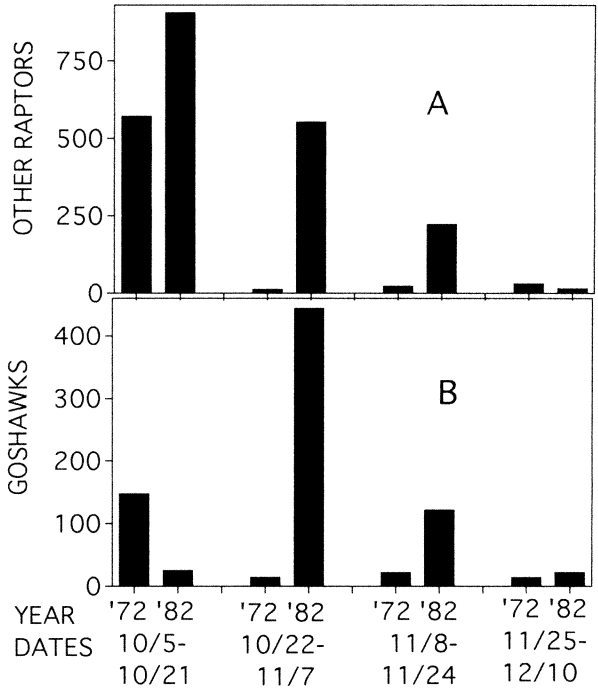


Figure 2. (A) Total number of migrating raptors of all other species observed during four 17-day intervals through the fall at Cedar Grove, Wisconsin. (B) The number of Northern Goshawks.

**Condition of the hawks?**

A bird's mass relative to its body size varies primarily with gut content, fat stores, and muscle mass, most of which reflect the condition of the bird. An index of condition can be obtained by dividing the mass of the bird by the cube of a linear measurement. Of the linear measurements taken, we used wing chord. Overall, adults of each sex were in significantly better condition than the corresponding sex of juveniles (Table 3, $P < 0.001$). Adult males and juvenile males were in bet-

Table 3. Condition [(mass/wing chord$^3$) × 100,000)] of Northern Goshawks trapped at Cedar Grove, Wisconsin.

| Years | Adult Male | Adult Female | Juvenile Male | Juvenile Female |
|---|---|---|---|---|
| 1962 | 2.706 ± 0.265 | 2.696 ± 0.207 | 2.516 ± 0.209 | 2.524 ± 0.178[1] |
| 1972 | 2.653 ± 0.223 | 2.646 ± 0.264[1,2] | 2.501 ± 0.240[3] | 2.234 ± 0.104 |
| 1982 | 2.647 ± 0.217[3] | 2.569 ± 0.224 | 2.493 ± 0.181 | 2.301 ± 0.126 |
| 1992 | 2.483 ± 0.310 | 2.466 ± 0.181 | 2.463 ± 0.184 | 2.357 ± 0.254 |
| ALL | 2.649 ± 0.225 | 2.569 ± 0.233 | 2.500 ± 0.213 | 2.388 ± 0.231 |

[1] Significantly greater than that of 1992, both $P < 0.04$.
[2] Significantly greater than that of 1982, $P = 0.043$.
[3] Significantly greater than that of females of the same age, $P < 0.009$.

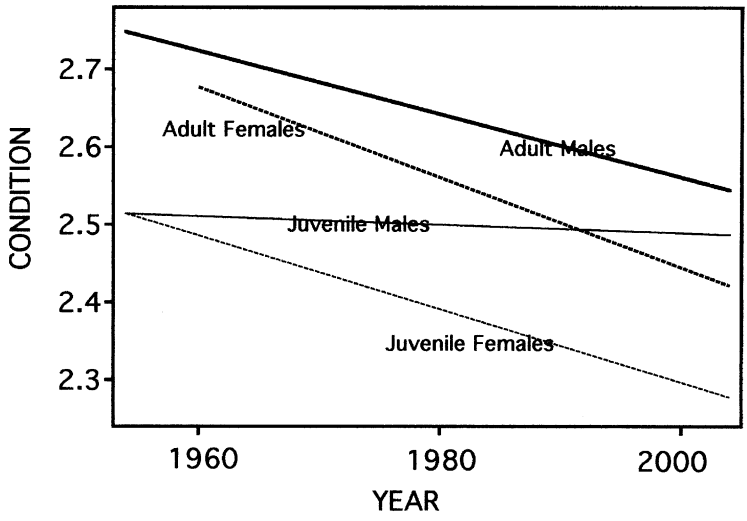


Figure 3. Linear regressions of Northern Goshawk condition (mass/wing chord$^3$ (100,000) over the years 1954–2004 at Cedar Grove, Wisconsin.

ter condition than the corresponding adult females and juvenile females ($P < 0.001$). This differs from all species for which we have adequate data [Cooper's Hawk (*A. cooperii*), Sharp-shinned Hawk (*A. striatus*), Northern Harrier (*Circus cyaneus*), and Merlin (*Falco columbarius*)] where females were in significantly better condition than males (unpublished data, Cedar Grove Ornithological Station).

Juvenile males did not change significantly in condition in 1951-2004 (Fig. 3, $P = 0.57$, but adult males ($P = 0.029$), adult females and juvenile females (both $P < 0.001$) decreased in condition. Juvenile males were in better condition in 1972 than juvenile females (Table 3, $P = 0.001$) and adult males were in better condition in 1982 than adult females ($P = 0.006$). Adult females were in better condition in 1972 than in 1982 or 1992 (Table 3, both $P < 0.05$). Adults of both sexes increased in condition through the season in 1972 ($r = 0.40$, $P < 0.02$), but not in 1982 (Fig. 4, $P > 0.37$).

## Recoveries of banded birds?

We received 43 notices of goshawks banded at Cedar Grove and found elsewhere before 25 March of the year following banding (Table 4). These provide a reasonable indication of distance traveled after capture. There are no significant differences between any two categories in Table 4, (Mann-Whitney $U$ test, $P > 0.20$). Twenty-

Table 4. Mean distance (km) moved by Northern Goshawks banded at Cedar Grove, Wisconsin in autumn, and recovered before the next 25 March.

| Age and Sex | N | Mean ± SD | Range |
|---|---|---|---|
| HY Males | 10 | 158 ± 133 | 14–499 |
| HY Females | 10 | 315 ± 336 | 5–886 |
| SY Males | 4 | 217 ± 287 | 48–644 |
| SY Females | 7 | 170 ± 210 | 10–390 |
| ASY Males | 8 | 155 ± 196 | 1–290 |
| ASY Females | 4 | 228 ± 215 | 9–499 |

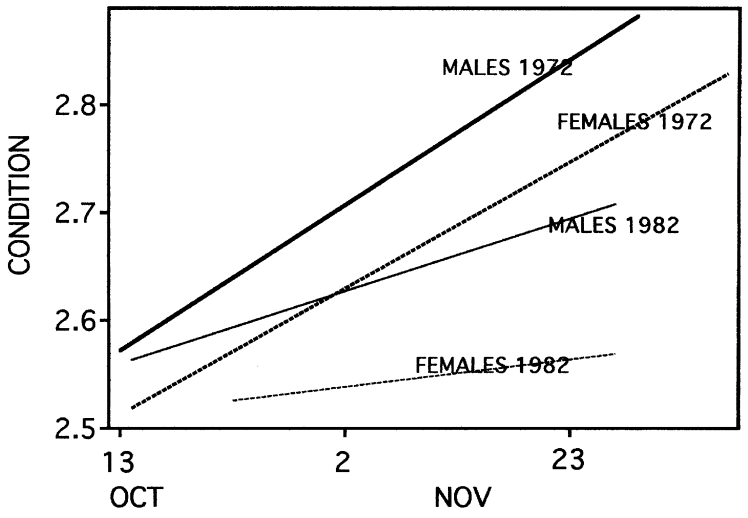


Figure 4. Linear regressions of condition (mass/wing chord$^3$ (100,000) of Northern Goshawks more than two years old on calendar date in 1972 and 1982. The regressions for both females and males are statistically significant for 1972 but not for 1982.

eight of the band recoveries were from Wisconsin, eight from Illinois, two each from Indiana and Tennessee, and one each from Kentucky, Missouri, and Pennsylvania.

**Geographic origins of the migrants?**

Hawk trapping stations exist at (1) Little Suamico, on the western shore of Green Bay about 20 km north of the city of Green Bay, Wisconsin, and about 145 km north of Cedar Grove and (2) Hawk Ridge on the western shore of Lake Superior on the outskirts of Duluth, Minnesota, and about 590 km northwest of Cedar Grove. Many more goshawks were banded at Hawk Ridge than at Little Suamico. Four goshawks banded at Little Suamico and two banded at Hawk Ridge were re-trapped at Cedar Grove during the same autumn. We have 16 records of birds banded at Cedar Grove and recovered within the breeding range (Table 5). All six of the goshawks recovered in the west (Manitoba, Saskatchewan, and Alberta) were banded during the irruption years of 1972–1973 and 1982–1983. Only three of 10 birds recovered east of Manitoba were banded in irruption years, a significant difference ($P = 0.003$). Eight of 10 goshawks recovered north of the Canadian border were west of the longitude of Cedar Grove. Five of 82 band recoveries were of birds at least 11 years old. These five recoveries were of 325 goshawks banded before 1974, a significant difference from none of 725 banded during 1974–1990 ($P < 0.004$).

**Irruptions elsewhere?**

Accounts for fall and winter in Audubon Magazine, Audubon Field Notes, and American Birds for 1936-1999 mention "numerous reports," "unusual numbers," or "flights" of

Table 5. Northern Goshawks banded at Cedar Grove, Wisconsin, and recovered in the breeding range during the next breeding season.

| State or Province | Age / Sex | Date Banded | Date Recovered | N W Latitude/Longitude |
|---|---|---|---|---|
| Wisconsin | HY female | 10/24/54 | 6/21/57 | 45° 20′ / 87° 40′ |
| Michigan | HY female | 9/25/70 | 12/21/82 | 45° 40′ / 86° 50′ |
| (upper) | HY female | 11/12/89 | 9/12/91 | 46° 0′ / 86° 10′ |
| | ASY female | 11/04/82 | 4/07/83 | 45° 40′ / 86° 30′ |
| Minnesota | HY female | 11/19/84 | 10/24/87 | 47° 0′ / 92° 10′ |
| | SY female | 11/05/82 | 3/16/85 | 45° 10′ / 93° 20′ |
| Ontario | HY female | 10/31/61 | 12/ ? /62 | 46° 10′ / 83° 50′ |
| | SY female | 11/13/82 | 10/12/83 | 46° 30′ / 84° 41′ |
| | HY female | 10/06/91 | 10/13/92 | 48° 20′ / 89° 10′ |
| | HY male | 10/11/65 | 3/21/68 | 49° 50′ / 92° 40′ |
| Manitoba | SY male | 10/17/72 | 5/14/73 | 51° 10′ / 98° 20′ |
| | ASY female | 10/29/83 | 6/25/86 | 50° 10′ / 98° 40′ |
| Saskatchewan | SY male | 10/16/72 | Spring 82 | 52° 50′ / 102° 20′ |
| | HY male | 10/21/83 | 7/13/84 | 53° 10′ / 105° 40′ |
| Alberta | ASY male | 11/01/73 | 1/ ? /77 | 56° 50′ / 117° 20′ |
| | ASY male | 11/09/73 | 2/17/81 | 54° 20′ / 115° 20′ |

goshawks in one or two regional reports in 1939, 1941, 1943, 1946, 1954, 1957, 1961, 1962 and 1965, but no indication of a major irruption after 1936 or before 1972. The species was seen in unusual numbers in several regions in 1972–1973, 1981–1983, and 1991–1993. The 1972 irruption was more widespread than in 1982: goshawks were reported in 19 of 21 regions in 1972 and in only 15 of 24 regions in 1982. The species appeared to be less common in the east and in the far west in 1982.

Regular observations of hawk migration since 1972 were available from only three localities: Hawk Mountain, Pennsylvania, Hawk Ridge, Minnesota, and Cedar Grove (Fig. 5). Observations of goshawks were highly correlated between all three localities ($r_s > 0.645$, $P < 0.001$). In all but Cedar Grove, the highest ratio of goshawks to total hawks occurred in 1972 and the second highest in 1982. At Hawk Ridge and Cedar Grove, there was also a much smaller peak in 1992-1993 but there is no clear indication of a peak at Hawk Mountain after 1982. Accounts in American Birds indicate only a small irruption in 1992 and only in a few regions. *The Journal of the Hawk Migration Association of North America* indicates a small irruption in 1992 in the eastern and western Great Lakes reports and in the western continental summary. For additional information on the west, see Hoffman and Smith (2003).

## Prey of goshawks?

To lure the hawks to our traps, we used: Rock Pigeons (*Columba livia*, mass 270g), Ringed Turtle-Doves (*Streptopelia risoria*, 160g), European Starlings (*Sturnus vulgaris*, 82g) and House Sparrows (*Passer domesticus*, 28g). More adult female goshawks were trapped with pigeons than either adult males or juvenile females ($P < 0.001$, Table 6). More adult males were trapped with pigeons than juve-

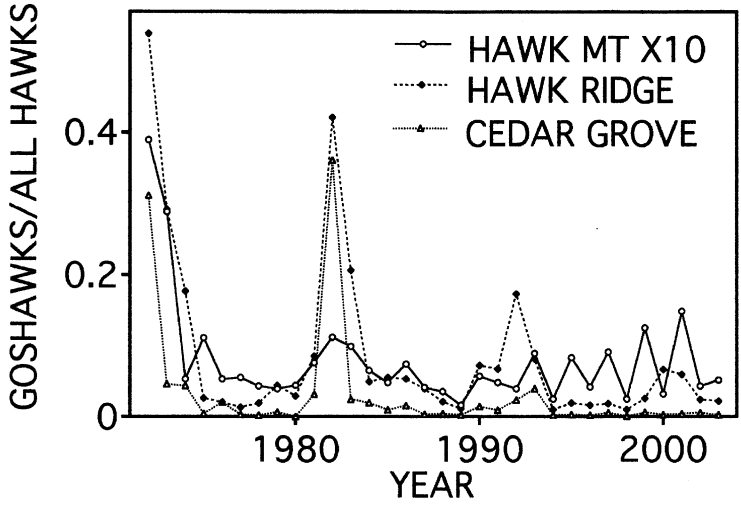


Figure 5. Northern Goshawks as a proportion of all raptors observed 1972–1999. At Hawk Mountain: a proportion of raptors seen except Broad-winged Hawks (*Buteo platypterus*) multiplied by 10. At Hawk Ridge: a proportion of all raptors seen in October and November. At Cedar Grove: a proportion of all raptors seen 5 October–10 December.

nile males ($P < 0.001$) and more juvenile females were trapped with pigeons than juvenile males ($P < 0.03$). Thus, more females than males and more adults than juveniles were trapped with pigeons (270g) than with smaller prey (mass <160g).

Storer (1966) examined sizes of prey in the guts of goshawks, grouping the sizes of prey into 20 size classes. If we collapse the data into a 2 × 2 table, the differences between the sexes are almost significant: males took more prey in size classes 1–8 (3.4–166g) than females ($P = 0.052$), a result very similar to what we found at Cedar Grove.

Goshawk movements appear to be correlated with hare populations, and it is of interest to see whether the sexes differ in taking hares as prey. Storer (1966) furnished us with his original data, and the males took 6 hares of 64 prey and the females took 8 hares of 59 prey: this difference is not significant ($P = 0.90$). Kenward et al. (1999) found that rabbits (*Oryctolagus cuniculus*) were important in the

Table 6: Number of goshawks trapped on lure species.

| | Age and sex of hawk | | | |
|---|---|---|---|---|
| Lure | Adult male | Adult female | Juvenile male | Juvenile female |
| House Sparrow | 6 | 3 | 7 | 3 |
| European Starling | 18 | 9 | 33 | 8 |
| Ringed Turtle-Dove | 24 | 8 | 70 | 25 |
| Rock Pigeon | 243 | 265 | 177 | 98 |
| **Total** | **291** | **285** | **287** | **134** |

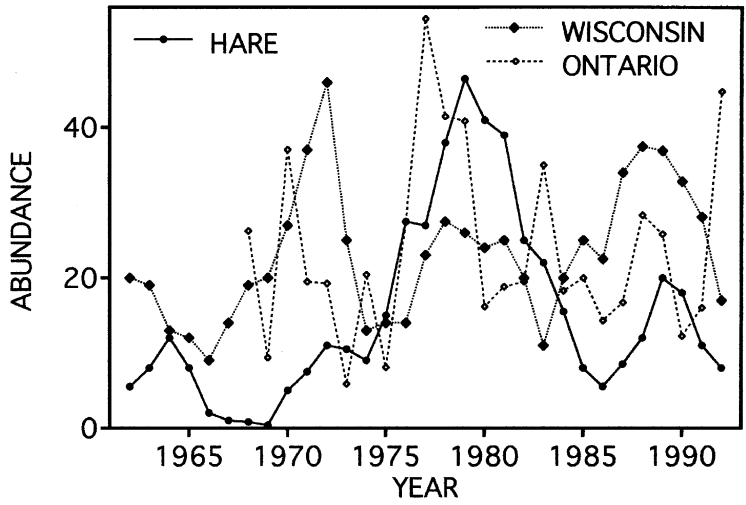


Figure 6. Estimates of populations of Ruffed Grouse in northern Wisconsin (mean number of drums heard per 15-stop transect) and Ontario (estimated annual count over useable BBS routes adjusted for which routes were run that year, multiplied by 35) and snowshoe hare in northern Wisconsin (estimated harvest by hunters divided by 100,000). Wisconsin data from 1962-1970 taken from Fig. 12 of Keith and Rusch (1986), from 1970-1992 from Erdman et al. (1998). Ontario data from Environment Canada.

winter diet of female goshawks on Gotland, but few males killed full-grown rabbits. In a study in neighboring Sweden, 14% of the prey of goshawks in winter were European hares *(Lepus capensis)*. Females took 17 hares and males only one, a significant difference ($P = 0.015$). In the breeding season, goshawks took only 0.45% (Höglund 1964) and 0.66% hares (Widen 1987). These three studies suggest that hares are important in the winter diet of females, but not important in either sex during the breeding season.

**Prey populations?**

In northern Wisconsin, Ruffed Grouse peaked in 1952 (Keith and Rusch 1986), 1972, 1978, and 1988 (Erdman et al. 1998, Fig. 6). Snowshoe hares peaked in 1979 and in 1989. The sex ratio of adult goshawks (males per female, SY and ASY combined) for seven irruption years (1962, 1963, 1972, 1973, 1982, 1983, and 1992) is correlated with the number of hares in northern Wisconsin (Fig. 6, Spearman rank-order correlation coefficient, $P < 0.05$), and the number of goshawks observed per day for these seven years is correlated negatively with the Wisconsin grouse index ($P < 0.05$).

Data on snowshoe hare populations in Canada are not readily available, but lynx populations peak about a year after snowshoe hare and should thus coincide with goshawk peaks (Stenseth et al. 1998). The lynx data are the number of pelts taken by trappers and hunters and are a good, but imperfect, estimate of lynx populations. The number of lynx trapped is

affected by prices for pelts, weather, and other factors independent of populations. Lynx populations peaked in 1963, 1972, and 1982 in Ontario; 1964, 1974, and 1983 in Quebec; 1960, 1972, and 1981 in Manitoba and in 1960 and 1970 in Saskatchewan; in 1961, 1971, 1981, and 1989 in Alberta; in 1962, 1972, 1981, and 1991 in the Northwest Territories and in the Yukon in 1965, 1974, 1983, and 1991. The only peaks in the 1940s or 1950s were in the Yukon Territory. The highest peaks in Manitoba and Saskatchewan were in the 1960s, in Quebec, Ontario, and Alberta the highest peaks were in the 1970s and in the Yukon and Northwest Territories the highest peaks were in the 1980s.

## Discussion

### Age and sex ratios?

In most years few goshawks were seen in migration; of those trapped almost all were juveniles, and most were males. Adults occurred mostly at ten-year intervals and during peaks in lynx abundance and, therefore, presumably after crashes in snowshoe hare populations. This suggests that southward movement is caused by food shortages in winter with juvenile males affected more than juvenile females. Adults usually migrate south out of the breeding range only in years of severe winter food shortage, and SY were more abundant than expected in 1962 and 1972, suggesting that more SY than ASY migrated. Although the number of adult male and female goshawks was similar, females migrated later, suggesting that females are slower to respond to food scarcity than males. Our trapping data show that females take larger prey than males and adults larger prey than juveniles. Differences in the size of prey available may help explain why there were sex and age differences in birds migrating out of the breeding range. Age differences might play a greater role because the relatively inexperienced juveniles may have greater difficulty obtaining prey and react to shortages more quickly than adults. Mueller et al. (1977) suggested that the hierarchy of response might be the result of social interactions although the density of goshawks may not be sufficient for this to operate. Agonistic encounters may increase as food becomes scarcer, with adults dominating juveniles and females dominating males. But neither sex and age differences in prey preference nor social interactions explain why significantly more ASY females were trapped than ASY males in 1972. However, the sex ratio of the population may not have been 1:1.

The adult sex ratio of goshawks on the island of Gotland was 1 male: 1.78 females (Kenward et al. 1999), remarkably close to the ratio of 1:1.77 at Cedar Grove for 1960–1979. Survival of males in their first and second years was lower than that of females on Gotland, resulting in the biased sex ratio. Kenward et al. (1999) obtained their data from an eight-year study of radio-tagged birds, and their estimates of mortality, sex ratio, and other population characteristics are by far the best available. The only question is whether the data from a 3,100 $km^2$ island 90 km from Sweden are applicable to North America. The only other investigation of sex-specific mortality in the goshawk, a mark-recapture study in Arizona, estimated annual

survival of AHY at 69% for males and 87% for females (Squires and Reynolds 1997). Taken together, these studies suggest that the female dominated sex ratio at Cedar Grove in the 1960s and early 1970s was representative of the population.

The sudden shift to a significantly male-dominated sex ratio in ASY in 1982 can be explained only by fewer females migrating, increased female mortality, or both. ASY females migrated significantly later than ASY males in 1982 but not in, and prior to, 1972, suggesting that fewer females migrated in 1982 and afterward. Data on food habits suggest that female goshawks may depend more on hares. If heights of lynx peaks have an inverse relationship with hare populations, then lower peaks in the 1980s and 1990s suggest more hares than in the 1960s and 1970s and may be the reason that fewer females migrated in the 1980s and 1990s. More hares in northern Wisconsin in 1982 (Fig. 6) may have allowed many female goshawks to end their southward movement before arriving at Cedar Grove, whereas in 1972 they continued south.

All of the food availability hypotheses have a flaw: in most years, including 1951–1971, fewer HY females than HY males migrated when more SY females than SY males migrated. The sex ratio of HY does not differ from unity in the irruptions of 1972 and 1982, yet the sex ratio of SY and ASY differs in both.

Increased mortality of females after 1973 is supported by several observations: (1) The condition of females was significantly poorer than that of males, the opposite of that found for four other species of raptors at Cedar Grove; (2) Adult females were significantly lower in condition than adult males in 1982, but not in 1972; (3) Condition of adults did not increase through the season in 1982; (4) All goshawks recovered at an age of 10 or more years were banded prior to 1974; (5) Condition of adult males and adult and juvenile females declined significantly during the years of the study (Fig. 3), but that of juvenile males did not. The sex difference in condition of juvenile birds might explain greater mortality of females, but there is no difference in the sex ratio of juveniles in the irruption years of 1972 and 1982, when presumably most juveniles migrated. Perhaps greater mortality of juvenile females occurred after the fall and would not be noticed at Cedar Grove until the following year. There is a difference in the sex ratio of SY and ASY: females predominated in 1951–1971 and 1972 and males in 1982 and, although not significantly, in 1984–2004. In short, neither differential migration nor mortality completely explains the observed annual differences in sex ratios of adults trapped at Cedar Grove, but the two combined almost certainly played a role, with mortality probably being more important.

A peak in goshawk migration in 1965 was not in synchrony with the four peaks of adults. In this peak, 97% of the birds trapped were juveniles and occurred only three years after a peak of adults. Populations of grouse and hares were low in 1965 (Mueller et al. 1977), but the high incidence of juveniles in migration suggests considerable reproduction. Mueller et al. (1977) suggested that greater numbers in 1965 were because goshawk populations had de-

clined sufficiently after the irruption of 1962. This permitted many remaining birds to occupy optimal territories sufficient to permit successful breeding and even wintering by adults, but that many juveniles were forced to emigrate. In 1966–1971, prey populations increased and few juveniles emigrated. Twenty-five of the 34 juveniles trapped in 1965 were males; the ratio differs significantly from unity, suggesting that many juveniles did not emigrate. An exceptional success in reproduction may be a better explanation. Squirrels (*Sciuridae*) constituted 21% to 69% (mean 41%) of prey taken by breeding goshawks in eight studies in North America (Squires and Reynolds 1997). There are great inter-annual fluctuations in squirrel populations and these changes are not correlated with those of hares (Fryxell et al. 1998). Squirrels or some other prey may have been abundant in summer 1965.

Counts of goshawks were highest in 1982. The number of goshawks relative to the number of individuals of other species of raptors was similar in 1972 and 1982. This difference is almost certainly the result of better weather for producing concentrations of migrating raptors in 1982 and extraordinarily poor conditions in 1972 as evidenced by the number of individuals of other species seen (Fig. 2). One can only speculate as to what the irruption of 1972 would have been if conditions were as good as in 1982.

Birds banded at other stations and re-trapped at Cedar Grove suggest that goshawks that enter the United States from the eastern end of Lake Superior are more likely to pass Cedar Grove than those from the western end. The geographic distribution of band recoveries suggests that during irruptions many of them enter Wisconsin west of Lake Superior and that many during the large irruptions of 1972, 1973, 1982, and 1983 came from forests at the northern end of the prairie provinces of Canada, with a surprising proportion from as far west as Alberta (Table 5).

It thus appears that there were no irruptions of goshawks in the 1940s and 1950s and four irruptions in the remainder of the century. These irruptions coincided with peaks in lynx harvest and thus with population crashes in snowshoe hares. The irruptions of 1972 and 1982 were greater than those of 1962 and 1992. The irruption of 1982 was of great magnitude only in the western Great Lakes and here it apparently was partly the result of unusually good weather for concentrating migrants along the shores of Lakes Michigan and Superior. Weather in 1972, in contrast, was exceptionally poor and yet considerable numbers of goshawks were observed. Published reports indicate that the irruption of 1972 was more widespread and involved greater numbers of goshawks than in 1982.

The sex ratio of juveniles in 1972 and 1982 does not differ from unity, unlike the male-biased sex ratios in 1962 and 1992, suggesting that all, or most, juveniles migrated. The ratio of SY to ASY changed between 1972 and 1982 to more ASY in 1982, suggesting that more of the population migrated in 1982. If, as we suggest, that as many goshawks migrated in 1972 as in 1982, then there were fewer individuals in the population in 1982 than in 1972.

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American Avocet carving by Tom Petri

# Observations on Late Winter and Spring Singing Northern Saw-whet Owls in a Monroe County, Wisconsin, Subdivision, 1991–2007

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**ABSTRACT**

*I opportunistically recorded Northern Saw-whet Owls* (Aegolius acadicus) *I heard singing on evenings in January through June, between 1991 and 2006 at our rural Monroe County, Wisconsin residence. Saw-whets were detected in 5 of the 17 winters. Calling was of short duration in three of the five winters, spanning February and March. In 2005, and especially in 2006, calling extended into May and June, respectively, suggesting that perhaps a pair nested locally. Calling in 2006 seemed unrelated to rainfall events, but was more likely when evening temperatures were > 55°F. My observations suggest that male saw-whet owls wintering on the southern extent of their breeding range may call during spring migration to intercept returning migrating females.*

## INTRODUCTION

Although the bird is a relatively common species, gaps still exist in our knowledge of the natural history of Northern Saw-whet Owls (Johnsgard 2002). East of the Great Plains, saw-whet owls breed along the United States-Canadian border and an isolated segment of the Appalachian Mountains (Johnsgard 2002). They are considered migratory and may be nomadic (Johnsgard 2002). In the east, Brinker et al. (1997) found that male capture rates in the autumn declined as latitude decreased, with greater numbers of females migrating further south.

Wisconsin lies within both the saw-whet owl's breeding and wintering range (Robbins 1991, Johnsgard 2002, Swengel 2006). Follen (1981, 1982) documented nesting in many of Wisconsin's counties with the exception of the far southwestern counties. However, some of these records, especially in southeastern Wisconsin were prior to 1935, and Robbins (1991) considered the contemporary breeding range of saw-whets to extend north of a line from roughly La Crosse to Sheboygan. This range was largely substantiated by volunteers conducting breeding surveys within the state be-

tween 1995 and 2000 (Swengel 2006). Over-wintering saw-whet owls are known from virtually all of Wisconsin, but year-to-year variations in distribution are poorly understood (Robbins 1991, Swengel 2006). Swengel and Swengel (1987) estimated 5.3 birds / $km^2$ in a wintering population in Sauk County, Wisconsin. Swengel et al. (2008) detected cyclic peaks of 2–7 years (ave.= 4 years) in relative abundance from vocalizations of wintering saw-whet owl at their Sauk County study sites. Their observed peaks occurred in 1986, 1990, 1994, 2001, 2004, and 2006.

Northern Saw-whet Owls vocalize from the February to May breeding season in eastern North America, and such calls—labeled *advertisement calls*—are uttered only by males (Bent 1938, Johnsgard 2002). Swengel and Swengel (1986, 1987) documented wintering saw- whet owls singing from February through spring in south-central Wisconsin. Vandershaegen (1981) documented saw-whets singing in the vicinity of Rhinelander, Oneida County, by the end of March. Saw-whet owls observed in Wisconsin between 15 March and 15 May were considered by both to be either wintering or migrating (Swengel 2006, Robbins 1991). From the meager published observations in Wisconsin, the spring migration appears to commence earlier in the south than in the north (Swengel and Swengel 1986, 1987, Vandershaegen 1981). If, as is suggested, migrating male saw-whets settle into more northerly winter ranges than females (see Brinker et al. 1997), do some male saw-whets linger during winter in the more southerly portion of their breeding range to intercept and attract a female as spring migration proceeds?

This paper reports on single singing saw-whet owls that I heard at my rural Monroe County residence in west-central Wisconsin between 1991 and 2007. Monroe County lies well within the wintering range but on the southwestern edge of the defined breeding range of the Northern Saw-whet Owl in Wisconsin (Follen 1981, 1982, Robbins 1991, Swengel 2006).

## METHODS

### Study Area—

My residence is located within LaGrange Township approximately 8 km north of the City of Tomah in Monroe County at 44° 07′ North Latitude, 90° 52′ West Longitude. Our small subdivision consisted of 5 residences containing 19 people in 1990 and 14 residences containing 38 people in 2006. Average lot size/residence is approximately 0.8 hectares (1.8 acres).

Domestic animals associated with residences in our subdivision totaled 6 dogs (*Canis familiaris*) and at least 13 domestic cats (*Felis domesticus*) in 2006. Other owl species sighted or heard within our subdivision between 1990 and 2007 included Great Horned Owls (*Bubo virginianus*) and Barred Owls (*Strix varia*), both known predators of saw-whet owls.

The subdivision is located on a highly eroded Cambrian sandstone "outlier" hill capped with a dense stand of mature white (*Pinus strobus*) and jack pine (*Pinus banksiana*), interspersed with oak (*Quercus spp.*). Old farmsteads flank the south and southwest slopes of the hill, and a companion hill to the south is covered by a

white pine plantation. The old farmstead area was subdivided earlier, between 1970 and 2006. To the west a red pine (*Pinus resinosa*) plantation gradually slopes to the west and gives way to a maple (*Acer spp.*) forest that is bordered by a commercial blueberry farm and row crops. The eastern boundary of the subdivision borders County Highway O. East of this highway is a small subdivision consisting of 4 residences located within a red pine plantation that adjoins a white pine plantation.

On evenings between 1 January and 1 July from 1991 to 2001, and again in 2006 and 2007, I opportunistically recorded the date, time, and location of any singing saw-whet owls heard primarily in evenings while walking my dog after dusk. In 2002 through 2005 I was outdoors after dusk more irregularly, but did listen for saw-whets when active January through March. During the entire 17-year period from 1 May to 1 July, I frequently worked in our vegetable garden until dusk, and had the opportunity to listen for saw-whets. In 2006, I recorded the time singing was initiated when I was cognizant of it, and /or recorded whether calling was detected by hourly increments (2000h, 2100h, 2200 h, etc). Although I normally retired between 2200–2300 h, on several nights I had the opportunity to determine how long into the early morning hours the saw-whet continued to sing. I also recorded wind, rain, and ambient temperature each evening at 2000h. All of my data are of unsolicited singing by single individuals, most certainly not the same individuals over the 17-year study period.

## Results

Single singing Northern Saw-whet Owls were heard in 5 of the 17 years between 1991 and 2007: 1991, 1994, 2001, 2005, and 2006 (Table 1). In those 5 years I heard songs on 89 evenings. Excluding 2006, which accounted for 65 evening detections, I heard a saw-whet owl singing an average of 5.75 evenings (range 2 to 9) per year over an average span of 17.3 evenings (range 3–34). The earliest detection of a singing saw-whet owl ranged from 19 January (2006) to 12 April (2005). The latest a singing saw-whet owl was detected ranged from 15 March to 26 June (Table 1).

The timing of saw-whet calls (i. e. start and end dates) in 1991, 1994, and 2001 (see Table 1) were remarkably similar. These observations are consistent with saw-whet owls considered to be wintering (Bent 1938, Johnsgard 2002, Swengel 2006).

The timing of initiation and cessation of seasonal calling in both 2005 and 2006 differed from the earlier years. In 2005 a saw-whet owl was heard calling on 9 of 23 days between 12 April and 5 May. In 2005 calling was first heard 28–30 days after singing ceased in 1991, 1994, and 2001. Cessation of singing in 2005 was 50 days later than in the 3 earlier years (Table 1).

### 2006—

In 2006 a saw-whet was first heard on 19 January, 23 days earlier than initial detections in 1991, 1994, or 2001 (Table 1). No further calls were heard until 3 April, 17 days after calls ceased in 1991, 1994, and 2001. A calling saw-whet owl was detected nearly continu-

Table 1. Northern Saw-whet Owl vocalizations, by year, near Tomah, Monroe County, Wisconsin.

| | Event Summary | | | |
|---|---|---|---|---|
| Year | Initiate | Last Heard | Span in Days | # Evenings |
| 1991 | 11 Feb | 17 Mar | 34 | 8 |
| 1994 | 15 Mar | 17 Mar | 3 | 2 |
| 2001 | 4 Mar | 15 Mar | 9 | 4 |
| 2005 | 12 Apr | 5 May | 23 | 9 |
| 2006 | 19 Jan | 19 Jan | 1 | 1 |
| 2006 | 3 Apr | 26 Jun | 83 | 65 |

ously for 83 days from 3 April to 26 June, the period considered consistent with breeding and nesting (Follen 1981, 1982, Johnsgard 2002, Swengel 2006).

Calls commenced approximately 62 minutes following sunset in mid-April, 44 minutes following sunset in mid-May, and 23 minutes following sunset in mid-June (Figure 1). On 3 occasions I recorded calls in the early morning hours. On 11 April calls were still detected at 0530h, 55 minutes prior to sunrise. On 15 April calls were detected at 0450h, 89 minutes prior to sunrise. By contrast, on 17 May calls were heard at 0715h, 101 minutes following sunrise.

Temperature at 2000h ranged from 37°F to 82°F (both extremes in May) during the 83 day period, and averaged 55.6°F in April, 61.6°F in May

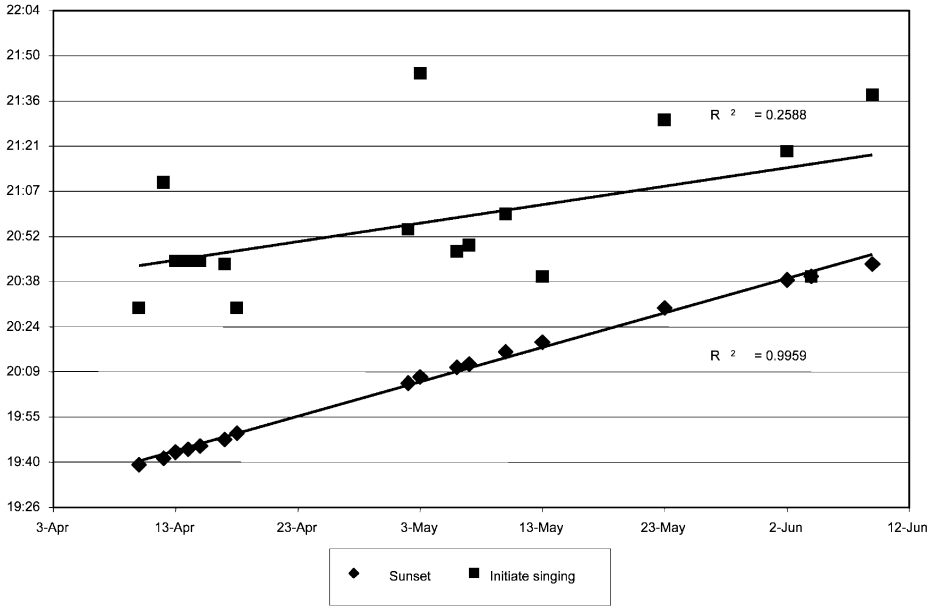


Figure 1. Initiation of Northern Saw-whet Owl evening calls vs. sunset, Monroe County, Wisconsin, 2006.

and 70.8°F in June. A saw-whet was heard singing on 39 of 46 evenings (84 percent) when temperature was recorded. The saw-whet sang on 69 percent of evenings (n=11/16) when the temperature was < 56°F, and on 93 percent of evenings (n=28/30) when the temperature was > 55°F.

Rainfall did not appear to affect singing. A saw-whet was heard singing on 8 of 10 evenings (80 percent) when rainfall was recorded, vs. 48 of 55 evenings (87 percent) when no precipitation was recorded.

Most of the 2005 and 2006 vocalizations were restricted to a specific location near the crest of the hill in a dense stand of white pine. Between 2 and 16 June, 2006 the saw-whet's locations became varied relative to the locale near the hillcrest. Over the 83-day period the singing saw-whet was located within a 9 hectare area. Calling became sporadic after 16 June, and the owl was last heard calling in the early morning hours of 26 June. A saw-whet called briefly between 2205–2210 on 4 July in response to local fireworks that may have startled it.

## Discussion

The singing Northern Saw-whet Owl(s) I observed at Tomah coincided with peak or near-peak years in both fall migratory numbers observed at banding stations in eastern North America (Brinker et al. 1997, Erdman et al. 1997), and peak or near-peak years for vocalizations observed by Swengel et al. (2008) on wintering grounds further south near Baraboo, Wisconsin. This implies that greater numbers of saw-whet owls in west-central Wisconsin may be expected during peaks in their purported 4-year cycle.

In comparison to Swengel et al. (2008) observations I recorded in Monroe County suggest densities may be low in this portion of their wintering range, even during peak years. However my method of detecting saw-whets (passive listening) is less likely to accurately assess densities than the method used by Swengel et al. (2008)—namely eliciting responses of saw-whets by broadcasting auditory calls. The latter method is known to attract more saw-whet owls at banding stations (Erdman and Brinker 1997). Swengel et al. (2008) commented that even with their method, Northern Saw-whet Owl responses did not accurately detect all owls, based on inspections of roosts (Swengel and Swengel 1995).

Breeding cannot be ascertained by vocalizations alone. Johnsgard (2002) stated that saw-whet owls will vocalize near nest-sites. Zirrer (1944), in a particularly well documented observation on a nesting saw-whet pair observed near Hayward, Wisconsin, heard singing only from 26 January through 15 March. That pair fledged at least 3 owlets (Zirrer 1944).

The pattern of singing that I observed differed between the early years (1991, 1994, and 2001) and 2005 and 2006. During the earlier years singing commenced and ended earlier than in 2005 and 2006, and was of far shorter duration (3–34 days vs. 23–84 days, respectively). The timing of vocalizations observed in 1991, 1994, and 2001 are consistent with the migratory period (Johnsgard 2002, Robbins 1991, Swengel 2006). The timing of the 2005 and 2006 events, by

contrast, extended well into the breeding period, suggesting that saw-whet owls paired and possibly nested in 2005 and 2006. Furthermore, the detection of a singing saw-whet on 19 January 2006 indicates the presence of an over-wintering bird between the 2005 and 2006 breeding season.

A few of our neighbors reported hearing 2 saw-whets calling occasionally in 2006 after 15 May, and twice I heard a saw-whet vocalize from two different locales in such quick succession that it was nearly impossible that a single bird could have created these calls.

I made no effort to disturb the saw-whet owl at its primary vocalization hill-top site in either 2005 or 2006. The site may have been a roost-site. It is also possible that the saw-whet owl attempted nesting at the hillcrest site, based on vocalizations that extended into the nesting season in 2005, and well into the nesting season in 2006 (Follen 1981, 1982, Robbins 1991, Cannings 1987). I did not observe any fledged young and made no effort to search for them in either 2005 or 2006. Based on anecdotal evidence, I do believe saw-whet owls nested in our subdivision both years. The extended period of vocalizations in 2006 cannot be otherwise explained.

These observations, made well within the wintering range of Northern Saw-whet Owls, are in the southwest corner of the known breeding range in Wisconsin (Robbins 1991, Swengel 2006, Johnsgard 2002). Brinker et al. (1997) in northeastern U.S. observed that migratory males winter further north than females. My observations suggest that wintering male saw-whets occupying the southern portion of their breeding range may time commencement of their vocalizations to intercept females as they migrate north through areas of potential breeding habitat. These males would be in a much better position to breed successfully than males that must migrate and locate both a receptive female and quality breeding habitat in areas further to the north.

In the situation I observed, vocalizations occurred in 5 winters that corresponded to peaks in cyclic population cycles. Calling extended into the breeding season in 2 of these years over a 17-year period in which I listened for singing saw-whet owls.

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Henslow's Sparrow by Dennis Malueg

# Use of Artificial Nest Boxes by Wood Ducks (*Aix sponsa*) and Hooded Mergansers (*Lophodytes cucullatus*) in Wisconsin


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**ABSTRACT**

*Wood Ducks* (Aix sponsa) *and Hooded Mergansers* (Lophodytes cucullatus) *are cavity-nesting species of waterfowl that often nest in artificial boxes. However, the actual frequency of nest box use by these species in Wisconsin is poorly known. We studied the use of both pole-mounted (n = 23) and tree-mounted (n = 55) nest boxes by both species, including species-specific nest success as a function of box type, at Mead Wildife Area in Marathon County, Wisconsin between February-March of 2006. We also checked houses in Burnett and Portage Counties and compared those data to the data found at Mead Wildlife Area. Use of nest boxes was determined by*

*checking for presence of unhatched eggs, egg shells, and egg membranes. We defined nest success as the presence of hatched eggs in boxes. In addition, we examined previous data collected at this site and two other study areas in Marathon and Burnett Counties between 1992-2005. Use of nest boxes by other species of wildlife also was examined. In 2006, Hooded Mergansers used significantly more pole boxes (18/23) than tree boxes (22/55; P = 0.05). Hooded Merganser nest success was 81.1% in pole boxes but only 40% in tree boxes. In contrast, Wood Ducks used only 1 of 23 pole boxes (04%) but 21 of 55 tree boxes (38%). However, this difference was not statistically significant (P = 0.24). The single Wood Duck nest in a pole box was successful, whereas nest success of this species in tree boxes was 37.5%. Sixty-four percent of boxes were used by other species (e.g., small mammals, owls, passerine birds). Previous data collected between 1992-2005 indicated similar frequencies of use and nest success by box type for both Hooded Mergansers and Wood Ducks. Our results indicate that Hooded Mergansers appear to use pole boxes more frequently when compared to Wood Ducks. However, both species exhibited higher nest success in pole boxes when compared to tree boxes. If the objective is to encourage the highest percentage of both use and nest success for both species, then placing boxes on poles would be appropriate. However, unequal numbers of pole and tree nest boxes across the three study sites may have biased our results.*

## Introduction

Historically abundant populations of Wood Ducks (*Aix sponsa*) in North America declined precipitously by the early 1900s as a result of overexploitation and loss of habitat (Fisher 1902, Philips 1925 as cited by Bellrose 1994). However, large-scale erection of artificial nest boxes has been identified as a key factor influencing the recovery of this species in North America (Doty and Kruse 1972). Although previous research has identified differences in nest box selection between Wood Ducks and other cavity nesting species of waterfowl (Richardson and Knapton 1993), little work has directly compared nest box use and differences in nest success between Wood Ducks and Hooded Mergansers (*Lophodytes cucullatus*) (Lumsden et al. 1986).

In February and March 2006, The Student Chapters of the Izaak Walton League and The Wildlife Society at the University of Wisconsin–Stevens Point helped collect data on 184 artificial nest boxes installed at three sites in Burnett, Marathon, and Portage Counties, Wisconsin. Artificial nests consisted of both pole-mounted boxes and tree-mounted boxes. In this study, our objectives were to: (1) determine potential differences in the selection of pole-mounted and tree-mounted boxes by both Wood Ducks and Hooded Mergansers, (2) determine potential differences in nest success rates between the two box types for both Wood Ducks and Hooded Mergansers, and (3) determine if nest boxes were used by other cavity-using species of wildlife (e.g., small mammals, raptors, passerine birds).

## Methods

Since 2002, data have been collected on Wood Duck houses at Mead Wildlife Area, located in Marathon

County, Wisconsin. Data were collected from Mead Wildlife Area (Marathon Co.), Crex Meadows Wildlife Area (Burnett Co.), Portage County Wildlife League land and the backwaters of the Wisconsin River North of Stevens Point (Portage Co.). The most recent data at Mead were collected during February and March of 2006 (recorded as the 2005 nesting season). Data were also collected at Crex Meadows Wildlife Area in Burnett County, Wisconsin (1992–2005), Portage County Wildlife League property west of Stevens Point, Wisconsin (2005), and Wisconsin River Backwaters near the Stevens Point area (2003–2005). Although Mead Wildlife Area contained both pole- and tree-mounted nest boxes, all boxes at Crex Meadows and the Wisconsin River were mounted on poles. Each nest box was assigned an identification number that was unique by region. We recorded the location of each nest with a global positioning unit (GPS), and imported these into a Geographic Informations System (GIS; ArcView 3.3). The GPS points were overlaid onto orthophotos of each study area and were used as reference maps for checking boxes in successive years. Boxes were maintained by adding fresh cedar chips for bedding and any necessary repairs were done at this time to encourage continued use of the boxes. Twenty-two new Wood Duck boxes were established in new locations along with 6 Mallard hen houses to increase the size of future data sets.

Use of artificial nest boxes by ducks was determined by presence of eggs and feathers of the two species. We classified use as "Wood Duck," "Hooded Merganser," or "other," which indicated that other wildlife species may have been using the box as evidenced by presence of eggs, shell fragments, feathers, or fur. For eggs and shell fragments, species identification was determined by egg shell size, color, and thickness. We defined nest success as the presence of detached egg membranes. All nest contents were saved in plastic bags for later reference. Chi-square ($\chi^2$) tests (2006) were used to determine differences in use, nest success, and use by other wildlife species between pole-mounted boxes and tree-mounted boxes.

## Results

*2006 data*—In 2006, we assessed Wood Duck and Hooded Merganser use of 78 artificial nest boxes, including 55 tree-mounted boxes and 23 boxes fixed on poles. There were a total of 24 houses (pole and trees) used by Hooded Mergansers, and 9 used by Wood Ducks. We found a statistically significant difference in pole versus tree selection for Hooded Mergansers ($\chi^2 = 3.846$, $p = 0.050$), no difference for Wood Ducks ($\chi^2 = 1.364$; $p = 0.243$), and no difference for other species ($\chi^2 = 2.871$, $p = 0.090$) at the Mead Wildlife Area. Hooded Mergansers had 81.8% success on poles and 40.0% success on trees. Wood Ducks had a 100% success rate for poles and 37.5% success on trees. However, only 1 Wood Duck nested on a pole.

*Historic data*—When examining nest box use by both species between 2002–2005 at Mead Wildlife Area, we found that 54.8% of pole boxes were used by Hooded Mergansers, 85.7% of

of tree boxes were used by Wood Ducks, and there was 81.5% use by other species in tree mounted boxes.

All houses at Crex Meadows were located on poles, and from 1992–2005 species composition consisted of 25.5% use of Hooded Mergansers, 18.8% use by Wood Ducks, and 63.7% use by other species. Many houses had use by waterfowl and other species after the nesting season. All houses on the Wisconsin River backwaters were also on poles, and from 2003–2005 species composition consisted of 24.7% used by Hooded Mergansers and 28.7% used by Wood Ducks. We did not document use of boxes by other species at this site.

## Discussion

Our results suggest that Hooded Mergansers may use artificial nest boxes mounted on poles to a greater degree than do Wood Ducks. However, both species exhibited higher percentages of nest success on poles when compared to trees. Use by other species (e.g. owls, songbirds, mice, squirrels, hornets) was highest in tree mounted boxes. This additional use inside the house could be one reason why nest success was lower on tree mounted boxes. With more organisms competing to use the boxes and the influence of more species in the area, there could be higher predation of duck nests by terrestrial mammals.

Predated nests were documented in some cases, but because of the variety of volunteers helping check the boxes, data on predation rates were incomplete. These data are valuable for wildlife managers and conservation groups when determining how to and where to install Wood Duck boxes.

If the goal is to encourage the highest percentage of general duck use with high success rates, we would recommend mounting boxes on poles. However, our data at Mead indicated Wood Ducks primarily used tree mounted boxes which could mean that Wood Ducks will use a tree mounted house over a pole mounted house even if not statistically different. The reason for the lack of difference could be due to the fact that there was only one pole mounted house used by a Wood Duck.

Data at Crex Meadows Wildlife Area and the Wisconsin River backwaters indicated similar percent use of artificial nest boxes by both species. However, a significant limitation of our study is that neither Crex Meadows nor Wisconsin River had tree-mounted boxes, and this could be a factor leading to our finding of increased use in pole-mounted boxes by Wood Ducks. Future research should examine predation rates, other selection factors such as distance to water, height, regional differences in use, yearly changes in climate, and competition factors between Wood Ducks and Hooded Mergansers.

## Acknowledgments

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UWSP Student Chapter of the Wildlife Society and Izaak Walton League for data collection and house maintenance, and also the members of the Bill Cook chapter of the Izaak Walton League for the production of new houses and support.

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*Luke Fara came to enjoy all aspects of nature and wildlife management while growing up in Central Wisconsin, but he always had a particular interest in waterfowl. This strong interest in waterfowl and wildlife led him to the University of Wisconsin-Stevens Point, and it seems as though his interest in waterfowl has only increased since being at school. He is currently a senior at the University and will be graduating in May with a BS degree in Wildlife Management and Ecology and plans on gaining a Masters after graduating.*

*Nick Docken, growing up in Southern Wisconsin, developed a passion for the outdoors while hunting with family and friends. This led him to getting a BS degree in Wildlife Management and Ecology from the University of Wisconsin-Stevens Point. During the five years he spent in central Wisconsin, he developed a passion for not only waterfowl hunting but waterfowl research as well. Ultimately, this drive to work with waterfowl led Nick to South Dakota State University in Brookings, SD, where he is currently working on getting a Masters Degree conducting a duck and pheasant nesting study evaluating the effects of trapping predators.*

*Brian Schmidt, a Red Wing, Minnesota, resident, became involved in the outdoors at an early age, benefiting from the vast amount of opportunities in the backwaters of the Mississippi River. Prior to college, Brian was a member the local high school FFA organization where he conducted a similar 2-year Wood Duck project which took top honors in the National Conven-*

*tion during his senior year. After receiving a BS degree at the University of Wisconsin-Stevens Point in Wildlife Management and Ecology, he continued to follow his interest in waterfowl ecology, working in places such as the Delaware Bay, Nebraska Sand hills, and North Dakota prairies. Currently, he is working with environmental compliance and fisheries research for Xcel Energy of Minnesota, with plans of gaining a Masters in the near future.*

*Joe Schultz, an avid waterfowl hunter, grew up hunting ducks with his uncle in Minnesota, who kindled Joe's flame for waterfowl hunting and management by teaching him the basic principles of habitat management and conservation. Putting out Wood Duck houses on his uncle's land was one of many practices they did. Since Joe became involved with the waterfowl project, at the University of Wisconsin-Steven Point, he has spent countless hours hunting waterfowl in the fall and checking/maintaining Wood Duck boxes in the spring. He is currently a junior and working towards a BS degree in Wildlife Management and Ecology.*

# Red-bellied Woodpecker (*Melanerpes carolinus*) Consumes Wood Duck (*Aix sponsa*) Egg

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**ABSTRACT**

*We report an observation of a Red-bellied Woodpecker* (Melanerpes carolinus) *consuming an egg in a nest box that contained a mixed clutch of 14–20 Wood Duck* (Aix sponsa) *and Hooded Merganser* (Lophodytes cucullatus) *eggs. The nest was last visited by a Hooded Merganser 7 May 2006 and the woodpecker consumed the egg 18 May.*

Accounts of predatory behavior by woodpeckers are noteworthy because they illustrate dietary plasticity and aspects of their foraging behavior. Six North American woodpecker species have been recorded as predators of the eggs and young of other birds (Boyd and Ellison 2004). Here we report the first record of a Red-bellied Woodpecker (*Melanerpes carolinus*) depredating the eggs of cavity nesting ducks.

Cathy Gagliardi maintains 4 nest boxes designed for use by Wood Ducks (*Aix sponsa*) within a 2-ha area around a cabin in Birchwood (45° 39′ N, 91° 33′ W), Sawyer County, Wisconsin. She regularly observes activity at these boxes using a Night Owl™ infrared nest camera attached to a 30 m cable that is connected to a television in the cabin for monitoring. The camera is equipped with infrared diodes that illuminate objects for digital viewing using light wavelengths not known to be detected visually by vertebrates.

On 30 April 2006, a Hooded Merganser (*Lophodytes cucullatus*) entered the nest box (0900 CST) and a second visit for that species was recorded 7 May. Between these visits, a Wood Duck presumably visited the nest as 3 Wood Duck eggs were visible among

the 13 exposed eggs viewed. Both species occasionally lay their eggs in each others' nests (Bellrose 1976). The box was watched again 10 May and no birds visited. On 18 May, a Red-bellied Woodpecker visited the box, punctured an egg with its bill and consumed the contents. Eleven eggs were visible in the box. No incubation was recorded at this box and the laying appeared to represent "egg dumping" behavior at a deserted nest (Weller 1959: 353). The nest box was cleaned out February 2007 and 19 intact eggs were removed; however, the shells of some partial eggs were also present.

Previously, the Red-bellied Woodpecker has been recorded as a predator at the nests of songbirds (Hazler et al. 2004) and the domestic chicken (*Gallus gallus*) (Rodgers 1990). However, the closely related Red-headed Woodpecker (*M. erythrocephalus*) has consumed eggs of Wood Duck and Hooded Merganser (Boyd and Ellison 2004).

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*Kevin Ellison obtained his B.S. at the University of Illinois, Champaign-Urbana, where he learned to find and monitor bird nests. His interest in avian reproductive behavior led him to assist several research projects across the continent, and in Hawaii and Australia, before he settled on the University of California, Riverside, for his M.S. In California, Kevin studied the relative impacts of cowbird parasitism and nest predation on 4 sparrow species nesting in coastal sage scrub. He then completed his Ph.D. at the University of Manitoba, making an annual journey to study host use by Brown-headed and Bronzed Cowbirds in south Texas. Since 2005, Kevin has worked for the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison. Kevin manages a research project on the impacts of tree rows on grassland birds and their nest predators in southwestern Wisconsin. Kevin has published several articles on cowbird reproduction and an account of nest predation by the Golden-fronted Woodpecker.*

*Cathy Gagliardi considers herself an avid birder and works at Wild Birds Unlimited as a Certified Birding Specialist. Her true passion for birds started 10 years ago when she and her husband began building their lake home in northwest Wisconsin. Seeing so many different species at one feeder 10 years ago, has led to 28 more bird feeders, 2 bird baths, more bird books, various bird houses, and raising mealworms for her favorite species, the Baltimore Oriole. She has whistle-trained 2 females to come for handfeedings. In 2006, Cathy had 3 nesting pairs at her home in St. Paul and has counted at least 47 fledged young over the past 7 years. When the live-cam was installed in one of their four Wood Duck boxes it gave Cathy and her husband a new meaning for wildlife "watching" and a rewarding one at that.*

# Lessons From the Seasons—Fall 2007

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The alert subject line read: MANGO! My first impression was a fruit-based joke. No! Green-breasted Mango! The first record north of Texas and North Carolina had the Midwest birding world chatting for over a month. Birders' plans were changed and schedules altered in order to make an attempt at seeing this bird. Most birders did succeed. On 18 September, just outside Beloit, Mike Ramsden positively identified the immature hummingbird that had been visiting the feeder of Joan Salzberg for some time. Over the next month and a half nearly 900 birders visited Joan's feeder to tick off this once-in-a-lifetime chance for a Midwest mango.

I was not one of the 900. I had seen the species in its natural habitat numerous times on trips to Costa Rica and the Yucatan. A wayward bird coming to a feeder did not generate an urge to make a trip to add the species on a list. I do not tally lists as an exercise, but there's no question in my mind, if I had never seen a Green-breasted Mango before, I would have been there in a flash. My rationale would have been, it's expensive to travel to the tropics and this may be the only chance I have of seeing this species.

Simply adding a checkmark to a list had little appeal. To me, big lists are the result of a simple equation—the ability of a birder to identify species multiplied by time available and means. The least important factor is the skill of the birder, as exemplified by James Vardimann. He was first person to make a serious assault at cracking 700 species seen in North America in one calendar year. He was only a moderately skilled birder and extensively used expert birders to find or corroborate his sightings. However, he did have the time and the financial means to make it happen.

While the listing was very low on my personal radar screen, the mode of its movement and magnitude of dispersal were extremely intriguing. How did this bird get here? Was there some event that caused it to be lost in the Midwest? Even more intriguing to me is this question—Was this the only wayward mango? Let's take a closer look at these questions.

The obvious answer to the first question is it flew here. More deeply: was the route direct or something different? We cannot answer this hypo-

thetical, because the bird did not have a transmitter. The second question, however, whether this was the only one, is open to speculation.

Mango records have been previously limited to Texas and North Carolina. The Wisconsin bird, however, was not a unique vagrant. Another bird appeared in Georgia. Again, we have no way of knowing what causal factors were involved to make this bird fly to Beloit. The intriguing lesson is the way birders answer these speculative inquiries. Some suggested one of the two Category 5 hurricanes that hit the Yucatan and Nicaragua in late August and early September was the catalyst for vagrancy. Other birders were adamant in expounding a simple answer—the bird was lost.

Several years ago, a specimen of a Sooty Tern was found on a road in Columbia County. At the time, nearly everyone writing or speaking about this bird was positive a hurricane pushed the bird into the state. Over the decades sightings by citizen-based scientists have aided in our understanding of hurricane-induced movements by seabirds; Category 1 hurricanes are fully capable of being a catalyst for seabird outfalls. Less clear are the impacts on land birds. Continued documentation of wayward birds in the fall will continue to add to analytical evaluation of hurricane effects.

Was this the only wayward mango? From the previous revelation that another bird was seen in Georgia, the answer is obviously, no. In a broader context, how many "rare" birds do birders actually record. Or in other words, how many do we miss?

Bill Schmoker and Tony Leukering writing in Vol 61: No. 1, North American Birds state "We are of the opinion that the finding of rarities, while certainly a function of birding intensity and skill, is also a product of simple serendipity. Yes, the prepared mind of the modern birder is more likely to be able to identify rarities as such but is, perhaps, less important than being in the right place at the right time."

Is this proposition true? Let's look at records for a species not considered a rare bird in Wisconsin. The Gray-cheeked Thrush moves through the state in spring and fall. Migration paths in our state are widely dispersed with no apparent super concentrations in any one locale. Partners-in-Flight estimates the world population at 12,000,000 birds with a moderate degree of confidence. The broad-spectrum migration movement patterns indicate approximately 1/6 of the migration front occurs in Wisconsin. Assuming somewhat even distribution across the front, approximately 2,000,000 or more birds most likely pass through the state each fall.

In the fall of 2007, the combined number of Gray-cheeked Thrush observations reported by all ebird and WSO seasonal forms was 25 birds. Of that 2 million-bird movement, the best birders in the state observed $1/100^{th}$ of one percent of the birds. Yes, one land bird in 10,000 is seen. This datum compares precisely with what Schmoker and Leukering found in Colorado. Of course, Gray-cheeked Thrushes are secretive and other species are much easier to see. Open water species, large distinctive species, and feeder birds are most assuredly seen in a much higher percentage. We miss many more than we see.

Sam Robbins was somewhat dismayed when he became the pastor in Roberts, Wisconsin, because there

were few bird records from that area. The lack of knowledge did not stop Sam, he birded new habitat. Sam discovered many new hotspots that are still visited by birders today. When I first started birding in the early 1970s, I lived within 1/4 mile of Pheasant Branch Creek in Middleton, Dane County. I was fully convinced birding was better in northern Columbia County. I found many new species in my endeavors. Many years later Mike McDowell began birding Pheasant Branch in earnest and found an avifauna as impressive as that of northern Columbia County. This proved unequivocally that Randy was wrong in his speculation regarding Pheasant Branch.

The primary take home lesson—unexplored habitat is found all around us. Seriously consider visiting that woods you drive by on your way to favorite areas. On your travels to see a mango or Anna's Hummingbird, contemplate how many other feeders are still up that may be harboring another mango or something equally as improbable. Also, contemplate how we can better find and document those birds to better answer the questions posed in the lesson. Then take action! Bird unexplored areas. Talk to feeder owners. Form local birding networks. And a million other ideas, most likely better than mine. By doing such, we may get the answers.

Rough-legged Hawk in flight by Jack Bartholmai

# The Fall Season: 2007

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Rare visitors from the tropics seldom make it as far north as Wisconsin, but when this happens word gets out fast, as was the case with the Green-breasted Mango (Figs. 1 & 2) that found its way to the Salzberg yard near Beloit in mid-September. By the time this bird was captured in early November, over 800 visitors had seen the bird, two-thirds of them from out-of-state. It has the distinction of being the most sought-after bird in the history of Wisconsin birding.

## WEATHER

August weather was very different between northern and southern areas of Wisconsin. While drought continued in the north, the south had record rainfall. Hale reported 18.11″ of rainfall for the month in Jefferson County with 4.92″ on the 19th. DeBoer reported that the Root River Canal in Racine County was one foot over the 100-year flood line. Tessen reported 6″ of rainfall in Outagamie County for the month. Dischler reported highs in the 90s on the 1st and 2nd, than a cool front arrived. At Horicon Marsh, Tessen found 15 species of shorebirds on the 6th and the Baumanns found 12 species on the 11th. Warblers were plentiful on the 25th, with Bontly finding 15 species in Milwaukee County, the Baumanns finding 15 species in Brown County, and Tessen finding 17 species in Winnebago County. Brady found 16 species of warblers in Bayfield County on 29 August.

September was mostly warm and dry. Many days had highs in the 80s. Finson reported snow in Vilas County on the 14th. A killing frost was reported over much of the state on the 15th. Dischler reported hearing predawn thrushes in Columbia County on 4, 8, and 20 September. Tessen found 14 species of shorebirds in Racine County on the 14th. Warblers were again plentiful with Persico finding 23 species in St. Croix County from the 1st to the 3rd, Schaufenbuel found 18 species in Portage County on the 5th, Schultz and Tessen found 19 species in Brown County on the 9th, West found 20 species in Richland County on the 12th, and Tessen found 18 species in Douglas County on the 20th.

October was reported to be warm, dry, and very windy. Tessen reported 5″ of rain in Outagamie County. Hale reported 4 days in the 80s and 5 days in the 70s in Jefferson County, with the first frost in town on the 25th. Tessen recorded 8 species of warblers

Figure 1. Alan Stankevitz captured the Green-breasted Mango is this odd postion in mid-flight on 21 September 2007.

Figure 2. Scott Franke found the Green-breasted Mango sitting in its favorite tree at Jane Salzberg's house near Beloit on 20 September 2007.

in Winnebago County on the first and Szymczak found 9 species in Milwaukee County on the 21st. Thiessen found 11 species of shorebirds in Dane County on the 5th. Also on the 5th, Schaufenbuel reported 10 species of sparrows in Marathon County and Kavanagh found 12 species in Florence County.

November had near normal temperatures and much below normal precipitation. Tessen reported 0.1″ of rain in Outagamie County for the month. Hale reported 0.53″ of precipitation with 2″ of snow on the 21st. On the 5th, Fissel reported a few snowflakes in Madison and West reported sleet to snow, then it quit in Richland County. The Baumanns found 14 species of ducks at Horicon Marsh on the 9th.

## RARITIES

It was again a good fall birding season in Wisconsin with 313 species being reported. Rarities were many and included: Harlequin Ducks in Racine and Sheboygan Counties; Spruce Grouse in Florence, Forest, Iron, and Vilas Counties; Sharp-tailed Grouse in Douglas County; Greater Prairie-Chicken in Portage County; Red-throated Loons in Douglas, Milwaukee, and Ozaukee Counties; Pacific Loon in Milwaukee County; Eared Grebes in Brown and Kenosha Counties; Western Grebes in Crawford, Dane, Manitowoc, and Ozaukee Counties; frigatebird *sp.* in Door County; Snowy Egret in Brown County; Little Blue Heron in Chippewa County; Yellow-crowned Night-Heron in Manitowoc County; White-faced Ibis at Horicon Marsh; Golden Eagles in Buffalo, Dunn, Juneau, Monroe, and Vernon Counties; Yellow Rails in Fond du Lac County; King Rails at Horicon Marsh; Piping Plovers in Manitowoc and Milwaukee Counties; American Avocets in Burnett, Milwaukee, and Portage Counties; Willets in Douglas, Manitowoc, and Milwaukee Counties; Marbled Godwits at Horicon Marsh; Hudsonian Godwits in Manitowoc County; Red Knots in Door, Milwaukee, and Racine Counties; Western Sandpipers in Bayfield and Milwaukee Counties; Purple Sandpiper in Racine County; Red Phalarope in Fond du Lac County; Pomarine Jaeger in La Crosse County; Laughing Gulls in Milwaukee and Racine Counties; Little Gull in Douglas County; Mew Gull in Milwaukee County; Iceland Gull in Douglas County; Sabine's Gull in Ozaukee County; Ancient Murrelet in Outagamie County; White-winged Dove in Door County; Eurasian Collared-Doves in Fond du Lac, Green, and Milwaukee Counties; Great Gray Owls in Bayfield County; Snowy Owl in Ashland County; *Selasphorus sp.* hummingbird in Eau Claire County; Anna's Hummingbird in Dane County; Green-breasted Mango in Rock County; Black-backed Woodpeckers in Bayfield, Douglas, and Florence Counties; Loggerhead Shrikes in Brown, Outagamie, St. Croix, and Winnebago Counties; White-eyed Vireos in Green, Iowa, and Jefferson Counties; Bell's Vireos in Iowa and Trempeleau Counties; Boreal Chickadees in Florence, Forest, Iron, and Oneida Counties; Townsend's Solitaires in Florence, Forest, and Sauk Counties; Varied Thrushes in Bayfield and Price Counties; Northern Mockingbirds in Langlade and Sheboygan

Counties; Yellow-throated Warbler in Winnebago County; Prothonotary Warbler in Outagamie County; Yellow-breasted Chat in Rock County; Summer Tanagers in Ashland, Walworth, and Winnebago Counties; Spotted Towhee in Vilas County; Lark Sparrows in Sauk County; and Smith's Longspurs in Racine County.

### Farewell

This, my 26th season as Fall field notes editor for *The Passenger Pigeon*, will be my final one. Twenty-five years ago, as I pecked out my first article on the typewriter, I also had to keep my newly hatched daughter Althea occupied. She is now a staff writer for the Tulsa World. Several of her articles have been about birds and other nature-related topics. My son Harold will soon be completing his doctorate in atmospheric chemistry at the University of Nevada in Reno. He also spends a lot of time in the pursuit of birds. Mary, my wife, is working as a CPA at a local firm here in Bartlesville. I am an RN at a local nursing home. I am also treasurer for the Oklahoma Ornithological Society and hope to have more time for this activity. I will continue to be an occasional visitor up north, birding my way through Wisconsin. Good Birding to y'all.

### Reports
### (1 August–30 November 2007)

***Greater White-fronted Goose***—First reported by Ziebell in Winnebago County on 15 September. Ziebell found 6 in Winnebago County on 12 October. Last reported by Doyle in Columbia County on 7 November.

***Snow Goose***—First reported by Tessen in Dodge County on 15 September. Kamp saw 200 in Milwaukee County on 23 November.

***Ross's Goose***—First reported by Tessen at Horicon Marsh on 18 September. The Baumanns saw 3 at Horicon Marsh on 9 November.

***Cackling Goose***—First reported by Sontag in Manitowoc County on 5 September. Brady saw over 250 in Ashland County on 1 October and Schilke saw 200 in Kewaunee County on 23 November. Last reported by Thiessen in Dane County on 29 November.

***Canada Goose***—S. Cutright reported 12,000-16,000 in Dodge County on 3 October and R. Rohde found 18,000 in Dodge County on 28 October.

***Mute Swan***—Paulios saw 16 in Dane County on 23 November and Schwartz saw 24 in Door County on 29 November.

***Trumpeter Swan***—Bates reported 52 adults and 17 young at Little Trout Lake in Vilas County on 22 October, Haseleu found 46 in Burnett County on 13 September, and Persico saw 39 in St. Croix County on 24 November.

***Tundra Swan***—First reported by Sontag in Manitowoc County on 12 October. The Kirschbaums found several thousand at Pool 7 on the Mississippi River on 7 November and Paulios found 2000 in Vernon County on 26 November.

***Wood Duck***—Kavanagh found 110 in Florence County on 10 September and A. Holschbach found 83 in Iowa County on 30 September. Reported at the end of the period in Winnebago County by Ziebell.

***Gadwall***—W. Mueller found 90 in Milwaukee County on 23 October. Paulios found 60 in Crawford County on 25 October and 60 in Vernon County on 9 November.

***American Wigeon***—Knispel found 60 in Winnebago County on 15 September, Frank found 170 in Dodge County on 25 October, and Jackson found 60 in La Crosse County on 16 November.

***American Black Duck***—Schaufenbuel found 20 in Sheboygan County on 15 October, Brady found 30 in Bayfield County on 24 November, and Kavanagh found 50 in Marinette County on 30 November.

***Mallard***—Ziebell found 780 in Winnebago County on 15 September and Kamp found 750 in Columbia County on 3 November.

***Blue-winged Teal***—Ziebell saw 1246 in Winnebago County on 1 September and Paulios

saw 400 in Burnett County on 21 September. Last reported by Sontag in Manitowoc County on 27 November.

***Northern Shoveler***—Kreitinger found 150 in Dane County on 15 October, Schilke found 150 in Fond du Lac County on 22 October, and Evanson found 160 in Green Lake County on 7 November.

***Northern Pintail***—Paulios saw 100 in Jefferson County on 18 October and Stutz saw 50 in Dodge County on 26 October.

***Green-winged Teal***—Kavanagh found 223 in Dane County on 23 October and Romano found 176 in Grant County on 31 October.

***Canvasback***—Lesher reported that the U. S. Fish and Wildlife Service survey found 88,600 on Pool 8 on the Mississippi River on 8 November. Duerksen saw 70,000 in Crawford County on 11 November.

***Redhead***—Oksiuta saw 360 in Ashland County on 13 October. Bontly found 50 in Milwaukee County on 24 October and C. Martin found 50 in Dane County on 25 November.

***Ring-necked Duck***—Svingen saw 225 in Douglas County on 1 October and Paulios saw 150 in Crawford County on 25 October. Last reported by Knuth in Fond du Lac County on 29 November.

***Greater Scaup***—Reported at the beginning of the period in Manitowoc County by Sontag. Goodman found 500 in Milwaukee County on 12 November, Stutz found 500 in Crawford County on 18 November, and Frank found 900 in Ozaukee County on 29 November.

***Lesser Scaup***—First reported in Douglas County on 20 September by Tessen. Paulios saw 200 in Crawford County on 24 October and Goodman found 500 in Milwaukee County on 12 November.

***Scaup sp.***—Ziebell saw 1000 in Winnebago County on 8 November.

***Harlequin Duck***—Reported throughout the period by many observers at Sheboygan Point in Sheboygan County. Howe found one in Racine County on 24 October.

***Surf Scoter***—First reported by Oksiuta in Ashland County on 7 September. Tessen saw 60 in Ozaukee County on 27 October. Reported at the end of the period in Manitowoc County by Sontag.

***White-winged Scoter***—First reported on 21 September in Douglas County by Schultz and Tessen. Tessen saw 30 in Ozaukee County on 27 October. Last reported by Vergib in Ozaukee County on 26 November.

***Black Scoter***—First reported by Tessen in Douglas County on 20 September. Tessen saw 60 in Ozaukee County on 27 October. Last reported on 24 November in Door County by the Baumanns and in Grant County by Yoerger.

***Long-tailed Duck***—First reported on 14 October in Ozaukee County by Baughman and Tessen. Uttech saw 30 in Ozaukee County on 4 November.

***Bufflehead***—First reported on 13 October in Bayfield County by Bruhnke. Paulios saw 300 in Crawford County on 25 October and Howe saw 475 in Racine County on 22 November.

***Common Goldeneye***—Reported at the beginning of the period in Door County by the Lukeses. Goodman saw 30 in Milwaukee County on 12 November, and on 24 November Brady saw 45 in Ashland County and Stutz saw 40 in Dane County.

***Hooded Merganser***—Maercklein saw 41 in Polk County on 12 November, Evanson saw 38 in Dane County on 23 November, and Stutz saw 40 in Dane County on 24 November.

***Common Merganser***—Reported at the beginning of the period in Door and Douglas Counties. Schaufenbuel saw 500 in Manitowoc County on 12 November and Richmond saw 300 in Oneida County on 26 November.

***Red-breasted Merganser***—Reported at the beginning of the period in Door County by the Lukeses. Vargo saw thousands in Door County on 11 November, Frank saw 700 in Ozaukee County on 15 November, and Tessen saw over 500 in Ozaukee County on 21 November.

***Ruddy Duck***—Ziebell found 200 in Winnebago County on 29 October and Evanson saw 950 in Green Lake County on 7 November. Last reported by Sontag in Manitowoc County on 20 November.

***Ring-necked Pheasant***—Reported during the period north to Barron County, Kollath found 13 in Jefferson County on 30 August, and Persico found 19 in St. Croix County on 17 November.

***Ruffed Grouse***—Found during the period south to Richland and Sauk Counties. Uttech found 10 in Lincoln County on 18 November.

***Spruce Grouse***—Reported during the period in Iron, Florence, Forest, and Vilas Counties.

***Sharp-tailed Grouse***—In Douglas County, Stutz found 12 on 22 September, Prestby found 14 on 23 September, and Semo found 2 on 22 November.

***Greater Prairie-Chicken***—In Portage County, Mooney found 20 on 26 September, Schaufenbuel and Kavanagh found 16 on 10 October, and Seegert found 13 on 13 October.

***Wild Turkey***—Kavanagh found 103 in Florence County on 1 November and Persico found over 50 in St. Croix County on 17 November.

***Northern Bobwhite***—Reported during the period north to Dodge and Sauk Counties. Schiffman found 3 in Dane County on 3 September.

***Red-throated Loon***—First reported on 22 September in Douglas County by Prestby and Tessen. Svingen saw 3 in Douglas County on 29 September. Last reported by Dixon in Milwaukee County on 25 November.

***Pacific Loon***—Dixon saw one in Milwaukee County on 25 November. See "By the Wayside."

***Common Loon***—Prestby saw 40 in Dane County on 15 October, Tessen saw 35 in Ozaukee County on 27 October, Thiessen saw 40 in Dane County on 15 November.

***Pied-billed Grebe***—M. Peterson saw over 200 in Shawano County on 24 September, Jackson saw 400 in La Crosse County on 2 October, and A. Holschbach saw 131 in Green Lake County on 26 October. Reported at the end of the period in Winnebago County by Ziebell.

***Horned Grebe***—First reported by Yoerger in Rock County on 23 August. In Ozaukee County, Tessen saw over 140 on 23 October and Prestby saw 200 on 3 November. Last reported on 29 November in Fond du Lac County by Knuth.

***Red-necked Grebe***—Roenneburg saw 5 in Iowa County on 11 November. Last reported by Schultz in Green Lake County on 26 November.

***Eared Grebe***—Reported by the Baumanns in Brown County on 8 September and in Kenosha County on 24 November by H. Hughes.

***Western Grebe***—Kirch saw 1 in Manitowoc County on 13 August, Baumanns and Tessen saw 2 in Ozaukee County on 27 October, Duerksen saw one in Crawford County on 11 November, and Evanson saw 5 in Dane County on 18 November.

***American White Pelican***—Prestby reported 550 in Dodge County on 6 August, Drebert reported 1000 in Grant County on 11 September, and Lesher reported over 500 in Vernon County on 4 October.

***Double-crested Cormorant***—Ziebell saw 3000 in Winnebago County on 26 September and R. Rohde saw 1000 in Trempeleau County on 18 October.

***Frigatebird sp.***—The Youngs saw and photographed (Fig. 3) one at Washington Island in Door County on 19 October. See "By the Wayside."

***American Bittern***—Last reported by Goodman at Horicon Marsh on 28 October.

***Least Bittern***—J. Holschbach found 5 in Manitowoc County on 11 August. Prestby and Stutz found one that had died in Ozaukee County on 3 November.

***Great Blue Heron***—Hansen saw 200 in Dodge County on 5 August. Reported at the end of the period in Iowa, Sauk, and Winnebago Counties.

***Great Egret***—Hansen saw 160 in Dodge County on 5 August and Hale found 87 in Dane

Figure 3. This Frigatebird *sp.* was photographed over Door County in the week prior to 20 October 2007 by Margaret Young.

Figure 4. White-faced Ibis seen along highway 49 on 22 October 2007 by Jeff Raflik.

Figure 5. This Piping Plover at the Manitowoc Impoundment was photographed by Tom Prestby on 6 August 2007.

Figure 6. Terry Lease found this Red Phalarope in Lake Winnebago off Lakeside Park in Fond du Lac on 14 September 2007.

County on 7 September. Last reported by Tessen in Dodge County on 23 October.

***Snowy Egret***—One was reported by several observers at Bay Beach Wildlife Sanctuary in Brown County from the beginning of the period through 9 September.

***Little Blue Heron***—Giamati saw one in Chippewa County on 6 September.

***Cattle Egret***—Up to 8 were seen at Horicon Marsh from 23 September through 23 October by many observers. Last reported by Keyel in Portage County on 16 November.

***Green Heron***—Hansen saw 25 in Dodge County on 5 August. Last reported by Schaufenbuel in Portage County on 9 October.

***Black-crowned Night-Heron***—Hansen saw 100 in Dodge County on 5 August. Last reported by Ziebell in Winnebago County on 30 October.

***Yellow-crowned Night-Heron***—One Immature individual was seen in Manitowoc County by many observers from the beginning of the period through 18 August.

***White-faced Ibis***—Prestby and Tessen saw and photographed one at Horicon Marsh on 22 October (Fig. 4). See "By the Wayside."

***Turkey Vulture***—Drebert saw 100 in Grant County on 11 September and Stankevitz saw 25 in Columbia County on 13 October. Last reported on 1 November in Door, Sauk, and Sheboygan Counties.

***Osprey***—J. Holschbach reported 5 in Manitowoc County on 11 August and Berardi and Cowart reported 6 at Concordia University in Ozaukee County on 9 October. Last reported on 15 November at Cedar Grove Ornithological Station in Sheboygan County.

***Bald Eagle***—Jackson saw 231 in La Crosse County on 16 November and Paulios saw 50 in Vernon County on 26 November.

***Northern Harrier***—Berardi and Cowart saw 31 at Concordia University in Ozaukee County on 9 October.

***Sharp-shinned Hawk***—At Cedar Grove Ornithological Station in Sheboygan County 897 were seen on 9 October and 743 on 10 October. On 10 October, 590 were seen at Concordia University in Ozaukee County.

***Cooper's Hawk***—At Cedar Grove Ornithological Station in Sheboygan County 13 were seen on 9 October and 21 on 10 October.

***Northern Goshawk***—First reported by Richmond in Langlade County on 5 August. Last reported by Brandt in Iron County on 29 November.

***Red-shouldered Hawk***—A. Holschbach reported 4 in Iowa County on 18 August and Persico reported 3 in St. Croix County on 23 August. Last reported by Romano in Iowa County on 24 November.

***Broad-winged Hawk***—At Cedar Grove Ornithological Station in Sheboygan County 621 were seen on 15 September and Bruce saw 600 in Winnebago County on 20 September. Last reported on 12 October in Manitowoc and Ozaukee Counties.

***Red-tailed Hawk***—Sixty-three were seen at Cedar Grove Ornithological Station in Sheboygan County on 10 October and 55 on 6 November. S. Cutright saw 42 at Concordia University in Ozaukee County on 15 November.

***Rough-legged Hawk***—First reported by Drebert in Grant County on 11 September. On 15 November Cowart and S. Cutright saw 24 at Concordia University in Ozaukee County and 29 were seen at Cedar Grove Ornithological Station in Sheboygan County.

***Golden Eagle***—First reported by Evanson in Dunn County on 14 September. Fotland saw 3 in Juneau County on 27 October. Last reported by Stutz in Vernon County on 18 November.

***American Kestrel***—On 9 October 44 were seen at Cedar Grove Ornithological Station in Sheboygan County and Berardi and Cowart saw 35 at Concordia University in Ozaukee County.

***Merlin***—On 9 October Berardi and Cowart saw 554 at Concordia University in Ozaukee County and 278 were seen at Cedar Grove Ornithological Station in Sheboygan County. Last reported by the Baumanns in Door County on 24 November.

***Peregrine Falcon***—Eleven were seen at Cedar Grove Ornithological Station in Sheboygan County on 7 October and 14 on 9 October. Last reported by the Baumanns in Door County on 24 November.

***Yellow Rail***—Reported in Fond du Lac County on 2 September by W. Mueller and on 27 October by Schneider.

***King Rail***—Reported at Horicon Marsh on 4 August by Tessen, on 13 August by Prestby, and on 17 August by the Baumanns.

***Virginia Rail***—On 1 October Howe found 6 in Walworth County and Prestby reported one in Dane County.

***Sora***—Ziebell found 10 in Winnebago County on 29 September and Fissel found 10 in Dane County on 30 September. Last reported by Romano in Grant County on 31 October.

***Common Moorhen***—Tessen found over 15 in Dodge County at the beginning of the period. Last reported on 12 October at Crex Meadows in Burnett County by the refuge staff.

***American Coot***—Romano saw 3000 in Grant County on 31 October and Schultz saw 3000 in Winnebago County on 14 November.

***Sandhill Crane***—A. Holschbach saw 1100 in Iowa County on 7 November and the Baumanns saw over 2000 in Waushara County on 9 November. Last reported on 27 November in Dane and Manitowoc Counties.

***Whooping Crane***—Reported during the period north to Chippewa and Clark Counties. Last reported by Bucci in Dane County on 27 November.

***Black-bellied Plover***—Stutz saw 15 in Douglas County on 22 September and Tessen saw 20 in Dane County on 6 October. Last reported by the Lukeses in Door County on 4 November.

***American Golden-Plover***—Stutz saw 30 in Douglas County on 22 September and Martin saw 34 in Dane County on 6 October. Last reported by the Baumanns in Sheboygan County on 27 October.

***Semipalmated Plover***—Bucci saw 24 in Fond du Lac County on 11 August and Brandt saw 42 in Iron County on 30 August. Last reported on 6 October in Dane and Manitowoc Counties.

***Piping Plover***—Up to 2 individuals were seen in Manitowoc County from the beginning of the period to 17 August by many observers (Fig. 5). Idzikowski saw 2 in Milwaukee County on 2 August.

***Killdeer***—Tessen saw 350 in Fond du Lac County on 6 August and Prestby saw 1200 in Racine County on 12 August. Last reported on 24 November in Grant and Milwaukee Counties.

***American Avocet***—Reported in Milwaukee County on 22 September by Lubahn, in Portage County on 28 September by Schaufenbuel, on 12 October at Crex Meadows in Burnett County by the refuge staff, and from 19 to 21 October in Milwaukee County by many observers.

***Spotted Sandpiper***—Persico saw 20-30 in St. Croix County on 4 August and Tessen saw 20 in Manitowoc County on 18 August. Last reported by Sontag in Manitowoc County on 19 October.

***Solitary Sandpiper***—Szymczak saw 20 in Waukesha County on 5 August, Uttech saw 12 in Ozaukee County on 26 August, and Evanson saw 12 in Dane County on 7 October. Last reported by Sontag in Manitowoc County on 17 October.

***Greater Yellowlegs***—Prestby saw over 500 in Horicon Marsh on 6 August and Evanson saw 220 in Jefferson County on 25 August. Last reported by Schaufenbuel in Manitowoc County on 12 November.

***Willet***—First reported by Prestby in Manitowoc County on 4 August. Last reported by R. Johnson in Douglas County on 8 September.

***Lesser Yellowlegs***—Tessen saw 700 in Dodge County on 6 August and Prestby saw 400 in Dodge County on 13 August. Last reported by the Lukeses in Door County on 29 October.

***Upland Sandpiper***—Reported from the beginning of the period to 5 August in Douglas County by the La Valleys and in Marinette County on 7 August by Beard.

***Hudsonian Godwit***—Sontag saw 3 in Manitowoc County on 21 August.

***Marbled Godwit***—Reported by several observers at Horicon Marsh from 1 to 8 August. Oksiuta saw 15 in Bayfield County on 11 August.

***Ruddy Turnstone***—First reported by Oksiuta in Ashland/Bayfield Counties on 3 August. Schultz saw 3 in Marinette County on 27 August. Last reported by Freriks in Sheboygan County on 4 October.

***Red Knot***—Schiffman saw one in Milwaukee County on 17 August. Several observers saw one in Racine County from 12 to 15 September. R. Rohde saw 3 in Door County on 17 September.

***Sanderling***—First reported by Prestby in Manitowoc County on 6 August. Over 100 were seen in Racine County by Dixon on 12 Septem-

Figure 7. Seth Cutright caught this Parasitic Jaeger as it was flying away from him, 22 September 2007, Wisconsin Point.

Figure 8. An immature Parasitic Jaeger from 22 September 2007 off Wisconsin Point by Patrick Ready.

Figure 9. Adult Parasitic Jaeger seen by Patrick Ready on 22 September 2007 during the WSO Wisconsin Point field trip.

Figure 10. Interaction between the Parasitic Jaeger and gulls at Wisconsin Point on 22 September 2007 by Patrick Ready.

Figure 11. Ancient Murrelet that was found in a yard in Kaukauna, Outagamie County, on 2 November 2007. Photo by Jennifer Heitpas.

Figure 12. Ancient Murrelet on the lawn in Kaukauna, Outagamie County, on 2 November 2007. Photo by Jennifer Heitpas.

ber and by Mills on 14 September. Stutz saw 60 in Douglas County on 22 September. Last reported by Freriks in Sheboygan County on 27 November.

***Semipalmated Sandpiper***—Paulios saw 100 in Fond du Lac County on 1 August; he also saw 100 in Dane County on 5 August. Prestby saw 200 in Dodge County on 6 August. Last reported by Stutz in Dane County on 26 October.

***Western Sandpiper***—Reported by T. Wood in Milwaukee County on 26 August and by Brady in Bayfield County on 6 September. See "By the Wayside."

***Least Sandpiper***—Tessen saw 150 in Fond du Lac County on 6 August. Last reported on 26 October in Dane County by Stutz and in Rock County by Yoerger.

***White-rumped Sandpiper***—First reported by Bucci in Dane County on 3 August. Brandt saw 3 in Iron County on 3 September. Last reported by DeBoer in Racine County on 3 November.

***Baird's Sandpiper***—Sontag saw 7 in Manitowoc County on 17 August and Kieser saw 11 in Burnett County on 26 August. Last reported by Tessen in Dane County on 6 October.

***Pectoral Sandpiper***—Ziebell saw 250 in Winnebago County on 4 August and Prestby saw 400 in Dodge County on 6 August. Last reported by DeBoer in Racine County the week of 17 November.

***Purple Sandpiper***—One was seen by many observers in Racine County from 10 to 14 November. See "By the Wayside."

***Dunlin***—First reported by Bucci in Manitowoc County on 11 August. Stutz saw 30 in Dane County on 26 October and Tessen saw 20 in Dodge County on 1 November. Last reported by Fare in Racine County on 29 November.

***Stilt Sandpiper***—Prestby saw 100 in Dodge County on 10 August. Last reported by Tessen in Dane County on 6 October.

***Buff-breasted Sandpiper***—First reported by Szymczak in Milwaukee County on 3 August. Bielefeldt saw 9 in Racine County on 8 August and Tessen saw 8 in Winnebago County on 3 September. Last reported by Schaufenbuel in Sheboygan County on 25 September.

***Short-billed Dowitcher***—Prestby saw 75 in Dodge County on 6 August. Last reported by Schiffman in Fond du Lac County on 26 October.

***Long-billed Dowitcher***—In Dodge County, Tessen saw 210 on 10 October and Frank saw 201 on 11 October. Last reported by Battientos at Horicon Marsh on 3 November.

***Wilson's Snipe***—In Rock County, Yoerger saw 200 on 26 October and 155 on 4 November. Last reported at Mosquito Hill Nature Center in Outagamie County on 30 November.

***American Woodcock***—The Baumanns saw 4 in Brown County on 16 August. Last reported by A. Holschbach in Iowa County on 9 November.

***Wilson's Phalarope***—Morel saw 3 in Dodge County on 4 August. Last reported by Goodman in Milwaukee County on 24 August.

***Red-necked Phalarope***—First reported on 13 August in Dodge County by Prestby and in Jefferson County by Kollath. Last reported on 17 September in Calumet County by Riemer and Tiede.

***Red Phalarope***—One was seen (Fig. 6) at Lakeside Park in Fond du Lac, Fond du Lac County, from 14 to 16 September. See "By the Wayside."

***Pomarine Jaeger***—One was seen by 3 observers in La Crosse County on 14 and 15 August. See "By the Wayside."

***Parasitic Jaeger***—First reported by Bruhnke in Ashland County on 13 September. Up to 7 individuals were reported at Wisconsin Point in Douglas County between 18 and 23 September during the WSO weekend trip (Figs. 7–10). Last reported in Sheboygan County by Tessen on 10 October.

***Jaeger sp.***—Last reported by Christensen in Green Lake County on 25 October.

***Franklin's Gull***—First reported by Tessen in Winnebago County on 6 August. Thirty-five were seen at Cedar Grove Ornithological Station in Sheboygan County on 24 August. Last reported by Thiessen in Dane County on 26 October.

***Laughing Gull***—Reported by Lubahn in Milwaukee County on 14 August and by Dixon and Fare in Racine County on 6 October.

***Little Gull***—R. Johnson saw one in Douglas County on 29 September.

***Bonaparte's Gull***—Tessen saw 70 in Douglas County on 20 September and Maercklein saw 30 in Polk County on 15 October.

***Mew Gull***—One was seen by many observers in Milwaukee County from 21 to 26 November. See "By the Wayside."

***Ring-billed Gull***—Schultz saw 5000 in Green Lake County on 3 October and S. Cutright saw 10,000 in Dodge County on 23 October.

***Herring Gull***—In Douglas County, Svingen saw 2650 on 17 October and 2948 on 26 October.

***Thayer's Gull***—First reported by the Brassers in Sheboygan County on 24 September. T. Wood saw 3 in Milwaukee County on 22 November.

***Iceland Gull***—Hendrickson found one in Douglas County on 10 November.

***Lesser Black-backed Gull***—First reported by Lubahn in Milwaukee County on 1 September. Prestby saw 4 in Racine County on 12 October. Last reported by Semo in Douglas County on 21 November.

***Glaucous Gull***—First reported by Motquin in Brown County on 15 September. The Brassers saw 5 in Sheboygan County on 30 November.

***Great Black-backed Gull***—Reported at the beginning of the period in Sheboygan County by the Brassers and Dixon. Schilke saw 5 in Sheboygan County on 18 November.

***Sabine's Gull***—Hodgson found one that had died on the beach in Ozaukee County on 26 October.

***Caspian Tern***—Sontag saw 54 in Manitowoc County on 1 August and Prestby saw 60 in Sheboygan County on 6 August. Last reported by Ziebell in Winnebago County on 20 October.

***Black Tern***—Paulios saw 50 in Fond du Lac County on 1 August. Last reported by Kavanagh in Florence County on 6 September, when 9 were seen.

***Forster's Tern***—Oksiuta saw 12 in Bayfield County on 2 September and Tessen saw 10 in Racine County on 14 September. Last reported by Ziebell in Winnebago County on 1 October.

***Common Tern***—Oksiuta saw 77 in Bayfield County on 5 August and Tessen saw 70 in Douglas County on 20 September. Last reported by Howe in Racine County on 20 October.

***Ancient Murrelet***—Heitpas reported one in her parents' yard in Kaukauna, Outagamie County, on 2 November. Several photographs were taken of this bird (Figs. 11 & 12). Unfortunately, the bird did not survive the night.

***Rock Pigeon***—Persico saw over 300 in St. Croix County on 17 November and Frank saw 188 in Racine County on 18 November.

***Eurasian Collared-Dove***—Reported from Fond du Lac, Green, and Milwaukee Counties during the period, with a maximum of 3 in Milwaukee County.

***White-winged Dove***—The Lukeses reported one coming to the Shumways' feeders in Sister Bay in Door County from 25 November to the end of the period.

***Mourning Dove***—Frank saw 363 in Washington County on 4 August and 299 in Ozaukee County on 25 August.

***Yellow-billed Cuckoo***—Uslabar reported 5 in Winnebago County on 28 August. Last reported by Szymczak in Milwaukee County on 17 October.

***Black-billed Cuckoo***—A. Holschbach found 3 in Iowa County on 12 August. Last reported by J. Holschbach in Manitowoc County on 6 October.

***Eastern Screech Owl***—Reported during the period north to Door County.

***Great Horned Owl***—West reported 4-5 in Dane County on 4 October; A. Holschbach reported 3 in Iowa County on 30 September; and Paulios reported 3 in Waushara County on 18 November.

***Snowy Owl***—Brady reported one in Ashland County on 26 November.

***Barred Owl***—West reported 5 in Richland County on 18 September and Schneider reported 4 in Dane County on 10 November.

***Great Gray Owl***—Reported from Bayfield County by Tessen on 18 September and by Brady on 31 October.

***Long-eared Owl***—First reported by W. Mueller in La Crosse County on 1 October. Eight were reported from Cedar Grove Ornithological Station in Sheboygan County on 16 November.

Figure 13. Scott Franke captured the Green-breasted Mango in mid-flight on 20 September 2007.

Figure 14. Green-breasted Mango in its favorite tree perch at the home of Joan Salzberg, Beloit was photographed by Scott Franke on 20 September 2007.

Figure 15. Patrick Ready caught the Green-breasted Mango coming to the giant stawberry feeder at the Salzberg home near Beloit, mid-September 2007.

Figure 16. This photograph by Patrick Ready taken on 16 October 2007 shows a good back view of the relatively straight tail of the Anna's Hummingbird.

Figure 17. Anna's Hummingbird resting on the feeder at the home of Steve Thiessen in Stoughton, Dane County, on 15 October 2007. Photo by Tom Prestby.

Figure 18. Another view of the Anna's Hummingbird's tail, by Patrick Ready on 16 October 2007

***Short-eared Owl***—First reported by Bucci and Schiffman at Horicon Marsh on 26 August. Last reported at Cedar Grove Ornithological Station in Sheboygan County on 15 November.

***Northern Saw-whet Owl***—First reported by Uttech in Ozaukee County on 17 October. Seventeen were reported at Cedar Grove Ornithological Station in Sheboygan County on 28 October. Reported a the end of the period in St. Croix County by Persico.

***Common Nighthawk***—Erdman saw several thousand flying southeast over Oconto County on 28 August. Last reported at Cedar Grove Ornithological Station in Sheboygan County on 22 September.

***Whip-poor-will***—Last repoted by Kavanagh in Florence County on 20 September.

***Chimney Swift***—Hansen saw 400 in Milwaukee County on 16 September and 350 were seen at Cedar Grove Ornithological Station in Sheboygan County on 19 September. Last reported by Wilson in Milwaukee County on 20 October.

***Ruby-throated Hummingbird***—Forchione saw 26 in Vernon County on 18 August and Roenneburg saw 18 in Iowa County on 25 August. Last reported by Cameron in Chippewa County on 20 October.

***Green-breasted Mango***—This rare tropical hummingbird was first confirmed coming to Joan Salzberg's feeders (Figs. 13–15) near Beloit in Rock County by Ramsden on 18 September. After being seen by over 800 visitors through early October, the bird was captured on 6 November. It is now a resident of the Brookfield Zoo in Chicago. See "By the Wayside."

***Anna's Hummingbird***—This young individual was seen by over 50 visitors at the Thiessens' feeders at Stoughton in Dane County from 3 to 24 October (Figs. 16–18). See "By the Wayside."

***Selasphorus sp. Hummingbird***—One individual was reported coming to the Fenskes' feeders in Eau Claire from 2 October to the end of the period. See "By the Wayside."

***Belted Kingfisher***—Drebert reported 5 in Grant County on 11 September and Forchione reported 4 in Juneau County on 28 September.

***Red-headed Woodpecker***—Schaufenbuel reported 13 in Portage County on 5 September and Paulios reported 10 in Juneau County on 15 September.

***Red-bellied Woodpecker***—Frank found 11 in Waukesha County on 4 November.

***Yellow-bellied Sapsucker***—Tessen found 15 in Douglas County on 20 September and Vargo found 8 in Milwaukee County on 6 October. Last reported by Harriman in Winnebago County on 30 November.

***Downy Woodpecker***—Shafer found 8 in Washington County on 5 October and Evanson found 6 in Dane County on 13 October.

***Hairy Woodpecker***—Wiegel found 7 in La Crosse County on 7 August and Stutz found 8 in Dane County on 25 August.

***Black-backed Woodpecker***—Reported by Kavanagh in Florence County on 9 and 29 October, by R. Johnson in Douglas County on 27 October, by Brady in Bayfield County on 4 and 10 November, and by Semo in Douglas County on 20 November.

***Northern Flicker***—Prestby reported 70 in Douglas County on 23 September and 50 were found at Cedar Grove Ornithological Station in Sheboygan County on 26 September.

***Pileated Woodpecker***—Nowicki found 4 in Oneida County on 15 August and Watson found 5 in Dane County on 25 August.

***Olive-sided Flycatcher***—First reported by Persico in St. Croix County on 12 August. Last reported by Szymczak in Racine County on 5 October.

***Eastern Wood-Pewee***—Persico found 10 in St. Croix County on 25 August and McDowell found 10 in Dane County on 29 August. Last reported by Rothman in Dodge County on 13 October.

***Yellow-bellied Flycatcher***—Reported at the beginning of the period in Douglas County by R. Johnson. Last reported on 26 September in Pepin and Sheboygan Counties.

***Acadian Flycatcher***—Szymczak found 7 in Waukesha County on 4 August. Last reported by her in Waukesha County on 16 September.

***Alder Flycatcher***—Brady found 6 in Oneida County on 3 August. Last reported by Howe in Walworth County on 23 September.

***Willow Flycatcher***—A. Holschbach reported 4 in Iowa County on 12 August. Last re-

ported by Petherick in Milwaukee County on 26 September.

***Least Flycatcher***—Persico reported 9 in St. Croix County on both 25 and 29 August. Last reported on 17 October in Dane and Waukesha Counties.

***Eastern Phoebe***—Tessen found 8 in Dodge County on 15 September and Stutz found 8 in Dane County on 20 October. Last reported by Szymczak in Milwaukee County on 24 November.

***Great Crested Flycatcher***—Last reported by Pugh in Iowa County on 29 September

***Eastern Kingbird***—Evanson found 9 in Waushara County on 5 August and Knispel found 15 in Winnebago County on 12 August. Last reported by Huf in Dodge County on 16 September.

***Loggerhead Shrike***—Reported by Persico in St. Croix County on 2 August, by Coghlan in Winnebago County on 28 September, and by Motquin in Brown/Outagamie Counties on 10 November.

***Northern Shrike***—First reported by the Lukeses and S. Peterson in Door County on 11 October. Brady saw 4 in Ashland County on 1 and 18 November. Keyel saw 4 in Portage County on 10 November and Brady saw 4 in Bayfield County on 24 November.

***White-eyed Vireo***—Reported by Gustafson in Jefferson County on 1 August, by A. Holschbach in Iowa County from the beginning of the period to 12 August, and by Evanson in Green County on 22 September.

***Bell's Vireo***—A. Holschbach found 3 in Iowa County on 12 August and Schumacher found 2 in Trempeleau County on 26 August. Last reported by Pugh in Iowa County on 3 September.

***Yellow-throated Vireo***—A. Holschbach found 11 in Iowa County on 14 September. Last reported by Szymczak in Jefferson County on 7 October.

***Blue-headed Vireo***—Maercklein found 4 in Jackson County on 26 August. Kavanagh found 4 in Florence County on 28 September and Persico found 4 in St. Croix County on 8 September. Last reorted in Dane and Milwaukee Counties on 20 October.

***Warbling Vireo***—Schaefer found 5 in Washington County on 11 September. Last reported by Martin in Dane County on 5 October.

***Philadelphia Vireo***—First reported on 14 August in Manitowoc and Marinette Counties. Prestby found 6 in Milwaukee County on 30 August. Last reported by Bucci in Dane County on 23 October.

***Red-eyed Vireo***—Kavanagh found 13 in Florence County on 15 August and Tessen found 20 in Winnebago County on 30 August. Last reported by Romano in Grant County on 12 October.

***Gray Jay***—Reported during the period south to Door, Langlade, and Lincoln Counties. Kavanagh found 7 in Florence County on 28 September and Richmond found 5 in Langlade County on 1 October.

***Blue Jay***—Cedar Grove Ornithological Station in Sheboygan County reported 500 on 23 September, and Christensen saw 500 in Grant County on 1 October.

***American Crow***—Maercklein saw 550 in Polk County on 15 October.

***Common Raven***—Reported during the period south to Milwaukee County. Sirvio found 35 in Douglas County on 27 October.

***Horned Lark***—In St. Croix County, Persico found over 300 on 6 October and 200 on 13 October.

***Purple Martin***—Wilson found 405 in Waukesha County on 4 August. Last reported by Thiessen in Dane County on 5 October.

***Tree Swallow***—Knispel saw 2778 in Winnebago County on 15 September and S. Cutright saw 6000 in Dodge County on 30 October. Last reported by Yoerger in Rock County on 3 November.

***Northern Rough-winged Swallow***—Chen saw 200 in Dodge County on 12 August. Last reported by Lesher in La Crosse County on 24 October.

***Bank Swallow***—A. Holschbach found 18 in Iowa County on 2 August and Boyle found 30 in Milwaukee County on 3 August. Last reported by J. Holschback in Manitowoc County on 17 September.

***Cliff Swallow***—Persico saw over 75 in St. Croix County on 19 August. Last reported in

Milwaukee County by Gustafson and Wilson on 20 October.

***Petrochelidon sp. Swallow***—Cowart saw 2 (Cave or Cliff) Swallows fly by Concordia University in Ozaukee County on 14 November.

***Barn Swallow***—R. Rohde saw 500 in Dodge County on 18 August and Ziebell saw 268 in Winnebago County on 15 September. Last reported by Evanson in Dunn County on 9 November.

***Black-capped Chickadee***—R. Rohde found 35 in Door County on 18 September, Persico found 35 in St. Croix County on 6 October, and Stutz found 30 in Crawford County on 18 November.

***Boreal Chickadee***—Reported during the period in Florence, Forest, Iron, and Oneida Counties. A. Holschbach found 4 in Forest County on 16 November.

***Tufted Titmouse***—Reported during the period north to Barron and Marathon Counties. A. Holschbach found 8 in Iowa County on 7 August. McDowell found 8 in Dane County on 31 August and Stutz found 15 in Crawford County on 18 November.

***Red-breasted Nuthatch***—Schaufenbuel found 30 in Portage County on 5 September and Kavanagh found 34 in Florence County on 28 September.

***White-breasted Nuthatch***—Persico found 15 in St. Croix County on 6 and 16 September and Hansen found 15 in Milwaukee County on 12 September and 17 October.

***Brown Creeper***—In Milwaukee County, Hansen found over 40 on 17 October and W. Mueller found 50 on 22 October.

***Carolina Wren***—Reported during the period north to Green Lake and Pepin Counties. Romano found 5 in Grant County on 31 October.

***House Wren***—Knispel found 14 in Winnebago County on 25 August. Last reported in Dane County on 20 October by McDowell and Stutz.

***Winter Wren***—In St. Croix County, Persico found 14 on 30 September and 15 on 14 October. Last reported by Szymczak in Milwaukee County on 25 November.

***Sedge Wren***—Ziebell found 44 in Winnebago County on 4 August. Last reported by McDowell in Dane County on 20 October.

***Marsh Wren***—Nye found 5 in Waukesha County on 26 August and Hansen found 4 in Dodge County on 5 August. Last reported by Ziebell in Winnebago County on 9 November.

***Golden-crowned Kinglet***—Persico found 75 in St. Croix County on 6 October and S. Cutright found 45 in Ozaukee County on 12 October.

***Ruby-crowned Kinglet***—Reported at the beginning of the period in Douglas County by the La Valleys. Persico found 100 in St. Croix County on 6 October and W. Mueller found 100 in Milwaukee County on 22 October. Last reported by Hansen in Milwaukee County on 25 November.

***Blue-gray Gnatcatcher***—Persico found 10 in St. Croix County on 18 August. Last reported by Seegert in Milwaukee County on 27 October.

***Eastern Bluebird***—Goodman found 100 in Trempeleau County on 30 September and Vargo found 50 in Milwaukee County on 6 November.

***Townsend's Solitaire***—Kavanagh found one on the Florence/Forest County line on 9 October. Several observers found up to 2 individuals in Sauk County from 10 to 21 November.

***Veery***—Persico found 3 in St. Croix County on 25 August. Last reported by Bruce in Winnebago County on 29 September.

***Gray-cheeked Thrush***—First reported by A. Holschbach in Iowa County on 25 August. Schaefer found 5 in Washington County on 22 September. Last reported by Romano in Lafayette County on 18 October.

***Swainson's Thrush***—First reported at Cedar Grove Ornithlogical Station in Sheboygan County on 24 August. Ziebell found 70 in Winnebago County on 20 September. Last reported by the Lukeses in Door County on 22 October.

***Hermit Thrush***—There were 95 found at the Schlitz Audubon Nature Center in Milwaukee on 9 October; last reported by Keyel in Portage County on 10 November.

***Wood Thrush***—Schoenwetter found 4 in Dane County on 3 August. Last reported by Howe in Racine County on 4 October.

***American Robin***—Lichter reported 1308 in Monroe County on 12 October. Schaefer found 5000-7000 in Washington County on 20 October.

***Varied Thrush***—Brady reported a female coming to a feeder in Bayfield County in mid-November and a male coming to a feeder in Price County in late November.

***Gray Catbird***—Persico reported over 35 in St. Croix County on 8 September. Last reported by Fissel in Columbia County on 24 November.

***Northern Mockingbird***—Reported at Cedar Grove Ornithological Station in Sheboygan County on 16 August and by Richmond in Langlade County on 5 October.

***Brown Thrasher***—Schoenwetter found 5 in Dane County on 7 August. Last reported by Herb in Dane County on 12 October.

***European Starling***—Prestby saw 500 in Racine County on 12 August and Frank saw 1500 in Waukesha County on 1 October.

***American Pipit***—First reported by Fissel in Portage County on 2 September. Stutz found 200 in Dodge County on 26 October and Schaufenbuel found 62 in Portage County on 30 October. Last reported by Paulios in Waushara County on 18 November.

***Bohemian Waxwing***—First reported by Bruhnke in Douglas County on 4 November. Kavanagh found 150 in Florence County on 15 November, and A. Holschbach found 155 in Forest County on 16 November.

***Cedar Waxwing***—At Cedar Grove Ornithological Station in Sheboygan County, 800 were seen on 22 August and 1700 were seen on 23 August.

***Blue-winged Warbler***—Persico found 3 in St. Croix County on 3 September. Last reported by S. Peterson in Door County on 12 October.

***Golden-winged Warbler***—Kavanagh found 3 in Florence County on 4 August and Persico found 3 in St. Croix County on 3 September. Last reported by A. Holschbach in Iowa County on 21 September.

***Brewster's Warbler***—Szymczak saw one in Milwaukee County on 9 September.

***Tennessee Warbler***—First reported by the Lukeses in Door County on 1 August. Tessen saw over 70 in Winnebago County on 25 August. Last reported on 21 October in Milwaukee and Sheboygan Counties.

***Orange-crowned Warbler***—First reported by Ziebell in Winnebago County on 11 August. Hansen saw 8 in Milwaukee County on 17 October. Last reported by Prestby and Stutz in Milwaukee County on 3 November.

***Nashville Warbler***—The Austins reported 50-60 in Doublas County on 16 and 17 August. Last reported on 28 October in Dane and Milwaukee Counties.

***Northern Parula***—Schaufenbuel found 3 in Portage County on 5 September and Persico found 4 in St. Croix County on 9 September. Last reported on 21 October in Dane and Milwaukee Counties.

***Yellow Warbler***—Schaufenbuel found 6 in Portage County on 5 August and Persico found 10 in St. Croix County on 25 August. Last reported by Tessen in Dodge County on 1 October.

***Chestnut-sided Warbler***—Persico reported 15 on 3 September in St. Croix County and West found over 100 in Richland County. Last reported on 7 October in Jefferson and Ozaukee Counties.

***Magnolia Warbler***—Reported at the beginning of the period in Douglas County by R. Johnson. Mooney saw 20 in Milwaukee County on 4 September and McDonald saw 10 in Dane County on 11 September. Last reported by Szymczak in Milwaukee County on 23 October.

***Cape May Warbler***—First reported by Lukeses in Door County on 15 August. Uttech saw 12 in Ozaukee County on 27 September. Last reported by R. Mueller in Outagamie County on 9 November.

***Black-throated Blue Warbler***—Gorman saw 3 in Dane County on 3 September. A female was reported by the Shillinglaws in Winnebago County from 7 to 12 November. See "By the Wayside."

***Yellow-rumped Warbler***—Christensen saw 500 in Marinette County on 4 October and Hansen saw 500 in Milwaukee County on 17 October. Last reported by Bruce in Winnebago County on 26 November.

***Black-throated Green Warbler***—C. Peterson reported 5 in Door County on 18 August. Last reported by Szymczak in Milwaukee County on 17 October.

***Blackburnian Warbler***—Reported at the beginning of the period in Douglas County by R. Johnson. Persico found 5 in St. Croix County on 3 September. Last reported by Wilson in Milwaukee County on 29 September.

***Yellow-throated Warbler***—Tessen found one in Winnebago County on 25 August.

***Pine Warbler***—A. Holschbach found 4 in Vilas County on 8 September. Last reported by Frank in Milwaukee County on 1 November.

***Palm Warbler***—Reported at the beginning of the period in Douglas County by the La Valleys. Hansen found 20 in Milwaukee County on 16 September. Last reported by Howe in Racine County on 31 October.

***Bay-breasted Warbler***—First reported by the Lukeses in Door County on 16 August. Schaufenbuel found 6-7 in Portage County on 5 September. Last reported on 14 October at Cedar Grove Ornithological Station in Sheboygan County.

***Blackpoll Warbler***—First reported by the Lukeses in Door County on 15 August. Schultz saw 50 in Brown County on 9 September. Last reported by Albert in Milwaukee County on 19 October.

***Cerulean Warbler***—Reported by Wiegel in La Crosse County on 1 August, by Petherick in Milwaukee County on 6 September, and by Ziebell in Winnebago County on 15 and 23 September.

***Black-and-white Warbler***—Persico found 7 in St. Croix County on 25 August and Stutz found 12 in Dane County on 25-26 August. Last reported on 17 October in Brown and Dane Counties.

***American Redstart***—Persico found over 40 in St. Croix County on 3 September. Last reported on 27 October in Manitowoc and Sheboygan Counties.

***Prothonotary Warbler***—One was reported at Mosquito Hill Nature Center in Outagamie County on 3 August.

***Ovenbird***—Lichter saw 4 in Monroe County on 2 September and Paulios saw 6 in Dane County on 12 September. Last reported by the Lukeses in Door County on 22 October.

***Northern Waterthrush***—A. Holschbach found 26 in Iowa County on 30 September. Last reported by McLeod in Vernon County on 22 October.

***Louisiana Waterthrush***—First reported by A. Holschbach in Iowa County on 11 August. Last reported by Sontag in Manitowoc County on 18 September.

***Connecticut Warbler***—First reported by Brandt in Iron County on 6 August. Last reported by Sontag in Manitowoc County on 2 October.

***Mourning Warbler***—Reported at the beginning of the period in Outagamie County by Tessen. Last reported by Sontag in Manitowoc County on 16 October.

***Common Yellowthroat***—A. Holschbach found 11 in Iowa County on 12 August and Oksiuta found 11 in Bayfield County on 26 August. Last reported by Mooney in Milwaukee County on 6 November.

***Hooded Warbler***—Szymczak found 12 in Waukesha County on 4 August. Last reported by Szymczak in Waukesha County on 7 October.

***Wilson's Warbler***—First reported by Haseleu in Washburn County on 20 August. Persico found 16 in St. Croix County on 2 September. Last reported by Hansen in Milwaukee County on 25 November. See "By the Wayside."

***Canada Warbler***—Persico saw 7 in St. Croix County on 2 September. Last reported by Persico in St. Croix County on 23 September.

***Yellow-breasted Chat***—Christensen found one in Rock County on 24 September.

***Summer Tanager***—Reported by David Kuecherer in Winnebago County on 17 September, by Oksiuta in Ashland County on 7 October, and by Goeppinger and Jacyna in Walworth County 15-18 October.

***Scarlet Tanager***—Last reported by Szymczak in Jefferson County on 6 October.

***Spotted Towhee***—David photographed one in Vilas County on 8 November.

***Eastern Towhee***—In Dane County, Schoenwetter found 11 on 10 August, 10 on 11 August, and 10 on 16 August. Last reported by Holschbach in Sauk County on 3 November.

***American Tree Sparrow***—First reported by Brandt in Iron County on 25 September. Kreitinger found 50 in Dane County on 1 November, and Persico found 45 in St. Croix County on 4 November.

***Chipping Sparrow***—Kavanagh found 56 in Marinette County on 21 August and J. Holschbach found 25 in Manitowoc County on 30 September. Last reported by Dyer in Dane County on 19 November.

***Clay-colored Sparrow***—In St. Croix County, Persico found 14 on 8 September and 15 on 7 October. Last reported by Black in Walworth County on 6 November.

***Field Sparrow***—Schoenwetter found 18 in Dane County on 12 August and Persico found 16 in St. Croix County on 8 September. Last reported by Evanson in Sauk County on 1 November.

***Vesper Sparrow***—In St. Croix County, Persico found 16 on 8 September and 18 on 7 October. Last reported by Schaufenbuel in Portage County on 30 October.

***Lark Sparrow***—In Sauk County, reported by A. Holschbach on 1 August and by Yoerger on 4 August.

***Savannah Sparrow***—Tessen found 30 in Fond du Lac County on 11 August and Christensen found 100 in Marientte County on 4 October. Last reported by Frank in Milwaukee County on 1 November.

***Grasshopper Sparrow***—Reported by Gustafson in Walworth County from the beginning of the period to 8 August, by Dunford in Monroe County on 2 August, and by Mooney in Portage County on 26 September.

***Henslow's Sparrow***—Reported at the beginning of the period in Dodge, Lafayette, Milwaukee, and Waukesha Counties. Last reported by Mooney in Portage County on 26 September.

***Le Conte's Sparrow***—First reported by Brady in Oneida County on 3 August. Last reported by Bucci and Schiffman in Dane County on 3 November.

***Nelson's Sharp-tailed Sparrow***—First reported by Lubahn in Milwaukee County on 22 September. Thiessen found 5 in Dane County on 3 October. Last reported in Dane County on 3 November by Bucci and Schiffman.

***Fox Sparrow***—First reported by Brady in Bayfield County on 20 September. In Dane County, Evanson found 24 on 19 October and McDowell found 20 on 3 November. Reported at the end of the period in Outagamie County by Tessen.

***Song Sparrow***—In Dane County, Prestby found 150 on 1 October and Stutz found 60 on 20 October. Reported at the end of the period in Douglas, Milwaukee, Racine, and Waukesha Counties.

***Lincoln's Sparrow***—Reported at the beginning of the period in Douglas County by the La Valleys. Persico found over 20 in St. Croix County on 30 September. Last reported by Campbell in Marinette County on 9 November.

***Swamp Sparrow***—Ziebell found 30 in Winnebago County on 29 September and Prestby found 250 in Dane County on 1 October. Reported at the end of the period in Waukesha County.

***White-throated Sparrow***—Christensen found 250 in Marinette County on 4 October, Persico found over 250 in St. Croix County on 6 October, and Stutz found 250 in Dane County on 20 October. Reported at the end of the period in Outagamie and Waukesha Counties.

***Harris's Sparrow***—First reported by Tessen in Douglas County on 18 September. The La Valleys saw 6 in Douglas County on 5 October. Last reported by R. Johnson in Douglas County on 23 November.

***White-crowned Sparrow***—First reported by Kavanagh in Florence County on 5 September. Uttech found 20 in Ozaukee County on 12 October, Hansen found 20 in Milwaukee County on 17 October, and Stutz found 20 in Dane County on 20 October. Reported at the end of the period in Dane and Manitowoc Counties.

***Dark-eyed Junco***—First reported by Flaherty in Fond du Lac County on 27 August. Brady found hundreds in Ashland County on 9 October and W. Mueller found 250 in Milwaukee County on 22 October.

***Lapland Longspur***—First reported by Haseleu in Burnett County on 13 September. Persico found 150 in St. Croix County on 6 October and Tessen found 250 in Dodge County on 1 November.

***Smith's Longspur***—Gustafson saw a flock of 5 in Racine County on 14 November. See "By the Wayside."

***Snow Bunting***—First reported by R. Johnson in Douglas County on 6 October. Richmond saw two flocks totaling over 1500 in Langlade County on 9 October and Brady saw 350 in Ashland County on 1 November.

***Northern Cardinal***—Holschbach found 87 in Iowa County on 30 September.

***Rose-breasted Grosbeak***—Oksiuta found 29 in Ashland County on 26 August and Tessen found 25 in Brown County on 9 September. Reported at the end of the period in Ashland County *fide* Brady.

***Indigo Bunting***—Stutz found 3 in Sauk County on 3 September. Last reported by Romano in Lafayette County on 18 October.

***Dickcissel***—Frank reported 3 in Ozaukee County on 2 August. Last reported by Helland in Iowa County on 7 September.

***Bobolink***—Kavanagh found 20 in Florence County on 2 August and Tessen found 50 in Dodge County on 6 August. Last reported by Paulios in Dane County on 8 October.

***Red-winged Blackbird***—Tessen saw 100,000 in Outagamie County on 18 September. Reported at the end of the period in Manitowoc and Waukesha Counties.

***Eastern Meadowlark***—Epstein found 40 in Monroe County on 8 August. Last reported by Gustafson in Waukesha County on 1 November.

***Western Meadowlark***—Kavanagh found 4 in Portage County on 10 October. Also reported from Iowa, Grant, Lafayette, and Vernon Counties.

***Yellow-headed Blackbird***—Hansen found 20 in Dodge County on 5 August. Last reported by Gustafson in Waukesha County on 16 November.

***Rusty Blackbird***—First reported by Carlsen in Burnett County on 10 September. Brady found over 900 in Bayfield County on 10 October and over 500 in Ashland County on 12 October. Last reported by Gustafson in Waukesha County on 26 November.

***Brewer's Blackbird***—Prestby found 600 in Racine County on 12 August and Schaufenbuel found 3200 in Marathon County on 5 October. Last reported by Maercklein in Polk County on 15 November.

***Common Grackle***—Parfitt saw 3000 in Waupaca County on 31 August, Schultz saw 4000 in Brown County on 9 September, and Stutz saw 2000 in Dodge County on 26 October. Last reported by Persico in St. Croix County on 24 November.

***Brown-headed Cowbird***—In Racine County, Prestby found 400 on 12 August and 1600 on 15 August. R. Rohde found 400 in Dodge County on 26 August. Last reported by Gustafson in Racine County on 14 November.

***Orchard Oriole***—Reported at the beginning of the period in Ozaukee and Waukesha Counties. Frank found 4 in Ozaukee County on 2 August and Snider found 6 in Milwaukee County on 10 August. Last reported on 12 August in Kenosha County by DeBoer.

***Baltimore Oriole***—Paulios found 10 in Waupaca County on 12 August and Harriman found 10 in Winnebago County on 22 August. A male was reported by Lukeses coming to a feeder in Door County from 12 November to the end of the period.

***Pine Grosbeak***—First reported by the Lukeses in Door County on 28 October. Kavanagh saw 24 in Florence County on 10 November and Richmond saw 23 in Oneida County on 26 November.

***Purple Finch***—Roenneburg found 36 in Iowa County on 4 October, Persico found 35 in St. Croix County on 6 October, and Richmond found 50 in Oneida County on 26 November.

***House Finch***—Persico found 25 in St. Croix County on 30 September and Gutschow found 40 in Milwaukee County on 17 October.

***Red Crossbill***—First reported by Prestby in Douglas County on 23 September. Fare found 5 in Racine County on 13 November.

***White-winged Crossbill***—Brady saw 9 in Bayfield County on 6 August and Kavanagh saw 8 in Florence County on 15 November. Last reported by Dennis Kuecherer in Sheboygan County on 25 November.

***Common Redpoll***—First reported by the Lukeses in Door County on 20 September. Kavanagh found 55 in Florence County on 8 November and Svingen found 45 in Douglas County on 22 November.

***Pine Siskin***—First reported by Rutledge in Door County on 4 September. Richmond found 30 in Langlade County on 6 October, Sontag found 35 in Manitowoc County on 9 October, and Kavanagh found 40 in Florence County on 22 October.

***American Goldfinch***—On 14 September, McDonald found 200 in Jefferson County and Lichter found 100 in Monroe County.

***Evening Grosbeak***—First reported by the Lukeses in Door County on 21 August. A. Holschbach found 37 in Forest County on 16 November and Brady found 21 in Bayfield County on 17 November.

***House Sparrow***—Knispel found 48 in Winnebago County on 15 September and Stutz found 50 in Dane County on 22 November.

## CONTRIBUTORS

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# The Autumn of 2007 at Cedar Grove

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The autumn of 2007 was the 58th year of continuous operation of the Cedar Grove Ornithological Station. We arrived on 13 August and departed after 21 November. We watched for migrants from dawn to dusk on each of the 101 days, and counted or estimated their numbers. We attempted to trap all hawks. We also operated a 136m long line of 61mm (stretched mesh) mist nets with 72m of them extending to a height of 8m. These large mesh nets captured small birds only rarely. Probably more than 100 warblers escaped through the nets for every one captured. Beginning on 5 October, we left the mist nets up at night to capture owls.

Overall, 2007 was the best year for hawks since 2003, and was well above the average for the past 10 years (Table 1). Sharp-shinned Hawks are the most commonly seen species at Cedar Grove and 2007 was the best year for them since 1998. Broad-winged hawks are next most commonly seen species and it was the best year since 2003. Red-tailed Hawks are next but the total for this fall was only 75 percent of that seen last fall. Merlins are next, and the number seen was the best since 2003. It was our best year for American Kestrels since 2003, Peregrine Falcons since 1997, Rough-legged Hawks since 1991, and the best in 58 years for Bald Eagles. In con-

Table 1. Numbers of diurnal raptors observed and the percent trapped

| | Observed | | | % Trapped | | |
|---|---|---|---|---|---|---|
| | 2007 | 2006 | Average 1997–2006 | 2007 | 2006 | Average 1997–2006 |
| Turkey Vulture | 155 | 256 | 174.1 | 0.0 | 0.0 | 0.0 |
| Black Vulture | 0 | 0 | 0 | — | — | 0.0 |
| Mississippi Kite | 0 | 1 | 0.3 | — | 0.0 | 0.0 |
| Northern Harrier | 244 | 209 | 166.6 | 6.1 | 2.4 | 3.3 |
| Sharp-shinned Hawk | 3106 | 1845 | 2069.8 | 9.4 | 18.5 | 18.9 |
| Cooper's Hawk | 186 | 238 | 179.1 | 28.5 | 29.0 | 35.0 |
| Northern Goshawk | 2 | 4 | 12.4 | 100.0 | 50.0 | 45.2 |
| Red-shouldered Hawk | 2 | 19 | 21.9 | 0.0 | 5.3 | 5.5 |
| Broad-winged Hawk | 1593 | 1420 | 964.1 | 0.0 | 0.1 | 0.2 |
| Swainson's Hawk | 0 | 1 | 0.2 | — | 0.0 | 0.0 |
| Red-tailed Hawk | 649 | 863 | 748.2 | 23.0 | 15.2 | 17.0 |
| Rough-legged Hawk | 52 | 9 | 27.3 | 1.9 | 0.0 | 1.1 |
| Ferruginous Hawk | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Golden Eagle | 0 | 1 | 0.7 | — | 0.0 | 14.3 |
| Bald Eagle | 48 | 26 | 14.2 | 0.0 | 0.0 | 0.7 |
| Osprey | 52 | 40 | 62.8 | 0.0 | 0.0 | 0.0 |
| Merlin | 650 | 399 | 403.9 | 9.7 | 20.6 | 16.8 |
| American Kestrel | 104 | 52 | 74.6 | 1.0 | 7.7 | 6.2 |
| Peregrine Falcon | 106 | 54 | 69.8 | 11.3 | 20.4 | 20.5 |
| Short-eared Owl | 4 | 0 | 0.7 | 0.0 | — | 0.0 |
| Unidentified | 80 | 61 | 51.8 | 0.0 | 0.0 | 0.0 |
| **Total** | **7034** | **5498** | **5042.5** | **8.3** | **11.8** | **13.6** |
| Total* | 5234 | 3782 | 3841.5 | 11.2 | 17.1 | 17.8 |

*Less vultures, Broad-winged Hawks, and Osprey

trast, it was the worst year ever for Red-shouldered Hawks. The Ferruginous Hawk seen on 23 October was a first for the station.

The difference in the proportion of hawks trapped (of those observed) was highly significantly less in 2007 than in the average for the past 10 years. Significantly lesser proportions of Sharp-shinned Hawks, Merlins, American Kestrels and Peregrine Falcons were trapped in 2007 than in the last 10 years. Paradoxically, a greater proportion of Northern Harriers and Red-tailed Hawks was trapped, but this did not begin to make up the deficit in the total.

It was the best year for owl-netting since 1996 (Table 2). There were fewer Long-eared Owls than last year,

Table 2. Numbers of owls netted.

| Species | 2007 | 2006 | Average 1997–2006 |
|---|---|---|---|
| Long-eared Owl | 21 | 32 | 12.0 |
| Great Horned Owl | 1 | 0 | 0.4 |
| Barred Owl | 2 | 0 | 0.2 |
| Northern Saw-whet Owl | 152 | 106 | 98.5 |
| Eastern Screech-Owl | 0 | 2 | 2.1 |
| **Total** | **176** | **140** | **113.2** |

Table 3. Numbers of non-raptorial birds netted.

| Species | 2007 | 2006 | Average 2002–06 |
|---|---|---|---|
| Yellow-bellied Sapsucker | 18 | 5 | 8.8 |
| Northern Flicker | 43 | 15 | 23.2 |
| Eastern Wood-Pewee | 4 | 4 | 4.4 |
| Eastern Phoebe | 17 | 20 | 13.6 |
| Red-eyed Vireo | 10 | 12 | 17.2 |
| Blue Jay | 21 | 7 | 19.0 |
| Brown Creeper | 36 | 43 | 26.0 |
| Golden-crowned Kinglet | 9 | 33 | 17.8 |
| Ruby-crowned Kinglet | 12 | 17 | 14.8 |
| Swainson's Thrush | 334 | 117 | 250.2 |
| Gray-cheeked Thrush | 32 | 13 | 35.0 |
| Hermit Thrush | 155 | 87 | 106.6 |
| Palm Warbler | 10 | 19 | 9.6 |
| Yellow-rumped Warbler | 23 | 69 | 45.0 |
| American Redstart | 7 | 9 | 8.0 |
| White-throated Sparrow | 67 | 27 | 39.4 |
| Fox Sparrow | 79 | 35 | 40.2 |
| Dark-eyed Junco | 215 | 63 | 118.6 |
| Pine Siskin | 8 | 1 | 7.2 |
| American Goldfinch | 59 | 12 | 22.4 |
| **Totals all species** | **1597** | **880** | **1072.4** |

but still well above the average. More Northern Saw-whet Owls were netted than in any year since 1996. The two Barred Owls netted this year were the first ones we've caught since 1976. A family of Great Horned Owls was in the area this fall and we heard 2 young calling frequently in August and September, but we trapped only one of them. For the first time since 1996, we did not net an Eastern Screech-Owl.

The number of non-raptorial birds netted was almost double the number netted in 2006, and also was almost half again as great as the average for the past four years (Table 3). Major contributors to the increase were Northern Flickers, thrushes, Dark-eyed Juncos, and sparrows. In contrast, there was a decline in the numbers of warblers. Notable birds netted were Olive-sided Flycatchers on 25 August and 19 September, 4 American Woodcock, a Wood Duck, a Green Heron, and a Solitary Sandpiper

The numbers of non-raptors seen migrating over the station was about average (Table 4). We resumed taking careful notes of visible migrants in 2000; Common Nighthawks, Chimney Swifts, and Blue Jays all were more abundant in 2007 than in prior years. Canada Geese and swallows (all species lumped) were also unusually abundant. Most other species were seen in below-average numbers. Notable sighting of migrants include the third-ever sighting of an Anhinga, northbound on 29 October (!), a circling flock of 35 Franklin's Gulls on 24 August, and a flock of 6 Long-billed Dowitchers on 19 October. Redpolls were heard flying overhead on 15 November.

Fears that here might be an overall decline in bird numbers in recent

Table 4. Numbers of non-raptorial migrants observed.

| Species | 2007 | 2006 | Average 2001–06 |
|---|---|---|---|
| Double-crested Cormorant | 1303 | 1145 | 2309.8 |
| Great Blue Heron | 11 | 46 | 24.2 |
| Tundra Swan | 118 | 56 | 298.5 |
| Canada Goose | 10359 | 6334 | 6858.7 |
| Sandhill Crane | 42 | 47 | 156.8 |
| Common Nighthawk | 1443 | 189 | 573.0 |
| Chimney Swift | 1032 | 394 | 640.8 |
| Red-headed Woodpecker | 1 | 7 | 8.2 |
| Northern Flicker | 859 | 864 | 774.3 |
| Blue Jay | 2651 | 1583 | 1624.0 |
| Purple Martin | 1 | 15 | 22.0 |
| Swallow sp. | 3357 | 2308 | 2854.5 |
| American Robin | 1799 | 8445 | 3532.5 |
| Cedar Waxwing | 6886 | 5524 | 11862.7 |
| Blackbirds sp. | 1945 | 5094 | 3118.5 |
| Small Finches | 340 | 238 | 1066.8 |
| **All non-raptorial migrants** | **36,595** | **34,969** | **35,739.3** |

years (Mueller et al. 2007) are not supported by the data of this season.

The Muellers, Dan Berger, and John Bowers were present at the station essentially every day and the Kaspars, Tom Meyer, and Carol Kroscher were there on many days. Julie Gibson, Bill Cowart, Jim Otto, and Diane Ten Pas also helped with the operation.

## Literature Cited

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*The Cedar Grove Ornithological Station is a non-profit organization incorporated under Chapter 131 of the Wisconsin Statutes, and it relies heavily on public donations for continued operation. All personnel are unpaid volunteers. We thank all the WSO members who have contributed to the station.*

## 50 Years Ago in *The Passenger Pigeon*

Dowitcher identification still presents a challenge to many birders. Richard Wills uses 11 pages in this issue to discuss *The Dowitcher Problem.* He reviews Pitelka's landmark publication (1950. Geographic variation and the species problem in the genus *Limnodromus*. University of California Publications in Zoology 50: 1–107) and concludes after personally checking all of the skins at the University of Wisconsin and Milwaukee and Chicago museums that these specimens agree completely with the conclusions drawn by Pitelka. Wills compares plumages, geographic distribution, call notes, sexual dimorphism, and reviews the 15 specimens from Wisconsin, the first collected in 1877 in Jefferson County by T. Kumlien. He concludes, "It should be emphasized that it is possible to distinguish these two species in the field only after much time and study has been spent in becoming familiar with both species. And even then, if their identification cannot be positive, it is essential that the birds be called just "dowitchers"."

Editor Sam Robbins added the following note at the end of the paper. "The author's name has appeared in the pages of *The Passenger Pigeon* with increasing frequency in the past few years, as he was fast becoming one of Wisconsin's most active field observers. This is his first major publication, and it is a pity that it must be published posthumously. Mr. Wills was killed in a tragic car accident less than two weeks after this manuscript was submitted for publication, before a few possible minor revisions could be made. Thus the above article is offered substantially as originally written."

The four *By The Wayside* articles edited by Wallace MacBriar, Jr. were about a Rock County European Wigeon, a Walworth County Blue Grosbeak, a Bayfield County Hudsonian Godwit, and a Lafayette County Yellow-throated Warbler, all still very good birds today in the state.

*Excerpt from Vol. 20 (3), 1958 by WSO Historian Noel J. Cutright, 3352 Knollwood Road, West Bend, WI 53095. h. 262 .675. 2443, w. 262. 268. 3617, noel.cutright@we-energies.com.*

Rough-legged Hawk at lunch by Ryan Brady

# "By the Wayside"—Fall 2007

*Documentations of rare and uncommon species or species with unusual dates or locations include Pacific Loon, Frigatebird sp., White-faced Ibis, Western Sandpiper, Purple Sandpiper, Red Phalarope, Pomarine Jaeger, Mew Gull, Green-breasted Mango, Anna's Hummingbird, Selasphorus sp., Black-throated Blue Warbler, Wilson's Warbler, and Smith's Longspur.*

### PACIFIC LOON (*Gavia pacifica*)

**25 November 2007, off South Metro Pier in Oak Creek, Milwaukee County**—This loon was about the size of a Red-throated Loon, but was a bit bulkier, especially in the head and neck region. One of the first things I noticed was the sharp contrast and border between the throat and the side of the neck on this bird. The throat and about the front half of the side of the neck were bright white, with the white feathers ending abruptly, cleanly and in a straight line at the sides of the neck, becoming a dark brownish-black in color. The dark feathers here were narrow in width and ended where they met the silvery-gray color of the nape, which wrapped about 1/8 to 1/4 of the way around the side of the neck. The eye was surrounded by dark feathers and quite hard to see. The back of the neck on this loon was quite dark from about 3/4 of the way down the neck to where it met the back, with little contrast. The head was quite rounded, with a bright silvery-gray cap and nape, with this color going 3/4 of the way down the nape. This contrasted with the forehead and back, which were a dark brownish-black color. The back had a slightly barred pattern. The sides were dark to the water line. The bill was of medium length and weight, and darkish color, and straight. When it took flight, it was a typical loon shape, holding its neck level and still.—*John Dixon, Kansasville, Wisconsin.*

### FRIGATEBIRD SP. (*Fregata*)

**19 October 2007 at Washington Island, Door County**—What caught our attention immediately was its seemingly effortless and strong gliding with little flapping of the wings, the scissor-like tail and then its light-colored long [upper] bill that hooked down over its lower bill (as on a cormorant or Bald

Eagle). It was all dark, no markings were observed, and it had long narrow and unusually angular wings. Its body looked plump and legs or feet could not be detected. When [the bird was] near and banking, Margaret thought she saw a lump or bump on the front top of the wings at their breakpoint, although the photos do not show this. Its size appeared a bit larger than a Herring Gull. Once we started to identify the bird we realized it did not have the large wingspan noted in guidebooks. This was puzzling.—*Margaret and Jim Young, Washington Island, Wisconsin.*

### White-faced Ibis (*Plegadis chihi*)

**22 October 2007, south of highway 49 at Horicon Marsh, Dodge County**—I received a call from Tom Prestby and Paul Schilke in mid-afternoon that they were watching a White-faced Ibis feeding on the east pond along highway 49. When I arrived, they and the bird were in the same place.

This was an obvious ibis—long legs, decurved bill, medium-sized (thinking of heron sizes). The question was, which one? The body was dark chestnut and bronze-colored. The eyes were red with reddish between the eyes and bill. The legs were reddish. The head and neck were not solid-colored as the body, more speckled-like. The reddish eye, legs, and area around the eyes all indicated a winter-plumaged White-faced Ibis.—*Daryl Tessen, Appleton, Wisconsin.*

### Western Sandpiper (*Calidris mauri*)

**26 August 2007, Coast Guard Impoundment in Milwaukee, Milwaukee County**—I was scoping the mudflats on the southeast side of the impoundment using a 20–60× spotting scope from my vehicle at about 150 yards. I noticed among the Semipalmated Sandpipers a peep nearly identical in size, but with a whiter face and cleaner white breast. The descending sun illuminated the birds in a way that accentuated this difference. Then I noticed the upper two rows of scapulars were rufous and distinct, not blended into the other scapulars as is occasionally seen in the rufous on Semipalmated Sandpipers. This, being the signature field mark of a juvenile Western Sandpiper, compelled me to keep the scope on this bird until I could see the bill, which was tucked into the wing. The Semipalmated Sandpipers were restless, sometimes flying to the fresh mud for a few minutes, soon returning to the water's edge, but the Western Sandpiper stayed and rested. After about ten minutes it decided to join the Semipalmated Sandpipers and walked over to a small group of them. It was at this time that I saw the bill and noted it was longer than the bill of any Semipalmated Sandpiper and drooped and tapered (Dunlin-like) at the tip. The droop was not as extreme as on a Dunlin's bill, and the size and clean white breast eliminated that species. Soon the flock seemed to grow and become even more active and I could not relocate this bird after it flew. Similarities to the Semipalmated Sandpiper also included black legs and grayish-brown scapulars, below the aforementioned two rows of rufous scapulars.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

**6 September 2007, Chequamegon Bay, Bayfield County**—Tim Oksiuta

and I conducted a routine check of shorebirds at Long Bridge and were initially disappointed by the lack of birds on this evening. However, we soon discovered a juvenile Western Sandpiper among a small flock of Least and Baird's Sandpipers. The Western stood out by being intermediate in size—smaller than the Baird's and larger than the Leasts—and distinctly paler with more gray and white than both other species. As with many shorebirds, the Western's shape was distinctive in that the primary projection was short with wingtips ending at the tail tip, the chest was broad, the neck was thick, the head was relatively large and the bill was longish and slightly drooping with a fine tip. This all contributed to a front-heavy appearance not demonstrated by similar peeps. The final clincher was the presence of bright rufous-edged upper scapulars, particularly noticeable when the bird was bathing and preening, which strongly contrasted with the lower scapulars that were gray and black with white edgings. The bird's legs and beak were dark gray to black. The undersides were white and unmarked with the exception of a slight dingy buff collar on the upper breast that offset a white throat. The crown and auricular were grayish-brown with hints of brighter rufous streaking and the sides of the neck/upper breast had fine dark streaking. A white supercilium was clearly present and the forehead was white. Also noteworthy was the bird's more upright posture while roosting/preening and its dominance over the Least Sandpipers while foraging. This bird was a juvenile based on the uniformly and relatively fresh feathers on the upperparts. An adult peep in northern Wisconsin at this late date also would be highly unusual. The bird did not appear to have started its pre-basic molt.—*Ryan Brady, Ashland, Wisconsin.*

### PURPLE SANDPIPER (*Calidris maritima*)

**14 November 2007, Wind Point in Racine County**—This plump-looking sandpiper was working along the rocky shoreline. It moved as if it had a foot injury. It was a little smaller than the Killdeers in the area, and most obvious were the orange legs and fairly long two-tone bill, slightly drooping at the tip. The basal third was orange, becoming black towards the tip. The head and shoulders/neck were fairly uniform slaty/purple in color, with the back, wings, and lower breast being more spotted and grayer. The belly was whiter with limited spotting. A white wing stripe on a dark wing was seen once when the sandpiper was catching its balance.—*Dennis Gustafson, Muskego, Wisconsin.*

### RED PHALAROPE (*Phalaropus fulicarius*)

**15 September 2007, Lakeside Park in Fond du Lac, Fond du Lac County**—Reading about the discovery of Red and Red-necked Phalaropes at Lakeside Park in Fond du Lac the previous day, I arrived there early on 15 September. There seem to be nothing around except a few gulls. As I walked, I suddenly discovered a bird a little offshore—the Red-necked Phalarope. Hoping that the Red [Phalarope] was also still present, I scanned further out and discovered it working on some very limited algae mats. The

Red had a shorter, thicker bill with light color at the base. The back was mainly gray. The bird still retained some slight reddish color on the breast and belly. The head was darkish and white, the former mainly on the back. There was a black "spot" by the eye.—*Daryl Tessen, Appleton, Wisconsin.*

**16 September 2007, Lakeside Park in Fond du Lac, Fond du Lac County**—This bird was seen with a 20-60X, 80 mm scope from about 200 yards. It was remarkably similar to the Red Phalarope seen in Milwaukee on this date and 17 September last year (2006). Unlike last year's Milwaukee bird, this bird had distinctly visible reddish-orange coloration on the sides of the neck and fore neck. It was a juvenile, molting into basic plumage with patches of plain gray scapulars interspersed with dark scapulars with pale edging. The white face had a black patch behind the eye and the forehead was white. The crown was partially black with some white mottling. The bill was thin, straight, and black (at this distance any coloration at the base of the bill was not visible), but not needle-like as on a Red-necked Phalarope. The red on the neck in this plumage and the unstreaked gray scapulars also helped eliminate Red-necked Phalarope.—*Thomas C. Wood, Menomonee Falls.*

### POMARINE JAEGER
### (*Stercorarius pomarinus*)

**14 and 15 August 2007, Lake Onalaska in La Crosse County**—The bird that was seen was identified as a third year light morph Pomarine Jaeger. It was close to breeding plumage, but had some juvenile feathers that were not fully developed or were broken off. The bird was relatively large and bulky for a jaeger, although it was never seen immediately adjacent to the Ring-billed Gulls that were in the area, it was definitely larger and bulkier than a Ring-billed Gull. The bird had a round head, a thick neck and it had a heavy-bellied appearance when it flew. The wings were pointed, but were very broad in the inside portion closest to the body.

In terms of general coloration, the bird had a dark brown back, wings, and tail and was nearly all white below. The white extended all the way from the dark breast band to the vent and under tail coverts. It had a dark brown breast band that connected to the bird's dark back in front of the wing and extended around and across its upper chest at the base of the neck. This band was 2-3 inches wide. The bird had a very distinct cream/yellow-colored neck and throat and had a very distinct black cap. The bird's black cap started at the back of the head and extended forward to the base of the bill. The back edge of the dark cap ran diagonally at about a 45 degree angle to the cheek area below the lower mandible and then back up the underside of the bill. The diagonal back edge of the black area was behind the eye and was very sharply defined. The black part extending below the gape and lower mandible of the bill was slightly similar to the mutton chop look of a Peregrine Falcon, but was not as extensive. When the bird flew or faced directly at us or turned its head to the side, the black could be plainly seen to extend below the bill. The throat area directly under the bill was light colored.

The bird had a very heavy and rela-

tively long bill that was reminiscent of the bill of a Herring Gull. The bill was two-toned with the inner 1/2 being light colored and the outer 1/2 black. When the bird was preening and flying, we were able to see that it had black legs.

The bird's wings were very broad where they joined the body. They were pointed and were dark brown on both sides. On the top of the wing, we were able to see an indistinct white crescent at the base of the primaries. This was due to the white coloration of the quills near the base of the primaries. There was also another small white spot on the upper part of the left wing. This was not matched on the right wing. On the underside of the wings, there was a very distinct, solid white crescent at the base of the primaries. There was a second, less distinct white crescent at the base of the primary coverts. This indistinct white crescent was connected to an indistinct 1/2 inch wide white line that extended along the margin of the base of the secondary flight feathers and their coverts. This gave the bird a second "flash" on the under wing. There also were other white spots and mottling on the coverts toward the leading edge of the underside of the wings. When this bird was flying, it flew with a very distinct and powerful flight.

The bird's tail was dark brown above and below. The central feathers of the tail extended at least 2 inches longer than the rest of the tail. These feathers were wide with a rounded tip. The tip was twisted by 90 degrees so that when the bird was flying parallel to our location, the tail appeared to taper and then get wider again. This also gave the bird a very thick-tailed appearance when viewed from the side.—*Daniel E. Jackson, Chaseburg, Wisconsin.*

### MEW GULL (*Larus canus*)

**24 November 2007, South Metro Pier in South Milwaukee, Milwaukee County**—After a brief earlier glimpse of a ring-billed sized gull with more extensive white on the primary tips flying towards the settlement ponds, we spotted the Mew Gull resting in a flock of gulls on the water. The slightly darker mantle than adjacent Ring-billed Gulls, shorter, smaller, dull yellow bill (only a hint of a darker smudge at the tip), broader white crescents on the folded wings, more peaked crown (more round, less flat), and the obvious dark eyes, all contrasted with the Ring-billed Gulls, which were slightly larger, paler, thicker-billed (with black ring), and with yellow eyes. The Bonaparte's Gulls were distinctly smaller than this Mew Gull and had black bills. The legs were not visible as it was swimming.—*Dennis Gustafson, Muskego, Wisconsin.*

**25 November 2007, South Milwaukee, Milwaukee County**—Having failed to find this bird at South Metro Pier from where it had been reported on the WSO hotline, I decided to check locations further north and eventually located it resting on the beach among a flock of Ring-billed Gulls at the end of Menomonee Avenue. I observed it first from the bluff, but since the sun was low in the east at 8:40 a.m., I found a way to descend to the beach and observed it from about 50 yards. At 9:00 a.m. the entire flock flew, and I later relocated it on the beach at Grant Park where I was able

to observe it at close (30 yards) range from my vehicle until a boy was instructed by his dad to make the gulls fly so he could get a picture. It remained, but further out on the water.

I first detected this gull by noticing its broad, white tertial crescent that was much wider than any of the Ring-bill's tertial crescent. If this bird had not been so obvious, I would have missed the bird because it was sleeping with its bill tucked into its wing, and from the bluff appeared only slightly smaller than a Ring-billed Gull. It was one shade of gray darker than a Ring-billed Gull on the back and mantle, but I'm sure that alone would not have attracted my attention. Later observations, when the bird was alert and at close range revealed a much thinner bill than its neighbors', lacking a gonydeal angle, and exhibiting only a faint ring. The eye was a dark brown and the legs yellow. The under parts were white as was the head and there was some dark streaking at the rear of the head and nape. The wingtips were black with white spots. The tail was a clean white.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

### Green-breasted Mango (*Anthracothorax prevostii*)

**19 September 2007, near Beloit in Rock County**—This hummingbird had a noticeable down curved bill. It was larger than a Ruby-throated Hummingbird with a larger tail. The back of the tail looked purplish, but the tail looked orangish when viewed from the underside. The white distal stripe on the tail was difficult to see in the field, but was visible on some photos. There was a dark vertical central stripe (difficult to tell exact color in the field, but photos suggest teal) in the middle of a white breast. There were two orange stripes on the sides of the neck.—*Nick Anich, State University, Arkansas.*

**20 and 21 September 2007, near Beloit in Rock County**—I arrived in the evening on 20 September at the home of Joan Salzberg, and several other birders informed me that the bird was not coming to the feeder, but was making brief appearances at approximately 30-minute intervals to the flower garden at the rear of the house, or to the adjacent apple orchard. Viewing conditions were poor because the sun was going down and we were looking into it, which prevented seeing any details. It perched briefly in the apple orchard, and since Ruby-throated Hummingbirds were frequenting the area, size comparison was possible. This bird was distinctly larger and the long, down-curved bill was unlike that of any North American hummingbird, so even in silhouette I knew I was seeing the mango. I left at dark and returned the next morning at about 6:40 a.m. At 6:50 a.m., the mango flew into and perched on a nearby apple tree about 20–30 feet away. Even with limited lighting I could see an orange coloration below the cheek and an irregular stripe down the breast, sides, and part of the way down the belly. The under parts were white with a broad irregular vertical bar down the center, which in this light appeared black. The wings appeared dark gray, but the color of the back could not be resolved. The tip of the under tail appeared white, but the center of the tail was black. Unlike my National Geo-

graphic illustration, the proximate edges of the under tail were orange, not purple. The bird extended its long tongue several times while perched, but did not go to the feeder. After about three minutes, it flew, but returned briefly to the feeder. At this time the back was well seen and was green, but in the 7:20 a.m. light, under-part coloration and iridescence were not discernible. There is not other similar North American hummingbird, but National Geographic warns of similarities to the Black-throated Mango. I have no guide depicting this species. Hopefully, photographs and observations in better light can add this bird to the state list.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

**2 October 2007, near Beloit in Rock County**—First noticed was a large, dark hummingbird with a distinctly decurved bill. Further study through the scope revealed a dark green forehead, crown, face, and neck back down to the rump and wing coverts. Whitish color began at the throat and extended down the sides of the throat and along the flanks, below the green. A dark streak (darkest at the top) began at the center of the throat and extended medially down the breast. Most colorful was a chestnut color starting in the white area of the throat and extending along the edge of the whitish area onto the breast. The bill was black. The wing primaries were dark (gray/black?). The tail was even darker (purple?—hard to see darker colors) with white at the corners. Two knobby extensions protruded beyond the mostly squared-off tail. These were not always visible (possible tips of primaries?).—*Dennis Gustafson, Muskego, Wisconsin.*

## ANNA'S HUMMINGBIRD (*Calypte anna*)

**3 to 24 October 2007, Stoughton, Dane County**—When the bird first appeared it didn't have any noticeable red in the throat, unless [one was] looking through optics and then just a tiny amount. This developed quickly and the primaries also got longer during its stay. It had red specks up the center of the throat. The inner primaries were wide and longish like the drawings on page 298 of Sibley's [guide]. This is the field mark that made me finally feel that I had an Anna's. It had a white spot behind the eye and was light over the eye. It had a grayish throat and belly, was green on the sides of the breast and had a gray crown. It had no buff tones and no white collar (bib). The gray auriculars were not that distinct. The bill had a slight bend. The top line of white on the tail feathers was straight across.—*Steve Thiessen, Stoughton, Wisconsin.*

**14 October 2007, Stoughton, Dane County**—The bird is either an adult female or immature male—there is no red coloration showing on the dark gray forehead/crown (yet?) and it has a patch of red gorget feathers on the central throat area that Steve describes as having become more pronounced in the several weeks the bird has been seen. Field marks noted to confirm the species include a slightly large/more robust overall shape, a very gray cast to the breast/belly area, green speckling/wash on the sides, very gray forehead from bill up toward the crown, white behind and above the eye (although as the bird became more wet in the rain, the white above the eye was not as noticeable), bluntly tipped end-of-wing

shape with wide primary spacing all the way up the folded wing, and an almost robotic hovering style with the tail held in line with the body and little to no tail spreading or cocking. The only thing that is slightly questionable is the bill. It is straight for the most part, but may show a very slight droop.—*Jesse Peterson, Waunakee, Wisconsin.*

**20 October 2007, Stoughton, Dane County**—Steve and Penny Thiessen graciously invited birders to view this hummingbird, and I was fortunate to occupy a seat at their dining room table looking out on the hummingbird feeder, which hung on the rail of their rear deck. I used 10 × 42 binoculars and had two views of about one minute each between 9:00 and 10:00 a.m. After this, the bird did not return during the next three hours, possibly because it was a clear 70 degree day and its need for nectar was less than for some other food source, such as insects. My first impression was of a larger and bulkier hummingbird than a Ruby-throated, although none was present for comparison. The first field mark to capture my attention was a white stripe over the eye that reached into the auriculars. Ruby-throated shows a small white patch behind the eye, but this bird's stripe was nearly a supercilium. After noting a small patch of what appeared to be black feathers in the middle of the throat, I noted the under parts were quite gray with green speckles on the side. During the second visit to the feeder, the throat patch was better illuminated, and I saw a flash of orange that quickly turned to red, and back to black again. The crown and back were green and the wings were dark gray. The bill was entirely black and during the second visit appeared slightly curved. I know the bill is supposed to be straight, but John Dixon had the same impression of a slight curve. I did not get a good look at the tail, because during both visits the hummingbird visited a side part of the feeder. It did perch on a nearby maple tree for a couple of minutes, but the tail was folded. Patrick Ready had some great photographs of the tail and it showed a relatively straight rear edge with only slight notches. Because we were inside, we could not hear any vocalizations.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

### *Selasphorus* sp.

**3 October 2007, Eau Claire, Eau Claire County**—After arriving at the Eau Claire residence, I had a bit of a wait. The weather was clear and warm, hence the hummer did not need to come often. About 12:15 p.m. it appeared at the feeder for several minutes before flying off into the trees.

This was a *Selasphorus* hummer with rufous on the tail area and a little on the sides. The back was mainly greenish. The tail pattern, when Steve Betchkal and I looked at the video he had taken, had the notch on the second feather, suggestion Rufous Hummingbird.—*Daryl Tessen, Appleton, Wisconsin.*

### Black-throated Blue Warbler (*Dendroica caerulescens*)

**7 to 12 November 2007, Appleton, Outagamie County**—A female Black-throated Blue Warbler visited our suet feeders from 7 to 12 November. It was usually seen early morning and to-

ward dusk on suet cakes. We saw it easily with Nikon 10× binoculars. The body was unstreaked and darker above. It was somewhat olive-brown above and tan below. The under tail coverts were lighter. The small white spot on the base of the primaries (pocket handkerchief), as well as the white supercilium, white lower eye arc, and dark auriculars were noted. At times the bird hovered, while pecking at the suet. We don't think that with this distinctive plumage, other warblers are a consideration. We have observed male and female Black-throated Blue Warblers yearly and had a mid-October male in our yard a number of years ago.—*John and Fawn Shillinglaw, Appleton, Wisconsin.*

### WILSON'S WARBLER (*Wilsonia pusilla*)

**25 November 2007, Lake Park in Milwaukee, Milwaukee County**—While checking a newly installed feeder to see if it needed to be filled, I observed a small, warbler-sized yellow bird bouncing about on the lower branches of a box elder tree. At very first glance the only thing that came to mind was a male American Goldfinch in breeding plumage. I was obviously not expecting a warbler. As it came closer I could see a very yellow breast, yellow-olive back with dark wingtips and inner tail feathers, a small pointed bill, and a very distinctive black crown. I knew immediately it was a Wilson's Warbler from past observations. I ran home to grab my camera hoping to document it. When I returned it was still in the same area and I was able to get some documentary shots.—*Brian Hansen, Milwaukee, Wisconsin.*

### SMITH'S LONGSPUR (*Calcarius pictus*)

**14 November 2007, Racine County**—A group of 3 Lapland Longspurs had just flown over, giving their typical longspur "rattle," with a few "tew" whistles thrown in. Their white bellies were noted, as well as dark breast markings. Another group soon approached, calling attention to themselves with a longspur "rattle." However, I noticed immediately that the rattle was different and lacked any of the whistled "tew" notes. The calls were more distinct and a little slower than the Lapland Longspur's call. The notes were like metallic clicks, tapering off at the end. As the 5 birds passed overhead, I noted the size was the same as the Lapland Longspur's, as was the flight pattern, slightly undulating. However, it was obvious that all 5 birds were very buff-colored underneath, from the paler throat to the under tail coverts. Unlike the Lapland Longspurs, these birds lacked the strong markings on the breast. If there were any streaks, they were not strong or distinct. The tail from below looked almost completely white, more extensive than on the Lapland Longspurs. The coloring of these birds suggested paler American Pipits, which are similar-sized and also show much white on the undersides of the tail. However, pipits never give a "rattle" of clicking notes, do not have finch-type bills as these had, and fly more erratic (more dips and changes in direction). I was not able to see any facial markings, upper tail pattern, or

the white shoulder patches, as I was underneath the birds. However, the buff color, white tail underneath, and especially the calls are unique to Smith's Longspurs.—*Dennis Gustafson, Muskego, Wisconsin.*

Black-bellied Plover carving by Tom Petri

# WSO Records Committee Report: Fall 2007

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The WSO Records Committee reviewed 47 records of 22 species for the fall 2007 season, accepting 35 of the reports. An additional older record was also examined, but not accepted.

The long list of rarities was highlighted by the state's third record of a frigatebird, the fourth of an Anna's Hummingbird, and the sixth of an Ancient Murrelet. A new late fall date for a Wilson's Warbler was established. Of course all of the above paled in comparison to Wisconsin's 430th species being added to the state list in the form of a Green-breasted Mango.

## Accepted Records

**Frigatebird (species?)—**
#2007-065 Door Co., 22 October 2007, Young, Young (photo).

The photos demonstrated the long, narrowed wings prominently angled at the carpus as well as the long, forked tail. The bird was uniformly black in color. Also evident in the photos is the relatively longe, light gray bill with a hooked tip to it.

Separating male Great Frigatebirds from Magnificent Frigatebirds in the field is based on black feet of the Magnificent vs. reddish feet in the Great and a brown stripe across the scapulars on a Great, but lacking in the Magnificent. The feet were not detectable to the observer, perhaps suggesting black feet?, but not conclusively. The bird was not observed dorsally to ascertain the presence or lack of a brown stripe across the scapulars. Photos of this bird suggest a light gray bill. Generally the bill of a male Great Frigatebird is dark gray, but not consistently so. The bill of a Magnificent Frigatebird is usually light gray, but again not consistently so. The lighting and angle of view in the photograph also allow some doubt as to the exact shade of beak color present.

Great Frigatebirds have been recorded in California, but the vast majority of extralimital frigatebird records in North America are Magnificents, if species is demonstrable. (With Green-breasted Mango and Ancient Murrelet on record for just this fall alone in Wisconsin, assuming the identification as Magnificent based on

nearness of normal range becomes tenuous.)

This is Wisconsin's third frigatebird record (the previous two were from August of 1880 in Milwaukee Co. and 28 September 1988 in Douglas Co.). This is the 45th midcontinental record, (19 of those in 11 different states and provinces in 1988 at the time of Hurricane Gilbert).

**Pacific Loon—**

#2007-078 Milwaukee Co., 25 November 2007, Dixon.

This winter plumaged bird was noticeably smaller than a Common Loon, with a shorter, more slender, dark, but straight bill. The head was more rounded than that of a Common Loon. The dark gray of the hindneck was cleanly demarcated from the white of the foreneck in a straight line, in contrast to the irregular, sometimes diffuse border on the side of the neck of a Common Loon. The dark feathering contrasting with the white of the foreneck also contrasted to a lesser degree with the paler gray of the nape and hindneck. The gray of the top of the head extended down the side of the head to encompass the eye (a characteristic not seen in a Common or Red-throated Loon). The eye of a Common Loon would have white appearing just above the eye and just in front of the eye, making it much easier to see the eye against a white background than on the dark gray background of a Pacific Loon's periocular area. The back was dark, but a bit of lighter barring was evident. White was not observed above the waterline along the flank, a characteristic expected in Arctic Loons.

For further loon field identification discussion, see *Birding*, Volume 29, No. 2.

**White-faced Ibis—**

#2007-075 Dodge Co., 22 October 2007, Prestby (photo), Tessen.

Photos of this bird exhibited a medium-sized wading bird. The most prominent feature was its long, grayish, downcurved bill. This ibis had overall a drab brownish and greenish color on its body. The brownish head and neck were finely speckled with white. The identification hinged on the red iris and pink facial skin. The white line surrounding the eye and facial skin was very thin.

**Western Sandpiper—**

#2007-073 Milwaukee Co., 26 August 2007, T. Wood.

#2007-074 Ashland Co., 6 September 2007, Brady (photo).

The Milwaukee bird was similar in size to associated Semipalmated Sandpipers, but had a cleaner white breast and face. The scapulars had two rows of rufous feathering. The black bill was noticeably longer than the bill of the Semipalmateds and had a slight droop at the tip. Though it loosely associated with the Semipalmateds, it didn't take flight when the group took flight and then returned to the shallow water.

The Ashland bird was larger than associated Least Sandpipers, but smaller than associated Baird's. The dark bill was long for a "peep" with a droop at the tip. The shape of this bird was different than a Semipalmated Sandpiper in that the wingtips/tail were more attenuated, the chest heavier. The wingtips ended at the tail. The gray-brown overall

upper body contrasted with the relatively unmarked white breast. There was only a dingy buffy area at the upper breast with fine brown streaking on the lateral upper breast. Contrasting rufous scapulars and crown streaking were also noted. The legs were black.

**Purple Sandpiper—**

#2007-085 Racine Co., 14 November 2007, Gustafson.

This medium-sized, plump shorebird was a bit smaller than nearby Killdeer. The head, neck, and breast were dark gray, the back was dark gray with lighter edgings to the feathers. Of note, the bill was dark distally, but orange on the proximal third; the legs were orange.

**Red Phalarope—**

#2007-091 Fond du Lac Co., 15 September 2007, Tessen; 16 September 2007, T. Wood.

This relatively small swimming shorebird had a white face with a dark patch behind the eye. The crown and nape of the neck were black contrasting with the white foreneck and breast. The anticipated light gray back of a Red Phalarope was not present due to its younger than expected age. Though patches of pale gray back feathers were present, the majority of the back and scapulars were dark with paler edgings. This individual appeared to be transitioning from juvenile to winter/basic plumage, perhaps confusing identification efforts initially due to a mantle plumage more like a Red-necked Phalarope. The side of the neck retained some of the orangish juvenile coloration. Aiding the ultimate identification was a stouter, predominantly dark bill with a yellowish look to the proximal lower mandible instead of the Red-necked Phalarope's thinner, all dark bill.

**Pomarine Jaeger—**

#2007-070 La Crosse Co., 14, 15 August 2007, D. Jackson.

This adult jaeger was larger than the Ring-billed Gulls with a heavy bellied profile. The wing width was broad at the base and the bill was heavy and two-toned. The upper breast band gave way to a white lower breast, the white continuing on to the belly. The dark cap extended down, encompassing the cheek instead of being restricted to the cap. The side of the neck was creamy yellow in color. The central tail feathers extended two inches beyond the rest of the tail and had rounded, twisted tips. The underside of the primaries had the prominent white crescent with an additional fainter, more proximal pale crescent.

**Mew Gull—**

#2007-087 Milwaukee Co., 24 November 2007, Gustafson; 25 November 2007, T. Wood.

This gull was a little smaller than adjacent Ring-billed Gulls, with a slightly darker gray mantle, a brown rather than yellow eye, and a larger white tertial crescent. The bill was yellow, noticeably thinner and shorter than the bill of the Ring-bills with only a hint of dark smudging at the tip. In flight, attention was brought to this gull because there was more extensive white in the black primary tips than in the Ring-billed Gulls.

**Sabine's Gull—**

#2007-067 Ozaukee Co., Hodgson (photo).

This report was of a dead immature bird, washed up on the beach. It was white below, but with a mottled gray-brown mantle that extended in heavy smudging up the back of the neck onto the otherwise whitish head. The white tail had a black terminal band. Most striking and diagnostic was the wing pattern. The outer black triangle on the primaries, middle white triangle on the inner primaries and outer secondaries, and gray-brown triangle across the inner secondaries were apparent.

**Ancient Murrelet—**

#2007-068 Brown Co., 2 November 2007, Hietpas (photo).

This bird was found weak and subsequently died. The photos of this bird show a small alcid with a small, rather pointed bill. This bill was dark proximally, fleshy-colored distally. The overall mantle color was medium gray, accenting a white throat, breast, and belly. The crown was darker gray to blackish and extended down the side of the face encompassing the eye. The black extending down the hindcrown encompassed the sides of the neck in a partial ring. White from the throat extended up between the black across the eye and that of the partial dorsal neck ring. The wings were a similar gray to the mantle and lacked any evidence of white patches.

The gray mantle distinguishes this species from all other alcids as does the pale tipped beak. The pattern of black and white on the head and neck is similar only to a Dovekie which has a black mantle and dark bill.

This is Wisconsin's sixth record of this Pacific bird, the most recent being from November of 1975.

**Green-breasted Mango—**

#2007-076 Rock Co., 18 September 2007, Ramsden (photo); 19 September 2007, Mastroianni (photo), Anich; 20 September 2007, D. Jackson (photo), Prestby (photo), Franke (photo), Freriks (photo), T. Wood; 2 October 2007, Gustafson.

This large hummingbird had a relatively long, downcurved bill. It was predominantly green—on the forehead, crown, back, rump, and wing coverts. The throat, lateral upper breast, and flanks were white. A striking blue-green iridescent streak extended down the length of the central breast, contrasting with the white flanks. Further adding to the striking pattern was a rufous patch on the sides of the neck.

The rufous patch is characteristic of an immature male Green-breasted Mango, separating this species from similar Green-throated and Black-throated Mangos. Further differentiation from the Black-throated Mango appeared in the teal colored central breast stripe, instead of a black central breast stripe.

This is of course Wisconsin's first record of this species, the second American record outside of Texas (followed by a third report in the late fall of 2007 from Georgia). The Green-breasted Mango is the 430th bird on the state list.

**Anna's Hummingbird—**

#2007-079 Dane Co., 3-24 October 2007, Thiessen; 14 October 2007, J. Peterson; 15 October 2007, Prestby (photo); 19 October 2007, D. Jackson (photo); 16, 20 Octo-

ber 2007, Ready (photo); 20 October 2007, T. Wood.

This hummingbird was considered slightly larger than a Ruby-throated Hummingbird, green in overall coloration, with a grayish, rather than whitish breast with a few greenish feathers scattered in the gray. Importantly, there was a white superciliary line that ended in a white dot behind the eye. A few reddish gorget feathers were beginning to appear on the throat. The bill was relatively straight.

This is Wisconsin's fourth record of an Anna's Hummingbird.

***Selasphorus* (sp.) Hummingbird—**

#2007-083 Eau Claire Co., 30 October–6 December 2007, Betchkal, Tessen.

This Ruby-throated-sized hummingbird exhibited rufous coloration to the sides, rump, and neck with mottled green and rufous color to the back and crown. A patchwork of red feathering was evident on the gorget.

**Black-throated Blue Warbler—**

#2007-082 Outagamie Co., 7-12 November 2007, Shillinglaw.

This warbler was olive-brown above, more tannish below, with the diagnostic white spot in the base of the folded primaries. Also reported were the white superciliary line, the white lower eyelid arc, and the dark auricular area.

This is Wisconsin's second November record and second latest fall record. A 1996 early December report remains the latest fall record.

**Wilson's Warbler—**

#2007-080 Milwaukee Co., 25 November 2007, B. Hansen (photo).

The overall yellow color of this warbler was broken only by the black crown. The yellow face and breast diminished to greenish yellow on the back, wings, and hindneck.

This is Wisconsin's second November record and latest fall date by two days. The previous record late date was from 1972.

**Spotted Towhee—**

#2007-086 Vilas Co., 8 November 2007, G. David (photo).

This male towhee demonstrated the white spots on the back and scapulars that an Eastern Towhee would not have.

**Smith's Longspur—**

#2007-089 Racine Co., 14 November 2007, Gustafson.

A group of 5 birds flew directly overhead immediately after 3 Lapland Longspurs had flown over, allowing almost direct comparison of the plumage patterns and call notes. The rattling call of these five birds was "more distinct," "a little slower," and more like metallic clicks than the call notes of the Lapland Longspurs. This variance drew the observer's attention to these birds after hearing the other group and with having previous experience with the calls of the Smith's. As the second group went over, the buffy underparts were in contrast to the white underparts of the previous Laplands. They also lacked the dark markings on the breast of the Laplands. The underside of the tails were extensively white, again contrasting with the partial white undertail of the Laplands. Seen from underneath, the upper tail pattern and white shoulder patches were not visible.

## Records Not Accepted

**Barrow's Goldeneye—**

#2007-081 Ashland Co., 30 November 2007. (photo).

Photos of this female goldeneye were a bit out of focus, making assessment of several key factors difficult. The angle of the photos variably shows contours of the head that in one photo could be more Barrow's-like, in a another more Common-like. The bill does appear to be more extensively yellow-orange than typical of a Common Goldeneye, but this does occur in a very small percentage of female Commons. The outline/shape of the bill is not discernible, so the stubbier nature of a Barrow's bill can not be proven.

**Pacific Loon—**

#2007-077 Douglas Co., 19 September 2007.

Seen at considerable distance in rough water, this brief description described a small loon, with a thinner, straight bill, and clean demarcation between the dark back of the neck and white front of the neck. The shape of the head, color of the back relative to the head and neck, the position of the eye in dark or light background on the face, and the lack of any white at the caudal waterline were not mentioned. The limited description doesn't eliminate a Red-throated Loon from consideration.

**White-tailed Kite—**

#2007-090 Pepin Co., 4 October 2007.

This white falcon-like bird was observed while observer was driving down a highway. The bird passed overhead at a very low height, perhaps 10-20 feet above the car while the observer was trying to pull off the road. The bird had disappeared by the time binoculars could be put into use. The overall white body, pointed wings, and long white tail were noted. The topside of the bird was not visible, but the ventral surface of the wings exhibited black wingtips and black carpal spots.

The description is strongly indicative of a White-tailed Kite. The brevity of observation from a rapidly moving vehicle without allowing for a confirming look at the bird leaves just enough doubt as to the identity of this interesting bird.

**Pomarine Jaeger—**

#2007-071 Douglas Co., 19, 20, 22 September 2007 (photo).

#2007-072 Ozaukee Co., 13 October 2007.

There were numerous photos taken of a dark juvenile jaeger on the above dates, during the WSO Wisconsin Point field trip. At the time, it was felt to be a juvenile Pomarine Jaeger by many observers. It seemed heavier bodied than associated juvenile Parasitic Jaegers, but not dramatically so. The base wing width also seemed broader than the Parasitics, but this varied depending on angles and the power behind the wing flapping. When the bird accelerated, the wing became narrower in appearance. The bill was entirely dark, there was a single white crescent on the underwing primary base, and there was a slight, seemingly pointed projection of the central tail feathers. When reviewed by experienced observers here in Wisconsin and subsequently examined by experienced West Coast birders, the conclusion was that these photos were of a juvenile Parasitic Jaeger. The wing

width and bulk of the bird didn't quite match the expectations for a Pomarine and the central tail feathers being pointed rather than blunt was a further concern. In addition, the bill was not as wide as that of a Pomarine. Interestingly, the customary migratory period for juvenile Pomarine Jaegers is expected in October, a month later than typical for Parasitic juveniles.

In addition to the photographic evidence, an observer submitted a written report of a juvenile Pomarine Jaeger, indicated to have been seen a few hours before the above jaeger was first seen, photographed, and observed for the next 4 days. This report was written 2 months after the fact, the observer was looking northeast in the very early morning, and the bird was reported to be 1/2 mile away. The brief description indicated several white primary shafts could be seen, a "second patch" on the underwing was noted, and the bird was heavier than associated Parasitic Jaegers. This "second patch" was not described as to specific location nor color. The long "after-the-fact" reporting, viewing of more detail than seemed plausible for the conditions, and the temporal proximity to the subsequently described/photographed Pomarine "suspect" entangles this report with the above Parasitic Jaeger report.

The Ozaukee bird was an all dark bird, seen at considerable distance (perhaps 1/2 to 1 mile in the observer's estimation). The field marks described were an apparent size slightly larger than a Ring-billed Gull, but noticeably smaller than a Herring Gull when seen in comparison. The body bulk was felt to be heavier and the wing width was felt to be broader than experienced with Parasitic Jaegers, but these traits can be deceptive, especially at a distance. No other coloration variations were reported other than the bill was "bicolored," but specifically what colors and where were not indicated. The limitations of this report probably leave this bird as an immature jaeger of uncertain species.

**Long-tailed Jaeger—**
#2007-088 Douglas Co., 19 September 2007.

This report was of an adult bird seen at unspecified, but assumed to be considerable distance, looking east in the early morning on a partly cloudy morning. This "into the sun" viewing circumstance when combined with assertions that 2 white primary shafts were visible raises questions about whether this brief report, written 2 months after the fact, was written about this specific sighting or recalled too long after the fact to recall what field marks were actually visible and which are needed for an identification.

The "tern-like" flight was "even more so than the Parasitic," but this flight pattern varies with the speed and acceleration the bird is undergoing. The mantle and outer primaries were different in color, but which was what color is not noted. Finally, the tail streamers were long and pointed, but comparison to the rest of the tail length or comparison to what a Parasitic Jaeger's central tail feathers appear to be would have been useful information.

The described field marks make a case for a Long-tailed Jaeger, but the viewing conditions are not consistent with what was indicated to have been seen.

**Sabine's Gull—**

#2007-066 Douglas Co., 19,22 September 2007.

The initial report by this observer was of a gull at rest on the water at considerable distance. This bird was not indicated to have a particular size relative to the numerous adjacent gulls. Identification was based on being "overall gray-brown," including the back of the head and neck. The bird was not seen in flight.

The second report was of an extremely distant Bonaparte's Gull-sized gull. It was indicated to have a black outer wing triangle, white inner triangle, and gray inner wing triangle. The shade of the gray on the wing was not indicated, nor was the mantle color indicated.

This second report was also described by a second observer present at that time. This additional information was supplied by an observer who believed he was following the same bird based on landmarks repeatedly updated by observers following the bird. This report indicated this gull to be flying at great distance to the left and away from the observers, perhaps not at the most opportune angle for observation. He felt it was exhibiting the light gray mantle and upper wings of a Bonaparte's Gull, with the limited white triangle in the outer primaries. Since for most of the observation, there were not accompanying birds, he felt the chances were limited that they were on different birds in their scopes. Other experienced observers after the observation verbally indicated they too had only been able to see a Bonaparte's Gull. No other reports of a Sabine's Gull were received despite dozens of birders being present at that moment.

The incomplete description of the two Sabine's Gulls makes acceptance of the records difficult. The added seeming discrepancy in the reports of what may well have been the same bird clouds the issue further.

**Northern Hawk Owl—**

#2007-092 Douglas Co., 20 September 2007.

The report received of this species indicated that the bird was seen at a distance of "several hundred yards" (a quarter mile??) with binoculars only. It was perched on top of a tree out in the bog at Gordon. From the main highway, it was briefly watched before taking flight and disappearing. It was described as a medium-sized owl, having a long tail, with no particular color indicated. Although the back was indicated to be spotted and the undersides barred, it seems difficult to expect to see such field marks at the distance indicated. It is also of concern that the report was written two months after the sighting.

The committee also reviewed a report from another observer present in the same area on the same afternoon as the previous report. This observer and a second party were actually out in the same portion of the bog previously indicated, and reported spotting a long-tailed, medium brown bird perched on top of a tamarack out in the bog a few hundred yards. The "longish" tail was pointed out at about a 45 degree angle as it perched, this bird too flew down and disappeared, but did resume perching a short time later, actually repeating this behavior 3-4 times. With binoculars, these two observers could not identify the bird in question, but based on a previous, distant, verbal report of a hawk owl

here, believed it could be this bird, although the brown color did not seem dark enough for a hawk owl. After retrieving a spotting scope from their vehicle, when the bird returned to the top of the tree, the identity of the bird was determined to be that of a large female American Kestrel. (A third observer indicated to the committee that his two attempts to locate a hawk owl here that same weekend found this female kestrel—also intriguing when first spotted through binoculars, but not a hawk owl when viewed through a spotting scope.)

Given the brevity of the first report, the significant distance it took place at, the seemingly implausible field marks reported with the indicated distance and limited magnification, acceptance of such a report is not possible. When adding this second report of such a similar situation, at the same place, and at perhaps the same time, it becomes extremely difficult to accept that there could be two different birds in the same spot, with no party indicating seeing both birds. With the first report by itself seeming implausible, the addition of the second report suggests the rejection of that report isn't just for a lack of complete documentation, but for significant assumptions based on limited, suggestive, but non-diagnostic field marks. (i.e.—an intriguing silhouette??).

**Green-breasted Mango—**
#2007-076 Rock Co., 2 October 2007.

This report described the larger size, decurved bill, and central breast stripe, but failed to mention the color of the central breast stripe. In addition, the brown stripe on the side of the neck was overlooked. This leaves the bird in a different plumage than otherwise photographed or described by other observers. The limits of this description suggest a mango, but could describe Green-throated, Black throated, or Green-breasted.

**Anna's Hummingbird—**
#2007-079 Dane Co., 14 October 2007.

This brief report indicated the slightly larger size, long bill, green back, gray breast. It stated there were red throat feathers without indicating the extent, stated there was white above and behind the eye, but without qualification as to extent and pattern to these white areas. The shape of the bill also was not stated.

**Sprague's Pipit—**
#2007-069 Dodge Co., 18 August 2007.

This brownish bird was indicated to be slimmer than a sparrow with a thin bill. The crown was "dark," the back and wings striped brown and black. There was a white eyering, and stripes on the upper breast. At rest, it was felt that the "longish" tail may have had white edges, but this wasn't confirmed during flight. This bird was seen walking, not hopping in a field. At one time, it was directly next to a Horned Lark and felt to be the same size as the lark.

American and Sprague's Pipits would both be noticeably smaller than a Horned Lark in direct comparison. In addition, the silhouette of a Sprague's Pipit is more short-tailed, with a larger, paler beak than expected. None of these characteristics were reported. Juvenile Horned Larks are possible identifications for reports like this, their depiction in most field guides is somewhat inaccurate. The spotting in their plumage seems sig-

nificantly exaggerated in those few places they are drawn. The thin bill and Horned Lark size would of course be explained by this identification.

### Old Records—Not Accepted

**Barn Owl—**

#2007-084 Jackson Co., 1 July 2007.

This bird was flushed by a driven car and briefly illuminated by the headlights. It was judged to be an owl based on the blunt and fatter head than a hawk would have. The overall size was felt to be less than that of a Barred Owl. The overall impression of color/pattern to the underside of the bird was that of paleness; no markings were detected. The face wasn't seen. A hissing call was emitted from the trees into which it had disappeared.

The brevity of this sort of sighting is always frustrating. Confirmation of traits isn't possible and the observer is left with a mental snapshot to interpret. The size, shape, and pale overall pattern are consistent with the presumption of a Barn Owl. The vocalization is also consistent, but not necessarily unique to the Barn Owl. Young Great Horned Owls have confused numerous observers over the years with similar hissing.

This probably was a Barn Owl sighting, but confirmation is elusive in these circumstances.

American Woodcock in the road by Jack Bartholmai

Immature Northern Harrier by Jack Bartholmai

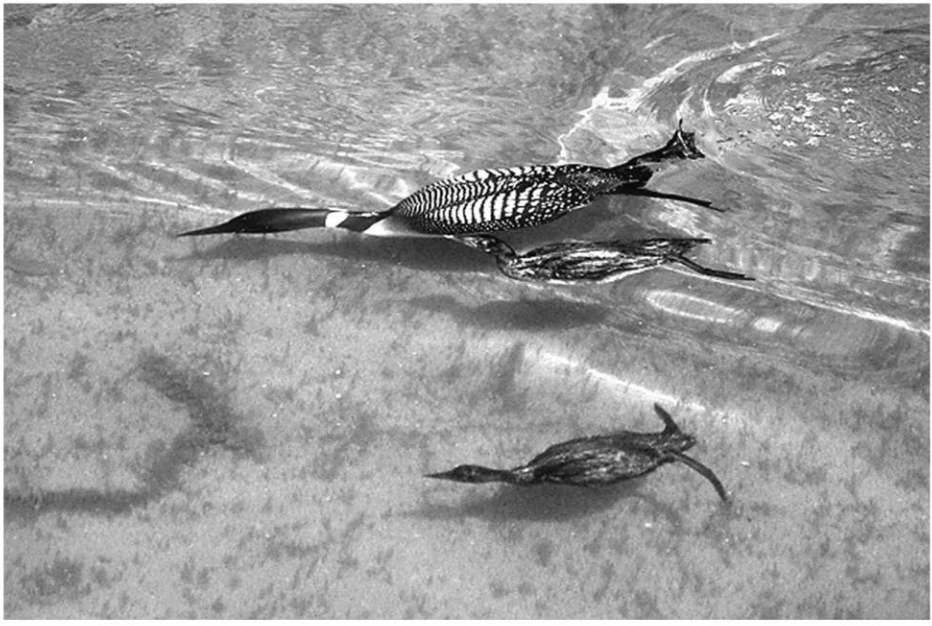
# About the Artists

**Jack R. Bartholmai** is an amateur wildlife photographer and wood sculptor living near Beaver Dam. His work appears frequently in local newspapers, travel brochures, calendars, and bird publications. He gives numerous talks on birds and his work and is an active member of the Horicon Bird Club. He was the 2005 recipient of the WSO Bronze Passenger Pigeon Award.

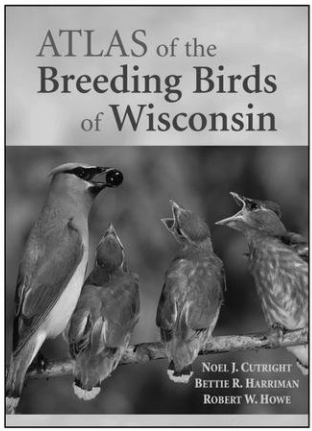
**Dennis Malueg** is a dedicated amateur bird and wildlife photographer who travels Wisconsin in search of his photographs. He also works from his own backyard, prairie, and 80-acre forest in Waushara County to capture wildlife images.

**Tom Petri** lives in Greendale, Wisconsin, and tries to interpret in wood some of the birds he has observed on WSO convention field trips and at the Wehr Nature Center. Tom "really appreciates all the knowledge WSO members have shared with me in the identification and natural history of some of the birds I have observed on field trips."

**Rich Phalin** is a serious photographer who lives in Mukwonago, Wisconsin. Rich says he enjoys spending time capturing nature's moments with a camera.



A Common Loon and two young swimming underwater were photographed by Rich Phalin



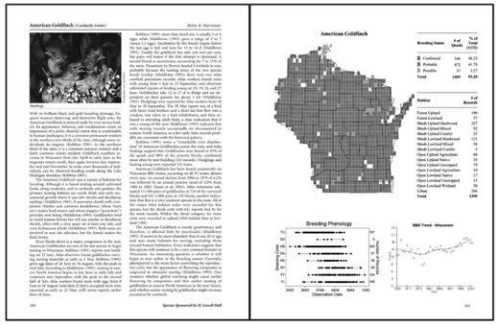

# *Atlas of the Breeding Birds of Wisconsin*

- Features almost 1,400 photographs, distribution maps, and figures – **all in color**!
- Based on studies done by more than 1,600 field observers between 1995 and 2000.
- Edited by Noel J. Cutright, Bettie R. Harriman, and Robert W. Howe.

The largest natural history survey ever conducted in Wisconsin has resulted in this comprehensive guide to birds that breed in the state.

Hardcover, large format (9" x 11.25"), 624 pages. Copyright 2006. ISBN-10: 0-9774986-0-3; ISBN-13: 978-0-9774986-0-4.

Published by The Wisconsin Society for Ornithology, Inc., with proceeds used for projects supported by the organization.



The two-page species accounts – 214 of them in all – provide a host of information on the state's breeding species, including their range, habitat preference, breeding biology, conservation concerns, and population trends. An additional 23 less-common species also are covered. Also included are chapters on Atlas methodology, results, history, habitats, and conservation.

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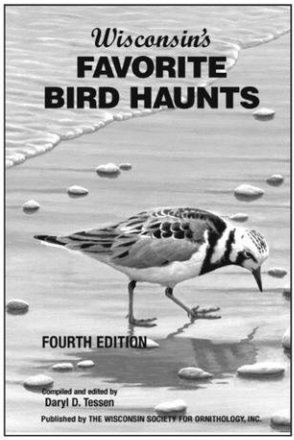


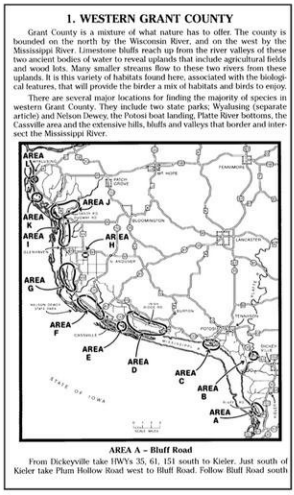

# *Wisconsin's Favorite Bird Haunts,*

Fourth Edition (2000)

Compiled and edited by Daryl Tessen with contributions from birders throughout the state. Features artwork by Thomas Schultz, David Kuecherer, Rockne Knuth, Judith Huf, and Jeannie Perry.

- Covers all 72 counties
- Contains 135 favorite haunts, detailing more than 1,000 areas
- Includes detailed directions as well as a map for each location
- Features some 45 bird illustrations, 15 of them in color
- Includes a list of 400 valid Wisconsin state species and 15 hypothetical species (current as of January 2000)

This book, designed for durability and functionality, is printed on heavy coated paper and has a spiral binding so it lies flat when open. 6″ by 9″. 544 pages.



**1. WESTERN GRANT COUNTY**

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. Limestone 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 birder a mix of habitats and birds to enjoy.

There are several major locations for finding the majority of species in western Grant County. They include two state parks; Wyalusing (separate article) and Nelson Dewey, the Potosi boat landing, Platte River bottoms, the Cassville area and the extensive hills, bluffs and valleys that border and intersect the Mississippi River.



**AREA A – Bluff Road**

From Dickeyville take HWYs 35, 61, 151 south to Kieler. Just south of Kieler take Plum Hollow Road west to Bluff Road. Follow Bluff Road south

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*Contact WSO Bookstore for price and ordering information.*
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## THE WISCONSIN SOCIETY FOR ORNITHOLOGY

The Wisconsin Society for Ornithology is an educational and scientific non-profit organization founded in 1939 "to encourage the study of Wisconsin birds." The Society achieves this goal through programs in research, education, conservation, and publication.

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